

City of Roseville

2014 Year-End Recycling Report



2014 was a big year for the recycling program in Roseville. The switch to single sort collection and the inclusion of many additional types of plastic demonstrated the City's major commitment to improving the recycling program and getting to zero waste.

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www.eurekarecycling.org

This transition resulted in a 16% increase in the volume of material collected in the city. Additionally the participation rate increased by 17% and at 93% is now among the highest in the state.

Our mission is to reduce waste today through innovative resource management and to reach a waste-free tomorrow by demonstrating that waste is preventable, not inevitable.

In addition to the major transition to single sort there were also other important actions that the City of Roseville and Eureka Recycling took together to continue our excellent partnership and our commitment to reducing waste. This included Roseville's Night to Unite, reuse via the Twin Cities Free Market, and work towards making the Taste of Rosefest a zero waste event. (See the Outreach and Education section of the report for additional information on this work in 2014).

Transition to the New Single Sort Recycling Program

In late 2013 Eureka Recycling mailed a postcard to all Roseville households announcing the new single sort recycling program. It also provided a mail-back survey in which residents could choose a larger or smaller cart than the 64 gallon default size. The changes to the program and the survey were also announced via an article in the Roseville City Newsletter.

Surveying residents in advance of the roll-out helped to promote not only the changes that were coming, but also greatly reduced the amount of anxiety some residents had about not having space for a large recycling cart. Many townhouse associations penalize their residents if they do not put away their carts or if their carts are visible on any day other than their collection day. This represented the most common source of concern we heard from residents. The ability to request a smaller cart even before the roll-out occurred helped decrease resident worry and provided an opportunity to select the right cart before one showed up on their driveway.

As a result of the transition, Eureka Recycling spoke with over 2,561 Roseville residents on our zero-waste hotline. That is a 266% increase in calls over 2013, and a 526% increase over the number of calls in 2012 before the program changes were announced. This increase can be attributed to curbside households looking for more information on what items can be recycled, what happens to their material once we collect it, and how they can choose the right carts to better serve their families. (See the Outreach and Education section of the report for more data about the transition).

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Specific Data about Roseville's Successful Zero Waste Recycling Program in 2014

This yearend report contains information on several areas that Eureka Recycling tracks the success of Roseville's zero waste recycling program over the course of each year. Much of this information would not be tracked or reported by for-profit haulers. As a non-profit social enterprise organization we believe tracking and reporting this data for each city is an essential way to ensure program transparency. It also gives Eureka Recycling and city staff the tools needed to successfully manage the program.

Eureka Recycling reports on the following categories of information:

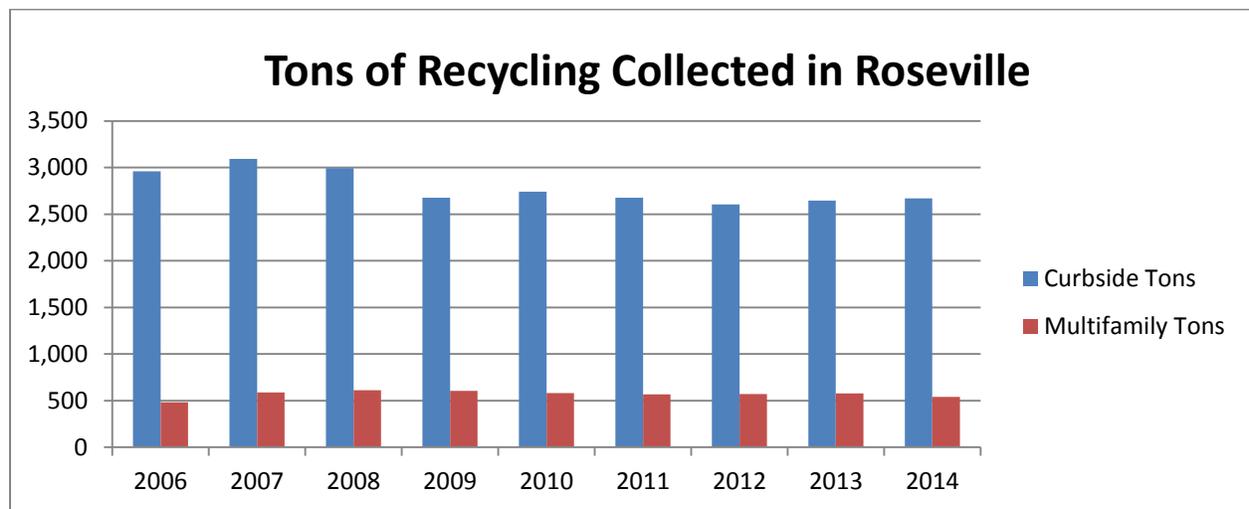
- Tonnage collected
- Resident participation in the program
- Composition of the materials being recycled
- Revenue earned from the sale of recycled material and shared with the city
- Environmental benefits from the material recycled by residents
- Education and outreach activities (see Education and Outreach section)
- Tonnage recycled by each multifamily building and city building (see Appendix A)

TONS OF MATERIAL RECYCLED

As heavier items like newspaper, phonebooks, and glass bottles leave the system and are replaced by bulky, but lighter items like plastic and aluminum, the volume of that material goes up but the weight of that material goes down. Programs see more people recycling more material but the weights don't tell that story.

This is the result of the composition of the material also changing. Manufacturers are continuing to find lighter and lighter weight packaging options. Products once bottled in glass are now bottled in plastic or aluminum. Aluminum and plastic bottles are getting thinner and lighter. Also, fewer and fewer households subscribe to physical newspapers and magazines, opting instead to get their news and entertainment on computers, tablets, and phones.

The number of tons of material set out for recycling by residents has decreased slightly this year. While new materials were added to the program with the switch to single sort recycling, these new items are all very light weight plastics. They add bulk to the recycling but not much weight. We have seen a 16% increase in the volume of recycling collected at the curb. This has not translated to an increase in weight.



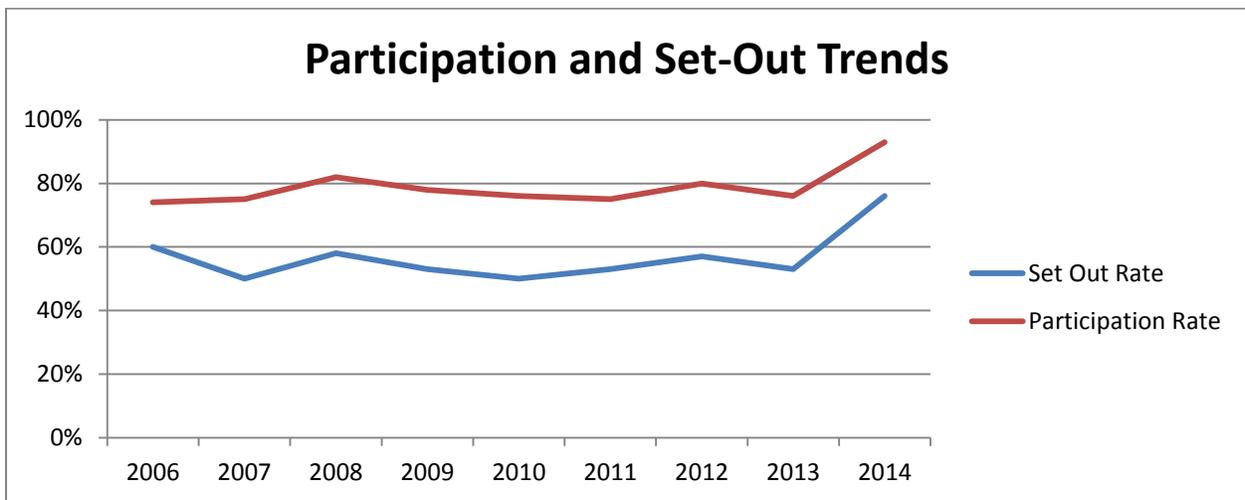
PARTICIPATION

Roseville is one of the few cities in the metropolitan area in which the actual city-specific participation trend information is gathered and made available. Each year in the same areas of the city Eureka Recycling counts set-out rates on each collection day for four straight collection weeks. Since Roseville currently has every other week collection the study period is 8 weeks long. This study yields information on how many residents set out material in any given week, as well as the total percentage of residents that take part in the program.

This year there have been increases in Roseville’s already high participation rate. There were three important changes to the program that led to this increase:

1. The delivery of a new recycling cart to each house
2. The switch to single sort recycling
3. The addition of more types of plastics

In years past, Roseville had a participation rate of 75–80%. This was among the highest in the state and demonstrated Roseville’s leadership in waste reduction. By delivering a brand new recycling cart to each house and switching to single sort recycling the already thriving program saw a boost in the number of people participating in the program. In 2014 Roseville had a 93% participation rate, meaning that over two months 93% of households set out some amount of recycling. This is the highest rate of any city Eureka Recycling works with and one of the highest rates in the country. In any given week 76% of households participate in the program, which is referred to as the “set-out rate”.



Eureka Recycling conducted the annual participation and set-out rate trend study in the fall of each year. (See Appendix C for the definitions, and methodologies of the participation, and set-out rate studies.)

