

City of Winston-Salem

22-0404 - 2021

Sustainability Report

Office of Sustainability

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Executive Summary

In calendar year 2021, the City of Winston-Salem continued many efforts towards creating a more sustainable community. Some changes did remain in effect for the office's programs as a result of the COVID-19 pandemic. Keep Winston-Salem Beautiful events continued to be impacted, though the Great American Cleanup and Big Sweep events were able to proceed with increased safety measures. Community Roots Day was cancelled, and the Clean & Green school judging had limited participation.

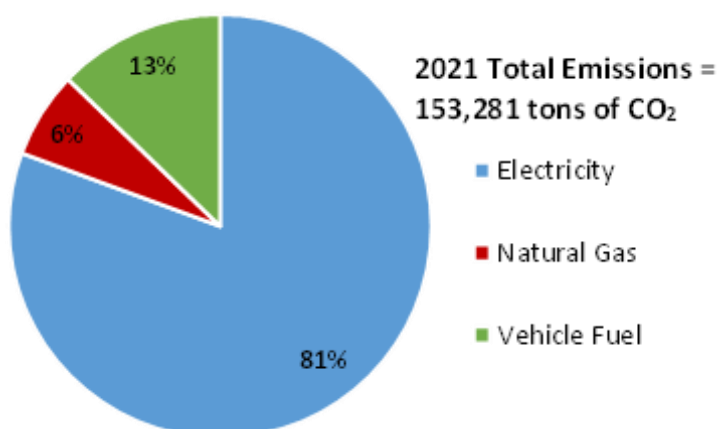
The Office of Sustainability maintained reporting efforts through various online platforms, including the CDP and a new platform for the city, the American Council for an Energy-Efficient Economy (ACEEE). These reporting tools help measure environmental impact in the community on an annual basis.

Through the Capital Improvement Plan, the Office of Sustainability acquired funding for the installation of solar panels on a city facility. This funding is the first major investment in a renewable energy project from the local government and is the first step towards achieving the clean renewable energy goals identified in Resolution #20-0499.

Additionally, the office continued to track greenhouse gas emissions, completing inventories for both the community level and local government operational level. The community level data is informal as it only covers the residential and commercial building sector and transportation sector, with the assumption that these sectors account for the majority of community emissions. The data is used to better identify the source of emissions within the community and look for correlations to other data sets, such as air quality. Community data comes from the Google Environmental Insights Explorer Tool and provides building emissions estimates and annual transportation data.

The local government operations data presented in this report uses a baseline year of 2008 and is calculated for the following sources:

- Electricity (kWh) used by select facilities of municipal government operations
- Fuel (gallons) used by city-owned or leased vehicles
- Natural gas (therms) used by select facilities of municipal government operations
- Carbon dioxide per square foot (CO₂/ft²) in municipal facilities



Total emissions from local government operations in 2021 totaled 153,281 tons of CO₂, seen in figure 1. This is a 4% increase from 2020 due to the steady return to office and more normal operating schedules. The biggest change by sector was in natural gas use, which was 28.5% higher than in 2020. This increase was from wastewater facilities increasing utilization of the combined heat and power generator and a failure in the BioSolids dryer biogas valve.

Figure 1. Total local government greenhouse gas emissions

1. Keep Winston-Salem Beautiful

Keep Winston-Salem Beautiful (KWSB) organizes and runs many programs annually that involve residents in litter prevention and community beautification. Below in Table 1 is a summary of the participation of each of these events and programs that were held in 2021.

Table 1. *Keep Winston-Salem Beautiful participation details*

EVENT/PROGRAM	ATTENDANCE	DETAILS
Great American Cleanup	262	6,195 pounds of litter collected
Big Sweep	193	4,488 pounds of litter collected
Community Roots Day	N/A	Cancelled due to COVID-19 concerns
Flower Bulbs	10	8,000 bulbs provided and planted
Flower Bed Program	200	20,000 plants/shrubs/flowers/bulbs planted in 50 beds
Clean & Green	4 schools	2,400 lbs of litter collected, 20 trees planted, 720 plants/shrubs/flowers/bulbs planted
Adopt-A-Street	200	5,000 lbs of litter collected in 50 miles of roadway
Adopt-A-Stream	50	1,000 lbs of litter collected in 10 miles of streams
Adopt-A-Park	200	2,500 lbs of litter collected in 200 acres

This year continued the trend of above average sign-up numbers for the adoption programs that KWSB experienced throughout the pandemic. During calendar year 2021, 37 new groups signed up to adopt a street, park, or section of a stream. With these new sign-ups, the total adopted locations for the city is 189.

