

SUSTAINABILITY AND WASTE IN APACHE JUNCTION



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EXECUTIVE SUMMARY

This document is the result of the collaboration between the City of Apache Junction and the School of Sustainability at Arizona State University. The primary purpose is to assist Apache Junction in creating a more robust set of policies and procedures to improve city-wide solid and household hazardous waste collection. The School of Sustainability student teams were tasked with reviewing current policies and ordinances in place for Apache Junction, analyzing the city's current solid waste program, highlighting the waste management programs of three comparable cities and towns in the Phoenix metro; providing best practices offered by the Waste Management Policy tool of Environmental Protection Agency (EPA), and providing constructive recommendations towards a sustainable waste management system for the city. This summary highlights the key findings, which are further expanded upon in the remainder of the report.

Currently, residents of Apache Junction are free to subscribe to waste collection services from three providers in the city: Republic Services, Right Away Disposal (RAD), and Waste Management. It is also important to note that the city does not require residents to hold a contract for solid waste/recycling collection. For this reason, the City of Apache Junction may be in noncompliance of state and county ordinances regarding required waste collection and disposal.

The Arizona Administrative Code (AAC), Maricopa County Environmental Health Code, and the Pinal

County Environmental Health Code all address waste collection directly. The AAC states that where refuse collection service is available, collection is required (2016). When Apache Junction is considering changes to city codes and policies, this issue must be addressed to avoid possible issues of noncompliance conflict with state and county ordinances.

Case studies from the City of Buckeye and the Towns of Queen Creek and Fountain Hills provide valuable insight into the processes each city and town went through while reforming their waste management services. Each city and town has useful information and best practices that could be adopted in Apache Junction. It is recommended that the City of Apache Junction reach out to these neighboring cities for more information regarding their efforts in reforming their waste collection policies and procedures.

In the short-term, we recommend the city dedicate an ad hoc committee team to engage with the community, utilize available tools and networks, and review all city, county, and solid waste/recycling collection ordinances. Looking further ahead, we recommend that waste collection be mandated citywide. Furthermore, Apache Junction can modify existing proposal and contract documents from the aforementioned cities to fit their unique needs while adopting proven practices.

Summary of both short- and long-term recommendations are listed in the table below:

Short-term recommendations, 6-12 months	Establish a solid waste/recycling ad hoc committee
	Utilize solid waste management networks
	Reuse center and/or HHW collection center
	Engage the community
	Waste diversion plan
Mid-term recommendations, 12-24 months	Mandatory trash collection
Long-term recommendations, 24-48 months	Issue Request for Proposal (RFP) for contracting with a single service provider

INTRODUCTION

Apache Junction is a city in Maricopa and Pinal counties in the state of Arizona, named for the junction of the Apache Trail and U.S. Route 60. It was officially incorporated as a city on November 24, 1978. Located within the Greater Phoenix Metropolitan area, the city has an elevation of 2,070 feet and encompasses an area of 36.5 square miles. The city is bordered by the



Superstition Mountains on the east, Goldfield Mountains to the north, and the city of Mesa to its west. Today, Apache Junction is at a convergence of a western frontier with a growing contemporary marketplace. With its hometown, rural feel next to an undisturbed desert and in close proximity to the amenities of Phoenix, the nation's fifth largest city, Apache Junction is truly a mix of old west and modern living. With roots in old west mining camps, Apache Junction has a long history with Spanish Conquistadors, ancient Native American cultures, and the mysteries and lore of the Superstition Mountains; where the hunt for the "Lost Dutchman's Gold Mine" continues. The city currently has a year-round population of more than 39,000, which increases to around 77,000 when winter visitors from around the country arrive in late fall. Personal income per capita, including all adults and children, is \$21,005. Median household and family incomes are \$38,393 and \$46,653 respectively. The unemployment rate is 6.4%, with job growth of 1.99%. Future job growth over the next ten years is predicted to be 37.6%.

In this report, the current state of Apache Junction's solid waste/recycling program is described and analyzed. The solid waste/recycling policies and practices of three local cities are highlighted to understand the solid waste/recycling management programs that could be used to improve Apache Junction's waste management program. Finally, an Environmental Protection Agency (EPA) Managing and Transforming Waste Stream Tool was reviewed to explore different policy and practice options to enhance Apache Junction's solid waste program.

CURRENT MUNICIPAL SOLID WASTE PROGRAM OF THE CITY OF APACHE JUNCTION

As Apache Junction grows, solid waste/recycling services are an essential city service. As one of the most basic services that cities typically provide, the city's waste management program must keep pace with modern collection and disposal practices. From a policy perspective, city codes must be altered to comply with state and county regulations.

At this time from an operational point of view, the way in which solid waste is handled in Apache Junction is deemed to be unsustainable. For example, from the collection side, there are major challenges and safety issues associated with multiple service providers. Plus, separate trucks for recycling and their collection schedules put additional stress on road conditions. Currently these multiple haulers produce more truck traffic on a daily basis, emit more air pollution and greenhouse gases, and increase the pace of wear and tear on city streets. On the disposal side, the existing landfill in the southern part of Apache Junction inhibits economic development in that part of the city and can promote the perception of health hazards for residents.

Improving the quality of life for residents by modifying waste management services is of the utmost importance to the city because it

may provide Apache Junction's residents with better collection and disposal of solid waste and recycling at a more reasonable cost. Finding the most appropriate solutions and opportunities to improve solid waste/recycling handling and disposal is crucial to Apache Junction's ability to serve its diverse community and promote healthy growth.

Currently, the City of Apache Junction does not mandate curbside trash pickup. Three private companies offer waste hauling services in the area. The three contractors are Right Away Disposal (RAD), Republic Services, and Waste Management. Residents of Apache Junction can subscribe to the waste provider of their choice.

Apache Junction Landfill Corporation (AJLC), a subsidiary of Republic Services, owns and operates a landfill located south of U.S. 60 and Tomahawk Road, where Apache Junction's solid waste is hauled. Mesa and other communities also use the AJLC landfill.

