

WasteSmart

ALEXANDRIA'S 20-YEAR STRATEGIC PLAN TO SUSTAINABLY RECOVER RESOURCES



NOVEMBER 2018



Dear Alexandria residents,

We are pleased to present the City of Alexandria's WasteSmart Plan, a comprehensive 20-year strategic plan that will ensure the City's solid waste management program remains safe, effective, efficient, and environmentally sound in the coming decades. During the development of this plan, we have solicited your feedback through community meetings and feedback forms to establish a visionary strategic plan to reduce and divert waste.

The City is already ahead of the curve in sustainably recovering resources. In FY18, Alexandria achieved a 49% recycling rate and has diverted more waste from landfills and waste-to-energy than ever before through the four key practices of resource recovery: reduce, reuse, recycle and compost.

However, the recycling rate is no longer the sole metric for measuring our success. The WasteSmart Strategic Plan strives to not only recover resources and divert more materials from end disposal facilities, but to consider the principles of economics, community values and environment. The WasteSmart Plan also seeks to minimize our impact on climate change so that we can create a strong, resilient Eco-City.

The City cannot achieve WasteSmart alone and will need your help and participation to achieve these goals.

Together, we can work toward building an Eco-City Alexandria that will be strategic and smart about waste management and sustainably recovering resources.

Sincerely,

Resource Recovery Division, Transportation & Environmental Services

Acknowledgments

The WasteSmart Strategic Plan would not have been possible without the input of the residents and representatives from various City agencies, City Council, City management, City boards and commissions and several external partners and organizations.

Public participation at meetings and online comments

City Council

Environmental Policy Commission

City Management

- Mark Jinks, City Manager
- Emily Baker, Deputy City Manager
- Yon Lambert, Director, Department of Transportation & Environmental Services

City Agencies

- Department of Transportation & Environmental Services
 - Resource Recovery
 - Office of Environmental Quality
- Office of Performance and Accountability
- Office of Management and Budget
- Department of General Services

Technical Analysis and Recommendations Used for Strategic Plan

- HDR Engineering, Inc.

Other Participants:

- Metropolitan Washington Council of Governments (MWCOG)
- Northern Virginia Regional Commission (NVRC)
- U.S. Environmental Protection Agency (EPA)

Acronyms and Abbreviations

- A/A** – Alexandria/Arlington
- AVL** – Automatic Vehicle Location
- CDL** – Commercial Driver's License
- CMO** – City Manager's Office
- CNG** – Compressed Natural Gas
- COG** – Council of Governments
- E-Waste** – Electronic Waste
- eNews** – electronic News
- EAP** – Environmental Action Plan
- EPA** – Environmental Protection Agency
- EPP** – Environmentally Preferable Products
- EPC** – Environmental Policy Commission
- HHW** – Household Hazardous Waste
- MSW** – Municipal Solid Waste
- MWCOG** – Metropolitan Washington Council of Governments
- NVRC** – Northern Virginia Regional Commission
- OEQ** – Office of Environmental Quality
- OPA** – Office of Performance and Accountability
- PAYT** – Pay-As-You-Throw
- RIP** – Recycling Implementation Plan
- RR** – Resource Recovery
- SWMP** – Solid Waste Management Plan
- T&ES** – Transportation & Environmental Services
- WSDA** – Waste Disposal and Service Agreement
- WTE** – Waste-to-Energy