Keep Winston-Salem Beautiful also participated in a new partnership opportunity during the Big Sweep event with the other Triad Keep America Beautiful affiliate programs. With Keep Greensboro Beautiful and Keep High Point Beautiful, all affiliates co-branded each jurisdiction's annual Big Sweep event in October for the first time to better raise awareness and participation among residents across the Triad.

2. Recycling

2.1 Recycle Today

The Recycle Today program is the division of the City of Winston Salem responsible for overseeing residential recycling services. Recycle Today completed the tenth and final full year of the single stream recycling contract with Waste Management. Table 2 shows the total tonnage for recycling collections in the 2021 calendar year.

Table 2. *Recycling tonnage*

MONTH	TONS COLLECTED	MARKETABLE TONS
January	1,335	987
February	1,083	800
March	1,363	1008
April	1,295	957
May	1,174	868
June	1,324	979

July	1,246	893
August	1,261	904
September	1,219	880
October	1,169	844
November	1,124	812
December	1,313	981
TOTAL	14,906	10,913

Marketable tons collected is the measure of the material that is marketed and sold, and therefore does not include contamination. The average estimated percentage of contamination as reported by Waste Management for 2021 was 26.8%. The North Carolina Division of Environmental Assistance and Customer Service (DEACS) estimates the state contamination level is 20% for comparison.

On June 15, 2021, the Office of Sustainability released the request for proposals for the city’s next recycling contract. On July 29, the submittal deadline for proposals, the city had received two proposals from Waste Management of Carolinas, Inc. (WM) and Republic Services. After evaluations of each proposal, the city decided to move forward with negotiations with WM. By the end of 2021, the city and WM decided to pursue an agreement that allowed the city to collect curbside recycling in-house after one year but continue to process all material for five years.

2.2 Recycling Benefits

Every year, Waste Management provides an annual report that tracks the environmental benefits of their recycling services based on the tons of recyclables collected from residents. From the 10,913 tons of recyclables collected in 2021, the following resources were conserved:

- 94,000 mature trees saved
- 41,900 cubic yards of landfill airspace preserved
- 41,522,000 kwh of electricity saved, enough to power 3,475 homes annually
- 27,672 metric tons of CO₂ avoided
- 54,887,000 gallons of water saved

3. Food Resilience/Think Orange

In late summer 2021, the Think Orange campaign and related food access and resilience work moved to the Office of Sustainability. The work is overseen by the Food Resilience Program Manager, who also acts as the staff support for the City of Winston-Salem Urban Food Policy Council.

Part of this work is the Liberty Street Urban Farmer’s Market, which completed a successful second year in 2021. There was also increased staff involvement in the Kimberley Park hydroponics greenhouse project.

4. Sustainability Initiatives

4.1 ISAP

In November 2020, the Office of Sustainability completed an Internal Sustainability Action Plan to lay out the goals of the office through 2025. The goals and objectives are internally focused and cover topics including transportation, energy use, green space, and waste reduction. By implementing the goals from the plan, the municipal greenhouse gas emissions and energy use can be reduced by an estimated 15% when compared to 2008 levels. Table 4 in Appendix A shows the completed objectives, strategies, and actions of the plan with details as to how each was met.

It is also important to note that due to the pandemic, certain goals included in this plan may be affected or no longer be feasible strategies to implement due to changes in employee work habits. This is especially true for the goals in the Transportation goal area as the objectives and strategies relate to employee behavior in the workplace. Table 5 in Appendix A highlights those impacted goals.

4.2 Reporting and Disclosure Tools

The Office of Sustainability consistently utilizes online reporting tools to track sustainability metrics. The city reports data to CDP, formerly the Carbon Disclosure Project, since 2015. In 2020, CDP began a partnership with the American Council for an Energy-Efficient Economy (ACEEE) to assist in data collection for the ACEEE City Clean Energy Scorecard. The partnership was created to help standardize the data collection around how cities are advancing clean energy efforts. This scorecard compiles data from the 100 largest American metropolitan areas. While ACEEE uses the CDP online portal, scores are given separately from each reporting platforms.

4.2.1 CDP

The CDP reporting system is a global disclosure system that enables companies, cities, states, and regions to measure and manage their environmental impacts.