AJLC wishes to extend the life of the landfill by approximately 19 years. For that reason, there are currently zoning parameters that include decorative masonry, landscaping and roadway improvements. In April 2016 the property was rezoned and a new operating agreement was created. Within the agreement, the firm date for closure of the AJLC landfill was set for December 31, 2035. The landfill height was capped at 1720 feet (plus 3 feet cover). And, monitoring of groundwater and the installation of new landscaping must begin before the closure date.

RAD offers same day pickup of trash and recycled materials. They operates a transfer station located in a county island in Apache Junction. Republic Services and Waste Management also offer solid waste collection services in the city. Waste Management's landfill is 30+ miles away from the City of Apache Junction.

Although the city does not require trash pickup, there are two days out of the week where these private companies can conduct business and pickup neighborhood trash. Having three waste companies restricted to two days of trash pickup has increased traffic in residential neighborhoods and on city streets.

Apache Junction has also conducted three neighborhood cleanup initiatives over the last two years where the residents of selected neighborhoods can bring household waste to four to five dumpsters. An event known as "Free Dump Week" occurs four times a year, allowing city residents of Apache Junction to dispose of a pickup truck's worth of refuse at the Republic Services landfill with proof of residency.

Current Policies and Compliance

Prior to considering the implementation of new policies or waste collection services, it is critical that the City of Apache Junction adhere to state regulations regarding solid waste collection. By aligning the city code with current Arizona laws, Apache Junction can prevent possible issues of non-compliance and avoid potential legal problems in the future. It is also important to consider health and public safety issues when reviewing city codes and policies. Current policies relating to municipal solid waste can be found in 1) Volume I, Article 9-5 of the Apache Junction City Code, 2) Title 18 - Chapter 13 of the Arizona Administrative Code, and Chapters II and X of the Maricopa and Pinal County Environmental Health Code, respectively.

Apache Junction Ordinances

A review of the Volume I, Apache Junction city code, specifically Article 9-5 relating to collection of residential solid waste, shows that mandates are primarily focused on how waste should be collected in the city. The sections in Article 9-5 address procedures such as permitted days and hours of collection, container standards, and vehicle maintenance standards. Nowhere

in the city code does it mandate that residents secure a solid waste collection contract with one of the permitted providers. Goals of the waste collection mandates can partially be seen in the stated Legislative Purpose section Article 9-5-1, it states:

It is the purpose of this Article to regulate the collection of residential solid waste to promote the public health, safety and general welfare of the citizens of the city, and to avoid and mitigate the detrimental effects of random trash collection, insufficient solid waste containers and substandard collection vehicles and equipment through reasonable regulation. (Appendix 1.1)

The regulation of residential solid waste collection requires the promotion of public health and safety as well as the need to follow minimum state and county mandates. Given the lack of mandated trash collection in the city, there is concern about non-compliance with the state standard, as well as health and safety hazards associated with unsanctioned trash disposal and dumping in and around the city.

State and County Ordinances

Is Apache Junction in compliance with state and county mandates regarding residential solid waste collection? The Arizona Administrative Code, Maricopa County Environmental Health Code, and Pinal County Environmental Health Code have all specified Articles regarding waste collection and all contain similar language when expressing requirements. Under the Arizona Administrative Code, section R18-13-305: Collection required, which states:

A. Where refuse collection service is available, the following refuse shall be required to be collected: Garbage, ashes, rubbish, and small dead animals which do not exceed 75 pounds in weight. (Appendix 1.2)

The sections are similar in the health codes of both counties (see Appendix for more details). The verbiage in the county codes appears to mandate that wherever trash collection service is available, collection is required. Issues of compliance will be critical in the future as the City of Apache Junction considers changes to current practices and procedures. It will also be important to public health and safety issues and to the growth of the city.

THREE CITY/TOWN CASE STUDIES

As the City of Apache Junction was pursuing the idea of enhancing and improving its waste management program, it was deemed relevant to identify three comparable cities and towns within the Phoenix metro area from which the city could draw ideas and feedback. These cities were carefully selected on the basis of the population, size, history, best practices, and their respective experiences with launching and improving their individual waste management programs. The selected cities and towns were the City of Buckeye and the Towns of Queen Creek and Fountain Hills.

City of Buckeye Waste Management Program

Waste removal history and regulation



Originally an agricultural town, the City of Buckeye in Maricopa County is now the 15th fastest growing city in the nation. Located at the edge of metropolitan Phoenix and adjacent to four major highways, Buckeye has planned for further growth in the 600 square miles of land area it occupies. With pro-business activities and long-term growth visioning, Buckeye seeks new economic development opportunities serving its 63,000 residents. Buckeye also hosts seasonal visitors (i.e. snowbirds), who occupy 7% of the total 18,950 housing units in the city.

Since the 1990s, the City of Buckeye has had a single waste service provider. Paradise Waste

Services Inc. was the provider for approximately 20 years, but was replaced by Allied Waste in the 2000s which then became Republic Services. In the early 2000's, Buckeye's waste services served around 5,000 residents without a problem, but by 2010 Buckeye's population jumped to nearly 53,000 residents.

Although their waste services had worked well until then, the sudden surge of people moving into the area began to overwhelm the city. In 2013, Buckeye started to implement its 2020 waste plan to efficiently provide services for everyone in the community.

The City of Buckeye mandates solid waste removal service and contracts with Republic Services to haul the waste of residents living within city boundaries. All residents, including seasonal visitors, are required to pay for the service. Republic purchases and maintains the trash and recycling carts (single stream) for each household. Two Republic trucks run routes through each of Buckeye's eight pick-up zones, with a third truck available for backup, since waste trucks are high-maintenance.

Residents may participate in scheduled bulk pick up days and green waste disposal days. Republic mails schedules to city residents and posts them online. Household hazardous waste can be disposed of at the city's Public Works yard.

Republic collects 20,000 tons of trash and 4,000 tons recycling annually, with a diversion rate of 19%. Although Buckeye's waste diversion rate is remarkable, they have a recycling failure rate of 30% because of contamination from residents' poor recycling habits.

