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To: Mr. Joey Hejnowicz, Administrative Analyst, Ms. Gloria Hurtado, Deputy City Manager, City of Santa Rosa

From: R3 Consulting Group

Date: December 11, 2018

Subject: Summary of Existing Policies, Programs and Facilities, Population, and Commercial Growth Projections (Task 3.1)

Background and Historical Information

Regional Organization

The current structure of solid waste management in the City of Santa Rosa (City) began to take shape in 1992, when the City became a member of the Sonoma County Waste Management Agency (SCWMA). SCWMA is a county-wide Joint Powers Authority (JPA) organized to provide regional programs that assist jurisdictions in meeting waste diversion goals set by the State of California. In 1996, the JPA Agreement was amended to name the organization as a Regional Agency with the authority to act on behalf of its members in performing necessary planning and reporting functions. The JPA Agreement was recently renewed by all ten Member Agencies in 2017: the County of Sonoma, City of Cloverdale, City of Cotati, City of Healdsburg, City of Petaluma, City of Rohnert Park, City of Santa Rosa, City of Sebastopol, City of Sonoma, and the Town of Windsor. The term of the renewed JPA Agreement is to remain in effect until SCWMA is dissolved.

Disposal

Sonoma County (County) owns four transfer stations throughout its territory as well as the Central Landfill where the City of Santa Rosa disposes of its garbage. In 2015, the County contracted with Republic Services, Inc. (Republic) to manage the landfill under a Master Operating Agreement (MOA) which ensures that the County maintains ownership of the transfer and disposal system. Negotiated simultaneously through individual Waste Delivery Agreements (WDA), each SCWMA Member Agency, with the exception of Petaluma, has committed waste flow to Republic Services for a 25-year term. As part of the WDAs, the closure, post-closure maintenance, and unforeseen costs such as liabilities related to the landfill became the responsibility of Republic.

Collection

In 2017, the City conducted a competitive procurement process to select a new hauler for garbage, recycling, and organics collection, and awarded Recology Sonoma Marin (Recology) an exclusive franchise agreement for provision of these services within the City. Following the award of the franchise, Recology

entered into an asset purchasing agreement with the City's previous hauler, North Bay Corporation (The Ratto Group). The asset purchase effectively rendered The Ratto Group without assets to provide services, as those assets became the property of Recology. Recology took over Santa Rosa's exclusive franchise on December 24, 2017 and is the current hauler for the City.

Summary of Existing Facilities

Central Landfill

Originally sited in 1972, Central Landfill operated for over 30 years as the primary destination for waste generated by the community. In 2005, the County closed the landfill due to permit revisions made to address environmental concerns. For several years following the closure, the majority of garbage generated by SCWMA Member Agencies was hauled to landfills in neighboring jurisdictions. In 2015, the County re-opened the landfill with Republic as its operator. The MOA between the County and Republic, and the WDA between the City and Republic, were developed to ensure waste is delivered to the landfill for the next 25 years.

The 398 square acre disposal facility located outside the City of Petaluma has a maximum permitted throughput of 2,500 tons per day. In their most recent annual report, presented in August of 2018, Republic estimated that the landfill can accommodate approximately 8,250,000 tons before it reaches capacity. At the current rate of disposal, Republic expects to reach the limit of this capacity in 27 years.

In addition to disposal functions, there are two processing lines at Central Landfill intended to help the facility meet diversion goals (currently set to divert 67,000 tons of material per year) established in the MOA. One processing line is intended to sort and divert recyclables extracted from loads of dry commercial waste, and the other removes recyclables from construction and demolition (C&D) debris loads. In 2017, the landfill diverted approximately 20,000 tons of recyclables and applied 8,000 tons of disposed earth, soil, and dirt for beneficial reuse as alternative daily cover. Together these figures total less than 50% of the diversion requirement established for the facility.

The majority of Santa Rosa's solid waste goes to Central Landfill in fulfillment the City's WDA with Republic. This waste delivery commitment includes non-recyclable materials, mixed waste, and beneficial reuse materials. The only exceptions from the WDA are C&D materials, residential food waste, source separated organics, and marketable recyclable material. The City's franchised hauler, Recology, must direct all other waste, including residuals produced at recycling and organics processing facilities, to the landfill per this agreement.

Construction and Demolition Recycling Facilities

Most of Santa Rosa's C&D material goes to the C&D line at Central Landfill. Republic reports that in 2017 this line diverted approximately 4,600 tons of C&D material for recycling. This number represents the total diverted from all C&D loads delivered from throughout the County.

In 2018, Republic completed the purchase of another C&D facility in Santa Rosa called Industrial Carting. During a recent interview Republic stated that the site will be used as a transfer station, drop-off center, and debris box center.

The other main C&D facility serving as a collection site for debris from Santa Rosa is Pacific Sanitation which operates at a transfer facility in the Town of Windsor. This site has a processing capacity of approximately 125 tons per day and serves 7 Bay Area Counties in addition to Sonoma.

