Final Report

Solid Waste Management Planning Services

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1.0 INTRODUCTION

The goal of the Rock Island County Waste Management Agency's (RICWMA) Generation Study (Study) is to establish sound methodologies to develop generation rates for residential and commercial waste and diverted materials within Rock Island County. These generation rates can be used to project the amount and types of waste and diverted materials estimated to be generated by the residential and commercial sectors for the next 15 years or more.

The Study also evaluated historical and current diversion programs within the County to identify and recommend potential opportunities for increased diversion. This information, combined with the generation rates and projections, will help inform RICWMA staff and its member communities as they establish integrated solid waste management (ISWM) objectives and priorities as part of the next solid waste management plan (SWMP), which will span 2028 – 2032.

2.0 RESIDENTIAL AND ICI WASTE AND DIVERTED MATERIAL GENERATION

A waste generation model was developed using the foundational data presented in the following sections. This model integrates household and employment data with calculated waste generation rates and waste composition estimates to create a cohesive analytical tool. The model was used to estimate total waste generation, recycling and diversion, and landfill disposal across Rock Island County. It was designed to be user-friendly and adaptable, allowing RICWMA staff to update inputs in future years as population, household, and employment figures change.

This section documents the methodologies and tasks undertaken to analyze waste generated, diverted, and disposed of within Rock Island County that were used as inputs to the model. The Study used a strategic framework to quantify and evaluate residential, institutional, commercial, and industrial (ICI) waste streams by leveraging existing generation and characterization studies, historical data, and local insights.

2.1 WASTE AND DIVERTED MATERIAL GENERATION ANALYSIS

2.1.1 Residential Waste and Diversion Analysis

SCS gathered and assessed local data alongside U.S. Census Bureau household statistics and findings from CalRecycle's 2014 Generator-Based Characterization of Commercial Sector Disposal and Diversion in California study[1]. These sources were used to determine waste generation and diversion rates for Rock Island County's residential sector. Key activities included reviewing relevant RICWMA reports, obtaining current waste and recycling tonnages from communities and haulers, and collecting information on yard waste programs. SCS also conducted interviews with key service providers. When gaps existed, such as missing residential data from smaller communities, estimates were created using available data.

2.1.2 Residential Generation Rate Development

2.1.2.1 Disposal, Recycling, and Yard Waste Diversion

To determine per-unit rates for waste disposal, recycling, and yard waste diversion, SCS utilized U.S. Census housing data, focusing on the distribution of housing units by structure type to distinguish between single-family and multi-family residential categories. These unit counts were adjusted using Census occupancy data to exclude vacant properties, ensuring that rate calculations only reflected active residential generators. Total annual tonnages, provided by community staff or haulers for each waste stream (i.e., trash, recycling, and yard waste), were then allocated across the corresponding number of occupied housing units.

Residential unit types are defined as follows:

- Multi-family Unit: Multiple (5 or more) housing units within one building. Typically in the form of apartments or condominiums, with shared waste collection services.

[1] 2014 Generator-Based Characterization of Commercial Sector Disposal and Diversion in California, California Department of Resources Recycling and Recovery, September 10, 2015.

- Single-Family Home: A dwelling that can be fully detached, semi-attached, a row house, or a townhouse with less than five units.

Housing unit types in Rock Island County, per the U.S. Census Bureau, are shown in Table 1.

Table 1. Rock Island County Housing Units in Structure.

UNITS IN STRUCTURE	2023
Total housing units	66,763
1-unit, detached	48,342
1-unit, attached	2,949
2 units	2,164
3 or 4 units	2,708
5 to 9 units	2,773
10 to 19 units	2,439
20 or more units	3,657
Mobile home	1,731
Boat, RV, van, etc.	0

Source: U.S. Census Bureau, American Community Survey, Table DP04

The County is estimated to have 57,894 single-family units and 8,869 multi-family units.

Single-Family Rate Development

Single-family residential rates for trash, recycling, and yard waste that were developed using this methodology are provided in Table 2 (next page).

Multi-Family Rate Development

The multi-family recycling rates used in the model were based on the findings of a study conducted for Hennepin County, Minnesota[2]. In that study, the County analyzed waste and recycling collection at a representative sample of apartment and condominium properties. By combining route data provided by haulers with housing unit information from the County, and weighing and sorting collected materials, researchers were able to link the weight of each load to specific properties.

From this data, the study team calculated the average amounts of trash and recyclables collected per unit. These were converted to daily estimates of 4.13 pounds of trash and 0.63 pounds of recycling per unit. On an annual basis, this equates to approximately 0.75 tons of trash and 0.11 tons of recyclables per unit.

In Rock Island County, at least five multifamily properties, representing a total of 410 units, offer recycling services. Using Hennepin County's recycling rate of 0.11 tons per unit, it is estimated that these properties generate approximately 47 tons of recyclables per year. To apply this estimate countywide, the 47 tons were divided by the total number of multifamily units in Rock Island County (8,869), resulting in an average recycling rate of 0.01 tons per unit. This figure was used as the input for multifamily recycling in the model.

[2] Multifamily Waste Study, Hennepin County, Minnesota, September 2017.

Table 2. Single-Family Residential Data

Community	Single Family Units (Occupied)	Trash (tons)	Disposal Rate (tons per unit)	Recycling (tons)	Recycling Rate (tons per unit)	Yard Waste (tons)	Yard Waste Diversion Rate (tons per unit)
Andalusia	473	380	0.80	140.97	0.30		
Carbon Cliff	577	583	1.01	55.00	0.10	80.00	0.14
Coal Valley	1,635	969	0.59	217.00	0.13		
Cordova	278						
East Moline	6,169	5,904	0.96	392.00	0.06		
Hampton	858						
Hillsdale	167			25.39	0.15		
Milan	2,082	1,661	0.80	240.39	0.12	32.25	0.02
Moline*	14,776			2,348.00	0.16		
Oak Grove	185						
Port Byron	685	665	0.97	85.00	0.12		
Rapids City	409	593	1.45	59.00	0.14		
Reynolds	220						
Rock Island (city)	12,320	15,619	1.27	722.00	0.06	655.00	0.05
Silvis	2,722	1,444	0.53	221.00	0.08		
Rock Island (county)	53,527					599.00	0.01
Total		27,818		4,505.75		1,366.25	
Average			**0.93**		**0.13**		**0.05**

*Moline recycling data from 2022.

2.1.2.2 Other Diversion

SCS calculated a residential rate for "other" diversion activities, which result from programs that divert materials that are not considered traditional recyclables. These activities include collection programs sponsored by RICWMA for household hazardous waste, tires, appliances, and electronic waste.

Other diversion also occurs through reuse and recycling programs offered through thrift and resale stores such as Goodwill and Habitat ReStore. Data available from Goodwill Heartland and Habitat for Humanity Quad Cities was adjusted to reflect Rock Island County contributions and further adjusted to estimate donation rates made from single-family and multi-family residences.

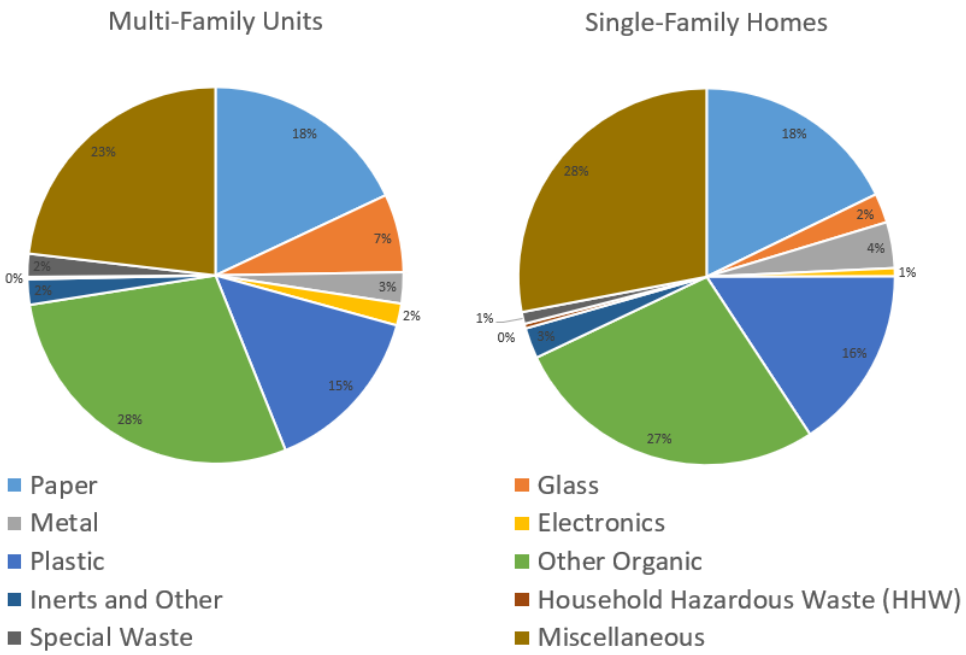
Residential rates for other diversion are estimated at 0.02 tons per single-family unit and 0.03 tons per multi-family unit.

2.1.2.3 Residential Material Composition Analysis

In 2021, CalRecycle conducted a statewide waste characterization study using data collected at disposal facilities[3]. Materials were sorted into 88 categories (e.g., plastics, metals, paper, organics, textiles) across four primary sources: franchised commercial, franchised residential, mixed waste, and self-hauled loads. The study estimated the quantity and composition of each waste stream and aggregated the results to develop a statewide composition profile. It also included sampling from 48 apartment complexes to characterize the multi-family residential stream.

The estimated composition of Rock Island's residential waste streams, shown in Figure 1, is based directly on the CalRecycle study. These estimates were applied without modification to represent local conditions in the absence of jurisdiction-specific composition data.

Figure 1. Estimated Residential Waste Composition (Disposed)



2.1.3 ICI Waste and Diversion Analysis

Industrial, Commercial, and Institutional (ICI) waste composition varies significantly by the type of commercial activity, such as offices, retail, transportation hubs, and restaurants, making it necessary to analyze and categorize waste generation by sector to support accurate projections and planning. To estimate ICI waste generation, several national studies had used factors such as number of employees, occupied floor space, and annual sales, each offering different insights into waste profiles.

[3] 2021 Disposal Facility-based Characterization of Solid Waste in California, California Department of Resources Recycling and Recovery, June 2024.

Employment data proved particularly valuable due to its availability, consistency across sectors, and strong correlation with operational activity and resulting waste generation. Floor space data, while also informative, especially for low-staff operations like warehouses, was not available to RICWMA. Sales data, on the other hand, showed inconsistent correlation with waste generation and was often unavailable or difficult to standardize.

After evaluating available data sources, SCS chose to use employment data to estimate ICI waste generation, as it was both reliable and accessible to RICWMA. As a starting point, the study combined IMPLAN employment data provided by RICWMA with per-employee waste generation rates from CalRecycle's 2014 Waste Characterization Study to estimate waste quantities by commercial sector.

2.1.3.1 California 2014 Generator-Based Characterization Study

The CalRecycle 2014 Waste Characterization Study analyzed waste types and quantities generated by various business sectors across California. Data was collected from a representative sample of businesses, classified by NAICS (North American Industry Classification System) codes. Per-employee waste generation rates were calculated by dividing total waste by the number of employees in each sector. Waste audits and sorting studies provided detailed information on material composition, including organics, recyclables, and residuals.

To simplify analysis, detailed six-digit NAICS codes were consolidated into 16 broader generator categories based on similar waste characteristics. For example:

- Food Service (e.g., full-service and limited-service restaurants, bars): High in food waste, organics, and single-use plastics.
- Healthcare (e.g., hospitals, nursing care facilities): Includes medical waste, paper, and residuals.
- Education (e.g., K–12 schools, colleges): Mixed recyclables, organics, and paper.

These broader categories allowed for more meaningful comparisons of waste generation patterns across sectors. Table 3 provides a summary of the business grouping categories. **Appendix A** provides a full list of 16 category groupings and their associated NAICS codes.

RICWMA provided county IMPLAN employment data which served as the primary input for the waste generation model. SCS has mapped the IMPLAN data to NAICS-compatible categories. This involved creating a crosswalk to translate IMPLAN's industry codes into NAICS codes, a critical step for allowing IMPLAN data to be grouped to match the California waste generator groupings. This data mapping is provided in **Appendix B**.

Table 3. California Business Groups - 2014 Waste Characterization Study

Identifier	Business Group	Description
1	Arts, Entertainment, & Recreation	Includes live performances, museums, historical sites and recreational facilities such as golf courses, skiing facilities, marinas, recreational sports and fitness centers, bowling centers, amusement parks, amusement arcades and parlors, casinos, bingo halls, operators of video gaming terminals and operators of lotteries.
2	Durable Wholesale & Trucking	Merchants who sell durable goods to other businesses, freight transport, postal and courier services and storage.
3	Education	Includes public and private schools, colleges, universities and training centers.
4	Hotels & Lodging	Short term lodging facilities includes hotel restaurants and the other services they offer.
5	Manufacturing -Electronic Equipment	Manufacturers of computers and computer peripherals, along with communication and audio/video equipment. Also encompasses electric lighting and appliance manufacturers, batteries, transformers and power distribution equipment.
6	Manufacturing - Food & Nondurable Wholesale	This group includes producers of food, beverages and tobacco products, along with wholesalers who sell non-durable goods to other businesses.
7	Manufacturing - All Other	Manufacturers of goods other than electronic equipment or food. This includes manufacturers of textiles, clothing, printing operations and products from wood, including paper. Also includes petroleum, coal and chemical manufacturing, along with metal fabrication, machinery, furniture and most publishing industries.
8	Medical & Health	This group includes hospitals, nursing and residential facilities, dentists and doctor's offices, as well as medical and diagnostic laboratories and home health care services.
9	Public Administration	Includes most federal, state and local government agencies with the exception of schools, hospitals, some transportation, the operation of utilities, and the Government Printing Office, all of which are in other classifications.
10	Restaurants	Businesses that prepare food for immediate consumption. This includes caterers and mobile food services.
11	Retail Trade - Food & Beverage Stores	This group is for businesses selling food and beverages from fixed point of sale locations. This includes grocery stores, specialty food stores and liquor stores.
12	Retail Trade - All Other	This group is for businesses selling food and beverages from fixed point of sale locations. This includes grocery stores, specialty food stores and liquor stores.
13	Services - Management, Administrative, Support, & Social	This group includes agents that arrange for the sale of goods, management companies that assist other companies, social services, and religious and charity promoters.
14	Services - Professional, Technical, & Financial	This section includes radio and television broadcasting, telecommunications and other information and technology activities. Also included are all financial services, real estate, durable goods rental and companies that provide professional, scientific and technical services that use expertise more than equipment.

Table 3. California Business Groups - 2014 Waste Characterization Study (continued)

Identifier	Business Group	Description
15	Services - Repair & Personal	This group is focused on the repair and maintenance of products such as motor vehicles and other machinery. Also included are personal services such as pet care, photo finishing and funeral services.
16	Not Elsewhere Classified	A large and varied group, ranging from farming through resource extraction, utilities and transportation to waste management.

2.1.3.2 Construction and Demolition Debris

The CalRecycle 2014 Waste Characterization Study did not include estimates for construction and demolition (C&D) debris. To account for this material, SCS calculated per-employee C&D debris generation rates using the U.S. Environmental Protection Agency's 2018 national data on C&D debris generation and management. This dataset provided information on the total volume of C&D debris generated, recycled, and disposed of nationwide.

SCS combined the EPA data with national employment figures from the U.S. Census Bureau to estimate per-employee generation, recycling, and disposal rates. This approach aligned with the California methodology by correlating debris generation with employment to reflect the average contribution of each employee to the C&D waste stream.

For this Study, the C&D industry included activities related to the alteration, construction, demolition, rehabilitation, or repair of manmade structures (e.g., residential, commercial, or industrial) corresponding to NAICS codes 236, 237, and 238.

To refine the initial waste generation estimate, SCS contacted representatives from the concrete crushing and land clearing industries to better understand local practices. Based on this input, the initial generation rates were adjusted to more accurately reflect local conditions.

2.1.3.3 ICI Per-Employee Generation Rates

The table below (Table 4) summarizes the waste generation rates developed for the California business groups and the construction and demolition debris category. These rates were used as inputs to the waste generation model.

Table 4. Per-Employee Generation Rates

Business Group	Tons per Employee per Year				
	Disposed	Recycle	Organics	Other Diversion	Total Generation
Arts, Entertainment, & Recreation	1.56	0.09	0.01	0.18	1.84
Durable Wholesale & Trucking	1.26	0.13	0.00	0.93	2.33
Education	0.31	0.03	0.01	0.01	0.36
Hotels & Lodging	1.12	0.15	0.01	0.13	1.41
Manufacturing -Electronic Equipment	0.25	0.06	0.00	0.29	0.60
Manufacturing - Food & Nondurable Wholesale	0.98	0.04	0.01	0.40	1.43
Manufacturing - All Other	0.35	0.08	0.00	0.74	1.18
Medical & Health	0.46	0.04	0.00	0.01	0.50
Public Administration	0.24	0.03	0.00	0.01	0.29
Restaurants	1.34	0.14	0.02	0.04	1.54
Retail Trade - Food & Beverage Stores	2.35	0.09	0.08	1.55	4.07
Retail Trade - All Other	1.39	0.07	0.00	0.11	1.57
Services - Management, Administrative, Support, & Social	0.79	0.07	0.06	0.01	0.94
Services - Professional, Technical, & Financial	1.41	0.12	0.06	0.03	1.62
Services - Repair & Personal	0.77	0.10	0.08	0.13	1.09
Not Elsewhere Classified	0.37	0.04	0.01	0.46	0.88
Construction & Demolition	31.78	0.00	0.00	13.92	45.70

2.1.3.4 ICI Material Composition Analysis

Different types of businesses produce distinct waste streams, such as:

- Food waste from restaurants
- Cardboard and packaging from retail stores
- Paper from office buildings.

SCS used the CalRecycle 2014 Waste Characterization Study as the basis for estimating material types and quantities in the Rock Island County ICI waste and diversion streams. The composition of the disposed C&D waste stream was based on the 2015 Illinois Waste Composition Study[4]. No studies were available to estimate the composition of diverted materials.

The estimated composition for each of the business groups are provided in **Appendix C.**

[4] Illinois Commodity/Waste Generation and Characterization Study Update, Illinois Department of Commerce and Economic Opportunity, Division of Recycling and Waste Reduction and the Illinois Recycling Association, March 2015.

2.1.4 Waste Disposal Volumes

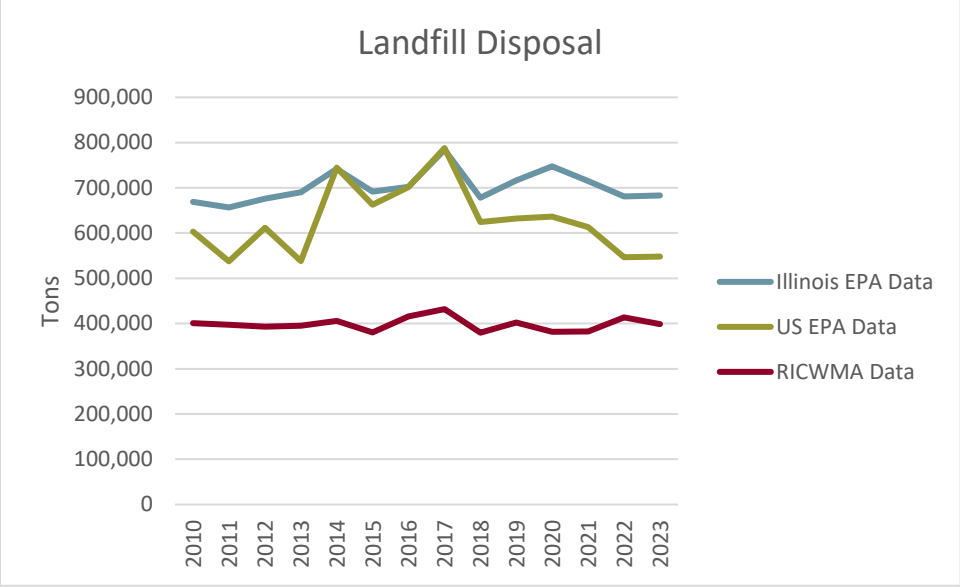
2.1.4.1 Landfill Disposal

To analyze landfill disposal trends for the two landfills located in Rock Island County, three sources of landfill tonnage data were consulted. The Illinois Landfill Capacity Reports provided annual disposal volumes in cubic yards, which were converted to tons using the standard conversion factor of 1 ton = 3.3 cubic yards. Additional tonnage data were obtained from U.S. EPA greenhouse gas reporting, as well as from landfill tonnage payments made to the RICWMA. For this analysis, the reported disposal tonnages from the two landfills were combined to identify overall disposal trends within the county as shown in Figure 2.

While all three sources showed a consistent downward trend in landfill tonnage, the reported quantities varied from source to source. The reason for these variations in reported data is unknown. The decline in tonnage was especially notable during the period when a new landfill began operations in a neighboring county, suggesting a possible diversion of waste.

NOTE: Given the discrepancies between landfill tonnage figures reported to regulatory agencies and those reflected in payments to RICWMA, it may be helpful to request clarification from the landfills regarding these differences. Since RICWMA's revenue is based on per-ton and per-cubic-yard fees, it is important that disposal volumes are reported consistently across sources. Seeking additional detail would support accurate revenue tracking and help maintain confidence in the reporting process going forward.

Figure 2. Rock Island County Landfill Disposal – 2010 through 2023



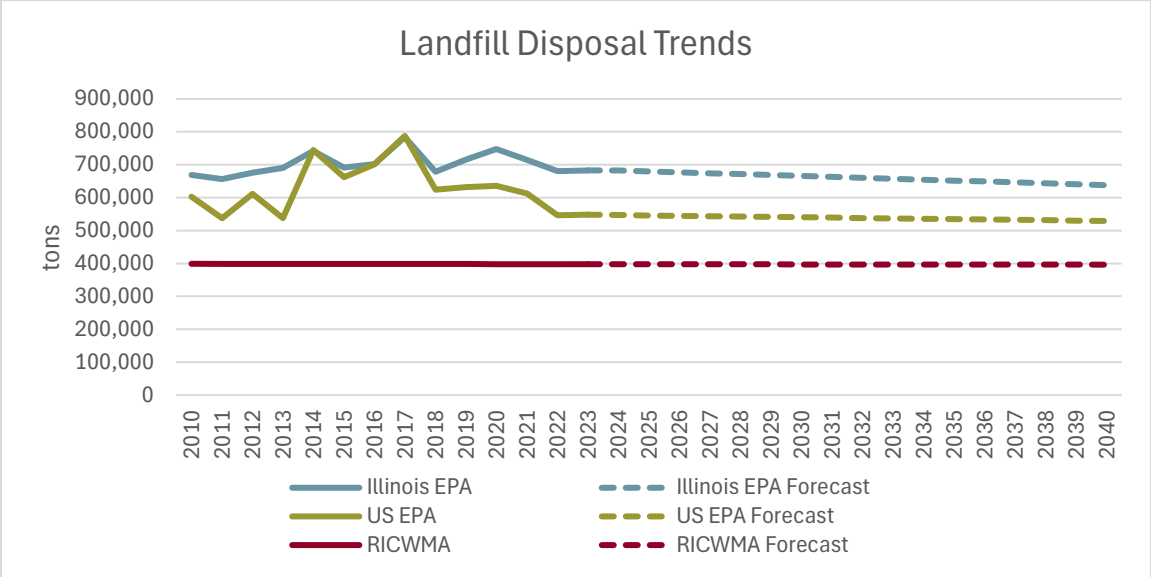
2.1.4.2 Landfill Disposal Projections

Despite discrepancies in the reported figures, trendlines were developed from the compiled data and used to project disposal tonnage through the year 2040. These projections are shown in Figure 3.

This projected local downward trend is consistent with national patterns. According to the U.S. EPA, total municipal solid waste (MSW) generation has remained relatively stable over the past decade, but the share of waste sent to landfills has declined due to increased recycling, composting, and waste-to-energy practices. National per capita landfilling rates have also trended downward, reflecting both changes in consumer behavior and improved waste diversion policies. These broader trends reinforce the observed local reductions in landfill tonnage and support the expectation of continued gradual decline in disposal volumes over the coming years.

This trend is also consistent with projections made in the waste generation model, which predict lower future disposal due to anticipated decreases in both population and employment within the region.

Figure 3. Landfill Disposal Projections – 2024 through 2040



2.1.4.3 Waste Generation Model Validation

To validate the model results, SCS estimated the portion of waste originating from outside Rock Island County. This involved comparing recent Illinois EPA data with recycling surveys conducted by RICWMA prior to 2010. Those earlier surveys suggested that approximately 30 percent of the waste accepted by local landfills came from outside the county.

Before 2013, Illinois EPA annual capacity reports included out-of-state waste. From 2009 through 2013, the Upper Rock Island and Quad Cities landfills reported that 12 percent and 58 percent of the waste they accepted, respectively, came from out-of-state sources—an average of 40 percent combined.

Based on these out-of-county and out-of-state estimates, the amount of waste generated within Rock Island County and disposed of at the two landfills is estimated to range between 239,000 and 278,000 tons. The waste generation model predicts that waste from Rock Island County households and businesses totals just under 264,000 tons—well within the estimated range.

2.1.5 Modeling Results

Currently, the model estimates a 27.3% diversion rate across the institutional, commercial, industrial (ICI), and residential sectors, with total waste generation at 363,230 tons: 289,603 tons from ICI and 73,625 tons from residential. Model results are shown in Table 5.

