Five Year Analysis of Household Solid Waste Fees

January 7th, 2025

Recycling and Materials Management Section
Division of Environmental Assistance and Customer Service
N.C. Department of Environmental Quality

Hannah Stroot
(919) 707-8339
hannah.stroot@deq.nc.gov

About This Report

This report evaluates local government solid waste fees over the last five years from fiscal year (FY) 2019–20 through FY 2023–24. In this report, solid waste fees cover all forms of waste generated by households, including garbage, recycling, yard waste, and bulky waste. Fee data is collected annually from every local government in the state through Solid Waste and Materials Management Annual Reports. The data is then analyzed by the N.C. Department of Environmental Quality's Division of Environmental Assistance and Customer Services' (DEACS) Recycling and Materials Management Section (RMMS) to identify and monitor trends over time.

Fee data from the Solid Waste and Materials Management Annual Reports offer the most comprehensive coverage across local governments in the state, ensuring a reliable foundation for analysis. However, there are some data limitations due to non-reporting and misreporting. To address inconsistencies and missing data, data cleaning was performed, including contacting local governments and reviewing online fee schedules to correct errors and fill gaps. Despite some limitations, this dataset remains sufficiently robust to provide valid insights into statewide fee trends.

Due to the efforts to improve data availability and accuracy, as well as changes to the annual reporting format over time, the figures provided throughout this report may differ from those in DEACS' previous Five-Year Analysis of Household Solid Waste and Recycling Fees (FY 2015–16 through FY 2019–20).

Table of Contents

List of Figures

List of Tables

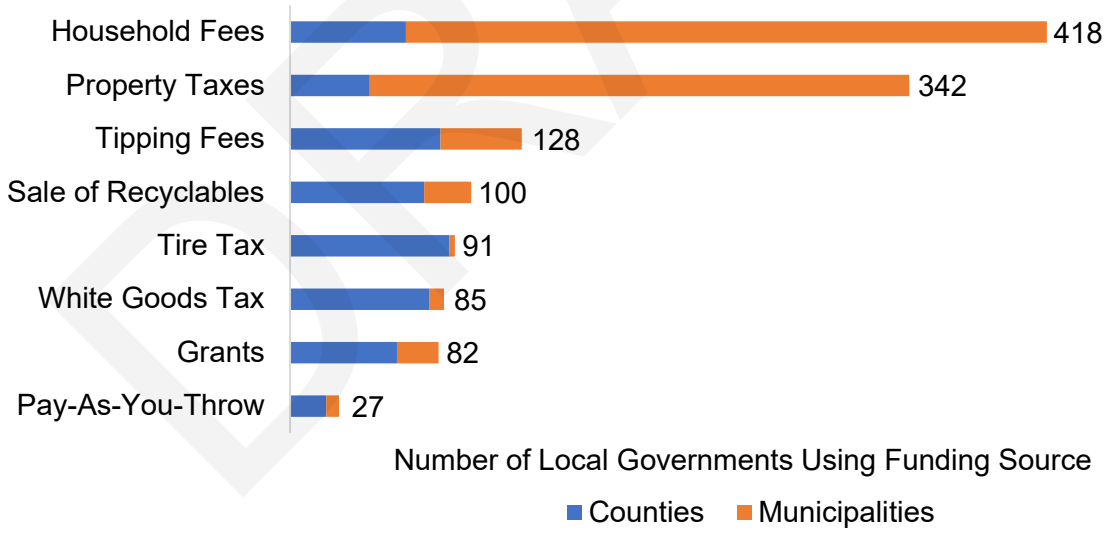
Introduction

Household fees are a key funding tool for local government solid waste programs, supporting effective waste handling, environmental protection, and public health. This report provides local officials, waste management professionals, and policymakers with an up-to-date overview of household solid waste fees across North Carolina. These fees play a significant role in determining the resources available for collection, disposal, and recycling services, as well as associated infrastructure investments. By examining current statewide trends, the report aims to support informed decision-making that ensures the financial sustainability of robust waste management systems. The subsequent sections explore how North Carolina communities set and structure these fees—with a particular focus on how they relate to local recycling efforts.

Funding Local Solid Waste Programs

In addition to household fees, local solid waste programs can be funded through property taxes, waste disposal taxes, landfill tipping fees, volume- or weight-based fees for municipal solid waste, and other methods. As shown in Figure 1, the most common funding streams for solid waste services are household fees, used by 76 percent of local governments, and property taxes, used by 62 percent.[1] Compared to other funding sources, household fees and property taxes provide a stable source of revenue to be allocated across the community. Figure 1 also indicates that municipalities rely more heavily on household fees and property taxes, while counties utilize a broader range of funding sources.

Figure 1. Funding sources for local government solid waste programs FY 2023–24, N=550.



