# Goods and Services Workgroup Policy Proposals

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## II. Goods and Services Work Group Relation to Sustainability Task Force

#### **Goods and Services Members Work Group Members**

There were several very passionate and hard working members that participated in meetings for the Goods and Services Committee. The goods and services committee was comprised of three smaller sub-groups. Special Thanks for the following people who showed up and provided insight along the way:

Allison Teeters, Barry Marshall, Ben Epperson, Carol Evans, Catherine Wilt, Charlotte Tolley, Chris Gallop, Darrell Shepard, David Brace, David Griffin, Derek Senter, Douglas McGill, Drew Thurman, Frank Sewell, Greg Wittbecker, Jack Horner, Jay Price, Jennifer Linginfelter, Joe Walsh, John Homa, Kevin Levy, Khann Chov, Kris Waldhauser, Liz Moniz, Liz Nother, Mark Penland, Matt Butzlaff, Micah Reynolds, Mike Harriss, Nikida Koraly, Peg Beute, Robert Rosenbaum, Sabrina DeVault, Sarah Bush, Stephanie Anderson, Stephanie Welch, Steve LaFollete, Susanna Bass, Tom Spriggs, Emily Woodle, Chad Weth, Thomas Hankins, Donna Schmidt

#### Work Groups Reporting to the Sustainability Task Force

- 1. Community Involvement Work Group
- 2. Energy Work Group
- 3. Goods and Services Work Group
  - Waste and Recycling Subgroup
  - Sustainable Purchasing Subgroup
  - Sustainable and Edible Landscaping Subgroup
- 4. Infrastructure Work Group
- 5. Sustainable Growth Work Group
- 6. Transportation Work Group

#### City of Knoxville Sustainability Task Force Members:

- Walt Brockway, ALCOA
- Art Cate, Knoxville's Community Development Corporation
- Mark Donaldson, Metropolitan Planning Commission
- Dana C. Christensen, Oak Ridge National Laboratory
- Elizabeth Eason, US Green Building Council, East TN Chapter
- Susan Edwards, Knoxville Utilities Board
- Jeff Galyon, Public Building Authority
- Rikki Hall, Foundation for Global Sustainability
- Sam Hart, Knoxville Chamber
- Pat Hudson, LEAF
- Lynne Liddington, Knox County
- Anda Ray, Tennessee Valley Authority
- Stephen Smith, Southern Alliance for Clean Energy
- Clif Woods, University of Tennessee
- Pat Chastain, LEAF
- Chris Woodhull, City Council

#### Energy Inventory Categories Used for Reference (Approved by Sustainability Task Force)

- 1. Reduce energy and water consumption at all city facilities.
- 2. Improve the efficiency of traffic signals and streetlights.
- 3. Build new facilities that are energy efficient, environmentally friendly, and cost less to operate.
- 4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.
- 5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.
- 6. Support KAT's efforts to make their operations cleaner, greener, and more efficient.
- 7. Reduce vehicle-miles traveled by city employees during commutes to and from work.
- 8. Reduce transportation-related fuel consumption and emissions.
- 9. Improve the energy efficiency of local homes and buildings.
- 10. Grow the proportion of clean, renewable energy powering the Tennessee Valley's electricity grid.
- 11. Ensure the quality and quantity of local water supplies.
- 12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.
- 13. Integrate sustainability objectives into economic development outreach and job creation initiatives.
- 14. Encourage community engagement in sustainability efforts.

## **III.Quick Summaries of Recommendations**

## WASTE AND RECYCLING

## **Downtown Permanent Recycling (Pilot Project in Process)**

-Administration to provide or contract for recycling bins for public use in the downtown area. -Recycling bins cost from \$50-\$1000 each, service cost minimal, some operating costs expected, pilot is zero cost. -Taxpayers benefit from increased recycling participation, longer landfill life, keeps waste costs low.

## Recycling in City Parks (Pilot Project in Process at Caswell Park)

-Parks and Recreation and Solid Waste to study feasibility to provide or contract for recycling bins in some parks. -Service costs could be up to \$1200 per park per year plus additional staff needed or possibly cheaper. -Taxpayers benefit from increased recycling participation, longer landfill life, keeps waste costs low.

## **Event Recycling in Public Spaces (Guide in Development)**

-City and other publicly owned venues to support or possibly require green practices at some events.

-Cost to be minimal and should be absorbed by existing budgets and personnel roles. Some printing may be needed.

- Taxpayers would see higher recycling rates, less waste sent to landfills, and public awareness through education.

## **Recycling in the City County Building (Implementation)**

-Public Building Authority to provide single stream recycling (all recyclables mixed together) at City County Building. -Cost to be absorbed by existing budgets for Public Building Authority.

- Taxpayers will see higher recycling rates, less waste sent to landfills, and more public spaces with recycling.

## E-Waste Recycling (Partially Implemented)

-Administration to increase existing partnerships with trusted electronic recycling stakeholders.

-Public costs due to e-waste are increasing. City may need budgetary increases for paid advertising and disposal.

-Taxpayers benefit from reduced amount of harmful materials placed in landfills and increased disposal options.

## SUSTAINABLE PURCHASING

## **Employee Purchasing Guide (Guide Created)**

-Goods and Services Work Group to develop a green purchasing guide for City personnel.

-Zero cost for development with minimal printing costs due to electronic transmission.

-Taxpayers may benefit in reduction in harmful materials and realized savings from sustainable practices.

## Integration of Green Purchasing Resources

-Administration to place increased emphasis throughout city departments on procuring items more sustainably. -Costs to increase importance of sustainable purchasing are low. Green purchasing may result in savings. -Taxpayers may benefit in reduction in harmful materials and realized savings from sustainable practices.

## **Procurement Personnel Training and Continual Sustainability Education**

-Purchasing Department personnel to be engaged or trained on how to procure items more sustainably. -Costs to develop training or send personnel to training could vary. Green purchasing may result in savings. -Taxpayers may benefit in reduction in harmful materials and realized savings from sustainable practices.

## **Create a Sustainable Purchasing Staff Position**

-Administration to establish permanent sustainability staff roles or positions to increase sustainability practices. -Costs for professional trained employee according to grade.

-Taxpayers may benefit in reduction in harmful materials and realized savings from sustainable practices.

### **Elimination of Unnecessary Disposables**

-Administration or City Council to establish a policy to limit or eliminate disposable items purchased by City. -Savings possible. Minimal cost expected on the front end to replace disposables with reusable items. -Taxpayer would realize savings from less wasteful practices and increased landfill life.

### **Recycling Services Contractual Framework (Public Building Authority Implemented)**

-Government agency should solicit competitive pricing for recycling services need at several types of facilities. -No cost to solicit pricing. Costs for recycling services would vary from one facility to another. -Taxpayers will benefit from savings due to recycling where possible. Facilities will be able to budget for recycling.

## SUSTAINABLE AND EDIBLE LANDSCAPING

#### Edibles in Right-of-Ways

-Public Service Department to institute new methods of planting that incorporates edibles and native plants. -No significant costs over the life of the project.

-Taxpayers would benefit from availability of free food and the monetary savings from reduced lawn care.

### **Edible Landscaping at Public Buildings**

-Public building facility managers to institute new methods of planting that incorporates edibles and native plants. -No significant costs over the life of the project.

-Taxpayers will benefit from increased food literacy, gleaning of food, and city reduced maintenance costs.

## Home Landscaping with Natives and Edibles

-City of Knoxville and other partners to encourage and empower individuals to plant edibles and native plants. -Cost would be to add personnel or add personnel responsibility for this role.

-Taxpayers will benefit from increased food literacy, rise in property values, and increased food security.

### **Community Gardens on Public Lands**

-Administration and community stakeholders to create a process for starting a community garden on public lands. -No costs to develop a solution. Solutions could cost in opportunity and staff resources.

-Taxpayers would benefit from food security, increased community interaction, reduced blighted properties.

## **IV.** Goods and Services Policy Recommendations

## WASTE AND RECYCLING

#### **Downtown Permanent Recycling (Pilot Project in Process)**

Providing recycling receptacles on a permanent basis in the downtown areas or rights of way was suggested. Members of the subgroup believe that the receptacles should be centrally located and be easily serviced by the City of Knoxville Public Service department or its contractor. Implementation would require the investment and deployment of recycling receptacles, will require a service provider with the logistical capability to service the receptacles, will require some form of educational program to encourage participation. If implemented permanently the public would have access to several recycling receptacles, will increase their recycling activity therefore institutionalizing the public practice of recycling. The city will also collect more recyclables which results in diversion of more trash away from the landfill.

#### Recycling in City Parks (Pilot Project in Process at Caswell Park)

Increasing the visibility and effectives of recycling can be accomplished by an expanded recycling program at the City of Knoxville Parks and Recreation facilities. Recycling in public spaces increases public practice of recycling and reduces waste going to the landfill. If implemented recycling in City Parks will provide recycling practice and an educational opportunity for park users. A plan is needed to outline any future park-wide recycling program. Implementation will require a change in the process of how existing waste is handled within the parks causing implementation to be slower. As of October 2010 a formal plan for recycling within parks has not been developed. Public Service (Solid Waste, Horticulture) and Parks and Recreation need to work together to formulate a list of parks that will likely feature recycling where feasible and formulate a plan to make it happen. Agency stakeholders need to work on how material will be collected from the public, how or if it needs to be consolidated to a recycling container, and how it will be transferred from the container to the recycling buyer.