Table 5. Waste Generation and Diversion Model Results

Generator	Disposed (tons)	Recycled (tons)	Organics Diversion (tons)	Other Diversion (tons)	Total Generation (tons)	Diversion Rate
ICI	202,479	7,182	2,196	77,748	289,605	30.1%
Residential	61,266	7,584	3,162	1,325	73,338	16.5%
Total	263,745	14,766	5,358	79,073	362,943	27.3%

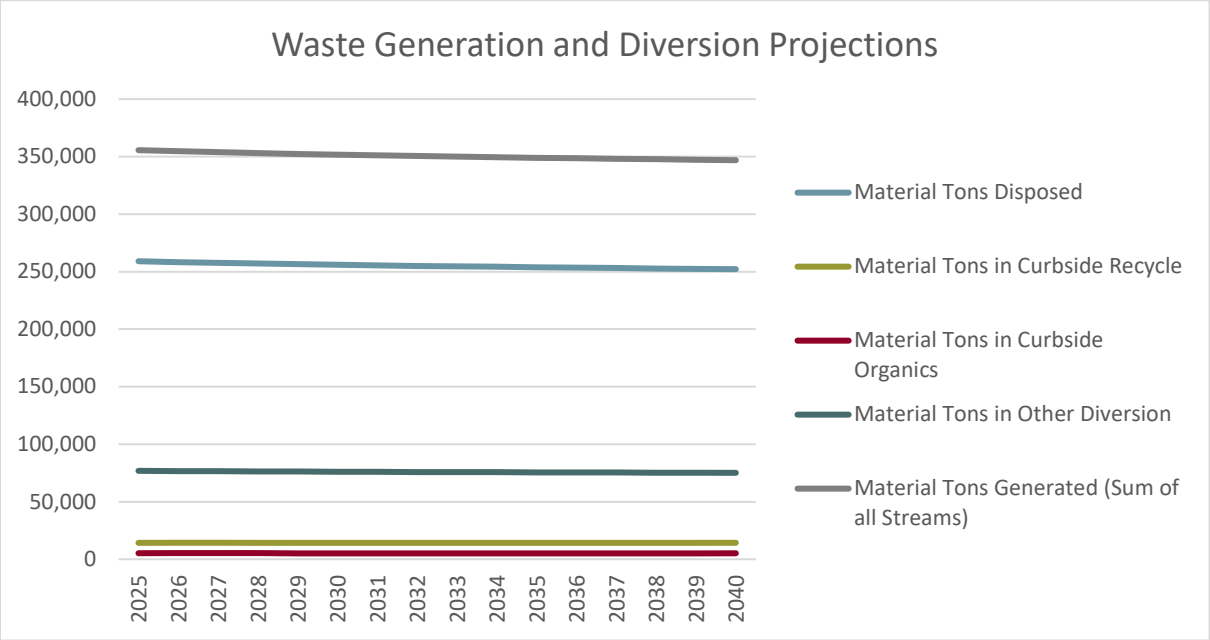
2.2 WASTE AND DIVERSION PROJECTIONS

SCS developed a waste generation projection model to estimate total tons disposed and total tons diverted for both residential and ICI sectors. The model spans 15 years (2025-2040) and relies on historical employment data from IMPLAN and housing data from the US Census Bureau, with generation rates also changing over time.

2.2.1 Tonnage Trends

The methodology applied projected employment figures to per-employee generation rates and projected housing trends to per-unit residential generation rates. As shown in Figure 4 (next page), the projections indicate a steady decrease in waste generation across both sectors, influenced by declining employment and housing trends. By 2040, total waste generation is projected to exceed 346,900 tons, with approximately 94,700 tons directed toward diversion streams.

Figure 4. Waste Generation and Diversion Projections – 2025 through 2040



2.2.2 Correlation to Population

For comparison, the projected tonnages generated were calculated on a per capita basis using population projections supplied by RICWMA. The per capita rates are provided in five-year increments in Table 6. Establishing a per capita waste generation rate assists RICMWA with developing future projections and evaluating diversion program impacts against generation rates.

Table 6. Per Capita Waste Generation Projections

Category	Year			
	2025	2030	2035	2040
Population Projections	141,006	139,831	138,237	136,182
Total Tons Generated	355,614	351,831	348,999	346,903
Tons per Person	2.52	2.52	2.52	2.55
Pounds per Person per Day	13.82	13.78	13.83	13.96

3.0 DIVERSION PROGRAM REVIEW

SCS reviewed the waste diversion programs currently sponsored by RICWMA, as well as diversion efforts implemented by individual municipalities. This information provides a foundation for identifying opportunities to expand or enhance diversion across the region. The remainder of this section is organized into two parts: programs administered by RICWMA and those operated by municipalities.

3.1 RICWMA DIVERSION PROGRAMS

This section provides an overview of RICWMA programs for household hazardous waste, electronics, residential tire and appliance collection, and the government tire collection program. Each is reviewed to identify participation trends and costs. Potential areas for improvement are discussed later in this document.

3.1.1 Household Hazardous Waste and Electronics Collection

3.1.1.1 Household Hazardous Waste

Permanent Facility Access

RICWMA currently partners with the Waste Commission of Scott County to accept Rock Island County residents' household hazardous waste. This service is available year-round and is free to all residents of Rock Island County. The household hazardous waste program accepts most common materials such as lawn and garden products, automotive fluids, and cleaning chemicals; however, it does not accept latex paint.

In 2024, RICWMA spent $70,000 on the program, which served more than 2,100 residents at an average cost of $34.25 per participant. Participation continues to grow each year (see Figure 5 on the next page). Based on an estimated 67 pounds[5] collected per participant, the program diverted approximately 59 tons of material in 2024.

Annual Collection Events

RICWMA partners with Illinois EPA to host annual collection events. IEPA selects a limited number of sites each year based on regional need, population, and past collection history. Once approved, RICWMA is responsible for providing the event site, local promotion, and volunteer support, while the IEPA contracts with a licensed hazardous waste hauler to manage, transport, and dispose of the collected materials safely.

3.1.1.2 Electronics

Illinois law prohibits the following electronics from disposal at a landfill:

- Televisions
- Cable receivers
- Satellite receivers
- Video game consoles

[5] Kansas Household Hazardous Waste Program, SFY 2024 Report to the Legislature, Kansas Department of Health and Environment

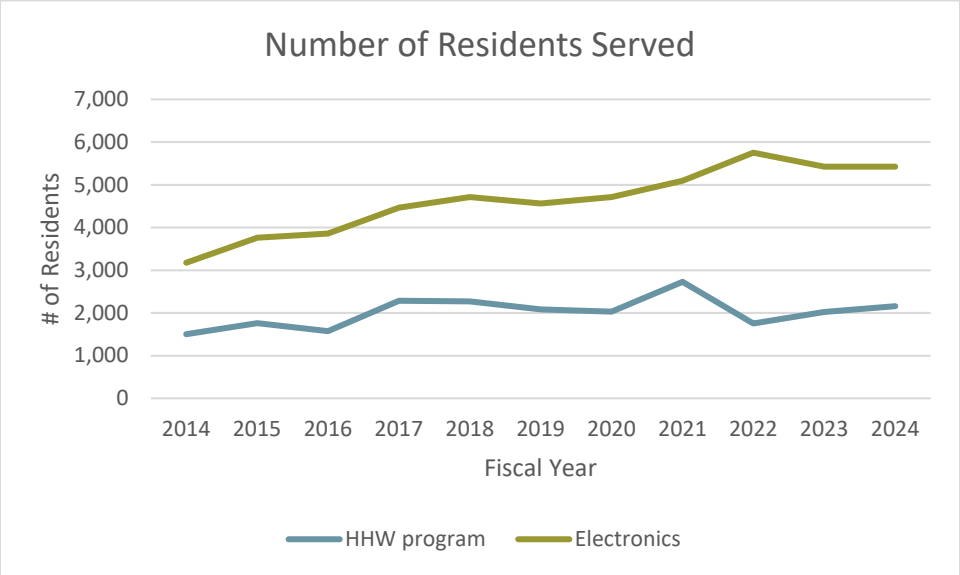
- Digital video disc players and recorders (DVDs, BluRay, etc.)
- Small scale servers
- Digital converter boxes (TiVo, Roku, etc.)
- Videocassette recorders
- Computers monitors
- Computer equipment: laptops, notebooks, netbooks, tablets, desktop towers
- Printers, scanners, and fax machines
- Keyboards and mice
- Portable digital music players

RICWMA currently partners with the Waste Commission of Scott County to accept Rock Island County residents' electronic waste. The program is free to residents of Rock Island County. Items accepted through the program include:

- Cell Phones
- Computers
- Laptops
- Screens
- Televisions
- Batteries
- Printers
- Cartridges
- Copiers
- Stereos
- DVD Players
- Gaming Consoles

In 2024, the program served over 5,000 residents at an average cost of $14.99 per participant. Program participation has steadily increased since 2014 (see Figure 5). In 2024, RICMWA spent a total of $81,375 on the program. Based on an estimated collection rate of 39 pounds per user, the program diverted approximately 113 tons of material in 2024.

Figure 5. HHW and Electronics Collection Summary



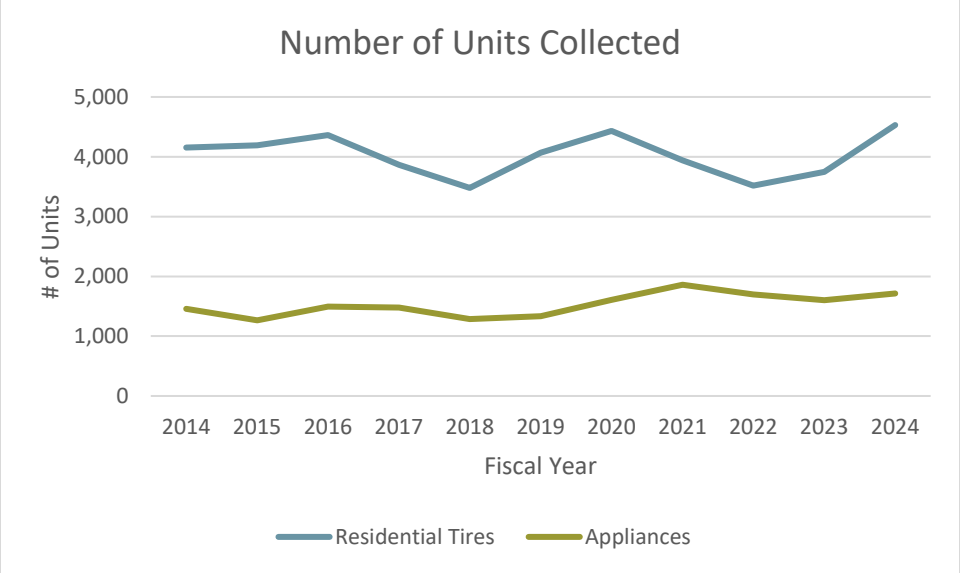
3.1.2 Residential Tire and Appliance Collection Program

RICWMA's residential collection program, operated by Weikert Iron & Metal Recycling, provides no-cost curbside collection of old appliances and tires. Households may dispose of up to four appliances and ten tires annually by appointment, promoting safe and responsible waste management across Rock Island County.

In 2024, RICWMA spent $83,509 on the program, which collected more than 4,500 residential tires and more than 1,700 appliances.

Historic usage of the program is provided in Figure 6, which shows an upward trend in the number of tires and appliances collected over time.

Figure 6. Residential Tire and Appliance Collection

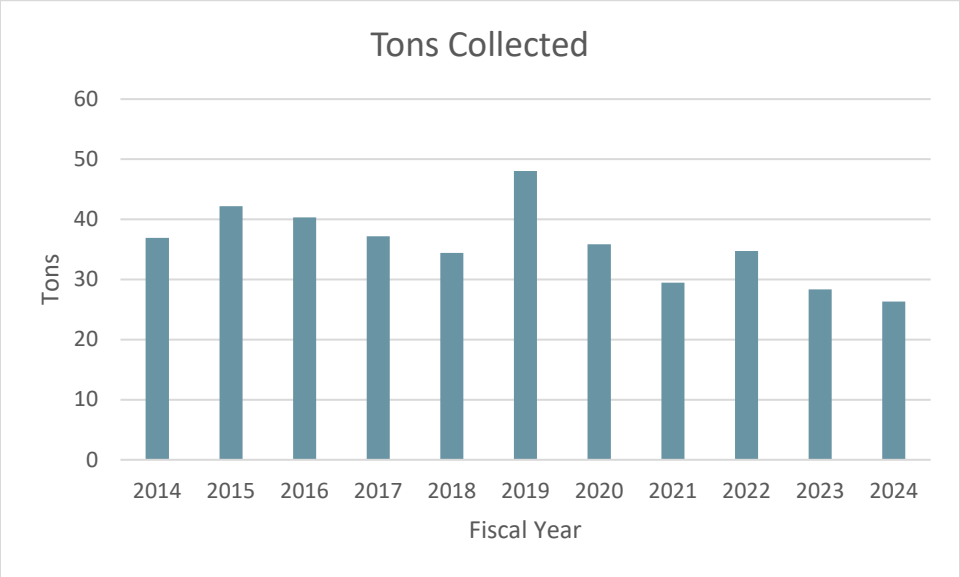


3.1.3 Government Tire Collection Program

In 2024, RICWMA spent $8,036 on the government tire collection program, which collected 26.3 tons of tires at a cost of approximately $305 per ton. Program participation has steadily declined since 2014 (see Figure 7 on the next page).

The Rock Island County Health Department also partners every other year to collect illegally dumped tires collected by the local governments. IEPA provides for the cost of disposal.

Figure 7. Government Tire Collection Program



3.2 LOCAL DIVERSION PROGRAMS (MUNICIPALITIES)

This section evaluates current recycling, yard waste, food waste, and municipal solid waste (MSW) diversion programs across Rock Island County. Using data collected from Rock Island municipalities, this analysis identifies strengths, challenges, and opportunities for improved waste diversion efforts. A summary of the data provided by each jurisdiction is provided in Table 7 through Table 9 on the following pages.

3.2.1 Recycling Programs

3.2.1.1 Collection & Service Models

Recycling services vary across cities, with haulers such as Republic, LRS, Conrad, Midland Davis, or the municipality providing collection. Cities employ weekly or every-other-week (EOW) curbside collection, while Hillsdale exclusively uses drop-off recycling.

Recycling by commercial clients is not widespread, although businesses in some areas are being served by Republic (Rapids City, Rock Island, Silvis) and Conrad (Hampton). Small commercial generators such as churches or small businesses may utilize residential-sized cart services (in Coal Valley and potentially other areas). Hillsdale allows local small businesses to utilize the recycling dropoff.

3.2.1.2 Cost Structures

Billing structures differ:

- Some cities bundle recycling with garbage fees (e.g., Andalusia, Coal Valley, Hampton, Moline, Rapids City).
- Others bill separately, operating by subscription (e.g., East Moline, Milan, Rock Island).
- One municipality requires residents to opt in to receive a recycling cart though recycling and garbage are billed together (Coal Valley).
- One municipality collects recycling weekly and subsidizes waste collection to keep costs down for residents (Hampton).

3.2.2 Tonnage & Participation

- Rock Island had the highest recycling tonnage of recycling (723.27 tons in 2024).
- Smaller cities reported lower collection amounts of recycling, such as Hillsdale (25.39 tons) and Carbon Cliff (44.88 tons).
- Andalusia and Coal Valley had the highest recycling rate (27% and 18%, respectively).
- Andalusia had the highest recycling per capita (0.12 tons/person/year), followed by Coal Valley and Rapids City (both 0.06 tons/person/year).
- Coal Valley showed a strong participation rate (~68%), likely due to bundled billing, which encourages enrollment.

Table 7. Recycling Program Summary – Rock Island County (2024 Data)

City	Recycling Hauler	Recycling Frequency	Recycling Tonnage
Andalusia	LRS	Weekly	141
Carbon Cliff	Republic	EOW	45
Coal Valley	Republic	EOW (opt-in)	217
Cordova	Not shared	EOW	Not shared
East Moline	Republic	EOW (subscription)	392
Hampton	Conrad	Weekly	Not shared
Hillsdale	Eagle	Drop-Off	25
Milan	Village	EOW (subscription)	240
Moline	Midland Davis	EOW	Not shared
Oak Grove	Unknown	Unknown	Unknown
Port Byron	Republic	EOW	85
Rapids City	Republic	EOW	59
Reynolds	Unknown	Unknown	Unknown
Rock Island	Republic	EOW (subscription)	723
Silvis	Republic	EOW	221

3.3 YARD WASTE PROGRAMS

3.3.1 Collection Formats and Accessibility

Most cities offer curbside yard waste collection, using bags, brush bundles, and/or carts. Exceptions include:

- Hillsdale operates a drop-off burn pile instead of curbside collection.
- Silvis operates a drop-off burn pile in addition to curbside collection of bagged yard waste.

Curbside yard waste collection services vary across cities, with haulers such as Republic, LRS, or the municipality providing yard waste service. Curbside yard waste collection is weekly from April through November or December (depending on weather).

3.3.2 Cost Structures

There is variability in the program type and associated fees with curbside yard waste collection, and brush may be managed differently than other yard waste. Examples include:

- Some cities charge per bag and/or brush bundle via sticker-based pricing.
  - In cities using stickers only (Andalusia, Carbon Cliff, East Moline, Hampton, Port Byron, Rapids City), cost ranges from $1.50 to $3 per sticker.
  - Milan charges a seasonal signup fee ($25/season) that includes a set number of stickers with additional stickers available for $1.45 each.
  - Rapids City requires that residents register to purchase stickers but does not charge an annual fee.
- Subscription models exist for both carts and bagged yard waste.
  - Coal Valley and Moline offer cart subscriptions while also offering stickers for purchase (e.g., Coal Valley charges $9.75/mo or $78/season for cart service).
  - For cart subscriptions, some municipalities charge both an annual fee and a cart fee (e.g., Moline charges $78 as a one-time cost for a cart with an annual fee of $100).
  - Silvis offers a subscription for pickup of bagged yard waste but does not use stickers.
  - Rock Island offers a subscription for both bagged yard waste pickup ($100/season) and cart (additional $50/season).
- Some cities offer brush pickups for free (Milan, Moline) but may require scheduling if not registered for bagged yard waste (Milan).
- There is no additional fee to drop off at burn pile sites (Hillsdale, Silvis).
- Some municipalities provide free seasonal collection of leaves and/or yard waste bags in spring and fall (e.g., Carbon Cliff, East Moline, Rock Island).

3.3.3 Tonnage & Participation

- Rock Island reports the highest yard waste diversion of those that individually track yard waste tonnage (655.4 tons in 2024). Yard waste participation (both bags and carts) was 15% for 2024, with yard waste cart participation at 7%.
- Coal Valley's cart program has low participation (~3%), but recent efforts to request that the hauler offer carts have improved overall curbside yard waste participation.

Table 8. Yard Waste Program Summary – Rock Island County (2024 Data)

City	Yard Waste Hauler	Collection Frequency**	Yard Waste Form	Yard Waste Tonnage
Andalusia	LRS	Weekly (stickers)	Bags	Not shared
Carbon Cliff	Republic	Weekly (stickers)	Bags / Brush	80
Coal Valley	Republic	Weekly (stickers or subscription)	Carts / Bags / Brush	Not tracked*
Cordova	Not shared	Not shared	Not shared	Not shared
East Moline	Republic	Weekly (stickers)	Bags / Brush	Not tracked*
Hampton	Village	Weekly (stickers)	Bags / Brush	Not tracked
Hillsdale	none	Drop-Off	Burn Pile	Not tracked
Milan	Village	Weekly (stickers)	Bags / Brush	32
Moline	City	Weekly (stickers or subscription)	Carts / Bags / Brush	Not shared
Oak Grove	Unknown	Unknown	Unknown	Unknown
Port Byron	Republic	Weekly (stickers)	Bags	Not tracked*
Rapids City	Republic	EOW	Bags / Brush	Not tracked*
Reynolds	Unknown	Unknown	Unknown	Unknown
Rock Island	City	Weekly (subscription)	Carts / Bags / Brush	655
Silvis	Republic	Weekly (subscription)	Bags	Not tracked*

*Republic Services provided a combined yard waste tonnage for the County rather than individual communities.
**Seasonal, typically April through November.

3.4 OTHER COLLECTION & DIVERSION SERVICES

Cities vary in additional waste collection services:

- As-needed bulky waste pickup is widely available at low or no extra cost, and some municipalities offer annual or semi-annual bulky pickup days (Hampton, Hillsdale).
- Annual or biannual e-waste drives occur in Hillsdale, Rapids City, and Sylvis.
- Sylvis organizes tire recycling annually, hauling to East Moline now rather than the County fairgrounds site.
- Silvis occasionally hosts a paint drive which is hauled to Scott County facilities.
- Rock Island separates incidental e-waste collected with bulky waste disposal.

3.5 MUNICIPAL SOLID WASTE (MSW)

Haulers include Republic, LRS, Conrad, and municipality-run services. Disposal sites vary, with Millenium and Upper Rock Island Landfill as primary locations.

Table 9. MSW Program Summary Table – Rock Island County (2024 Data)

City	MSW Hauler	MSW Tonnage
Andalusia	LRS	380
Carbon Cliff	Republic	543
Coal Valley	Republic	969
Cordova	Not shared	Not shared
East Moline	Republic	5,904
Hampton	Conrad	Not shared
Hillsdale	open market	Not tracked
Milan	Village	1,661
Moline	City	Not shared
Oak Grove	Unknown	Unknown
Port Byron	Republic	665
Rapids City	Republic	593
Reynolds	Unknown	Unknown
Rock Island	City	15,619
Silvis	Republic	1,444

4.0 STRATEGIC PLANNING

SCS facilitated a strategic planning session with RICWMA and municipalities to identify ways to increase diversion. The workshop acted as an open brainstorming forum. While it did not involve pinpointing, ranking, or choosing specific options, the discussions gathered a wide range of insights and local viewpoints that can help shape the upcoming solid waste planning process. The workshop emphasized verifying community data and identifying challenges and opportunities.

4.1 VERIFICATION OF COMMUNITY DATA

4.1.1 Recycling Collection Frequency: Do communities want weekly collection?

- Weekly vs. every-other-week:
  - Weekly is perceived as desirable due to the volume of recyclables generated.
  - Weekly service can be cost-prohibitive.
  - Inconsistent participation: Low sign-ups, particularly in small communities, hinder weekly collection program design.
- Cart limitations and fees: Residents may request additional carts for a fee; larger carts are generally unavailable since most communities use a 96-gallon recycling cart.

4.1.2 Financial Considerations

- Recycling fees are not generally bundled, except for Moline, but financial considerations for residents and political obstacles limit bundling elsewhere.
- Subscription-based services are common in unincorporated areas.

4.1.3 Recycling Drop-Offs/Current Infrastructure

- Drop-offs are available at:
  - Midland Davis and Republic landfill (both are private facilities).
  - Waste Commission of Scott County.
  - Silvis (only for Silvis residents).
- Community drop-off sites closed. Illegal dumping linked to unmonitored sites (e.g., Rock Island), prompting costly city cleanup.
- Some were impacted by overuse (e.g., rural truckloads overwhelming Milan site).

4.1.4 Contracting for Waste/Recyclables

- Milan and Rock Island collect waste but not recycling. Both cities have had discussions on internalizing:
  - Rock Island is not interested due to additional staff and equipment needs.

- Moline has a contract until 2028 and will probably revisit at that time.

- Joint/Regional Contracting Opportunities:
  - Staffing, fleet differences, and contractual obligations hinder regional collaboration.
  - Bi-State Joint Purchasing Council evaluated the opportunity but found there were issues with cycles for existing contracts.
  - Milan and Rock Island have a joint contract for disposal fees which has resulted in savings.

4.1.5 Materials Accepted

- Most municipalities accept similar materials in recycling programs. These materials generally include newspaper; magazines and junk mail; aluminum and tin cans; cardboard and chipboard; plastic bottles (#1-#7); and glass bottles.
- Many municipalities in the region use the same hauler and processing facility, which results in a uniform set of accepted materials. In contrast, rural areas with multiple subscription haulers may experience variation in what is collected and how it is managed. Establishing franchise agreements in those areas could help align collection standards, improve service consistency, and create a more cohesive regional recycling system.

4.2 CHALLENGES AND OPPORTUNITIES

4.2.1 Electronics & Bulky Waste

- TV and electronic disposal are problematic, especially in rental properties.
- Perceived inconvenience of dropping off electronics at the Waste Commission of Scott County facility in Davenport.
- The Waste Commission of Scott County is not part of the Illinois electronics EPR program. A firm from the Chicago area has limited capacity to serve Rock Island County.
- Confusion exists around electronic definitions, especially for items with cords. For example, is a fan considered an electronic item or an appliance?
- RICWMA covers costs for individual residents disposing of electronics, not for community-wide cleanups, unless a special arrangement is made. Some communities use SWAG grants to fund these efforts. RICWMA also has paid the disposal costs for small community e-waste events, particularly for those communities that are distant from the Waste Commission Facility.

4.2.2 Bulky waste challenges:

- Milan allows two bulky waste pickups per year, limited to the equivalent of one pickup truck load each time.
- Moline continues to struggle with managing bulky waste.

- Republic notes that some items set out as bulky waste could potentially be donated, but once they reach the curb, they are treated as landfill-bound.
- In Carbon Cliff, construction debris included in bulky collections is problematic.

4.2.3 Multi-Family Unit Considerations: Access to Services

- Limited recycling adoption by complexes and high contamination rates inhibit recycling. Multi-family residents can also access drop-off recycling sites.
- Consideration of cardboard programs due to high volume generation.
- Policy appetite for recycling mandates at multi-family units is mixed.

4.2.4 Enforcement and Customer Support

4.2.4.1 Contamination Enforcement

- Milan: Cart tagging has varied effectiveness.
- Republic: AI-driven contamination detection for commercial accounts (with fines), with potential residential expansion (fines could be possible in the near future).
- Republic: Recycling carts are removed from residences with consistent contamination issues.

4.2.4.2 Customer Support

- Most cities field customer support calls and if the issue cannot be easily resolved, the contract hauler is contacted.

4.2.5 Construction Waste Diversion

- Question raised: What is the appetite for policies or ordinances related to construction debris?
    - Communities likely would not support tying waste diversion requirements to construction permits primarily due to:
        - Concerns about adding staff and administrative workload.
        - Concerns that such a policy might be more likely to be circumvented than followed.
- Overall takeaway: This may be a long-term option worth exploring in the future, but it's beneficial to begin discussions now.

4.2.6 Organics and Food Waste Diversion

4.2.6.1 Yard Waste

- Subscription models vs. per-bag pricing:
  - East Moline uses stickered bags ($1.50 for each sticker), and the hauler offers a voluntary subscription service.
  - Moline also uses bags and stickers. Carts are also available for a fee.
- Republic notes that bag and cart systems make it difficult for them to automate collection.

4.2.6.2 Food Waste

- Food waste is often 20 to 25 percent (by weight) of waste disposed of.
- A food rescue program for restaurants/caterers is active with food pantries.
- Composting concerns include pest attraction.
- Backyard composting is encouraged.
- Organics growth noted by Republic; infrastructure and policy barriers remain.
- Anaerobic digestion and biofuel initiatives under consideration (e.g., Rock Island's WWTP).