[1] Percentages are out of the 550 local governments who provided solid waste services in FY 2023–24 and reported their funding sources. Eighty-three municipalities did not provide, contract, or arrange for solid waste services in FY 2023–24 and therefore did not utilize any funding. An additional 18 municipalities with solid waste programs did not report their funding sources.

Table 1 shows the utilization rates of different funding sources by counties and municipalities. Several factors contribute to the trends shown. More municipal solid waste landfills in the state are owned and operated by counties, allowing counties to take advantage of tipping fees. Counties are also more likely to earn revenue from selling recyclables due to lower collection and transportation costs, advantages of scale, and, in some cases, the ability to consolidate and bale materials. Municipalities often face higher collection costs with curbside programs but may earn revenue based on contracts and market prices. Additionally, counties manage scrap tire and white goods disposal programs, giving them access to state disposal tax proceeds and state grants to support scrap tire disposal.[2] With fewer funding sources available, a larger share of municipal programs depend on household fees and property taxes.

Table 1. Percentage of reporting counties (N=100) and municipalities (N=450) using each funding source, FY 2023–24.*

Funding Source	Counties	Municipalities
Household Fees	64%	79%
Property Taxes	44%	66%
Tipping Fees	83%	10%
Sale of Recyclables	74%	6%
Tire Tax	88%	1%
White Goods Tax	77%	2%
Grants	59%	5%
Pay-As-You-Throw	20%	2%

*All percentages are rounded to the nearest whole number.

Funding Local Recycling Programs

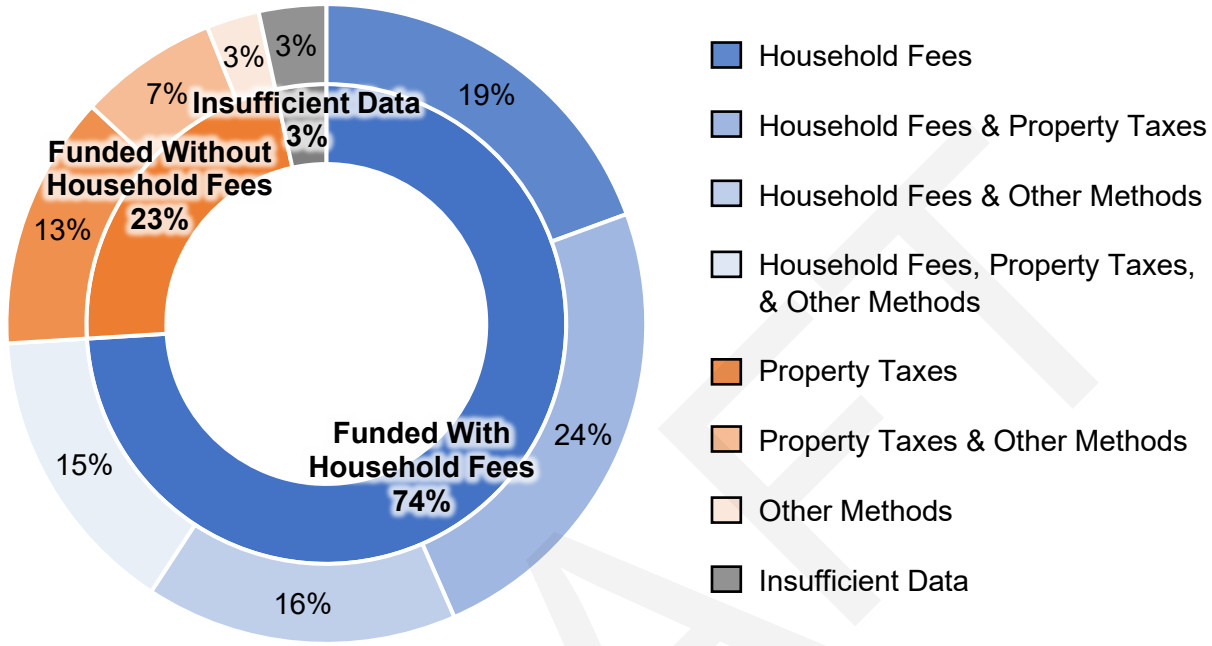
Among local governments that offer recycling as part of their solid waste services, household fees remain a key funding source. In FY 2023–24, 412 out of 651 local governments in North Carolina operated or contracted for recycling programs. All 100 counties in the state had recycling programs, with 64 receiving funding from household fees. Of the 551 municipalities, 312 had their own recycling programs, and 241 of these charged household fees. In total, 74 percent of local government recycling programs were funded, in whole or in part, through household fees—highlighting their essential role in sustaining recycling efforts.