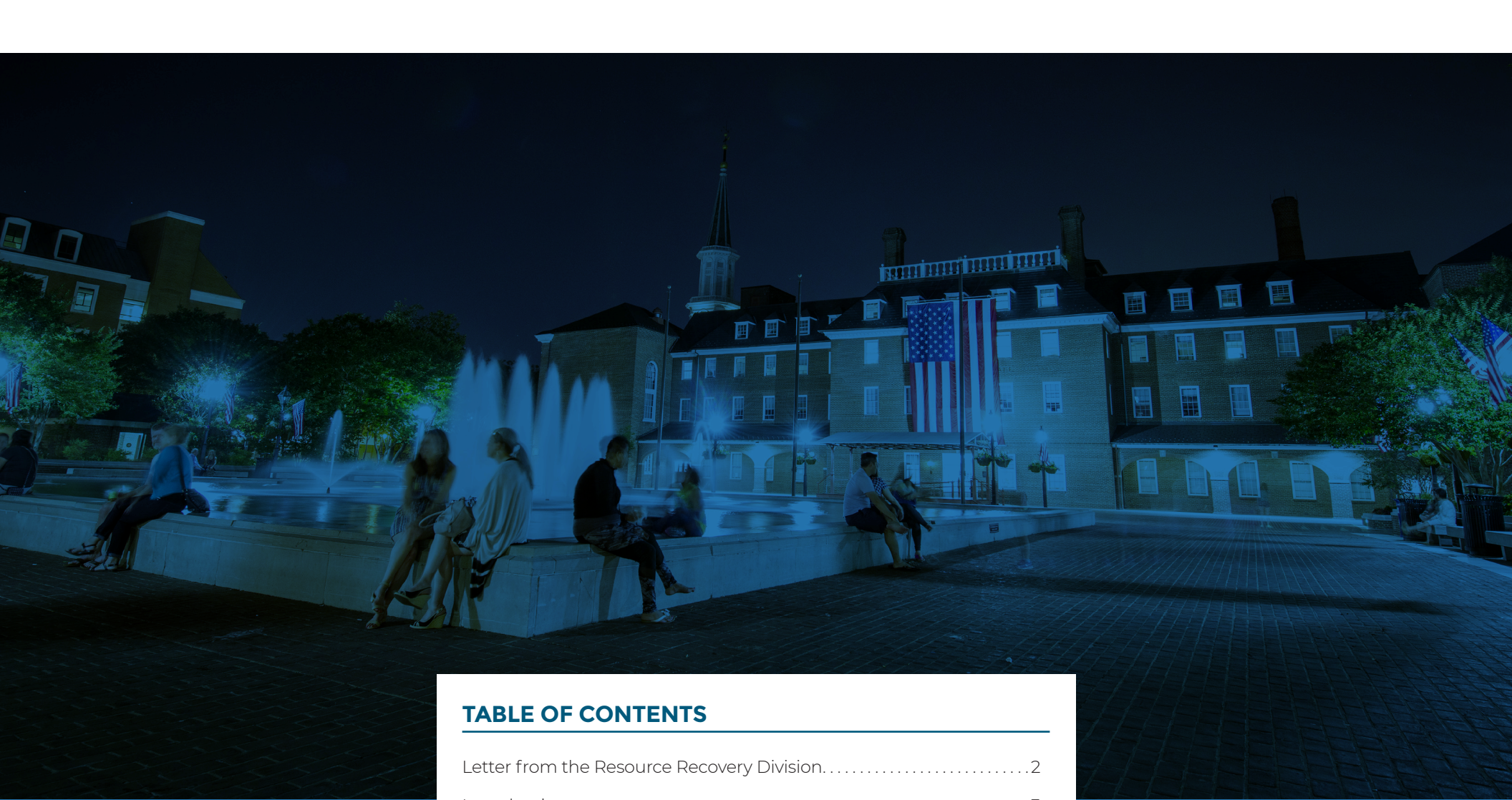


TABLE OF CONTENTS

Letter from the Resource Recovery Division.....	2
Introduction.....	3
The Planning Process.....	3
Existing Conditions and Trends.....	8
Vision & Values.....	11
Framework & Action Items.....	12

Introduction

Solid waste removal is one of the City of Alexandria's most important regulatory responsibilities and core services. While refuse collection remains one of the primary core services for the City's Department of Transportation & Environmental Services (T&ES), the way we think about trash has evolved over time. In 2014, the Solid Waste Division was renamed the Resource Recovery Division. This name reflects our vision and values, as well as our commitment to making Alexandria a livable, green and prospering city.

In recent years, the global recycling market has undergone a major shift that has been driven, in part, by a series of new recycling policies in China, once the largest importer of recyclable materials. To address the changing landscape, T&ES has prepared a new strategic plan that will guide the City's solid waste management for the next 20 years. The WasteSmart Strategic Plan (WasteSmart) will ensure that Alexandria continues to be a good steward of its waste by both preparing for emerging environmental concerns and taking advantage of technological advances. The action items identified in this plan were weighed against the three core values of the triple bottom line sustainability framework: environment, community values and economics. Finally, WasteSmart aligns our sustainable waste management practices with Alexandria's commitment to be an exceptionally clean, safe and enjoyable place to live, work and visit.

The Planning Process

The WasteSmart Strategic Planning process started in 2017, as the City engaged members of the community in a discussion of issues critical to waste and began to set priorities for the next 20 years. The following section outlines the City's planning process in creating a strong plan that incorporates feedback from various stakeholders.



RESEARCH USING EXPERTS

In July 2017, T&ES retained an independent firm, HDR Engineering, Inc. to evaluate the City's current waste management programs and provide recommendations for long-term management strategies. HDR completed a series of seven technical papers, each focusing on a task related to waste management. These seven tasks include:

TASK 1 Evaluate current operations

TASK 2 Benchmark services and costs with other communities

TASK 3 Review costs and benefits of collecting solid waste by contract

TASK 4 Identify opportunities to increase revenue by offering new services

TASK 5 Evaluate the collection and processing of recyclables separate from regular trash

TASK 6 Evaluate the environmental benefits of current waste collection and processing practices

TASK 7 Evaluate feasible alternatives to operating a waste-to-energy facility in Alexandria after 2038 and recommend a general planning schedule for managing Alexandria's solid waste beyond 2038

These memorandums were completed in July 2018 with a series of recommendations for the City to evaluate. While most future strategies have been incorporated into this strategic plan, some were not. After weighing public and internal input, as well as external considerations, staff developed a document outlining key HDR recommendations and decisions on whether to include them in the strategic plan. The full technical reports and cross-section document that accompany this plan can be found on the WasteSmart website: alexandriava.gov/WasteSmart.

STAKEHOLDER ENGAGEMENT

Understanding and incorporating stakeholder needs, values and priorities were critical elements in the development of this plan. The City started ongoing discussions with stakeholders a year prior to the development of WasteSmart to solicit opinions and suggestions. In the stakeholder engagement process, over 1,500 stakeholders were reached, gathering over 1,200 questions and comments about the plan as well as the included action items.



Figure 1 Potomac Yards Civic Association Presentation on WasteSmart

Realizing the importance of gathering feedback internally, staff held employee town hall meetings with collections and operations staff.