4.2.7 Multi-Family Policies

- Question raised: Is there interest or support for adopting ordinances that would require recycling services at multifamily housing units?
  - There may be limited immediate impact from such an ordinance because relatively few new multifamily developments are currently being constructed in the area.
  - Enforcement could be more challenging with existing older properties, which may lack the infrastructure or space for recycling services.

4.2.8 Drop-Off Expansion

- Due to historical challenges with the previous drop-off recycling locations, community staff stated they were not supportive of reestablishing community drop-off sites:
  - Opening of sites at the Republic landfill and Midland Davis in response to community concerns.
  - The planned Lake Shore Recycling transfer station in Moline may offer a drop-off program.

4.2.9 Education & Outreach

- Cities use different methods: phone, social media, water bills, and websites for resident education.

- RICWMA acts as the regional education hub:
  - Strategies include websites, press releases, postcards, and social media.
  - Postcard campaigns have demonstrated positive engagement through website traffic.
- Innovations like bin stickers, vinyl inserts, and Recycle Coach were discussed.

5.0 RECOMMENDATIONS

Based on discussions held with communities during the data collection and workshop phases, SCS developed a series of recommendations to help the region increase waste diversion. These ideas aim to build on what is already effective, address common challenges, and explore new opportunities to keep materials out of landfills. Where provided, costs are only planning-level estimates. Final program costs will depend on factors such as procurement choices, staffing rates, site logistics, and the scale of implementation.

The recommendations fall within the categories of:

- Planning and goal setting.
- Supporting the reuse sector.
- Strategies for multifamily recycling.
- Expanding access to recycling.
- Bundled service fees.
- Regionalized waste and recycling collection contracts.
- Regional programs for appliances and tires, household hazardous waste, electronics, and unwanted paint.
- Organics diversion programs.
- Sustainable purchasing.

The recommendations in this section vary in complexity and resource needs, with some requiring significantly more resources than others. These options demonstrate different ways to "move the needle" toward increasing recycling. RICWMA and its member jurisdictions should review and prioritize these options to determine which are most feasible for short-term, mid-term, or long-term action, and which may not be practical to pursue.

Historically, RICWMA has functioned primarily as a contracting and educational agency, a model that has helped minimize administrative costs. Current staffing resources are limited, less than a full-time equivalent, and some of the more resource-intensive alternatives presented in this report may require re-prioritization of responsibilities and a review of staffing capacity before implementation.

Some recommendations may be more appropriately implemented by individual municipalities, with RICWMA providing coordination and support, rather than being carried out solely by RICWMA staff.

5.1 DEVELOP A REGIONAL SOLID WASTE MANAGEMENT PLAN WITH FORWARD-LOOKING RECYCLING AND DIVERSION GOALS

While the region currently meets the State of Illinois' 25% recycling mandate, there is an opportunity to strengthen local waste diversion outcomes through the development of a comprehensive Solid Waste Management Plan (SWMP). A regional SWMP would allow RICWMA to take a more strategic and coordinated approach to managing solid waste, recycling, and organics recovery programs.

As part of the planning process, the RICWMA could work with local governments, haulers, and other stakeholders to establish measurable goals that go beyond baseline compliance. These goals could address:

- Increasing the regional recycling rate above the state minimum.
- Expanding organics diversion (e.g., food scraps, yard waste).
- Reducing per capita disposal.
- Improving access and participation in multifamily and rural recycling programs.
- Supporting public education and contamination reduction strategies.
- Tracking and reporting performance metrics more consistently.

By establishing clear goals, RICWMA can better align regional activities with state and national waste reduction priorities, attract potential grant funding, and demonstrate leadership in sustainable materials management. The plan can also serve as a guiding document for future infrastructure investment, program development, and policy decisions.

5.2 SUPPORT THE REUSE SECTOR

The reuse industry, including nonprofit and charitable organizations such as Goodwill and Habitat for Humanity ReStore, is a critical component of waste diversion. These organizations play a critical role in extending the life of durable goods, reducing landfill disposal, and providing affordable materials and job training opportunities within the community. Benefits of this industry include:

- Reduces disposal costs and conserves landfill capacity.
- Supports local jobs and vocational training programs.
- Provides affordable materials and goods to residents.
- Promotes environmental stewardship through reduced consumption.

RICWMA and its member jurisdictions should actively support this industry. Support strategies could include:

- Public Education and Promotion:
  - Include reuse options in local waste reduction and recycling outreach materials (e.g., what to do with usable furniture, housewares, clothing, building materials).
  - Promote donation locations and services through city websites, newsletters, utility bill inserts, and social media.
- Special Collection Events and Sales with Reuse Partners:
  - Host or co-sponsor periodic “drop & shop” events in partnership with reuse organizations to collect items in good condition.

- Coordinate with reuse organizations during bulky waste collection events to recover items before disposal.

- Reuse Directory Development:
  - Create or help maintain a regional reuse directory or map of donation centers and secondhand stores.
  - Highlight categories of items accepted and hours of operation to make it easy for residents to donate.

- Zoning and Facility Support:
  - Review local zoning or permitting requirements to avoid potentially unduly restricting reuse operations.
  - Assist reuse organizations in identifying potential expansion sites or funding opportunities (e.g., community development block grants, public-private partnerships).

- Incorporate Reuse into Solid Waste Planning:
  - Include reuse strategies and stakeholder partnerships in regional or municipal solid waste management plans.
  - Establish goals related to reuse (e.g., tons diverted, number of reuse partners engaged).

5.3 MULTIFAMILY STRATEGIES

Multifamily recycling presents a distinct set of challenges compared to single-family residential recycling, particularly in terms of accessibility, education, and infrastructure. Limited space for collection, unclear responsibility for contamination, and inconsistent communications can result in lower participation and higher levels of improperly sorted materials. Opportunities to increase multifamily recycling include stakeholder engagement, collection infrastructure and access, and tenant outreach and education.

5.3.1 Stakeholder Engagement with Multifamily Property Managers

To improve recycling participation at multifamily properties, RICWMA could implement a stakeholder engagement strategy focused on property managers and affiliated organizations. This could include:

- Hosting a centralized meeting or workshop for property managers, owners, and housing associations to introduce the program, explain expectations, share best practices, and gather feedback; or
- Conducting one-on-one outreach through site visits or individual meetings to directly engage with property managers and tailor solutions to specific site conditions. To preserve resources, outreach efforts could focus on larger complexes.

Examples from Other Communities:

- City of Minneapolis, MN conducted a series of stakeholder meetings with multifamily property owners and managers when rolling out its new recycling requirements. These meetings helped identify operational concerns and led to refinements in container placement, signage, and outreach materials.
- Arlington County, VA found success with personalized, on-site visits to multifamily properties. County staff met with property managers to assess infrastructure and provide customized recommendations, which improved compliance and reduced contamination.
- San Diego, CA launched a "Multifamily Recycling Technical Assistance Program" that included property walkthroughs, tenant engagement tools, and regular communication with property representatives. This program built strong partnerships and increased recycling participation over time.

By using a similar engagement approach, RICWMA could foster cooperation and identify and address recycling barriers.

The stakeholder engagement process for multifamily properties could be expected to take approximately three to four months from initiation to completion. During the first few weeks, staff would focus on preparatory work, including compiling a list of property contacts, developing outreach materials, and coordinating logistics for meetings or site visits. The main engagement phase would follow, lasting six to ten weeks, during which time RICWMA could host one or more group meetings with property managers and conduct targeted one-on-one outreach at select properties. The final phase would involve summarizing feedback, preparing site-specific recommendations, and documenting common challenges and opportunities identified during the engagement process.

Staffing needs will vary based on the number of properties engaged and the level of site-specific follow-up. On average, the process would require approximately 0.4 to 0.6 full-time equivalent (FTE) staff over the course of the project. This includes a project lead dedicating roughly 25% of their time to planning, coordination, and oversight; field or outreach staff allocating 50% or more of their time during the active engagement period; and limited administrative support to assist with scheduling, materials, and documentation. The total staffing effort may be adjusted depending on whether RICWMA pursues a broader outreach effort or a more targeted engagement with high-priority properties.

5.3.2 Promote Existing Drop-Off Centers More Effectively

The two existing drop-off centers are valuable assets, but many multifamily residents may not be aware of the materials accepted or their locations. To boost awareness:

- Launch a "Know Your Drop-Off" campaign, for example, using social media, local newsletters, and community signage.
- Partner with apartment managers to distribute recycling materials and guides tailored to multifamily residents.

5.3.3 Alternative Collection Strategies Pilot for Multifamily Recycling

Multifamily properties often face unique logistical challenges that can make traditional recycling collection, such as centralized carts or dumpsters, ineffective. Barriers may include limited space for containers, lack of resident awareness, or high contamination rates due to shared access and limited oversight. To address these challenges and explore more flexible, resident-friendly service models, RICWMA could implement a pilot program to test alternative collection strategies at select multifamily properties.

The pilot could test one or more of the following models:

- Concierge-style recycling collection, in which building staff or contracted personnel collect recyclables from designated internal drop points (e.g., mailrooms, laundry rooms) and transfer materials to external recycling bins.
- Subscription-based doorstep recycling services, where a third-party vendor collects recyclables directly from residents' doors and transports them to a processing facility. These models often rely on a gig-economy workforce and color-coded bag systems for sorting and efficiency. One example of a subscription-based service is Recyclops.

These approaches have shown promise in other communities for increasing participation, reducing contamination, and improving resident satisfaction, especially at properties where traditional service has underperformed.

5.3.3.1 Pilot Structure and Cost Estimate

A limited pilot involving 3–5 multifamily properties or 100–200 housing units is recommended. This would allow RICWMA to test feasibility, gather operational data, and evaluate resident response before considering broader implementation.

Estimated pilot costs include:

Cost Component	Estimated Range
Concierge-style service	$3,000–$7,500 (3-month pilot)
Subscription service	$3,600–$12,000 (3-month pilot)
Outreach & recruitment	$2,000–$5,000
Containers (if needed)	$1,000–$3,000
Monitoring & evaluation	$3,000–$5,000
Total estimated cost	$10,000–$20,000

Staffing needs are expected to average 0.4 to 0.6 FTE over 3–4 months, with a project lead overseeing logistics, outreach staff supporting recruitment and property coordination, and light administrative support for materials and scheduling.

5.3.3.2 Monitoring and Evaluation

Testing alternative collection strategies at a few multifamily properties could give RICWMA valuable insights into the operational, financial, and behavioral aspects of non-traditional service models.

These lessons can help guide broader implementation or policy changes aimed at enhancing recycling access and outcomes in multifamily settings. Monitoring and evaluation steps include:

- Track participation rates, contamination levels, and collection volumes.
- Gather qualitative feedback from residents and property staff through surveys or short interviews.
- Compare waste overflow and site cleanliness before and during the pilot.
- Evaluate whether service goals were met and whether expansion is feasible.
- Identify operational challenges or resident concerns that may require adjustments.

5.3.4 Encourage Use of Alternative Bin Types for Multifamily Recycling

RICWMA could work with local haulers and property managers to explore the use of non-traditional container options for recycling collection at multifamily properties. In particular, by encouraging haulers to offer and pilot the use of 96-gallon carts or other smaller-sized bins in place of the standard 40-cubic-yard dumpsters. This approach may be especially beneficial for properties that face space constraints, have limited parking availability, or where large containers are not feasible due to site layout or safety concerns. Benefits of alternative bins include:

- Smaller, strategically located containers can increase convenience and accessibility for residents, thereby improving participation rates.
- Right-sizing bin options to fit property layouts may reduce contamination and illegal dumping often associated with poorly placed or oversized containers.
- Offering flexible container options supports equity in access to recycling services across a diverse range of multifamily developments.

Implementation steps include:

- Convene discussions between haulers and property managers to identify challenges with recycling infrastructure.
- Inventory properties with known space or access limitations to assess suitability for smaller bin configurations.
- Encourage haulers to pilot the use of 96-gallon carts at select sites, and monitor effectiveness, contamination rates, and collection efficiency.
- Share case studies or results from pilot sites with other properties to encourage broader adoption.

5.4 EXPAND RECYCLING ACCESS

5.4.1 Expand Access with a Strategic Third Location

As Moline moves forward with plans to construct a municipal solid waste transfer station, RICWMA could encourage the inclusion of a public recycling drop-off area at the facility that would be open to

all county residents. Co-locating recycling infrastructure at the transfer station offers a cost-effective opportunity to expand recycling access for residents while maximizing the utility of the new facility.

Including a recycling drop-off at the transfer station would:

- Address service gaps by providing a consistent and accessible location for residents to recycle, particularly in areas underserved by curbside recycling, multifamily residents, and small businesses.
- Leverage infrastructure investment by utilizing shared staffing, security, signage, and site maintenance, thereby reducing the cost of operating a separate recycling facility.
- Improve public perception of the facility by giving residents a positive reason to visit the site beyond landfill disposal.

5.4.2 Facilitate Cardboard Recycling Programs at Multifamily Properties and/or Community Drop-Off Locations

RICWMA could work with multifamily property managers and municipalities to encourage the deployment of dedicated cardboard-only recycling bins. These bins should be designed with restricted slots to accept only flattened cardboard boxes, helping to reduce contamination and improve recovery rates.

RICWMA could facilitate a pilot program focused on cardboard-only drop-off bins placed in high-visibility, high-traffic areas (e.g., city halls, community centers, libraries, the Rock Island County Building or the new vehicle center). Visibility will support oversight and discourage illegal dumping. RICWMA would not be responsible for purchasing bins or providing collection services, but would play a key role in coordinating partners, providing technical guidance, and supporting education and promotion.

Estimated Costs (to Bin Recipients):

Cost Category	Estimated Cost per Site	Notes
2-yard front-load cardboard bin purchase	$800–$1,000	Many haulers provide bins as part of service
Slot retrofit or special lid	~$250 per bin	Optional; may reduce contamination
Signage and decals	$100–$150	For site use instructions
Additional collection service (if needed)	$200–$250 per pull	Frequency depends on volume
Estimated First-Year Cost per Site	$1,500–$2,500	Range varies based on hauling agreement

Some haulers may offer bins at low or no cost if material volumes justify regular collection.

Estimated Cost to RICWMA:

Agency Activity	Estimated Cost
Staff time for outreach and coordination	$10,000–$20,000
Development of outreach materials and signage templates	$2,500–$5,000
Program tracking and pilot evaluation	$5,000–$10,000
Total Estimated RICWMA Cost (Pilot Year)	$17,500–$35,000

Implementation steps could include:

- Phase 1: Outreach and Engagement (0–3 months)
  - Identify interested multifamily property managers and cities.
  - Host stakeholder meetings to explain benefits, bin specifications, and best practices.
  - Provide sample signage and support identifying appropriate locations.

- Phase 2: Site Selection and Bin Deployment (3–5 months)
  - Assist in selecting locations with good visibility and access.
  - Offer technical guidance on bin placement and access.
  - Promote connections with local haulers or vendors for bin service.

- Phase 3: Launch and Monitoring (5–12 months)
  - Promote the program through flyers, social media, and community partners.
  - Encourage cities and properties to track volume or contamination issues.
  - Collect feedback to assess feasibility for scaling.

This approach enables RICWMA to catalyze meaningful recovery of cardboard with a limited public investment, while leveraging private-sector resources and property-level initiative.

5.4.3 Mobile Recycling Collection Program

The region has previously experienced challenges with fixed-location drop-off recycling sites, including significant issues with illegal dumping, contamination, and ongoing site maintenance. As a result, these facilities were closed. To reintroduce recycling access while mitigating past problems, SCS recommends the region explore the implementation of a mobile recycling collection program.

This program would consist of periodic, scheduled collection events held at various rotating locations across the region, such as municipal parking lots, parks, schools, or community centers. By bringing the service directly into neighborhoods for limited timeframes, the mobile model provides staff oversight, public visibility, and community convenience, while significantly reducing the risk of illegal dumping associated with permanent, unattended sites.

Program Goals

- Restore convenient recycling access, particularly in areas without curbside service.
- Minimize site-based nuisance behaviors such as dumping or contamination.

- Engage residents through consistent, branded, and well-publicized collection events.
- Allow flexible, scalable deployment across the region.

Program components and cost considerations include:

Component	Estimated Cost	Notes
Recycling Trailer (Enclosed)	$30,000–$50,000 (one-time)	Multi-compartment trailer for separated materials. Includes signage, lighting, etc.
Tow Vehicle (3/4-ton truck)	$45,000–$60,000 (purchase) or $8,000/year (lease)	A municipal fleet vehicle may be used if available.
Staffing (2 per event)	$500–$800 per event	Based on an 8-hour day including setup, operation, and breakdown.
Number of events	12–24 events/year	Monthly or biweekly schedule. Locations rotated regionally.
Fuel, maintenance, insurance	$5,000–$7,500 annually	Includes truck, trailer, and general operating costs.
Outreach, signage, materials	$2,000–$3,000 (first year)	Event signage, uniforms, collection instructions, flyers.

Annual program costs (excluding vehicle/trailer purchase) are estimated to be $15,000–$35,000, depending on the number of events and staffing approach.

Optional enhancements include:

- Community Partnerships: Events can be hosted in partnership with local schools, libraries, or civic groups to increase participation and reduce site costs.
- Education and Outreach: A modest campaign ($3,000–$10,000) using digital and print media can promote awareness and proper recycling behavior.
- Material Types: The program could initially target core curbside recyclables (e.g., cardboard, plastic containers (#1 and #2), mixed paper, and aluminum), and expand based on demand and processing capacity.

Benefits of the mobile model include:

- Staffed events reduce contamination and dumping.
- Rotating locations can equitably serve a broad population.
- Cost-effective compared to re-establishing permanent staffed drop-off sites.
- Builds positive engagement with the community and supports broader diversion goals.

5.5 UNIFIED SERVICE FEE

SCS recommends that the region's municipalities evaluate the feasibility of bundling trash and recycling services under a bundled service fee. Currently, recycling is often treated as an optional, add-on service with a separate charge in many jurisdictions. Bundling both services could increase

recycling participation, improve route efficiency, and foster more consistent messaging across the region.

5.5.1 Potential Benefits to Residents

- Increased Participation and Convenience: Bundling normalizes recycling as part of core waste services, removing the need for separate sign-up or payment, and encouraging broader participation.
- Cost Predictability and Equity: A single, standardized fee may provide residents with clearer expectations around solid waste costs and spread the cost of recycling more equitably across all households.
- Improved Recycling Outcomes: Higher participation can lead to increased diversion from landfill and help cities meet sustainability goals.
- Administrative Simplicity: Residents may appreciate a simplified billing structure, reducing confusion about separate charges or whether they're enrolled in recycling at all.

5.5.2 Potential Drawbacks to Residents

- Perceived or Actual Cost Increases: Some residents who previously opted out of recycling may see their bills increase under a bundled system, even if the total cost is more efficient overall.
- Loss of Choice: Bundling removes the ability for residents to opt out of recycling, which could be viewed negatively by individuals who prefer customized services.
- Equity Concerns for Non-Recyclers: Residents who do not generate recyclable materials (e.g., some seniors or low-waste households) may feel they are paying for a service they don't use.

5.5.3 Implementation Considerations

To help address concerns and support successful implementation, municipalities could:

- Communicate the environmental and financial rationale for bundling.
- Offer education on how and why to recycle.
- Evaluate data on participation and cost recovery to set fair and sustainable fee structures.

5.6 EVALUATE REGIONALIZED WASTE AND RECYCLING COLLECTION CONTRACTS

Currently, each jurisdiction in the region independently contracts for waste and recycling services. While this approach allows for local control, it can lead to fragmented service standards, inconsistent pricing, and missed opportunities for regional cost savings and program improvements.

SCS recommends that RICWMA explore the feasibility of managing trash and recycling services through a regional contracting model under RICWMA. Under this approach, RICWMA would coordinate a single procurement process or master contract (or a set of standardized contracts) on behalf of participating jurisdictions. Cities could opt into the program to the extent that it aligns with their local goals.

This evaluation should include:

- A legal and governance review to determine the appropriate authority and structure.
- A cost-benefit analysis comparing current decentralized contracts to a regional model.
- Stakeholder engagement with local government representatives, haulers, and residents.
- Review of best practices and case studies from similar regional models.

5.6.1 Potential Benefits of a Regional Contracting Model

- Economies of Scale: Aggregating service across jurisdictions can result in lower per-unit costs due to larger contract volumes.
- Service Consistency: Standardized collection schedules, accepted materials, and customer service protocols simplify outreach and reduce resident confusion.
- Stronger Negotiating Position: A unified front provides the region with greater leverage in contract negotiations, potentially leading to better pricing and service terms.
- Enhanced Data and Reporting: A centralized contract makes it easier to standardize performance metrics and track regional diversion goals.
- Innovation and Program Development: A regional approach may support the introduction of pilot programs, organics collection, or new recycling technologies more easily than city-by-city efforts.
- Reduced Administrative Burden: Participating cities can reduce staff time spent on procurement, monitoring, and enforcement of separate contracts.

5.6.2 Examples of Regional Waste Collection Models

- Housatonic Resources Recovery Authority (HRRA), Connecticut:

  The HRRA is a regional municipal solid waste and recycling authority serving 14 municipalities. It negotiates contracts and provides regional education and outreach programs. Municipalities benefit from consistent messaging, shared infrastructure planning, and economies of scale.

- Washington County Solid Waste Collaborative, Minnesota:

  In Washington County, multiple cities voluntarily work with the county to coordinate collection programs. The county supports joint procurement and facilitates alignment with broader waste diversion goals. This approach maintains some local autonomy while achieving regional efficiencies.

- City/County Association of Governments of San Mateo County (C/CAG), California:

  C/CAG facilitates regional programs including waste reduction and environmental outreach. While collection is still locally managed, C/CAG's regional coordination has led to shared policies and outreach initiatives that reduce duplication and improve effectiveness.

5.7 APPLIANCE AND TIRE COLLECTION PROGRAM

5.7.1 Overview

RICWMA's residential collection program, operated by Weikert Iron & Metal Recycling, provides no-cost curbside collection of old appliances and tires. Households may dispose of up to four appliances and ten tires annually by appointment, promoting safe and responsible waste management across Rock Island County.

5.7.2 Program Evaluation & Data Collection Recommendation

To support continuous improvement and optimal service delivery, SCS recommends that RICWMA implement basic data collection measures for the appliance and tire disposal program operated by Weikert Iron & Metal Recycling.

Specifically, SCS suggests that RICWMA evaluate:

- The accuracy and appropriateness of current household limits (4 appliances and 10 tires annually).
- Participation trends among new vs. returning households.
- Overall program utilization and demand across Rock Island County. In other words, are there certain areas that are more frequently serviced?

This evaluation can be carried out through appointment records, periodic user surveys, and geographic analysis of service uptake. Collecting this data will help determine whether the current limits are well-matched to residents' disposal needs and identify opportunities for expanded outreach, improved efficiency, and cost sharing.

SCS also promotes monitoring of additional indicators such as user satisfaction, ease of scheduling, and effective communication. Insights gained can guide future policy adjustments and improve outcomes by increasing access for more residents.

SCS understands that RICWMA recently entered into a long-term contract with Weikert. This data could be used to potentially renegotiate current unit price terms or be used to renegotiate the next contract.

5.8 ESTABLISH PERIODIC HOUSEHOLD HAZARDOUS WASTE COLLECTION EVENTS TO SUPPLEMENT PERMANENT FACILITY ACCESS

Residents have expressed concerns about the long travel distances required to access the region's contracted Household Hazardous Waste (HHW) facility. To address these concerns and improve accessibility, RICMWA hosts an annual, one-day HHW collection event in partnership with IEPA.

Under the IEPA's program, municipalities, counties, and solid waste agencies can apply to host a collection event. Approved applicants are responsible for providing a suitable site, staffing for traffic and logistics, local promotion, and basic supplies. The IEPA covers the majority of the operational

costs through its contracted HHW vendors. Applications are typically accepted on an annual cycle, and selected locations are scheduled for service during the following calendar year.

By continuing to leverage this state-supported opportunity, the region can significantly reduce the financial burden of HHW events while increasing service equity and environmental protection. SCS recommends that RICWMA continue to apply to the IEPA for one-day collection events.

5.9 PROGRAMS FOR ELECTRONICS COLLECTION

5.9.1 Establish Periodic Electronics Collection Events

In response to resident concerns about limited access to electronics recycling opportunities, SCS recommends that the region establish periodic electronics collection events to supplement existing disposal options.

Under the Illinois Electronic Products Recycling and Reuse Act, covered electronic devices—such as televisions, computers, monitors, and printers—must be recycled through manufacturer-funded programs. The Illinois EPA administers this system and approves registered collectors, recyclers, and manufacturers who work together to offer free recycling services to residents. Municipalities and counties can partner with these state-approved collectors and recyclers to host one-day or ongoing e-waste collection events at little to no cost.

To pursue this strategy, RICWMA can:

- Coordinate with an Illinois EPA-registered collector or recycler to schedule collection events and require that the selected collector implement data security protocols for data-containing devices.
- Provide a suitable location and staff support for traffic control and outreach.
- Promote the event to make sure residents are aware of accepted items and restrictions (e.g., residency or quantity limits).

These events would help divert additional electronic devices and facilitate compliance with state disposal bans on covered electronic devices. Additionally, they would improve convenience and accessibility for residents who are unable or unwilling to travel to more distant drop-off sites.

SCS recommends that RICWMA initiate contact with registered e-waste vendors and explore hosting a pilot electronics collection event within the next fiscal year, with the potential to establish a recurring schedule based on demand and vendor availability.

5.9.2 Clarify Public Understanding of Electronics Recycling

Many residents are unsure which items qualify for electronics recycling, especially given that items like microwaves, blenders, and hair dryers often appear "electronic" but are not accepted under Illinois law. This leads to confusion, contamination, and resident frustration.

SCS recommends that RICWMA implement a public education campaign clearly defining which items are accepted under the Illinois Consumer Electronics Recycling Act. The campaign should include visual “Yes/No” guidance, consistent online messaging, improved event pre-screening, and multi-

language outreach. Aligning all outreach materials with the official list of Covered Electronic Devices will help reduce improper drop-offs.

The education strategy could include:

- Clear, Visual Guidance: Develop and distribute simple, graphics-based flyers or social media posts showing:
  - Yes / No images of accepted and not accepted devices
  - Highlighting most commonly misunderstood items, such as microwaves, toasters, and hair tools
- Consistent Messaging Across Channels: Make certain that all city web pages, hauler notifications, and event signage use the same definitions.
- Partner Messaging: Ask municipalities or libraries to co-distribute messaging and display printed or digital materials/messaging.
- Multilingual and Accessible Formats: Provide materials in common languages spoken in the community and in accessible formats.