Figure 2 provides an overview of how household fees are implemented, often in conjunction with other funding methods, to support local recycling programs. In FY 2023–24, 19 percent of recycling programs were funded solely by household fees. Rather than relying entirely on user fees, most local governments subsidized their programs with property taxes and/or other funding methods.[3] Among the 23 percent of local governments who did not charge household fees in the

[2] A few municipalities also operate scrap tire and white goods disposal programs, receiving a portion of the state tax proceeds passed through their counties (as indicated in Table 1).
[3] "Other methods" include tipping fees, the sale of recyclables, the tire tax, the white goods tax, grants, and pay-as-you-throw.

last fiscal year, property taxes were the most common funding mechanism. Fourteen governments with recycling programs did not report their funding source(s).

Figure 2. Local recycling programs with household fees in FY 2023–24, N=412.*



*All percentages are rounded to the nearest whole number.

Types of Household Fees

Table 2 illustrates the types of fees local governments implement for solid waste services, highlighting notable differences between counties and municipalities. Garbage fees are the most prevalent across both levels of government, reflecting their role as a fundamental revenue source for waste management. Other types of fees vary in usage, driven by differences in service offerings. For instance, municipalities are more likely to implement separate fees for recycling, yard waste, and bulky waste. Municipalities managing these waste types are more likely to use

Table 2. Percentage of fee-charging counties (N=64) and municipalities (N=354) with each fee type, FY 2023–24.*

Fee Type	Counties	Municipalities
Garbage	48%	76%
Recycling	9%	24%
Yard Waste	0%	12%
Bulky Waste	0%	2%
Availability	33%	2%
Combined	27%	20%

*All percentages are rounded to the nearest whole number.

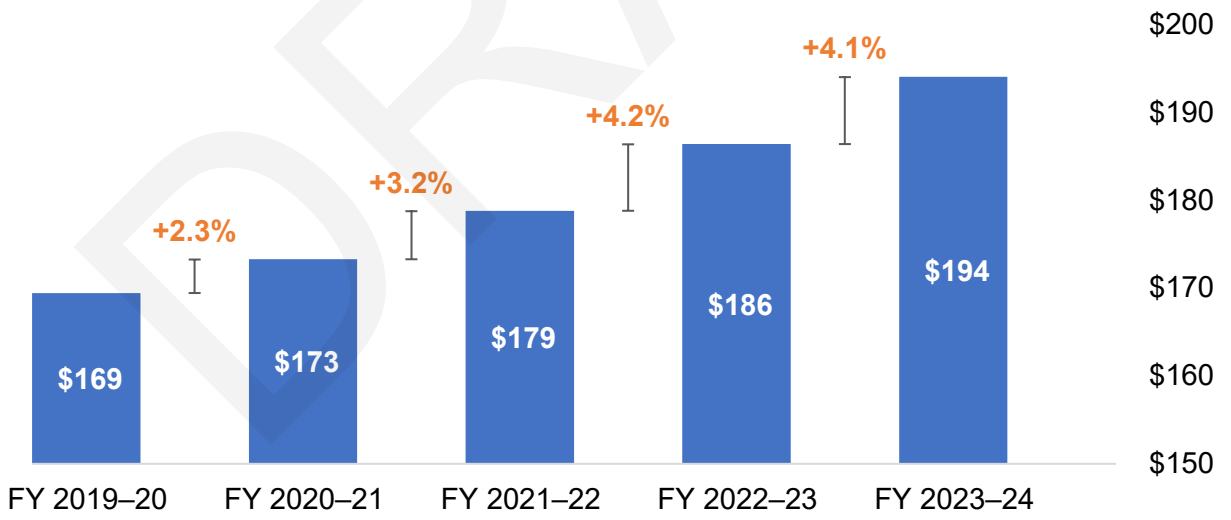
curbside collection, leading to higher costs and separate fees, while counties often rely on lower-cost drop-off systems. Conversely, availability fees are more common among counties given their use of availability-based services, such as drop-off collection points that are accessible to all households regardless of usage. Both counties and municipalities use combined fees, with 27 percent of fee-charging counties and 20 percent of fee-charging municipalities opting for this approach in FY 2023–24. The various fees charged by local governments are further discussed in the sections that follow.

Total Solid Waste Fees

Tracking total fees over time helps identify funding trends and changes in local solid waste program costs, providing insights to support the sustainable financing of these programs. This total fee analysis aggregates the annual garbage, recycling, yard waste, bulky waste, availability, and/or combined fees charged by local governments per household. It only considers fees charged monthly or annually, excluding per-collection charges for bulky item and yard waste pickup. Ultimately, 413 local governments provided consistent total fee data across the study period and were included in the analysis.