After reporting our data in 2021, the City of Winston-Salem earned a score of 'B' on a scale ranging from D- to A. Compared to the score from last year, there was an increase of a full letter, which was an anticipated increase after the progress made in 2020. Appendix B shows a graphic representation of the score.

4.2.2 ACEEE

As stated earlier, ACEEE began a partnership with CDP in 2020 for data collection and expanded the number of cities included in their scorecard from 75 to 100. With that expansion, the City of Winston-Salem became part of that report for the first time. The ACEEE City Clean Energy Scorecard measures progress of city policies and programs in areas including energy savings, renewable energy efforts, greenhouse gas emissions reductions, and water utility information, among others.

This was the second year of participation in this reporting process. The final rankings listed Winston-Salem at 87 out of 100 with a score of 9.5 out of a possible 100. The average score of

all one hundred cities included in the report is 30.075 points. The full list of rankings can be found in Appendix C.

4.3 CSPC

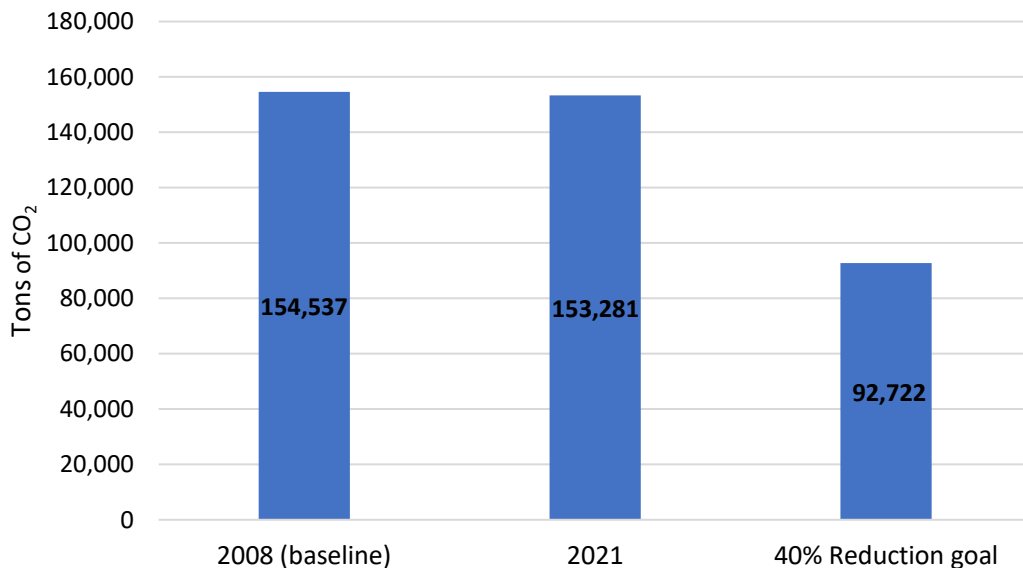
Due to the ongoing pandemic, Community Sustainability Program Committee (CSPC) meetings were moved to an online format in May 2020 and continued virtually through 2021.

Notable actions of the CSPC include completing the first Annual Report that was presented in September 2021 to City Council and creating a new ad-hoc subcommittee dedicated to clean energy and greenhouse gas emissions in October 2021.

4.4 Resolution #20-0499

In 2020, the CSPC assisted in getting City Council approval of Resolution #20-0499 Approving a Goal of 100% Clean Renewable Energy By 2050 and Creation of Green Jobs. This resolution also includes goals for 40% energy reduction by 2025, developing programs for energy savings in vulnerable communities and promotion of green job training and employment opportunities. Figure 2 demonstrates the progress made in reaching the 2025 reduction goal.

Figure 2. Emissions reductions progress



In order to see more progress, recommendations include continuing energy efficiency investments and implementation across city facilities, especially for lighting and HVAC systems.

One major development toward achieving both the renewable energy and energy reduction goals was the approval of \$255,000 for solar photovoltaic installations on city facilities through the Capital Improvement Plan process in 2021. The first disbursement of money is \$125,000 in 2022 for the first local government funded solar installation in the city.