Material Recovery Facility

In 2017, as part of their asset purchase agreement with The Ratto Group, Recology gained ownership and operation of its material recovery facility to process recycling. The machinery in the facility is many years out of date, which has limited processing capacity to approximately 350 tons per day. Recology is presently designing upgrades to the recently purchased facility which will include up to \$6 million in new equipment investments. The goal for the new investments is to increase processing capacity to the permitted flow rate of 500 tons per day without speeding up the processing lines. The strategy is to add more lines that move at the same slow speed, allowing for strict standards to be met in minimizing contamination. Planned improvements will provide for a full system overhaul including new cardboard sorting screens, glass separation equipment, and an additional bailing unit. The 7.5-acre facility located on Standish Avenue in Santa Rosa is the primary destination for all curbside recycling collected in the City.

Compost Facilities

Sonoma Compost operated at the Central Composting Site (located on the same property as the Central Landfill) from 1993 until its closure on October 1, 2015. Sonoma Compost closed due to capital improvement needs related to water discharge and odor emissions and the termination of the agreement between Sonoma Compost and SCWMA. Member agencies that previously had their organic waste delivered to the Central Composting Site continue to have their franchised haulers deliver organic waste to one of the four (4) in-County transfer stations. After the closure of Central Composting Site, SCWMA began arranging contracts for the delivery of organic waste to other facilities. In June 2018, SCWMA entered into short-term contracts for processing organic materials with Redwood Landfill Composting Facility and Cold Creek Compost. All Santa Rosa organic material is currently transported to Redwood Landfill Composting Facility for processing.

In August 2018, SCWMA selected Renewable Sonoma to enter into a long-term agreement for in-county processing of organic materials through anaerobic digestion and covered aerated static pile (CASP) composting. The proposed facility will be located on a 13-acre site on land owned by the City of Santa Rosa adjacent to the Laguna Water Treatment Plant. Renewable Sonoma plans to process up to 121,000 tons of organic material per year, producing approximately 100,000 cubic yards of compost and mulch annually as products for sale. Additionally, the anaerobic digestion processing component of the facility will generate biogas that can be used to power generators at the water plant, reducing the facility's carbon footprint. The facility is scheduled to be built and fully operational by the end of 2021.

Summary of Existing Policies

Important State Legislation

AB 939 – State's 50% Diversion Requirement and Goals

AB 939, passed in 1989, established a 50% diversion requirement for all solid waste generated in the State of California. To measure progress towards this goal, local jurisdictions or their recognized Regional Agencies are required to report population, waste tonnage disposed, materials tonnage diverted, programs implemented, and other information to CalRecycle via the Electronic Annual Report (EAR) in August of every year. AB 939 also mandated that long-term waste management plans be produced and updated regularly by jurisdictions or their representative Regional Agencies.

SCWMA submits all required diversion reports to CalRecycle on behalf of Santa Rosa. Although SCWMA is the official agency subject to the planning requirement of this Bill, products of Santa Rosa's Plan will impact and may be included in future SCWMA reports.

AB 341 – Mandatory Commercial Recycling

In 2012, AB 341 increased the statewide diversion goal to 75% and instituted mandatory recycling service for all businesses, multi-family properties (5 units or more) and public entities that generate more than four cubic yards of solid waste per week. Additionally, the Bill requires education and outreach programs be implemented to inform covered generators of their obligation to meet the terms of the regulation. To measure efforts made to comply with this policy, CalRecycle requires an annual report which details the commercial recycling program, including endeavors in education, outreach, and monitoring.

AB 1826 – Mandatory Commercial Organics Recycling

In 2014, AB 1826 extended mandatory commercial and multi-family residential recycling requirements to add organics recycling. Starting in 2016, this law phases in commercial organics recycling over time by increasing the number of covered generators. Under AB 1826, jurisdictions are obligated to identify covered generators that will be subject to compliance, ensure that organics recycling services are available to them, and perform outreach/education and compliance monitoring to make them aware of the requirement to participate. Multi-family properties are not required to have a food waste diversion program. As with AB 341, CalRecycle requires reporting on program offerings and compliance efforts.

SCWMA is responsible for reporting Santa Rosa's fulfillment of AB 341 and AB 1826 as part of the EAR it submits to CalRecycle. Under its franchise agreement with the City, Recology is responsible for meeting outreach and monitoring requirements for these regulations and reporting their work to the City and SCWMA. The franchise agreement specifies that Recology must reach out and conduct on-site waste audits for a minimum of 25% of covered generators per year to ensure that businesses know that recycling and organics collection are available. While this agreement provides for substantial advances toward the policy's goal, City oversight is necessary to ensure the commitment is fulfilled. Additionally, the City could create a page on its website to further publicize AB 341 and AB 1826 requirements.

SB 1383 – Short-Lived Climate Pollutants

Passed in 2016, SB 1383 sets a goal to reduce organic waste by 50% from the 2014 level by 2020 and 75% from the 2014 level by 2025. Additionally, the Bill establishes a target of recovering 20% of currently disposed edible food for human consumption by 2025. The law's requirements are still under development and, though specific regulatory language was released by CalRecycle in October 2017, adjustments may be made until requirements become effective on January 1, 2022. Although the exact language and details of this Bill are not yet finalized, current draft regulations present the following potential impacts on SCWMA and its Member Agencies:

- Local jurisdictions may be required to impose diversion requirements and associated penalties on generators;
- Local jurisdictions may be required to report on purchasing and procurement of end-use organic waste products internally and/or as a requirement on generators;
- Local jurisdictions may be responsible for development of end-uses for processed organic waste (e.g. ordinances mandating local use of finished compost product);
- Local jurisdictions may be required to provide organic waste containers adjacent to public refuse bins; and

- Local jurisdictions may be required to account for organic waste disposal reductions in landfill financial assurance planning.

