



CITY OF HARTFORD RECYCLING PILOT

INTERIM REPORT **NOVEMBER 14, 2008**

INTRODUCTION

This report provides an evaluation of selected parameters to evaluate the performance of the Hartford Recycling Pilot after 20 weeks of operation. The purpose of the evaluation is to assist the City and its partners in determining any needed changes to the pilot and to consider lessons learned for the possible expansion of the City's recycling program.

The purpose of the Hartford Recycling Pilot is to assist the City in determining its long-range strategy for improving its residential recycling program. The value to the National Recycling Partnership and the National Recycling Coalition is the demonstration of a rigorous case study that evaluates the use of selective management practices for improving recycling programs. At the conclusion of the pilot in summer 2009, it is NRC's intent to make the case study available to interested parties that believe efficient and effective recycling systems are critical to a healthy city, and a sustainable solid waste management system.

This project was undertaken under the auspices of The National Recycling Partnership¹ (NRP), a coalition committed to improving municipal recycling programs in the United States, reinvigorating recycling among consumers, and testing new methods to increase recovery of recyclable materials. Under the direction of the National Recycling Coalition (NRC), grocery, food and beverage producers along with retailers provided a grant to the City of Hartford that supports capital investments in selected residential recycling programs in order to demonstrate how specific collection methods and program practices can improve curbside residential collection programs.

¹ In addition to NRC, the National Recycling Partnership consists of the American Beverage Association, the Grocery Manufacturers Association, the International Bottled Water Association, and the Food Marketing Institute. Also, a number of Hartford area retailers provided sponsorship for the pilot, to include WalMart, Stop&Shop, SuperValu, and Food Lion. The Connecticut Food Authority provided a grant directly to the City for placement of dedicated computers in libraries located in the pilot areas in support of the RecycleBank incentive rewards program.

PILOT SUMMARY

Prior to the pilot, the City provided curbside recycling collection service to all households in dwellings with up to 6 units and to certain small businesses and institutions (schools, government buildings). The service included weekly, same-day trash and recycling collection with recyclables collected dual stream (paper separated from other recyclables) in 14 to 18 gallon bins (and City-approved surrogates), using a split truck with over-the-top dump operated by a single driver/laborer. The City also had a dedicated education program

On March 17, 2008, NRC and the City of Hartford entered into an agreement, under which NRC would provide approximately \$175,000 to the City to undertake a pilot that included:

- Single stream recycling collection;
- New 64-gallon carts with wheels, for each households, with a second cart for those that requested one. .
- Simple, consistent, and inclusive recycling messages.
- Direct incentives for households to participate in recycling.
- Continued inclusion of all high value recyclables in the collection mix.
- Adequate education and promotion budgets.
- A continuation of recycling collection on the same day as refuse.

In addition, NRC agreed to provide funds for program performance evaluation for use by the City. In conjunction with its service partners and NRC, the Connecticut Resources Recovery Authority provided for processing of the co-mingled recyclables at an alternate site.

The City also agreed to modernize its collection fleet to directly support the areas serviced during the pilot. The City chose RecycleBank as its partner to provide the recycling containers and to provide incentives for households to participate in the RecycleBank Rewards Program.

The City identified approximately 4,500 households for the pilot as representative of the demographic profile of the entire City. Prior to the start of collection operations in the pilot areas, the City and RecycleBank began an extensive outreach program to the affected households and to the business community regarding participation in the pilot and the RecycleBank Rewards Program. NRC and its consultant, DSM Environmental Services, conducted an evaluation of recycling performance in the pilot areas to serve as a baseline for comparison. During the week of May 12, RecycleBank and the City provided the served households with new, 64-gallon carts for co-mingled recyclables. On May 19, 2008, the City began collection of recyclables from the selected households over 5 routes, one on each day of the week.

EVALUATION SUMMARY

During the week of October 6, 2008, DSM Environmental conducted an independent, third party analysis of the pilot program performance after 20 weeks of operations. Information was gathered on set-out rates, recycling quantities, recyclables composition and contamination, and rough estimates of collection time. This data was then compared against the data collected in the 5 weeks prior to the commencement of pilot operations on May 19, and with data provided by RecycleBank collected since. Following are the results of that evaluation.

- Volumes recycled by the pilot households more than doubled from the pre-pilot volumes, from approximately 8 tons/week to over 17 tons/week on average.
- Average quantity of recycled material also doubled, from less than 4 pounds/household per week (or about 186 pounds annually) to greater than 8 pounds/household/week (about 400 pounds annually). However, when only participating households are counted, households are estimated to recycle as much as an average of 650 pounds per year or more.
- Contamination rates increased from approximately 4.5% to 11%, which is in line with other programs that use carts and single-stream collection around the country. Contamination rate measures the percentage of material entering the recycling facility that is not recoverable and must be disposed as residue.
- On-route time decreased due to the use of carts that held more material and the addition of two laborers at the rear of the collection truck, leading to a nearly threefold increase in the tons collected per hour of service..
- Household participation, defined as setting out the recycling container at least once in a 4-week period, stood at over 60% of all households.
- Set-out rates, the percentage of carts set out on each route-day, stayed roughly the same, but the increase in volumes suggests that some households did not need to set out the much larger cart on a weekly basis.
- The composition of the waste stream among materials (paper, glass, plastics, metals) stayed approximately the same, but the composition of the paper fraction changed significantly from predominantly paper prior to the pilot to a much larger fraction of office paper, discarded mail, and food packaging.
- In addition to its incentive program of rewards for participating households, RecycleBank's ability to produce household-by-household participation, set-out, and volume metrics are a valuable analytic tool for evaluating program performance.

NEXT STEPS

In May of 2009, NRC and the City will undertake another evaluation of program performance. That information will be combined with a more complete description of the project into a Case Study scheduled for completion in June, 2009. In addition, the parties are exploring the best evaluation tool to determine the overall recycling rate for the pilot

areas, and the amount of recoverable material remaining in the trash for the pilot households.