



Implementing Incentive Programs to Increase Recycling Participati



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The Problem

Fayetteville considers its residential recycling rate to be approximately 56% (2010); 56% of residences are provided with curbside recycling pickup. According to the EPA the national average is only 34% (2010). However, the town has a much less significant impact when concerned with business recycling (3%) and its multiple housing unit project has only recently begun. With Fayetteville's waste disposal site, the Tontitown landfill, projected to be at maximum capacity within the next five years, the city needs to take advantage of any and all opportunities to increase recycling rates and decrease refuse.

Putting programs into place that add incentive for community members to recycle can be an effective way to increase recycling rate and increase community involvement as well as education. A good program will benefit the city, the recyclers, the environment and other community members. This study explores two viable incentive programs the city can implement to increase recycling participation across the city; a voucher program and Recyclebank

The Project

Research was conducted on an incentive program recently implemented in Mexico City. In 2012, Mexico City, Mexico's landfill closed after reaching maximum capacity. The closing resulted in improper waste disposal and higher costs to the government as refuse needed to be transported off-site for disposal. The local government was forced to come up with a plan to increase recycling in order to reduce costs, clean up the city and educate their citizens. A weekly "barter market" was developed to work alongside the local farmers market. Local farmers are subsidized to grow food and citizens are permitted to bring up to 22 pounds of recyclables per month. Recyclables are traded for vouchers on a per pound basis and are traded for produce and other goods provided by the farmers. Extreme success ensued, as thousands of people showed up weekly to trade in their recyclables. The city only sees about a 45% return on their investment after subsidiaries are paid, recyclables are hauled away and payment is received. most cases, returns are seen indirectly through less transportation cost, less refuse, less carbon footprint, and increased community benefit.

Many cities across the world are also using a program called Recyclebank to increase recycling rates. The program works with over 400 businesses to reward recyclers with points and then redeem them for coupons and vouchers that can be used to purchase a wide variety of "green" products on-line. Additionally, those people are able to go on to the Recyclebank website and watch educational clips, take quizzes, take pledges and participate in other environmentally friendly activities to accumulate points. Since 2004 the program has engaged over 3 million people worldwide. Programs such as these increase involvement, promote "green" products, strengthen economies, help people realize the financial benefits of being sustainably driven and educate the public. According to USA today an average household recycles about 80 pounds of household waste a month and therefore has the opportunity to earn around 68 points a month. In total, residents can earn 5,400 points or more per year; worth about \$400 in vouchers.

Outcome

In England, two local authorities have implemented Recyclebank and have seen an impressive increase in the amount of household waste being recycled. The most recent figures released from the Department for the Environment, Food and Rural Affairs' for 2011/12 showed that the recycling rates in England increased from 41.5% to 43% without Recyclebank - a 1.5% increase. The Royal Borough of Windsor and Maidenhead as well as the Halton Borough Council observed a much more significant increase in the amount of waste being sent for recycling since the Recyclebank program has been put into place. The Royal Borough of Windsor and Maidenhead had more than 7,275,000 pounds of additional household waste sent in for recycling, an increase of 12.5% from the previous year. Halton Borough Council in Cheshire also saw a 12.5% increase in recycling as residences put out an average of 100 pounds less refuse yearly per household.

Closer to home, many places across the United States have had success with Recyclebank. Osceola County, near Orlando, Florida, put Recyclebank incentives into place at the same time they put in the first ever curb side collection. Within six months over nine million pounds of recycled material had been collected. Also, Hollywood, in Broward County, Florida, recycling rates jumped from 200 pounds to 500 pounds of waste recycled annually per household. In Little Rock, Arkansas Recyclebank was introduced along with larger, single-stream recycling carts; in only one year the town's recycling rates jumped by 65 percent. After putting Recyclebank into action, a Philadelphia suburb saw a 155% increase in recycling rates from the same week the year before. According to the city's mayor, it program is paid for on a per-household basis. That fee totals about \$400,000 dollars a year. He states however, that the money saved by disposing less garbage in an incinerator or landfill and gaining money from selling the recycled materials offsets this cost. City officials have projected that the city expects to save

approximately \$2 million over the next five years because they implemented the Recyclebank program.

