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## **City of Gainesville Policy Program Preliminary Research & Analysis**

**TOPIC:** Residential Composting Program  
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**DATE SUBMITTED:** May 16, 2019  
**REQUESTED BY:** Commissioner Adrian Hayes-Santos

### **EXECUTIVE SUMMARY AND RECOMMENDATIONS**

After reviewing the practices of multiple jurisdictions nationwide, it appears that the most efficient publicly-run residential food waste composting programs are those that combine all organic material into one bin for streamlined hauling and processing. Gainesville is well-positioned to pursue a curbside pick-up pilot program to gather additional data and hone best practices prior to a new residential hauling contract going out to bid. Challenges, as highlighted below, will include identifying a processing facility with enough capacity to handle the city's food and yard waste and creating a market to offload the compost once processed. Comprehensive and robust community education will be key.

### **INTRODUCTION**

According to the Zero Waste International Alliance, "Zero Waste is the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning, and with no discharges to land, water, or air that threaten the environment or human health". One strategy of the Zero Waste Initiative is composting, which is the practice of decomposing organic materials, such as food waste, into a rich soil that can be used for various purposes, such as raising crops. In order to move towards a Zero Waste city, Commissioner Hayes-Santos is recommending that the City of Gainesville implement a pilot residential curbside composting program.

## HISTORY/BACKGROUND INFORMATION

### ***Nationally***

Americans waste around 25% of all food purchases,<sup>1</sup> which has led to increased landfill hauls. In an effort to address this issue, an increasing amount of cities are implementing curbside composting programs. In the most recent survey from 2017, it was reported that there are 148 curbside composting collection programs in the United States, which is an 87% increase from 2014. Moreover, 20 states offer curbside programs to around 5.1 million households. These programs vary in structure such as standard (organic collections alongside trash and recycling), opt-in (residents have to sign up to receive the collection service), or mandatory (residents are required to receive the collection service). Of 71 programs surveyed, 54 respondents considered their program successful for reasons including meeting diversion goals, cost effectiveness, and avoided disposal costs.<sup>2</sup> For the municipalities, costs have been supported through grants and public-partnerships to support pilot programs and the expansion of existing programs. Ann Arbor, Michigan was able to roll out a pilot program with \$9,000 in grant funding.<sup>3</sup> Meanwhile, Athens, Georgia, completed a 6-month pilot program which cost the City \$46,000, with \$12,900 of that being allocated towards educational purposes.<sup>4</sup> Despite the higher cost, with just the participation of 265 households, there was a diversion in organic waste of 22.3 tons. The city now estimates that with a population of 127,064, a city-wide composting program may cost around \$300,000 or more, with the intention of not only reducing food waste but making it so that the City to can experience reduced trash hauling costs.

### ***The State of Florida***

In 2016, organics accounted for 36% of Florida's waste stream. The state of Florida has addressed this issue through adopting the goal of achieving 75% recycling by 2020. Much of the organic recycling has been derived from compost made from solid waste, yard trash, animal byproducts and bio solids. These are processed at source-separated organic processing facilities (SOPFs). In 2016, Florida had around 260 SOPF facilities.<sup>5</sup> Despite these efforts, as of today the state of Florida is lacking facilities or means to process organic food waste.

### ***Alachua County and Gainesville***

In 2009, the Alachua County Department of Public Works Division of Waste Management commissioned the Solid and Hazardous Waste Management Research Group at the University of Florida's College of Engineering to perform a municipal solid waste composition study.<sup>6</sup> The study, which was released in 2010, found that organics, like food waste, make up 18% of the waste stream. This percentage is joined by paper products at 29% and plastics at 16% to make up the greatest fraction of the overall waste in the county. More specifically, food waste, the target of

<sup>1</sup> <https://www.compostfoundation.org/c2c/Resources/C2C-Tools/Article/177/Food-Waste-Prevention>

<sup>2</sup> <https://www.biocycle.net/2017/12/06/residential-food-waste-collection-access-u-s/>

<sup>3</sup> <https://www.wastedive.com/news/2-midwestern-cities-advance-composting-programs/526260/>