As shown below in Figure 3, local government fees for solid waste services have steadily increased. Between FY 2019–20 and FY 2023–24, the average annual total fee grew by $24.63 or 15 percent. The largest increases occurred during the last two fiscal years, with fees rising by $7.60 in FY 2022–23 and $7.67 in FY 2023–24. The average total fee in FY 2023–24 was $194.08 per year, or $16.17 per month.

Figure 3. Average annual total solid waste fees, FY 2019–20 to FY 2023–24, N=413.*



*All dollars are rounded to the nearest whole number and percentages to the nearest tenths place. Increases may not sum due to rounding.

Table 3 provides a detailed breakdown of annual changes in total fees. Throughout the period, significantly more local governments increased their solid waste fees than decreased them. Notably, over the past five years, the proportion of governments raising their fees each year grew by ten percentage points—reaching 42 percent in FY 2023–24. Meanwhile, the proportion of

governments reducing their fees each year remained relatively constant, staying around four to six percent. These trends help explain the growing year-over-year increases in average fees shown in Figure 3.

Table 3. Changes to total solid waste fees in a given fiscal year, N=413.*

Fiscal Year	Number of Fees	Fees Increased	Fees Decreased
2019–20	364	115 *(32%)*	13 *(4%)*
2020–21	377	104 *(28%)*	18 *(5%)*
2021–22	387	147 *(38%)*	19 *(5%)*
2022–23	402	162 *(40%)*	18 *(4%)*
2023–24	411	173 *(42%)*	26 *(6%)*

*All percentages are rounded to the nearest whole number.

Table 3 also indicates that the number of fees has grown over time. Since FY 2019–20, 49 governments reported fees for the first time, while only two eliminated theirs in favor of property tax funding, resulting in a net increase of 47 fees. Among the 362 local governments that had household fees throughout the entire period, 73 percent increased their fees by FY 2023–24, while 21 percent kept them unchanged, and 6 percent reduced them.

County Versus Municipal Total Fees

The increase in annual total fees occurred across counties and municipalities as indicated by Table 4. During the last five fiscal years, the average county total fee increased by $15, and the average municipal total fee increased by $25. While the dollar increase was higher at the municipal level, the percentage increase was roughly equivalent between counties and municipalities. This reflects the fact that municipal fees are consistently higher than county fees.

Table 4. Average annual total solid waste fees by county (N=65) and municipality (N=348), FY 2019–20 to FY 2023–24.*

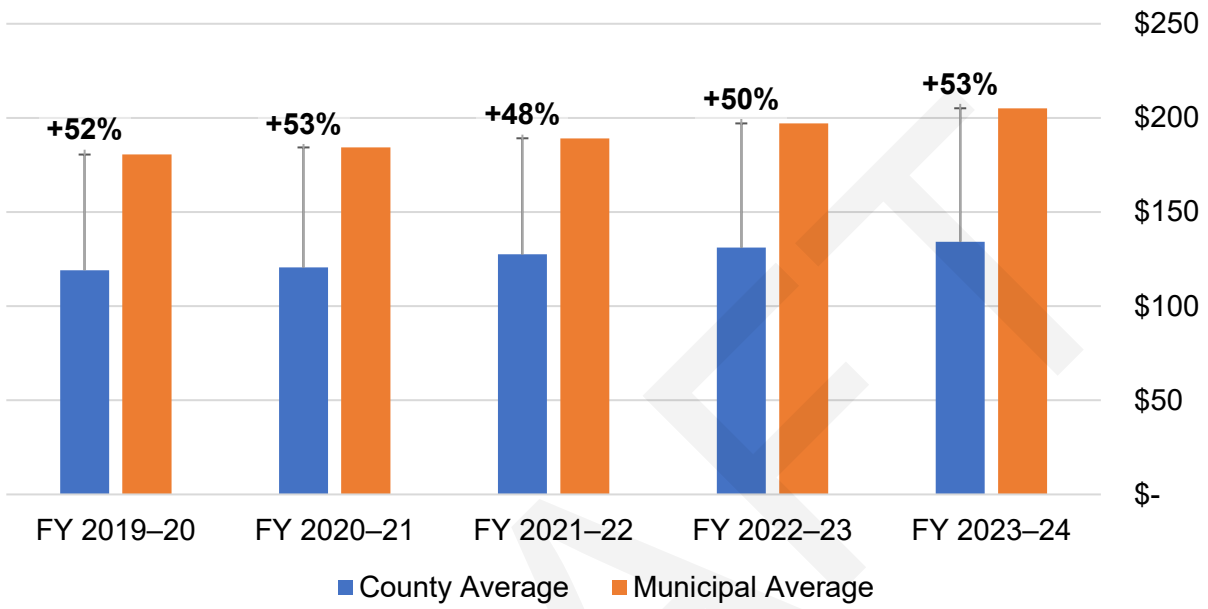
Fiscal Year	County	Municipality
2019–20	$119	$181
2020–21	$121	$184
2021–22	$127	$189
2022–23	$131	$197
2023–24	$134	$205
5-Year Increase	**$15 *(13%)***	**$25 *(14%)***

*All dollars and percentages are rounded to the nearest whole number. Increases may not sum due to rounding.