Waste disposal services

Residents within Buckeye's city limits are required to have a solid waste contract with the contracted city service provider. One trash container is provided for solid waste pick-up once a week; additional containers are available for a fee. A second container is provided for single-stream

recycling pick up once a week (on a different day from solid waste pick-up). Items accepted for recycling include metal (less than 50lbs), paper, cardboard, plastic, glass and cans.

Bulk trash pick-up is also available to residents, but it must fit in a 6'x6'x6' space. If the trash does not fit in the designated space, Buckeye residents receive a special rate at the landfill.

There is a minimum fee of \$10.30, which covers the first 600 pounds. Additional weight may incur more charges. Residents must bring their 'trash service' bill to show that they live in the city and have a trash account.

Items accepted for bulk pickup include furniture, mattresses/box springs, old TVs, bicycles, loose debris/trash (bagged), appliances (Freon must be removed by certified technician and the appliance must be accompanied by tag or certificate), grills (propane or coals removed), cardboard boxes (collapsed, bundled, stacked, and tied), construction/demolition material under 25 pounds (generated by resident NOT a contractor), pipes or any long items cut to three foot (3') lengths (bundled, stacked, and tied), green waste (tree limbs, branches bundled in 3' long pieces, stacked and tied), bagged leaves or lawn trimmings.

Items not allowed in bulk pickup include household hazardous waste (HHW) (paint, chemicals, oil), lead acid batteries, infectious or medical solid waste, metal material or automobile parts over 50 pounds, tires from any type of vehicle, glass (windows, shower doors, patio doors, mirrors, etc.), bricks, concrete, dirt, rocks, asphalt, roofing or similar materials.

A green waste recycling program is also available to residents of Buckeye. All debris should be neatly stacked, bagged in biodegradable bags, or in plastic trash cans no bigger than 30 gallons.

Debris can be placed on a tarp. The pile must be smaller than 6'x6'x6'. Republic Services will not

service more than one 6'x6'x6' pile. Items allowed to be recycled include grass, leaves, brush & plants, wood chips, tree trunks, branches in 3' bunches, manure, and Christmas trees. Residents are not allowed to recycle large amounts of palm fronds, bulk items or trash, treated/painted lumber or wood, soil.

All Buckeye residents with a solid waste account may schedule drop off of household hazardous waste at the Public Works yard. Items that are accepted as household hazardous waste are: pesticides, herbicides, fertilizer, pool chemicals, paints, cleaners, batteries, automotive fluids (generally up to 5 gallons), and electronics

(TVs, computers, printers, stereos, cell phones, fluorescent light bulbs, etc.). If residents spot any illegal dumping, they can report it to the city who will then ensure proper disposal.

Republic Services operates the Southwest Regional Landfill, which is owned by the Buckeye Pollution Control Corporation (BPCC) and has a volunteer board of citizens. The expected lifespan of the landfill is until 2051 though Maricopa County has noted in its Regional Growing Smarter Plan for Solid Waste Management report (2003) that there is room for expansion into surrounding unused land. There is an agreement in process to extend the landfill by 300 acres and increase the lifespan by 100 years.

Waste hauling and disposal rates

Since Jan. 1 2013, Buckeye's solid waste customers' monthly bills increased by \$0.32 cents per year, as part of a seven-year incremental increase to bring revenues closer to covering expenses in the city's environmental services division. This revenue funds the solid waste Environmental Manager position.

The curbside waste pickup rate is \$19.87 per month per household. When residents are on vacation, the rate is \$11.44 per month. Buckeye offers a 'vacation hold' service for a maximum of

6 months annually. This is especially important because the city has a high population of seasonal residents. Each resident pays a monthly fee, when that resident is not actually generating waste within Buckeye.

Republic Services leases the Southwest Regional Landfill from the Buckeye Pollution Control Corporation (BPCC) and will own the landfill after it is closed, monitoring it for 30-40 years. By owning it, Republic is able to maximize revenues from the landfill by allowing customers outside of Buckeye to dump their refuse, thus increasing profit from managing the landfill. The lease agreement also provides Buckeye's contingency fund or general fund 7% of the landfill tipping fees. The Southwest Regional Landfill receives three tons of waste daily (not including holidays, weekends, etc.), making \$31,000 per month, from which Buckeye takes 7%, realizing up to \$250,000 - \$500,000 in annual income.

Town of Queen Creek Waste Management Program

Waste removal history and regulation



A farming community since the early 1900's, the Town of Queen Creek was incorporated in 1989. Queen Creek is 28.5 square miles in area, has a population of around 33,000 and is located southeast of Phoenix, Arizona's capital. Demographically, the population is 74.7% Caucasian, 18.1% Hispanic, 2.7% Black, 1.4% American Indian, and 1.4% Asian. The town has approximately 15,000 households.

Before Queen Creek implemented its single waste service provider contract in the town, six different haulers were available to all residents. In 2009 when Queen Creek introduced the idea of a single waste service provider to residents, the reaction was mixed. Though there were many residents that agreed with the change, others did not. Given the resistance, the town revisited its

planning and strategy. In 2010, after three years of plan redevelopment, the Queen Creek Town Council approved the single provider agreement and ordinance, allowing the waste services contract to begin.

Queen Creek's waste management program took three years to be fully accepted and for the plan to be implemented. Initially due to resistance from the public wanting the right to dispose of trash in any manner they chose, progress on the policy slowed significantly. This was a unique process for Queen Creek in that no other local town or city had created a new trash and recycling contract for 20 years. Up until 2007 Queen Creek was home to a Maricopa County landfill and had six different haulers going through the town to collect solid waste. But in 2009 the waste management plan was conceived, the number of haulers was narrowed down to one. The positive impacts are now tangible such as in the improved longevity of roads and the reduced use of fossil fuels and lower vehicle emissions. For the initial contract, Queen Creek chose to hire Right Away Disposal (RAD). With their new plan, Queen Creek was the first in the valley to implement one time a week curbside service on the same day for both waste and recycling.