<sup>4</sup> <https://www.thepostathens.com/article/2019/01/athens-composting-pilot-program-city-council>

<sup>5</sup> [https://floridadep.gov/sites/default/files/FinalRecyclingReportVolume1\\_0\\_0.pdf](https://floridadep.gov/sites/default/files/FinalRecyclingReportVolume1_0_0.pdf)

<sup>6</sup> [http://www.alachuacounty.us/Depts/SolidWaste/Info/Update%20Documents/AC\\_Report\\_Feb\\_2010\\_2.pdf](http://www.alachuacounty.us/Depts/SolidWaste/Info/Update%20Documents/AC_Report_Feb_2010_2.pdf)

composting for Zero Waste strategies, made up the largest subcategory in the solid waste stream at 14.3%. From the individual residential sources, organic materials such as food waste accounted for the second largest portion at 20%.

This report was also helpful for finding ways to increase the recycling rate of Alachua County, which was 37% in 2008. The state encouraged increasing these rates by establishing a state goal of a 75% recycling rate by 2020 in the Energy, Climate Change and Economic Security Act of 2008. The 2010 Alachua County report noted that food waste represents one of the greatest opportunities for source reduction since it found 26,432 tons of potentially recoverable food waste. The report also estimated that a food waste composting program would create an 8.98% potential increase in the recycling rate for the County.

In response, the City of Gainesville<sup>7</sup> and Alachua County<sup>8</sup> incentivized recycling through their Pay-As-You-Throw structure that is useful for modelling a residential composting program. This structure sets residents' curbside fee rates, which is included in their utility bill, based on the size of their garbage cart. Accordingly, the fee rates increase as the size of the bin increases. Thus, the program incentivizes citizens to divert their waste from the garbage cart through recycling in order to lower their utility bills. As of a 2016-2017 Business Plan report from the county's Solid Waste and Resource Recovery division, the County was at a 61% recycling rate.<sup>9</sup> Thanks to initiatives like these, Alachua County has risen to the top ten counties with a met or exceeded recycling rate in the State of Florida.

In the last couple of years Alachua County has created a service where county residents and groups can get free wire rolls to create their own at-home composting bins. They have since discussed the option of a curbside program, but the effort has been hindered by costs and feasibility issues. More recently, the County has been working on plans for a regional solid waste facility, including a composting operation, on a property behind the Leveda Brown Environmental Park but staff changes at the county seem to have stalled the project. Still, solid waste could potentially do some processing on site at city facilities, particularly for a limited pilot project. At the moment, the county is piloting the composting of street sweeping material which has been saving money in hauling and disposal plus producing a decent quality compost. That being said, the City needs to have a place to take and process collected food waste.

While the City of Gainesville has never offered a food waste composting program, it does offer a yard debris pickup service. The yard debris can be set out on the curb of a residence, where it is hauled by WCA Waste Corporation to Watson C&D for composting operations. Watson C&D presently takes all of the city yard waste and combines it with UF's food waste to produce compost. Watson, however, is still having some contamination issues and not consistently ending up with sellable quality material. It is unclear whether this facility is willing or available to accept additional food waste at this time. Until a facility can produce consistently high-quality compost, they will have difficulty selling it. Statistically speaking, agriculture quality compost has the greatest value, and landfill quality has the least. This issue will be of most importance if the City

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<sup>7</sup><https://www.cityofgainesville.org/GOVERNMENT/CityDepartmentsNZ/Recycling/ResCurbside/tabid/1110/Default.aspx>

<sup>8</sup> [www.hinkleycenter.org/images/stories/Alachua\\_County\\_Residential\\_Composting\\_Report.pdf](http://www.hinkleycenter.org/images/stories/Alachua_County_Residential_Composting_Report.pdf)

<sup>9</sup><https://www.alachuacounty.us/Depts/Manager/Business%20Plan/Final%20Solid%20Waste%20and%20Resource%20Recovery%20Business%20Plan.pdf>

works with a private composting facility that needs to offload the product in order to meet their bottom line. But, if the City is working with a publicly-owned facility, this might be less of an issue. The city's Department of Parks, Recreation, and Cultural Affairs is about to start testing whether compost would be useful in their fields and parks, in which case city and county facilities could be potential markets. Additionally, the City's residential hauling contract will go out to bid next year with a new contract beginning on 9/30/21. Running a pilot before this bidding cycle might provide useful information on how to structure the new contract when it comes to composting services.