### Event Recycling in Public Spaces (Guide in Development)

Providing comprehensive recycling and waste reduction guidelines for event greening within the City of Knoxville and Knox County public event spaces is necessary to institutionalize sustainability into events held in public spaces. Solid Waste and Recycling partners will develop an event recycling guide and toolkit for the purpose of further integrating waste reduction into events held on public property. Equipment has already been purchased and resources have been dedicated to this proposed activity. Event permit stakeholders have been engaged. A guide is in development with local event recycling stakeholders. The guide that is developed should be adopted and encouraged by public venues available for event planners. If fully implemented, recycling at events would be strongly encouraged or even required depending on the type of event and space being used. The proposed activity would result in higher recycling rates, less waste being sent to landfills, and public practice in recycling correctly.

#### **Recycling in the City County Building (Implementation)**

Providing single stream recycling (all recyclables mixed together) at the City County Building has been suggested and is currently being fully implemented. The Public Building Authority wishes to make recycling as convenient as possible at the City County Building and at other Public Building Authority facilities. Targets for increased recycling at the City County building are 30% for the 1<sup>st</sup> year up to the 50% in the 3<sup>rd</sup> year. In order to increase participation of the new simplified and expanded recycling program (single stream) solid waste partners will hold a series of training meetings, use email instructions, and leverage other Internet capabilities to communicate goals and specifics of the plan. Solid waste partners will also utilize flyers and new signs to assist Public Building Authority promote recycling activities.

#### E-Waste Recycling (Partially Implemented)

Recycling more e-waste (anything with a plug) is important and suggested because the amount of e-waste being generated in increasing. Recycling e-waste is good because toxic materials are transformed into valuable commodities instead of being dumped in landfills. Regional solid waste stakeholders should identify opportunities to combine efforts in insuring proper disposal of e-waste. Most e-waste (with the exception of some household computers) is sent to landfills. There are very few responsible e-waste processors in the area. Solid waste and recycling stakeholders have messaging campaigns, websites, one-day collection events that are advertised on television and radio. Utilizing the City and County Goodwill Super Recycling Centers and updating those services into the public messaging will provide affordable disposal locations for the public to recycle their e-waste in a secure, reliable, and responsible manner. University of Tennessee has also partnered with Sims Recycling and Apple computers to hold e-waste events in the past. If implemented, the City will work to direct electronic waste from residents and businesses to known trusted collection programs. The City and County should also commit resources to promote trusted collection programs and events.

## SUSTAINABLE PURCHASING

#### **Employee Purchasing Guide (Guide Created)**

Informing city personnel on a cursory level can be achieved by creating a simple green purchasing guide. The guide can then be distributed to employees that are authorized to make purchases. Creating a basic guide is a first step in procuring more sustainable goods and services. The guide was developed for employees in all city departments to purchase products that more environmentally responsible. Employees can use the guide to compare sustainability labels or browse suppliers' green product lines. If implemented awareness in all departments about "green" products should increase. Some examples of more sustainable products purchased after providing the guide to employees may be recycled paper supplies or less toxic cleaners.

## Integration of Green Purchasing Resources

Integrating the green purchasing guide and its principles into organizational culture is strongly recommended. It is suggested that authorized employees be empowered and encouraged procure sustainable items and make more sustainable purchasing decisions by using the green purchasing guide as a minimum reference. Distribution and encouragement by senior administrators of the green purchasing guide will foster a culture or sustainable procurement. Encouraging individuals to choose more sustainable items takes commitment. The guide provides several valuable tips for making sustainable choices. If implemented, slides for existing purchasing card training or other regular and new purchasing trainings conducted by purchasing department staff would instruct personnel to think about sustainability and use sustainability resources. Utilization of the green purchasing guide and other valuable sustainabile procurement to be an item of discussion during high level staff meetings or reporting from division heads to senior staff and senior administration officials. If implemented, personnel will regularly make sustainable purchases that conform to independently verifiable green or sustainable standards.

#### Procurement Personnel Training and Continual Sustainability Education

Training procurement department staff (Buyers) is necessary to complete the complete the circle of education and culture. Buyers need to be educated with how sustainability can be integrated into the procurement process. Personnel and should be challenged to integrate more sustainable practices into their existing duties. Buyers are often the primary contact point for departments purchasing valuable goods and services. Buyers assist departments when frequently purchasing small items such as well as more valuable goods and multi-year service contracts that are competitively awarded by solicitations based on departmental specifications. Their understanding of how they can influence sustainability through all stages of procurement is crucial. If implemented the City of Knoxville Procurement Staff will receive training and be regularly educated by sustainability personnel resulting in more a culture of buyers ready to embrace sustainable purchasing practices for all city departments.

#### **Create a Sustainable Purchasing Staff Position**

To either hire staff or create a position that is responsible for overseeing or implementing sustainable purchasing procedures or policies. It is suggested that hiring someone to specifically increase sustainability in purchasing (and maybe other departments lacking specifically targeted staff) is reasonable since there are no staff members focused on sustainability inherently as part of their job duties. If implemented the city of Knoxville will institutionalize and make permanent the goal to increase sustainability by providing staff expertise for ensuring sustainable practices throughout areas where goods and services are concerned.

#### **Elimination of Unnecessary Disposables**

Eliminating disposable items is paramount to sustainable practices. An administrational directive or city council ordinance would help eliminate the purchase and use of unnecessary disposable material in City of Knoxville administrative and office settings and replace those items with reusable alternatives. If disposable items are necessary then recyclable or more sustainable alternatives (no Styrofoam, biodegradable items, and paper instead of plastic) should be purchased. Exemptions should be made where necessary for workers in the field. It is suggested that prior written approval be required in order to purchase disposable items where reusable ones can be substituted. It is suggested that the legal department draft appropriate language for a permanent an ordinance. If implemented, the city would realize immediate reduction of waste and likely cost savings from reduced procurement costs of disposable items that are inherently wasteful and ultimately end up in the trash.

#### **Recycling Services Contractual Framework (Public Building Authority Implemented)**

Creating a contractual framework for municipalities to secure recycling services was strongly suggested. Cooperative purchasing language allows for municipal departments to share contracted services. City and County facilities now have guaranteed pricing for which receive quotes and pay for recycling service at their facilities. Interested departments must simply find available funding in their existing budgetary process. Recycling service options can now be explored, departments can budget for the service, and services may be legally procured more easily.

## SUSTAINABLE AND EDIBLE LANDSCAPING

#### **Edibles in Right-of-Ways**

Planting or allowing to be established edible plantings on open public lands and rights of way are suggested as a great way to save water & energy, beautify city right-of-ways, increase food literacy, and increase the availability of local food to the public. Job creation or tourism dollars may increase by offering city land for agriculture use. If implemented crews will use less fuel for lawn maintenance equipment, less watering required once perennial plants are established, see a known yield of several pounds of fruit per mature plant available for public foraging, and see an increase in all of these with each new planting.

#### **Edible Landscaping at Public Buildings**

Planting or allowing to be established edible plantings at public buildings are suggested as a great way to save water & energy, beautify city facilities, increase food literacy, and increase the availability of local food to the public. Job creation or tourism dollars may increase by offering city land for agriculture use. If implemented crews will use less fuel for lawn maintenance equipment, less watering required once perennial plants are established, see a known yield of several pounds of fruit per mature plant available for public foraging, and see an increase in all of these with each new planting.

#### Home Landscaping with Natives and Edibles

Empowering individuals to play a part in their own food supply was a central theme of discussion. The City of Knoxville should publicly promote and possibly incentivize residents to plant edibles and natives. The community has the ability to increase beauty and biodiversity within the urban landscape while reducing water and reducing fuel used for lawn upkeep. Food security also means reduced dependence on imported foods. Overhanging fruits on neighborhood streets and sidewalks is available for foragers which also increases food security. If implemented some traditional lawn space within neighborhoods would be transformed into more sustainable alternatives. Neighborhoods would enjoy the bountiful rewards of fruit trees, berry bushes, and buy more native plants. Local nurseries selling naturalized plants would have more business and therefore be more successful. Growing food on your property can provide a means of alternative income to families and individuals.

#### **Community Gardens on Public Lands**

Creating an open process for participating in, helping out with, or establishing community gardens within the City of Knoxville particularly on publicly owned lands and vacant lots will greatly benefit the community. City officials should seriously work toward increasing community access to shared garden space. The City should engage local experts and stakeholders to develop a process or set of procedures by which community gardens may be legally established on public lands. Part of this process may involve creation of a registry or inventory of active or inactive gardens with contact information and available lands for future gardens. It may be necessary for the city with the help of local experts to create a guide to explain the City process to residents. This step could be a beginning phase within a larger goal to create jobs through urban agriculture practices. Lastly, stakeholders wishing to encourage community gardeners and to develop educational materials to assist and develop valuable gardening skills. If implemented Knoxville would see an increase in community gardens, reduction of blighted properties, an increase community partnering and cohesiveness, and have healthier and more food secure neighborhoods.