Waste disposal services

Queen Creek's seven-year contract with RAD runs from 2010-2017 with options for three 1-year renewals. The town chose a long-term contract (7-10 years) because it is financially beneficial, and at Queen Creek's request, RAD uses solid waste trucks that are less than seven years old. Residents of Queen Creek can self-haul their trash to RAD for a reduced price. So far Queen Creek's experience with RAD has been satisfactory.

Waste disposal and hauling rates

A unique characteristic of Queen Creek is that it is the first community in the valley to implement once a week curbside service. Service rates in Queen Creek started at \$15.41 per month in

2010, but have increased to \$16.22 a month for trash and recycling services. Services include once a week trash and recycling pickup. Residents within the Queen Creek town limits must have a trash contract with the town. The current contract provides the following:

Waste going to the landfill is picked up once a week and the same day each week. If a household exceeds its 200 lb. trash limit, an extra cart is available for an additional monthly fee of \$7.15.

Recycling is also available to residents and is picked up once a week on the same day as trash. Items allowed to be recycled include aluminum and metals cans, cartons, plastic, paper, and glass. Items that are not allowed to be recycled are: construction debris, diapers, food waste, hazardous materials (such as: motor oil, paint, light bulbs, and cleaning chemicals), metals, paper towels and napkins, pizza boxes, plastic bags, Styrofoam, tubes, and yard waste. Electronics disposal is available three times throughout the year. Document shredding is available two times a year. Tire disposal is available once a year, Christmas tree drop-off is available two weekends out of the year. Reduced self-haul rates are also available along with neighborhood drop off recycling across the street from Town Hall.

Bulk trash pickup is available once a month for residents, but it must fit in a 6'x6'x6' space. Items that are accepted include large appliances such as microwaves, washers, and dryers (excluding refrigerators and freezers).

Furniture (tables, chairs, couches, mattresses and box springs), household waste (including items that don't easily fit into the trash cart), cardboard, and yard debris are also accepted.

When preparing trash for bulk pickup, residents must bag leaves and grass, bundle logs and sticks (which cannot be longer than four feet or wider than one foot in diameter), and box cacti or other sharp plants. Homeowners must schedule

bulk pickup and make sure the trash is curbside by 6 a.m.

Town of Fountain Hills

Waste removal history and regulation



The Town of Fountain Hills was established by the Disneyland designer Charles Wood Jr. in 1970.

Originally a cattle ranch, the town has an area of 18.2 square miles and includes several golf courses. The town has a population of 23,051, and is 94.1% Caucasian, 3.4% Hispanic, 1.84% Asian, and 1.75% African American. One-third of the population is seasonal. The median home price is \$331,600.

Before Fountain Hills mandated a single solid waste hauler in its town regulation in 2010, the residents were able to choose whatever company they wanted for trash and recycling collection.

The change to a single hauler was stipulated in the town plan and then became a regulation in 2010. There was a great deal of debate over the matter. The Town Council had the Public Works Department make several presentations at Council and community meetings. Residents were split in their desire to have the flexibility of choosing their own trash collection company or having the Town's contracted company. Home Owners Associations (HOAs) were opposed to not being able to select their own service provider. Public outreach and communication were the keys to finally coming to a resolution. Meetings were held with HOAs and at the community center. Information was repeatedly put in newspapers and the town newsletter. A Request for Proposal (RFP) was issued by the town and six companies responded. Republic Services was the lowest bidder and negotiations continued with the company to lower the rates even further.

Recycling proceeds were used as a bargaining chip to lower the rates and Republic Services was awarded the contract. In the future when the time arrives for extending the contract, Fountain Hills may try to negotiate for added services such as electronics recycling and household hazardous waste pick up.

Waste disposal services

Republic Services has a 5-year contract to handle the trash and recycling for the Town of Fountain Hills. The company owns the trash and recycling carts and waste containers used by residents. Two different sizes of solid waste containers are available to residents – 90 gallon and 65 gallon. The 90 gallon container is the most popular. Waste and recycling pick-up days are Monday through Thursday.

Republic handles all customer service, billing, inspections and educational mailers. It also offers back door services (driver brings cart from the back of the home to the curb for pick up and returns it to the back of the home) for residents who need physical assistance at no additional charge. Any property that has a cart is considered residential including condominiums. In Fountain Hills, the HOAs that have 6-8 yard dumpsters are considered commercial and are not serviced by the Town. The Kiwanis organization offers recycling to HOAs. The Town does not offer bulk pickup or green waste pickup.

Most residents have landscape contractors who haul away green waste. The Town receives no financial return for recycling, which helped lower the contracted rates.

Fountain Hills does not have a landfill, so all trash and recycling is taken by Republic Services to a transfer station in Happy Valley and then transported to the Maricopa landfill. Household hazardous waste, electronic recycling and fluorescent light bulb collection and crushing are also handled by the Town during yearly events. These products and activities are not part of

the contract with Republic Services and are contracted out to other companies for disposal. The local Cub Scouts offer a refrigerator recycle program where scouts come to a resident's house and pick up the appliance.

Republic Services offers weekly points to residents who recycle. The residents can receive discounts for shopping at area and national stores, and by watching recycling videos on Republic's website. Republic also has a yearly community grant program in which community organizations can submit projects to which residents can donate their points thus voting for an organization with their points where one point equals one vote. This year 1.2 million votes were counted. Republic Services awards a \$10,000 grant to the winning community organization. This year the community theater won. Fountain Hills is kept abreast of how much recycling materials are collected. The town has a 20% recycling diversion rate.