The City of Gainesville Public Works Department suggests identifying one truck route (approximately 1,000 collections) to begin the pilot using metrics about which neighborhoods are most compliant with existing recycling services. With a pilot program there must be a major education campaign to help with the success of its implementation. One method may be to deploy carts and kitchen collectors so that yard waste and food waste are combined into one truck's collection. Gainesville's Public Works is awaiting a new audit on their routes so will have better metrics to make these decisions soon.

At the moment, locally, the most prevalent composting program occurs at the University of Florida. In 2013, the university was moving towards zero waste goals and began a composting program in the Ben Hill Griffin Stadium. The stadium used a separate bin for compost which WCA hauled to the Watson C&D operation in Levy County. Much of this compost was returned to the university to use with the turf on the football field as well as for research. Seeing its success, the dining facilities, particularly Fresh Food Company and Gator Corner Dining Services, started up a similar operation to divert the food waste that accumulated. In this operation, however, the University of Florida hauls the dining food waste itself instead of WCA due to cost. According to the Director of the Sustainability Office, Matthew Williams, and the Program Director, Liz Storn, the slow rollout of a composting program on campus has led to the diversion of about 450-500 tons of organic food waste per year. In looking towards further expansion, they are working on diverting food waste with dining facilities in the Reitz Union. Other than this, there have been minimal large scale composting operations here in Gainesville, Florida.

Generally, local efforts toward Zero Waste have been supported by local groups, such as Zero Waste Gainesville. However, the group emphasizes that the zero waste initiatives need to involve community education to show people the importance and the way to live sustainably.<sup>10</sup>

## PRELIMINARY RESEARCH AND FINDINGS

*The following are examples of municipalities that have implemented curbside collection programs:*

### ***City of Seattle, Washington***

Background: In 2005, the city began a food waste curbside collection program, where residents could place fruit and vegetable scraps in their yard waste carts.<sup>11</sup> To expand the compost

<sup>10</sup> [https://www.alligator.org/news/gainesville-pumps-brakes-on-waste-free-living-plans/article\\_79dc4130-5cd7-11e9-9963-bbcb7a376604.html](https://www.alligator.org/news/gainesville-pumps-brakes-on-waste-free-living-plans/article_79dc4130-5cd7-11e9-9963-bbcb7a376604.html)

<sup>11</sup> <https://www.ecocyclesolutionshub.org/wp-content/uploads/2015/06/Curbside-Composting-Seattle-Washington.pdf>

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program, the city performed case studies<sup>12</sup> on over 40 multi-family complexes that were given food waste bins for weekly collection and delivery to a local composting facility. In 2009, Seattle required all residential properties between 1-4 units to subscribe to food and yard waste collection, unless they would actively compost food and yard scraps in their backyard. In 2012, the city amended this requirement to include multi-family complexes with more than 4 units. In 2015, the city prohibited the disposal of food waste and compostable paper from entering residential, commercial, and self-haul waste streams and enforced it by a penalty.<sup>13</sup>

Program:<sup>14</sup> The city contracts with two haulers who collect compost and trash weekly, and recycling every other week. Residents are charged through a Pay-As-You-Throw Program for their food and yard waste cart depending on its size.

Results: Today, Seattle sends more than 125,000 tons of food and yard waste to composting processors annually. Most of the material is now turned into compost for local parks and gardens.<sup>15</sup>

### Lessons Learned:

- 1.) When first implementing the curbside program, the top complaint from residents was the odor of the compost that sits waiting for pickup. In response, the City recommended to residents an easy, inexpensive solution of spraying the compost with vinegar and covering it with grass clippings. Since this recommendation, many residents have stopped complaining about the smell.
- 2.) It improved reporting of the waste stream and compliance by contractors through the 2015 ban on food waste entering the stream. This aided in the tracking of the effectiveness of the curbside program and the progress for its zero waste goals.
- 3.) The City improved the economic feasibility of the curbside program by creating a market for compost. Waste for compost is supplied through residential and commercial collection, collected by the haulers, and processed by separate facilities. The processing company returns the compost to the market by selling it to local home and garden stores for purchase.