5.10 SUPPORT AND PROMOTE THE ILLINOIS PAINTCARE PROGRAM

Illinois is implementing a PaintCare program, a statewide product stewardship initiative developed by the paint industry to provide convenient, no-cost collection of leftover residential and commercial paint. Under this program, participating retail stores and municipal sites will serve as drop-off locations for unwanted paint, helping to keep this material out of the waste stream.

5.10.1 Anticipated Benefits of PaintCare

- Reduces the volume of paint entering the municipal solid waste stream or being improperly disposed of.
- Shifts the cost and responsibility for paint management from local governments to manufacturers and retailers.
- Provides residents with more accessible and convenient paint disposal options.
- Supports broader waste diversion efforts.

5.10.2 Recommendation

RICWMA can support and promote the PaintCare program through coordinated outreach, partnership, and logistical collaboration once it becomes operational in Illinois.

Specifically, RICWMA can:

1. Coordinate with PaintCare for Local Site Participation:

- Identify potential municipal or retail facilities within Rock Island County that may be eligible to host PaintCare collection sites.

- Encourage public works departments to enroll as official drop-off sites.
- Engage PaintCare staff early to facilitate broad coverage across the region.

2. Incorporate PaintCare into Public Outreach:

   - Update city and RICWMA websites to include information about PaintCare, with links to the locator tool and program guidelines.
   - Include PaintCare details in print and digital versions of recycling guides, calendars, and utility bill inserts.
   - Distribute PaintCare brochures and flyers at city offices, libraries, recycling events, and other public venues.

3. Align with Seasonal or Thematic Campaigns:

   - Promote the program during spring-cleaning or fall-cleanup campaigns when residents are likely to dispose of unused paint.
   - Include PaintCare messaging in broader waste diversion campaigns.

4. Request Outreach Support from PaintCare:

   - Work with PaintCare's outreach team to obtain co-branded educational materials tailored to the community.
   - Collaborate on public education campaigns or co-host special paint collection events to supplement permanent site access.

5. Train Municipal Staff and Support Resident Education:

   - Train customer service staff to provide accurate information about PaintCare options.
   - Include PaintCare training in routine solid waste staff meetings and public engagement workshops.

5.11 ORGANICS DIVERSION PROGRAMS

5.11.1 Promote Food Rescue as a Food Waste Diversion Strategy

To reduce the volume of edible food waste sent to the landfill, SCS recommends that the RICWMA actively promote and support food rescue efforts in partnership with the two existing food rescue organizations operating in the region. Food rescue is a proven strategy for reducing waste while addressing food insecurity by redirecting surplus edible food from commercial sources (such as grocers, institutions, and food service operations) to hunger relief agencies.

Benefits of food rescue include:

- Reduces the volume of organic waste requiring disposal.
- Supports food-insecure residents by increasing access to fresh, healthy food.
- Strengthens community partnerships and enhances the region's sustainability profile.

Recommended actions by RICWMA and its member jurisdictions include:

- Facilitate Collaboration and Awareness:
  - Host an introductory meeting or roundtable with local food retailers, restaurants, schools, and institutional kitchens to connect them with the regional food rescue organizations.
  - Use existing communications channels (website, newsletters, social media, waste hauler inserts) to promote food rescue opportunities to businesses and institutions that may generate surplus food.
- Support food rescue organizations:
  - Explore the possibility of formal city or county endorsement of food rescue, such as adopting a resolution that encourages surplus food donation.
  - Offer space, staff coordination, or modest funding to assist food rescue organizations with logistics, especially during pilot programs or community events.
  - Educate food generators on liability protections:
    - Promote awareness of the federal Bill Emerson Good Samaritan Food Donation Act, which protects good-faith food donors from liability.
    - Provide easy-to-understand resources or links to food safety guidelines and best practices for donation.
- Integrating Food Rescue into Waste Diversion Planning:
  - Include food rescue metrics in regional diversion goals and encourage food generators to track the volume of food rescued or donated.
  - Recognize participating businesses with public acknowledgments or awards for their contributions to waste reduction and community wellbeing.

5.11.2 Pilot Programs for Food Waste Collection

To reduce the volume of organic material sent to landfills, SCS recommends that RICWMA or a member jurisdiction implement a pilot food waste collection program. This pilot would provide targeted households or businesses with separate containers for food scraps and other compostable materials, accompanied by clear guidance on acceptable items and collection schedules. The pilot should be designed to test operational logistics, assess resident participation and contamination rates, and gather data to inform broader program expansion.

5.11.2.1 Available Food Waste Composting Infrastructure

There are two main permitting pathways for composting facilities in Illinois, based on the primary type of material being composted:

- Landscape waste composting facilities are regulated under Part 830 – Standards for Compost Facilities.
- Organic waste composting facilities, which handle significant amounts of materials other than landscape waste, are regulated under Part 807 – Solid Waste, as they are classified as pollution control facilities.

Several local facilities currently operate under Part 830 permits, allowing them to compost landscape waste along with certain approved additives. Food scraps are one such additive that the Illinois EPA has approved for use at many landscape compost sites across the state.

The permit status of local composting facilities is:

- Two facilities (Quad Cities Landfill and Monmouth Municipal) are already authorized to accept food waste. If they haven't reached 10% of total volume from additives, they may accept more food waste without permit changes. They can also request to increase the allowable volume.
- Two other facilities (Upper Rock Island County Landfill and Knox County Compost Site) are not yet permitted to accept food scraps but could apply to do so and request a higher volume limit.
- One facility, Secure Recycling, already operates under a Part 807 permit and currently composts food scraps. It may have the capacity to accept more or expand under favorable conditions.

Facilities may transition from a Part 830 to a Part 807 permit, which involves submission of additional forms, operating plan updates, public notification, and possibly local siting. However, if specific conditions (like limits on livestock waste and proper management of non-landscape waste) are met, local siting may not be required.

5.11.2.2 Pilot Program Elements

A well-structured food waste collection pilot will also provide the opportunity to engage residents and evaluate public interest and education needs. Key elements of a pilot program include:

- Scope and Scale: Select 1–3 neighborhoods, a specific multifamily property type, or a targeted business sector (e.g., restaurants, schools) to participate.
- Collection Method: Provide food waste carts (e.g., 5-gallon kitchen pails or 32–64 gallon outdoor bins). Determine if collection is curbside, drop-off-based, or via a partner hauler.
- Materials Accepted: Define what will be accepted (e.g., fruit/vegetable scraps, meat/dairy, paper towels). Decide if compostable liners are permitted.
- Processing Facility: Identify where collected material will be taken (e.g., a local composting facility or anaerobic digester).
- Education and Outreach: Include signage, printed materials, and workshops to help participants understand the "do's and don’ts."
- Monitoring and Evaluation: Track participation, volume collected, contamination rates, and feedback through surveys or observation.

Program components and cost considerations include:

Category	Estimated Cost	Notes
Containers	$15–$25 per kitchen pail; $50–$100 per curbside cart	For residential pilots: one kitchen pail + one outdoor cart per household. Costs vary by volume and material.
Hauling and Collection Services	$10,000–$30,000	Could be contracted or added to an existing route. Includes labor, fuel, and vehicle use for 6–12 months.
Processing/Tip Fees	$30–$70 per ton	Compost facilities may charge less than landfill tipping fees. Total cost depends on volume collected.
Education & Outreach Materials	$3,000–$7,500	Includes signage, flyers, website content, and training workshops.
Monitoring & Evaluation	$5,000–$10,000	Staff time or a consultant to conduct surveys, monitor participation and contamination, and generate reports.
Contingency (10-15%)	~$3,000–$6,000	Recommended to cover unforeseen issues.

Total estimated cost: $30,000–$80,000, depending on scale, local hauling/processing arrangements, and outreach intensity.

As an alternative, a kiosk-style drop-off program may be more cost-effective than curbside collection, especially in multifamily or denser urban areas. Revised costs could include:

- Kiosks: Estimated costs of $2,000 per kiosk site. Secured bins are placed in public or semi-public locations. Cost will depend on the number of kiosks and the level of enclosure/security.
- Kiosk-based collection may reduce route frequency but increase bin servicing frequency.
- Total Estimate for a kiosk-based model: $25,000–$65,000.

Implementation steps include (12–24 Months Total):

Phase	Timeline	Activities
Planning & Design	Months 1–3	Define pilot goals, select pilot area(s), engage partners (e.g., composters, haulers), and estimate volumes.
Procurement & Outreach	Months 4–6	Purchase containers, develop outreach materials, and conduct community meetings or webinars.
Pilot Launch	Month 7	Distribute containers, begin collection, and launch communications campaign.
Monitoring Period	Months 7–22	Track participation, contamination, and satisfaction. Address any issues (e.g., smells, pests).
Evaluation & Recommendations	Months 23–25	Analyze results, conduct participant surveys, and provide recommendations for next steps (e.g., scale-up, changes).

5.12 SUSTAINABLE PROCUREMENT

5.12.1 Promote Sustainable Procurement Practices

It is recommended that RICWMA and its member jurisdictions adopt policies and practices that incentivize the use of sustainable products in public purchasing. This may include giving preference to items that are recycled, recyclable, compostable, energy efficient, locally produced, or certified by recognized sustainability standards. Examples of such products include recycled-content paper and office supplies, energy-efficient lighting and appliances, low-emission fleet vehicles, environmentally preferable cleaning products, and construction materials such as reclaimed wood or low-VOC paints.

By incorporating sustainability criteria into procurement decisions, the region can reduce environmental impacts, support the circular economy, and influence market demand for greener products and services. RICWMA could provide model procurement policies, coordinate joint purchasing agreements to increase buying power, or recognize agencies that demonstrate leadership in sustainable purchasing. These actions will help institutionalize sustainability across government operations while supporting broader regional environmental goals.

5.12.2 Implement Procurement Efficiency Measures

In addition to encouraging the use of sustainable products, it is recommended that RICWMA and its member jurisdictions establish internal processes to evaluate both the necessity and quantity of purchases to prevent waste and promote efficient resource use. Tools such as purchase justification forms, inventory tracking systems, and centralized procurement approvals help verify that items are truly needed and ordered in the appropriate amounts.

Additional strategies may include establishing internal sharing platforms for surplus supplies and equipment, setting minimum order intervals for frequently over-purchased items, or conducting periodic audits of purchasing patterns to identify opportunities for reduction. These practices are particularly effective for consumables like office supplies, cleaning products, and printed materials, as well as for technology or equipment that can become outdated quickly. By integrating these efficiency measures into procurement policies, the region can reduce unnecessary purchases, lower operational costs, and support long-term sustainability goals.

Appendix A

Business Groups Defined by Associated NAICS Codes

Business Groups Defined by Associated NAICS Codes		
ID 1: Arts, Entertainment, & Recreation		
NAICS Code	NAICS Name	NAICS Description
711	Performing Arts, Spectator Sports, and Related Industries	This subsector comprises establishments primarily engaged in producing, or organizing and promoting, live presentations that involve the performances of actors and actresses, singers, dancers, musical groups and artists, athletes and other entertainers. This subsector also includes independent (freelance) entertainers and artists and the establishments that manage their careers. The classification recognizes four basic processes: producing events; organizing and promoting events; managing and representing entertainers; and providing the artistic, creative and technical skills necessary to produce artistic products and live performances. This subsector makes a clear distinction between performing arts companies and performing artists (independents). Although not unique to arts and entertainment, freelancing is a particularly important phenomenon in this subsector; however, it is difficult to implement in the case of musical groups (companies) and artists, especially pop groups. These establishments tend to be more loosely organized and it can be difficult to distinguish companies from freelancers. Therefore, this subsector includes one industry that covers both musical groups and musical artists.
712	Museums, Historical Sites, and Similar Institutions	This subsector comprises establishments primarily engaged in preserving and exhibiting objects, sites and natural wonders of historical, cultural and educational value.
713	Amusement, Gambling, and Recreation Industries	This subsector comprises establishments primarily engaged in operating recreation, amusement and gambling facilities and services. Examples of establishments in this subsector are golf courses, skiing facilities, marinas, recreational sports and fitness centers, bowling centers, amusement parks, amusement arcades and parlors, casinos, bingo halls, operators of video gaming terminals and operators of lotteries. There are establishments engaged in amusement, gambling and recreation activities in combination with other activities that are classified in other sectors. The most important are listed below. Exclusion(s) -providers of sightseeing and pleasure cruises (See 487 Scenic and sightseeing transportation) -horse racetracks (See 7112 Spectator sports) -operators of resort hotels, casino hotels, and recreation and vacation camps (See 721 Accommodation services)
ID 2: Durable Wholesale & Trucking		
NAICS Code	NAICS Name	NAICS Description
423	Merchant Wholesalers, Durable Goods	Industries in the Merchant Wholesalers, Durable Goods subsector sell capital or durable goods to other businesses. Merchant wholesalers generally take title to the goods that they sell; in other words, they buy and sell goods on their own account. Durable goods are new or used items generally with a normal life expectancy of three years or more. Durable goods merchant wholesale trade establishments are engaged in wholesaling products, such as motor vehicles, furniture, construction materials, machinery and equipment (including household-type appliances), metals and minerals (except petroleum), sporting goods, toys and hobby goods, recyclable materials, and parts. Business-to-business electronic markets, agents, and brokers primarily engaged in wholesaling durable goods, generally on a commission or fee basis, are classified in Subsector 425, Wholesale Electronic Markets and Agents and Brokers.
484	Truck Transportation	This subsector comprises establishments primarily engaged in the truck transportation of goods. These establishments may carry general freight or specialized freight. Specialized freight comprises goods that, because of size, weight, shape or other inherent characteristics, require specialized equipment for transportation. Establishments may operate locally, that is within a metropolitan area and its hinterland, or over long distances, that is between metropolitan areas.

Business Groups Defined by Associated NAICS Codes		
491	Postal Service	This subsector comprises establishments primarily engaged in operating the postal service. Establishments of the Post Office, other than those primarily engaged in providing courier services, are classified in this industry, as well as establishments that carry on one or more functions of the postal service on a contract basis, except the delivery of mail in bulk.
492	Couriers and Messengers	This subsector comprises establishments primarily engaged in providing courier delivery services; or messenger and delivery services of small parcels within a single urban area.
493	Warehousing and Storage	This subsector comprises establishments primarily engaged in operating general merchandise, refrigerated and other warehousing and storage facilities. Included in this subsector are third-party warehouses serving retail chains and wholesalers. Establishments in this subsector provide facilities to store goods for customers. They do not take title to the goods they handle. These establishments take responsibility for storing the goods and keeping them secure. They may also provide a range of services, often referred to as logistics services, related to the distribution of a customer's goods. Logistics services can include labelling, breaking bulk, inventory control and management, light assembly, order entry and fulfillment, packaging, pick and pack, price marking and ticketing and transportation arrangement. However, establishments in this subsector always provide storage services in addition to any logistics services. Furthermore, the storage of goods must be more than incidental to the performance of a service such as price marking.Both public and contract warehousing are included in this subsector. Public warehousing generally provides short-term storage, typically for less than thirty days. Contract warehousing generally involves a longer-term contract, often including the provision of logistical services and dedicated facilities.Bonded warehousing and storage services, and warehouses located in free trade zones, are included in the industries of this subsector. However, storage services primarily associated with the provision of credit are not.
ID 3: Education		
NAICS Code	NAICS Name	NAICS Description
611	Educational Services	Industries in the Educational Services subsector provide instruction and training in a wide variety of subjects. The instruction and training is provided by specialized establishments, such as schools, colleges, universities, and training centers. The subsector is structured according to level and type of educational services. Elementary and secondary schools, junior colleges and colleges, universities, and professional schools correspond to a recognized series of formal levels of education designated by diplomas, associate degrees (including equivalent certificates), and degrees. The remaining industry groups are based more on the type of instruction or training offered and the levels are not always as formally defined. The establishments are often highly specialized, many offering instruction in a very limited subject matter, for example ski lessons or one specific computer software package. Within the sector, the level and types of training that are required of the instructors and teachers vary depending on the industry. Establishments that manage schools and other educational establishments on a contractual basis are classified in this subsector if they both manage the operation and provide the operating staff. Such establishments are classified in the Educational Services subsector based on the type of facility managed and operated.

Business Groups Defined by Associated NAICS Codes		
ID 4: Hotels & Lodging		
NAICS Code	NAICS Name	NAICS Description
721	Accommodation	This subsector comprises establishments primarily engaged in providing short-term lodging for travelers, vacationers and others. In addition to lodging, a range of other services may be provided. For example, many establishments have restaurants, while others have recreational facilities. Lodging establishments are classified in this subsector even if the provision of complementary services generates more revenues. Establishments that operate lodging facilities primarily designed to accommodate outdoor enthusiasts, are also included in this subsector. These establishments are characterized by the type of accommodation and by the nature and the range of recreational facilities and activities provided to their clients. Establishments that manage short-stay accommodation establishments, such as hotels and motels, on a contractual basis are classified in this subsector if they provide both management and operating staff. These establishments are classified according to the type of facility they manage.
ID 5: Manufacturing -Electronic Equipment		
NAICS Code	NAICS Name	NAICS Description
334	Computer and Electronic Product Manufacturing	This subsector comprises establishments primarily engaged in manufacturing computers, computer peripheral equipment, communications equipment, and similar electronic products, as well as components for such products. The computer and electronic product manufacturing industries employ production processes that are characterized by the design and use of integrated circuits and the application of highly specialized miniaturization technologies.
335	Electrical Equipment, Appliance, and Component Manufacturing	This subsector comprises establishments primarily engaged in manufacturing products that generate, distribute and use electrical power.
ID 6: Manufacturing - Food & Nondurable Wholesale		
NAICS Code	NAICS Name	NAICS Description
311	Food Manufacturing	This subsector comprises establishments primarily engaged in producing food for human or animal consumption. Exclusion(s) -manufacturing beverages or tobacco (See 312 Beverage and tobacco product manufacturing)
312	Beverage and Tobacco Product Manufacturing	This subsector comprises establishments primarily engaged in manufacturing beverages and tobacco products.
424	Merchant Wholesalers, Nondurable Goods	Industries in the Merchant Wholesalers, Nondurable Goods subsector sell nondurable goods to other businesses. Nondurable goods are items generally with a normal life expectancy of less than three years. Nondurable goods merchant wholesale trade establishments are engaged in wholesaling products, such as paper and paper products, chemicals and chemical products, drugs, textiles and textile products, apparel, footwear, groceries, farm products, petroleum and petroleum products, alcoholic beverages, books, magazines, newspapers, flowers and nursery stock, and tobacco products. The detailed industries within the subsector are organized in the classification structure based on the products sold. Business to business electronic markets, agents, and brokers primarily engaged in wholesaling nondurable goods, generally on a commission or fee basis, are classified in Subsector 425, Wholesale Electronic Markets and Agents and Brokers.

Business Groups Defined by Associated NAICS Codes		
ID 7: Manufacturing - All Other		
NAICS Code	NAICS Name	NAICS Description
313	Textile Mills	This subsector comprises establishments primarily engaged in manufacturing yarn or textile fabrics, or finishing yarn, textile fabrics or clothing. Establishments primarily engaged in manufacturing both fabrics and textile products, except knitted clothing, are included. Exclusion(s) -manufacturing textile products, except clothing, from purchased fabric (See 314 Textile product mills) -manufacturing clothing (See 315 Clothing manufacturing)
314	Textile Product Mills	This subsector comprises establishments primarily engaged in manufacturing textile products, except clothing. Exclusion(s) -manufacturing yarn or textile fabrics, or finishing yarn or fabrics, or manufacturing both fabrics and textile products (See 313 Textile mills)
315	Apparel Manufacturing	This subsector comprises establishments primarily engaged in manufacturing clothing. Exclusion(s) -finishing clothing made in other establishments (See 313 Textile mills) -embroidering clothing not made in the same establishment (See 314 Textile product mills) -printing on articles of clothing not made in the same establishment (See 323 Printing and related support activities) -manufacturing safety clothing (See 339 Miscellaneous manufacturing)
316	Leather and Allied Product Manufacturing	This subsector comprises establishments primarily engaged in manufacturing leather and allied products. Exclusion(s) -manufacturing leather clothing (See 315 Clothing manufacturing)
321	Wood Product Manufacturing	This subsector comprises establishments primarily engaged in manufacturing products from wood. There are three industry groups in this subsector, comprising establishments engaged in sawing logs into lumber and similar products, or preserving these products; making products that improve the natural characteristics of wood, by making veneers, plywood, reconstituted wood panel products or engineered wood assemblies; and making a diverse range of wood products, such as millwork. Exclusion(s) -logging; and chipping logs in the field (See 113 Forestry and logging) -manufacturing wood pulp, paper and paper products (See 322 Paper manufacturing) -manufacturing wood kitchen cabinets and counters, and bathroom vanities (See 337 Furniture and related product manufacturing) -manufacturing wood signs and coffins (See 339 Miscellaneous manufacturing)
322	Paper Manufacturing	This subsector comprises establishments primarily engaged in manufacturing pulp, paper and paper products. The manufacture of pulp involves separating the cellulose fibers from other impurities in wood, used paper or other fiber sources. The manufacture of paper involves matting these fibers into a sheet. Converted paper products are produced from paper and other materials by various cutting and shaping techniques.
323	Printing and Related Support Activities	This subsector comprises establishments primarily engaged in printing and providing related support activities.

Business Groups Defined by Associated NAICS Codes		
324	Petroleum and Coal Products Manufacturing	This subsector comprises establishments primarily engaged in transforming crude petroleum and coal into intermediate and end products. The dominant process is petroleum refining, which separates crude petroleum into components or fractions through such techniques as cracking and distillation. Exclusion(s) -manufacturing chemicals and chemical preparations from refined petroleum and coal products (See 325 Chemical manufacturing)
325	Chemical Manufacturing	This subsector comprises establishments primarily engaged in manufacturing chemicals and chemical preparations, from organic and inorganic raw materials.Exclusion(s) -field processing of crude petroleum and natural gas (See 211 Oil and gas extraction)-beneficiating mineral ores (See 212 Mining and quarrying (except oil and gas))-processing crude petroleum and coal (See 324 Petroleum and coal product manufacturing)-smelting and refining ores and concentrates (See 331 Primary metal manufacturing)
326	Plastics and Rubber Products Manufacturing	This subsector comprises establishments primarily engaged in making goods by processing raw rubber and plastics materials. Rubber and plastics-based activities are combined in the same subsector because the technical properties of these polymers are related. Generally, establishments classified in this subsector manufacture products made of just one material, rubber or plastics, with the major exception of tire manufacturing. Exclusion(s) -manufacturing synthetic resins from basic organic chemicals (See 325210 Resin and synthetic rubber manufacturing) -compounding plastics resins from recycled materials (See 325991 Custom compounding of purchased resins)
327	Nonmetallic Mineral Product Manufacturing	This subsector comprises establishments primarily engaged in manufacturing non-metallic mineral products. These establishments cut, grind, shape and finish granite, marble, limestone, slate and other stone; mix non-metallic minerals with chemicals and other additives; and heat non-metallic mineral preparations to make products, such as bricks, refractories, ceramic products, cement and glass. Exclusion(s) -beneficiating non-metallic minerals (See 212 Mining and quarrying (except oil and gas))
331	Primary Metal Manufacturing	This subsector comprises establishments primarily engaged in smelting and refining ferrous and non-ferrous metals from ore, pig or scrap in blast or electric furnaces. Metal alloys are made with the introduction of other chemical elements. The output of smelting and refining, usually in ingot form, is used in rolling and drawing operations to produce sheet, strip, bars, rods and wire, and in molten form to produce castings and other basic metal products. Exclusion(s) -manufacturing metal forgings or stampings (See 332 Fabricated metal product manufacturing)
332	Fabricated Metal Product Manufacturing	This subsector comprises establishments primarily engaged in forging, stamping, forming, turning and joining processes to produce ferrous and non-ferrous metal products, such as cutlery and hand tools, architectural and structural metal products, boilers, tanks and shipping containers, hardware, spring and wire products, turned products, and bolts, nuts and screws. Exclusion(s) -manufacturing metal products by rolling, drawing, extruding, alloying or casting (See 331 Primary metal manufacturing)

Business Groups Defined by Associated NAICS Codes		
333	Machinery Manufacturing	This subsector comprises establishments primarily engaged in manufacturing industrial and commercial machinery. These establishments assemble parts into components, subassemblies and complete machines. They may make the parts themselves, using general metal-working processes, or purchase them. Establishments tend to specialize in producing machinery designed for particular applications, and this is reflected in the structure of the industry groups and industries. A broad distinction exists between general-purpose machinery, that is designed to be used in a variety of industrial applications, such as pumping or machining, and special-purpose machinery, that is designed to be used in a particular industry, such as agriculture or printing. The first three industry groups consist of establishments that produce special-purpose machinery. Establishments that produce general-purpose machinery are classified in the remaining industry groups. Establishments primarily engaged in rebuilding machinery are included in the same industry as establishments manufacturing the particular type of new machinery. Unless otherwise specified, establishments primarily engaged in manufacturing parts, designed for use solely or principally with a particular machine, are classified in the same industry as establishments manufacturing that type of machinery.
336	Transportation Equipment Manufacturing	This subsector comprises establishments primarily engaged in manufacturing equipment for transporting people and goods. The industry groups are based on the various modes of transport - road, rail, air and water. Three industry groups are based on road transportation equipment - for complete vehicles, for body and trailer manufacture and for parts. Establishments primarily engaged in rebuilding equipment and parts are included in the same industry as establishments manufacturing new products. Exclusion(s) -manufacturing equipment designed for moving materials and goods on industrial sites, construction sites, in logging camps and other off-highway locations (See 333 Machinery manufacturing)
337	Furniture and Related Product Manufacturing	This subsector comprises establishments primarily engaged in manufacturing furniture and related products. The processes used in the manufacture of furniture are standard methods of forming materials and assembling components, including cutting, molding and laminating. The design of the article, for both aesthetic and functional qualities, is an important aspect of the production process. Design services may be performed by the furniture establishment's own work force or may be purchased from industrial designers. Furniture is classified based on the application for which it is designed. For example, an upholstered sofa is treated as household furniture, although it may also be used in hotels or offices.Furniture is also classified according to the component material from which it is made. Furniture made from more than one material is classified based on the material used in the frame, or if there is no frame, the predominant component material. Upholstered household furniture is classified as such, without regard to the frame material.Furniture may be produced on a stock or custom basis and may be shipped assembled or unassembled (knockdown). Establishments primarily engaged in manufacturing furniture frames and parts are included.Exclusion(s)-manufacturing furniture hardware (See 332 Fabricated metal product manufacturing)-manufacturing seating for transportation equipment (See 336 Transportation equipment manufacturing)-manufacturing laboratory and hospital furniture (See 339 Miscellaneous manufacturing)-repairing, refinishing and reupholstering furniture (See 811 Repair and maintenance)
339	Miscellaneous Manufacturing	This subsector comprises establishments, not classified to any other subsector, primarily engaged in manufacturing activities. These establishments manufacture a diverse range of products, such as medical equipment and supplies, jewelry, sporting goods, toys and office supplies.