According to Fountain Hills Solid Waste Disposal and Recycling Regulations, the Town took responsibility for residential curbside solid waste collection and recycling. It is unlawful to provide solid waste services between 7pm and 6am due to noise pollution. The town uses a single hauler which reduces the heavy traffic on town streets, reduces vehicle emissions and enhances public safety. It is also important to note that no customer can refuse to accept the trash and recycling service offered by the town. Fountain Hills does regulated inspections on 25% of single-family recycling carts each year and each violation is tagged or labeled. If the violation is not remedied in 10 days, the cart may be removed at the customer's expense. Civil citation may be issued, but civil penalties are not more than \$500. Hazardous waste must be closed/contained and plainly marked. If residents are not sure what to do with this waste, they need to contact the Development Services Department Director for special instructions. Dead livestock

should not be placed in the collection container. Small dead animals/pets/livestock can only be put in containers in a tied plastic bag. If a resident is trying to get rid of explosives, they need to call the Town's law enforcement agency for disposal options.

Waste hauling and disposal rates

Republic Services offers four options for residential curbside trash and recycling pickup service, and all options are billed quarterly to the residents.

Option 1: Once weekly collection with 1 trash cart and 1 recycling cart - same day service, \$11.57 per month. This is the most popular option. Breakdown of the quarterly billing is \$22.74 trash and \$11.99 recycling.

Option 2: Once weekly collection with 2 trash carts and 1 recycling cart - same day service, \$16.63 per month. Breakdown of the quarterly billing is \$37.92 trash and \$11.99 recycling.

Option 3: Once weekly collection with 1 trash cart and 1 recycling cart - same day service with one extra trash pickup during the week, \$16.63 per month. Breakdown of the quarterly billing is \$37.92 trash and \$11.99 recycling.

Option 4: Twice weekly trash collection with 1 trash cart, \$16.64 per month. This is the least popular option. Breakdown of the quarterly billing is \$49.92 trash only.

CITY/TOWN COMPARISONS: BUCKEYE, QUEEN CREEK & FOUNTAIN HILLS

Comparison of the City of Apache Junction with the City of Buckeye and the Towns of Queen Creek and Fountain Hills are presented to provide a summary of various measures, such as demographics, population, economic condition, as well as details of the waste management program.

Table 1 provides a demographic comparison of the four cities and towns and shows how comparable they are to the City of Apache Junction. All these cities and towns have a high percentage of Caucasian residents ranging from 49.9% (in Buckeye) to 91.5% (in Fountain Hills) in comparison to Apache Junction with 81.3%.

Table 2 summarizes the 2010 United States Census information of population growth trends as well as different measures of economic conditions of the four cities and towns of Apache Junction, Buckeye, Queen Creek and Fountain Hills. All the cities and towns show growth in the population. Not surprisingly, Apache Junction and Buckeye have a higher percentage of people living in poverty as well as a higher number of veterans, both of which have implications for implementation of service rates. Other measures of economic indicators such as median value of homes and rent also indicate the challenge Apache Junction faces in negotiating service rates.

A summary of the major strengths and weaknesses of the waste programs of the City of Buckeye and the Towns of Queen Creek and Fountain Hills is provided in Table 3. The significant feature of the waste management aspects of the City of Buckeye is their one hauler program which reduces wear and tear of the roads and reduces pollution and emissions. Their once a week trash and recyclable pick up and program for HHW drop-off are noteworthy. However, the city does not have the lowest service fees amongst its comparable towns and cities. The Towns of Queen Creek and Fountain Hills have competitive monthly service fees in addition to the services that Buckeye also offers. Fountain Hills currently does not offer bulk pickup.

Table 4 provides a summary of the specific waste services for Buckeye, Queen Creek and Fountain Hills by the single haulers, Republic Services and Right Away Disposal (RAD). The first column provides the specific services provided by each company and is highlighted here for comparative purposes. These services range from trash and recycling pickups, to pricing, green and hazardous waste and other programs. In this chart, the city and towns comparison provides the City of Apache Junction with an overview of the major elements of the waste service and management provided by the single haulers currently hired by each community.

Table 1: Percentage of ethnic breakdown among the four cities and towns

	Caucasian	Hispanic	African American	Asian	American Indian / Alaska Native	Others
Apache Junction	81.3	14.4	1.2	0.8	1.1	1.2
Buckeye	49.9	38.3	7.1	1.8	1.8	1.1
Fountain Hills	91.5	4.1	1	1.8	0.6	1
Queen Creek	74	17.3	3.4	2.8	0.7	1.8

(Source – various)

Table 2: Population and economic trend among the four cities and towns

	Pop. Est. (Apr 2010)	Pop. Est. (Jul 2015)	Veterans	Persons in poverty	Median value of owner occupied housing	Median gross rent
Apache Junction	35,838	38,074	4,928	23.9%	\$ 88,000	\$ 772
Buckeye	50,908	62,138	3,348	16.2%	\$139,400	\$1,112
Fountain Hills	22,489	23,899	2,387	5.1%	\$331,600	\$1,138
Queen Creek	26,348	34,614	1,942	8.6%	\$237,800	\$1,305

(Source – United States Census, 2010)

Table 3: Strengths and weaknesses of waste programs in Buckeye, Queen Creek & Fountain Hills

	Strengths	Weaknesses
Buckeye	<ul style="list-style-type: none"> - One hauler (reduces pollution, wear and tear, gas usage) - Once a week pickup (trash and recyclables) - Recycling education programs at school - HHW drop off 	- Not the cheapest service fees in the valley.
Fountain Hills	<ul style="list-style-type: none"> -Four different service options for trash and recycling pickup -Inexpensive service fee -Republic Rewards program 	-No bulk pickup offered by the town.
Queen Creek	<ul style="list-style-type: none"> -New trash trucks -Cheap monthly rate compared to other cities in the valley -One hauler (reduces pollution, wear and tear, gas usage) -Once a week pickup (trash and recyclables). -Ownership of their trash/recycling carts. -HHW collection 	-Electronics, tires, and document shredding is only done on scheduled days throughout the year.