### Outreach Tactics Used:

- 1.) Seattle Public Utilities offers free assistance to help residents recycle and compost. They also provide educational materials available in 15 languages both online and by request on what is accepted and what is not accepted, as well as tips on improving recycling and compliance.<sup>16</sup>
- 2.) The city has a program called “Friends of Recycling and Composting” (FORC) in which multi-family residences can ask to sign up to teach their fellow residents about recycling, food waste and garbage and also ensure their building is in compliance with the city codes. In return, the volunteer receives a one-time \$100 credit on the building’s Seattle Public Utilities bill.

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<sup>12</sup> <http://www.seattle.gov/Documents/Departments/SPU/Services/FoodYard/LookWhosCompostingCaseStudy.pdf>

<sup>13</sup> <https://www.ecocyclesolutionshub.org/wp-content/uploads/2015/06/Curbside-Composting-Seattle-Washington.pdf>

<sup>14</sup> <https://www.ecocyclesolutionshub.org/wp-content/uploads/2015/06/Curbside-Composting-Seattle-Washington.pdf>

<sup>15</sup> <http://www.seattle.gov/utilities/documents/plans/solid-waste-plans/about-solid-waste/ban-ordinances/food-waste-requirements-faqs>

<sup>16</sup> <http://www.seattle.gov/utilities/services/food-and-yard/food-and-yard-waste-at-home/food-waste-requirements>

### ***City of Portland, Oregon***

**Background:** In 2007,<sup>17</sup> the Portland City Council adopted the Portland Recycles! Plan that directed the implementation of new residential recycling and composting programs. The second phase of the plan implemented a weekly curbside food scrap collection and every-other-week (EOW) curbside garbage collection through a pilot program that began in May 2010. The purpose of this pilot was to learn how to improve the curbside program before it was implemented citywide. The pilot serviced 2,000 households in four areas of the city that were selected based on demographics, geography, and service areas of the four haulers that helped with the program. It is important to note that the collection services provided to City residents is a franchise system, where the City limits the number of haulers and regulates their rates. Also, the City runs a similar Pay-As-You-Throw system as the City of Gainesville for the containers.

**Program:** The pilot involved the collection of food scraps, including grains, breads, meat, bones, and dairy, in green roll carts commingled with yard debris. The residents received kitchen pails to collect and transfer food scrap to the green cart. This cart was collected weekly while garbage moved to every-other-week, at the same monthly rate residents were paying before, to help motivate residents to reduce their municipal solid waste by diverting organic waste to their compost bins. However for double the monthly rate, residents could keep garbage collection at weekly. After the food scraps and yard debris are collected they are taken to one of the two publicly-owned transfer facilities in the Portland Metropolitan area.

**Results:** The pilot program proved to be a great success. According to the Food Scrap Curbside Collection Pilot Summary Report in October 2018:<sup>18</sup>

- 1) Over 75 percent of pilot survey respondents indicated they were participating regularly
- 2) 87 percent of pilot survey respondents said they were satisfied with their curbside collection service
- 3) Almost half of the food scraps generated in the pilot area were diverted into the green roll cart for composting
- 4) Garbage collected in the pilot areas dropped by 30 percent
- 5) On pick-up day, just 60 percent of garbage containers set out at the curb in pilot areas were completely full

After the pilot, the city expanded the program to be offered everywhere, where it has continued to be successful. In a report from May 2018, it was projected that the average organic (food waste and yard debris) disposal weight was going to be 1048 pounds per year for FY18-19.<sup>19</sup>

#### **Lessons Learned:**

- 1) The City learned it is important to acknowledge the magnitude of the change to people's expectations and habits to help them transition. Although many households were not satisfied with every-other-week garbage collection, after a year of the city working with the communities, the vast majority of pilot households had adjusted and were satisfied with the new program.
- 2) They found the option for weekly garbage through a double monthly rate was not used by many of the customers and it became costly and inefficient to keep up. So, they took it out when they rolled out the citywide program.

