IMPACT STORY

GRAND RAPIDS, MICHIGAN

Catalyzing Recycling System Change

Strategy and Technology to Help Residents Recycle

Like many cities across the United States, Grand Rapids was grappling with contamination. Close to 30% of the city's recycling stream was filled with items that could not be processed. Removing this material takes time, costs money, and can lower the quality of produced bales that recyclers depend on for revenue. The city sought grants from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) to tackle the problem, and since 2020 has worked with The Recycling Partnership on multiple initiatives.

Many recycling programs across the country face a similar challenge: residents are unsure of what belongs in the recycling cart, and facilities are left sorting through costly “wishcycling” that doesn’t belong. In Michigan, that disconnect is closing. Through a statewide partnership between EGLE and The Partnership, communities like Grand Rapids are cutting contamination and building a stronger recycling system in the process.

In Grand Rapids, The Problem was Clear

Nearly 30% of the city’s recycling stream was made up of material that couldn’t be processed. That contamination slowed operations, drove up costs, and reduced the quality of bales that fund the recycling system.

To change course, the city secured support from the EGLE and, since 2020, has worked hand-in-hand with The Partnership on a series of targeted interventions.

Feet on the Street, Cameras on Trucks

In 2020, the city launched a "Feet on the Street" program to provide residents with direct feedback on their carts. First, the city embarked on a comprehensive, community-wide communication plan for its 50,000 households. This included two rounds of direct mailings, social media and website announcements, and training city staff on how to handle incoming concerns.

Next, contracted employees spent eight weeks tagging carts on every recycle route in the city. At first, residents got "oops" notices when unacceptable items were seen in their carts. If the problem persisted, the city tagged the cart with a rejection notice, and the cart was not emptied.

Overall, the program was a success, resulting in a 37% reduction in contamination. However, contamination rates began to creep up as time went on without consistent and ongoing education, and Grand Rapids knew that refining its recycling program was not a one-and-done endeavor.

> **GRAND RAPIDS HAS BEEN A GREAT PARTNER IN TERMS OF USING THE DATA TO REINFORCE WHAT THEY'RE DOING ON THE GROUND AND CONTINUING TO MAKE THEIR PROGRAM BETTER EVERY DAY.**
>
> CASSANDRA FORD
> COMMUNITY PROGRAM MANAGER
> THE RECYCLING PARTNERSHIP

EGLE
MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

The Recycling Partnership
Building a Better Recycling System

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One of the lessons learned in the first project was that extra time was needed for staff to tag carts before collection trucks began their rounds. In 2024, the city ran a second project, Feet on the Street 2.0, with The Partnership and Canadian startup, Prairie Robotics, placing smart cameras, global positioning systems, and computers on recycling trucks—no need for on-foot inspections. During the six-month pilot, the camera system used machine-learning techniques to scan the material as it was emptied from each recycling cart into the truck, recognizing unacceptable items such as plastic bags, polystyrene foam, yard waste, and trash bags. The items were flagged, allowing for a personalized postcard or digital notification to be sent to a resident with information about how they could recycle better.

While Grand Rapids is analyzing the results of the camera system pilot, results from a similar effort in East Lansing showed the camera system reduced contamination by nearly 25%.

During Feet on the Street, residents got "oops" tags when unacceptable items were in their carts.

The cameras provided another benefit: avoided fees.

Whenever the Kent County materials recycling facility had to reject a load that was too contaminated and redirect it to the county waste-to-energy facility, the city was charged a contamination fee. Because of the reduction in contamination across recycling routes with smart cameras, loads being redirected to the waste facility decreased by 285%.

Statewide Change, Community by Community

Grand Rapids is one of nearly 100 Michigan cities totaling more than 1.1 million residents that are working to improve their recycling systems as part of a goal to raise the state's recycling rate to 30% by 2029. Already, Michigan has raised this rate from 14.25% before 2019 to over 23% in 2024.

Customized mailers showed residents what unacceptable items were recognized.

Key Impacts

- Reached **50,000 households**
- Cart tagging project resulted in **37% reduction** in contamination
- Less contamination resulted in a **285% decrease** in recycling truck loads being redirected to the waste-to-energy facility

Ford noted that The Partnership has worked with EGLE on dozens of grants since 2019. Together, they have rolled out more than 300,000 new curbside recycling carts in over 30 communities statewide. "We've been conscious about working across the state rather than only around major cities, making sure we're improving recycling in all areas," Ford said. "Already, we've seen the direct result of that work."

The city has been able to improve recycling services and education each step along the way, and with continued work, can expect to have more households participating and more recyclables being diverted from the landfill.

The result: measurable progress, smarter recycling, and a model for cities nationwide.