Jurisdictions across the State are working to prepare for the anticipated impacts of SB 1383. Although the City of Santa Rosa does not currently have policies or procedures in place to meet the listed requirements of this Bill, the planning process currently underway will work to prepare the City for the forthcoming regulatory and administrative impacts.

AB 1884 – Food Facilities: Single-Use Plastic Straws

On September 20th, 2018 the Governor approved AB 1884 which legally prohibits full-service restaurants from providing plastic straws to customers unless upon request. Violation of the Bill results in \$25 fines for each day that a restaurant remains out of compliance and is enforced by state and local officials authorized to administer the California Retail Food Code. The Bill is set to go into effect January 1, 2019.

In preparation for implementation of AB 1884, the City of Santa Rosa can work with the state and local enforcement officers to ensure outreach and education is provided to current restaurants, work with business permitting administrators to ensure new restaurants are in compliance, and provide information regarding the Bill on the City's website.

Sonoma County Policies

2018 Zero Waste Initiative Resolution

SCWMA has adopted the 2018 Zero Waste Initiative Resolution proposed by the Sonoma County Zero Waste Task Force which includes the following commitments to address waste reduction in each Member Agency jurisdiction:

- Reducing the total pounds per person per day, currently 4.6, by at least 10% each year;
- Institute and/or expand high diversion and Zero Waste goals and programs for all government facilities, events, and projects;
- Educate the public regarding the environmental and community benefits of reducing wasteful consumption and increasing diversion through reuse, repair, composting, and recycling;
- Strongly encourage all residents, businesses, and agencies to participate in composting and recycling programs while also encouraging them to reduce and reuse;
- Update the Green Purchasing, Environmentally Preferable Procurement (EPP), and Extended Producer Responsibility (EPR) policies;
- Support adoption and implementation of the countywide Construction and Demolition Reuse and Recycling Ordinance;
- Adopt land use policy to facilitate the siting and permitting of processing and end market infrastructure that will be needed to manage the volume of material from higher levels of diversion;
- Support equitable pay and safe working conditions for material management workers;
- Develop a sound financial model that can sustain high diversion and Zero Waste programs and enable long term delivery of quality services to the community.

As representatives from the City have agreed to implement the above commitments in their acceptance of the Resolution through SCWMA, the elements listed here will be used as guidelines in the development of Santa Rosa's forthcoming waste reduction plan.

Waste Reduction Program for Carryout Bags

SCWMA, including the City of Santa Rosa, unanimously voted to adopt an ordinance to ban plastic bags in Sonoma County. Per this County-wide policy, the City of Santa Rosa has enacted Chapter 9-10: Waste Reduction Program for Carryout Bags. Beginning September 1, 2014, no retail establishment shall provide single-use carryout bags to a customer for the purpose of transporting food or merchandise. If a retailer chooses, recycled bags may be made available to customers for a charge of 10 cents. The sale of the recycled bag must be separately itemized on the sale receipt. Retail establishments must keep a monthly report of the total number of recycled paper bags purchased and sold for a minimum of three years from the date of purchase and sale. Records of purchase and sale of the bags must be available for inspection at no cost to the City during regular business hours. Unless an alternative location or method of review is agreed upon, records must be kept at retail establishment address.

This policy represents a commitment by the City to educate the public and enforce compliance with the regulation's requirements. If desired, the City may consider sharing information regarding this policy on its website and implementing procedures to enforce and measure compliance with its terms. Beyond carryout bags, SCWMA created a model ordinance banning polystyrene (Styrofoam™) products, adopted in June 2018 by Sonoma County into its Code of Ordinances. Should the City adopt the ordinance in a similar manner to the carryout bag ordinance, a ban on polystyrene could be effective in the near future.

Relevant City Policies

In respect to local implementation of the state legislation discussed above, the City of Santa Rosa has enacted the following policies through its municipal code:

Chapter 9-12 Refuse and Sanitation

9-12.020 - Authority – Sanitation Department - Composting Program

Asserts the City's authority to create a Sanitation Department to provide for collection and disposal or processing of solid waste, yard trimmings, and recyclable material. Additionally, this ordinance establishes that the City has the authority to create or approve of a composting program which would include the curbside collection of compostable materials.

9.12.030 - Authority - Rules and Interpretations - Rates for specialized services

Establishes that the City has the authority to make rules to improve collection systems for solid waste, yard trimmings and recyclable materials. The City also has authority to establish rates for specialized services implemented to realize such improvements.

These ordinances have allowed the City to implement and fund curbside pickup of organic waste for single family residences throughout the community. The ordinance is interpreted to extend to the implementation of similar collection services to businesses and multi-family residences. A subsequent step towards possible desired improvements in these collection systems would be to make participation in the provided services mandatory for all generator types.