When Mexico City implemented their voucher program, the city was facing a huge problem of improper waste disposal and waste build up in the city. On the first day of the market, more than 3,000 families lined up with large bags full of recyclables. In total, approximately 11 tons of household waste was recycled that would have normally been dumped in the streets. Huge success in the beginning, as well as a desire to cover more program costs, have led the city to expanded the project to accept electronics and other types of recyclables. Even though the program has had large success, the amount of refuse now being recycled is only a portion of the total amount of waste the large city produces. Official hope that the program can gain further popularity, expand and put a more significant dent in the previous 12% of waste being recycled by Mexico City.



Residents of Mexico City are able to trade recyclables for credits on a per weight basis that can be traded for fresh produce and goods from the local farmers market.

"We bring together communities, waste haulers, and local and national brands to help us realize a world where nothing is wasted... We can all make a big difference."

-Jonathan K. Hsu
CEO of Recyclebank

" This innovative Program is designed to show citizens directly and tangibly how what we call trash becomes raw materials... [the program] creates a direct link between sorting and exchanging waste and a sustainable food supply"

- Mexican Environmental Agency

Sustainability

If Fayetteville, Arkansas were to implement programs such as Recyclebank or a voucher system to work alongside the local farmers market, it is possible that the number of residences recycling and the amount of waste being recycled could easily double or even triple in a very short time period. All those recyclables that can be used to purchase locally grown foods can have a significant impact in many different ways. From an environmental aspect, encouraging recycling keeps large amounts of material out of landfills, off of streets, and out of the natural environment. Offering citizens an incentive to recycle to gain either locally grown produce or environmentally friendly made products, can also decrease the carbon footprints associated with transportation.

On average non-local produce travels approximately 1,500 miles from farmer to fork versus the less than 45 miles that local produce travels. Additionally, 10% of all fossil fuel consumption is due to food processing, transportation, storage and preparation. Many local farmers also use environmentally friendly practices while farming, decreasing their impact on the environment by using less herbicide, insecticides, petroleum based fertilizers, etc.

Consuming food grown locally that is supported by local government programs contributes to the local economy as well. Using a voucher system relies on the assumption that the majority of consumers will consume beyond the means of their coupons. Citizens trading in their vouchers for produce are likely to buy some produce out of pocket, keeping their money local and giving the farmers a higher return on their investment. The farmers and their employees are receive job security. By providing consumers incentives in the form of coupons you are allowing them to save money that can potentially be put back into the local economy when it may have been spent elsewhere.

A recycling program that is driven by reward incentives is also important to the social and built systems of the city. Incentive based recycling programs allow for promotion via word of mouth. People who use the program and enjoy using it successfully are likely to share their experiences with friends who will therefore likely participate in the project. A recycling program that takes place in a local area alongside the farmers market allows for residents to rub elbows with one another that normally would not. This means more diversity is spread throughout the town as people become more interconnected and tightly woven with one another on an informal and professional level. A coupon based system is additionally able to benefit anyone within a community, especially those who may not normally be able to buy sustainably grown food, which is usually more expensive than produce grown without environmental consciousness.

Local built systems can also be impacted by a rewards recycling program. Consumers have the freedom to choose how they spend their "money" earned by recycling; they are able to buy anything from compostable trash bags to natural or organic cleaning supplies as well as energy saving light bulbs. Increased waste diversion that occurs because of the program also results in slower fill rates for the local landfill. Delaying the landfill from closing as long as possible prevents the town from developing a new landfill location. Moving the landfill will have profound effects on the local area, likely decreasing property values as well as polluting a new area that may otherwise be pristine.

Implementing incentive based programs will have significant effects socially, economically and environmentally. Establishing a program that rewards recyclers with a way to pay for other environmentally programs encourages and educates people about the importance of waste diversion, preserves the local environment and economy. Expensive upfront costs of such programs can easily be outweighed by the benefits produced by selling recycled goods, supporting the local economy, protecting the environment, preventing the expansion or relocation of a landfill, and a more interconnected community.