## V. Full Matrix Text of Proposal Recommendations

## WASTE AND RECYCLING

## **Downtown Permanent Recycling (Pilot Project in Process)**

### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

To provide permanent receptacles in the downtown areas or rights of way that are centrally located which can be serviced by the City of Knoxville public service department or contractor.

#### Objective

Increase the number of recycling receptacles, Increase the ratio of recycling receptacles to trash receptacles, increase the estimated number of people who utilize the recycling receptacles, increase the estimated amount of material that is collected. **Activity** 

Would require the investment and deployment of recycling receptacles, will require a service provider with the logistical capability to service the receptacles, will require some form of educational program.

#### Definable Items

Temporary Bin or Toter- Recycling bin that is not meant for permanent installation and is generally portable, less aesthetically pleasing, and more likely to be stolen; Roll-out containers or Toter- large 65-100 gallon receptacles with rollers on one side and handles on the other which can be rolled out manually but it usually serviced by a mechanical system; Permanent recycling receptacles- most costly of all recycling containers but most aesthetically pleasing. Generally they are serviced manually but can be mechanically serviced. Roll off recycling container- larger container like containers at drop off centers serviced by automated truck.

#### **Taxpayer Benefit**

Recycling awareness and education is spread when everyone has the ability to recycle. Ultimately material is diverted away from the landfill which extends landfill life which helps keep the existing costs of waste low therefore ultimately ending in partial cost avoidance by the taxpayers for the removal of waste.

#### Short Term Implications

Purchase of initial set of bins or provided by a sponsor, deployment of bins, keeping them picked up as they are utilized. Long Term Implications

Purchase and deployment of a more permanent set of bins that is acceptable to the public, maintenance of the bins, keeping them picked up as they are utilized.

#### Cost

The minimum costs per roll-out toters for temporary bins are \$50.00 \$70.00 but they would not look very good and could be stolen or damaged. The cost of roll off containers is more reasonable and they are cheaply serviced by automated trucks. Permanent recycling bins are very costly (minimum \$200.00 to \$400.00 dollars) and they usually require manual emptying of collected material. All bins will require some form of recycling service which could cost in the form of a contractor or cause added labor and equipment needs if done in house.

#### Short Term Funding

Sponsorship from a local curbside recycling company is being examined for all costs associated with roll-out bins and their emptying. Grant money may be available for infrastructure investment in order to offset the cost purchasing several bins to be deployed. Existing budget should cover cost of existing service workers to check on a pilot system.

#### Long Term Funding

If the program was a sponsored recycling program long term funding may not be needed in order to keep a roll-out recycling receptacle system. Changing the system to more aesthetically pleasing receptacles or adding additional locations where sponsorship is not available would likely incur large costs in investment of receptacles as well as ongoing costs with respect to servicing either through a contractor or through city employees.

#### Procurement Method or Relevant Contract

Sponsorship is likely to fall under a pilot project. Long term arrangements may require some form of legal arrangement which would require city law department or purchasing department agreements. Investments in bins or recycling services would likely require a competitive solicitation subject to city purchasing rules.

#### Stakeholders

Downtown occupants, businesses, city residents, local businesses, recycling companies, waste companies, city of Knoxville service department, and tourists

#### Lead Group or Agency

City of Knoxville Public Service Office and Solid Waste Offices

#### Lands Used

Public lands and rights of way

#### Labor Needs and Intensity

Depending on implementation recycling could require a large amount of labor or very little. Some methods of collection require much supervision and physical emptying or contents while other receptacles require a regular route by a truck which is a service that may be sponsored or paid for by operating budgets. Raleigh, NC has chosen to enroll business into a downtown recycling program.

Businesses get stickers so the public knows that they can recycle at those locations. Businesses benefit from increased foot traffic and the city benefits by having businesses take responsibility for putting out recyclables.

#### Issues

Downtown visitors or residents will most likely have opinions about how recycling is collected, how frequently it is collected, what the container looks like, and how many containers are available. Education campaigns of some sort will need to be launched even if it is a simple message through signage and restrictive openings.

#### Liabilities

Contamination of recyclables will be a problem. If receptacles fill up or if recyclable end up in the trash it is likely that observers will draw positive or negative conclusions about the success of the program. Recycling myths are easily fueled when recyclables end up in the trash in public places. Complaints about aesthetics or about the size of roll out toter containers could be a problem. Trucks that pick up roll out containers cannot service blocked boxes which could lead to recyclables not getting picked up and overflowing. **Case Studies** 

The City of Knoxville is currently conducting a pilot project with Waste Connections supplying 18 recycling bins in the downtown market square area. Waste Connections is providing service to the bins and providing weight from Recycle Bank points system. The program has been in progress 7 weeks as of September 14th. Just over one ton of material has been collected as of that date. A survey was developed on the internet and just over 100 surveys were submitted. The surveys provided information such as convenience and location, ease of use, appearance and design, and educational signs on the containers. The project is geared to pedestrian traffic and great majority of users taking the survey were in favor of continuing the program. Many suggested providing additional containers in the entire downtown area. Raleigh, NC, Savannah, GA has several toters in the downtown.

## Recycling in City Parks (Pilot Project in Process at Caswell Park)

#### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

Reduce waste going to the landfill from City parks, increase recycling, reuse materials, and increase visibility of recycling within the City. Provide educational opportunity for park users and to properly dispose of and recycle their waste materials.

## Objective

Explore the opportunities of recycling in City parks

#### Activity

Creation of a new program that will require a change in the process of how waste is dealt with in the parks. As of 10/01/10, a formal plan for recycling within parks has not been developed. Public Service (Solid Waste, Horticulture) and Parks and Recreation need to work together to formulate a list of parks that will feature recycling and formulate a plan to make it happen. Create a system in place to get the material from the bins to the recycling dumpster and from the dumpster to the processor.

#### **Definable Items**

Single stream recycling- a method of recycling that allows consumers to place all recyclable materials in the same waste container. Individual recyclers are not required to separate the materials prior to disposal; instead, the comingled materials will be separated, either by hand or machine, at a recycling processing facility.

#### Taxpayer Benefit

Makes recycling more available to residents of the City of Knoxville. The costs of waste disposal in Parks may decrease therefore using taxpayer money more efficiently

#### Short Term Implications

#### Pilot project underway.

#### Long Term Implications

Residents of the City of Knoxville will be made more aware of recycling and waste reduction, which may lead residents to become more conscious about their waste. In addition to this, it may help reduce litter in our parks and will certainly divert a large amount of waste from the landfill.

#### Cost

"If City collects recyclables- the charge would be between \$2.00 and \$4.00 per month for each 95 gallon cart supplied. City employees would take material to an 8 cubic yard dumpster and it would be collected with Single Stream Front-end Loader truck on a onetime per week schedule; monthly average tons collected can be tracked. The 8 cubic yard would be between \$80.00 and \$100.00 per month for pickups and rental. If a hauler would take the material to a central location to process on site it would be between \$5.00 and \$8.00 per toter per month emptied on a onetime per week schedule. Carts would have to be grouped at a common curbside location by City employees and staged by 7:00 AM on pickup days. Staging times based on locations of parks to be serviced can be coordinated with times trucks are in the area. Actual weights on all carts can be obtained with the scale system on recycling trucks or by using estimates.

#### Short Term Funding

Purchase of recycling bins, signs, bags, hauling fees would require a capitol request for the one time purchase of equipment. Long Term Funding

Service contract would be required, which depends on data collected from the pilot program.

#### **Procurement Method or Relevant Contract**

This program will require the purchase or the rental of bins and dumpsters for recyclable material. In addition to this, it will require a contract for a Waste Hauling company to deliver the material from the individual parks to a recycler.

#### Stakeholders

Park users, City employees (Solid Waste, Parks, and Horticulture), Knoxville visitors, taxpayers, Knoxville's image, and vendors within City parks, Waste hauling companies, Horticulture department.

#### Lead Group or Agency

City of Knoxville- Department of Parks and Recreation, City of Knoxville Solid Waste.

#### Lands Used

Staffed recreation and community centers located throughout city, large parks, athletic fields and tennis courts where rentals and organized play occurs during playing season, and outdoor seasonal pools.

#### Labor Needs and Intensity

Containers of recyclables to be moved from individual collection bins to the larger staging containers for hauling.

#### It may be logistically difficult to recycle within some parks due to the layout of the park, the size of the park, lack of oversight among City workers, inability to transport materials to a centralized location for pickup. Smaller neighborhood parks and "pocket parks" would not meet criteria for recycling. Low volume or occasional use would not produce much material in the week's time that trash is emptied. Material has a high risk of pollution from non recyclable materials.

#### Liabilities

Possible theft or damage of recycling bins.