9-12.070 Collection Services

Defines public guidelines for participation in solid waste, yard trimming and recyclables collection systems.

Single Family Development Collection Services:

All residential waste is required to be collected in containers provided by the contractor which the City Manager has approved. No materials other than recyclables may be placed into recycling cart, and no items other than green waste and yard trimmings may be placed into the green waste cart.

Section A of ordinance 9-12.070 provides baseline regulation to prevent contamination of recycling and organics carts for single family residences. If the City desires deeper impact in reducing contamination, it could charge a fee for single family residents who contaminate their carts and do not comply with the current regulation.

(B-D) Multi-Family Developments, Mobile Home Parks, and Commercial Collection Services:

All multi-family developments, mobile home parks, and commercial businesses must provide for solid waste and recycling collection services such that the size and pickup frequency of each bin or cart is sufficient to accommodate the amounts of solid waste and recyclables generated on the property.

Like Section A discussed above, Sections B-D of ordinance 9-12.070 establish that recycling containers are not to be contaminated with garbage and could be likewise enhanced through the imposition of a fee for contamination. (Note: contamination fees are imposed on these generators for improper use of recycling bins per the franchise agreement with Recology). More importantly, these regulations are set apart from the single family ordinance in that they do not require the covered generators to provide for organics collection. In this way, while the City's current ordinance is reflective of State regulation AB 341 for mandatory commercial recycling, it has not yet come in line with AB 1826 requiring commercial participation in mandatory organics recycling.

Chapter 9-14 Construction and Demolition Debris

9-14.020 Requirement of franchise agreement.

Requires that entities providing construction and demolition debris (C&D) collection services enter into non-exclusive franchise agreements with the City.

9-14.030 Exceptions to franchise requirements.

In addition to relieving property owners and construction/landscaping contractors from the franchise agreement requirement above, the City also allows for loads of C&D which are recyclable to be transported by unfranchised hauling companies provided that 90% of the material is actually recycled and not disposed of.

9-14.040 Granting of non-exclusive franchise agreement.

Among other requirements, this ordinance establishes that all non-exclusive franchised haulers for construction and demolition debris collection service are required to provide a recycling plan in a form designated by the City Manager.

9-14.050 Franchise – Terms and Conditions

As a part of the terms and conditions of being a non-exclusive franchise hauler, 50 percent of all construction and demolition debris collected within the City must be recycled.

The City's current C&D ordinance sets a standard of 50% diversion of materials from this waste stream. In subsequent sections of this memo, various increases to this standard of diversion are proposed and could be reflected in forthcoming updates to this regulation. One problem that may be identified in the present regulation is the difficulty in measuring diversion in this waste stream overall and in particular, how the City can capture information regarding recycled tonnages transported by unfranchised haulers. Monitoring protocols need to be established to confirm franchised hauler compliance with the diversion standard and additionally to capture diversion information from unfranchised hauling of recyclable loads.

Additional City Policies

Aside from the municipal code ordinances discussed above, the City has also set forth the following policies:

Green Building Standards

In addition, and related to the above, the City also adopted the California Green Building Standards Code, Part 11 of Title 24, 2016 Edition (CALGreen), which contains standards for residential and non-residential building including a minimum of 65% diversion of C&D on all covered projects.

As mentioned above, the City's current ordinance sets a standard of 50% diversion for C&D materials. Following the adoption of CALGreen standards discussed here would require increasing this diversion standard to 65%.

City of Santa Rosa's Climate Action Plan (CAP)

Adopted June 5, 2012, the City's CAP commits Santa Rosa to reduce the impact of waste on the climate by lessening its contributions to greenhouse gas emissions. The Plan proposes the following strategies to reduce the amount of material sent to the landfill from Santa Rosa:

- Improve the amount and types of waste that are accepted for curbside recycling and green waste pickup and educate the public regarding their options.
- Encourage restaurants to compost food and provide recyclable or compostable to-go containers.
- Increase the City's C&D ordinance to require 75% diversion by 2020 and 85% diversion by 2035.

Additionally, the Plan offers the following Materials Management strategies to reduce the availability of common hard-to-recycle materials:

- Discourage the use of Styrofoam containers and plastic bags.
- Encourage local businesses to reduce amounts of packaging used.
- Discourage the use of bottled water at City events.
- Adopt a long-term waste diversion goal.

The City's Climate Action Plan lays out several strategies that need to be developed for implementation. Of note, and related to the above, the CAP suggests increasing C&D diversion standards to 75% by 2020 and to 85% by 2035. This and other elements will be considered in the policy recommendations produced for the forthcoming waste reduction plan.

Environmentally Preferable Purchasing Policy

In 2013, the City adopted an Environmentally Preferable Purchasing Policy (EPPP) which established a model for supporting the procurement of environmentally preferable products, positioning the City to

lead by example and encourage citizens in the community to adopt similar practices. The EPPP seeks to conserve natural resources, identify and give recognition to manufacturers and vendors that reduce environmental impacts in their production and distribution systems or services, encourage waste stream diversion, and reduce the landfilling of materials. The EPPP supports the City's Extended Producer Responsibility goals, adopted in 2010, and also supports the City's Climate Action Plan adopted in 2012.