Figure 4 further illuminates the difference between municipal and county solid waste fees. Averaging across all five years, annual total municipal fees were 51 percent higher than county fees. Compared to counties,

municipalities typically provide more frequent and comprehensive solid waste services—such as curbside solid waste, recycling and yard waste collection—which results in higher costs.

Figure 4. County (N=65) vs. municipal (N=348) average annual total solid waste fees, FY 2019–20 to FY 2023–24.*



*All percentages are rounded to the nearest whole number.

Having compared total fees across all reporting local governments, it is also useful to evaluate fee differences exclusively among local governments with recycling programs. The following tables compare total fees by level of government and recycling collection method.

The majority of counties operate drop-off convenience sites for recycling instead of curbside programs. In FY 2023–24, of the 100 counties, 80 had drop-off-only programs, 17 had drop-off and curbside programs, and three had curbside-only programs. Sixty-four counties utilized household fees to fund their programs. As shown in Table 5, annual total solid waste fees were the least expensive for counties operating drop-off-only recycling programs and most expensive for curbside-only recycling programs.[4] This is reflective of the higher per-household cost of curbside collection.

[4] While Table 5 shows total solid waste fees, the collection methods shown reflect only county collection methods for recycling. Counties may or may not have the same collection methods for solid waste, yard waste, and/or bulky waste.

Table 5. Annual total county solid waste fees (N=100) by recycling collection method, FY 2023–24.

Recycling Collection Method	Counties with Collection Method	Counties with Household Fees	Average	Median
Drop-off Only	80	54	$121	$120
Curbside Only	3	3	$276	$283
Drop-off and Curbside	17	7	$174	$170

*All dollars are rounded to the nearest whole number.

On the other end of the spectrum, most municipalities with recycling programs operate or contract for curbside recycling service. Of the 312 municipalities with recycling programs in FY 2023–24, 239 had curbside-only programs, 39 had both curbside and drop-off programs, and 31 had drop-off-only programs. Three additional municipalities have other recycling programs that are not categorized as traditional drop-off or curbside programs. Across the three collection methods, a similar percentage of municipalities (74-81 percent) charge fees, with no method being necessarily more likely to have an associated fee. That said, municipalities operating both curbside and drop-off programs had the highest fees, while those operating drop-off only programs had the lowest fees, (see Table 6). [5]

Table 6. Annual total municipal solid waste fees (N=309) by recycling collection method, FY 2023–24.

Recycling Collection Method	Municipalities with Collection Method	Municipalities with Household Fees	Average	Median
Drop-off Only	31	25	$203	$192
Curbside Only	239	185	$207	$217
Drop-off and Curbside	39	29	$219	$236

*All dollars are rounded to the nearest whole number.

Also worth noting, fee differences between collection methods were smaller for municipalities than for counties. This is likely due to municipalities' more comprehensive service coverage, including multiple waste streams with recycling as one component. For municipalities already offering curbside services for trash—and potentially other waste streams like yard waste and bulky waste—the additional cost of curbside recycling is lower due to shared infrastructure and operational efficiencies. The denser populations and centralized operations of municipalities also contribute to operational efficiencies, which can reduce per-household curbside collection costs.

[5] While Table 6 shows combined solid waste fees, the collection methods shown reflect only municipal collection methods for recycling. Municipalities may or may not have the same collection methods for solid waste, yard waste and/or bulky waste.