#### Case Studies

1.) The City of Knoxville created a 6 month pilot recycling program within Caswell Park that will last from June '10- Nov '10. During the first three months of this pilot program 1.41 tons of recyclable material was diverted from the landfill, the monthly waste hauling fees decreased by \$48.00 dollars, and roughly 400 park users per tournament during the week and 600 per tournament during the weekends were provided the opportunity to recycle within the park. Through this program, it is estimated that 7 to 8 tons of recyclable material could be diverted from the landfill each year in Caswell Park and that Parks and Recreation could save between \$500.00 and \$700.00 dollars per year. Other parks will have to be evaluated for specific details and volumes as to location size and use. 2.) Contact Bill Schot (608-266-9214) with City of Madison, WI to ask about Park Recycling in Madison. Things to ask are - How many parks are you recycling in? How many tons are generated? Logistics? etc.

## Event Recycling in Public Spaces (Guide in Development)

#### **Energy Inventory Category**

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

To provide comprehensive recycling and waste reduction guidelines for event greening within The City of Knoxville and Knox County

#### Objective

Integrate greening information for all events. How many events promoted greening? How much is diverted? Activity

Develop an event recycling guide and toolkit. A recycling trailer has been purchased. Develop a recycling trailer assistance program. Coordinate roll-off if needed.

#### Definable Items

Single stream recycling or commingled refers to the system in which all recyclable items are mixed together.

#### Taxpayer Benefit

Recycling education, increased need for recycling in the future. Landfill space, property taxes, and event recruitment.

#### Short Term Implications

Event greening agreement integrated into special events application. A deposit required for use of recycling trailer and materials. Develop guide for recycling at mid-size events 500-1500.

#### Long Term Implications

Policy will need to be reviewed and updated on a regular basis. Events will advertise as being low waste or waste free. Recycling trailer made available to solid waste partners for event recycling support. Refundable deposits may be utilized for use of equipment or for recycling services offered directly by venues. Purchase of additional trailers may be necessary.

#### Cost

Cost for printing, labor, designing and possible roll off container cost to event coordinators.

#### Short Term Funding

Possible grants for this project should be investigated. Leveraging existing funds and grants.

Long Term Funding

Use existing operating funds. Budgetary capital improvements.

#### **Procurement Method or Relevant Contract**

N/A

#### Stakeholders

City of Knoxville, Knox County, Energy and Sustainability Committee, Special Events Committee, Ijams Nature Center, event planners, promoters, recycling companies, Public Building Authority, and the general public attending the event.

### Lead Group or Agency

City of Knoxville Solid Waste, Knox County Solid Waste, Knoxville Special Events Committee, Public Building Authority, property managers

#### Lands Used

Any City or County Public Space

#### Labor Needs and Intensity

Increased responsibilities for events coordinator. PBA and volunteers to pull full recycling bins. Volunteers or other waste sponsors haul away recycling if a permanent recycling receptacle is not available. Set up, take down, and cleaning of bins.

#### Issues

Long-term funding issues, possible decline of market for commodities, lack of materials if multiple events are scheduled for the same day, lack of volunteers, possibility of recycling being contaminated, communication between PBA, event organizers, and other stakeholders, non-compliance from vendors. Styrofoam.

#### Liabilities

Potential of items not being recycled due to contamination. Possible hazard to volunteers (to avoid this provide gloves and hand sanitizer). Lack of volunteers. Potential to reinforce negative recycling myths.

#### Case Studies

Recycleworks.org-A program of San Matio County.

Special Events Recycling Toolkit-City of Eugene. Cityofeugen.org

Australian Capital Territory nowaste.act.gov/au

City of Vacaville cityofvacaville.com

## **Recycling in the City County Building (Implementation)**

#### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

- 4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.
- 12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.
- 13. Integrate sustainability objectives into economic development outreach and job creation initiatives.
- 14. Encourage community engagement in sustainability efforts.

#### Goal

By providing single stream recycling capabilities and making it as convenient as possible we hope to encourage and increase collected recyclables.

## Objective

1st Year - 30% recyclables collected.

3rd Year - 50% collected

#### Activity

Hold series of training meetings, use email and Internet capabilities to communicate goals and specifics of the plan. Use flyers and new signage.

#### **Definable Items**

Single Stream Recycling is: all recyclable materials selected for recycling are collected in a container and co-mingled.

#### **Taxpayer Benefit**

Reduce the City of Knoxville and Knox County carbon footprint in landfills. Reduce cost of landfill fees marginally. Educate City of Knoxville and Knox County employees creating habits of recycling.

#### Short Term Implications

Meet with Department/Office Managers to involve and educate. Create PowerPoint presentations. Distribute cans, totes, and/or recycling centers as needed.

#### Long Term Implications

Increase collected recyclables. Create environment among City County Building employees for personal sustainability practices. Cost

Under \$5-10K start-up depending on number of containers and signage purchased. Believe payback of expense to be less than 2-3 yrs. at minimal participation.

### Short Term Funding

If available.

Long Term Funding

#### Self-Funded.

#### **Procurement Method or Relevant Contract**

Maintain contract with waste/recycling hauler. Current contract good till 7/2013.

Stakeholders

City of Knoxville, Knox County, Public Building Authority, Public using City County Building.

#### Lead Group or Agency

City of Knoxville, Knox County, Public Building Authority.

Lands Used

#### City County Building

#### Labor Needs and Intensity

Public Building Authority, Custodial Contractor, Public Building Authority/Sertoma contract labor, Staff from City of Knoxville and Knox County Solid Waste Departments and support from Americorps personnel.

#### Issues

Seeking "Buy-in" from City County employees and the general public.

#### Liabilities

Commodity market is unstable. Could force costs to increase.

#### Case Studies

In Knoxville the Public Building Authority has started Single Stream recycling in the City County Building and information about the program is being provided to occupants in the building. City of Portland, Oregon. City of Huston, Texas

## E-Waste Recycling (partially implemented)

### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

Reduce the amount of e-waste (anything with a plug) to the landfills in our region, identify options/alternatives, and educate consumers.

#### Objective

Create easily accessible drop off points in City and County: Can use City/County Super Recycling Centers w/Goodwill attendants. Goodwill is already able to accept computers and peripherals through the Dell Reconnect program. No Avenue for other e-waste collection/disposal has been identified yet.

Provide consumers with the 'WHY'. Teach community the importance and need for e-waste recycling.

#### Activities

Identify solutions to our community's problem of proper disposal of e-waste (anything with a plug). Currently, all e-waste, with the exception of some household computers, go directly to the landfill. There are very few capable and responsible e-waste processors in the area. These long distances can mean more transportation costs. Public awareness: there is currently very little in terms of e-waste education except for computer recycling. Items are often thrown in the trash for several reasons, i.e. costly fees/labor and also there is no state ban on these items going to the landfill Publicity: The city, county and Goodwill all have brochures, websites, one-day collection events (these events also use TV and Radio coverage) Utilizing the City/County/ Goodwill Super Recycling centers could provide a reliable source for disposal, they are capable of holding a large amount, they have reputable partnerships, etc. UT has partnered with Sims Recycling and Apple computers to hold e-waste events in the past.

#### Definable Items

e-waste: Electronic waste is defined as non-working parts or devices, irrespective of material composition. Life Cycle: A series of stages that an electronic unit passes through during its existence. Source Separation: Recyclable items sorted and separated based on the materials used in their creation. End of Life: Any electronic product or part that can no longer be used as intended or that contains material that may be recycled or processed in order to reclaim a substance for further use. Cost Analysis: Breaking down the costs of an operation and reporting on each factor separately according to cost

#### Taxpayer Benefit

Saves tipping fees, partnerships with non profits such as Goodwill, partnerships with processors, and reduces landfill waste **Short Term Implications** 

New contracts for City Transfer Station, specifically for the disposal of all e-waste.

#### Long Term Implications

Find/develop partnerships for other e-waste outside of computers and peripherals at a reasonable cost and convenience to citizens and also work on education of community.

#### Cost

City/County- advertising/promotion of proper disposal and general educational information

#### Short Term Funding

Recent RFPs called for by the City for the City Transfer Station, specifically for the disposal of computers and TVs

### Long Term Funding

Find/develop partnerships for other e-waste outside of computers and peripherals at a reasonable cost and convenience to citizens and also work on education of community.

#### **Procurement Method or Relevant Contract**

City household hazardous waste electronic waste contractor, city and county attended donation center contracts.

#### Stakeholders

Citizens of City, County, Goodwill, Dell (more to be added as alternative solutions to other e-waste issues are identified)

#### Lead Group or Agency

City Solid Waste, Knox County Solid Waste, Goodwill, Dell (more to be added as alternative solutions to other e-waste issues are identified)

#### Lands Used

City Transfer station, Goodwill private land Super Recycling Center locations, City and County Super Recycling Centers Labor Needs and Intensity

Staff from city, county, Goodwill volunteers, private recycling companies

#### Issues

Contract issues, education.

#### Liabilities

Security of personal information on computers, hazardous material handling, beneficial end use, compliance with laws.