The EPPP sets a standard of leadership for municipal government. Like with other policies mentioned in this section, it will be beneficial for the City to set benchmarks, monitor improvements, and measure progress towards desired changes established through this policy.

Summary of Existing Programs

SCWMA Programs

The Sonoma County Waste Management Agency currently provides its member agencies with the following programs:

The Household Hazardous Waste (HHW) Program: SCWMA offer three options for residents to properly dispose of household toxic waste: *The Household Toxics Facility* located at the Central Landfill accepting drop-off of material for free three days per week; *Community Toxics Collection* events held weekly throughout the County to provide a more convenient free drop-off location to residents far from the Central Landfill; and the *Toxics Rover Pickup Service* which provides weekly door to door pickup of household toxics in rotating communities throughout the County scheduled by appointment for a \$50 fee.

Education and Outreach Programs: SCWMA operates an Eco-Desk which organizes county-wide education and outreach. The JPA manages a website to share resources such as the organization's annual recycling guide and to raise awareness of campaigns to reduce waste including a "Stop Junk Mail" campaign.

Mandatory Commercial and Multi-family Diversion Outreach Programs: SCWMA provides information to commercial and multi-family waste generators to educate them on how to comply with state commercial recycling (AB 341) and state commercial composting (AB 1826) regulations. They also offer resources through the Eco-Desk to help businesses receive assistance with implementation of an on-site recycling program or perform a waste audit, and incentive programs including the Sonoma Green Business Program which certifies and acknowledges businesses that minimize waste.

Safe Medicine Disposal Program: SCWMA provides resources for sharps disposal through the Toxics Rover Pick-up Service that collect sharps from homes for a cost, at its Community Toxics Collection events and at the Household Toxics Facility.

City Programs

Outreach and Education through City Events

The City works to promote zero waste culture in Santa Rosa through outreach and education. The annual Earth Day Festival is one avenue through which City staff directly engages the community to inspire awareness: City staff encourage vendors and participants to reduce consumption and increase reuse, recycling and composting. In 2018, the Earth Day Festival's goal was to be a zero waste event. City staff

are researching the development of zero waste event guidelines and requirements to help all large events to achieve high waste diversion.

Take it From the Tap

Santa Rosa Water offers a hydration station for use at City sponsored events and visits Santa Rosa schools to promote healthy hydration and the use of reusable water bottles over single-use plastic options. Students are given reusable water bottles and receive classroom education on the health, environmental, and economic benefits of choosing tap water. This mobile hydration station is the first of its kind in Sonoma County and is a part of the City's "Take it From the Tap!" program.

Illegal Disposal Site Abatement

The City considers responsible waste management a priority for every segment of the population. In 2015 the City won a CalRecycle grant worth approximately \$400,000 for Illegal Disposal Site Abatement to address clean-up of homeless encampments. Such encampments generate waste that needs to be managed, that may be hazardous, or that may end up in local waterways. Education and prevention activities were also offered through this program to address the public health, safety, and environmental impacts caused by the growing homeless population living on the City's waterways, public lands and parklands.

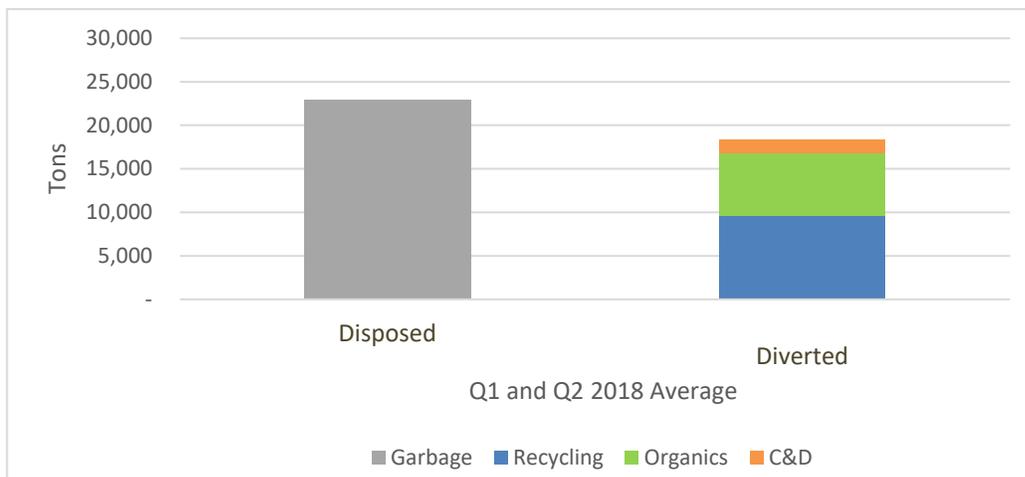
Recology Programs

Recology, Santa Rosa's franchised hauler, offers many programs in addition to providing solid waste disposal, recycling and organics services. Recology employs four (4) Zero Waste Specialists who conduct audits of commercial waste streams for businesses to identify waste diversion opportunities. The Specialists offer tailored recommendations to right-fit dumpsters, provide indoor and outdoor signage, and staff training to ensure proper participation in offered services. Recology also offers community education programs for schools and other groups seeking information and training in waste reduction. Finally, per the Franchise Agreement with the City, Recology provides at least four campaigns per year to promote diversion and organizes monthly neighborhood clean-ups events.