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<sup>17</sup> <https://www.portlandoregon.gov/bps/article/380681>

<sup>18</sup> <https://www.portlandoregon.gov/bps/article/380681>

<sup>19</sup> <https://www.portlandoregon.gov/bps/article/683962>

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### Outreach Tactics Used:

- 1) Before the pilot began, the pilot households were mailed an official letter from the City of Portland telling them they were part of the pilot program and their system was changing. The letter included two colorful inserts with FAQs and program information.
- 2) Pilot residents also received a cart tag that was placed on the garbage or roll cart to alert them that their services were changing beginning in May.
- 3) The week before the program began, the pilot customers received a tool kit delivered in a 2-gallon kitchen pail for collection food scraps that had a guide to the new system, a collection schedule, and a magnet.
- 4) The City reached out online through a webpage with FAQs, a customer feedback form, and online e-schedule to help residents find their collection schedule.
- 5) The City trained customer service for assisting calls designated for the pilot programs hotline.
- 6) The City stayed in touch during the course of the pilot program through newsletters that detailed what materials were allowed in the compost roll cart and that provided details on the citywide rollout and evaluation of the pilot.

### ***City of San Francisco, California***

Background: In 1996, San Francisco became the first city in the nation to establish a large-scale composting program. It started this program mostly with commercial businesses where food waste was concentrated, such as schools, restaurants, and supermarkets. However, in an effort to realize the feasibility of expanding the program to residential areas, the city conducted pilot programs in 2002 and 2004.

Program: In these pilot programs, they took a few neighborhoods and distributed a third curbside bin that was green for food scraps, yard vegetation, and soiled paper products, as well as a kitchen collector. They worked with the sole hauler in the area, Recology, to collect this compost. Recology, whose rates are regulated by the city, had a hand in developing the pilot program and was incentivized to do better at monitoring the collection to become more efficient in these piloted areas. Recology would take the waste to one of the two composting facilities that existed in the area.

Results: Due to the success of the pilot programs, the City implemented a mandatory recycling and composting policy for residents and businesses in 2009. This mandate is similar to the one seen with the City of Seattle. They also included a Pay-As-You-Throw program into their collection services for solid waste, compost, and recycling. Today, 255,500 tons of organic waste are diverted annually from the landfill.<sup>20</sup>

### Lessons Learned:

- 1) The city learned that a residential curbside composting program is expensive and takes time in creation and acceptance by residents.
- 2) The city found that it was easier to transition to a residential collection by starting a program focused on collecting from places where compost materials are concentrated, like institutions, schools, supermarkets, and restaurants. In residential areas, food is not highly concentrated and consolidated. So, it is not always economically feasible for the collection service to start collecting

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<sup>20</sup> <https://www.nrdc.org/resources/san-francisco-composting>

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when trucks cannot even be filled. However, it is more feasible for the collection trucks to collect from commercial places because the food is concentrated and the trucks can be filled quicker

3) The city received complaints about the smells and “ick” factor of composting. In response, they promoted using compostable bags.

4) The original kitchen pail given to residents was sealed tight. They found this to be a mistake because the food rotted. So, they moved to an aerated pail, where material could evaporate and rotting could be slowed down in time for collection.

5) It is important to consider the efforts towards waste reduction. Prior to the 2009 mandate, the City passed a Food Service Waste Reduction Ordinance in 2006 that required restaurants and food vendors to use recyclable or compostable food service ware and prohibited the use of polystyrene. Then, in 2007, they required supermarkets and drugstores to use compostable plastic, recyclable paper, or reusable checkout bags. According to the city, this reduction in plastic in the city helped to reduce contamination in the discard stream. It also helped to encourage and promote the acceptance of composting by businesses and residents.

6) Lastly, the city learned it is necessary to plan, permit, and build modern compost facilities in order to successfully implement an urban compost collection program.