### Case Studies

Austin Goodwill, recycling partnerships

## SUSTAINABLE PURCHASING

## **Employee Purchasing Guide (Guide Created)**

#### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

- 5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.
- 12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

To provide information to and encourage purchasers and employees in all departments to purchase products that support environmental responsibility.

#### Objective

To raise awareness in all departments of "green" products and products which are better for the environment than their counterparts.

#### Activity

Develop an educational campaign with complementary guide to encourage environmentally responsible purchasing at both large levels (i.e. large contracts, bids) and small levels (i.e. day-to-day purchases)

#### **Definable Items**

Environmentally preferable purchases-products or services that have a lesser or reduced effect on human health and the environment when compared with competing products or services that serve the same purpose (Instructions for Implementing Exec. Order 13423)

#### Taxpayer Benifit

Where purchases that are "green" are cheaper, there will be better fiscal responsibility. Where purchases that are "green" are of equal costs to similar products, taxpayers will receive greater external benefits that are difficult to measure (i.e. environmental and health impacts). To the extent that employees are tax payers and enjoy using these "green" products, there will also be a more pleasant work environment.

#### Short Term Implications

Departments will be encouraged to revisit purchases they make to see if they can make their purchases more environmentally sustainable.

#### Long Term Implications

Little change will be noticed. Some studies have found fewer complaints (eye irritation, etc.) from custodial employees using environmentally preferable products. By promoting "green" purchases, departments will encourage suppliers to continue suggesting environmentally preferable products. Additionally, purchasing "green" products increases the marketplace for sale of these supplies. **Cost** 

While some "green" products may be more expensive, given that purchasers will be encouraged to buy "green" products especially when all other things are equal, there should be no great cost increase. Any cost incurred will be within a given department and will be the responsibility of departmental budgets.

#### Short Term Funding

Money for printing and designing information brochure, publications, handouts, and to run educational campaign (\$500) Long Term Funding

Money to update brochures, publications, handouts, assess success of program, etc. (\$400)

#### Procurement Method or Relevant Contract

Will be handled independently by departments. All purchases will be made using current procurement methods with the additional encouragement to use pre-approved vendors that are "green" and/or to use pre-approved items that are "green". **Stakeholders** 

Buyers, employees that make purchases, administrative assistants, department heads.

Lead Group or Agency

Purchasing

Lands Used

### Labor Needs and Intensity

Labor for educational campaign, and distribution of materials for education; labor will also be needed to produce any educational material and handouts, and to assess effectiveness of program

#### Issues

internal resistance to buying "green" products/services when people are already used to using certain products or vendors; fear of sub-standard "green" products/services; if "green" products/services are more expensive, they will not be purchased; difficult to assess effectiveness; little to no ability for purchasing department to enforce purchasing requirements given current size and manpower of department.

#### Liabilities

Taxpayers may worry that "green" products are more expensive; must ensure that "green" products and services meet all rules, regulations, requirements for a given job.

#### **Case Studies**

Austin, TX; Seattle, WA; Portland, OR; Environmental Protection Agency; Others

## Integration of Green Purchasing Resources

#### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

- 4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.
- 5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.
- 12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.
- 13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

To encourage and empower City of Knoxville employees that are authorized to make purchases to procure sustainable items and make more sustainable purchasing decisions where reasonable.

#### Objective

The number of personnel trained, the number of sustainable purchasing guides received by personnel, percentage of micro purchases that conform to independently verifiable green or sustainable standards.

## Activity

Development, distribution, and encouragement by senior administration staff for employees to use a green purchasing guide or other references. Encouraging individuals in a position to make several small purchases to choose sustainable items other less sustainable items by providing tips for identifying more sustainable items via website pages regularly used for purchasing or through product labels and codes identifying sustainable products. Additionally, integrating training slides into existing card or purchasing training conducted by purchasing staff. Turning sustainability into an item of discussion during administration staff meetings or reporting from department heads to senior staff and senior administration officials.

#### Definable Items

Micro purchases- the large amount of transactions that take place on a regular basis typically transacted by electronic cards. Green Purchase- the choice to buy an item based on some criteria that make it more sustainable than other products with similar functions and price points.

#### **Taxpayer Benefit**

In some instances the taxpayer benefit may be less costly materials, in other instances taxpayer benefit may be the reduction of toxins in the environment. In cases of toxic cleaning chemicals the taxpayer benefit of buying sustainable products could be cheaper, less toxic and less health related exposure risks to the public and employees therefore creating less risk to the City of Knoxville. Intangible benefits of fostering a healthy environment may even mean increased likelihood of environmentally friendly economic development and recruitment of green businesses to the Knoxville area.

#### Short Term Implications

In the short term a quick guide must be created and distributed to individuals that make daily purchasing decisions. Furthermore, those individuals need to be encouraged to utilize the guide or other resources regularly in order to be effective.

#### Long Term Implications

As the guide is improved with feedback it needs to be integrated into existing purchasing training (such as p-card training, or new employee orientation. Furthermore, priorities are established from the top down from the administration. Commitment from the administration is paramount in order to sustain a successful program to influence micro purchasing. Department heads could be tasked at senior staff meetings to instruct their personnel to utilize guides, directors could be directly encourage do utilize the guide or share successes or setbacks. In short, the priority of sustainable purchasing beyond enthusiastic early adopters through micro purchases will be established from the administration or other governing leaders.

#### Cost

It is intended that integrating more sustainable micro purchases into existing purchasing behavior will have a very small to increase in cost or be a zero cost solution. All guidelines will encourage more sustainable choices where reasonable. It is anticipated that all costs with respect to this proposal will be absorbed through the normal budgetary process. Where more sustainable items are cheaper cost could be negative. Where cost is no different there will be zero cost solutions. Where cost is greater it is possible that departments may need to make the choice as to whether the higher cost is warranted.

#### Short Term Funding

Existing budgetary process, printing, less than \$500.

#### Long Term Funding

Existing budgetary process or incrementally increased budget to allow for more sustainable products. For example, the choice to buy recycled office paper could necessitate a significantly higher paper budget for offices that do a lot of printing. However, by combining recycled paper with duplex printing or less printing of paper drafts however could represent no budgetary increase for most departments.

#### **Procurement Method or Relevant Contract**

Existing blanket contracts for green items may facilitate many purchasing decisions

#### Stakeholders

City departments, city card holders, administrative staff that purchase a large amount of items independently based on departmental needs. Purchasing personnel, vendors.

#### Lead Group or Agency

City of Knoxville Departmental administrative staff that make purchases, administration, purchasing department, Department Heads, Senior Staff members.

#### Lands Used

Not applicable

## Labor Needs and Intensity

Minor modification of existing personnel roles that should not require additional work. Minor increase in purchasing department staff and administrative staff that make purchases. Depending on the administration commitment the labor needs could be much greater. **Issues** 

Guides are effective so long as they are utilized or kept up to date. Additionally, employee buy-in is a real challenge for personnel in departments that are already doing several job duties. Without encouragement, reward, or requirement employee buy in will be limited to the individuals that are already committed to making more sustainable purchases.

#### Liabilities

Improperly defined sustainable purchasing concepts could conflict with other existing benchmarks for minority and women owned businesses. The committee however chooses to view sustainability in broader terms that would include women and minority owned businesses as something that is sustainable for the human environment and ecology of the community and not therefore contrary or mutually exclusive to sustainability.

#### Case Studies

Seattle has an extensive green purchasing policy which the City of Knoxville has utilized for its purchasing "policy". Implementation practices, however, vary.

## **Procurement Personnel Training and Continual Sustainability Education**

#### **Energy Inventory Category**

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.

- 12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.
- 13. Integrate sustainability objectives into economic development outreach and job creation initiatives.
- 14. Encourage community engagement in sustainability efforts.

#### Goal

To provide sustainability specific information to procurement and purchasing personnel and to challenge them to integrate sustainability into their existing duties.

#### Objective

Number of personnel receiving training, number or personnel receiving continuing educational reinforcement, more sustainable purchases made.

#### Activity

Procurement staff often serve as the primary contact point for departments purchasing goods and services. Buyers assist departments purchasing on every level from small transactions such as micro purchases to large multi year goods and service contracts that are competitively awarded by solicitations based on departmental specifications. Their understanding of how they can influence sustainability through all stages of procurement is crucial.

#### **Definable Items**

Buyer -Professional procurement employee; purchaser -any employee allowed to purchase items or ask Buyers to procure goods and services.

#### **Taxpayer Benefit**

In some instances the taxpayer benefit may be less costly materials, in other instances taxpayer benefit may be the reduction of toxins in the environment. In cases of toxic cleaning chemicals the taxpaver benefit of buying sustainable products could be cheaper, less toxic and less health related exposure risks to the public and employees therefore creating less risk to the City of Knoxville. Intangible benefits of fostering a healthy environment may even mean increased likelihood of environmentally friendly economic development and recruitment of green businesses to the Knoxville area.