Current Diversion Levels

In order to establish Santa Rosa's baseline for waste diversion and disposal, R3 analyzed Recology reports of waste collected and diverted or disposed, subscription levels to solid waste services, and SCWMA data for regional comparisons and trends. It should be noted that the records provided by the City's previous franchised hauler, The Ratto Group, were inadequate and therefore were not used in R3's analysis. Thus, the information provided below should be considered a snapshot in time and relies on year-to-date information from Recology since the company started providing solid waste services on January 1, 2018.

Figure 1: Average Santa Rosa Waste Diversion Q1 and Q2 2018



Overall, Santa Rosa’s residents and businesses separate a little less than half of their waste materials from garbage for recycling, composting, or C&D recycling for pickup by Recology. Prior to being processed or disposed, each source separated waste stream is weighed and constitutes the “inbound” tonnage reported by Recology. Measuring diversion with inbound collected waste is a useful indicator of how well recycling, composting, and C&D recycling programs are being utilized. However, after processing, the left over residual waste material must be disposed making “outbound” diversion a more helpful measure of what is actually recovered. Figure 1 above shows waste diversion from landfill after processing to remove contaminants from recycling, organics and C&D waste. The resulting outbound diversion rate is 42%.

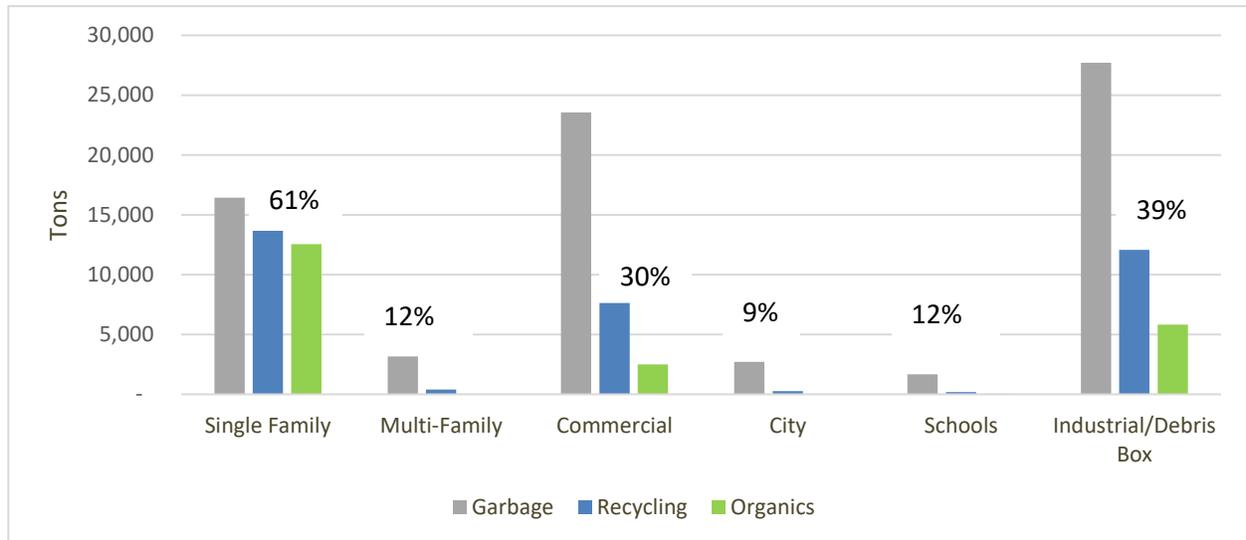
Table 1: Average Recology Collected Waste Tonnage Q1 and Q2 2018

| Waste Stream | Collected | Residual/ Disposed | Diverted | % Diversion |
|--------------|---------------|-----------------------|---------------|-------------|
| Garbage | 22,925 | 22,925 | - | 0% |
| Recycling | 11,003 | 1,373 | 9,630 | 88% |
| Organics | 7,531 | 318 | 7,213 | 96% |
| C&D | 1,762 | 271 | 1,492 | 85% |
| Total | 43,222 | 24,888 | 18,335 | 42% |

Diversion Across Waste Generation Sectors

As seen in Figure 2, the amount of waste disposed and amount diverted from landfill disposal, varies across the City’s different waste generation sectors: Single Family, Multi-Family, Commercial, City, Schools, and Industrial/C&D Debris Box.

