

ENVIRONMENTAL SERVICES ADVISORY COMMITTEE (ESAC) 2025 Annual Report (January 1-December 31, 2025)

The Environmental Services Advisory Committee (ESAC) was established to advise and make recommendations to the Mayor and Council on programs and services provided by the Environmental Services Department (ESD). This report serves as a review of ESAC's activities during the 2025 calendar year.

Committee Structure and Meetings

ESAC has a prescribed fixed number of 13 voting members representing residents or businesses within the City of Tucson. Hybrid meetings for full ESAC are held on the second Thursday of each month from 4:00 PM to 5:30 PM. This format has made it easier for committee members to attend meetings and reduce the carbon footprint of our meetings.

In 2025, full ESAC met 11 times, with 1 meeting canceled in July for summer break and at the close of 2025, ESAC had 8 active members. Ward appointees are not required to live within the Ward boundaries they represent, and must be either residential or commercial customers of Environmental Services. ESAC continues to seek new members with professional or technical competence and interest in one or more of the following areas:

- Utility rate making
- Solid waste management and planning
- Business management
- Financial analysis
- Environmental protection
- Environmental engineering
- Recycling
- Neighborhood issues

Each ESAC Committee Member brings a valuable perspective, and the committee shares a common goal of educating the public and improving our community.

Subcommittees

ESAC has two functioning subcommittees that review specific areas of the Environmental Services Department (ESD). These subcommittees are: Finance, and Waste Diversion Collections and Education (WDCE)

- **Finance** reviews and evaluates financial statements and fiscal reports, examines the proposed annual budget, and provides recommendations for ESD rates prior to consideration by the Mayor and Council.
- **Waste Diversion, Collections and Education** gives us staff updates on ongoing waste diversion programs aimed at increasing recycling and materials recovery recycling programs, residential and commercial collections and educational outreach efforts.
- **Environmental/Engineering** subcommittee did not meet. Updates on ESAC capital investment projects from ongoing constructions and engineering projects and environmental compliance at open and closed landfills were presented during the WDCE and full ESAC meetings.

FINANCE

The Finance Committee has 2 members and met once in October with ESD staff and the consultant, NewGen, to hear a presentation on the Cost of Service study. Since ESD is an enterprise fund, the rates need not only to collect for operating expenses, but also for capital improvements and a fund for the long-term care of closed landfills. A principle has been that each service (residential, commercial, and landfill operation) pays for itself. Additional services such as graffiti abatement, homeless encampment cleanups, and groundwater remediation have also added costs. One question debated was whether these costs should be included in the rates for trash service or collected as a separate fee such as established for groundwater remediation. A separate fee was recommended called the Clean City Fee.

Another big debate has been how to encourage city residents to minimize waste through charging less for smaller collection cans. The price differential between the 48, 65, and 95 gallon cans has to be enough to encourage people to make the effort. One or two dollars is not enough incentive, and the biggest cost in collections is the driver and truck which still has to stop and pick up the can, big or small. We also fear if the smaller can is full, people will dump trash into recycling can causing more contamination.

With these thoughts in mind, ESD recommended a rate structure, thoroughly discussed with ESAC, that is going to the Mayor and Council in 2026.

WASTE DIVERSION, COLLECTIONS AND EDUCATION

General

The Environmental Services Advisory Committee (ESAC) Waste Diversion, Collections, & Education (WDCE) Subcommittee met ten times in 2025.

The WDCE Subcommittee, the largest in ESAC with five of the full committee's nine members, had a productive year. As the largest ESAC subcommittee it provides oversight and discussion on waste

diversion programs, collection operations, landfill compliance, and public outreach efforts. Members reviewed operational updates from ES leadership, tracked diversion performance metrics, and provided feedback on program changes, including the new Brush and Bulky by Appointment, green waste diversion expansion, and landfill gas utilization planning.

Key themes throughout 2025 included:

- Volatility of commodity market rates
- Continued improvements in MRF contamination rates
- Expansion and stabilization of FoodCycle at Home and green waste diversion programs
- ByFusion facility construction progress
- Equipment modernization and recruitment efforts
- Planning for long-term landfill gas utilization and infrastructure investments

The Code Enforcement function of Environmental Services was moved to another department in 2025.

Recycling

From January through December 2025, Environmental Services (ES) delivered over 22,000 tons of recyclable material to the Materials Recovery Facility (MRF). The Average Commodity Revenue rebate was nearly \$1.5 million. The rebate per ton to the City began the year at \$92.90 in January and peaked at \$98.33 in April before declining steadily through the summer and fall as fiber and plastics markets softened. By the fourth quarter, the rebate per ton stabilized in the mid-\$40 range, with \$45.95 in November and \$46.50 in December.