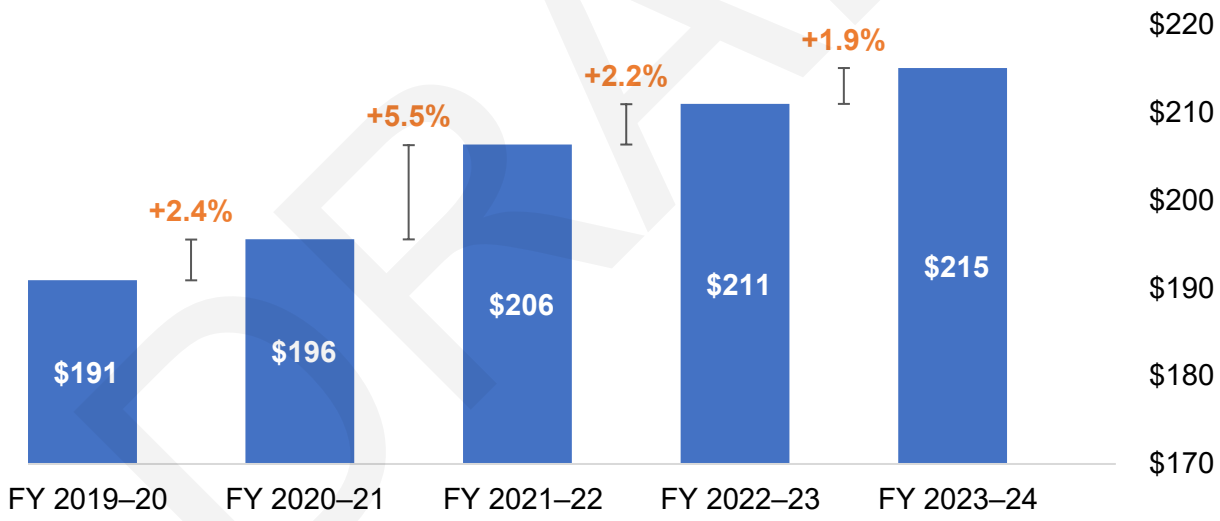
Combined Fees

Some local governments charge a single "combined fee" that covers the collection and processing of garbage, recycling, and other solid waste. The specific services included in these fees vary depending on the locality, with some offering curbside collection for all waste streams, while others may limit services to drop-off recycling or charge additional fees for yard or bulky waste. Of the 305 recycling programs with household fees in this analysis, 85 local governments provided consistent data and reported combined fees during at least part of the study period.

In FY 2023–24, 17 counties and 68 municipalities charged combined fees. Among the counties, 14 operated drop-off-only recycling programs, two operated curbside-only recycling programs, and one operated a drop-off and curbside recycling program. Among the municipalities, 57 operated curbside-only recycling programs, 10 operated curbside and drop-off recycling programs, and one operated a drop-off-only recycling program.

As depicted in Figure 5, combined fees have steadily increased over the past five fiscal years, with the average annual combined fee rising by $24 overall. The largest increase occurred in FY 2021–22, when fees rose by $11. The average combined fee in FY 2023–24 was $215.10 per year, or $17.93 per month.

Figure 5. Average annual combined fees, FY 2019–20 to FY 2023–24, N=85.*



*All dollars are rounded to the nearest whole number and percentages to the nearest tenths place. Increases may not sum due to rounding.

Table 7 shows the number of local governments that adjusted their combined fees between FY 2019–20 and FY 2023–24. As with total fees, the number of local governments raising their combined fees has generally increased over time. The number of governments reducing their combined fees remained marginal throughout the period. Also worth noting, the number of local governments with combined fees increased over the last five fiscal years, rising from 73 in FY 2019–20 to 85 in FY 2023–24. This increase was due to new fees as well as several governments switching from separate to combined fees. Among the 73 local governments that reported combined fees for the entire period, 79 percent increased their fees by FY 2023–24, while 16 percent kept them unchanged, and four percent reduced them.

Table 7. Changes to local government combined fees in a given fiscal year, N=85.*

Fiscal Year	Number of Fees	Fees Increased	Fees Decreased
2019–20	73	19 *(26%)*	4 *(5%)*
2020–21	75	26 *(35%)*	4 *(5%)*
2021–22	76	37 *(49%)*	1 *(1%)*
2022–23	80	33 *(41%)*	3 *(4%)*
2023–24	85	38 *(45%)*	4 *(5%)*

*All percentages are rounded to the nearest whole number.

County Versus Municipal Combined Fees

As with total fees, municipalities charge higher combined fees than counties, with both governments increasing their fees over time (see Table 8). Between FY 2019–20 and FY 2023–24, municipal combined fees were, on average, 39 percent higher than those of counties. Fee increases over the period were similar for municipalities and counties. The most substantial rises occurred in FY 2021–22, with counties increasing their fees by $9 and municipalities increasing their fees by $11. This is consistent with the trends shown in Figure 5.

Table 8. Average annual combined fees by county (N=17) and municipality (N=68), FY 2019–20 to FY 2023–24.*

Fiscal Year	County	Municipality
2019–20	$146	$204
2020–21	$149	$208
2021–22	$158	$219
2022–23	$162	$223
2023–24	$165	$228
5-Year Increase	**$19** ***(13%)***	**$24** ***(12%)***

*All dollars and percentages are rounded to the nearest whole number. Increases may not sum due to rounding.