COMPOSITION OF MATERIALS

Eureka Recycling’s role as the Zero-Waste Lab demonstrates our commitment to serving as a testing ground for how single-stream recycling impacts our ability to get to zero waste. We’re not just *doing* single-stream recycling—we are tracking and reporting the impacts of single-stream on the materials that we collect, process, and sell. With this information, we advocate for policy change, improve our own single-stream system—and help others do the same, so that each bottle, can, and piece of paper that cannot first be prevented can be recycled to its highest environmental use.

| Type of Material | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| | % of Total Tonnage |
| Total Annual Tons | 3,441 | 3,681 | 3,556 | 3,281 | 3,322 | 3,244 | 3,173 | 3,225 | 3,212 |
| Papers | | | | | | | | | |
| News Mix | 63.98% | 56.46% | 66.00% | 61.65% | 59.68% | 51.53% | 56.86% | 54.40% | 56.27% |
| Cardboard | 6.71% | 13.23% | 4.50% | 5.48% | 7.34% | 10.33% | 9.09% | 8.78% | 8.59% |
| Boxboard | 2.37% | 7.60% | 2.60% | 5.48% | 3.79% | 7.04% | 5.81% | 2.54% | 4.48% |
| Wet Strength | 0.36% | 0.10% | 0.50% | 0.00% | 1.77% | 0.46% | 0.50% | 0.58% | 0.84% |
| Phone Books | 1.33% | 0.11% | 0.10% | 0.02% | 0.12% | 0.14% | 0.28% | 0.37% | 0.00% |
| Milk Cartons & Juice Boxes | Not collected | Negligible | Negligible | Negligible | 0.02% | 0.03% | 0.47% | 0.07% | 0.31% |
| Textiles | 0.40% | Negligible | Negligible | 0.02% | 0.02% | Negligible | 0.20% | 0.09% | 0.11% |
| Residual | 0.24% | 0.11% | 0.50% | 0.06% | 0.07% | 0.27% | 0.19% | 0.07% | N/A |
| TOTAL | 75.40% | 76.60% | 74.20% | 72.72% | 72.81% | 69.79% | 73.40% | 66.90% | 70.60% |
| Containers | | | | | | | | | |
| Total Glass | 14.89% | 15.15% | 16.70% | 17.54% | 17.31% | 18.08% | 16.94% | 18.78% | 17.58% |
| Steel Cans | 2.64% | 2.00% | 2.40% | 2.43% | 2.65% | 2.49% | 2.38% | 3.30% | 2.09% |
| Aluminum | 1.48% | 1.10% | 1.40% | 1.40% | 1.43% | 2.10% | 1.37% | 1.99% | 1.13% |
| Total Plastics | 4.70% | 4.01% | 4.60% | 5.75% | 5.67% | 6.94% | 5.63% | 7.29% | 6.13% |
| Residual | 0.89% | 0.15% | 0.70% | 0.17% | 0.12% | 0.60% | 0.28% | 1.74% | N/A |
| TOTAL | 24.60% | 22.40% | 25.80% | 27.28% | 27.19% | 30.21% | 26.60% | 33.10% | 26.93% |
| Total Residual | 1.13% | 0.26% | 1.20% | 0.23% | 0.19% | 0.91% | 0.47% | 1.81% | 2.47% |

For more information on the methodology of the composition analysis done by Eureka Recycling, please see Appendix B.

Residual Rates in Single-Sort Recycling Programs

“Residual” refers to the amount of material collected from residents that is not actually recycled. One of the concerns that cities have when they make the move from a multi- or two-sort program to a single-sort program is that more non-recyclable material will end up contaminating

the recycling. Roseville's two-sort program always had a residual rate below 2%. Many single-sort programs have residual rates well over 10%. After the transition to single-sort in Roseville, Eureka Recycling conducted the annual composition analysis of the material collected just in this city. What we found was that while the residual rate did go up slightly to 2.47%, Roseville still has a residual rate lower than most cities in the country.

Engaging with residents through education, including the Guide to Recycling, educational tags and postcards, continues to lead to a lower residual rate. This outreach and education also creates buy-in, inspiring people to support and participate in their zero-waste recycling program. Regular communications, our zero-waste hotline, and household-specific education efforts make it easy for Roseville residents to stay informed, and be clear about what is and is not recyclable in their city.

The most common non-recyclable materials found in Roseville are plastic bags, black plastic packaging, and bulky plastic items like buckets and toys. In the past the driver collecting the material set out at each house would have been able to see these items in the recycling bins and leave them behind with a tag letting the resident know why they could not be taken. This also referred the resident to our zero waste hotline and website for more information.

If decreasing the amount of unrecyclable items set out by residents is best accomplished through direct education at the curb then moving to carts can be a challenge. There is a gain in convenience by using carts which leads to more people are recycling. But, there is a loss in the ability to educate residents on a house-by-house basis. Instead, Eureka Recycling and the City used the city newsletter, our zero waste hotline, and the guide to recycling to help residents understand what items to leave out of their recycling.

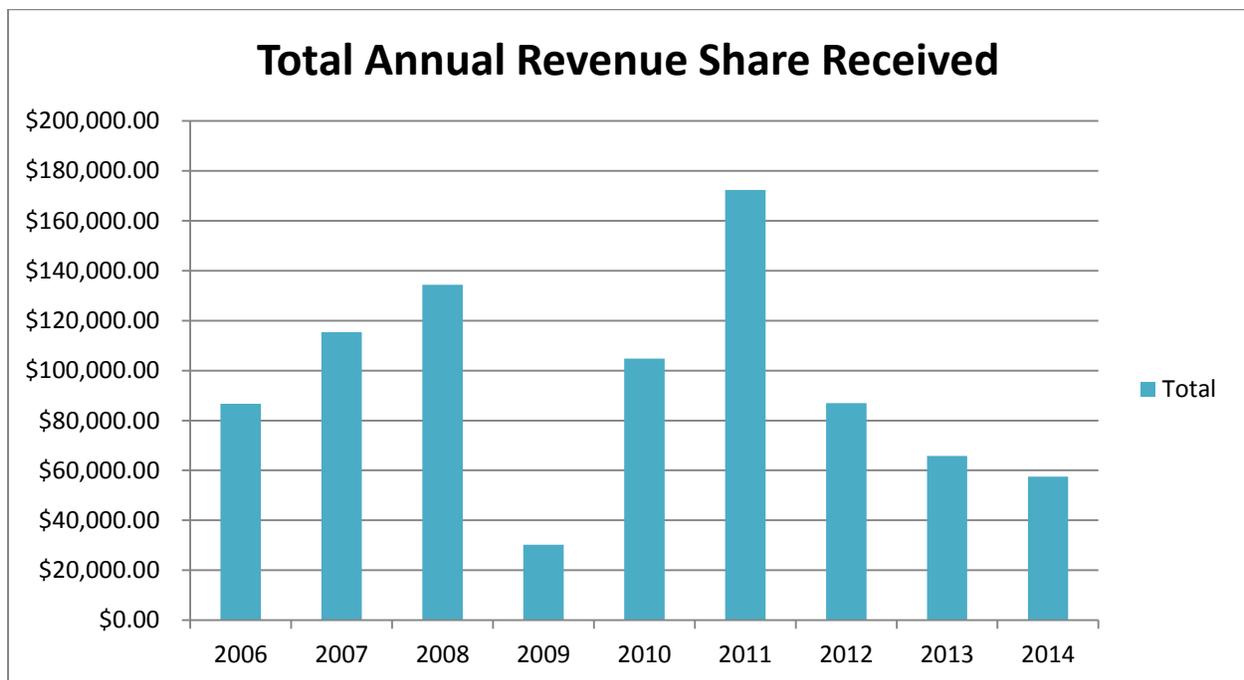
A residual rate under 2.5% shows that those efforts are successful. But more can be done here to help residents. By continuing to educate them about non-recyclable items and the problems they pose for processing facilities and end market manufacturers we can continue to build awareness and reduce the amounts of the items they put in their recycling. Additionally, we can continue to work with, and if necessary put pressure on, manufacturers to make sure all of the packaging they make is recyclable or compostable.

REVENUE

Since 2006, the City of Roseville has received more than \$853,000 in revenue from the sale of its recyclables. The materials that Roseville residents set out are valuable. They required tons of natural resources, a great deal of energy, and hours of labor to produce. Much of that value still remains in the items after they are used. Recycling this material captures that value and reinvests it into the next generation of products reducing costs and creating significant environmental benefit. The market for recycled material generates billions of dollars each year in the United States alone. This material is highly sought after by manufacturers who want to make new products out of it.

The monetary value created by the set-out, collection, processing, and sale of recyclable material in Roseville is shared with the residents who protected that material from being trashed.

This revenue gives the city the resources to continue to support the zero-waste recycling program, zero-waste services at events, the citywide clean-up program, backyard composting workshops, and other additional engagement and education opportunities.



Global, Regional, and Local Market Conditions Affecting Prices

Eureka Recycling provides this analysis to give context to why revenue received by the city goes up or down. For profit haulers do not do this. We do it because it is important information to have as the city plans their budgets each year.

Recycled materials are commodities just like other products such as, corn, cotton, and oil. In our modern, global economy things that happen near and far can impact the prices paid for material on the open market. The following are the major factors influencing the prices paid for recycled

materials. Some are very local issues affecting glass prices. Others are more global in nature and involve the economies of other countries like China.