#### Short Term Implications

In the short term, the administration should ask a group of sustainability advisors to meet with the procurement staff (Buyers) to identify, introduce, and integrate procurement practices that produce more sustainable purchasing. A sample guestionnaire for Buyers working with departments has been developed. This may lead to small changes in the existing policy but should more importantly address daily practices and procedures that augment the existing policy by integrating sustainability into bid/proposal specifications, economies of scale, local sourcing, women and disadvantaged owned business options. For example, equipment specification could be changed to ask for equipment environmental impact statements, departmental staff can be influenced to utilize pre-existing green product vendors, etc. Buyers can be trained to ask purchasers questions such as "is this a sustainable product?", "does the product/service have a reasonable more sustainable alternative?", "is the product really needed?", If we asked for better specifications would the product/equipment have a longer lifespan?" and other very good questions. A form could be developed that documents the answers to such questions to justify product/service procurement and increasing transparency. Long Term Implications

In the long term, it would be advisable to build upon the first actions by assembling a group of departmental representatives (including procurement staff is paramount) to be engaged for their input on how the goods and services they purchase may be procured in more sustainable ways. Staff members should be engaged to discuss how their existing services could be procured in a more sustainable way. Many institutions have employee based green teams that serve as a set of internal experts on such issues. A green team of employee based dialogue would facilitate ownership of the process. Long term fundamental change may require an office of sustainability that is devoted to this issue or specific personnel in the procurement process tasked with increasing sustainability via procurement practices.

#### Cost

Asking Buyers to engage in sustainability dialogue with departmental purchasing staff could be very low cost especially if the Buyers were not asked to bear much of the labor. For example, sustainability staff could be asked to pass on a questionnaire to be filled out by the department head for every new good or service in which they procure. As staff are increasingly asked to perform additional duties the opportunity cost of that action increases. Furthermore, hiring a staff member solely for sustainability or sustainable purchasing coordinator would add to the additional budget. Asking other staff members to convene regularly would cost in time but possibly foster better operational coordination within city departments.

#### Short Term Funding

No additional short term funding should be necessary outside of utilizing the existing staff under the current budget to begin advising buyers on how to better integrate sustainability into their practices.

#### Long Term Funding

Existing budgetary process with incremental increase should allow for purchasing more sustainable products because sustainable is less and less associated with more expensive over the long term. Hiring new or additional staff to facility that sustainability or sustainable purchasing would require an increase equivalent to the personnel's' compensation.

#### **Procurement Method or Relevant Contract**

The processes associated with all procurement methods and contract solicitations would integrate more sustainability practices throughout the process therefore possibly having some form of impact on all goods and services acquired.

#### Stakeholders

Buyers, department heads, sustainability advisors, goods and service providers, and the community.

#### Lead Group or Agency

Purchasing Department (Finance) under direction of the administration

#### Lands Used

Lands used would only apply to lands that have a good or service applied to them such as mowing, spraying, digging, etc. Labor Needs and Intensity

Depending on the commitment and availability of funds the labor needs could remain the existing staffing level or be graduated to include new employees and utilizing several existing staff members willing to be engaged in sustainable purchasing initiatives. **Issues** 

Procurement personnel operate within mandated legal frameworks and do not need constraints that remove procurement options unreasonably. This recommendation attempts to address the ability to integrate sustainability into existing reasonable purchasing policies. Sustainability has been broadly defined to include women owned and disadvantaged business as they promote a sustainable community.

#### Liabilities

Improperly defined sustainable purchasing concepts could conflict with other existing benchmarks for minority and women owned businesses. The committee however chooses to view sustainability in broader terms that would include women and minority owned businesses as something that is sustainable for the human environment and ecology of the community and not therefore contrary or mutually exclusive to sustainability.

#### Case Studies

Seattle has an extensive green purchasing policy which the City of Knoxville has utilized for its purchasing "policy". Implementation practices, however, vary.

## **Create a Sustainable Purchasing Staff Position**

#### **Energy Inventory Category**

- 1. Reduce energy and water consumption at all city facilities.
- 4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.
- 5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.
- 12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.
- 13. Integrate sustainability objectives into economic development outreach and job creation initiatives.
- 14. Encourage community engagement in sustainability efforts.

#### Goal

To either hire staff or create a position that is responsible for overseeing or implementing sustainable purchasing procedures or policies.

#### Objective

Permanent availability of sustainability expertise for ensuring sustainable practices throughout areas where goods and services are procured.

#### Activity

Publicity of existing program, creation of new program, synergy from organizing groups, information gathering, purchase of service, etc. It is suggested that hiring someone to specifically increase sustainability in purchasing (and maybe other sectors) is reasonable since there are no staff members focused on sustainability inherently as part of their job description.

#### Definable Items

Disadvantaged and women owned business- used to establish similarities in the way these existing goals are being met through another City of Knoxville program and how they could be modeled with respect to sustainability.

#### Taxpayer Benefit

In some instances the taxpayer benefit may be less costly materials, in other instances taxpayer benefit may be the reduction of toxins in the environment. In cases of toxic cleaning chemicals the taxpayer benefit of buying sustainable products could be cheaper, less toxic and less health related exposure risks to the public and employees therefore creating less risk to the City of Knoxville. Intangible benefits of fostering a healthy environment may even mean increased likelihood of environmentally friendly economic development and recruitment of green businesses to the Knoxville area.

#### **Short Term Implications**

Most of the sustainability workgroups are fortunate to have existing City of Knoxville staff members that are either directly or indirectly working to increase sustainability within their existing city defined job description. This is the case for example with respect to waste. The City of Knoxville has existing staff members on hand applying their expertise to the City of Knoxville policies just by doing their existing jobs. Adding new initiatives or refocusing their efforts is simple. The purchasing department does not have such personnel for sustainability and existing personnel are not able to influence meaningful institutional change without neglecting their own roles. In fact, their role is somewhat limited by legally defined purchasing roles and directives. During the meeting much was discussed about "purchasing policy" versus buyer or even purchaser practices all of which the purchasing department is directly involved. Official purchasing policy must retain phrases such as "where reasonable" in order to satisfy legal frameworks. However, there are many situations where buyers could be in positions to integrate sustainability practices. Other policy recommendations attempt to address substantive short term educational initiatives to affect purchasing habits but those are low hanging fruit. Education is a beginning. Without someone responsible for increasing sustainability the purchasing department will likely remain focused on complying only with legal frameworks as they are required. The suggestion of adding staff to encourage sustainability was warmly received by purchasing staff that were consulted. Adding to their workload was less well received. Making an already maximized purchasing department comply with another directive without staffing someone to assist would be less than optimal. There is a precedent for this with respect to women and minority or disadvantaged business. Additional staff positions were created to facilitate an administration's goals.

#### Long Term Implications

In the long term, it would be advisable to build upon the first actions by assembling a group of departmental representatives (including procurement staff) to be engaged for their input on how the goods and services they purchase may be procured in more sustainable ways. Staff members should be engaged to discuss how their existing services could be procured in a more sustainable way. Many institutions have employee based green teams that serve as a set of internal experts on such issues. A green team of employee based dialogue would facilitate ownership of the process. Long term fundamental change may require an office of sustainability that is devoted to this issue or specific personnel in the procurement process tasked with increasing sustainability via tweaking procurement practices.

Cost

Either the cost of new personnel or opportunity cost if this role is filled by existing staff position(s).

Short Term Funding

Existing budgetary process or try to secure grant funding where available.

Long Term Funding

Existing budgetary process

Procurement Method or Relevant Contract Not applicable

Stakeholders

Buyers, department heads, sustainability advisors, goods and service providers, and the community.

Lead Group or Agency

Purchasing Department (Finance) under direction of the administration

Lands Used

Lands used would only apply to lands that have a good or service applied to them such as mowing, spraying, digging, etc.

Labor Needs and Intensity

New staff member or increased role or an existing staff member

Issues

Procurement personnel operate within mandated legal frameworks so the new or existing employee would have to familiarize themselves with the possibilities and limitations associated with procurement systems and processes.

Liabilities

Unfunded, unrealistic targets could demoralize the purchasing staff but the staff member responsible for increasing sustainability should have to demonstrate successful integration of sustainability which could be slow or difficult.

#### **Case Studies**

Seattle and Portland both have vigorous programs to increase sustainability with varying degree of reinforcement that include staff, ordinances, and vendor questionnaires.

## Elimination of Unnecessary Disposables

#### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

Reduce Waste, Reuse Resources, and Recycle.

#### Objective

Reduce the number of disposable products are present in a facility waste audit currently. Reduced disposables purchased currently versus after the policy. Reinforce the viability and prefer ability of reusable materials over disposables.

### Activity

Administrational directive or city council ordinance to eliminate the purchase and use of unnecessary disposable material in City of Knoxville administrative and office settings and replace those items with reusable alternatives. If disposable items are necessary recyclable or lower impact items such as biodegradable items would be preferred. Exemptions should be made where necessary for workers in the field. It is suggested that prior written approval be required in order to purchase disposable items where reusable ones can be substituted. Suggest legal department write ordinance language to be considered.