Standalone Recycling Fees

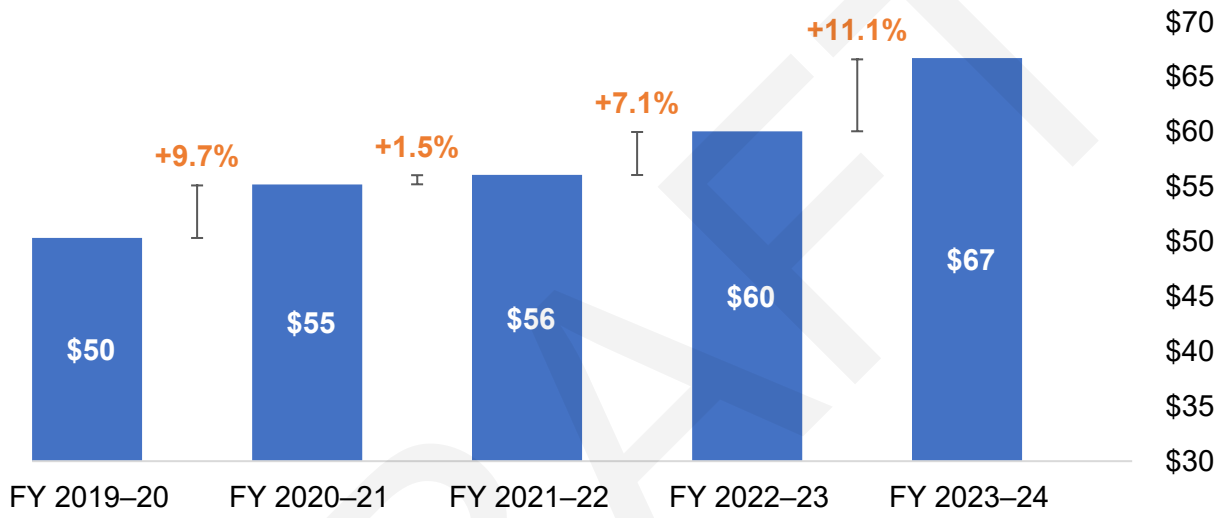
Other local governments bill separately for garbage and recycling services. Of the 305 recycling programs with household fees in this analysis, 106 local governments provided consistent data and reported separate household fees for recycling during at least part of the study period.

In FY 2023–24, 6 counties and 84 municipalities charged separate recycling fees. Among the counties, four operated drop-off-only recycling programs and two operated drop-off and curbside recycling programs. Of the municipalities, 76 operated curbside-only recycling programs, seven

operated curbside and drop-off recycling programs, and one operated a drop-off-only recycling program.

As depicted in Figure 6 below, the average annual recycling fee increased by $16 between FY 2019–20 and FY 2023–24—double the $8 increase between FY 2015–16 and FY 2019–20. These figures exclude recycling programs with household charges that did not separate their recycling fees. Increases were relatively consistent across years, with the exception of FY 2021–22, which saw a negligible increase. In FY 2023–24, the average standalone recycling fee in was up to $66.72 per year, or $5.56 per month.

Figure 6. Average annual standalone recycling fees, FY 2019–20 to 2023–24, N=106.*



*All dollars are rounded to the nearest whole number and percentages to the nearest tenths place. Increases may not sum due to rounding.

The year-over-year changes are further evaluated in Table 9. The number of recycling fee increases remained relatively stable throughout the period, with a slight uptick in FY 2023–24. This uptick led to the largest yearly fee increase in FY 2023–24, as shown in Figure 6. Meanwhile, fee decreases saw a modest rise in FY 2021–22 and FY 2022–23 but remained relatively infrequent. The number of standalone recycling fees fluctuated over the years as some governments introduced new fees, while others either consolidated them into combined fees or eliminated them following the end of recycling programs. In FY 2019–20, 90 standalone recycling fees were reported. In the years that followed, 16 recycling fees were introduced and 16 were removed or restructured, leading to temporary variations before returning to 90 fees in FY 2023–24. Among the 75 local governments that maintained standalone recycling fees throughout the entire period, 73 percent increased their fees by FY 2023–24, while 17 percent kept the same rates, and nine percent reduced them.

Table 9. Changes to local government standalone recycling fees in a given fiscal year, N=106.*

Fiscal Year	Number of Fees	Fees Increased	Fees Decreased
2019–20	90	33 *(37%)*	3 *(3%)*
2020–21	92	33 *(36%)*	5 *(5%)*
2021–22	94	30 *(32%)*	8 *(9%)*
2022–23	93	35 *(38%)*	8 *(9%)*
2023–24	90	43 *(48%)*	4 *(4%)*

*All percentages are rounded to the nearest whole number.

County Versus Municipal Recycling Fees

Between FY 2019–20 and FY 2023–24, municipal standalone recycling fees averaged 55 percent higher than county fees. As shown in Table 10, this fee gap widened over time, growing from 41 percent to 57 percent. Throughout the period, municipalities implemented larger fee hikes than counties, driving this 16-percentage-point rise. It is important to note that the relatively small number of counties with standalone recycling fees makes the county data highly sensitive to changes by any single government. For example, in FY 2023–24, one county with a modest recycling fee switched from a separate to combined fee structure, which made this year's increase appear larger.