Business Groups Defined by Associated NAICS Codes		
511	Publishing Industries (except Internet)	This subsector comprises establishments primarily engaged in publishing newspapers, periodicals, books, databases, software and other works. These works are characterized by the intellectual creativity required in their development and are usually protected by copyright. Publishers distribute or arrange for the distribution of copies of these works. Publishing establishments may create the works in-house, or contract for, purchase, or compile works that were originally created by others. These works may be published in one or more formats including traditional print form, electronic and on-line. Publishers of multimedia products, such as interactive children's books, multimedia CD-ROM and digital video disk (DVD) reference books, and musical greeting cards are also included. Establishments in this subsector may print, reproduce or offer direct on-line access to the works themselves or they may arrange with others to carry out such functions. Exclusion(s) -publishing exclusively on Internet (See 519130 Internet publishing and broadcasting and web search portals)
ID 8: Medical & Health		
NAICS Code	NAICS Name	NAICS Description
621	Ambulatory Health Care Services	This sector comprises establishments primarily engaged in providing health care by diagnosis and treatment, providing residential care for medical and social reasons, and providing social assistance, such as counselling, welfare, child protection, community housing and food services, vocational rehabilitation and childcare, to those requiring such assistance.
622	Hospitals	This subsector comprises establishments, licensed as hospitals, primarily engaged in providing diagnostic and medical treatment services, and specialized accommodation services to in-patients. These establishments have an organized medical staff of physicians, nurses and other health professionals, technologists and technicians. Hospitals use specialized facilities and equipment that form a significant and integral part of the production process. Hospitals may also provide a wide variety of out-patient services as a secondary activity.
623	Nursing and Residential Care Facilities	This subsector comprises establishments primarily engaged in providing residential care combined with either nursing, supervisory or other types of care as required by the residents. In this subsector, the facilities are a significant part of the production process, and the care provided is a mix of health and social services, with the health component being largely nursing services.
ID 9: Public Administration		
NAICS Code	NAICS Name	NAICS Description
921	Executive, Legislative, and Other General Government Support	The Executive, Legislative, and Other General Government Support subsector groups offices of government executives, legislative bodies, public finance and general government support.
922	Justice, Public Order, and Safety Activities	The Justice, Public Order, and Safety Activities subsector groups government establishments engaged in the administration of justice, public order, and safety programs.
923	Administration of Human Resource Programs	The Administration of Human Resource Programs subsector groups government establishments primarily engaged in the administration of human resource programs.
924	Administration of Environmental Quality Programs	The Administration of Environmental Quality Programs subsector groups government establishments primarily engaged in the administration of environmental quality.
925	Administration of Housing Programs, Urban Planning, and Community Development	The Administration of Housing Programs, Urban Planning, and Community Development subsector groups government establishments primarily engaged in the administration of housing, urban planning, and community development.

Business Groups Defined by Associated NAICS Codes		
926	Administration of Economic Programs	This subsector comprises government establishments primarily engaged in the administration of economic programs.
927	Space Research and Technology	This subsector comprises government establishments that conduct space research.
928	National Security and International Affairs	This subsector comprises government establishments primarily engaged in national security and international affairs.
ID 10:Restaurants		
NAICS Code	NAICS Name	NAICS Description
722	Food Services and Drinking Places	This subsector comprises establishments primarily engaged in preparing meals, snacks and beverages, to customer order, for immediate consumption on and off the premises. This subsector does not include food service activities that occur within establishments such as hotels, civic and social associations, amusement and recreation parks, and theatres. However, leased food-service locations in facilities such as hotels, shopping malls, airports and department stores are included. The industry groups within this subsector reflect the level and type of service provided. Exclusion(s) -preparing and/or delivering food for the needy (See 624210 Community food services)
ID 11: Retail Trade - Food & Beverage Stores		
NAICS Code	NAICS Name	NAICS Description
445	Food and Beverage Stores	This subsector comprises establishments primarily engaged in retailing a general or specialized line of food or beverage products. Exclusion(s) -retailing a general or specialized line of food or beverage products by means of electronic shopping, mail-order or direct sale (See 454 Non-store retailers)
ID 12: Retail Trade - All Other		
NAICS Code	NAICS Name	NAICS Description
441	Motor Vehicle and Parts Dealers	This subsector comprises establishments primarily engaged in retailing motor vehicles and providing complementary services and retailing motor vehicle parts and accessories. The establishments of this subsector are generally specialized in the retailing of particular types of vehicles or in the retailing of particular types of parts and accessories. Exclusion(s) -heavy-duty truck sales (See 41 Wholesale trade)
442	Furniture and Home Furnishings Stores	This subsector comprises establishments primarily engaged in retailing new furniture and home furnishings. These establishments usually operate from showrooms and many offer interior decorating services in addition to the sale of products. Exclusion(s) -retailing used furniture and home furnishings (See 453310 Used merchandise stores) -retailing furniture and home furnishings by means of electronic shopping, mail-order or direct sale (See 454 Non-store retailers)

Business Groups Defined by Associated NAICS Codes		
443	Electronics and Appliance Stores	This subsector comprises establishments primarily engaged in retailing household appliances, home audio and video equipment, audio and video recordings, cameras, computers and related goods. These establishments may also retail replacement parts and provide repair services. Exclusion(s) -retailing used household appliances, home audio and video equipment, cameras, computers and related goods (See 453310 Used merchandise stores) -retailing household appliances, home audio and video equipment, cameras, computers and related goods by means of electronic shopping, mail-order or direct sale (See 454 Non-store retailers)
446	Health and Personal Care Stores	This subsector comprises establishments primarily engaged in retailing health and personal care products. Drug stores and pharmacies, cosmetics, beauty supplies and perfume stores, optical goods stores, food (health) supplement stores and health appliance stores are included. Exclusion(s) -retailing health and personal care products by means of electronic shopping, mail-order or direct sale (See 454 Non-store retailers)
447	Gasoline Stations	This subsector comprises establishments primarily engaged in retailing motor fuels, whether or not the gasoline station is operated in conjunction with a convenience store, repair garage, restaurant or other type of operation. Establishments that operate gasoline stations on behalf of their owners and receive a commission on the sale of fuels are also included.
448	Clothing and Clothing Accessories Stores	This subsector comprises establishments primarily engaged in retailing clothing and clothing accessories.Exclusion(s) -retailing used clothing and clothing accessories (See 453310 Used merchandise stores)-retailing clothing and clothing accessories by means of electronic shopping, mail-order or direct sale (See 454 Non-store retailers)
451	Sporting Goods, Hobby, Musical Instrument, and Book Stores	This subsector comprises establishments primarily engaged in retailing sporting goods, games and toys, sewing supplies, fabrics, patterns, yarns and other needlework accessories, musical instruments, and books and other reading materials. Exclusion(s) -retailing new audio and video recordings (See 443146 Audio and video recordings stores) -retailing used sporting goods, hobby goods, books, musical instruments, and audio and video recordings (See 453310 Used merchandise stores) -retailing sporting goods, hobby goods, books, musical instruments, and audio and video recordings by means of electronic shopping, mail-order or direct sale (See 454 Non-store retailers)
452	General Merchandise Stores	This subsector comprises establishments primarily engaged in retailing a general line of merchandise that may, or may not, include a general line of grocery items. Exclusion(s) -retailing a general line of building and home improvement materials (See 444110 Home centers) -retailing a general line of grocery items (See 445110 Supermarkets and other grocery (except convenience) stores) -retailing a general line of used goods (See 453310 Used merchandise stores) -retailing a general line of goods by means of electronic shopping, mail-order, or direct sale (See 454 Non-store retailers)
453	Miscellaneous Store Retailers	This subsector comprises establishments primarily engaged in retailing a specialized line of merchandise in other types of specialty stores. Florists, office supplies stores, stationery stores, gift, novelty and souvenir stores, used merchandise stores, pet and pet supplies stores, art dealers and manufactured (mobile) home dealers are included.

Business Groups Defined by Associated NAICS Codes		
454	Nonstore Retailers	This subsector comprises establishments primarily engaged in retailing merchandise by non-store retail methods. The establishments of this subsector employ methods, such as broadcasting infomercials, broadcasting and publishing direct-response advertising, publishing traditional and electronic catalogues, door-to-door solicitation, in-home demonstration, temporary displaying of merchandise (temporary stands or stalls), distribution by vending machines, and using the Internet to reach their customers and market their merchandise. Establishments primarily engaged in the direct sale (i.e. non-store) of products such as home heating fuels and in newspaper delivery are also included.
ID 13: Services - Management, Administrative, Support, & Social		
NAICS Code	NAICS Name	NAICS Description
425	Wholesale Electronic Markets and Agents and Brokers	Industries in the Wholesale Electronic Markets and Agents and Brokers subsector arrange for the sale of goods owned by others, generally on a fee or commission basis. They act on behalf of the buyers and sellers of goods. This subsector contains agents and brokers as well as business to business electronic markets that facilitate wholesale trade.
551	Management of Companies and Enterprises	This subsector comprises establishments primarily engaged in managing companies and enterprises and/or holding the securities or financial assets of companies and enterprises, for the purpose of owning a controlling interest in them and/or influencing their management decisions. They may undertake the function of management, or they may entrust the function of financial management to portfolio managers.
561	Administrative and Support Services	This subsector comprises establishments primarily engaged in activities that support the day-to-day operations of other organizations. This includes activities such as administration, hiring and placing personnel, preparing documents, taking orders from clients, collecting payments for claims, arranging travel, providing security and surveillance, cleaning buildings, and packaging and labelling products. These activities are often undertaken in-house by establishments found in many sectors of the economy. The establishments of this subsector specialize in one or more of these activities and can therefore provide services to clients in a variety of industries and, in some cases, to households. The individual industries of this subsector are defined on the basis of the particular process in which they are engaged and the particular services they provide.
624	Social Assistance	This subsector comprises establishments primarily engaged in providing a wide variety of assistance services directly to their clients. These services do not include residential or accommodation services, except on a short-stay basis.
813	Religious, Grantmaking, Civic, Professional, and Similar Organizations	This s subsector comprises establishments primarily engaged in organizing and promoting religious activities, supporting various causes through grant-making, advocating (promoting) various social and political causes, and promoting and defending the interests of their members.
ID 14: Services - Professional, Technical, & Financial		
NAICS Code	NAICS Name	NAICS Description
515	Broadcasting (except Internet)	This subsector comprises establishments primarily engaged in operating radio and television broadcasting studios and facilities. Exclusion(s) -operating telecommunications networks (See 517 Telecommunications) -broadcasting exclusively on the Internet (See 519 Other information services)
517	Telecommunications	This subsector comprises establishments primarily engaged in providing telecommunications and/or video entertainment services over their own networks, or over networks operated by others. The establishments of this subsector are grouped into industries on the basis of the nature of services provided (fixed or mobile), the type of network used to deliver those services (wireline or wireless), and the business model they employ (facilities-based or resale).Exclusion(s)-installation and maintenance of broadcasting and telecommunications systems by independent contractors (See 23 Construction)

Business Groups Defined by Associated NAICS Codes		
518	Data Processing, Hosting, and Related Services	This subsector comprises establishments primarily engaged in providing the infrastructure for data processing, hosting, and related services.
519	Other Information Services	This subsector comprises establishments, not classified to any other industry, primarily engaged in providing other information services. The main components are news syndicates, libraries and archives, Internet publishing and broadcasting, and web search portals.
521	Monetary Authorities-Central Bank	This subsector comprises establishments primarily engaged in performing central banking functions, such as issuing currency (paper money); managing the nation's money supply and international reserves; overseeing payment, clearing and settlement systems; holding deposits that represent the reserves of other banks and institutions; and acting as fiscal agent for the federal government. The institutional arrangements for performing these functions and for conducting monetary policy may differ among the countries. In Canada, these functions are performed by the Bank of Canada, in Mexico by the Bank of Mexico, and in the United States by the Federal Reserve Banks and their branches.
522	Credit Intermediation and Related Activities	This subsector comprises establishments primarily engaged in lending funds raised from depositors or by issuing debt securities and establishments that facilitate the lending of funds or issuance of credit by engaging in such activities as mortgage and loan brokerage, clearinghouse and reserve services, and cheque-cashing services.
523	Securities, Commodity Contracts, and Other Financial Investments and Related Activities	This subsector comprises establishments primarily engaged in putting capital at risk in the process of underwriting securities issues or in making markets for securities and commodities; acting as intermediaries between buyers and sellers of securities; providing securities and commodity exchange services (furnishing space, marketplaces, and often facilities for the purpose of facilitating the buying and selling of stocks, stock options, bonds or commodity contracts); facilitating the marketing of financial contracts; asset management (managing portfolios of securities); and providing investment advice, trust, fiduciary, custody and other investment services.
524	Insurance Carriers and Related Activities	This subsector comprises establishments primarily engaged in underwriting annuities, insurance policies and reinsurance, and the retailing of insurance and the provision of related services to policy holders. Industries are defined in terms of the type of risk being insured against, such as death, loss of employment due to age or disability, and property damage. Establishments that pool risk invest premiums to build up a portfolio of financial assets to be used against future claims. Contributions and premiums are set on the basis of actuarial calculations of probable payouts based on risk factors from experience tables and expected investment returns on reserves.
525	Funds, Trusts, and Other Financial Vehicles	Industries in the Funds, Trusts, and Other Financial Vehicles subsector are comprised of legal entities (i.e., funds, plans, and/or programs) organized to pool securities or other assets on behalf of shareholders or beneficiaries of employee benefit or other trust funds. The portfolios are customized to achieve specific investment characteristics, such as diversification, risk, rate of return, and price volatility. These entities earn interest, dividends, and other investment income, but have little or no employment and no revenue from the sale of services. Establishments with employees devoted to the management of funds are classified in Industry Group 5239, Other Financial Investment Activities. Establishments primarily engaged in holding the securities of (or other equity interests in) other firms are classified in Sector 55, Management of Companies and Enterprises. Equity Real Estate Investment Trusts (REITs) that are primarily engaged in leasing buildings, dwellings, or other real estate property to others are classified in Subsector 531, Real Estate.

Business Groups Defined by Associated NAICS Codes		
531	Real Estate	This subsector comprises establishments primarily engaged in renting and leasing real estate, managing real estate for others, acting as intermediaries in the sale and/or rental of real estate, and appraising real estate. Exclusion(s) -construction and development of buildings (See 23 Construction) -acquisition, assembly, subdivision into lots and servicing of raw land for subsequent sale to builders (See 237210 Land subdivision) -providing short-term lodging for travelers, vacationers and others (See 721 Accommodation services)
532	Rental and Leasing Services	This subsector comprises establishments primarily engaged in renting or leasing tangible goods, such as automobiles, computers, consumer goods, and industrial machinery and equipment, to customers in return for a periodic payment.The subsector includes two main types of establishments: * those that are engaged in renting consumer goods and equipment; and* those that are engaged in leasing machinery and equipment of the kind often used for business operations.The first type typically operates from a retail-like or store-front facility and maintains inventories of goods that are rented for short periods of time.The latter type typically does not operate from retail-like locations or maintain inventories, and offers longer-term leases. These establishments work directly with clients by providing or arranging financing to enable them to acquire the use of equipment on a lease basis; or they work with equipment vendors or dealers to support the marketing of equipment to their customers under lease arrangements. Equipment lessors generally structure lease contracts to meet the specialized needs of their clients and use their remarketing expertise to find other users for previously leased equipment. Establishments that provide operating and financial leases are included in this subsector.Exclusion(s)-leasing and providing loans to buyers of goods and equipment, or to vendors and dealers to finance their inventories (See 522220 Sales financing)-leasing real property (See 531 Real estate)-renting or leasing equipment with operators (classified in various subsectors of NAICS depending on the nature of the service provided)
533	Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	Industries in the Lessors of Nonfinancial Intangible Assets (except Copyrighted Works) subsector include establishments that are primarily engaged in assigning rights to assets, such as patents, trademarks, brand names, and/or franchise agreements for which a royalty payment or licensing fee is paid to the asset holder. Establishments in this subsector own the patents, trademarks, and/or franchise agreements that they allow others to use or reproduce for a fee and may or may not have created those assets. Establishments that allow franchisees the use of the franchise name, contingent on the franchisee buying products or services from the franchisor, are classified elsewhere. Excluded from this subsector are establishments primarily engaged in leasing real property and establishments primarily engaged in leasing tangible assets, such as automobiles, computers, consumer goods, and industrial machinery and equipment. These establishments are classified in Subsector 531, Real Estate and Subsector 532, Rental and Leasing Services, respectively.
541	Professional, Scientific, and Technical Services	This subsector comprises establishments primarily engaged in activities in which human capital is the major input. These establishments make available the knowledge and skills of their employees, often on an assignment basis. The individual industries of this subsector are defined on the basis of the particular expertise and training of the service provider. The main components of this subsector are legal services; accounting, tax preparation, bookkeeping and payroll services; architectural, engineering and related services; specialized design services; computer systems design and related services; management, scientific and technical consulting services; scientific research and development services; and advertising, public relations, and related services.

Business Groups Defined by Associated NAICS Codes		
		The distinguishing feature of this subsector is the fact that most of the industries grouped in it have production processes that are almost wholly dependent on worker skills. In most of these industries, equipment and materials are not of major importance. Thus, the establishments classified in this subsector sell expertise. Much of the expertise requires a university or college education, though not in every case. Establishments primarily engaged in providing instruction and training in a wide variety of subjects and those primarily engaged in providing health care by diagnosis and treatment are not included in this subsector.
ID 15: Services - Repair & Personal		
NAICS Code	NAICS Name	NAICS Description
811	Repair and Maintenance	This subsector comprises establishments primarily engaged in repairing and maintaining motor vehicles, machinery, equipment and other products. These establishments repair or perform general or routine maintenance on such products, to ensure they work efficiently. Exclusion(s) -repair of construction works or components (See 23 Construction) -rebuilding machinery and equipment on a factory basis(31-33) -retailing and repair activities (e.g., automobile dealers)(44-45) -repairing transportation equipment at airports, seaports and other transportation facilities (See 488 Support activities for transportation)
812	Personal and Laundry Services	This subsector comprises establishments primarily engaged in providing personal care services, funeral services, laundry services and other services, such as pet care and photo finishing. Operators of parking facilities are also included.
ID 16: Not Elsewhere Classified		
NAICS Code	NAICS Name	NAICS Description
111	Crop Production	This subsector comprises establishments, such as farms, orchards, groves, greenhouses and nurseries, primarily engaged in growing crops, plants, vines, trees and their seeds (excluding those engaged in forestry operations). Industries have been created taking into account input factors, such as suitable land, climatic conditions, type of equipment, and the amount and type of labor required. The production process is typically completed when the raw product or commodity grown reaches the farm gate for market, that is, at the point of first sale or price determination. Establishments in these industries may use traditional crop production methods, employ modified or improved crop inputs, or engage in organic crop production. An establishment is classified within this subsector provided that fifty percent or more of the establishment's agricultural production consists of crops. Establishments with fifty percent or more crop production and with no one product or family of products accounting for fifty percent of the production are treated as combination crop farms and classified to 11199 All other crop farming, except if fifty percent or more of the production is a combination of oilseeds and grains, in which case they are classified to 11119 Other grain farming.
112	Animal Production and Aquaculture	This subsector comprises establishments, such as ranches, farms and feedlots, primarily engaged in raising animals, producing animal products and fattening animals. Industries have been created taking into account input factors such as suitable grazing or pasture land, specialized buildings, type of equipment, and the amount and type of labor required. An establishment is classified within this subsector provided that fifty percent or more of the establishment's agricultural production consists of animal production or aquaculture. Establishments with fifty percent or more animal production or aquaculture and with no one product or family of products accounting for fifty percent of the production are treated as combination animal farms and classified to 11299 All other animal production

Business Groups Defined by Associated NAICS Codes		
113	Forestry and Logging	This subsector comprises establishments primarily engaged in growing and harvesting timber on a long production cycle (of ten years or more). Long production cycles use different production processes than short production cycles, which require more horticultural interventions prior to harvest, resulting in processes more similar to those found in the Crop production subsector. Consequently, Christmas tree production and other production involving production cycles of less than ten years, are classified to the Crop production subsector. Industries in this subsector specialize in different stages of the production cycle. Reforestation requires production of seedlings in specialized nurseries. Timber production requires natural forests or suitable areas of land that are available for a long duration. The maturation time for timber depends upon the species of tree, the climatic conditions of the region, and the intended purpose of the timber. The harvesting of timber, except when done on an extremely small scale, requires specialized machinery unique to the industry. The gathering of forest products, such as gums, barks, balsam needles and Spanish moss, are also included in this subsector.
114	Fishing, Hunting and Trapping	This subsector comprises establishments primarily engaged in catching fish and other wild animals from their natural habitats. These establishments are dependent upon a continued supply of the natural resource. The catching of fish is the predominant economic activity of this subsector and it usually requires specialized vessels that, by the nature of their size, configuration and equipment, are not suitable for any other type of production, such as transportation. Hunting and trapping utilize a wide variety of production processes and are classified in the same subsector as fishing because the availability of resources and the constraints imposed, such as conservation requirements and proper habitat maintenance, are similar.
115	Support Activities for Agriculture and Forestry	This subsector comprises establishments primarily engaged in providing support services that are essential to agricultural and forestry production.
211	Oil and Gas Extraction	This subsector comprises establishments primarily engaged in operating oil and gas field properties. Such activities may include exploration for crude petroleum and natural gas; drilling, completing and equipping wells; operating separators, emulsion breakers, desilting equipment and field gathering lines for crude petroleum; and all other activities in the preparation of oil and gas up to the point of shipment from the producing property. This subsector includes the production of oil, the mining and extraction of oil from oil shale and oil sands, and the production of gas and hydrocarbon liquids, through gasification, liquefaction and pyrolysis of coal at the mine site.
212	Mining (except Oil and Gas)	This subsector comprises establishments primarily engaged in mining, beneficiating or otherwise preparing metallic and non-metallic minerals, including coal. Excludes providing support services, on a contract or fee basis, required for the mining and quarrying of minerals (See 21311 Support activities for mining, and oil and gas extraction)
213	Support Activities for Mining	This subsector comprises establishments primarily engaged in providing support services, on a contract or fee basis, for the mining and quarrying of minerals and for the extraction of oil and gas. Establishments engaged in the exploration for minerals, other than oil or gas, are included. Exploration includes traditional prospecting methods, such as taking ore samples and making geological observations at prospective sites.
221	Utilities	This subsector comprises establishments primarily engaged in operating electric, gas and water utilities. These establishments generate, transmit, control and distribute electric power; distribute natural gas; treat and distribute water; operate sewer systems and sewage treatment facilities; and provide related services, generally through a permanent infrastructure of lines, pipes and treatment and processing facilities.

Business Groups Defined by Associated NAICS Codes		
444	Building Material and Garden Equipment and Supplies Dealers	This subsector comprises establishments primarily engaged in retailing a specialized or general line of building and home improvement materials, lawn and garden equipment and supplies, outdoor power equipment, and nursery and garden products. Exclusion(s) -retailing used building and home improvement materials, and lawn, garden and outdoor power equipment (See 453310 Used merchandise stores) -retailing building and home improvement materials, and lawn, garden and outdoor power equipment by means of electronic shopping, mail-order or direct sale (See 454 Non-store retailers)
481	Air Transportation	This subsector comprises establishments primarily engaged in for-hire, common-carrier transportation of people and/or goods using aircraft, such as airplanes and helicopters. Exclusion(s) -scenic or sightseeing air services (See 487990 Scenic and sightseeing transportation, other) -air courier services (See 492110 Couriers)
482	Rail Transportation	This subsector comprises establishments primarily engaged in operating railways. Establishments primarily engaged in the operation of long-haul or mainline railways, short-haul railways and passenger railways are included.
483	Water Transportation	This subsector comprises establishments primarily engaged in the water transportation of passengers and goods, using equipment designed for those purposes. Exclusion(s) -same-day return sightseeing trips and cruises (See 487210 Scenic and sightseeing transportation, water)
485	Transit and Ground Passenger Transportation	This subsector comprises establishments primarily engaged in a variety of passenger transportation activities, using equipment designed for those purposes. These activities are distinguished based on process factors, such as whether routes are scheduled, run over fixed routes, and charged on a per-seat or per-vehicle basis. Exclusion(s) -passenger transportation associated with scenic or sightseeing activities (See 487 Scenic and sightseeing transportation)
486	Pipeline Transportation	This subsector comprises establishments primarily engaged in the transport of goods by pipeline. The pipelines are designed to specifications for the transport of a particular good, such as crude oil, natural gas and refined petroleum products. Pipeline transportation includes integrated systems comprising various types of pipelines and ancillary facilities, such as pumping stations and incidental storage facilities. Exclusion(s) -operating gathering lines to transport crude oil or natural gas from wells to field processing plants (See 211 Oil and gas extraction)
487	Scenic and Sightseeing Transportation	This subsector comprises establishments primarily engaged in providing recreational transportation, such as sightseeing or dinner cruises, steam train excursions, horse-drawn sightseeing rides, air-boat rides or hot-air balloon rides. These establishments often use vintage or specialized transportation equipment. The services provided are local in nature, usually involving same-day return. Establishments that provide charter fishing services are included. Exclusion(s) -providing scenic and sightseeing services using airplanes, in combination with other specialty air transportation or flying services (See 481215 Non-scheduled specialty flying services) -providing sporting services, such as fishing guides, white-water rafting, pack trains and water-skiing (See 713990 All other amusement and recreation industries)

Business Groups Defined by Associated NAICS Codes		
488	Support Activities for Transportation	This subsector comprises establishments primarily engaged in providing services to other transportation establishments. These services may be specific to a mode of transportation, or they may be multi-modal.
512	Motion Picture and Sound Recording Industries	This subsector comprises establishments primarily engaged in producing and distributing video and audio recordings or providing related services, such as post-production services, exhibition services, and motion picture processing and developing services. Sound recording studios are also included. Exclusion(s) -mass duplication of pre-recorded audio and video tapes, cassettes, diskettes, DVDs and CD-ROMs (See 334610 Manufacturing and reproducing magnetic and optical media) -wholesaling sound recordings (See 414440 Sound recording merchant wholesalers) -wholesaling pre-recorded video cassettes and DVDs (See 414450 Video recording merchant wholesalers) -retailing video and audio recordings (See 443146 Audio and video recordings stores)
562	Waste Management and Remediation Services	Industries in the Waste Management and Remediation Services subsector group establishments engaged in the collection, treatment, and disposal of waste materials. This includes establishments engaged in local hauling of waste materials; operating materials recovery facilities (i.e., those that sort recyclable materials from the trash stream); providing remediation services (i.e., those that provide for the cleanup of contaminated buildings, mine sites, soil, or ground water); and providing septic pumping and other miscellaneous waste management services. There are three industry groups within the subsector that separate these activities into waste collection, waste treatment and disposal, and remediation and other waste management. Excluded from this subsector are establishments primarily engaged in collecting, treating, and disposing waste through sewer systems or sewage treatment facilities that are classified in Industry 22132, Sewage Treatment Facilities and establishments primarily engaged in long-distance hauling of waste materials that are classified in Industry 48423, Specialized Freight (except Used Goods) Trucking, Long-Distance. Also, there are some activities that appear to be related to waste management, but that are not included in this subsector. For example, establishments primarily engaged in providing waste management consulting services are classified in Industry 54162, Environmental Consulting Services.