Staff solicited external input through social media, email, and various in-person meetings. Resource Recovery staff presented information and gathered feedback at several public meetings of civic associations and boards and commissions. Some of these meetings were streamed on Facebook, allowing the City to connect with residents in a new way. Approximately 370 residents filled out an online feedback form to identify waste-related priorities. In October 2018, a letter to the editor was submitted to the city's local papers to further build public awareness of the Plan. The WasteSmart Open House, held October 18, presented the various issues to the public and gathered additional public input. Through the various public feedback and engagement, we were able to strengthen the WasteSmart plan.

ENVIRONMENTAL ACTION PLAN GOAL ALIGNMENT

The Environmental Action Plan 2030 (EAP) is the City's comprehensive blueprint for creating a thriving, sustainable community. In 2009, the City adopted the EAP, which sought to achieve the vision and principles outlined in the City's Eco-City Charter and help the City continue to move toward environmental sustainability. In 2017, the City began collaborating with the Environmental Policy Commission (EPC) and the community to develop an update to the EAP. The Phase 1 2018 adoption of short-term actions establish a refreshed, informed, and responsive framework for environmental decision-making. Throughout this process of updating solid waste goals and action items for the EAP Phase 1 (Phase 2 in 2019), T&ES worked with the EPC to align the solid waste goals with the WasteSmart Strategic Plan.



Figure 2 Environmental Action Plan Public Meeting Hosted on Facebook Live

STRATEGIC PLAN DEVELOPMENT AND ADOPTION

Using the technical analysis and recommendations provided by HDR, Inc., as well as stakeholder input, the WasteSmart plan was developed with a series of short, medium and long-term action items. A full list of action items that make up the Strategic Plan is provided at the end of this document.

The City submitted the draft action items to the Environmental Policy Commission, a volunteer group that provides City Council with environmental policy feedback and guidance. On November 13, 2018, Alexandria's City Council received the strategic plan for adoption consideration. A public hearing was held November 17, 2018, to receive additional comments on the WasteSmart Strategic Plan.

IMPLEMENT, MONITOR & TRACK PROGRESS

The City hired its first Environmental Program Manager in August 2018 to complete the development of the WasteSmart Strategic Plan and lead its implementation. Concurrent with the development of the plan, the City has started the process of implementing the identified short-term action items. Additional fiscal resources required to fully implement the strategic plan will be determined through the City's annual budget process. As the plan is implemented, the City will continue to monitor, track and share progress of the action items. Plan progress can be tracked on the WasteSmart website.

REVISIT & UPDATE GOALS

The solid waste industry is constantly evolving. Packaging materials change year-to-year, impacting the material composition of the waste stream. It is also important to recognize that these waste materials are resources that can be recovered, and that they act as commodities in the global and regional marketplace. As processing facilities, technologies, and markets change over time, the City must adapt and adjust its programs as necessary. The City will revisit and update the goals and action items of the WasteSmart Strategic Plan every 3-5 years, or if a dramatic, unforeseeable change occurs in the industry.



Figure 3 Resource Recovery Station



Existing Conditions and Trends

- The City of Alexandria
- Evolving Global Recycling Market
- Changes in Financial Landscape
- New Environmental Challenges

THE CITY OF ALEXANDRIA

Alexandria is an incorporated city located in northern Virginia, across the Potomac River from Washington, D.C. According to the U.S. Census, the City's 2016 population was estimated to be 155,810, with 66,880 single- and multi-family households. As of 2010, about 60% of households were multi-family homes and approximately 40% were single-family homes.

T&ES manages the City's residential recycling, trash, leaf and yard waste collection for approximately 20,200 residential household units. These households are primarily in detached single-family homes and multifamily homes with fewer than four units. The annual Residential Refuse Fee covers these services. The fee is listed on each resident's real estate tax bill and is paid semiannually. Residents living in condominiums and multifamily buildings with four or more units are served by private recycling and trash haulers.



Figure 4 City of Alexandria's Curbside Bins

Expenditure by Program	FY2019 Approved
Residential Refuse Collection	\$4,564,192
Residential Curbside Recycling	\$1,262,904
Spring Clean-Up	\$61,328
Leaf Collection	\$889,291
TV/CRT Recycling	\$30,000
Farmers' Market Compost Program	\$23,000
Workers Compensation Budget	\$300,500
Indirect Costs (City Administrative Support)	\$399,949
Total Expenditures	\$7,531,164
Residences Served	20,200
Billable Households ¹	18,249
Residential Refuse Fee	\$373
<i>1. Those residences that are subject to tax relief (elderly, non-profits, etc.) are exempt from paying the refuse fee.</i>	

Table 1 City of Alexandria's FY19 Approved Budget and Residential Refuse Fee

The City also provides metal and appliances collection, bulk trash collection, yard waste/brush collection, and special collections (Spring Clean Up and Leaf Collection). Currently, there is a permanent Household Hazardous Waste (HHW) and electronics recycling center at 3224 Colvin Street, where residents can drop off these items for free. Alexandria residents also have the option to compost food scraps by dropping them off at four weekend farmers markets across the City: Old Town Farmers' Market; Del Ray Farmers' Market; Four Mile Run Farmers' Market; and West End Farmers' Market. The City operates four convenient recycling centers citywide and produces and provides wood and leaf mulch for all residents of Alexandria to pick up for free or have delivered for a nominal fee.

The City currently provides curbside collection of waste to approximately 250 small businesses/commercial accounts and a small number of non-profit organizations that are located along residential collection routes. These small businesses can “opt-in” to City-sponsored collection and have their trash and recyclables collected alongside their residential neighbors. The City also provides trash and recycling collection services to approximately 65 schools and government buildings and 150 non-profit organizations.