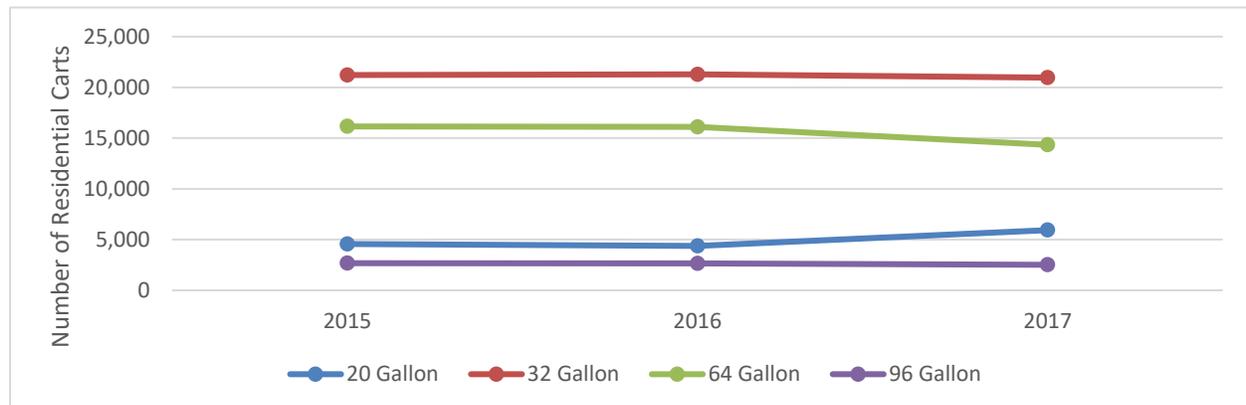
Figure 2: Q1 and Q2 2018 Collected Waste Diversion Across Sectors



Single Family Sector

Santa Rosa single family residents are relatively high diverters of waste. As shown in Figure 3 below, residential garbage cart size in Santa Rosa is trending toward smaller sizes over time. This migration is indicative of the growing success in single family diversion efforts. With an overall diversion rate of 61%, and a relatively low (12.5%) contamination level, single family residences have a proven track record in proper participation in waste diversion. Improvements in further limiting waste disposed for this sector will likely come from waste reduction efforts rather than waste diversion.

Figure 3: Residential Cart Size Over Time



Multi-Family Sector

Effectively engaging multi-family residents to participate in recycling and composting programs presents a challenge for communities statewide, and Santa Rosa is no exception. Based on Recology’s reported weekly subscription levels for garbage, recycling, and composting collection services, 38% of the collection

container volume is recycling or organics. Of the 245 multi-family accounts in Santa Rosa, 194 accounts (79%) have recycling service and 33 accounts (13%) have organics collection service. Greater participation in existing diversion programs by multi-family residents, particularly the City's composting program, could significantly reduce the amount of waste sent to landfill by this sector. While the amount of waste multi-family residents generate is a comparatively small portion of Santa Rosa's overall waste stream, reaching the community's goals for waste reduction will require everyone to improve their waste diversion and source reduction habits.

Commercial Sector

Santa Rosa's commercial sector has good potential to improve its waste diversion. Based on weekly subscription levels, 52% of the collection container volume is recycling or organics. Of the 2,656 commercial accounts in Santa Rosa, 2,170 accounts (82%) have recycling service and 402 accounts (15%) have organics collection service. Like in the multi-family sector, greater participation in currently offered diversion programs, especially organics collection services, could assist in diverting considerably more materials from landfill disposal. Diversion efforts could potentially be supported through enhanced and targeted technical assistance to educate the business community, source reduction and reuse promotion, and right sized containers. Improvements in commercial sector waste diversion and reduction will have significant impacts on Santa Rosa's progress towards its waste reduction goals.

City

Waste diversion at City facilities has excellent opportunity to improve through greater recycling and composting. While diversion measured on collected tons is low (10%), staff are working to establish a composting pilot to bring green carts to more City facilities which will enhance future diversion performance. Staff have also voiced a strong interest in modeling high diversion practices for the community, demonstrating the City's commitment to taking leadership in supporting achievement of the community's high diversion goals.

Schools

Schools in Santa Rosa are not required to contract with Recology for solid waste hauling. Recology does service 7 schools in Santa Rosa and provides garbage, recycling, and organics collection. Schools offer an opportunity for education and Recology's zero waste specialists routinely present at schools in Santa Rosa and Sonoma County. Unfortunately, it can be difficult to monitor school diversion and tonnage outside of Recology. Schools are usually low tonnage in comparison to other sectors but are covered under AB 341 and 1826 requiring recycling and organics collection. Schools can be targeted for more regular education by Recology staff and others in the future.

Industrial and Construction and Demolition Debris

Debris box and C&D debris are a significant portion of Santa Rosa's waste. In April through June 2018 alone, 18,150 cubic yards were recycled as C&D debris by Recology. However, this is only 35% of total C&D waste Recology collected; the majority of this material is collected as mixed solid waste. Additional C&D haulers include Pacific Sanitation and Industrial Carting. Similar to the difficulties with schools, it can be problematic to monitor C&D debris coming from the City through multiple haulers because not all haulers are required to report their diversion measurements. SCWMA has attempted in the past to come up with a yearly total for the City's C&D tonnage, however the agency has not been successful in breaking out the C&D material by Member Agency jurisdiction. In the future, Santa Rosa can monitor the C&D material hauled by Recology as a subset of the total C&D material from the City. It should be noted that due to the fires that occurred in 2017, C&D material tonnage is expected to increase in the City as