Total monthly rebate amounts reflect both market pricing and tonnage delivered. January generated the highest monthly rebate at \$185,191, while November recorded the lowest at \$77,817. Although total tonnage remained relatively stable throughout the year, declining commodity prices in the second half of the year reduced the rebate per ton and increased the net cost of processing recyclables.

The year demonstrates the direct relationship between commodity market volatility and municipal recycling program cost performance. Strong first quarter markets substantially offset processing expenses, while sustained mid and late year market weakness reduced rebate levels and increased net cost per ton delivered to the MRF.

Fiber commodities again represented the largest share of material delivered to the MRF in 2025 and were the primary driver of total revenue performance.

- Corrugated Cardboard and Other Paper (OCC) comprised approximately 30% of total tons delivered each month. Pricing during the first quarter ranged from the low- to mid-\$90 per ton range and remained stable through early spring. Beginning in June, fiber markets weakened. By the fourth quarter, OCC pricing declined into the mid-\$60 per ton range.
- Old Newspaper and Other Paper (ONP) represented between 24 and 31% of monthly tonnage. ONP pricing experienced more pronounced volatility than OCC. While early-year values remained near \$40 to \$50 per ton, pricing declined sharply during the summer months and

reached the low teens by December. Because fiber makes up more than half of the total material stream, these pricing shifts had a significant impact on overall ACR performance.

- Metals represent less than 5% of total tonnage. But it generates a disproportionate share of revenue due to high per-ton value. Aluminum remains the most valuable commodity in 2025. Pricing ranges from approximately \$1,740 to over \$2,280 per ton. Aluminum remains comparatively resilient, providing an important stabilizing influence on total revenue. Tin and Other Metals experienced moderate price variability but contributed to total commodity revenue.
- Plastics #1, #2, and #5 experienced the greatest pricing volatility in 2025. During the first quarter, PET and HDPE pricing exceeded \$560 per ton. In the second and third quarters, plastics markets declined. PET pricing dropped to approximately \$200 per ton in August before stabilizing. HDPE pricing also declined from early-year highs but remained more stable than PET in the last quarter. Plastics typically represent between 8 and 10% of total tonnage, these pricing fluctuations materially influenced monthly ACR performance and rebate levels.
- Mixed glass continued to represent approximately 7 to 9% of total tonnage. Glass does not generate positive commodity revenue; instead, transportation costs are deducted from total MRF revenue. Transportation surcharges fluctuated between approximately \$34 and \$39 per ton throughout the year. Increases in the glass transportation surcharge during the second half of the year contributed to higher net processing costs.

Contamination

Under Amendment 11 of the MRF agreement, the Excess Residue Surcharge applies when contamination exceeds 19.3%. The surcharge is assessed at \$1.00 per ton for each percentage point above the threshold.

The January audit reflected contamination above the 19.3% threshold. February and March audits reported it at approximately 19.6%. This triggered surcharge payments during the first quarter. Even though it was just above the threshold, the January audit result was initiated until a new audit could be conducted.

April, May, and June contamination levels remained near 19.6%. Because these values were based on the most recent completed audit on file, the City incurred modest surcharge payments during the second quarter. During this period, ES raised concerns regarding the timing of a renewed audit at the MRF. The agreement requires periodic independent audit verification; but with scheduling delays and coordination challenges it was postponed. As a result, contamination determinations for several months relied on earlier audit findings rather than refreshed sampling.

July through September had contamination values at about 19.6%. Staff observed improvements in sorting performance and contamination reduction. With the absence of an updated audit prevented formal validation of those improvements. ES continued to advocate for a renewed audit to more accurately reflect material composition and on-the-ground performance.

A renewed audit was completed in November and confirmed contamination at 16.8%, below the 19.3% threshold. This eliminated the Excess Residue Surcharge for both November and December. The updated audit reflected improvements achieved through targeted public education, route monitoring, and operational adjustments implemented earlier in the year.

Composting

Organic diversion continued to expand with measurable progress in residential food waste collection, commercial participation, and green waste recovery at Los Reales. Infrastructure and operational adjustments, along with community participation, strengthened the City's composting programs and reduced disposal of clean organic materials.

FoodCycle at Home, a permanent residential food waste drop-off program, underwent a significant structural transition. The program formally merged with the UA Compost Cats Bucket Program, bringing more than 750 new participants into FoodCycle at Home. This consolidation streamlined residential organics diversion into a single coordinated system and significantly increased overall participation.