Summary of Current Market Conditions

In 2014, the overall prices paid by end markets for the material recycled in the city's program continued a steady decline, due mostly to the decrease in prices for fiber material, which makes up 70% of the material recycled in Roseville. Overall prices paid by end markets for material experienced a significant decline in the fall of 2014 due a loss of 200% of the value of glass, which makes up 17.58% of Roseville's material. This significant drop was the result of the Twin Cities losing half of its glass recycling capacity from the shutdown of one of the two glass processors in the state.

Prices for plastics and metals saw an increase mid-year and then prices for plastics experienced a sharp decline in the last couple months of the year, due to the significant drop in the price of oil. This will continue to affect prices going into 2015. Plastics make up around a quarter of the value of Roseville's recyclables.

In addition, organized work slowdown at most west coast shipping ports impacted the decline in fiber prices at the end of the year. .

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DETAILED ANALYSIS OF SPECIFIC ISSUES AFFECTING REVENUE

Slowdown in China's Economic Growth – China is the world's largest consumer of recycled paper. They use it to create the packaging for all of the goods that they manufacture and then ship back to consumers all over the world. As a result, if China stops buying recycled paper the supply quickly jumps up and the prices fall. The stagnation and decline in revenue share in the second half of the year is due in large part to the slow-down in China's economic growth, thus demand from China for all that recycled paper has plummeted. Although Eureka sends nearly 100% of its fiber material to a local market in Saint Paul, the price is connected to global commodity pricing trends.

China's Demand for Scrap Plastics – China has also slowed their demand for scrap plastics as well. In 2013 a major policy shift in China that has come to be called the "Green Fence" slowed the import of plastics. China had been one of the world's largest importers of plastics. Many of these plastics were in the end not recyclable and the negative financial, environmental, and human health impacts of these waste plastics were felt by the Chinese people. As a result the new leadership in China began enforcing existing laws in China about the prohibition of importing solid waste from other countries into China. This caused an immediate stoppage of shipping containers entering the ports in China with each container having to be checked to assure that it did not contain solid waste (including non-recyclable plastic). This has resulted in a slowdown of imports of mixed plastic loads to China and caused additional downward pressure on the prices paid for various types of plastic.

Plastics and the Price of Oil – There has been, and continues to be a great deal of volatility in the plastics markets. Unlike paper, and metal recycling, which has been around for decades, plastic is in many ways still an evolving market. Many new companies continue to enter the market. While one company will seek a certain composition of different types of plastics; others will want a different blend. Eureka Recycling continues to work with existing and new markets to ensure that any plastics we send to market are made into new products and the chain of custody can be followed and verified.

The price of oil affects all plastic manufacturers. Recycled plastics compete for a share of the market with plastics made from virgin oil. Manufacturers can either choose to make their products out of post-consumer recycled plastics or from virgin material. If the price of oil is high then manufacturers will move to more recycled content. But as the price of oil continued to fall in the last months of 2014 and into 2015 more and more manufacturers are using virgin oil. This in turn causes the price that manufacturers are willing to pay for recycled plastic to drop as well. Plastics prices climbed to significant highs in the summer and fall of 2014, and then fell by almost 40% between December 2014 and February 2015.

West Coast Shipping – As a result of disputes between the longshoreman's union and the ship-owners there has been an organized slowdown of work at west coast ports. This limits what comes in and goes out of the west coast ports as many ships sit idle as they wait for an opportunity to load or unload goods. Much of the recycled paper in the U.S. is shipped to paper mills overseas. While this does not inhibit Eureka Recycling's ability to move material because we use local markets, it does mean that the price for paper products is pushed down, and the glut of

material that cannot leave via the west coast pushes its way back into the middle and east of the country.

In December of 2014 prices for cardboard for example were down 30% from a high of \$100 per ton in March. This trend is expected to continue to bring downward pressure on paper prices into early 2015 because even after the longshoreman's labor dispute is brought to an end it will take time for the backlog of shipments to be handled and the normal flow of material to be restored.

Changes in the Glass Processing Industry – Recent changes in recycled glass processing capacity in the Twin Cities has put glass bottle recycling back in jeopardy. Glass bottles have been an icon of recycling since the earliest curbside programs started. Compared to materials like plastic, glass is a model recyclable material. Glass can be melted down for recycling over and over again infinitely, without degrading the quality of the raw material, which provides tremendous environmental benefits. With growing concerns about the impacts plastic packaging may have on our health when it leaches into our foods, glass once again looks like a good alternative.

The advent of commingled recycling (first dual stream and now single stream collection) has posed significant ongoing problems for glass recycling. Eureka Recycling has worked to maintain the viability of bottle-to-bottle glass recycling in the Twin Cities throughout these changes in collection methods. After years of work and a large financial investment from Eureka with many partners, including the State, County, Cities, and residents, we were successful in attracting two major glass processors (e-Cullet and Strategic Materials) to our marketplace. They entered the market because of the demonstrated commitment to keep glass out of the landfills and in the recycling stream while we maintained quality. While many other parts of the country faced a complete loss in bottle-to-bottle glass recycling options during this time, the Twin Cities continued to enjoy strong glass markets.

Recently one of the glass processors, e-Cullet, closed their Twin Cities facility, leaving a significant gap in processing capacity. It appears that SMI, the remaining processor, cannot handle all of the current glass supply. If current conditions do not change, a large portion of the glass that was being recycled will be lost. It is time again for all parties to work together to find short and long term solutions to this problem.

Why does it matter?

Without immediate planning and action, some of Minnesota's recycled glass will end up in landfills or dropped from programs all together, and without a long-term solution that requires responsibility and some investment from producers, like bottle deposit legislation, glass may cease to be recycled at all. Glass collected for recycling that needlessly ends up in a landfill will end up costing the cities and their residents more money while reducing their recycling programs' environmental benefits.

There are significant, undisputable environmental and economic benefits achieved from recycling glass. These include energy savings, reduction of air and water pollution, and a reduced need to mine new resources. Furthermore, State, municipal and environmental advocates agree that environmental benefits reduce dramatically the further we stray from the highest and best use of recycled glass, so – —glass bottles recycled into glass bottles should be the primary goal and then

the next best markets for the smaller glass and fines need to be developed. These environmental impacts are the reason Eureka Recycling has been committed to finding a solution to keep bottle-to-bottle recycling viable despite changes in collection methods.

- Glass bottles and jars are 100% recyclable and can be recycled endlessly without any loss in purity or quality.
- Over a ton of natural resources are saved for every ton of glass recycled.
- Energy costs drop about 2-3% for every 10% cullet used in the manufacturing process.
- One ton of carbon dioxide is reduced for every six tons of recycled container glass used in the manufacturing process.

ENVIRONMENTAL BENEFITS

The environmental benefits of Roseville's zero-waste recycling program are quantified transparently using widely-accepted environmental models. This ensures that all residents have a chance to see how their efforts can be measured and quantified.

There are many ways to calculate the benefits of recycling. To better explain these benefits in commonly understood terms, government agencies, research scientists, and economists have created several "calculators" to translate the amounts of recycled materials collected, and processed into equivalent positive societal and environmental benefits.

Because of the increasing societal focus on causes of, and solutions to, climate change, it has become imperative to measure waste reduction (and all of our activities) in terms of its impact on the environment. This allows us to speak in a common language, understand the impact of our choices, and help us prioritize the personal, and policy actions that we take. Many cities around the country work with the International Council for Local Environmental Initiatives (ICLEI) to quantify and now register the climate change impacts of their city. It is also important to calculate the carbon impact of waste reduction as the global effort continues to enact a carbon "cap and trade" system.

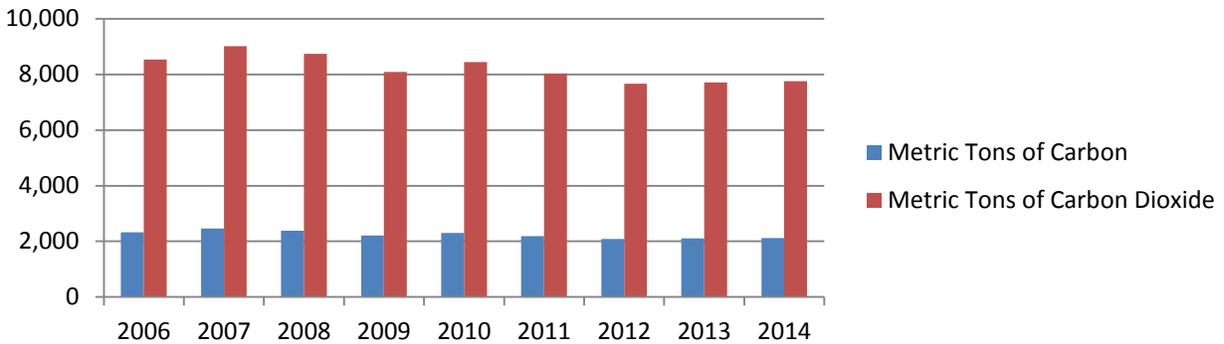
In addition to climate change mitigation, there are other environmental benefits to recycling, including saving energy and protecting air quality, water quality, natural resources, natural beauty, habitat, and human health.