Appendix B

IMPLAN Conversions

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
1: Arts, Entertainment, & Recreation	711: Performing Arts, Spectator Sports, and Related Industries	496	Performing arts companies
		497	Commercial Sports Except Racing
		498	Racing and Track Operation
		499	Independent artists, writers, and performers
		500	Promoters of performing arts and sports and agents for public figures
	712: Museums, Historical Sites, and Similar Institutions	501	Museums, historical sites, zoos, and parks
	713: Amusement, Gambling, and Recreation Industries	502	Amusement parks and arcades
		503	Gambling industries (except casino hotels)
		504	Other amusement and recreation industries
		505	Fitness and recreational sports centers
		506	Bowling centers
2: Durable Wholesale & Trucking	423: Merchant Wholesalers, Durable Goods	392	Wholesale - Motor vehicle and motor vehicle parts and supplies
		393	Wholesale - Professional and commercial equipment and supplies
		394	Wholesale - Household appliances and electrical and electronic goods
		395	Wholesale - Machinery, equipment, and supplies
		396	Wholesale - Other durable goods merchant wholesalers
		536	*Not an industry (Scrap)
	484: Truck Transportation	417	Truck transportation
	491: Postal Service	526	Postal service
	492: Couriers and Messengers	421	Couriers and messengers
	493: Warehousing and Storage	422	Warehousing and storage
3: Education	611: Educational Services	480	Elementary and secondary schools
		481	Junior colleges, colleges, universities, and professional schools
		482	Other educational services
4: Hotels and Lodging	721: Accommodation	507	Hotels and motels, including casino hotels
		508	Other accommodations
5: Manufacturing - Electronic Equipment	334: Computer and Electronic Product Manufacturing	298	Electronic computer manufacturing
		299	Computer storage device manufacturing
		300	Computer terminals and other computer peripheral equipment manufacturing
		301	Telephone apparatus manufacturing
		302	Broadcast and wireless communications equipment manufacturing
		303	Other communications equipment manufacturing
		304	Audio and video equipment manufacturing
		305	Printed circuit assembly (electronic assembly) manufacturing
		306	Bare printed circuit board manufacturing
		307	Semiconductor and related device manufacturing
		308	Capacitor, resistor, coil, transformer, and other inductor manufacturing
		309	Electronic connector manufacturing
		310	Other electronic component manufacturing
		311	Electromedical and electrotherapeutic apparatus manufacturing
		312	Search, detection, and navigation instruments manufacturing
		313	Automatic environmental control manufacturing
		314	Industrial process variable instruments manufacturing

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
5: Manufacturing - Electronic Equipment (continued)	335: Electrical Equipment, Appliance, and Component Manufacturing	315	Totalizing fluid meter and counting device manufacturing
		316	Electricity and signal testing instruments manufacturing
		317	Analytical laboratory instrument manufacturing
		318	Irradiation apparatus manufacturing
		319	Watch, clock, and other measuring and controlling device manufacturing
		320	Blank magnetic and optical recording media manufacturing
		321	Software and other prerecorded and record reproducing
		322	Electric lamp bulb and part manufacturing
		323	Lighting fixture manufacturing
		324	Small electrical appliance manufacturing
		325	Household cooking appliance manufacturing
		326	Household refrigerator and home freezer manufacturing
		327	Household laundry equipment manufacturing
		328	Other major household appliance manufacturing
		329	Power, distribution, and specialty transformer manufacturing
		330	Motor and generator manufacturing
		331	Switchgear and switchboard apparatus manufacturing
		332	Relay and industrial control manufacturing
		333	Storage battery manufacturing
		334	Primary battery manufacturing
		335	Fiber optic cable manufacturing
		336	Other communication and energy wire manufacturing
		337	Wiring device manufacturing
		338	Carbon and graphite product manufacturing
		339	All other miscellaneous electrical equipment and component manufacturing
6: Manufacturing - Food & Nondurable Wholesale	311: Food Manufacturing	63	Dog and cat food manufacturing
		64	Other animal food manufacturing
		65	Flour milling
		66	Rice milling
		67	Malt manufacturing
		68	Wet corn milling
		69	Soybean and other oilseed processing
		70	Fats and oils refining and blending
		71	Breakfast cereal manufacturing
		72	Beet sugar manufacturing
		73	Sugar cane mills and refining
		74	Nonchocolate confectionery manufacturing
		75	Chocolate and confectionery manufacturing from cacao beans
		76	Confectionery manufacturing from purchased chocolate
		77	Frozen fruits, juices and vegetables manufacturing
		78	Frozen specialties manufacturing
		79	Canned fruits and vegetables manufacturing
		80	Canned specialties
		81	Dehydrated food products manufacturing
		82	Cheese manufacturing

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
6: Manufacturing - Food & Nondurable Wholesale (continued)	311: Food Manufacturing (continued)	83	Dry, condensed, and evaporated dairy product manufacturing
		84	Fluid milk manufacturing
		85	Creamery butter manufacturing
		86	Ice cream and frozen dessert manufacturing
		87	Frozen cakes and other pastries manufacturing
		88	Poultry processing
		89	Animal, except poultry, slaughtering
		90	Meat processed from carcasses
		91	Rendering and meat byproduct processing
		92	Seafood product preparation and packaging
		93	Bread and bakery product, except frozen, manufacturing
		94	Cookie and cracker manufacturing
		95	Dry pasta, mixes, and dough manufacturing
		96	Tortilla manufacturing
		97	Roasted nuts and peanut butter manufacturing
		98	Other snack food manufacturing
		99	Coffee and tea manufacturing
		100	Flavoring syrup and concentrate manufacturing
		101	Mayonnaise, dressing, and sauce manufacturing
		102	Spice and extract manufacturing
		103	All other food manufacturing
	312: Beverage and Tobacco Product Manufacturing	104	Bottled and canned soft drinks & water
		105	Manufactured ice
		106	Breweries
		107	Wineries
		108	Distilleries
		109	Tobacco product manufacturing
	424: Merchant Wholesalers, Nondurable Goods	397	Wholesale - Drugs and druggists & sundries
		398	Wholesale - Grocery and related product wholesalers
		399	Wholesale - Petroleum and petroleum products
		400	Wholesale - Other nondurable goods merchant wholesalers
7: Manufacturing - All Other	313: Textile Mills	110	Fiber, yarn, and thread mills
		111	Broadwoven fabric mills
		112	Narrow fabric mills and schiffli machine embroidery
		113	Nonwoven fabric mills
		114	Knit fabric mills
		115	Textile and fabric finishing mills
		116	Fabric coating mills
	314: Textile Product Mills	117	Carpet and rug mills
		118	Curtain and linen mills
		119	Textile bag and canvas mills
		120	Rope, cordage, twine, tire cord and tire fabric mills
		121	Other textile product mills

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
7: Manufacturing - All Other (continued)	315: Apparel Manufacturing	122	Hosiery and sock mills
		123	Other apparel knitting mills
		124	Cut and sew apparel contractors
		125	Men's and boys' cut and sew apparel manufacturing
		126	Women's and girls' cut and sew apparel manufacturing
		127	Other cut and sew apparel manufacturing
		128	Apparel accessories and other apparel manufacturing
	316: Leather and Allied Product Manufacturing	129	Leather and hide tanning and finishing
		130	Footwear manufacturing
		131	Other leather and allied product manufacturing
	321: Wood Product Manufacturing	132	Sawmills
		133	Wood preservation
		134	Veneer and plywood manufacturing
		135	Engineered wood member and truss manufacturing
		136	Reconstituted wood product manufacturing
		137	Wood windows and door manufacturing
		138	Cut stock, resawing lumber, and planing
		139	Other millwork, including flooring
		140	Wood container and pallet manufacturing
		141	Manufactured home (mobile home) manufacturing
		142	Prefabricated wood building manufacturing
		143	All other miscellaneous wood product manufacturing
	322: Paper Manufacturing	144	Pulp mills
		145	Paper mills
		146	Paperboard mills
		147	Paperboard container manufacturing
		148	Paper bag and coated and treated paper manufacturing
		149	Stationery product manufacturing
		150	Sanitary paper product manufacturing
		151	All other converted paper product manufacturing
	323: Printing and Related Support Activities	152	Printing
		153	Support activities for printing
	324: Petroleum and Coal Products Manufacturing	154	Petroleum refineries
		155	Asphalt paving mixture and block manufacturing
		156	Asphalt shingle and coating materials manufacturing
		157	Petroleum lubricating oil and grease manufacturing
		158	All other petroleum and coal products manufacturing
	325: Chemical Manufacturing	159	Petrochemical manufacturing
		160	Industrial gas manufacturing
		161	Synthetic dye and pigment manufacturing
		162	Other basic inorganic chemical manufacturing
		163	Other basic organic chemical manufacturing
		164	Plastics material and resin manufacturing
		165	Synthetic rubber manufacturing
		166	Artificial and synthetic fibers and filaments manufacturing

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
7: Manufacturing - All Other (continued)	325: Chemical Manufacturing (continued)	167	Nitrogenous fertilizer manufacturing
		168	Phosphatic fertilizer manufacturing
		169	Fertilizer mixing
		170	Pesticide and other agricultural chemical manufacturing
		171	Medicinal and botanical manufacturing
		172	Pharmaceutical preparation manufacturing
		173	In-vitro diagnostic substance manufacturing
		174	Biological product (except diagnostic) manufacturing
		175	Paint and coating manufacturing
		176	Adhesive manufacturing
		177	Soap and other detergent manufacturing
		178	Polish and other sanitation good manufacturing
		179	Surface active agent manufacturing
		180	Toilet preparation manufacturing
		181	Printing ink manufacturing
		182	Explosives manufacturing
		183	Custom compounding of purchased resins
		184	Photographic film and chemical manufacturing
		185	Other miscellaneous chemical product manufacturing
	326: Plastics and Rubber Products Manufacturing	186	Plastics packaging materials and unlaminated film and sheet manufacturing
		187	Unlaminated plastics profile shape manufacturing
		188	Plastics pipe and pipe fitting manufacturing
		189	Laminated plastics plate, sheet (except packaging), and shape manufacturing
		190	Polystyrene foam product manufacturing
		191	Urethane and other foam product (except polystyrene) manufacturing
		192	Plastics bottle manufacturing
		193	Other plastics product manufacturing
		194	Tire manufacturing
		195	Rubber and plastics hoses and belting manufacturing
		196	Other rubber product manufacturing
	327: Nonmetallic Mineral Product Manufacturing	197	Pottery, ceramics, and plumbing fixture manufacturing
		198	Brick, tile, and other structural clay product manufacturing
		199	Flat glass manufacturing
		200	Other pressed and blown glass and glassware manufacturing
		201	Glass container manufacturing
		202	Glass product manufacturing made of purchased glass
		203	Cement manufacturing
		204	Ready-mix concrete manufacturing
		205	Concrete block and brick manufacturing
		206	Concrete pipe manufacturing
		207	Other concrete product manufacturing
		208	Lime manufacturing
		209	Gypsum product manufacturing
		210	Abrasive product manufacturing
		211	Cut stone and stone product manufacturing

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
7: Manufacturing - All Other (continued)	327: Nonmetallic Mineral Product Manufacturing (continued)	212	Ground or treated mineral and earth manufacturing
		213	Mineral wool manufacturing
		214	Miscellaneous nonmetallic mineral products manufacturing
	331: Primary Metal Manufacturing	215	Iron and steel mills and ferroalloy manufacturing
		216	Iron, steel pipe and tube manufacturing from purchased steel
		217	Rolled steel shape manufacturing
		218	Steel wire drawing
		219	Alumina refining and primary aluminum production
		220	Secondary smelting and alloying of aluminum
		221	Aluminum sheet, plate, and foil manufacturing
		222	Other aluminum rolling, drawing and extruding
		223	Nonferrous metal (exc aluminum) smelting and refining
		224	Copper rolling, drawing, extruding and alloying
		225	Nonferrous metal, except copper and aluminum, shaping
		226	Secondary processing of other nonferrous metals
		227	Ferrous metal foundries
		228	Nonferrous metal foundries
	332: Fabricated Metal Product Manufacturing	229	Custom roll forming
		230	Crown and closure manufacturing and metal stamping
		231	Iron and steel forging
		232	Nonferrous forging
		233	Cutlery, utensil, pot, and pan manufacturing
		234	Handtool manufacturing
		235	Prefabricated metal buildings and components manufacturing
		236	Fabricated structural metal manufacturing
		237	Plate work manufacturing
		238	Metal window and door manufacturing
		239	Sheet metal work manufacturing
		240	Ornamental and architectural metal work manufacturing
		241	Power boiler and heat exchanger manufacturing
		242	Metal tank (heavy gauge) manufacturing
		243	Metal cans manufacturing
		244	Metal barrels, drums and pails manufacturing
		245	Hardware manufacturing
		246	Spring and wire product manufacturing
		247	Machine shops
		248	Turned product and screw, nut, and bolt manufacturing
		249	Metal heat treating
		250	Metal coating and nonprecious engraving
		251	Electroplating, anodizing, and coloring metal
		252	Valve and fittings, other than plumbing, manufacturing
		253	Plumbing fixture fitting and trim manufacturing
		254	Ball and roller bearing manufacturing
		255	Small arms ammunition manufacturing
		256	Ammunition, except for small arms, manufacturing

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
7: Manufacturing - All Other (continued)	332: Fabricated Metal Product Manufacturing (continued)	257	Small arms, ordnance, and accessories manufacturing
		258	Fabricated pipe and pipe fitting manufacturing
		259	Other fabricated metal manufacturing
	333: Machinery Manufacturing	260	Farm machinery and equipment manufacturing
		261	Lawn and garden equipment manufacturing
		262	Construction machinery manufacturing
		263	Mining machinery and equipment manufacturing
		264	Oil and gas field machinery and equipment manufacturing
		265	Semiconductor machinery manufacturing
		266	Food product machinery manufacturing
		267	Sawmill, woodworking, and paper machinery
		268	Printing machinery and equipment manufacturing
		269	All other industrial machinery manufacturing
		270	Optical instrument and lens manufacturing
		271	Photographic and photocopying equipment manufacturing
		272	Other commercial service industry machinery manufacturing
		273	Air purification and ventilation equipment manufacturing
		274	Heating equipment (except warm air furnaces) manufacturing
		275	Air conditioning, refrigeration, and warm air heating equipment manufacturing
		276	Industrial mold manufacturing
		277	Special tool, die, jig, and fixture manufacturing
		278	Cutting tool and machine tool accessory manufacturing
		279	Machine tool manufacturing
		280	Rolling mill and other metalworking machinery manufacturing
		281	Turbine and turbine generator set units manufacturing
		282	Speed changer, industrial high-speed drive, and gear manufacturing
		283	Mechanical power transmission equipment manufacturing
		284	Other engine equipment manufacturing
		285	Pump and pumping equipment manufacturing
		286	Air and gas compressor manufacturing
		287	Elevator and moving stairway manufacturing
		288	Conveyor and conveying equipment manufacturing
		289	Overhead cranes, hoists, and monorail systems manufacturing
		290	Industrial truck, trailer, and stacker manufacturing
		291	Power-driven handtool manufacturing
		292	Welding and soldering equipment manufacturing
		293	Packaging machinery manufacturing
		294	Industrial process furnace and oven manufacturing
		295	Fluid power cylinder and actuator manufacturing
		296	Fluid power pump and motor manufacturing
		297	Scales, balances, and miscellaneous general purpose machinery manufacturing

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
7: Manufacturing - All Other (continued)	336: Transportation Equipment Manufacturing	340	Automobile manufacturing
		341	Light truck and utility vehicle manufacturing
		342	Heavy duty truck manufacturing
		343	Motor vehicle body manufacturing
		344	Truck trailer manufacturing
		345	Motor home manufacturing
		346	Travel trailer and camper manufacturing
		347	Motor vehicle gasoline engine and engine parts manufacturing
		348	Motor vehicle electrical and electronic equipment manufacturing
		349	Motor vehicle transmission and power train parts manufacturing
		350	Motor vehicle seating and interior trim manufacturing
		351	Motor vehicle metal stamping
		352	Other motor vehicle parts manufacturing
		353	Motor vehicle steering, suspension component (except spring), and brake systems manufacturing
		354	Aircraft manufacturing
		355	Aircraft engine and engine parts manufacturing
		356	Other aircraft parts and auxiliary equipment manufacturing
		357	Guided missile and space vehicle manufacturing
		358	Propulsion units and parts for space vehicles and guided missiles manufacturing
		359	Railroad rolling stock manufacturing
		360	Ship building and repairing
		361	Boat building
		362	Motorcycle, bicycle, and parts manufacturing
		363	Military armored vehicle, tank, and tank component manufacturing
		364	All other transportation equipment manufacturing
	337: Furniture and Related Product Manufacturing	365	Wood kitchen cabinet and countertop manufacturing
		366	Upholstered household furniture manufacturing
		367	Nonupholstered wood household furniture manufacturing
		368	Other household nonupholstered furniture manufacturing
		369	Institutional furniture manufacturing
		370	Wood office furniture manufacturing
		371	Custom architectural woodwork and millwork
		372	Office furniture, except wood, manufacturing
		373	Showcase, partition, shelving, and locker manufacturing
		374	Mattress manufacturing
		375	Blind and shade manufacturing
	339: Miscellaneous Manufacturing	376	Surgical and medical instrument manufacturing
		377	Surgical appliance and supplies manufacturing
		378	Dental equipment and supplies manufacturing
		379	Ophthalmic goods manufacturing
		380	Dental laboratories
		381	Jewelry and silverware manufacturing
		382	Sporting and athletic goods manufacturing
		383	Doll, toy, and game manufacturing

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
7: Manufacturing - All Other (continued)	339: Miscellaneous Manufacturing (continued)	384	Office supplies (except paper) manufacturing
		385	Sign manufacturing
		386	Gasket, packing, and sealing device manufacturing
		387	Musical instrument manufacturing
		388	Fasteners, buttons, needles, and pins manufacturing
		389	Broom, brush, and mop manufacturing
		390	Burial casket manufacturing
		391	All other miscellaneous manufacturing
	511: Publishing Industries (except Internet)	423	Newspaper publishers
		424	Periodical publishers
		425	Book publishers
		426	Directory, mailing list, and other publishers
		427	Greeting card publishing
		428	Software publishers
8: Medical and Health	621: Ambulatory Health Care Services	483	Offices of physicians
		484	Offices of dentists
		485	Offices of other health practitioners
		486	Outpatient care centers
		487	Medical and diagnostic laboratories
		488	Home health care services
		489	Other ambulatory health care services
	622: Hospitals	490	Hospitals
	623: Nursing and Residential Care Facilities	491	Nursing and community care facilities
		492	Residential intellectual disability, mental health, substance abuse and other facilities
9: Public Administration	999: Federal, State, and Local Government	527	Federal electric utilities
		528	Other federal government enterprises
		529	State government passenger transit
		530	State government electric utilities
		531	Other state government enterprises
		532	Local government passenger transit
		533	Local government electric utilities
		534	Other local government enterprises
		539	* Employment and payroll of state govt, education
		540	* Employment and payroll of state govt, hospitals and health services
		541	* Employment and payroll of state govt, other services
		542	* Employment and payroll of local govt, education
		543	* Employment and payroll of local govt, hospitals and health services
		544	* Employment and payroll of local govt, other services
		545	* Employment and payroll of federal govt, military
		546	* Employment and payroll of federal govt, non-military
	No NAICS Code	537	* Not an industry (Rest of world adjustment)
		538	* Not an industry (Noncomparable foreign imports)

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
10: Restaurants	722: Food Services and Drinking Places	509	Full-service restaurants
		510	Limited-service restaurants
		511	All other food and drinking places
11: Retail Trade - Food & Beverage Stores	445: Food and Beverage Stores	406	Retail - Food and beverage stores
12: Retail Trade - All Other	441: Motor Vehicle and Parts Dealers	402	Retail - Motor vehicle and parts dealers
	442: Furniture and Home Furnishings Stores	403	Retail - Furniture and home furnishings stores
	443: Electronics and Appliance Stores	404	Retail - Electronics and appliance stores
	446: Health and Personal Care Stores	407	Retail - Health and personal care stores
	447: Gasoline Stations	408	Retail - Gasoline stores
	448: Clothing and Clothing Accessories Stores	409	Retail - Clothing and clothing accessories stores
	451: Sporting Goods, Hobby, Book, and Music Stores	410	Retail - Sporting goods, hobby, musical instrument and book stores
	452: General Merchandise Stores	411	Retail - General merchandise stores
	453: Miscellaneous Store Retailers	412	Retail - Miscellaneous store retailers
		535	*Not an industry (Used and secondhand goods)
	454: Nonstore Retailers	413	Retail - Nonstore retailers
13: Services - Management, Administrative, Support, & Social	425: Wholesale Electronic Markets and Agents and Brokers	401	Wholesale - Wholesale electronic markets and agents and brokers
	551: Management of Companies and Enterprises	469	Management of companies and enterprises
	561: Administrative and Support Services	470	Office administrative services
		471	Facilities support services
		472	Employment services
		473	Business support services
		474	Travel arrangement and reservation services
		475	Investigation and security services
		476	Services to buildings
		477	Landscape and horticultural services
		478	Other support services
	624: Social Assistance	493	Individual and family services
		494	Child day care services
		495	Community food, housing, and other relief services, including rehabilitation services
	813: Religious, Grantmaking, Civic, Professional, and Similar Organizations	521	Religious organizations
		522	Grantmaking, giving, and social advocacy organizations
		523	Business and professional associations
		524	Labor and civic organizations

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
14: Services - Professional, Technical, & Financial	515: Broadcasting Except Internet	431	Radio and television broadcasting
		432	Cable and other subscription programming
		437	News syndicates, libraries, archives and all other information services
	516: Internet Publishing and Broadcasting	438	Internet publishing and broadcasting and web search portals
	517: Telecommunications	433	Wired telecommunications carriers
		434	Wireless telecommunications carriers (except satellite)
		435	Satellite, telecommunications resellers, and all other telecommunications
	518: Data Processing, Hosting, and Related Services	436	Data processing, hosting, and related services
	521: Monetary Authorities - Central Bank	441	Monetary authorities and depository credit intermediation
	522: Credit Intermediation and Related Activities	439	Nondepository credit intermediation and related activities
	523: Securities, Commodity Contracts, and Other Financial Investments and Related Activities	440	Securities and commodity contracts intermediation and brokerage
		442	Other financial investment activities
	524: Insurance Carriers and Related Activities	443	Direct life insurance carriers
		444	Insurance carriers, except direct life
		445	Insurance agencies, brokerages, and related activities
	525: Funds, Trusts, and Other Financial Vehicles	446	Funds, trusts, and other financial vehicles
	531: Real Estate	447	Other real estate
		448	Tenant-occupied housing
	532: Rental and Leasing Services	450	Automotive equipment rental and leasing
		451	General and consumer goods rental except video tapes and discs
		452	Video tape and disc rental
		453	Commercial and industrial machinery and equipment rental and leasing
	533: Lessors of Nonfinancial Intangible Assets (except Copyrighted Works)	454	Lessors of nonfinancial intangible assets
	541: Professional, Scientific, and Technical Services	455	Legal services
		456	Accounting, tax preparation, bookkeeping, and payroll services
		457	Architectural, engineering, and related services
		458	Specialized design services
		459	Custom computer programming services
		460	Computer systems design services
		461	Other computer related services, including facilities management
		462	Management consulting services
		463	Environmental and other technical consulting services
		464	Scientific research and development services
		465	Advertising, public relations, and related services
		466	Photographic services

California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
14: Services - Professional, Technical, & Financial (continued)	541: Professional, Scientific, and Technical Services (continued)	467	Veterinary services
		468	Marketing research and all other miscellaneous professional, scientific, and technical services
15: Services - Repair & Personal	811: Repair and Maintenance	512	Automotive repair and maintenance, except car washes
		513	Car washes
		514	Electronic and precision equipment repair and maintenance
		515	Commercial and industrial machinery and equipment repair and maintenance
		516	Personal and household goods repair and maintenance
	812: Personal and Laundry Services	517	Personal care services
		518	Death care services
		519	Dry-cleaning and laundry services
		520	Other personal services
	814: Private Households	449	Owner-occupied dwellings
		525	Private households
16: Not Elsewhere Classified	111: Crop Production	1	Oilseed farming
		2	Grain farming
		3	Vegetable and melon farming
		4	Fruit farming
		5	Tree nut farming
		6	Greenhouse, nursery, and floriculture production
		7	Tobacco farming
		8	Cotton farming
		9	Sugarcane and sugar beet farming
		10	All other crop farming
	112: Animal Production	11	Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming
		12	Dairy cattle and milk production
		13	Poultry and egg production
		14	Animal production, except cattle and poultry and eggs
	113: Forestry and Logging	15	Forestry, forest products, and timber tract production
		16	Commercial logging
	114: Fishing, Hunting and Trapping	17	Commercial fishing
		18	Commercial hunting and trapping
	115: Support Activities for Agriculture and Forestry	19	Support activities for agriculture and forestry
	211: Oil and Gas Extraction	20	Oil and gas extraction
	212: Mining (except Oil and Gas)	21	Coal mining
		22	Copper, nickel, lead, and zinc mining
		23	Iron ore mining
		24	Gold ore mining
		25	Silver ore mining
		26	Uranium-radium-vanadium ore mining
		27	Other metal ore mining
		28	Stone mining and quarrying