Following the merger, Compost Cats began supporting all community composting trainings. The team now leads participant onboarding sessions and conducts regular audits of FoodCycle at Home drop-off locations to minimize contamination and improve material quality.

Commercial FoodCycle participation remained stable. Partner businesses and institutions continued diverting pre-consumer and select post-consumer food waste streams.

Green waste diversion at the Los Reales expanded with diversion increased from 10% during early program implementation to approximately 40% of incoming clean green waste material. Tonnage trends reflect sustained growth from 1,000 tons in 2023 to a projected 4,000 in 2025.

Operational adjustments at the gate improved the separation of clean green waste from contaminated loads. Staff increased screening of material and prioritized grinding operations increasing output. This clean compost continues to support City parks, community gardens, and residential use.

ByFusion

Environmental Services advanced development of the ByFusion facility at the Los Reales, with a formal groundbreaking on January 15, 2025. It is designed to process hard-to-recycle plastics into compressed construction blocks. Once operational, it will convert collected plastics into durable building materials without adhesives or additional chemical binders. The facility is expected to be completed in spring 2026, with operations anticipated to begin in summer or early fall.

ES has expanded hard-to-recycle plastics collection at community drop-off locations. Early collection efforts revealed contamination challenges, particularly with non-qualifying plastics. The City implemented changes requiring participants to use only designated Hefty Renewal bags. This improved material consistency, quality control, and reduced contamination.

Collections

ES continued fleet modernization, route optimization, and service reliability improvements throughout 2025 adding side loaders, front loaders, and roll-off trucks. They addressed prior supply chain delays and improving equipment availability.

Route balancing efforts remained ongoing in response to staffing fluctuations and service demand. Operational adjustments prioritized safety, reliability, and timely collection while maintaining service levels.

Recruitment

Recruitment and workforce stabilization remained a priority in 2025.

- Solid Waste Equipment Operator recruitment cycles produced strong applicant pools. One recruitment effort yielded 25 candidates advancing to interviews. Training cohorts were launched during the year to address open positions and improve long-term staffing.
- Service worker recruitment advanced, with 11 candidates moving to interviews.
- Staffing levels improved but sustained recruitment remains essential.

Brush & Bulky

In past years, Brush and Bulky collection provided residential service twice per year. Last year, ES began a Brush and Bulky by Appointment model in select areas to address operational and service issues such as illegal dumping. Now, residents in designated areas can schedule their Brush and Bulky collections at their convenience. Appointments can be made up to six weeks in advance through Customer Service or the Recycle Coach app. Residents may now set out material by 6 a.m. on the Monday of their scheduled week.

Participation in the appointment pilot increased steadily in 2025. In some pilot areas, illegal dumping complaints have declined since appointment collection was introduced.

ES also evaluated alley conditions used for trash and Brush and Bulky collections citywide. The City determined alley-based bulky collection created unsafe and unmanageable conditions for crews and residents. As a result, effective January 1, 2026, collections will transition to curbside service only for most residents.

Landfill & Compliance

ES advanced landfill gas utilization planning in 2025. Negotiations continued regarding a long-term Agreement to recover, clean, and inject landfill gas into regional pipeline infrastructure. Additional extraction wells were installed in Cell 4A to improve methane capture and support anticipated utilization capacity. The project represents a significant opportunity to reduce greenhouse gas emissions and convert landfill gas into a renewable energy resource. Old wells are being re-drilled to meet ADEQ standards. Repairing the old system is being done to meet problems that resulted in a notice of violation from ADEQ

In November we learned that the 4-inch rainfall they had seriously damaged the cover over closed cells. There was erosion on all slopes and mulch had plugged up the chutes created to handle the water. It will take weeks to repair the damage. In cell 4A and cell 4B they pumped over a million gallons of water from the bottom of the cells and discharged it to the stormwater pond. The runoff samples did not exceed permitted limits.

The city maintains 16 landfills and is responsible for seeing that they met ADEQ standards. For instance, the Harrison Road unlined landfill operated from 1972 to 1997 and left behind groundwater and soil contamination of PCE, TCE from disposal of dry cleaner materials and degreasing. From 1996-2006 soil vapor extraction removed pollutants from the soil. There are a series of monitoring wells to track the groundwater pollution plume. From 2001 to 2015 the groundwater was pumped and treated and for the next 10 years the area was monitored. In August 2025 one monitoring well tested over the standard and a notice of intent to correct filed. From September to December granulated carbon was injected to handle the problem. Additional sampling led to the rehabilitation of two more wells by injecting beneficial microbes and nutrients.