The Environmental Protection Agency (EPA) WARM Calculator

The equations used in environmental calculations try to take into account the "full life cycle" of each material—everything from off-setting the demand for more virgin materials (tree harvesting, mining, etc.) to preventing the pollution that would have occurred if that material were disposed of (burned or buried). Different calculators may include some or all of the many factors that contribute to the "full life cycle" so results will vary from calculator to calculator.

While there are many models emerging to calculate greenhouse gas reductions, the most recognized, and standard model is the U.S. Environmental Protection Agency's Waste Reduction Model (WARM). WARM was designed to help solid waste planners, and organizations track, and voluntarily report greenhouse gas emissions reductions from several different waste management practices. WARM, last updated in June 2014, recognizes 46 material types.

WARM Model Analysis of Impact on Climate Change



MTCE (Metric tons of carbon equivalent), and MTCO₂E (Metric tons of carbon dioxide emissions) are figures commonly used when discussing greenhouse gas emissions. For more information about the process of measuring the environmental benefits of waste reduction, visit <http://epa.gov/climatechange/wycd/waste/measureghg.html#click>

What do all these numbers mean?

In addition to preventing pollution, an important impact of recycling is that it conserves a huge amount of energy. Making products and packaging from raw materials harvested from nature uses a much larger amount of energy than using recycled materials.

Every manufactured item has the energy used to make it “embedded” into it. Recycling takes advantage of that energy, as it is easier and more energy efficient to make a glass bottle from another glass bottle than from raw materials.

The WARM model and other calculators measure the difference between recycling all these tons of materials and using them to make new products versus sending them to an incinerator and making replacement products from raw materials. This difference is expressed as the amount of CO₂ that was not produced because we did not have to make and use all the energy that would have been needed if we used raw materials.

The numbers above help municipalities calculate and track their environmental footprint. For more information about the process of measuring the environmental benefits of waste reduction, visit <http://epa.gov/climatechange/wycd/waste/measureghg.html#click>.

These numbers, however, don’t have much meaning to the average person. To help recyclers understand the significance of their actions, the EPA has also developed tools to translate these numbers into equivalent examples that people can more easily understand.

- For example, using the figures above, the EPA estimates that **Roseville would have had to remove 1,521 cars from the road for one year to have had the same environmental impact in 2013 as they did by recycling.** To achieve this, approximately 10% of Roseville’s households would have had to give up one car for a year.

Although WARM is the most widely peer-reviewed, and accepted model, it is considered to have several flaws. Many believe the use of this calculator is conservative, and understates the real impact of waste reduction efforts, but it offers a conservative starting place to measure our impacts, and work towards our goals. Even with these conservative calculations, the impacts of Roseville's recycling program prove to be quite significant.

Measuring Environmental Benefits Calculator (MEBCalc™)

Jeffrey Morris, Ph.D., Economist at Sound Resource Management in Seattle, has developed a calculator that begins with the EPA's WARM calculator, and expands upon it to gather information on not just carbon, and CO₂, but also several other important environmental, and human health indicators. Although not yet widely used, this calculator shows the significant benefits that WARM does not consider.

The MEBCalc™ model expands, and shows the benefits other than just energy savings, and carbon savings. Recycling materials with zero waste in mind recognizes not just the value in the resource itself, but the contribution to the health of the community when materials are kept out of landfills, and incinerators, avoiding the toxic, and carcinogenic emissions.

| Roseville | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|---------------------------|
| Total Recycling | 3,441 tons | 3,682 tons | 3,556 tons | 3,281 tons | 3,322 tons | 3,243 tons | 3,173 tons | 3225 tons | 3212 tons |
| Carbon Dioxide Equivalent Reduction (eCO ₂) | 9,437.3 metric tons | 9,619.0 metric tons | 9,683.5 metric tons | 8,814.0 metric tons | 8,739.3 metric tons | 8,425.1 metric tons | 8,106.2 metric tons | 8,478.7 metric tons | 8,386.3 metric tons |
| Human Health— Carcinogens Reduction (eBenzene) | 1.9 metric tons | 1.9 metric tons | 1.9 metric tons | 1.9 metric tons | 1.9 metric tons | 2.0 metric tons | 1.8 metric tons | 1.9 metric tons | 1.7 metric tons |
| Human Health— Non-Carcinogen Toxins Reduction (eToluene) | 4,609.7 tons | 5,253.0 tons | 4,665.7 tons | 4,452.0 tons | 4,518.0 tons | 4,699.6 tons | 4,375.0 tons | 4,280.1 tons | 3,953.0 tons |
| Human Health— Particulates Reduction (ePM _{2.5}) | 4.4 metric tons | 6.6 metric tons | 4.2 metric tons | 4.4 metric tons | 4.8 metric tons | 5.9 metric tons | 5.1 metric tons | 4.2 metric tons | 3.6 metric tons |
| Acidification Reduction (eSO ₂) | 26.9 tons | 27.0 tons | 27.3 tons | 25.3 tons | 25.5 tons | 27.1 tons | 24.3 tons | 25.7 tons | 22.7 tons |

City of Roseville

Outreach and Education Summary 2014

Roseville’s recycling program continues to be a leader in the country. Outreach and education elements of the program are an important part to ensuring good participation and helping residents understand the benefits of recycling. In 2014, Eureka Recycling and the City of Roseville continued to support the efforts of the city of Roseville to make city events zero-waste. This was the third year we distributed recycling bins and educational material at Night to Unite parties. The Living Smarter Fair, Wild Rice Festival, and Earth Day celebration were also successful events—bringing Roseville residents’ attention to zero-waste issues while diverting nearly 98% of event materials from the waste stream. These successes continue to show the City of Roseville’s leadership and its commitment to zero waste and sustainability.

Roseville residents continue to participate in their zero-waste recycling program at rates that are among the highest in the State. In 2014, Eureka Recycling and the City completed a successful transition of the recycling program from a two-sort system of collection to a single-sort system removing the need for residents to sort their material. We also added several new types of plastics to the program and delivered tall recycling carts for each household to store their recycling.

Roseville’s Transition to Single Sort Recycling

Roseville has many townhouse developments with small garages. This meant that many households preferred a smaller cart. Others with busy, active families generate a large amount of recycling and needed the largest cart. In order to assure a smooth roll-out of new carts we wanted to make sure we heard from residents who wanted a larger or smaller cart before the default medium sized cart showed up on their driveway. To do this we sent a survey to all residents in the mail and invited them to contact us via a postcard mailer, an electronic survey on the City’s website or by calling Eureka Recycling’s hotline and let us know if they wanted to change their cart. Eureka Recycling received over 3,500 mailed responses, emails, or calls requesting changes to their cart size or confirming that they did want the medium cart. This 38% response rate for this survey demonstrates the high level of engagement Roseville residents have with their recycling program.

| Cart Size Requested | Survey Responses |
|----------------------------|-------------------------|
| 96 | 1205 |
| 64 | 1534 |
| 32 | 829 |
| Total | 3568 |

Mailing in the response was the most popular method.

| Pre Cart Roll-Out Survey Analysis | |
|---|------|
| Total Curbside HH | 9400 |
| # of Survey Responses | 3568 |
| % of HH Responding to Pre-Roll-Out Survey | 38% |
| % of Survey Responses by Mail | 80% |
| % of Survey Responses by Web/email | 17% |
| % of Survey Responses by Phone | 3% |

Post Roll-Out Cart Swap Requests

As with any major program change it can be hard to know what you will need before actually living with the change for a while. Cart size was no exception. Many residents found that after they had lived with the new program for a while they wanted a different cart size. More than a few households found that they were recycling so much more material that they wanted a second cart. All of this recycling represents a decrease in the amount of trash residents are generating and in the cost they have to pay to have that waste collected. This creates not only the environmental benefit from recycling, but also a financial benefit for each participating household.

After the initial cart roll-out in February 2014 Eureka Recycling received an additional 444 requests to swap out existing carts for different sizes.

| Post Roll-Out Cart Size Swap Requests | |
|--|-----|
| # of Requests | 444 |
| % of HH Requesting Post Roll-Out Swap | 5% |
| Requests for 96 | 245 |
| Requests for 64 | 96* |
| Requests for 32 | 103 |

* 64 gallon carts were the default size delivered if no change was requested. This number represents the number of people who requested a larger or smaller cart, and then called to change back to a 64 gallon cart.

Zero-Waste Hotline

In 2014 Eureka Recycling's hotline staff had 2,476 conversations with Roseville residents who live in single-family homes (or duplexes) about their zero-waste recycling program.

Hotline staff also answered 94 calls from apartment and townhouse residents and building managers who participate in the zero-waste recycling program with questions unique to their program. Eureka Recycling worked with these residents and building staff to help them manage their multi-family recycling set-ups, add carts or collection days, provide them with education materials for their residents, and help improve their service in many other ways.

| | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------------------|------|------|------|------|------|------|------|-------------|
| Hotline Calls | | | | | | | | |
| Curbside Calls | 425 | 540 | 480 | 410 | 330 | 415 | 885 | 2476 |
| Multi-family Calls | 49 | 78 | 35 | 74 | 81 | 72 | 94 | 85 |
| Total Calls | 474 | 618 | 515 | 484 | 411 | 487 | 979 | 2561 |
| Requests for Printed Materials | | | | | | | | |
| Curbside | 41 | 74 | 21 | 43 | 47 | 33 | 41 | 556 |

Requests for Printed Education Materials

Throughout the year, Eureka Recycling mailed specific curbside recycling schedules, sorting information, and clothes and linens and recycling day stickers to 556 Roseville residents in response to their questions and calls.