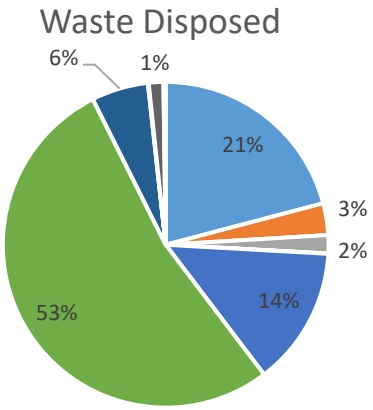
California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
16: Not Elsewhere Classified (continued)	212: Mining (except Oil and Gas) (continued)	29	Sand and gravel mining
		30	Other clay, ceramic, refractory minerals mining
		31	Potash, soda, and borate mineral mining
		32	Phosphate rock mining
		33	Other chemical and fertilizer mineral mining
		34	Other nonmetallic minerals
	213: Support Activities for Mining	35	Drilling oil and gas wells
		36	Support activities for oil and gas operations
		37	Metal mining services
		38	Other nonmetallic minerals services
	221: Utilities	39	Electric power generation - Hydroelectric
		40	Electric power generation - Fossil fuel
		41	Electric power generation - Nuclear
		42	Electric power generation - Solar
		43	Electric power generation - Wind
		44	Electric power generation - Geothermal
		45	Electric power generation - Biomass
		46	Electric power generation - All other
		47	Electric power transmission and distribution
		48	Natural gas distribution
		49	Water, sewage and other systems
	444: Building Material and Garden Equipment and Supplies Dealers	405	Retail - Building material and garden equipment and supplies stores
	481: Air Transportation	414	Air transportation
	482: Rail Transportation	415	Rail transportation
	483: Water Transportation	416	Water transportation
	485: Transit and Ground Passenger Transportation	418	Transit and ground passenger transportation
	486: Pipeline Transportation	419	Pipeline transportation
	487: Scenic and Sightseeing Transportation	420	Scenic and sightseeing transportation and support activities for transportation
	512: Motion Picture and Sound Recording Industries	429	Motion picture and video industries
		430	Sound recording industries
	562: Waste Management and Remediation Services	479	Waste management and remediation services
Construction and Demolition	236: Construction of Buildings	50	Construction of new health care structures
		51	Construction of new manufacturing structures
		52	Construction of new power and communication structures
		53	Construction of new educational and vocational structures
		55	Construction of new commercial structures, including farm structures
		56	Construction of other new nonresidential structures
		57	Construction of new single-family residential structures

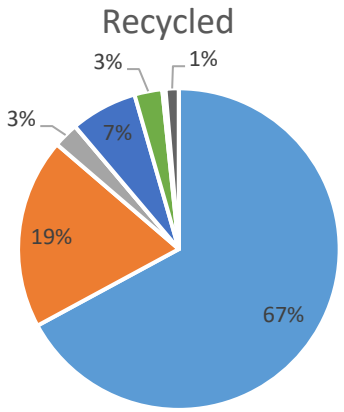
California Business Grouping	NAICS Sector	IMPLAN Display Code	IMPLAN Display Description
Construction and Demolition (continued)	236: Construction of Buildings (continued)	58	Construction of new multifamily residential structures
		59	Construction of other new residential structures
		60	Maintenance and repair construction of nonresidential structures
		61	Maintenance and repair construction of residential structures
	237: Heavy and Civil Engineering Construction	54	Construction of new highways and streets
		62	Maintenance and repair construction of highways, streets, bridges, and tunnels

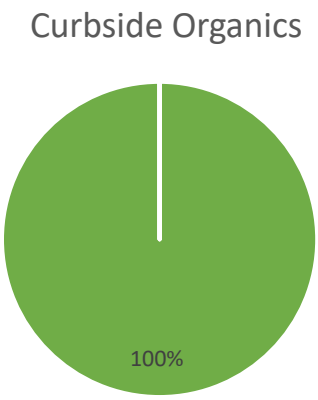
Appendix C

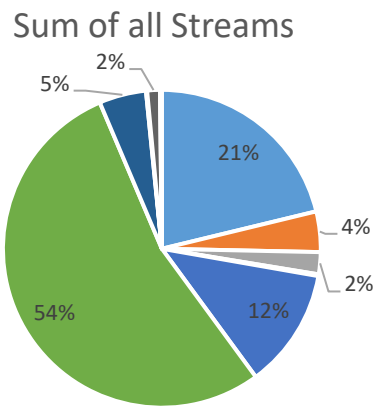
ICI Waste Composition Estimates

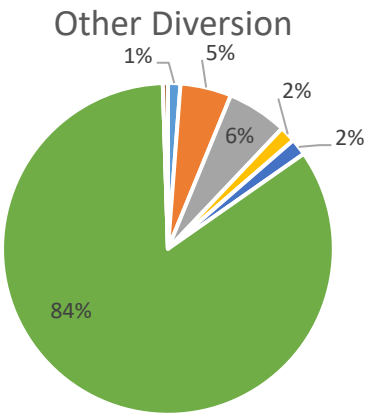
Arts, Entertainment, and Recreation





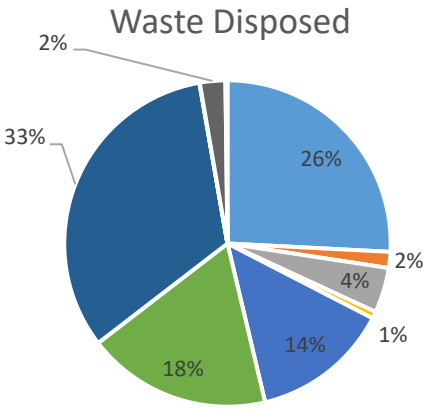


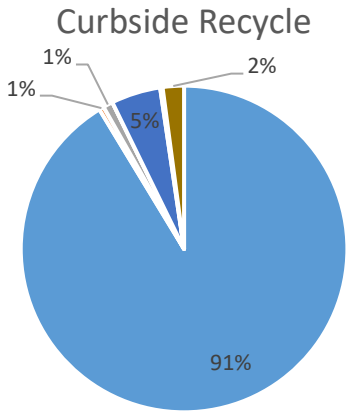


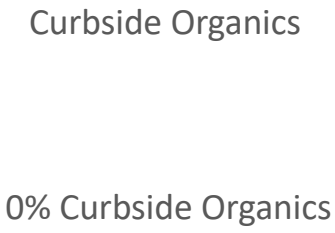


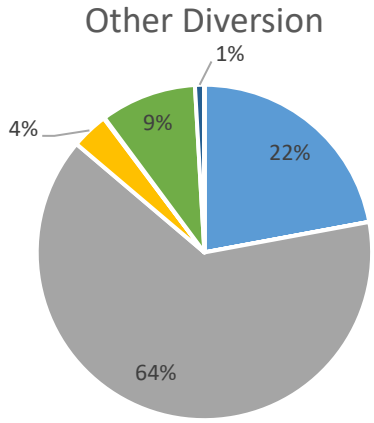


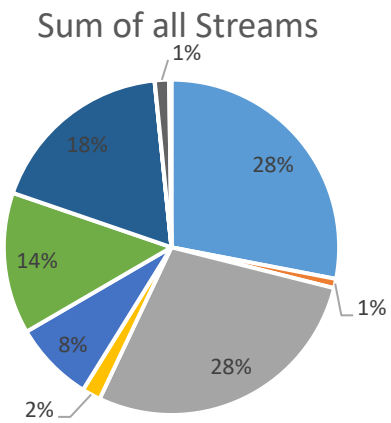
Durable Wholesale and Trucking





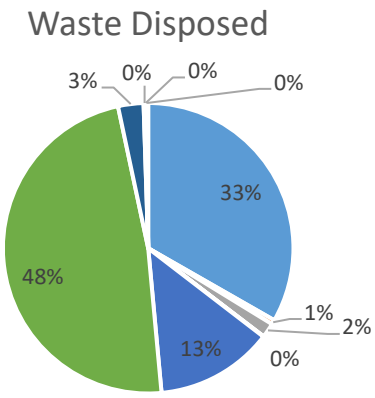


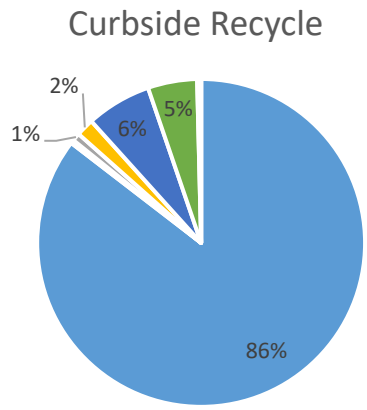


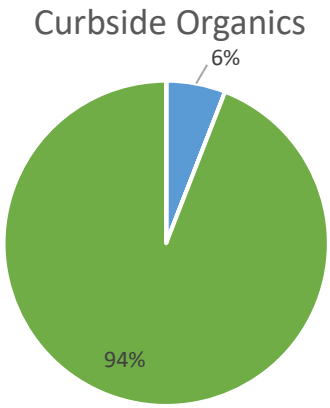


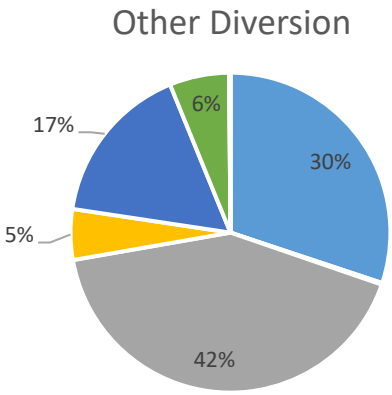


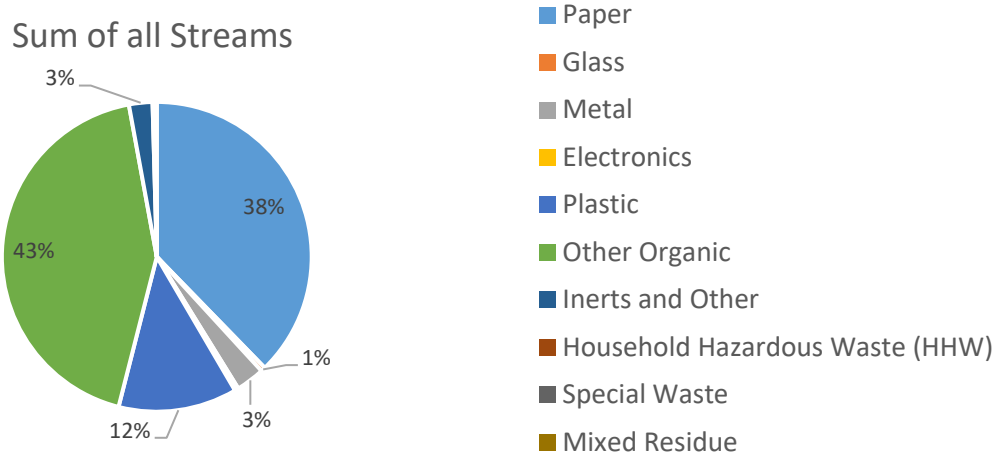
Education


Waste Disposed
3%
0%
0%
0%
33%
48%
1%
2%
13%
0%

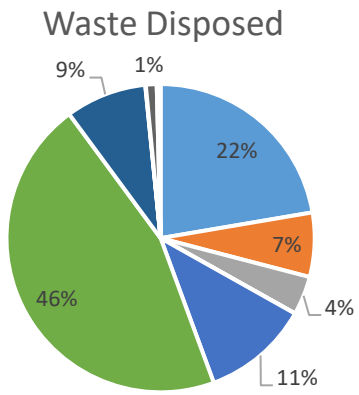

Curbside Recycle
2%
1%
6%
5%
86%

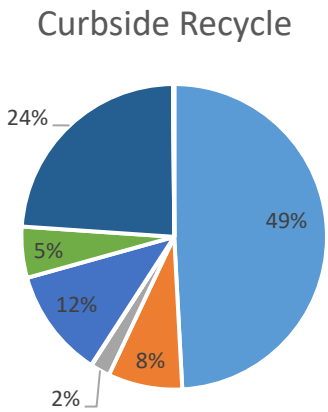

Curbside Organics
6%
94%

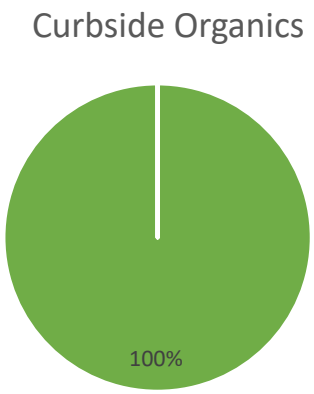

Other Diversion
17%
6%
30%
5%
42%

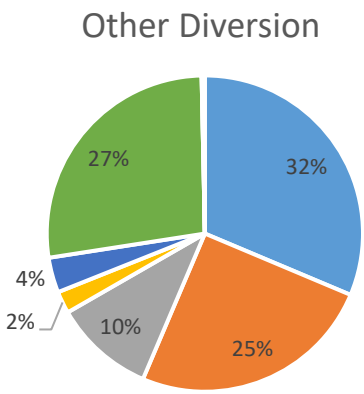

Sum of all Streams
3%
38%
43%
1%
3%
12%
Paper
Glass
Metal
Electronics
Plastic
Other Organic
Inerts and Other
Household Hazardous Waste (HHW)
Special Waste
Mixed Residue