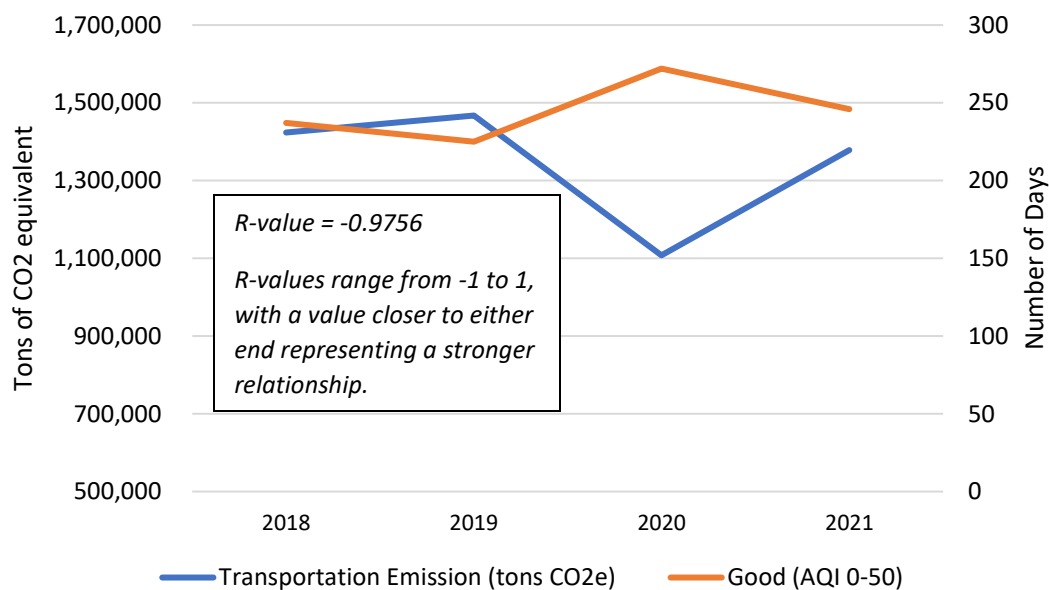
5. Greenhouse Gas Inventory

5.1 Community Wide

In 2021, staff completed an informal community level greenhouse gas inventory report to assess the source of emissions in the community based on 2020 data. This was the first inventory of this scale completed in the city. The results show that the transportation sector accounts for about 36% of all community emissions, followed by the electricity sector which accounts for about 30% of community emissions. There was also a very significant correlation found between the community transportation emissions levels and air quality levels, demonstrating the importance of driving habits on air quality.

Figure 3 shows the correlation between these variables, with the new 2021 data, that demonstrates the continued strong relationship. While the correlation coefficient, or r-value, after including the new data is less than it was in 2020, this is still a very significant correlation between these two independent data sets. The full report, entitled 'City of Winston-Salem Community Greenhouse Gas Emissions Inventory and Energy Report,' can be found on the city's website for more detail.

Figure 3. Transportation emissions and good air quality days relationship

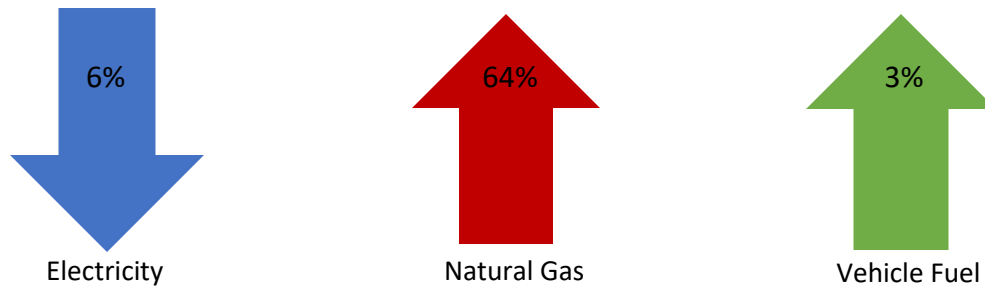


5.2 Local Government Operations

This year, Duke Energy made changes to the billing system, which has subsequently impacted accuracy of data provided for city energy usage. This note is made as it may make comparison to data from other years somewhat less reliable, though staff has worked to reduce any potentially significant discrepancies.