### Outreach Tactics Used:

1) Many online resources are currently made available to residents and businesses, including an online recycling database and webpages filled with the detailed FAQs.

2) The city initiated a door-to-door multilingual outreach program, funded by hauler fees, in which trained personnel visit residents and teach them how to properly manage their discards.

3) They use simple, customizable color-coded signage on the bins and kitchen pails.

4) They also focused on a food-waste reduction education campaign, where they highlighted the environmental benefits of compost and its importance to reaching zero waste instead of just telling people what to put in each bin.

### ***City of Berkley, California***

Background: With a population of 122,000 and a large public university, the City of Berkley is comparable to the City of Gainesville. In 2007, the Berkley expanded its weekly yard waste collection to include food scraps. This was driven by its goal of reaching Zero Waste by 2020 and its climate action goal to reduce emissions 33% from 2000 levels by 2020.

Program: Through the new program, residents received a 32 or 64 gallon green cart as part of their standard trash service where they could place all food scraps, yard debris, soiled paper and compostable plastics. All solid waste, recycling, and green carts are picked up weekly. Also, Berkley has an agreement with its compost processor, Recology/Grover, to return up to 5% of processed organics back to the community as finished compost. This is used by the city’s parks department as well and is made available for free residential pickup every last Saturday of the month from February through October. Also, the city owns and operates its own transfer states that processes refuse, recycling, and yard and food waste.



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Results: Initially when the program rolled out, the city saw a 33% increase in the amount of organic materials collected and an 11% decrease in trash.<sup>21</sup> Since 2013, the city has kept a steady diversion rate of about 75%.<sup>22</sup> On top of this, since 2013, compost has increasingly been the highest tonnage in residential curbside collection.<sup>23</sup>

### Lessons Learned:

- 1) It was helpful to have the educational materials subsidized by the County's grant program which detailed the cost of outreach materials and an indoor kitchen collection pail labeled with a list of acceptable materials.
- 2) The program has gained support from many residents because some of the compost is returned to the community for schools, community gardens, and individual homes.
- 3) It has been difficult to sort out compostable bio-plastics from the organic compost. So, many of the laborers remove all plastics from the compost before sending it to the solid waste disposal area, as it is also not approved by the USDA's National Organic Program.
- 4) Although the program has been successful, the city is currently working on plans to ensure that the transfer station collections and processes have low greenhouse gas emissions.

### Outreach Tactics Used:

- 1) The County of Alameda's Waste Management Authority Source reduction and Recycling Board provides education and outreach services throughout the county on food waste including financial and technical assistance to cities to help implement residential food scrap collection programs.
- 2) The County also conducts audits of green waste carts bi-annually to measure individual jurisdiction participation. There are 14 jurisdictions participating with different haulers and franchises such as WM, but in general some use the same transfer station. Once a month all the jurisdictions come together to discuss what they are doing and compare franchise agreements and what they include.
- 3) They also conduct studies and surveys on residential participation to evaluate and improve the program's implementation.
- 4) The city has online resources, a customer service hotline relating to collection services, and an infographic in three languages on what can and cannot be added to the green cart.
- 5) The city has encouraged not only the action of diverting food waste, but the use of the compost through its free compost giveaway program at the end of the month.

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<sup>21</sup> <https://www.ecocyclesolutionshub.org/wp-content/uploads/2015/06/Curbside-Composting-Berkeley-California.pdf>

<sup>22</sup> <http://www.stopwaste.org/sites/default/files/CoIWMP%20update%202017%20Final%201.pdf>

<sup>23</sup> [https://www.cityofberkeley.info/uploadedFiles/Public\\_Works/Level\\_3\\_-\\_Solid\\_Waste/Zero%20Waste%20Division%20Metrics%20Presentation%20Zero%20Waste%20Commission%2010.22.18.pdf](https://www.cityofberkeley.info/uploadedFiles/Public_Works/Level_3_-_Solid_Waste/Zero%20Waste%20Division%20Metrics%20Presentation%20Zero%20Waste%20Commission%2010.22.18.pdf)

## PRELIMINARY COST/BENEFIT ANALYSIS

### ***Benefits<sup>24</sup>***

#### Environmental

- Second-most preferred method for managing waste.<sup>25</sup>
- Reduces the amount of waste deposited into local landfills
- Decreases pollution potential and increases land space
- Using composts makes the soils stronger biologically, physically, and chemically, which helps prevent and remediate pollution.