Figure 5 City's Food Waste Composting Program

Commercial properties, in addition to providing trash and recycling services to its tenants and residents, are also required to submit a Recycling Implementation Plan (RIP) to the City. This form requires each commercial property to describe its recycling system for the two recyclable materials that comprise the largest portion of its waste stream. For detailed information on the City's solid waste services and its related costs, please refer to HDR's Memorandums on Task 1 and 2.

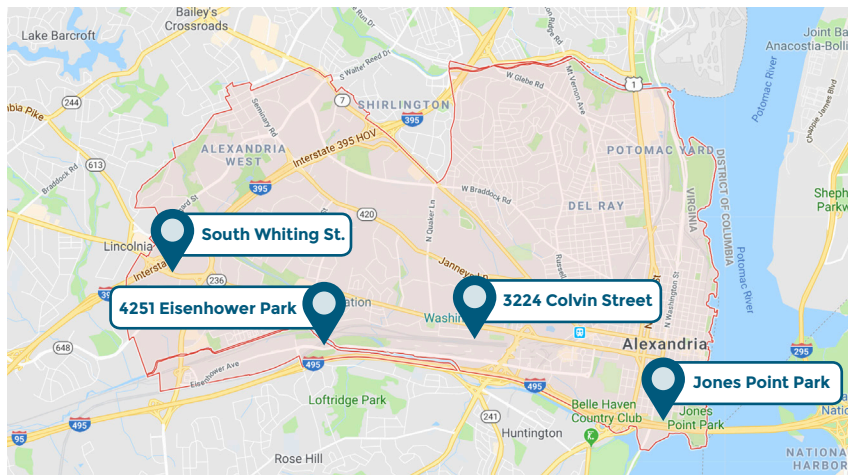


Figure 6 Map of City's Recycling Centers

EVOLVING GLOBAL RECYCLING MARKET

Due to changes in packaging design, limitations on sorting technology, and customer confusion about how to recycle correctly, recycling programs have been facing challenges in processing recyclables back into raw materials to be used to make new products. While some materials, such as paper, cardboard, and metal, are successfully recovered, others, including glass and certain plastics, are difficult to recover. These changes must be weighed against the current understanding of global recycling markets and the direction of new trends in the industry.

The success of recycling programs is predicated on the marketability of and demand for post-consumer materials. For decades, China has been the primary consumer of American recycled materials. In 2016, the United States exported about two-thirds of its recycled paper fiber and over 40% of its recyclable plastics to China. This changed when China started to enforce the new National Sword policy in 2018. This policy has radically altered and substantially limited the post-consumer material that China purchases on the open market. The practice of “wish-cycling” currently employed by many Americans – which includes tossing anything they may consider recyclable into a bin, regardless of cleanliness – is no longer acceptable to Chinese inspectors. Starting in July 2018, Chinese recycling facilities began accepting materials with an extremely low (0.5%) level of contamination. This number is far below the contamination level of materials emerging from most American recycling centers in the country. More information on the recycling market can be found on HDR's Memorandums on Task 1 and 5.

China's National Sword policies have certainly shaken up the global recycling market, but this has not completely shut down recycling in the region. China is not the only destination for post-consumer materials and, in fact, the recycling industry has responded to these policies and market fluctuations by strengthening domestic efforts. For example, the recycled paper industry has invested more than \$1 billion U.S. dollars to build and expand capacity for recycling fiber in the United States.

CHANGES IN THE FINANCIAL LANDSCAPE

It is a common misconception that recycling always makes money, but for some materials, recycling them has become more expensive than sending them to a waste-to-energy facility or a landfill. Recyclables are a commodity and, unfortunately, the value of these commodities has plummeted over the past five years. Markets have also fluctuated even more severely since enforcement of China's National Sword policies began. Because of these factors, the City anticipates the cost of recycling collection and processing will increase. However, as with any commodity, value goes up and down over time. The City will need to adjust accordingly and make decisions on whether to continue or modify the recovery of certain materials that are both expensive and difficult to recover. Please refer to HDR's Memorandum on Task 6 for additional information on the environmental impacts and economic benefits of the waste and recycling programs.

Another point to note in terms of economics is that the cost of trash disposal is going down. In 2015, the City entered into a long-term agreement with Covanta Energy, Inc., to operate the City's waste-to-energy facility located on Eisenhower Avenue (the facility is co-owned with Arlington County). This agreement significantly altered the cost of disposing of waste at the facility and has given cause to re-evaluate the costs and benefits of all related programs. The City has favorable terms in the agreement with Covanta, including a zero-cost tip fee between 2025 and 2038. This could result in significant cost savings of roughly \$1.2 million per year. This agreement ends in 2038 where the ownership of the facility will be transferred back to the City and Arlington County. After 2038, when the City may need to develop and fund a new disposal option, it will be important to establish a timeline for initiating planning and potential funding needed to accommodate future change.

NEW ENVIRONMENTAL CHALLENGES

The collection and disposal of solid waste involves the release of significant amounts of climate-changing emissions, or greenhouse gases (GHG). The impetus of the Solid Waste Management Plan (SWMP) approved by Council in 2004 was that landfills and other locations to bury waste were becoming scarce and natural resources (e.g. metals, oil, trees) were being wasted by landfilling rather than being recovered by recycling. These two challenges, while still important, are no longer considered as critical as they once were. Reducing GHG has emerged as an important objective in solid waste management and targets were established during the Environmental Action Plan update process.