Curbside Program Guide to Recycling

2014 was a major year of transition to the recycling program. The 2014 guide to recycling provided all of the information needed for each household to participate in the new single sort program. It also gave details on the new plastics added to the program and the types of items that are not a part of the program. Many residents appreciated this additional information and chose to call the Zero-Waste Hotline to learn more.



Direct Education

Our experience has shown that the absolute best place to educate residents about their zero-waste recycling program is right at the curb. Eureka Recycling and the City of Roseville share a value that all the material that can be recycled should be and material that cannot be recycled should not be collected. Taking non-recyclable items on a ride in a recycling truck and through a processing facility not only wastes the fuel and energy to transport and process the material, but also leaves the residents with the mistaken impression that the material can be recycled.

Eureka Recycling drivers educate residents at the curb using educational tags for specific problems. In 2014, drivers left approximately 1,833 educational tags in recyclers' bins. This number is much lower than previous years. Non-recyclable plastics, not sorting material correctly, or using an oversized container were the most common reasons residents received a tag in the past. By simplifying the program to a single sort process, using carts provided to the household, and by adding additional plastics we eliminated many of the issues that generated tags in the past.

The most common reason residents received a tag in 2014 were:

1. Repeatedly having excess recycling placed next to cart while having a small or medium sized cart. The tag recommended that the resident call the hotline to request a larger, or even a second cart.
2. Cardboard not been broken down to a size that will fit in the cart. To collect extra cardboard the driver tips the cart and then puts the extra cardboard into the cart and tips it again. Cardboard too big for the cart is difficult for the driver to collect.
3. Placing cart too far from the curb or backwards with the handle facing the street. This makes it hard for the material to fall in the truck and causes litter.

| | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 |
|----------------------|-------|--------|-------|--------|--------|--------|-------|--------|-------|
| Driver Tags | 9,540 | 10,156 | 7,367 | 13,565 | 13,010 | 50,061 | 9,736 | 20,341 | 1,833 |
| Postcards | 650 | 822 | 451 | 742 | 559 | 1,136 | 951 | 7,576 | 0 |
| Personalized Letters | 30 | 51 | 0 | 3 | 10 | 41 | 179 | 20 | 151 |

We work with our drivers to ensure they take every opportunity to provide additional education to residents. The value of this approach is that begins a conversation with residents and eliminates confusion. All of Eureka Recycling’s tags encourage residents to call our hotline where zero-waste educators are available to clear up confusion about why certain items are not recyclable or to explain how residents’ efforts at the curb have an important impact on the value of the material and the environmental benefits of recycling.



Sample Tags

Postcards

In the previous two-sort system of collection, if a resident did not have a blue bin to leave a tag in the driver would write up the address and our customer service staff would send a postcard with the same images and messaging to the home to inform them about the issue. In the new single-

sort system every house now has a cart so the driver always has a place to leave a tag, which eliminates the need for postcards.

Letters

Personalized letters are another form of communication about programs and services.. There are two types of personalized letters we send to residents:

1. Chronic problem letters provide detailed information and instructions about setting out recycling. These letters are used when previous letters have not been successful in correcting repeated problems. Drivers keep a daily record of the addresses that have received tags but still need further education. Addresses that have received tags for three consecutive collection weeks with no change in how they are recycling receive a personalized letter that encourages the resident to contact us so we can have a more in-depth conversation.
2. Letters to update service information for Special Pickup Instruction (SPI) customers. These letters are sent when SPI residents have changed the location of their recycling, or if it appears the resident has moved out of the home and no longer needs the service.

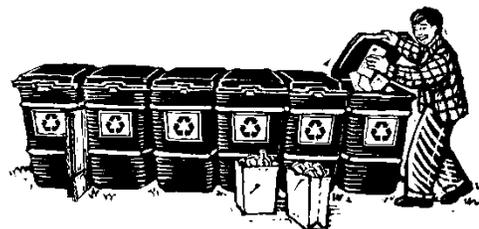
In 2014 Eureka Recycling sent 151 personalized letters to residents. This is an increase over previous years and is in line with the increase in calls that were made to the hotline. As people first begin using a new system they can become confused about some aspects of the program. A letter can help them understand the issue, while inviting them to call the hotline with additional questions or concerns. The most common issues that generated letters were cardboard not broken down, repeatedly having extra material outside the carts while using a smaller cart, and not having the cart out by 7 a.m.

Special Pickup Addresses

To ensure every resident has the opportunity to recycle, Eureka Recycling offers to collect recycling from locations other than the curb for residents who request special pickup service due to short- or long-term physical limitations. This service is provided free of charge to ensure that anyone who would like to recycle has the opportunity to do so by helping remove any physical barriers. 30 residents added this service in 2014 for a total of 167 total residents.

Multifamily Zero-Waste Recycling Program

The City of Roseville has a very successful multifamily zero-waste recycling program. We now have a total of 176 multifamily complexes, 164 residential buildings, and 11 city buildings/parks, 1 business and 1 nonprofit for a total of 6,049 units being serviced in Roseville's multifamily program.



In February 2014 Eureka Recycling mailed reports to all of Roseville's multifamily building managers, providing them with data on the tonnage recycled for their building(s), a comparison of the amount of tonnage recycled for the whole city's multifamily program, and the environmental benefits of the entire City's effort in recycling. This communication provides the building

managers the tools to work with their residents to inspire and motivate them to increase their recycling rate.

One of the challenges with recycling in multifamily properties is turnover. Residents move in and out all the time and even property managers and caretakers turn over constantly. Not having a reliable contact at each property makes it difficult to manage problems that may arise or to communicate the successes to residents. This challenge is one of the reasons most cities do not include apartment and condo buildings in their residential recycling programs. Eureka Recycling's staff also updated building managers' contact information whenever possible. If it were not for the time Eureka Recycling staff takes each year to ensure correct and updated data, effective and timely communication would not be possible and the quality of the program would be in jeopardy.

Multifamily Educational Materials and Customer Service

Eureka Recycling constantly monitors the performance of each account to improve participation. Our drivers track issues so our staff can immediately follow up with suggestions to address any identified building needs and to provide educational materials for residents. Eureka Recycling provided 540 pieces of recycling education (instructional posters, brochures, schedules, etc.) to building management and residents of existing and newly established multifamily accounts in 2014.

We continue to monitor the performance and service issues with each account to adjust service levels on an ongoing basis. We ensure that we are providing appropriate service levels to all buildings by working with our drivers and involved on-site contacts to add more carts as residents recycle more.

Special Education and Outreach

Outreach at Roseville Events

In 2014 Eureka Recycling and the City of Roseville partnered during three events to give residents an opportunity to learn about recycling, while also experiencing that waste is preventable. Eureka Recycling provided Zero-Waste Event Services, which included staff helping to monitor zero-waste stations and educate residents about recycling and zero-waste issues.

At the Roseville Living Smarter Fair on February 15, 2014, Eureka Recycling had a table where we had many conversations with people about how they can incorporate zero waste practices such as, backyard composting, using the Twin Cities Free Market, and preventing wasted food to reduce the amount of trash they produce at home. These are simple things that can have a positive environmental impact and save residents money on their trash service. Additionally, we provided information on changes to the recycling program and answered questions related to materials added to the program, challenging materials and the problems they cause.

On April 19, 2014 at the Roseville Earth Day event Eureka Recycling and the City had a table where our staff shared information about the changes to the recycling program. Residents interested in getting rid of their old blue recycling bin were able to drop them off to be recycled. Many other Roseville residents came asking if they could take more bins for use as storage boxes in their homes. In the end, with the exception of a handful of broken bins, every bin dropped off

found a new home with one of their neighbors. Recycling the old bins would have been great but reusing them takes full use of their lifecycle and is the best environmental benefit.

Roseville Residents Experience Zero Waste For Themselves!

Public events tend to be huge waste generators. This year Eureka Recycling's continued sponsorship of zero-waste events in Roseville provided residents with the opportunity to witness zero waste in action. Eureka Recycling helped make the following events zero-waste:

- The Living Smarter Fair
- The Earth Day Celebration at Harriet Alexander Nature Center
- The Wild Rice Festival

Roseville's efforts to address this problem, and the 93-99% diversion of waste from these public events, continues to show the city's incredible leadership. Eureka Recycling receives consistent requests from other cities to help them develop the knowledge and build the commitment to waste reduction that would make them as successful as Roseville.

Night to Unite

We again joined the City of Roseville at Night to Unite celebrations all over the city. Together, we recognized it as an opportunity to connect with Roseville residents on a night where the community gathers. The City and Eureka Recycling see this event as a great opportunity to bring resources to residents, while taking the time to build community and answer questions. At 14 neighborhood gatherings Roseville city staff and Eureka Recycling staff distributed educational materials to help individuals learn how to recycle more. Staff spent time answering recycling questions and talking to residents about the environmental and economic benefits of recycling. Residents were responsive to not only the recycling information, but also additional recycling bins and to have conversations around zero-waste.