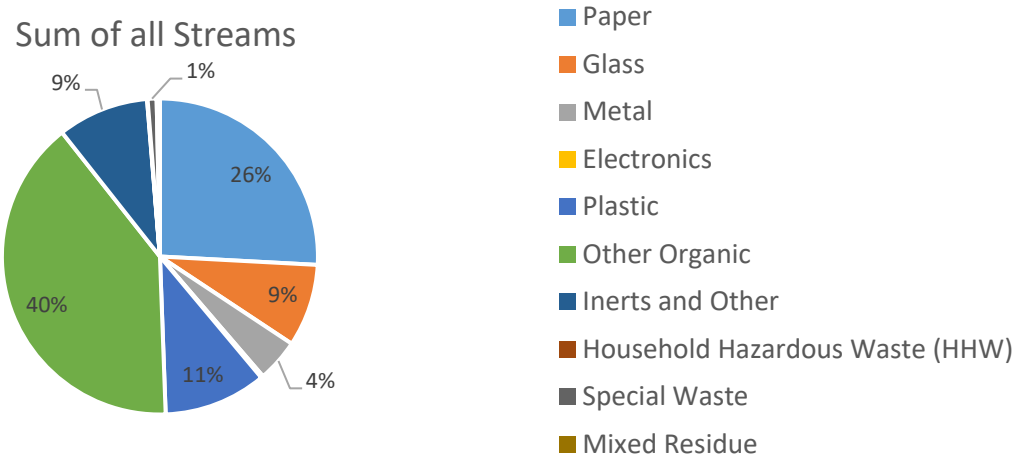
Hotel and Lodging



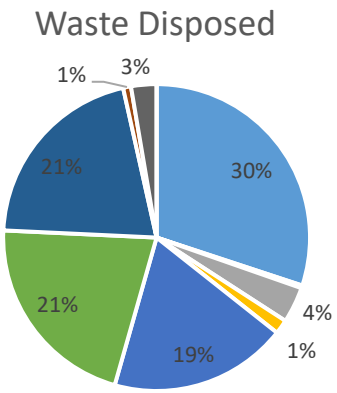


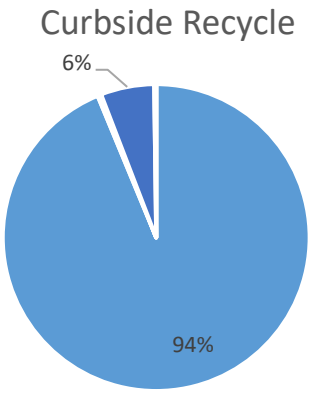


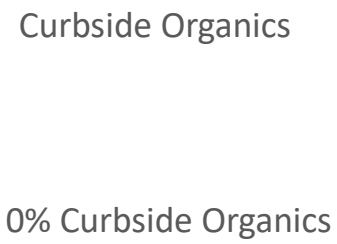


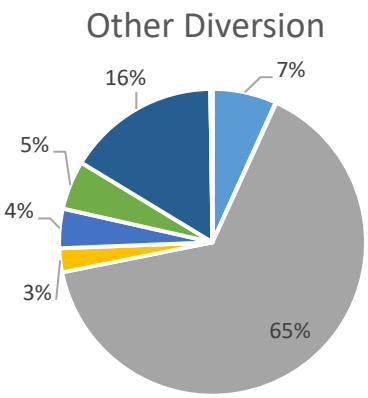


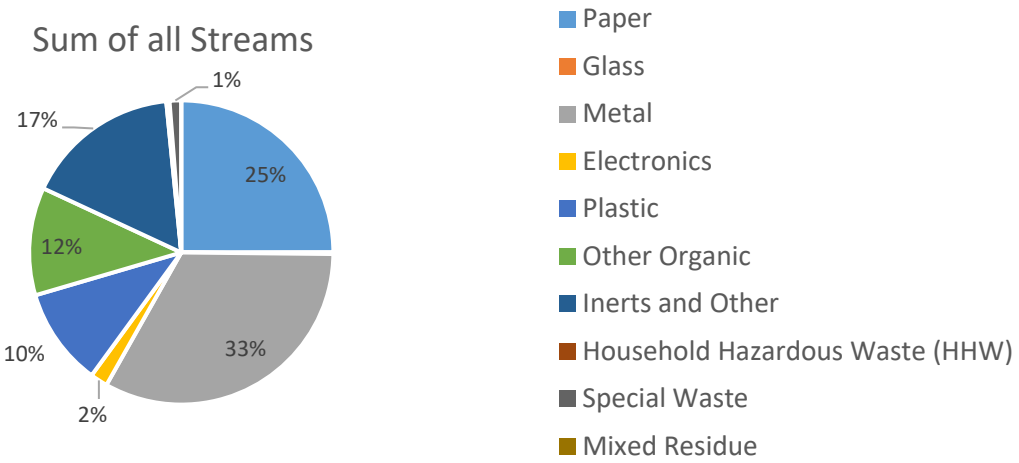
Manufacturing – Electronic Equipment



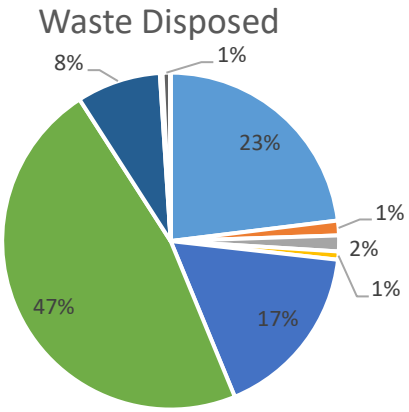


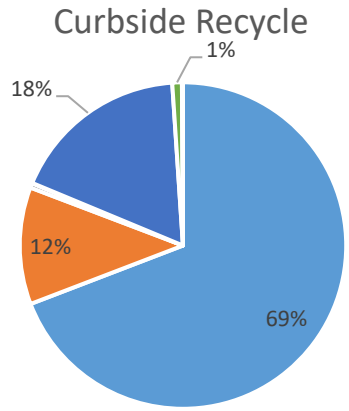


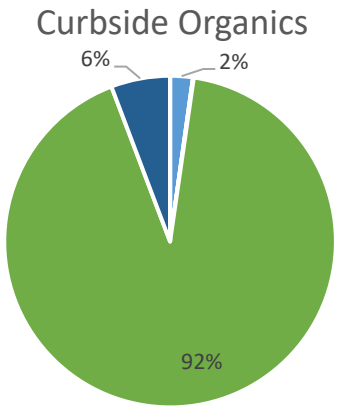


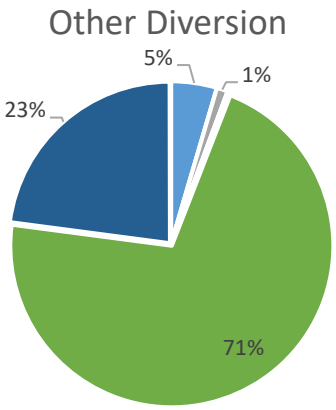


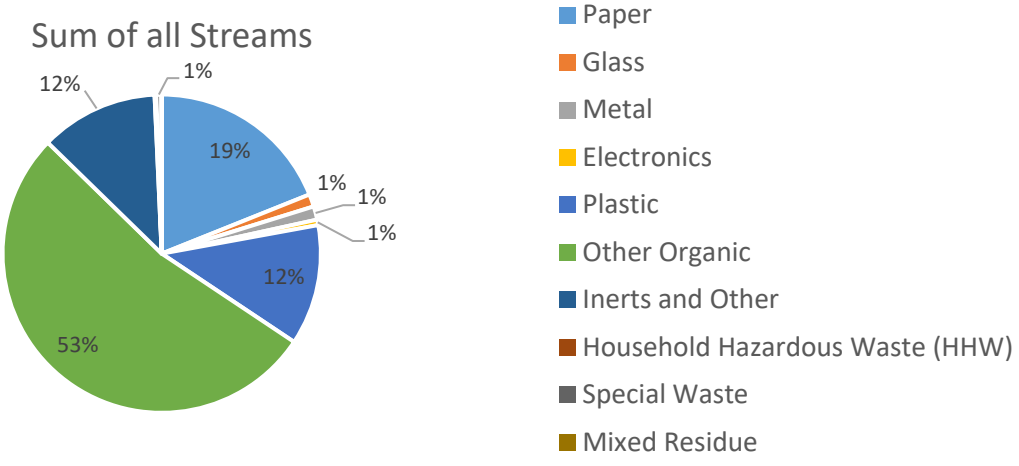
Food and Nondurable Wholesale



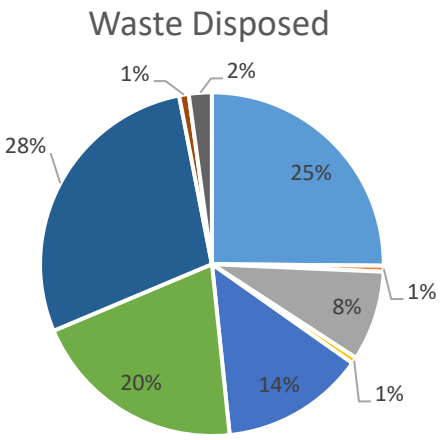


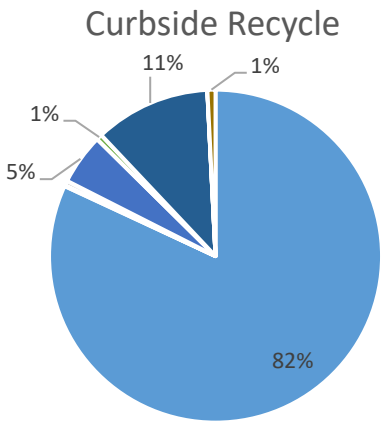


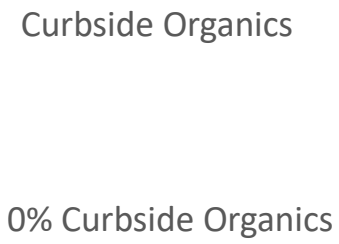


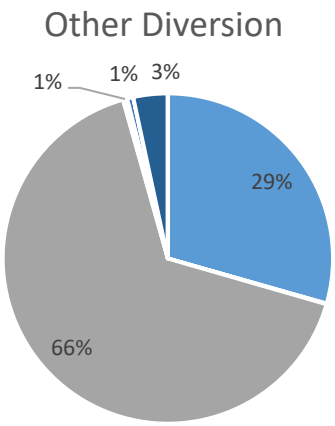


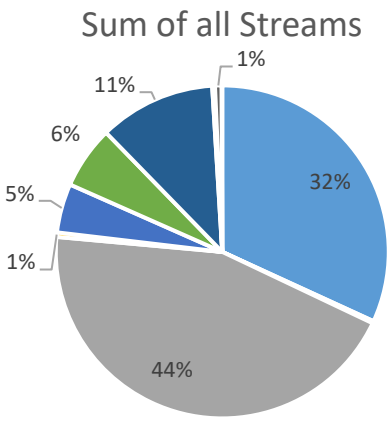
Manufacturing – All Other





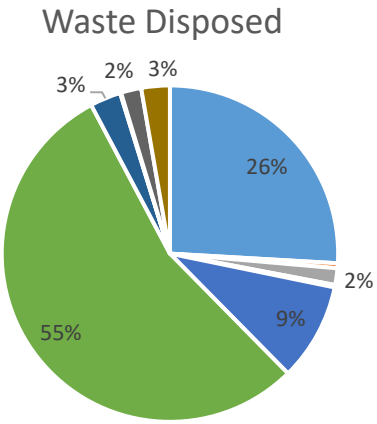


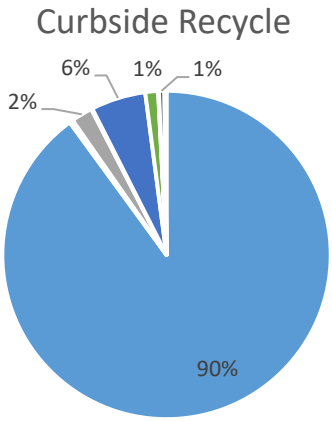


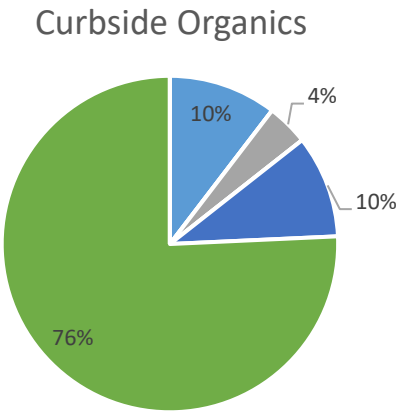


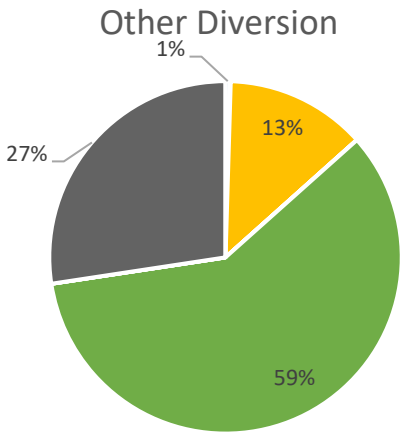


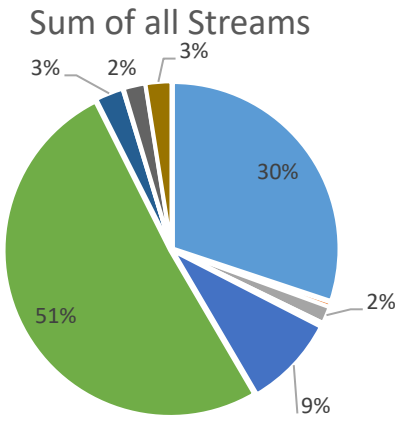
Medical and Health





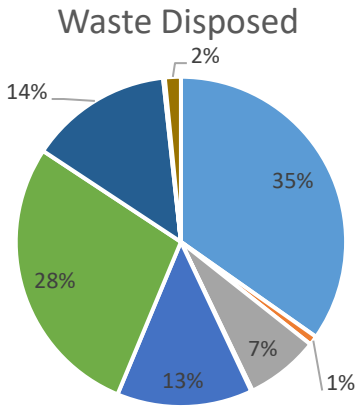


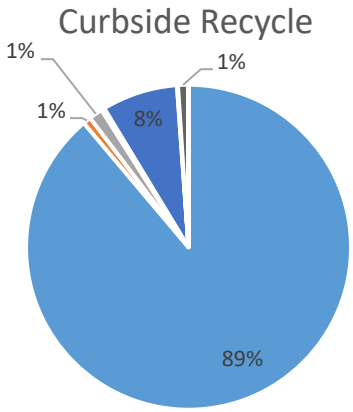


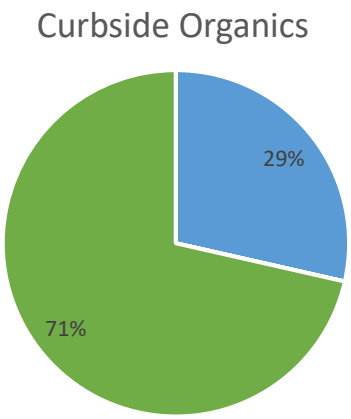


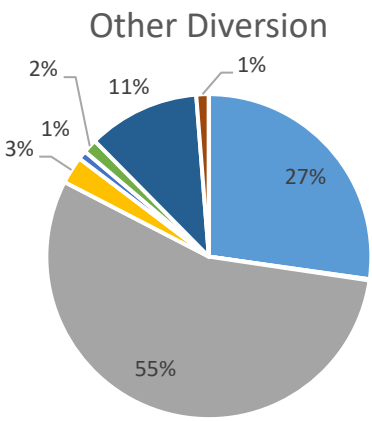


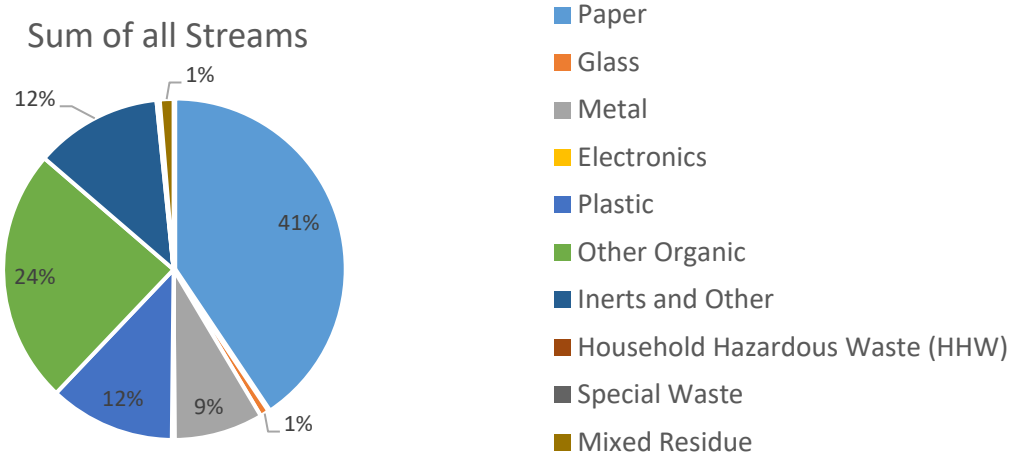
Public Administration



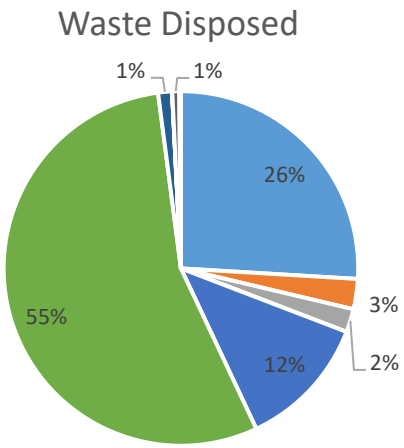


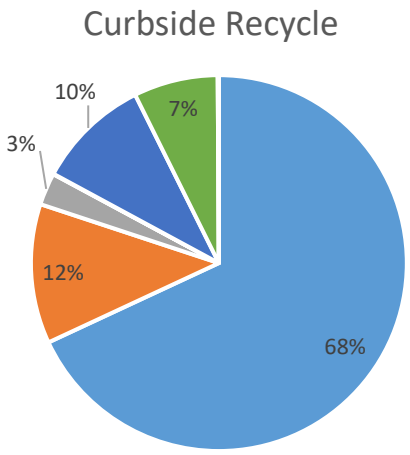


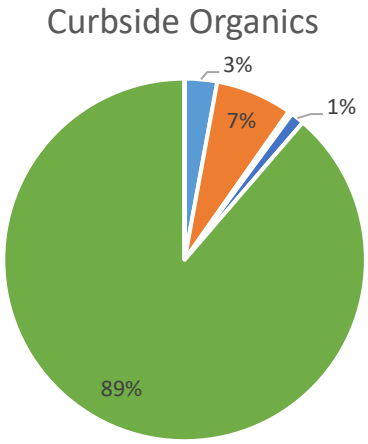


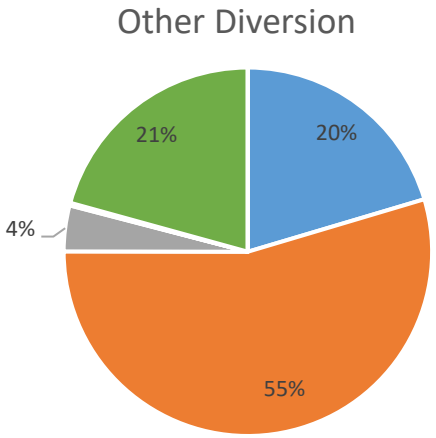


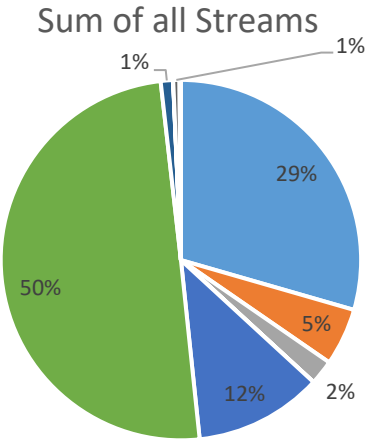
Restaurants





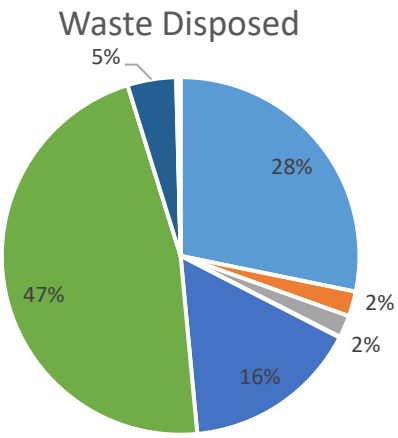


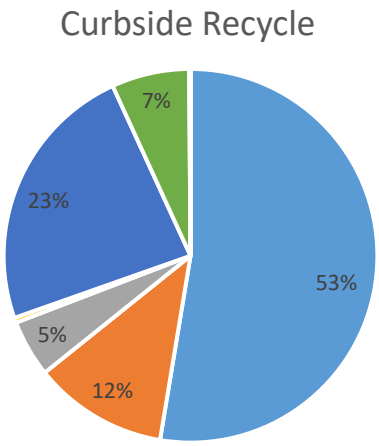


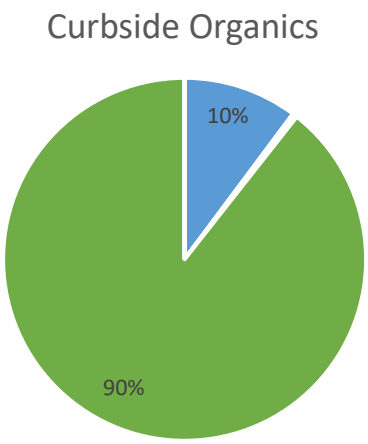


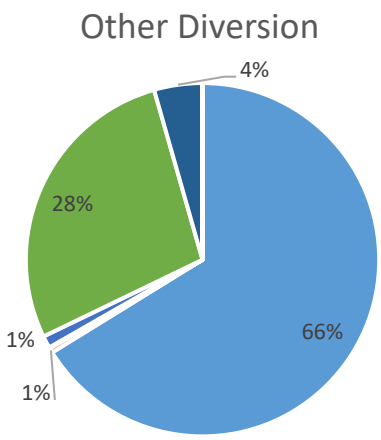


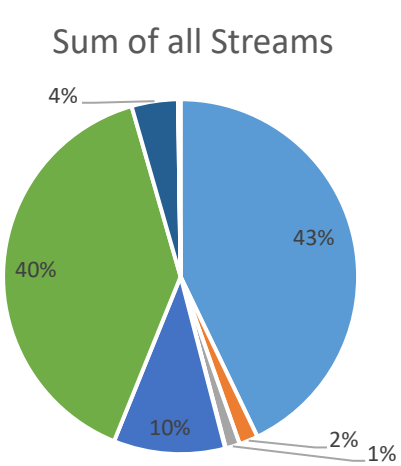
Retail Trade – Food & Beverage Stores





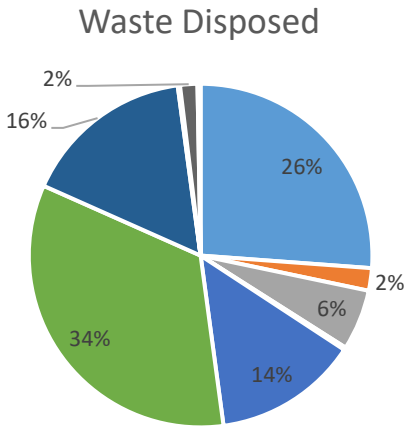


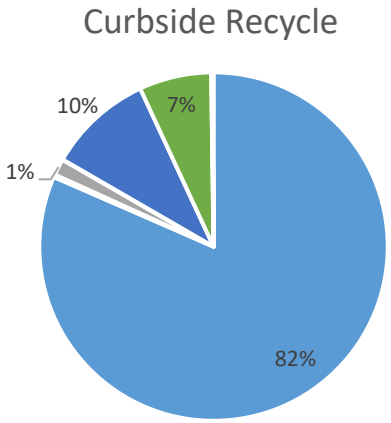


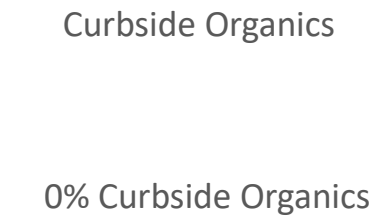


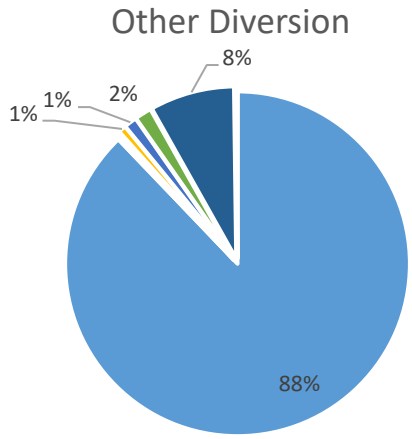


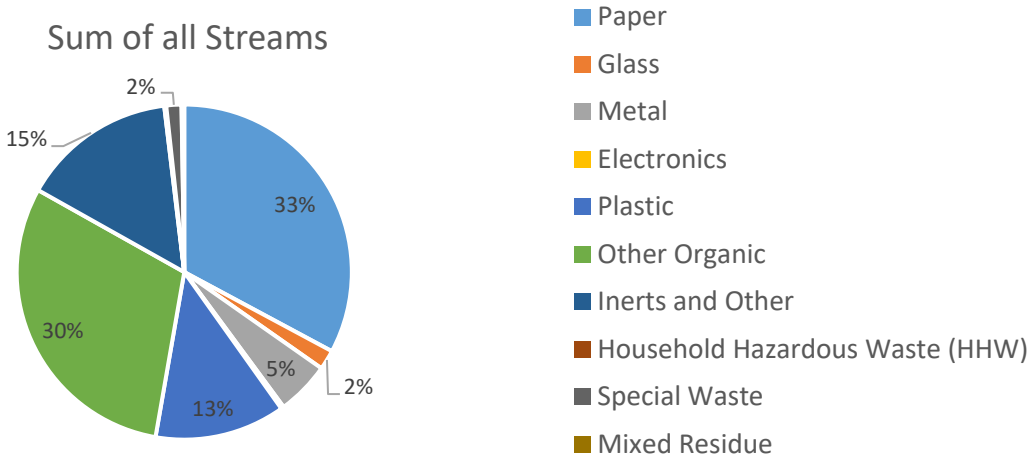
Retail Trade – All Other



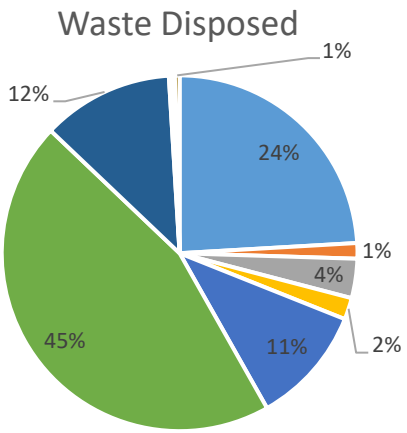


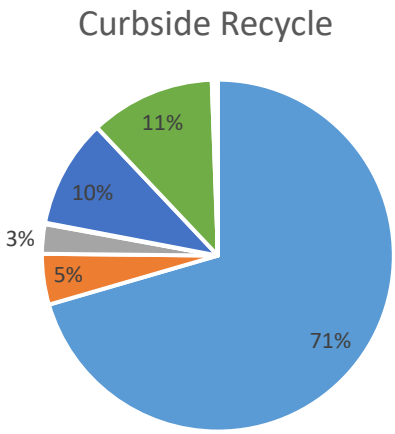


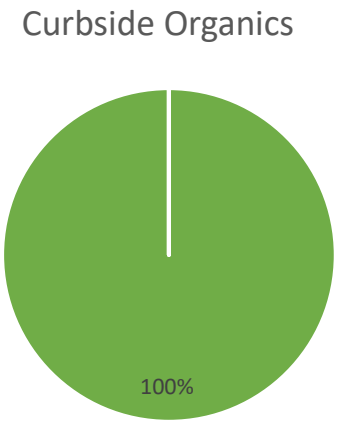


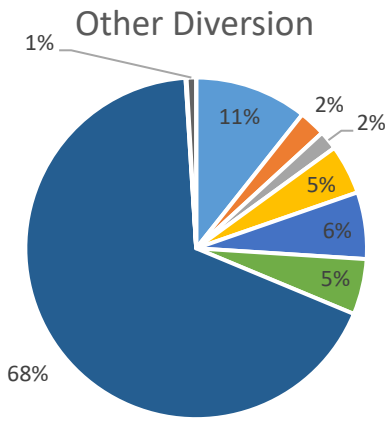


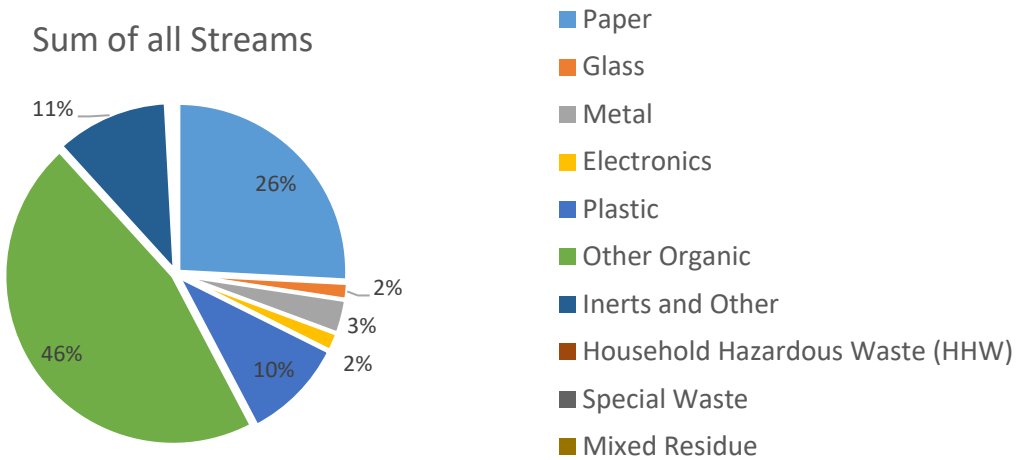
Services – Management, Administrative, Support, & Social



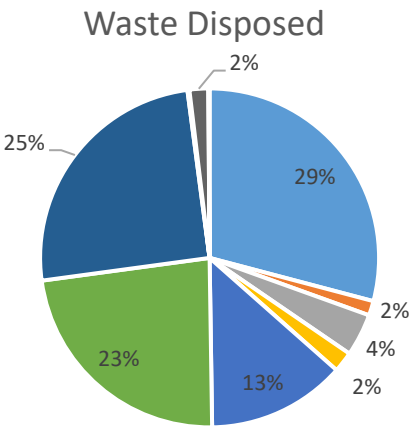


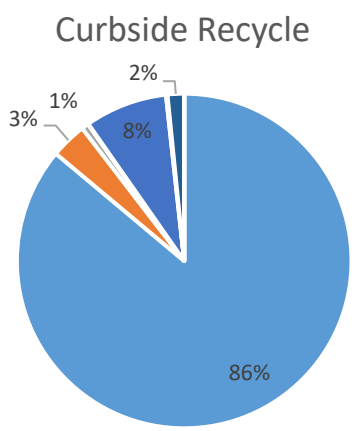


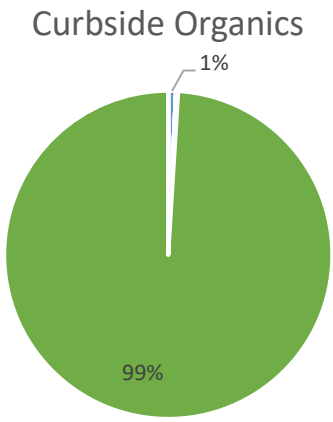


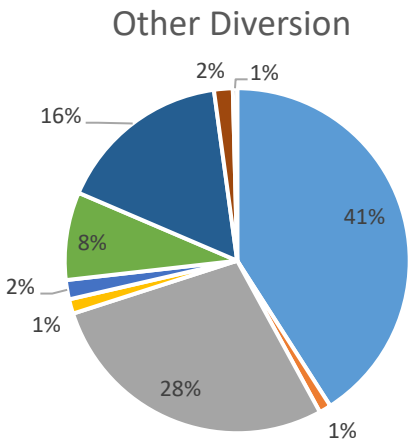


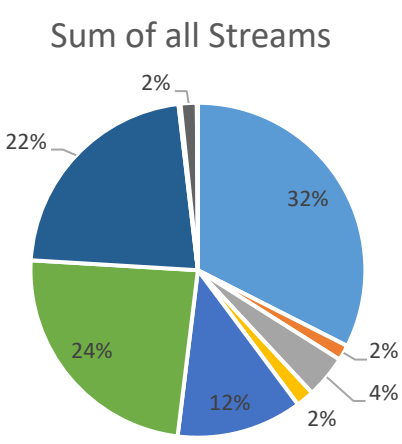
Services – Professional, Technical, & Financial





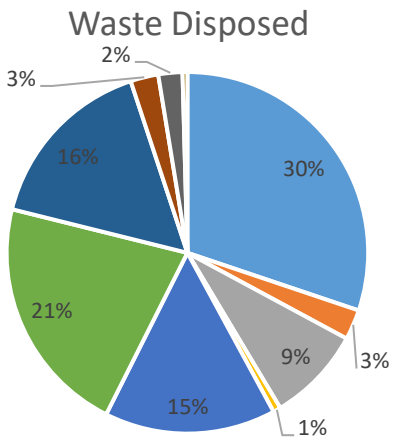


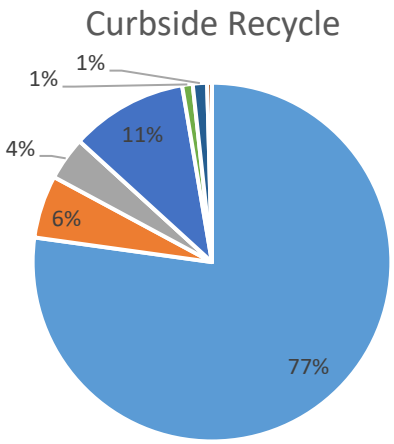


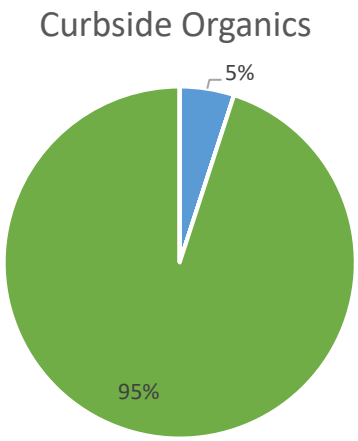


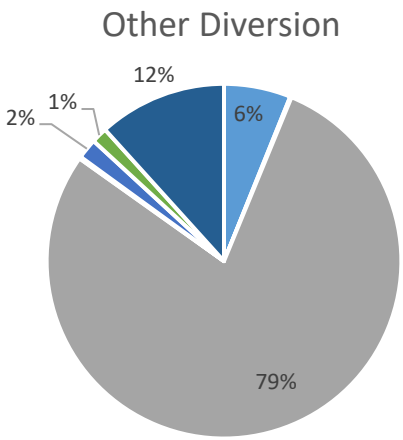


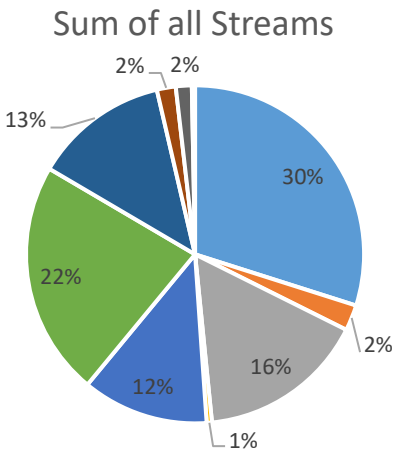
Services – Repair & Personal





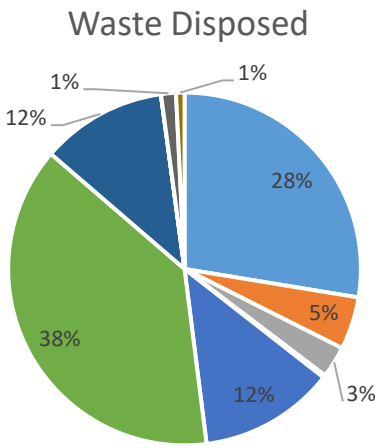


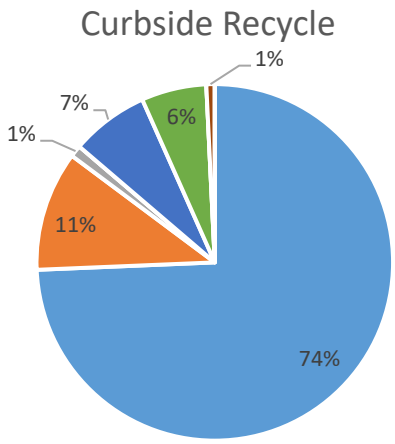


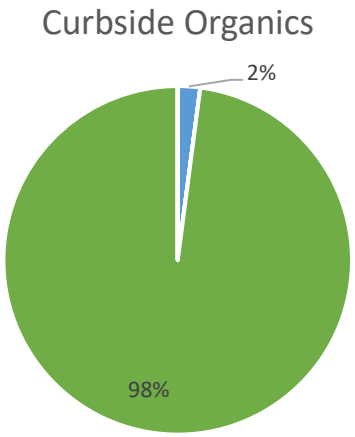


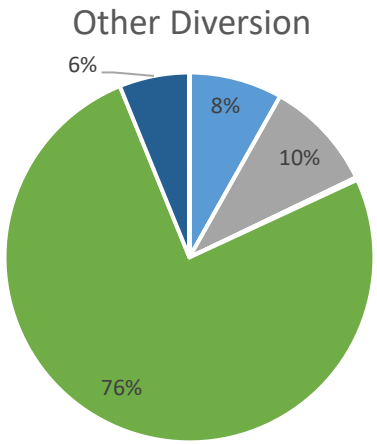


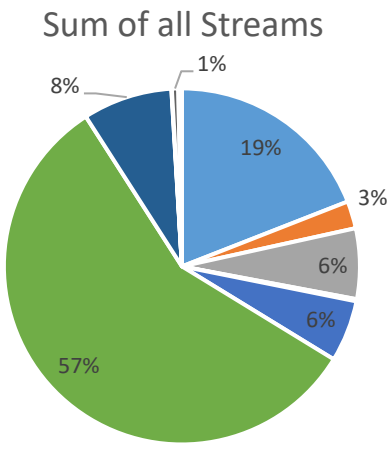
Not Elsewhere Classified













Construction and Demolition Debris