Landfill operations invested in equipment replacement and rebuilt, portable litter fencing, and other improvements. Heavy equipment replacement remains a significant capital expense, with new units exceeding \$1.4 million each.

Public Outreach & Education

Outreach and education efforts supported contamination reduction, organics participation and overall diversion performance.

- The Master Recycler Program relaunched as a five-week course. A Recycling 101 presentation was developed for neighborhood associations, libraries, and community groups. ES staff delivered over 20 neighborhood association presentations, reinforcing sorting, bulk collection guidelines, and diversion opportunities.
- Trainings expanded following the integration of the UA Compost Cats Bucket Program into FoodCycle at Home. Compost Cats now leads trainings and conducts regular audits of drop-off locations to reduce contamination and improve material quality.

- ES also hosted two Zero Waste Collection Events in 2025. April's event served 422 vehicles, while the November event more than 500. Materials collected included electronics, household hazardous waste, medical equipment, shredding materials, and school supplies. Rates at both events exceeded 90 percent. More than 100 bicycles were collected for repair. Surveys generated more than 1,450 responses, providing feedback on quality and performance.
- Landfill and MRF tours continued throughout the year, increasing transparency and strengthening public understanding of materials management operations.

FULL ESAC

During 2025 ESAC had 8 members, met 11 times and advised the now Environmental Services Department (ESD).

We began the year with a report from Director De La Torre on the multiple issues at our Neighborhood Recycling Centers. The main issues were that there was not enough room at our City Ward offices, no one was around to monitor the drop offs, commercial businesses were dumping their cardboard boxes, and the continuing problems with county residents using ESD facilities.

Much of Tucson's multifamily housing does not have recycling bins. Of course, the continuing "wish cycling" can't be processed at the MRF. Too much illegal dumping required the closing of the Ward 4 and Ward 6 recycling centers and discussions to find solutions to this problem continued. A drop off location near the North entrance to Reid Park has been set up with a fence around it. Residents can recycle their glass, Hefty Renew bags and there is a FoodCycle Drop-off. There will be no blue rolloff for cardboard to encourage businesses to get their own recycling bins. The total annual cost for this service is \$127.111 to cover disposal of commingled recyclables, glass, plastics, clean up costs, personnel cost to service, equipment and dumping costs.

While waiting for the ByFusion building to be completed and still collecting the Hefty Renew orange bags, ESD needed to figure out what to do with all those bags. ByFusion was not able to process all the bags at their Los Angeles location and ESD had to find a way to store 20-25 tons of plastic per month. Some was move to storage at Friedman's Recycling and Landfill. Challenges on how to handle being inundated by all that material and possibly expand on outreach needed a stronger focus on Waste and DownCycle = Repurpose.

ByFusion has been working on outlets for their plastic bricks, some concerns about contamination with PFAS, and building code amendments.

ESD needs a fiscal capacity to carry and move the needle for Tucson's Zero Waste Program. Details were presented on ESD's FY26 Budge Request by Fund in February.

In March, Republic Service presented a very interesting Polymer Plant PowerPoint Presentation to committee members. Republic Service has 4 polymer centers using PET, HTPE and Polypropylene

plastics in their processing that requires shredding/grinding, friction washing, sinking/floating and then drying. The product is plastic flakes. They are trying to use 85% of these down cycle products to recycle as many times as possible. They know there is a market for it and Coca-Cola is using Republic's polymer product to make their plastic bottles.

In April the focus of this meeting was on the LRSC PAD and Facility Type I Permit Amendment. Issues being addressed in the Master Plan include capacity for the cells, closeness to the airport, groundwater sampling plan, amending the operations plan, and the closure and post-closure plans.

With the ESD becoming a single focus department, a staff retreat developed major areas of focus. They include programs and services, Brush and Bulky program (route evaluation and by appointment pilot), unfilled positions, more waste diversion opportunities to meet Zero Waste Goal. One idea is to create a green waste collection program that customers would subscribe to and also white goods collection on demand. The issue of glass collection and recycling continues to be challenging to find a cost efficient and customer willingness-to-participate program.

The current contract with the MRF expires in 2027 and it is time to begin to study of what the next phase looks like. An RFP is being put out to begin the process.

Director De La Torre presented a powerpoint on a Gas to Energy Update to propose landfill gas to energy with a landfill gas(LFG) utilization system. The study recommends an increase in gas collection and to look at alternatives. A recommendation is to up grade LFG to renewable natural gas (RNG) selling it to companies using RNG. ES stopped piping to TEP in 2019 and has been negotiating with a firm to move forward. The timeline for this project is hard to predict. Cell 4A and 4B are being filled and will take 5 years before they are usable for methane collection.