Figure 7 Child with City's Recycling Bin

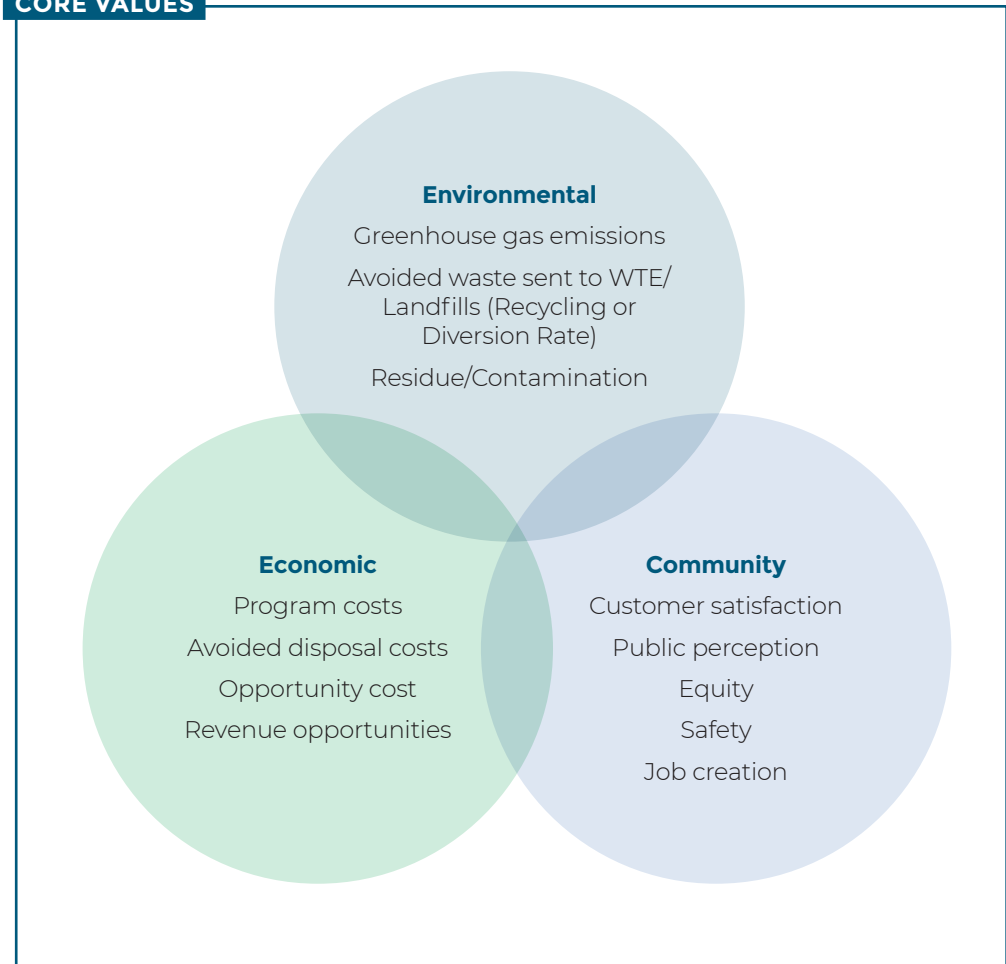
Vision & Values

The WasteSmart Strategic Plan was developed with the City's Strategic Plan and the City's Environmental Action Plan in mind. The City can no longer measure its success when it comes to solid waste by just its recycling rate alone. Each action item identified in this plan was decided by weighing the values of the triple bottom line sustainability framework, which considers environmental, economic, and community values.

WASTESMART VISION

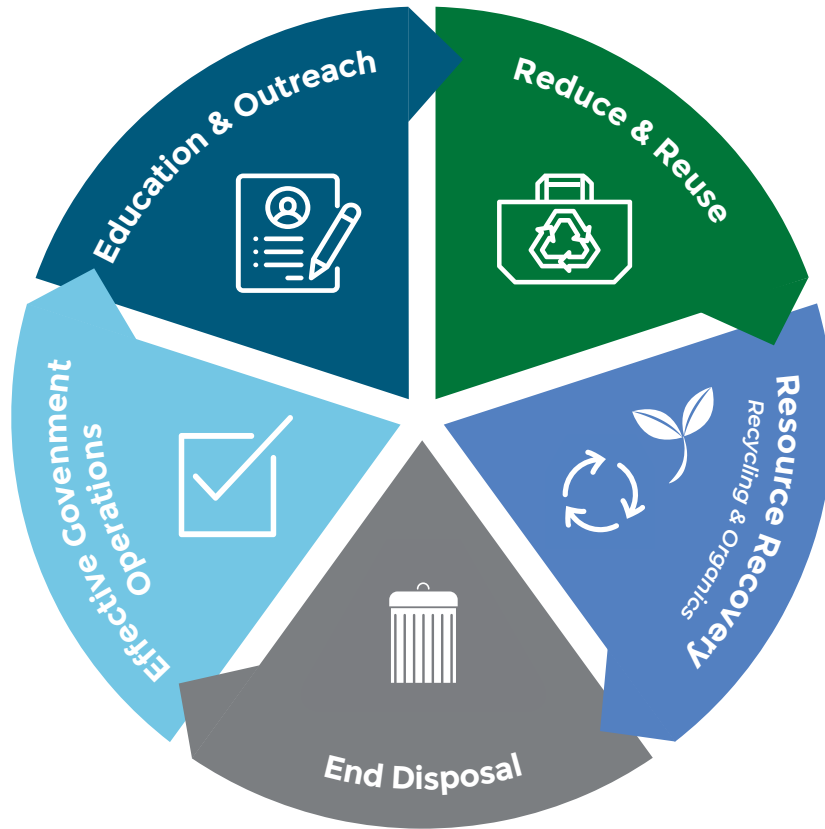
To "WasteSmart" and achieve sustainable resource recovery through values of the triple bottom line: environmental, economic and community values.