Leading up to this event, Eureka Recycling once again supported the city's effort to encourage block party organizers to register their parties with the City by offering a free backyard composting bin to any registered neighborhood party that wanted one. A total of 13 compost bins were given to leaders of Roseville block parties. Registering parties helps the City to retain the information about who the energized and engaged residents are. This makes it easier to develop stronger relationships with those residents and allows them to help get community feedback and to help disseminate information on important community initiatives to their neighbors. Several parties raffled the bins off to party attendees, while others used them to compost the food scraps. We also provided fact sheets about making neighborhood events zero-waste. This fact sheet is available on our composting website: <http://bit.ly/1EBgK6n>

Twin Cities Free Market

Residents of the City of Roseville have the opportunity to exchange reusable materials via the Twin Cities Free Market (www.twincitiesfreemarket.org). The Twin Cities Free Market is a great way for residents to give and get free, reusable items while keeping them out of the landfill or incinerator. In 2014 Eureka Recycling completely redesigned the Free Market website to provide users an easier format. In 2014, 719 Free Market users from Roseville listed over five tons (10,703 pounds) of usable items that were made up of mostly furniture, electronics, and appliances that were spared from the landfill or incinerator.

Appendix A

Roseville Multi-Family Tonnage by Property - 2014

| Property Name | Primary Address | # Units | 2006 Total lbs. | 2007 Total lbs. | 2008 Total lbs. | 2009 Total lbs. | 2010 Total lbs. | 2011 Total lbs. | 2012 Total lbs. | 2013 Total lbs. | 2014 Total lbs. |
|----------------------------------|------------------------------|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1144 Dionne Street | Dionne Street, 1144 | 23 | 7,150 | 8,457 | 5,961 | 5,167 | 6,906 | 5,892 | 5,539 | 5,557 | 5,957 |
| 1363 County Road B | County Road B, 1363 | 11 | 1,892 | 1,910 | 2,744 | 2,629 | 2,255 | 2,090 | 2,426 | 2,296 | 2,487 |
| 161 McCarrons Street | McCarrons Street, 161 | 11 | 439 | 198 | - | - | - | - | - | - | - |
| 161 Minnesota Avenue | Minnesota Avenue, 161 | 6 | 148 | 678 | 423 | 646 | 1,076 | 1,264 | 1,258 | 1,226 | 1,582 |
| Rose Park Commons _ | County Road B, 1610 | 11 | 2,266 | 2,324 | 1,967 | 2,396 | 2,079 | 1,858 | 1,827 | 1,808 | 1,865 |
| 1614 Eldridge Avenue | Eldridge Avenue, 1614 | 11 | 1,424 | 1,280 | 2,651 | 4,237 | 3,583 | 3,858 | 3,230 | 1,457 | 1,983 |
| Rose Park Apartments | Eldridge Avenue, 1615 | 11 | 1,809 | 1,091 | 1,721 | 2,076 | 1,922 | 1,678 | 1,479 | 1,336 | 1,574 |
| 1624 Eldridge Avenue | Eldridge Avenue, 1624 | 11 | 2,541 | 2,029 | 1,996 | 2,629 | 2,249 | 1,842 | 4,753 | 3,897 | 3,596 |
| 1629-1635 Skillman Avenue | Skillman Avenue, 1629-1635 | 14 | 2,505 | 3,002 | 2,951 | 2,686 | 2,151 | 1,981 | 2,897 | 1,929 | 1,674 |
| 1635 Eldridge Avenue | Eldridge Avenue, 1635 | 11 | 3,284 | 1,702 | 1,650 | 2,333 | 2,380 | 2,026 | 1,881 | 1,912 | 2,210 |
| 1705 Marion Street | Marion Street, 1705 | 0 | 1,437 | 1,578 | 224 | 291 | 1,370 | 840 | 587 | 523 | 844 |
| 1750 Marion Street | Marion Street, 1750 | 24 | 3,511 | 3,576 | 4,317 | 3,906 | 3,386 | 2,741 | 1,617 | 2,080 | |
| 2125 Pascal | Pascal Street, 2125-2133 | 22 | 2,514 | 3,184 | 5,239 | 4,717 | 4,829 | 5,007 | 5,093 | 5,538 | 5,517 |
| 2180 Haddington Road | Haddington Road, 2180 | 5 | 964 | 1,285 | 737 | 1,690 | 1,484 | 1,214 | 1,749 | 1,784 | 1,560 |
| 2275 Rice Street ^ | Rice Street, 2275 | 8 | 1,924 | 2,830 | 2,852 | 2,973 | 869 | - | - | - | - |
| 2447 County Road B | County Road B, 2447 | 17 | 2,584 | 2,867 | 3,143 | 2,519 | 2,567 | 2,572 | 2,642 | 2,098 | 2,522 |
| 2610 Snelling Curve | Snelling Curve, 2610 | 17 | 2,929 | 2,696 | 3,164 | 3,113 | 3,284 | 3,323 | 3,678 | 3,055 | 2,890 |
| 2900 Highcrest Road | Highcrest Road, 2900 | 11 | 4,581 | 4,436 | 2,715 | 2,534 | 3,597 | 3,512 | 3,720 | 3,444 | 2,049 |
| 2950 Highcrest Road | Highcrest Road, 2950 | 12 | 2,980 | 2,295 | 2,486 | 2,685 | 2,496 | 1,742 | 1,817 | 1,209 | 1,331 |
| Applewood Pointe | Applewood Court, 1480 | 94 | 47,799 | 58,215 | 46,499 | 39,220 | 36,217 | 30,640 | 25,912 | 23,956 | 23,819 |
| Applewood Pointe at Langton Lake | Langton Lake Drive, 1996 | 48 | - | - | - | - | - | 7,419 | 16,144 | 24,786 | 27,487 |
| Aquarius Apartments | County Road C2, 2425 | 99 | - | - | 15,391 | 17,449 | 12,570 | 11,702 | 13,094 | 15,157 | 14,376 |
| Bonaventure | Lexington Avenue North, 3090 | 30 | 7,490 | 8,105 | 7,033 | 5,367 | 5,497 | 5,281 | 5,033 | 4,465 | 6,023 |
| Centennial Gardens East & West | Centennial Drive, 1400-1420 | 190 | 26,759 | 21,852 | 22,677 | 23,021 | 21,122 | 20,025 | 20,137 | 20,888 | 20,374 |
| Cherrywood Pointe | Cleveland Ave North, 2966 | 50 | - | - | - | - | - | - | 3,962 | 8,407 | 10,995 |
| Coventry Seniors Apartments | Snelling Avenue, 2820 | 196 | 19,939 | 19,110 | 22,729 | 24,917 | 22,952 | 21,268 | 21,247 | 21,275 | 20,041 |
| Dale Terrace Apartments | County Road B, 720 | 42 | 9,360 | 7,793 | 12,033 | 13,323 | 12,343 | 11,572 | 10,371 | 9,892 | 9,997 |
| Dellwood Condominiums | Dellwood Street, 1725 | 12 | 1,226 | 1,923 | 2,650 | 2,630 | 2,721 | 3,298 | 2,891 | 2,439 | 2,887 |