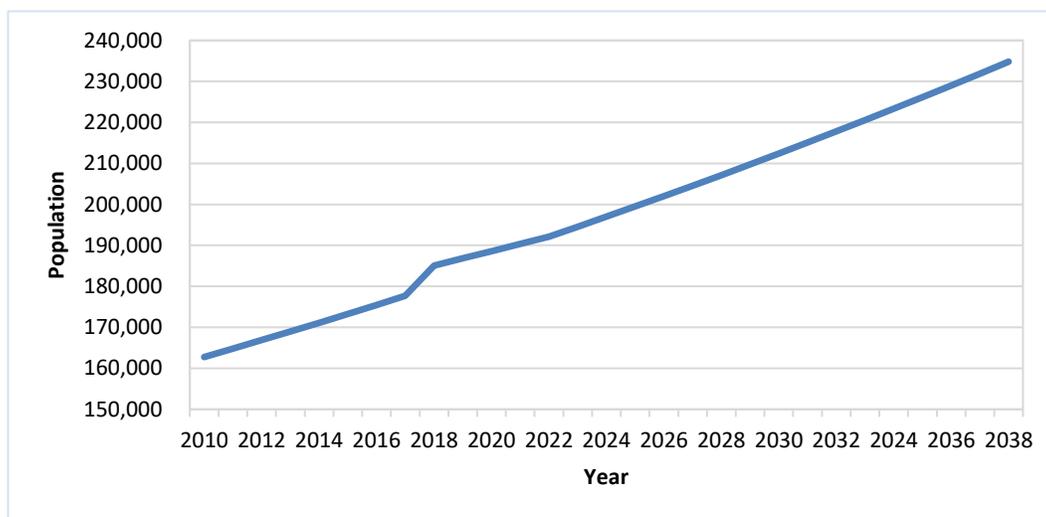
residents begin to rebuild. Ongoing monitoring of C&D material is important to ensure that the material is in fact being recycled and builders follow best practices like source separation on site.

Population and Business Growth Projections

Population

Pulling from the 2018 Santa Rosa City Profile and Projections report, the City's population increased by about 1.3% per year (9.2% overall) between 2010 and 2017. In 2017, the City experienced a large population increase due to its annexation of Roseland which added 7,400 people to the 2018 total. The City is unable to determine population impacts caused by the fires in 2017 but does project lower than historic population increases of 0.9% yearly (3.8% overall) through 2022 as the City works to rebuild. Guided by this information, Figure 4 below graphically expresses past population growth at a rate of 1.3%, a jump of 4.3% between 2017 and 2018 to include the annexation of Roseland, slowed growth of 0.9% for the following four years, and a return to historical increases of 1.3% for the remainder of the planning period.

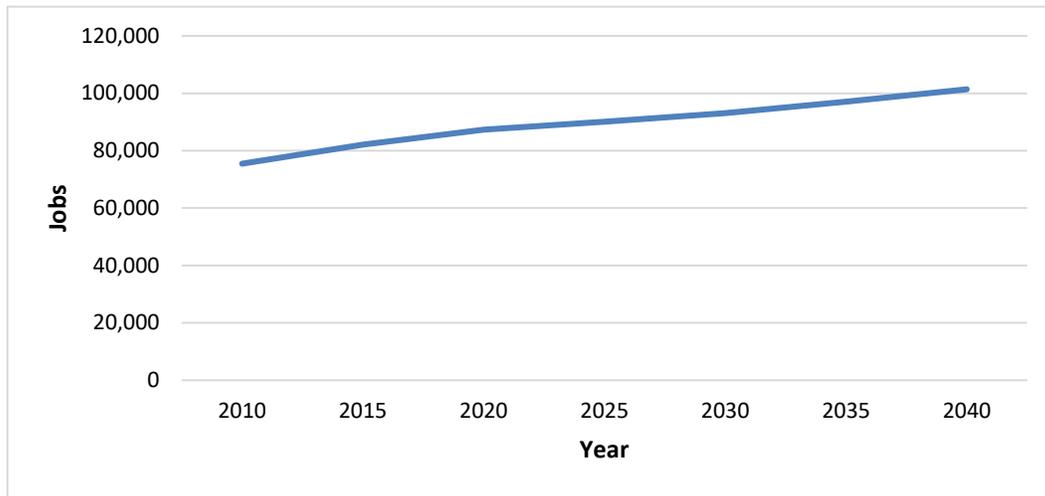
Figure 4: Santa Rosa Projected Population Growth



Commercial Growth

Projection of the number of jobs in Santa Rosa is a key indicator of potential commercial growth. The Association of Bay Area Governments (ABAG) projected that Santa Rosa would see significant job growth from 2010 through 2020; however, as with the projections for population growth, we expect that the fires will impact job growth in the near future. Figure 5 shows the projection of the number of jobs in Santa Rosa based on ABAG's data, modified to reflect a short-term reduction due to the fires.

Figure 5: Santa Rosa Projected Job Growth



In addition, the Santa Rosa Department of Planning and Economic Development stated that as of 2017 the total number of business establishments reported for Santa Rosa in ESRI was 7,477. According to the County’s Fall 2018 Local Economic Report, gross metro product for the entire county is expected to increase over \$3 billion in the next five years. Given this information, Santa Rosa can generally expect increases in commercial growth, but more detailed study is necessary to predict how much growth can be projected and what industries might be responsible for this effect.