CORE VALUES



Framework & Action Items

Five themes will govern the framework to turn the WasteSmart vision to application in this Strategic Plan. Within each theme, a list of short, medium, long-term action items was developed for the City to WasteSmart and sustainably recover resources.



TIME FRAMES FOR ACTION ITEMS

- Short-term actions** FY2019 – FY2021
- Medium-term actions** FY2022 – FY2025
- Long-term actions** FY2025 – FY2038



Effective Government Operations

The City will continue to optimize City Resource Recovery programs. Below is a list of actions to maximize the City staff time, infrastructure, and other resources as they are currently applied, as well as exploring new opportunities for improving services. The City will also continue to minimize negative impacts on the environment, staff health and safety, the City budget, and future City needs. For a detailed review of current operations and benchmarking, please refer to Task 1 and 2 of HDR's Memorandums.



Figure 8 Resource Recovery Team Discussing Safety and Training

SHORT-TERM ACTION ITEMS

- 1.1 Formalize a special revenue fund and direct all revenues related to resource recovery to self-fund programs and initiatives.
- 1.2 Conduct a Route Optimization Study to perform a review of the current truck routing, mileage, staffing levels, homes served per route and tonnages of trash collected.
- 1.3 Review residential and commercial solid waste fees.
- 1.4 Continue to incorporate AVL technology in specs of new trucks.
- 1.5 Examine current usage of the HHW facility to identify if changes could be made to the operating hours to make it more convenient to residents and to potentially reduce costs.
- 1.6 Evaluate recruiting and retention of CDL drivers and provide recommendations to reduce turnover (e.g. CDL training programs, compensation adjustments, other incentives).
- 1.7 Develop and implement stakeholder engagement survey and forum for commercial properties.

MID-TERM ACTION ITEMS

- 1.8 Evaluate training and safety program in place to lower absenteeism and workplace injuries.
- 1.9 Review licensing fees for commercial haulers.
- 1.10 Evaluate public space trash and recycling bins and make recommendations on optimizing routes and other operational changes.

LONG-TERM ACTION ITEMS

- 1.11 Explore fleet greening (e.g. Electrification, CNG, Flywheel hybrid).
- 1.12 Sustainable purchasing: add recycled product manufacturers to City procurement list and establish EPP guidelines to encourage purchase materials with recycled content.

● Action items highlighted in green are also action items in the City's Updated Environmental Action Plan



Education & Outreach

Education and outreach are essential components of the WasteSmart plan. The City's consultant, HDR, made various recommendations to improve communications in Task 2. Sustainable resource recovery depends on awareness of our residents sorting materials properly. To reduce contamination in our recycling stream, the City will work to expand education efforts and strengthen communication channels with residents, allowing us to reduce confusion surrounding what materials go where, and better notify customers of service changes.



Figure 9 Resident learning about Resource Recovery

SHORT-TERM ACTION ITEMS

- 2.1 Refresh the Resource Recovery website to make it easier to find information and to make it more mobile friendly.
- 2.2 Develop and make available resources such as downloadable recycling/trash signs, sample letter to tenants, and social media kits for schools, government buildings, commercial and multifamily properties.
- 2.3 Implement digital outreach resources such as a collection notification & how to dispose search tool.
- 2.4 Implement a resource recovery sorting game app and share resource to City Public Schools.
- 2.5 Launch a Recycle Right education campaign.
- 2.6 Conduct bi-annual education campaigns on resource recovery (fall - how-to service guide; spring - addressing specific recycling contaminations).

MID-TERM ACTION ITEMS

- 2.7 Make the website more accessible, providing translations of content.
- 2.8 Conduct a survey of households to determine customer satisfaction with cost of service, services provided, additional services desired and level of services.

LONG-TERM ACTION ITEMS

- 2.9 Evaluate the feasibility of a Resource Recovery Ambassador Volunteer Program.

● Action items highlighted in green are also action items in the City's Updated Environmental Action Plan



Reduce & Reuse

Reducing waste and reusing is the most effective way to save natural resources, protect the environment, and reduce costs. The U.S. EPA recommends source reduction and reuse as the most preferred method of sustainable waste management. These actions provide opportunities for reduce and reuse prior to entering the waste stream and leverage regional resources and expand relationships with regional partners, agencies, and improve outreach to residents and local businesses.