Table 4: Comparison of waste management services for Buckeye, Queen Creek & Fountain Hills

	Buckeye / Republic Services	Queen Creek / Right Away Disposal	Fountain Hills / Republic Services
Option(s)	-1 trash container -Addl. containers available for a fee	-1 trash cart -Addl. carts available for \$7.15 -City owns the carts	-Option 1: 1 trash cart & 1 recycling cart -Option 2: 2 trash carts -Option 3: 1 trash cart -Option 4: 1 trash cart
Trash/ Recycling Pick-up	-Once a week trash pick-up -Alternate day recycling pick-up	-Once a week trash and recycling pick-up -Bulk pick-up 1/mth	-Option 1: Once a week; Same day service -Option 2: Once a week; Same day service -Option 3: Once a week; Same day service & 1 extra trash pick-up during week -Option 4: Twice a week
Recycling	-1 container for single-stream recycling: Metals (less than 50 lbs.), paper, cardboard, plastic, glass and cans	-1 recycling cart: Aluminum, metal cans, cartons, plastic, paper, glass are accepted	-Options 1,2,3: 1 recycling cart -Option 4: No recycling cart -Town does not receive any money / fees back from Republic Services for recycling collection -A 20% recycling diversion rate -Republic Services Reward program uses resident recycling participation points and offers a \$10,000 grant to community organization winner
Bulk	-Must fit in 6'x6'x6' space; Residents needing more space can receive special rate (minimum \$10.30) -Furniture, mattresses, household items accepted; -Construction accepted -Appliances with Freon removed and tagged certificate accepted	-Must fit in 6'x6'x6' space -Furniture, large appliances and household debris accepted -Bag leaves and grass; bundle logs & sticks; box cacti and sharp plants -Pick-up available 1/mth	-Town does not offer bulk pick-up. -Boy Scouts offer refrigerator recycling program
Pricing	-Curbside trash & recycling pick-up: \$19.87/mth -Vacation rate: \$11.44/mth -Vacation hold up to 6 mths	-Curbside trash & recycling pick-up: \$16.22/mth	Curbside trash & recycling pick-up: -Option 1: \$11.57/mth (popular) -Option 2: \$16.63/mth -Option 3: \$16.63/mth -Option 4: \$16.64/mth (not popular)
Green waste/ Hazardous waste / Other events	-GW: Bag in biodegradable bags, no more than 30 gallon container -HW: Drop-off at Public Works yard	-Electronic disposal: 3/yr -Doc. shredding: 2/yr -Tire disposal: 1/yr -Christmas tree disposal: 2 weekends/yr -Reduced self-haul rates and neighborhood drop-off recycling available	-HHW, electronic recycling and fluorescent light bulb collection & crushing are handled by the town during yearly events -These services are contracted through other companies for disposal, not Republic Services
Landfill	-Republic Services leases Southwest Regional Landfill from Buckeye Pollution Control Corp. -Buckeye's receives 7% of landfill tipping fees	-Home to a Maricopa County landfill	-No landfill -All trash and recycling taken by Republic Services to Happy Valley transfer station and then to the Maricopa landfill

EPA: MANAGING AND TRANSFORMING WASTE STREAMS TOOL

In this section, examples of best practices and policies are highlighted and describe what many cities and counties across the United States are doing to reduce, reuse and repurpose materials. These examples are available through the online EPA Managing and Transforming Waste Streams Tool with the goal of increasing waste diversion and achieving zero waste. This online tool is designed for managing and transforming waste streams to help communities reduce the amount of waste sent to landfills by promoting recovery and reuse of items. It allows users to customize a search and identify different programs and actions that can fit specific problems. These programs may offer ideas that Apache Junction can implement to divert its reusable products. Although much more can be found on the EPA's website, only a few policies and procedures have been selected for this report (for more details see link at (<https://www.epa.gov/transforming-waste-tool/managing-and-transforming-waste-streams-tool>)).

Each of the examples below are numbered according to the actual EPA website listings.

#19. Mandatory Subscription for Organics/Composting

Sector: Residential, ICI (Institutional, Commercial, Industrial)

Required by ordinance compliance of households or businesses with composting and/or properly separating organics from refuse.

Example: Seattle, WA

By ordinance, the City requires recyclable and compostable materials be kept out of garbage; The ordinance is enforced through visual inspections, warning notices, and fees and the City tags garbage containers filled with more than 10% recyclables and compostable. The City's multilingual outreach team, drawn from members of the community, has successfully engaged

businesses to increase recycling and composting rates. This would require the creation of a city ordinance that would require residents to have any organic waste, including green waste/lawn trimmings, picked up by the contracted waste disposal company.

#34. Expanded Municipal Collection – Recyclables

Sector: Residential, ICI



Expand curb/dockside collection services to include recyclable items that contain toxic materials or are bulky and hard to handle.

Examples: Queen Creek, AZ

The Town offers residents curbside collection of textiles for recycling in a special blue bag that can be placed in the recycling cart. During the first two years of the program, over 32,000 pounds of textiles were collected and diverted from the landfill, resulting in a donation of \$3,200 to the Queen Creek Boys and Girls Club.

<http://queencreek.org/departments/textile-recycling-program>

#42. Right Size Service

Sector: Residential, ICI

Provide technical assistance to customers to help them select containers that are the right size for the amount of trash, recyclables and compostables produced.



Examples: Tucson, AZ

The City offers a “Right Size Your Can” volume-based service for trash and recycling containers with reduced monthly rates for smaller containers.

#46. Service Provider Contract and Franchise Agreement Incentives or Requirements

Sector: Residential, ICI

Amend service provider contract or agreement to achieve high diversion by providing incentives or setting requirements, e.g., contract extensions, lower franchise fees, bonuses or liquidated damages, limited or no disposal payments, required productive use of organics.

Example: Cupertino, CA

The City negotiated its 5-year Franchise Agreement to engage its hauler in achieving 75% waste diversion citywide by a target date, making future contract extension contingent upon achieving the goal. Since the City established this 75% diversion goal, more than 2,000 tons of food waste generated by the residents and business has been diverted from the landfill.

#62. Recognition & Certification Programs

Sector: Local, ICI

Increase the level of participation in recycling and composting programs, provide recognition for successes through a Green Business program or a Zero Waste Businesses or Schools program.