#### **Definable Items**

Disposable items, plastic water bottles, single serving food containers, cups, forks, plates, paper towels, water services, and Styrofoam- No 6 plastic styrene injected with air to create Styrofoam. Post consumer Styrofoam is not recyclable and is one of the chief contaminates in recycling containers. Styrofoam does not break down in a landfill and takes up a lot of space.

### Taxpayer Benefit

Reduces waste and therefore reduces waste disposal costs. Makes recycling program work better therefore increasing availability of recycling program in city facilities. Longer landfill life keeps the cost of waste lower which ultimately get passed to the taxpayer via lower property taxes.

#### Short Term Implications

Offices may have existing products that will need to be used before re-ordering replacements. Disposable alternatives could be phased in.

#### Long Term Implications

Facility recycling will receive less contamination. Little changes should be noticed by staff.

#### Cost

Elimination of disposables should ultimately save money. Cost could go up for each item if replaced by reusable items in the short term. Cleaning reusable items could require more labor, energy, or water. Styrofoam is cheaper however its waste cost is actually greater over time. If employees were encouraged to bring reusable containers that are washed eliminating the need to throw away beverage containers a savings could be realized.

#### Short Term Funding

Existing Funding-should cover changes in purchasing disposable items and some budgets for disposable items could be eliminated. Long Term Funding

Existing Funding-should cover changes in purchasing disposable items and some budgets for disposable items could be eliminated. Procurement Method or Relevant Contract

No large purchase or changes in existing contracts will be expected. Notification to approved vendors or purchasing department buyers to "not allow purchase of disposable products" may be useful for implementation. Stakeholders

City Employees, visitors to city offices, the taxpayers, City of Knoxville image, vendors that supply disposable items. Lead Group or Agency

City of Knoxville, City Council, buyers, department heads Lands Used

N/A

#### Labor Needs and Intensity

Very little. Directive from executive and legislative officers to department heads, buyers, and vendors.

#### Issues

Very often disposable containers are not made of biodegradable material. A cup for example tossed into the trash today will still be in a landfill hundreds of years from now, taking up to 500 years to break down. It is a product produced from petroleum, which is not only environmentally un-friendly, but also a finite resource. Styrofoam for example poses a risk to lakes, streams and wildlife, when waterways get clogged by partially broken-down Styrofoam, and animals mistake it for food. It is hazardous to our own health, because when heated, it releases toxins

#### Liabilities

N/A

#### **Case Studies**

Portland, Oregon had the first ban of Styrofoam that was enacted in the late eighties and in following years close to 100 cities nationwide either have an ordinance in place or are currently working on one. Other major cities include: L.A., Oakland, Santa Monica, Seattle and San Francisco. Philadelphia and New York City are currently working on getting an ordinance passed through city council.

http://nofoamchicago.org/BansAcrossUS.html

## Recycling Services Contractual Framework (Public Building Authority Implemented)

#### Energy Inventory Category

1. Reduce energy and water consumption at all city facilities.

4. Reduce the amount of waste generated by municipal operations and purchase environmentally responsible products.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

Provide an avenue for City of Knoxville, Knox County, Public Building Authority and other local governmental departments or entities to secure recycling services.

#### Objective

To Increase recycling through City of Knoxville, Knox County and Public Building Authority, or other governmental entities. Activity

Develop specifications, advertise competitive solicitation for pricing, and award a contract then make all departments or facilities know about contract once it is in place.

#### **Definable Items**

Single Stream - a process by which all recyclable material can be collected in one container and then picked up by a hauler and taken to a location to sort.

#### **Taxpayer Benefit**

Offering single stream recycling will increase participation and realize the greatest diversion of recyclable material away from the waste stream/landfill and therefore having the greatest impact upon the environment.

#### **Short Term Implications**

A period of "training" for the public and employees to know what is recyclable.

#### Long Term Implications

Should see an immediate increase in collected recyclable material but it will take longer to establish standards and consistency throughout the City of Knoxville & Knox County. Markets may need to be established locally and/or regionally to handle the increased collected recyclable material.

#### Cost

The goal is to have at minimum a cost neutral single stream recycling program. Currently users should see a savings due to not have to pay a landfill rate and the market is "break-even" when it comes to the collected recyclable material. Start up costs for users like recycling cans, toters or dumpsters as well as signage may require an initial expense.

#### Short Term Funding

Operating funds are expected to handle the hauling service. Grants or other means for start up expenses.

#### Long Term Funding

Repair and maintenance of the program would be part of Operations and Maintenance budgets.

#### Procurement Method or Relevant Contract

Will the proposal require a large purchase? List existing contracts or agreements that can be used or will be affected. This Recycling Services RFP

#### Stakeholders

City of Knoxville, Knox County, Public Building Authority and other interested departments or local governmental entities.

#### Lead Group or Agency

Public Building Authority, City of Knoxville, Knox County, other agencies with cooperative purchasing ability.

#### Lands Used

Governmental properties and facilities

#### Labor Needs and Intensity

To remove the collected recyclable material to a centralized location at the facility/property in order for the Recycling Services contractor to pick-up and haul away.

Issues

Education, budgets, cooperation

Liabilities

The recycling commodity market is unstable and could cause the service to be paralyzed if the cost of hauling away the recycling material becomes a "cost" rather than a neutral or better for operating budgets.

Case Studies

Public Building Authority

## SUSTAINABLE AND EDIBLE LANDSCAPING

## Edibles in Right-of-Ways

#### Energy Inventory Category

5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.

8. Reduce transportation-related fuel consumption and emissions.

9. Improve the energy efficiency of local homes and buildings.

11. Ensure the quality and quantity of local water supplies.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

Water and energy savings to the city, beautify city right-of-ways, increase food literacy and the availability of local food to the public. Create jobs by offering city land for agriculture use.

#### Objective

Less fuel usage for lawn maintenance equipment, less watering required once perennial plants are established, a known yield of several pounds of fruit per mature plant will be available for public foraging, increasing exponentially with each new planting. **Activity** 

Signage, maps available at visitors center, Google map imbedded in City of Knoxville website shows food bearing plant locations, scheduled walking/driving tours to identify plant locations, "Edible Knoxville" Twitter feed can notify followers when a certain variety of fruit is ripe, and link to the map showing the plant locations.

#### Definable Items

Edible landscaping, urban agriculture, food literacy, permaculture, food sovereignty, gleaning, foraging

#### Taxpayer Benefit

Increase beauty and utility of urban plantings, increase tourism and foot traffic, decreases maintenance costs, if implemented on a larger scale could increase food security for city dwellers, creating jobs.

## Short Term Implications

Site selection, plant procurement, soil amendment, installation, publicity

#### Long Term Implications

Pruning, mulching, plant replacement if needed, education about harvest and uses for fruit.

#### Cost

No significant increase on cost over the life of the project: increase of cost over ornamental plants is negligible, labor and water for maintenance of perennial plants is less than that of lawns.

## Short Term Funding

Plant donation by local civic groups, businesses and individuals, volunteer participation in installation.

#### Long Term Funding

Volunteer participation in pruning or other maintenance can be used for educational purposes, harvesting can be managed by schools, churches, civic groups or by individuals.

#### Procurement Method or Relevant Contract

Local nurseries and landscaping firms can bid for contract.

#### Stakeholders

Taxpayers, neighborhoods, tourists, people without access to fresh food, individuals in need of employment, local businesses (nurseries and landscapers)

#### Lead Group or Agency

City Department . . .? Or local group such as Slow Food, Keep Knoxville Beautiful, Edible Revolution. Different entities can adopt different sites.

#### Lands Used

City right-of-ways: embankments, medians, traffic circles, along sidewalks.

#### Labor Needs and Intensity

No increase over existing; city departmental, public service institutions, volunteers.

#### Issues

Fruit drop, bird droppings, unsightly sidewalks, stained cars.

#### Liabilities

Slippery sidewalks could pose a hazard to pedestrians.

#### **Case Studies**

Portland Oregon, Davenport Iowa, Seattle Washington, Milwaukee Wisconsin

## **Edible Landscaping at Public Buildings**

### Energy Inventory Category

5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.

8. Reduce transportation-related fuel consumption and emissions.

9. Improve the energy efficiency of local homes and buildings.

11. Ensure the quality and quantity of local water supplies.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

Water and energy savings to the city, increase food literacy and the availability of local food to the public.

### Objective

Less fuel usage for lawn maintenance equipment, less watering required once plants are established, a known yield of several pounds of fruit per mature plant will be available for public foraging, increasing exponentially with each new planting.

#### Activity

To plant and advertise the location of landscaping on public lands so that individuals may glean produce throughout the year. To advertise it will be necessary to have signage, maps available at visitors center, a Google map imbedded in City of Knoxville website could show food bearing plant locations, scheduled walking/driving tours to identify plant locations, "Edible Knoxville" Twitter feed can notify followers when a certain variety of fruit is ripe, and link to the map showing the plant locations.