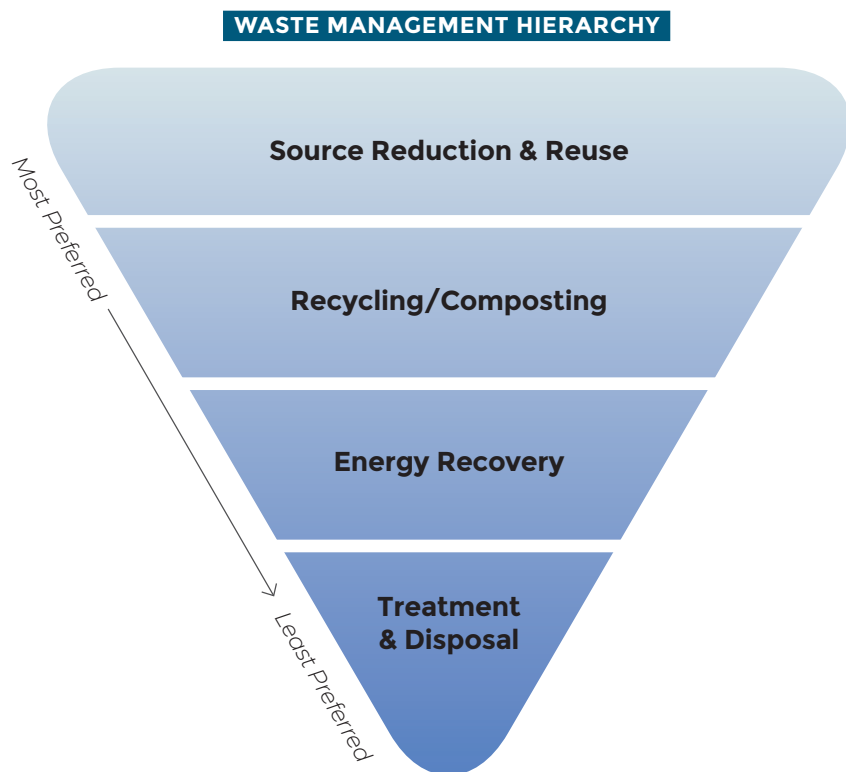


Figure 10 U.S. EPA Waste Management Hierarchy

SHORT-TERM ACTION ITEMS

- 3.1** Develop and maintain a reuse (consign), donate, repair online directory with regional partners to encourage residents and businesses to prevent waste and reuse existing materials.
- 3.2** Evaluate and make a recommendation to Council on Pay-As-You-Throw.
- 3.3** Support the development of a legislative proposal of a bottle bill & plastic bag fee/ban.
- 3.4** Pilot a Share-A-Bag program to encourage residents to use reusable bags over disposable plastic bags.
- 3.5 Continue to educate and promote Grasscycling annually during mowing season.

MID-TERM ACTION ITEMS

- 3.6** Support building material reduce, reuse and recovery through working with regional partners to keep the COG's Builders Recycling Guide up-to-date and share resources to commercial developers.
- 3.7 Support the regional development of Product Stewardship Legislation for electronics, mercury containing products, solar units, paints and pharmaceuticals amongst other hard to recycle products.

LONG-TERM ACTION ITEMS

- 3.8** Work with surrounding jurisdictions to develop and implement a regional approach to reducing plastic waste.
- 3.9 Support local food recovery efforts (e.g. food bank, food running, food donation, and gleaning) through partnerships and education and outreach.

● Action items highlighted in green are also action items in the City's Updated Environmental Action Plan



Resource Recovery: Recycling

Recyclables are commodities, and with any commodity, the market value fluctuates. Sorting technologies and packaging designs also change over time, which requires the City to review and adjust its recycling programs.



Figure 11 Recyclables being sorted at a Material Recovery Facility

The City's record-high recycling rate demonstrates the commitment our government and our community have to recycling. It is frustrating when we hear that glass collected for recycling by our contractors ends up in landfills instead. Glass, for example, is perceived as one of the most readily recyclable materials in our waste stream, but we know that is no longer the case. Alexandria, along with many of our neighboring jurisdictions, is facing the challenge of glass recycling. Because glass breaks during collection and processing, it is often contaminated with other small items such as caps, ceramics, porcelain, rocks, and shredded paper. Because of this contamination, recycling facilities are unable to market their glass and must pay to get rid of it.

To improve the recyclability of glass, the City is planning to launch glass drop-off centers across the City to provide an additional option to recover and recycle glass. The City is also actively monitoring the market for a viable option to recycle glass from curbside collection and working with our neighbors to propose and advocate for regional innovative solutions.

RESIDENTIAL RECYCLING

SHORT-TERM ACTION ITEMS

- 4.1 Solicit and award a short-term recycling collection and processing bid change.
- 4.2 Install special containers for only glass at all recycling drop-off centers to improve the recyclability of glass and implement a glass recovery awareness campaign.
- 4.3 Upon evaluating the state of the recycling market, develop a plan to expand glass drop-off centers and/or potentially eliminate glass from single stream recycling.
- 4.4 Conduct an annual Material Recovery Facility (MRF) Sort to evaluate recycling composition and residual rates to help inform education campaigns.
- 4.5 Review recyclability of #3-7 plastics in the marketplace to determine whether to include in the City's recycling list and update City Code.
- 4.6 Update the City's recycling ordinance to reflect changes in the global recycling market.

MID-TERM ACTION ITEMS

- 4.7 Conduct a waste characterization study (composition, generation projection, and contamination) to establish a citywide baseline and set a realistic and ambitious recycling goal for the City to achieve.

LONG-TERM ACTION ITEMS

- 4.8 Refresh Oops Tags for Recycling and evaluate working with operations staff on direct cart messaging at the refuse level.