Example: Fort Collins, CO

The City's ClimateWise is a voluntary recognition program offering ratings of silver, gold, or platinum based on a point system for strategies



implemented in the areas of energy, water, waste, transportation, and social responsibility; businesses and schools can earn a waste badge by selecting from a menu of specific practices for reduction, reuse, and recycling.

In 2015, ClimateWise had 100 partners, saved over \$1 million dollars due to positive reductions in operating costs, completed more than 2,500 sustainability projects, and had more than 1,300 people participate in sustainability challenges.

#90. Reuse Center for Sale of Used Goods

Develop or contract for reuse centers for sale of salvaged building materials and used household items. A reuse center focused on large household items, electronics, appliances, building materials, and other white goods could help address key issues in the City of Apache Junction. While the city offers a drop off day once a year for HHW and white goods, there is a lack of options for community residents to dispose of large and hard-to-recycle items. A reuse center could help re-circulate items within the community while hopefully limiting illegal dumping. As is the case in the example provided below, the City of Apache Junction could partner with neighboring cities to operate a centrally located reuse center to ensure a higher participation rate.

Example: Last Chance Mercantile – Monterey, CA

The Monterey Regional Waste Management District is relatively large and represents nine local governments. It operates the Last Chance

Mercantile which is an 8,000 square foot reuse center that is co-located at the Monterey Peninsula landfill and materials recovery facility. The reuse center which also include stations for free drop-off of electronic waste, accepts a wide variety of material goods for re-sale. Most of these materials include clothing, housewares, furniture, building materials, tools, and sports equipment.

FINAL RECOMMENDATIONS

Based off of the review of the current City of Apache Junction waste service and management program, comparison with City of Buckeye and Towns of Queen Creek and Fountain Hills, and the review of selected waste stream management best practices, this section provides a set of short- and long-term recommendations.

Short-Term Recommendations

Establish a solid waste/recycling ad hoc committee

If the City of Apache Junction chooses to move forward in making changes to its solid waste/recycling services and procedures there will be a significant amount of work that may need dedicated staff members. In Queen Creek and Buckeye, waste services transition team members agreed that an ad hoc committee could be well utilized. Queen Creek, when adopting new waste collection policies and services, opted to establish a dedicated team to handle the workload. The Town was able to utilize interns, directed by a task force leader, to help with various activities such as data collection and educational outreach. One of the first assignments of Apache Junction's solid waste/recycling ad hoc committee would be to investigate issues of non-compliance in regards to state and county solid waste collection mandates.

Utilize solid waste management networks

There are state, national and international networks that share information on best practices

and we recommend that Apache Junction take advantage of those that are available. One resource that is available locally is the Maricopa Association of Governments (MAG). Apache Junction is already a member of the association and may be able to use it to help coordinate efforts with neighboring cities. MAG has a Solid Waste Advisory Committee, and the city could leverage its membership to obtain advice and other resources from it. Another network that may be helpful is the International City/County Management Association (ICMA). The ICMA connects municipal governments to share information and collaborate on local projects. In the past, the City of Bullhead City (AZ) has worked with other city governments on a solid waste related project and they may provide insight into how the organization works.

Reuse center and/or HHW collection center

Using Last Chance Mercantile in Monterey, CA as an example (mentioned in previous section), we recommend that Apache Junction consider the possibility of opening up a reuse center for 'hard to recycle' goods. This center may also be used as a HHW collection center if possible. The City could approach both Maricopa and Pinal Counties that offer locations outside of Apache Junction city limits. The City could also approach neighboring cities with a proposal of a partnership to share a location in order to share costs, responsibilities, and services. Such a center could be beneficial to residents as it will give them options to recycle goods within the community and would ultimately be a tool for diverting trash out of the waste stream. Utilizing a private contractor is another option if the county cannot provide services and neighboring cities are unable to implement such a plan.

Engage the community

An important part of a transition of policies or procedures in the future will be engagement with the community. Gaining feedback from residents on possible new services and rates

will be valuable in drafting new ordinances or contracts with waste collection providers. Educating the community on new procedures will also take time and will need significant attention. Education and outreach for the public is key to creating an efficient and successful operation, so it is recommended Apache Junction create a robust program. Buckeye noted that the most difficult part of transforming waste management in the city was interacting with the residents, especially those who were, and remain, hard to reach. Buckeye was able to get Republic Services to provide all outreach information for the public, which is a possibility for the City of Apache Junction. Recycling education will also be essential in maintaining a favorable diversion rate. We encourage Apache Junction to facilitate a recycling education program in schools, similar to the one used in Buckeye. This outreach information can potentially be obtained from another local city.

Waste diversion plan

For community sustainability, the EPA recommends planning and adopting goals for diverting high volumes of waste (by a targeted year) away from landfills and waste-combustion. However, Apache Junction can start with lower diversion goals over a shorter number of years. Apache Junction would have to create a city code as the executive regulation to establish a waste diversion goal rate, i.e. achieve or exceed a 10% recycling of the solid waste stream by FY 2020. This would mean Apache Junction's waste haulers would have to measure and report metrics such as the recycling and waste diversion rate to the city for goal tracking. The plan would also have to identify all related authorities and all related laws to enforce these plans and goals.

Waste diversion would be done through reuse of materials, reducing waste, recycling, and composting.

Long-Term Recommendations

Mandatory trash collection

We recommend that the City of Apache Junction require its citizens have a contract with a waste collection contractor. This follows the recommendation that the city needs to be confident that it is adhering to all state and county ordinances regarding solid waste collection.

Beyond this reason, it is important for the city to have well-structured waste collection policies for the future as the city continues to grow. If the city is to attract residents and businesses, it is important that the city stay competitive in what it has to offer. Also, to follow the example of the Town of Queen Creek, if possible, we recommend the City of Apache Junction consider eventually combining the residents' trash bill with other service bills provided by the city such as water. The Town of Queen Creek has found success with this in that it not only helped streamline the transition to a new system but also made it easier for the city to address possible issues of non-payment.