Table 10. Average annual standalone recycling fees by county (N=7) and municipality (N=99), FY 2019–20 to FY 2023–24.*

Fiscal Year	County	Municipality
2019–20	$37	$51
2020–21	$37	$57
2021–22	$37	$58
2022–23	$37	$62
2023–24	$44	$68
5-Year Increase	**$7 *(19%)***	**$17 *(33%)***

*All dollars and percentages are rounded to the nearest whole number. Increases may not sum due to rounding.

Conclusion

This report reviews trends in household solid waste fees charged by local governments across North Carolina from FY 2019–20 to FY 2023–24. By analyzing fee levels and increases across various fee types and tiers of government, the findings provide insight into how local governments fund solid waste services and how these costs have evolved over time. The results support local officials, waste management professionals, and policymakers in evaluating the financial sustainability of solid waste programs.

Overall, the findings reveal a steady upward trend in fee levels. In the last five fiscal years, 49 governments introduced new solid waste fees.[6] By FY 2023–24, 76 percent of governments reporting funding information relied on household fees to support their solid waste programs. Of the 362 governments that consistently charged household fees throughout the study period, 73 percent raised their rates. As a result, the statewide average total solid waste fee reached $16.17 per month in FY 2023–24, reflecting a 15 percent increase from $14.12 per month in FY 2019–20.

A closer examination of recycling programs reinforces these trends. In FY 2023–24, 74 percent of the 412 local governments with recycling programs charged household fees. Among the 267 governments with recycling programs that maintained household fees throughout the study period, 75 percent increased their rates. This figure closely algins with the overall trend among fee-collecting local governments, suggesting that rising fees are not exclusive to those offering recycling services.

A review of different billing practices reveals that increases were observed across the board. For programs with combined garbage and recycling fees, the average combined fee was $17.93 per month in FY 2023–24, up from $15.91 per month in FY 2019–20. For governments that bill recycling services separately, the average standalone recycling fee was $5.56 per month in FY 2023–24, up from $4.19 per month in FY 2019–20. During the five-year period, average combined fees and standalone recycling fees rose by 13 percent and 33 percent, respectively.

When comparing fees across government types, the analysis reveals notable differences in fee levels. Consistent with prior studies, municipalities generally charge higher fees than counties, with both types of government increasing fees over time. Fee gaps between counties and municipalities were evident in total fees, as well as in combined fees and standalone recycling fees. Among governments with recycling programs, counties exhibited greater variation in fee levels depending on the recycling collection method, whereas municipal fees remained more consistent across different collection methods.

Despite rising cost pressures, solid waste fees remain relatively low compared to other essential services municipalities provide. In recent years, external factors such as China's National Sword Policy and the COVID-19 pandemic have disrupted global recycling markets and local solid waste operations, driving up operational expenses and fees. However, even with these rising costs, solid waste fees are still modest in comparison to other utilities. In 2024, the median residential water bill in North Carolina was $43.50 per month for 5,000 gallons, and the median wastewater bill for the same volume was $53.90.[7] Meanwhile, the most recent data show that the average monthly residential electricity bill in North Carolina was $127.79 in 2023.[8] These figures highlight that solid waste continues to be among the more affordable essential services, at $16.17 per month in FY 2023–24.

Moreover, the observed fee increases for solid waste services are part of a broader trend. Between 2023 and 2024, 59 percent of residential water rates and 64 percent of residential wastewater rates increased, with median household bill increases of 5.6 percent ($2.04) for water

[6] This figure refers only to new total fees, excluding new combined fees and new standalone recycling fees that are result of changes to fee structures.
[7] Households in North Carolina typically use between 4,000 and 5,000 gallons of water monthly. Rates are from NC-2024-rates-report.pdf.
[8] https://www.eia.gov/electricity/sales_revenue_price/pdf/table_5A.pdf

and 6.0 percent ($2.78) for wastewater.[9] Electricity rates are also increasing, with the average U.S. residential price rising by 6.2 percent in 2023, reaching 15.98 cents per kilowatt-hour, up from 15.04 cents per kilowatt-hour in 2022.[10] For comparison, the average total solid waste fee in North Carolina increased by 4.2 percent in FY 2022–23 and 4.1 percent in FY 2023–24. These patterns indicate that solid waste fee increases are in line with overall cost trends across North Carolina.

To conclude, rising solid waste fees reflect increasing service costs and underscore the need for sustainable financing to ensure that local governments can maintain and improve solid waste programs over time. By understanding these trends, local officials and policymakers can make informed decisions that support the long-term viability of these services, benefiting both community well-being and environmental sustainability.

[9] NC-2024-rates-report.pdf
[10] https://www.eia.gov/todayinenergy/detail.php?id=61903