| Property Name | Primary Address | # Units | 2006 Total lbs. | 2007 Total lbs. | 2008 Total lbs. | 2009 Total lbs. | 2010 Total lbs. | 2011 Total lbs. | 2012 Total lbs. | 2013 Total lbs. | 2014 Total lbs. |
|---------------------------------------|------------------------------------|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Eagle Crest | Lincoln Drive, 2925 | 216 | 13,892 | 60,799 | 56,057 | 57,249 | 64,086 | 67,291 | 70,827 | 68,040 | 70,991 |
| Executive Manor Condos | Old Highway 8, 3153-3155 | 72 | 12,385 | 14,530 | 17,674 | 17,185 | 15,918 | 16,897 | 19,637 | 18,055 | 16,322 |
| Garley Apartments | County Road B, 1634 | 11 | 2,153 | 1,161 | 1,415 | 1,547 | 1,420 | 1,793 | 1,897 | 1,487 | 1,524 |
| Greenhouse Village | Larpenteur Avenue, 1021 | 102 | 19,032 | 37,098 | 28,751 | 24,581 | 30,384 | 25,402 | 22,453 | 25,797 | 23,539 |
| Hamline House Condos | Hamline Avenue, 2800 | 150 | 34,102 | 33,973 | 32,182 | 29,441 | 24,522 | 22,481 | 20,586 | 21,206 | 21,171 |
| Hamline Terrace | Terrace Drive, 1360-1410 | 102 | 12,817 | 12,230 | 17,366 | 19,233 | 23,416 | 23,105 | 20,080 | 20,639 | 19,132 |
| Heritage Place | County Road B West, 563 | 50 | 21,892 | 23,110 | 17,258 | 16,066 | 19,781 | 18,879 | 16,649 | 18,963 | 18,189 |
| Hillsborough Manor | Woodbridge Street, 2335-2345 | 206 | 16,298 | 17,755 | 28,418 | 35,852 | 29,398 | 21,312 | 19,284 | 24,054 | 25,407 |
| Karie Dale Apartments | Dale Street North, 2355-2393 | 44 | 6,691 | 7,455 | 9,794 | 8,483 | 7,508 | 7,910 | 6,931 | 7,151 | 8,711 |
| Lake Josephine Condominiums | Lexington Avenue North, 3076 | 23 | 9,411 | 8,313 | 7,040 | 6,632 | 6,179 | 6,603 | 6,389 | 5,817 | 5,175 |
| Lar Dale Apartments | Larpenteur Avenue West, 655 | 17 | 2,068 | 2,189 | 2,348 | 1,546 | 2,472 | 2,865 | 3,326 | 3,224 | 3,431 |
| Lexington Court | Lexington Avenue, 2192-2206 | 52 | 3,390 | 2,970 | 4,293 | 5,076 | 4,092 | 4,808 | 5,924 | 7,020 | 6,743 |
| Lexington Twin Apartments | Lexington Avenue, 1890 | 22 | 5,674 | 5,519 | 5,456 | 5,689 | 5,014 | 5,371 | 5,791 | 5,549 | 5,971 |
| Lexlawn/Roselawn Apartments | Lexington Avenue, 1943 | 34 | 3,142 | 2,888 | 3,774 | 4,033 | 3,788 | 4,074 | 3,788 | 3,369 | 2,711 |
| Marion Street/ Brittany Apartments | Larpenteur Avenue, 175 | 277 | 11,980 | 16,150 | 17,191 | 17,485 | 18,645 | 11,838 | 11,263 | 8,711 | 2,627 |
| McCarrons Apartments | McCarrons Boulevard North, 166-204 | 67 | 5,092 | 4,919 | 5,543 | 5,039 | 4,939 | 4,172 | 3,743 | 3,884 | 5,867 |
| McCarrons Lake Condos | McCarrons Boulevard N., 185 | 42 | - | - | - | - | - | 5,076 | 7,757 | 9,407 | 9,584 |
| Midland Grove Condos | Midland Grove Road, 2200-2250 | 174 | 48,162 | 60,937 | 50,758 | 45,718 | 48,159 | 50,575 | 54,288 | 49,123 | 43,548 |
| MSOCS - Group Home | Huron Street North, 1898 | 0 | - | - | - | 615 | 4,326 | 3,717 | 2,452 | 2,369 | 3,185 |
| Northwestern College Apartments | Lydia Avenue, 1610 | 40 | 6,061 | 7,839 | 4,941 | 4,379 | 4,055 | 4,111 | 3,418 | 3,653 | 3,775 |
| Northwestern College/Snelling Terrace | Snelling Drive East, 2906 | 48 | 7,386 | 16,027 | 12,542 | 12,253 | 12,443 | 10,702 | 11,261 | 11,308 | 6,879 |
| Palisades | Sandhurst Drive West, 535-570 | 330 | 40,078 | 41,635 | 55,306 | 51,667 | 45,972 | 47,910 | 40,893 | 45,973 | 49,821 |
| Parkview Estate Condominiums | Oxford Street, 2670-2680 | 204 | 28,447 | 29,206 | 30,816 | 29,683 | 24,738 | 24,793 | 23,440 | 25,588 | 26,361 |

| Property Name | Primary Address | # Units | 2006 Total lbs. | 2007 Total lbs. | 2008 Total lbs. | 2009 Total lbs. | 2010 Total lbs. | 2011 Total lbs. | 2012 Total lbs. | 2013 Total lbs. | 2014 Total lbs. |
|------------------------------|-----------------------------------|---------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Parkview Manor | Dale Street North, 2202-2210 | 34 | 4,931 | 4,553 | 5,085 | 5,612 | 4,698 | 4,518 | 4,242 | 4,799 | 4,586 |
| Parkview Terrace Condos | Oxford Street, 2690-2700 | 105 | 3,960 | 33,244 | 28,285 | 23,919 | 21,702 | 19,169 | 17,420 | 16,521 | 16,706 |
| Ramsey Square Condos | Dale Street North, 2700-2730 | 192 | - | 35,796 | 34,991 | 35,127 | 41,288 | 38,930 | 37,992 | 40,702 | 44,247 |
| Riviera Apartments | Highway 36 West, 925 & 965 | 64 | 12,473 | 13,597 | 19,108 | 17,369 | 15,204 | 15,900 | 14,110 | 15,255 | 14,406 |
| Rose Hill Estates | County Road B, 591 | 51 | 4,341 | 4,904 | 5,880 | 5,345 | 3,775 | 5,514 | 5,281 | 7,552 | 7,743 |
| Rose Mall Apartments | Albert Street, 2201-2221 | 54 | 37,328 | 41,412 | 43,984 | 47,376 | 41,250 | 42,786 | 39,486 | 37,841 | 35,987 |
| Rose Park Apartments | Fry Street, 2128-2136 | 22 | 4,757 | 5,426 | 6,065 | 6,466 | 4,253 | 4,591 | 5,084 | 4,510 | 4,540 |
| Rose Vista Apartments | Rose Vista Court, 1222-1263 | 175 | 19,697 | 18,366 | 24,634 | 26,822 | 23,830 | 23,146 | 20,789 | 20,499 | 24,767 |
| Rosedale Estates North | Rice Street, 2835 & 2855 | 180 | 21,885 | 24,253 | 33,475 | 34,083 | 26,954 | 22,234 | 19,283 | 20,899 | 21,290 |
| Rosedale Estates South | Rice Street, 2735 | 180 | 20,750 | 23,864 | 26,581 | 27,377 | 23,770 | 21,632 | 19,071 | 20,251 | 21,867 |
| Roselawn Village | Roselawn Avenue, 1074 | 32 | 5,576 | 5,950 | 5,616 | 5,417 | 4,730 | 5,563 | 5,633 | 4,792 | 4,880 |
| Rosepointe | Hamline Avenue North, 2545 & 2555 | 190 | 32,645 | 29,485 | 33,312 | 31,688 | 31,195 | 29,229 | 27,706 | 28,977 | 29,948 |
| Roseridge Estates | Samuel Street, 2086-2090 | 18 | 2,653 | 3,099 | 3,829 | 4,537 | 3,744 | 5,739 | 6,519 | 5,255 | 6,084 |
| Rosetree Apartments | Highway 36, 655 | 48 | 12,251 | 12,394 | 12,654 | 11,831 | 10,236 | 8,515 | 8,026 | 7,421 | 7,075 |
| Roseville Apartments, LLC | Eldridge Avenue, 1625 | 11 | 2,037 | 2,546 | 1,833 | 2,106 | 1,730 | 2,172 | 2,538 | 3,764 | 3,745 |
| Roseville Arms Condos | Elmer Street, 160-170 | 34 | 789 | 1,565 | 3,269 | 3,068 | 2,074 | 2,780 | 3,049 | 3,148 | 3,459 |
| Roseville Commons | County Road C2 West, 2496 | 30 | 8,332 | 7,515 | 8,281 | 9,065 | 6,415 | 6,470 | 5,999 | 6,841 | 8,233 |
| Roseville Estates | Lexington Avenue, 2599 | 107 | 5,593 | 9,842 | 12,312 | 10,028 | 7,472 | 6,588 | 9,453 | 8,345 | 6,433 |
| Roseville Seniors | Larpenteur Avenue, 1045 | 127 | 25,581 | 33,600 | 30,521 | 27,577 | 23,698 | 24,268 | 20,647 | 24,456 | 24,314 |
| Roseville Terrace | Dunlap Street, 1759 | 36 | 5,363 | 4,785 | 5,032 | 5,469 | 4,658 | 4,167 | 3,876 | 3,671 | 3,965 |
| Roseville Townhomes | Old Highway 8, 3085 | 40 | - | 13,423 | 20,619 | 24,021 | 23,733 | 22,322 | 29,349 | 23,836 | 23,976 |
| Rosewood Estates (Roseville) | Victoria Street, 2750 | 106 | 20,205 | 22,122 | 23,413 | 21,614 | 20,340 | 18,408 | 17,719 | 16,316 | 15,000 |
| Rosewood Village | Highway 36 West, 1630 | 201 | 44,374 | 41,062 | 34,271 | 43,368 | 38,264 | 36,605 | 39,188 | 41,640 | 37,574 |
| Sienna Green Apartments* | Snelling Avenue, 2225 | 120 | 9,199 | 9,683 | 9,659 | 11,486 | 7,813 | 13,325 | 15,008 | 19,042 | 21,103 |
| South Oaks Apartments | County Road D West, 1080 | 25 | 4,067 | 5,951 | 6,751 | 5,930 | 5,969 | 4,886 | 4,344 | 4,101 | 3,942 |
| Sun Place Apartments | Marion Street, 1721 | 30 | 5,169 | 4,093 | 4,926 | 6,107 | 6,451 | 5,942 | 4,896 | 5,678 | 5,318 |
| Sunrise Assisted Living | Snelling Avenue North, 2555 | 77 | 17,031 | 16,647 | 15,869 | 16,693 | 13,118 | 11,330 | 12,300 | 14,856 | 17,900 |
| Talia Place | Old Highway 8, 3020 | 11 | 2,790 | 1,683 | 1,761 | 2,569 | 2,620 | 1,892 | 1,891 | 1,868 | 1,701 |
| Terrace Park | Terrace Drive, 1420 | 36 | 12,784 | 13,045 | 9,853 | 8,911 | 10,533 | 11,067 | 9,371 | 8,640 | 8,494 |