Several ESAC members, ESD Admin and Staff were involved in the 2024 and 2025 rewriting of a new Plan Tucson. At every meeting, it was important for all of us to be involved and recommend, review and refine the section defining and promoting ESD's services to the City of Tucson.

Throughout the year ESAC was kept up to date on the struggles ESD had with recruiting and retaining personnel, purchasing and repairing equipment, Customer Service pick ups and special collections. The Homeless Camp cleanups were tough depressing jobs for the workers and very expensive. The hope is that 2026 will be easier.

In November, committee members were updated on the building going up to house ByFusion for the hard to recycle plastic program. The hope is to have the facility in operation sometime in the late Spring, 2026. ESD is working on a formal lease agreement with ByFusion to keep the program in place.

ESAC was also given recent information on a proposed agreement with Republic's MRF that should be in place by the end of October. The City Attorney met with Republic the end of September and after a final Risk Management Study feedback the agreement will be finalized.

A Cost of Service Study was initiated the week of 9/22 with findings, recommendations, overviews and presentations to move ESD's capital projects along and information on how to proceed over 10 years. This will help to maneuver projects and investments, improve the container maintenance facility, mediate landfill gas problems, purchase equipment for the landfill and collections at \$14 million a year. ESD needs to keep services reliable and a presentation was given in October by New-Gen Strategies and Solutions for ESAC Committee members' feedback. Cost of Service was estimated to be \$33 million over the next 5 years and will be going up to between \$80 and \$88 million by 2050. The net revenue requirement will be \$78-\$80 million by 2030.

Director De La Torre gave detailed reports on the Environmental Services Fund Financial Overview and Cost of Service Model that continued through the end of the year. There was plenty of information and details for discussion.

Throughout the year, ESAC was kept up to date on the struggles ESD had with recruiting and retaining personnel, purchasing and repairing equipment, Customer Service pick ups and special collections. The Homeless Camp cleanups were demanding and depressing jobs for the workers and very expensive.

Deputy Director Tapia has been working on a Clean City Program with more crews to help with graffiti abatement, homeless camp clean up, illegal dumping, Team Up to Clean Up, and the homeless work program. A new monthly fee starting with \$3.43 with a gradual increase to \$3.70 in four year will help with hiring more crews and purchasing the necessary equipment. This is definitely what Tucson needs to help our City stay clean and beautiful!

Some good news! Committee members were updated on the building going up to house ByFusion for the hard to recycle plastic program. The hope is to have the facility in operation sometime in the late Spring, 2026. ESD is working on a formal lease agreement with ByFusion to keep the program in place.

In conclusion, ESAC is fully committed to supporting the Environmental Services Department's current and future needs!

Environmental Services Department

- 300 tons of hard to recycle plastic collected
- 594 tons of Household Hazardous Waste collected with 95% recycled or reused
- 1,276 tons of glass collected
- 2,292 homeless camp cleanups completed
- 19,974 tons of City of Tucson recyclables were collected and processed
- 24,619 graffiti spots cleaned up
- 686,716 tons of trash collected at the Los Reales Sustainability Campus

Team Up to Clean Up

- 414 City-organized cleanups
- 5,213 volunteer registrations at cleanup events
- 15,947 brewery bags (grain bags from local breweries) recycled and used for litter collection

FoodCycle at Home

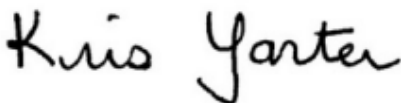
- 599 tons of food waste and Zoo Doo collected to make compost
- 825 tons of compost given back to community
- 3,450 FoodCycle at Home Participants

CLOSING REMARKS

ESAC continues to appreciate the Environmental Services Department's dedicated and efficient work, even amid challenges like understaffing. Under the leadership of Director Carlos De La Torre, Deputy Director Tapia the department has worked tirelessly to improve Tucson's cleanliness and safety. The Staff's dedication is commendable, and ESAC values their collaboration in providing crucial information and supporting the committee's efforts. Also I would like to give a special thank you to Brittany Aldrich for putting our agendas together and facilitating productive Zoom meetings throughout her many years of keeping ESAC organized.

We extend our gratitude to the Mayor and City Council for the opportunity to serve and remain committed to supporting Tucson's Zero Waste Roadmap and the continued improvement of Environmental Services.

Approved by ESAC on March 12, 2026.



Kris Yarter
ESAC Chairperson