#### Social

- Opportunity for community involvement as it is a local level operation
- A gateway for furthering other environmental initiatives as it introduces 'green' values into the community and households
- Curbside composting provides equality to residents who do not have the space or time to compost.

#### Economic

- Extends the longevity of landfills and delays the construction costs of new ones
- Reduces and avoids landfill tipping fees and the collection/transportation costs
- Creates a marketable product with jobs for those involved in the pickup, processing, and distribution of the compost
  - According to a study by the Institute for Local Self-Reliance in 2013, composting operations in Maryland sustained more total jobs than the state's incinerators.<sup>26</sup>

### ***Costs<sup>27</sup>***

#### Environmental

- The nutrient value of compost is lower than chemical fertilizers, and its composition is highly variable.
- Long-term and/or heavy application of composts to agricultural soils has been found to result in salt, nutrient, or heavy metal accumulation and may adversely affect plant growth, soil organisms, water quality, and animal and human health.

#### Social

- Agricultural users have concerns about compost contaminants, especially made with solid wastes, that may seep into the food supply if it is used on food crops
- Educational materials need to be extensive to ensure residents are compliant and not contaminating the waste streams with items that cannot be composted.

<sup>24</sup> <http://www.fftc.agnet.org/library.php?func=view&style=&id=20110804100401&print=1>

<sup>25</sup> <https://www.epa.gov/smm/sustainable-materials-management-non-hazardous-materials-and-waste-management-hierarchy>

<sup>26</sup> <https://ilsr.org/wp-content/uploads/2013/05/Pay-Dirt-Report.pdf>

<sup>27</sup> <http://www.fftc.agnet.org/library.php?func=view&style=&id=20110804100401&print=1>

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- Residents are deterred by the “ick” factor.

Economic

- The product is weighty and bulky, which makes it expensive to transport
- Cost of compost in the area is high at \$25/30 yards according to a Watson C&D representative
- The Gainesville area needs an organic waste processing facility, which can be expensive.

**PRELIMINARY AND ILLUSTRATIVE LIST OF POTENTIAL STAKEHOLDERS**

***People Interviewed***

- Brad Avery, former WCA employee
- Jim Bacom, Watson C&D Sales Manager
- Arianne Sperry, Portland Recycles! Coordinator
- Kevin Drew, City of San Francisco
- Matthew Williams, Direct of the Office of Sustainability at UF
- Liz Storn, Program Coordinator for the Office of Sustainability at UF
- Steve Joplin, Solid Waste, City of Gainesville’s Public Works Department

***Potential Partners***

- United States Composting Council, a national, non-profit trade and professional organization promoting the recycling of organic materials through composting
- Sustainable UF
- Solid Waste Division of the City of Gainesville
- Dr. Ann C. Wilkie, Leader of the BioEnergy and Sustainable Technology Laboratory at the University of Florida
- Zero Waste Gainesville

**RECOMMENDED POINTS FOR FURTHER RESEARCH/DISCUSSION**

Preliminary Challenges Identified through this Research Include:

- The need for a local facility to process the required volume of compost
- Identifying markets for the finished composting product. The product’s quality affects its value and quality is impacted by factors beginning at source separation.
- A comprehensive education campaign will be necessary to ensure consistent compliance.

**ADDITIONAL RESOURCES**

- City Codes Ch. 27, Article III – Recycling;  
<https://www.cityofgainesville.org/PublicWorks/ProgramsandServices/Recycling/PERecyclingProcess.asp>

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- Zero Waste – Recommendations for the City to Move Towards Zero Waste by Commissioner Hayes-Santos
- FAC 62.709 - Criteria for organics processing and recycling facilities
- <https://www.compostfoundation.org/c2c/Resources/C2C-Tools/Article/182/Curbside-Collection-Outreach>