● Action items highlighted in green are also action items in the City's Updated Environmental Action Plan



COMMERCIAL RECYCLING

The commercial and multi-family sectors account for more than 70% of the City's solid waste stream. The HDR papers have identified that, for the City to increase its recycling rate, greater participation from the commercial/multifamily sector will be needed. This may require additional resources for education and enforcement. Furthermore, there may be additional revenue opportunities through development of new services for commercial recycling by the City. Below is a series of action items to expand the support and approach new commercial recycling opportunities.

SHORT-TERM ACTION ITEMS

- 4.9 Evaluate an additional FTE dedicated to commercial education and enforcement with funds from commercial refuse fee. FTE will also make recommendations on whether the City should pursue new commercial recycling accounts.

MID-TERM ACTION ITEMS

- 4.10 Implement an education campaign for commercial and multifamily buildings and spot inspections of commercial hauling accounts to determine if the Recycling Implementation Plan (RIP) is being followed.
- 4.11 Identify development opportunities in the site development plan review process for opportunities to establish new and additional commercial compactor rooms.
- 4.12 Review commercial recycling requirements to improve resource recovery in the commercial sector. Evaluate for recycling capacity, convenience, sign, number and type of recyclables required to be recycled, education & outreach, and RIP form.

LONG-TERM ACTION ITEMS

- 4.13 Consider establishing business rebates, resource recovery grants, and/or revolving loans programs.



Figure 12 Recycling Center at Jones Point Park

● Action items highlighted in green are also action items in the City's Updated Environmental Action Plan



Resource Recovery: Organics

According to the U.S. Environmental Protection Agency, approximately 28 percent of the total material stream is composed of food scraps and yard trimmings. These organic materials can be recovered and composted to break down into compost, a natural fertilizer that can be applied back into beneficial use. For additional information on the environmental impacts and economic benefits of management of food and yard waste, please read HDR's Memorandum on Task 6.



Figure 13 Resident dropping off food scraps for composting

SHORT-TERM ACTION ITEMS

- 5.1 Continue to meet and grow public awareness of food composting program at the Farmers' Market.
- 5.2 Evaluate whether to privatize composting program at Farmer's Market and whether to expand the program.
- 5.3 Improve the efficiency and cost-effectiveness of the yard waste collection program (e.g. evaluate whether to privatize yard waste, suspend collection during winter season, etc.).
- 5.4 Expand education and outreach on curbside yard waste collection.
- 5.5 Evaluate whether mandatory yard waste separation and a plan to ban plastic bags from yard waste collections should be implemented.
- 5.6 Improve accuracy of weights and participation rates for Leaf and Yard Waste Collection operations.

MID-TERM ACTION ITEMS

- 5.7 Evaluate the City's Leaf Storage Facility for efficiencies and the equipment (tub-grinder) maintained.
- 5.8 Evaluate organics processing market readiness (both composting and anaerobic digestion) and feasibility of curbside organics collection.
- 5.9 Develop an organics haulers license list to support commercial and multifamily organics collection in the City.
- 5.10 Support growing local composting efforts such as backyard composting and community composting.

LONG-TERM ACTION ITEMS

- 5.11 Support the regional legislative development of a large quantity organic generator ban.

● Action items highlighted in green are also action items in the City's Updated Environmental Action Plan



End Disposal



Figure 14 Covanta A/A Waste-to-Energy Facility

All residential trash (and most commercial waste) generated within the City is currently direct hauled to the Covanta Alexandria/Arlington (A/A) waste-to-energy (WTE) facility located on Eisenhower Avenue in Alexandria. This facility is owned and operated by Covanta and is located on a parcel of land jointly owned by the City and Arlington County. By contract, in 2025, the tip fee for the City's waste will decrease to zero dollars per ton (\$0.00/ton) for a limited amount of residential trash. This will continue until 2038. In 2038 by contract, the ownership of the facility will be transferred back to the City and Arlington County.

Under current arrangement of the Covanta A/A WTE facility, Covanta is responsible for ash disposal. Currently, ash is being sent to King George's Landfill for mining and recovery of additional materials. Current analysis after the agreement when the facility ownership transfers back to the City and Arlington County indicates likelihood of available landfill capacity. The City will continue to monitor end disposal options and evaluate alternate emerging technologies as they develop for disposal. Below is a series of action items given the future events as related to the A/A facility. For more details, including cost estimates for updating this facility, alternative disposal options for the period after 2038, and landfill capacities in the region, please read HDR's Memorandum Task 7.

SHORT-TERM ACTION ITEMS

- 6.1 Closely monitor Covanta's comprehensive preventative and corrective maintenance efforts over the final 5 years of the contract, to ensure the Facility is returned to the City "...in good order and condition..." as required by the Waste Disposal and Service Agreement (WDSA).

MID-TERM ACTION ITEMS

- 6.2 Develop and implement a stakeholder engagement forum on the upcoming \$0.00/tip fee.
- 6.3 Develop options and recommendation for budget savings with \$0 Covanta tip fee from 2025-2038.

- 6.4 Complete a regional comprehensive alternative disposal study. Evaluate long term end disposal options, knowing that significant time will be needed for any potential planning and implementation.

LONG-TERM ACTION ITEMS

- 6.5 Upon the completion of an alternative disposal study, revise the SWMP to incorporate the predicted needs for solid waste management for an on-going 20-year period, a description of the actions to be taken to meet those needs, and show an ability to provide the necessary funding and resources to meet those future needs.

● Action items highlighted in green are also action items in the City's Updated Environmental Action Plan

For more information, including the technical papers that accompany the WasteSmart Strategic Plan, visit our website:

alexandriava.gov/WasteSmart

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