Contracting with a single service provider

The case studies of the city and towns of Buckeye, Queen Creek, and Fountain Hills reinforced that solid waste collection is likely to be more cost effective and easier for the City of Apache Junction if the city contracts with a single waste collection provider rather than providing services itself. If the city is to move forward in adopting new policies and procedures, providing trash collection services internally requires significant upfront investment in solid waste collection vehicles, maintenance centers, and collections bins, to name a few. The three cities highlighted in this paper have all contracted with a single waste hauler to eliminate the issues that stem from having multiple haulers collecting solid waste within the city. As with the case of Fountain Hills and Buckeye, we recommend the City of

Apache Junction look into modifying an existing waste collection services contract to fit the city's needs. The Town of Queen Creek's contract could prove to be a valuable model for a similar contract in Apache Junction.

Request for proposals (RFP)

In following the recommended actions regarding a contract with a single provider, the City of Apache Junction would need to draft a request for proposals (RFP) to be sent to waste collection providers requesting bids for an exclusive contract with the city or the city could adapt an existing RFP from another city, such as Queen Creek, to fit the city's unique needs. Some special requirements could include allowing a vacation hold for the large number of residents that reside in the city during the winter months only. The RFP is a critical step in securing a long-term contract and creating stable and streamlined waste management procedures in the city. Before sending out an RFP for bid, we recommend that the city survey residents about their willingness to participate and/or comply with a mandatory trash service. The survey could benchmark compliance rates for hard to reach citizens and serve as a basis for city officials to understand barriers to compliance.

CONCLUSIONS

As Apache Junction continues to grow, the city will need a robust solid waste policy in place to support an increasing population and the need for clean, safe streets and neighborhoods. The information and recommendations pertaining to waste services and management cited in this paper will help the city address these issues more completely. The best practices and lessons learned from the City of Buckeye and the Towns of Queen Creek and Fountain Hills have been highlighted and would be relevant.

They can serve as a road map for the City of Apache Junction as it aims to expand its waste services. The tools, policies, and services recommended are aimed at creating a comprehensive approach to solid waste management. If adopted, Apache Junction will become a cleaner, safer, healthier community while saving money on street repairs, minimizing truck traffic in neighborhoods, reducing waste going to the landfill, increasing recycling, and reducing vehicle emissions for years to come.

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APPENDIX

Ordinances

Apache Junction City Code

Article 9-5: Collection of Residential Solid Waste

§ 9-5-1 LEGISLATIVE PURPOSE.

It is the purpose of this article to regulate the collection of residential solid waste to promote the public health, safety and general welfare of the citizens of the city, and to avoid and mitigate the detrimental effects of random trash collection, insufficient solid waste containers and substandard collection vehicles and equipment through reasonable regulation. It is not the purpose of this article to prohibit or unreasonably restrain private enterprise from delivering solid waste collection services within or to the residents of the city. In addition, this article is not intended to favor local enterprise by prohibiting out-of-town or out-of-state competition.

(Ord. 1255, passed 1-3-2006)

Arizona Administrative Code

Title 18, Ch. 13 Article 3 - Refuse and Other Objectionable Wastes

R 18-13-305. Collection Required

- A. Where refuse collection service is available, the following refuse shall be required to be collected: Garbage, ashes, rubbish, and small dead animals which do not exceed 75 pounds in weight.
- B. The following refuse is not considered acceptable for collection but may be collected at the discretion of the collection agency where special facilities or equipment required for the collection and disposal of such wastes are provided:
1. Dangerous materials or substances, such as poisons, acids, caustics, infected materials, radioactive materials, and explosives.

2. Materials resulting from the repair, excavation, or construction of buildings and structures.
3. Solid wastes resulting from industrial processes.
4. Animals exceeding 75 pounds in weight, condemned animals, animals from a slaughterhouse, or other animals normally considered industrial waste.
5. Manure.

Maricopa County Environmental Health Code

Chapter II, Section 5 - Non-hazardous Solid Waste Collection and Disposal Services

Regulation 6 - Collection Required

- A. Where refuse collection service is available, the following refuse shall be required to be collected: Garbage, ashes, rubbish, and small dead animals which do not exceed 75 pounds in weight. The following refuse is not considered acceptable for collection but may be collected at the discretion of the collection agency where special facilities or equipment required for the collection and disposal of such wastes are provided:
1. Dangerous materials or substances, such as poisons, acids, caustics, infected materials, radioactive materials, and explosives.
 2. Materials resulting from the repair, excavation, or construction of buildings and structures.
 3. Solid wastes resulting from industrial processes.
 4. Animals exceeding 75 pounds in weight, condemned animals, animals from a slaughterhouse, or other animals normally considered industrial waste.

5. Manure.

Pinal County Environmental Health Code

Chapter X - Handling and Disposition of Garbage, Rubbish, and Refuse

Regulation 5 - Storage or Removal of Garbage

A. Where facilities are available, such stored material shall be removed from the premises, or otherwise properly disposed of, at least twice a week. In other areas, where removal facilities are not readily available, such stored material shall be removed from the premises, or otherwise disposed of, at least once a week.

Buckeye City Code of Ordinances

“Chapter 9 - Health and Sanitation Regulations” addresses how the city is to maintain or improve health and safety of citizens through establishing standards for waste and recycling management.

Article Section 9-2-1 - Residential Collection Requirements

- A. All residential solid waste generators for whom city supplied solid waste service is available shall subscribe to the municipal solid waste service, and shall pay the fee assessed by the city. The owner of the property is responsible for this payment.
- B. The city may require any residential solid waste generator regularly generating solid waste that exceeds one hundred (100) gallons or two hundred (200) pounds of solid waste within a collection period, to acquire an additional container or containers subject to the appropriate fee per container, or any resident regularly generating solid waste that requires special handling, to schedule a special bulk waste collection subject to the appropriate collection fee.

Article Section 9-2-2 - Residential Solid Waste and Recycling Collection

A. Collection of residential solid waste and recyclables shall be on a schedule of one collection of refuse and one collection of recyclables per week.