| Property Name | Primary Address | # Units | 2006 Total lbs. | 2007 Total lbs. | 2008 Total lbs. | 2009 Total lbs. | 2010 Total lbs. | 2011 Total lbs. | 2012 Total lbs. | 2013 Total lbs. | 2014 Total lbs. |
|-----------------------------------|------------------------------|--------------|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| The Lexington (Roseville) | Lexington Avenue North, 2755 | 150 | 37,081 | 30,796 | 35,417 | 35,409 | 38,816 | 39,023 | 42,959 | 40,501 | 41,026 |
| The Riviera 2 | Highway 36 West, 885 | 32 | 6,562 | 6,602 | 8,968 | 8,053 | 6,740 | 5,431 | 6,168 | 6,773 | 8,576 |
| Valley 8 Apartments | Old Highway 8, 3050 | 85 | 11,085 | 9,910 | 12,626 | 13,491 | 11,637 | 12,593 | 12,702 | 10,655 | 10,204 |
| Victoria Place | Victoria Street North, 2250 | 58 | - | 14,911 | 16,130 | 14,015 | 14,647 | 15,396 | 16,260 | 15,389 | 14,975 |
| Villa Park Community Condominiums | County Road B, 500 | 95 | 15,890 | 14,276 | 18,589 | 16,924 | 17,962 | 15,178 | 11,537 | 13,001 | 13,006 |
| Villas at Midland Hills | Fulham Street, 2001 | 32 | 2,873 | 11,653 | 12,600 | 11,506 | 11,375 | 11,722 | 12,318 | 13,667 | 13,647 |
| Total Pounds - Residential | | 6,049 | 889,659 | 1,103,172 | 1,161,075 | 1,154,984 | 1,095,854 | 1,065,358 | 1,059,275 | 1,084,263 | 1,087,022 |

Municipal Buildings

| Property Name | Primary Address | Sites | 2006 Total lbs. | 2007 Total lbs. | 2008 Total lbs. | 2009 Total lbs. | 2010 Total lbs. | 2011 Total lbs. | 2012 Total lbs. | 2013 Total lbs. | 2014 Total lbs. |
|---------------------------------|------------------------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Acorn Park | County Road C, 286 | 1 | - | - | - | - | - | 184 | 761 | 487 | 493 |
| Central Park Lexington | Lexington Ave North, 2540 | 1 | - | - | - | - | - | - | - | 33 | - |
| Central Park Victoria West | Victoria Street North, 2495 | 1 | - | - | - | - | - | 46 | 741 | 628 | - |
| City Hall (Roseville) | Civic Center Drive, 2660 | 1 | 28,244 | 28,474 | 24,682 | 20,562 | 21,228 | 21,590 | 18,786 | 16,775 | 15,317 |
| Evergreen Park Ballfield | County Road B West, 1810 | 1 | 497 | 515 | 456 | 818 | 305 | 336 | 404 | 190 | 789 |
| Fire Station 1 Roseville** | Lexington Avenue, 2701 | 1 | 3,226 | 3,630 | 2,134 | 2,058 | 2,063 | 1,890 | ** | 214 | 555 |
| Fire Station 3 Roseville*** | Dale Street North, 2335 | 1 | 1,564 | 2,786 | 3,604 | 2,960 | 3,968 | 3,437 | 2,911 | 2,568 | - |
| Golf Course (Roseville) | Hamline Avenue, 2395 | 1 | 2,729 | 2,654 | 2,080 | 2,149 | 2,689 | 2,048 | 2,093 | 1,671 | 1,532 |
| License Center | Lexington Avenue, 2737 | 1 | 79 | 178 | 10 | 38 | 31 | 26 | - | - | - |
| Owasso Ballfields | Victoria Avenue, 2659 | 1 | 120 | 36 | 400 | 361 | 295 | - | 171 | 134 | 149 |
| Public Works Garage (Roseville) | Woodhill Drive, 1140 | 3 | 8,341 | 12,089 | 13,916 | 13,566 | 16,863 | 16,644 | 17,608 | 17,680 | 16,398 |
| Skating Center | Civic Center Drive, 2661 | 2 | 4,877 | 5,038 | 5,244 | 3,938 | 5,057 | 7,514 | 6,692 | 8,806 | 11,046 |
| State Farm Insurance | Lexington Avenue North, 2201 | 1 | - | - | 705 | 1,758 | 718 | 759 | 241 | 480 | 746 |
| Wildlife Rehabilitation Center | Dale Street North, 2530 | 1 | 14,607 | 13,948 | 12,726 | 12,513 | 11,840 | 10,509 | 9,158 | 9,649 | 8,536 |
| Total Pounds - Municipal | | 17 | 64,283 | 69,348 | 65,957 | 60,720 | 65,057 | 64,983 | 59,566 | 59,315 | 55,561 |

Nonprofits

| Property Name | Primary Address | Sites | 2006 Total lbs. | 2007 Total lbs. | 2008 Total lbs. | 2009 Total lbs. | 2010 Total lbs. | 2011 Total lbs. | 2012 Total lbs. | 2013 Total lbs. | 2014 Total lbs. |
|----------------------------------|-------------------------|----------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| Keystone Foodshelf (Roseville) | Hamline Ave North, 2833 | 1 | - | - | - | - | - | 14,258 | 27,119 | 29,787 | 27,282 |
| Total Pounds - Nonprofits | | 1 | - | - | - | - | - | 14,258 | 27,119 | 29,787 | 27,282 |

| | 2006 Total lbs. | 2007 Total lbs. | 2008 Total lbs. | 2009 Total lbs. | 2010 Total lbs. | 2011 Total lbs. | 2012 Total lbs. | 2013 Total lbs. | 2014 Total lbs. |
|---|-----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| MultiFamily & Non-Residential Totals | 953,942 | 1,172,520 | 1,227,032 | 1,215,704 | 1,160,911 | 1,144,598 | 1,145,960 | 1,173,365 | 1,169,865 |

| | |
|----------------------------|--------------|
| Total Units in 2014 | 6,049 |
| Total Units in 2013 | 6,049 |
| Total Units in 2012 | 6,049 |
| Total Units in 2011 | 5,999 |
| Total Units in 2010 | 5,781 |
| Total Units in 2009 | 5,781 |
| Total Units in 2008 | 5,781 |
| Total Units in 2007 | 5,662 |
| Total Units in 2006 | 5,367 |

*Har Mar Apartments changed name to Sienna Green Apartments as of November 2010

** Fire Station 1 was demolished and is being rebuilt. Will reopen in 2013

***Fire Station 3 was closed in the fall of 2013 when Fire Station 1 was reopened

In 2013, two property names were updated in our records. 1610 County B is now Rose Park Commons and 1615 Eldrige is now Rose Park Apartments

2275 Rice Street canceled September 2010. Building is demolished

1705 Marion is a building with no units, this was corrected in 2011. In 2010 it was reported with 3 units.



Eureka Recycling Composition Analysis Methodology

Eureka Recycling collects materials in a single sort collection system with all paper, cardboard, metal and plastic, steel, aluminum and glass containers combined by residents into one cart. Each year we conduct an annual composition study of the single sort material to determine the percentage each material represents in the overall composition.

(651) 222-SORT (7678)
www.eurekarecycling.org

Our mission is to reduce waste today through innovative resource management and to reach a waste-free tomorrow by demonstrating that waste is preventable, not inevitable.



Composition by Commodity of Each Recycling Stream

During the composition study we weigh each truck before and after to determine the weight of the material. Each truck has a stored weight that is updated regularly for accuracy. This process allows us to determine the initial weight of the material set out by residents during the period being analyzed.

The composition study starts with Eureka Recycling storing all of the materials collected in the city during a one-week period. These materials are stored in a separate bunker from all other materials at the facility. We sort the material separately from all other recycling at the facility.



The sorted materials are then baled or put into a hopper and transported with a forklift to the truck scale to be weighed. Finally, we weigh the total amount of each sorted material grade including the non-recyclable material (residual) to establish the percentage of the total tonnage that each material type represents in the overall composition.

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Participation Trend Analysis Methodology

Eureka Recycling conducts an annual participation study in which both set-out and participation rates are analyzed and documented.

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The **set-out rate** is the average number of households that set materials out for recycling collection on a given day. For example, every Monday for four straight collection days, Eureka Recycling staff counts the number of households that set out recycling on that day. Then the four numbers are averaged to determine the average number of households who set out recycling on any given Monday.

Our mission is to reduce waste today through innovative resource management and to reach a waste-free tomorrow by demonstrating that waste is preventable, not inevitable.



The **participation rate** is the number of households who set materials out for recycling collection at least once over a period of four collection days. The participation rate is a better indication of overall recycling participation because it includes households that recycle at least once over the course of four opportunities, recognizing that some households may not set out recycling every week. It more accurately indicates how many households are participating in the recycling program overall, as opposed to the number of participants on a specific day.

Summary of Process

The study spans four collection weeks, 4 weeks for every week collection and 8 weeks for every other week collection. Eureka Recycling selects random sections to study for each daily recycling route, each section being comprised of about 200 households per day, for a total study of over 1,000 households. These same sections will be studied every year for consistency. Over a four collection day period, Eureka Recycling tallies the exact number of households that set out recycling for collection in the morning of their collection day, before the driver services the section. The four collection week study tracks recycling set-outs over the five days of collections during the week totaling 20 days of set-out tracking.

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