#### Definable Items

Edible landscaping, urban agriculture, food literacy, permaculture, food sovereignty, gleaning, foraging

#### Taxpayer Benefit

Increase beauty and utility of urban plantings, increase tourism and foot traffic, decreases maintenance costs, if implemented on a larger scale could increase food security for city dwellers.

#### Short Term Implications

Plant procurement, soil amendment, installation, publicity and advertising.

#### Long Term Implications

Pruning, mulching, plant replacement if needed, education about harvest and uses for fruit.

#### Cost

No significant increase on cost over the life of the project: Increase of cost over ornamental plants is negligible, labor and water for maintenance of perennial plants is less than that of lawns.

#### **Short Term Funding**

Use of existing funds allocated to landscaping, donations of plants if needed, volunteer participation in installation.

### Long Term Funding

Use of existing funds allocated to landscaping, volunteer participation in pruning or other maintenance can be used for educational purposes, harvesting can be managed by schools, churches, civic groups or by individuals.

#### **Procurement Method or Relevant Contract**

Local nurseries and landscaping firms can bid for contract.

#### Stakeholders

Taxpayers, tourists, city employees, people who are financially marginalized, school children, local businesses (nurseries and landscapers)

#### Lead Group or Agency

City Public Service Department, Parks and Recreation, Public Building Authority

#### Lands Used

City of Knoxville, Knox County, Public Building Authority or any other public lands available.

#### Labor Needs and Intensity

No increase over existing; city departmental, public service institutions, volunteers.

#### Issues

Fruit drop, bird droppings, unsightly sidewalks, stained cars.

#### Liabilities

Slippery sidewalks could pose a hazard to pedestrians.

#### **Case Studies**

Portland Oregon, Davenport Iowa, Seattle Washington, Milwaukee Wisconsin

## Home Landscaping with Natives and Edibles

#### Energy Inventory Category

5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.

- 8. Reduce transportation-related fuel consumption and emissions.
- 9. Improve the energy efficiency of local homes and buildings.
- 11. Ensure the quality and quantity of local water supplies.
- 12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

13. Integrate sustainability objectives into economic development outreach and job creation initiatives.

14. Encourage community engagement in sustainability efforts.

#### Goal

To empower individuals to play a part in their food supply and increase beauty and biodiversity within the urban landscape, while reducing water and fuel spent on lawn upkeep. Reduces dependence on imported foods. Fruit overhanging streets and sidewalks is available for foragers- increases food security.

#### Objective

Increased elimination of traditional lawns within neighborhoods, increased sales of fruit trees, berry bushes and native plants at local nurseries.

#### Activity

Signage, workshops, door tags or mailers, city website, participation/advertising among the members of local sustainability-oriented groups.

#### Definable Items

Edible Landscaping, permaculture, food literacy, food sovereignty, biodiversity.

#### Taxpayer Benefit

Rise in property values, community cohesiveness, reduced health care burden due to healthier eating, food security. More tourism dollars spent as Knoxville becomes known as a food-positive destination and a more livable city. Growing food on your property can provide a means of alternative income to families and individuals.

#### Short Term Implications

Create a tool kit (printed and downloadable from the city website) for homeowners to follow edible landscaping best practices: site selection, choosing a plant variety, planting, maintenance, harvest, how to prepare. Hold regular edible landscaping workshops. **Long Term Implications** 

Involve local businesses and organizations in a sponsorship program to provide trees to homeowners, organize volunteers to help install trees and educate homeowners about maintenance and harvest.

#### Cost

Cost to homeowner: \$8-\$50 per tree or bush, \$40 labor to install, or homeowner installs with proper coaching.

Short Term Funding

Homeowner bears cost of tree and installation.

#### Long Term Funding

Plant cost could be subsidized by businesses or organizations or made available through a donor program that involves private individuals. Tax break for landscaping with natives and/or edibles.

### Procurement Method or Relevant Contract

Offer contract to local landscaping business es and nurseries.

#### Stakeholders

Homeowners, neighborhood associations, people in need of fresh food, local businesses

#### Lead Group or Agency

Sustainability- oriented organizations or companies such as Slow Food, Keep Knoxville Beautiful, Edible Revolution. Knoxville Tree Board?

Lands Used

Private yards

#### Labor Needs and Intensity

Homeowner bears responsibility of labor; possible volunteer/intern help

#### Issues

Possible theft of fruit from within property boundaries, mess from birds

#### Liabilities

Hazard of slipping when fruit overhangs sidewalk - people must be educated on the locations of fruit bearing trees and when to harvest.

#### **Case Studies**

Nashville, Asheville, some homes in Knoxville

## **Community Gardens on Public Lands**

#### Energy Inventory Category

5. Reduce the fuel consumption, emissions, and maintenance of the city fleet.

8. Reduce transportation-related fuel consumption and emissions.

- 9. Improve the energy efficiency of local homes and buildings.
- 11. Ensure the quality and quantity of local water supplies.

12. Reduce the amount of waste sent to the landfill; reduce reuse, and recycle wherever possible.

- 13. Integrate sustainability objectives into economic development outreach and job creation initiatives.
- 14. Encourage community engagement in sustainability efforts.

#### Goal

To make it easier for committed community members to establish community gardens.

#### Objective

To increase community gardens, to reduce the number of blighted properties, increase community partnering and cohesiveness, to make neighborhoods better.

#### Activity

To establish a group of decision makers to work with local stakeholders in order to create an open process for participating in, helping out with, or establishing community gardens within the City of Knoxville particularly on publicly owned lands and vacant lots. City officials should seriously work toward increasing community access to shared garden space by engaging local experts in the community to work with the major departmental and jurisdictional stakeholders. Part of this process may involve creation of a registry or inventory of active or inactive gardens with contact information. It may be necessary to leverage local experts to create or modify a guide to explain the City process to residents. Lastly, stakeholders wishing to encourage community gardening should work together to identify what educational materials may be needed for aspiring community gardeners and to develop educational materials to assist and develop valuable gardening skills. This step could be a beginning phase within a larger goal to create jobs through urban agriculture practices.

#### Definable Items

Edible landscaping, urban agriculture, food literacy, permaculture, food sovereignty, gleaning, foraging

#### **Taxpayer Benefit**

Rise in property values, community cohesiveness, reduced health care burden due to healthier eating, food security. More tourism dollars spent as Knoxville becomes known as a food-positive destination and a more livable city.

#### Short Term Implications

In the short term a lot of groundwork will be needed since the issues of community gardens in the right of way require working out several competing priorities that fall under multiple departments and jurisdictions. There are several committed stakeholder non-profit community organizations willing to advise the municipalities but the barriers to a successful policy rest within the City of Knoxville and Knox County municipal governmental departments and elected officials. Working out the details will be more challenging then administering a program or permit process.

#### Long Term Implications

Once a solution is identified it is expected that administration of some sort will be necessary even if only to review an application or approve permit. Over the long term it may be necessary to roll the administration into an existing department or identify personnel which can assist. Maintenance of the gardens to be done by the community may include picking up litter around the perimeter, weeding and cutting grass, planting perennial flowers along the borders, maintaining plots by weeding and harvesting, harvesting crops regularly and donating excess, providing information for those new to gardening to be successful.

Opportunity cost to seriously study the issue which would engage local experts in the community work with the major departmental and jurisdictional stakeholders. Cost of maintaining minimum safety standards for land. Opportunity cost of not selling available land. Cost to administer a system by which the community may maintain and or establish a community garden on public land.

#### Short Term Funding

Existing budgetary process

## Long Term Funding

Existing budgetary process, slight increase in staff or personnel duties over the long term, loss of revenue from sale of property. **Procurement Method or Relevant Contract** 

### Not applicable

#### Stakeholders

City of Knoxville departments, Knox County, Food Policy Council, Knoxville Permaculture Guild, Beardsley Farm, local gardeners, current community gardeners.

#### Lead Group or Agency

Uncertain, possible have a specific City of Knoxville employee or department take the lead.

#### Lands Used

Public and private lands. Specially lands owned by the City of Knoxville or Knox County that are vacant and have been identified as fit (under a set of established rules) for community gardening.

#### Labor Needs and Intensity

Resolving the process to allow and promote community gardening could be very labor intensive on the front end. Once all the initial issues are worked through it may be necessary to assign various departments with additional duties resulting in an operational or opportunity cost. Depending on the amount of participation an increase in education and promotion may result in more workload for city departments, stakeholders, or volunteers. There is much room for growth.

#### Issues

Entitlement issues associated with labor put into public lands and how that land would be treated at a later date. Potential negative impact of removing the community garden in the future. Potential for community garden abandonment and the impact that would have on the property and neighborhood.

#### Liabilities

Food safety liabilities from people eating food that was grown on public lands, risk associated with personal injury on community lands.

#### **Case Studies**

San Francisco, CA (under Parks and Recreation Department) and a vacant lot project in Albany, NY.

San Francisco Community Gardens: http://sfrecpark.org/CommunityGardens.aspx

San Francisco Forms: http://sfrecpark.org/CG-PoliciesAndForms.aspx

San Francisco Waiver: http://sfrecpark.org/docs/General\_Waiver.pdf