5.2.1 TOTAL CO₂ EMISSIONS

Emission trends from 2008 to 2021



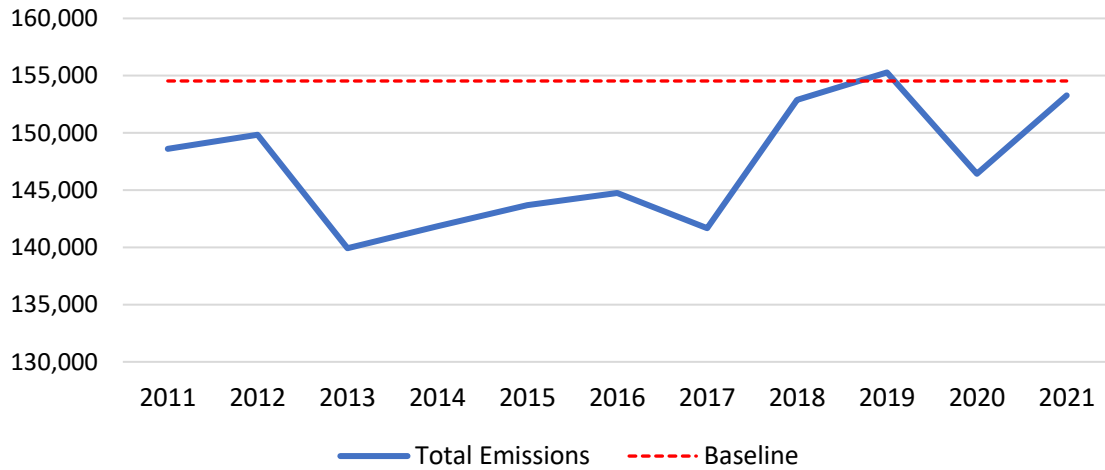
Total greenhouse gas emissions from 2021 have returned close to baseline levels after city facilities increased back to operations similar to those prior to the pandemic. Emissions from 2021 are 0.8% lower than the 2008 baseline year, but 4% higher than 2020. By source, electricity use has continued to be lower than the baseline year, with natural gas and vehicle fuel use being higher. The higher natural gas use can largely be contributed to increased consumption at the Muddy Creek and Elledge Wastewater treatment plants to fuel the new combined heat and power (CHP) generator and compensate for the BioSolids dryer biogas valve failure. It is expected that natural gas use will once again decrease next year. Table 3 and figure 4 shows the last decade of annual emissions data by sector compared to baseline year 2008.

To maintain consistency with previous reports, calculations assume 2.1 pounds of CO₂ emitted for each kWh consumed. The original 2008 GHG report used this multiplier per ICLEI recommendations. Duke Energy's published multiplier in 2005 was 1.29 lbs/kWh, which dropped to 0.96 lbs/kWh in 2017 as Duke Energy's generation replaced coal with natural gas. Duke Energy expects the multiplier in 2030 to be reduced to 0.71 lbs/kWh as natural gas continues to replace coal-fired generation. When comparing Winston-Salem's data to another city's data, then the same multipliers must be used by all cities.

Table 3. Emissions from city operations by sector

YEAR	ELECTRICITY	NATURAL GAS	VEHICLE FUEL	TOTAL EMISSIONS (tCO ₂)
2008	131,897	3,625	19,015	154,537
2011	121,291	6,800	20,507	148,598
2012	122,000	6,980	20,853	149,833
2013	114,786	6,065	19,075	139,926
2014	116,032	6,392	19,409	141,833
2015	118,902	5,775	19,010	143,687
2016	118,727	6,312	19,717	144,756
2017	114,911	6,969	19,800	141,680
2018	125,832	7,721	19,320	152,873
2019	127,604	7,626	20,052	155,282
2020	120,038	7,240	19,156	146,434
2021	123,555	10,127	19,599	153,281

Figure 4. Emissions trend compared to baseline



5.2.2 CO₂ PER SQUARE FOOT

Measuring emissions per square foot of a building is an important practice, as it demonstrates true efficiency of a building. Analyzing city operations, City/County Utilities and WSDOT contribute over 80% of total GHG emissions, however, most of these emissions are not tied to square footage. This is important to note because while the city has goals to reduce total emissions, factors where there is no relationship to square footage, account for most of the emissions even though they not under direct operational facility control, instead serving customer demand. Examples include water consumption/pumping, street lighting, and traffic signals. This section looks at facilities where energy use is related to square footage.

The average CO₂ per square foot for the city’s buildings is 29.4 lbs/square foot, an increase from 2020. Figure 5 shows the five year trend for select facilities. The Joycelyn V. Johnson Municipal Center only has four years’ worth of data as it was not city-owned prior to 2018.

Figure 5. Five-year facility trends of CO₂ per square foot

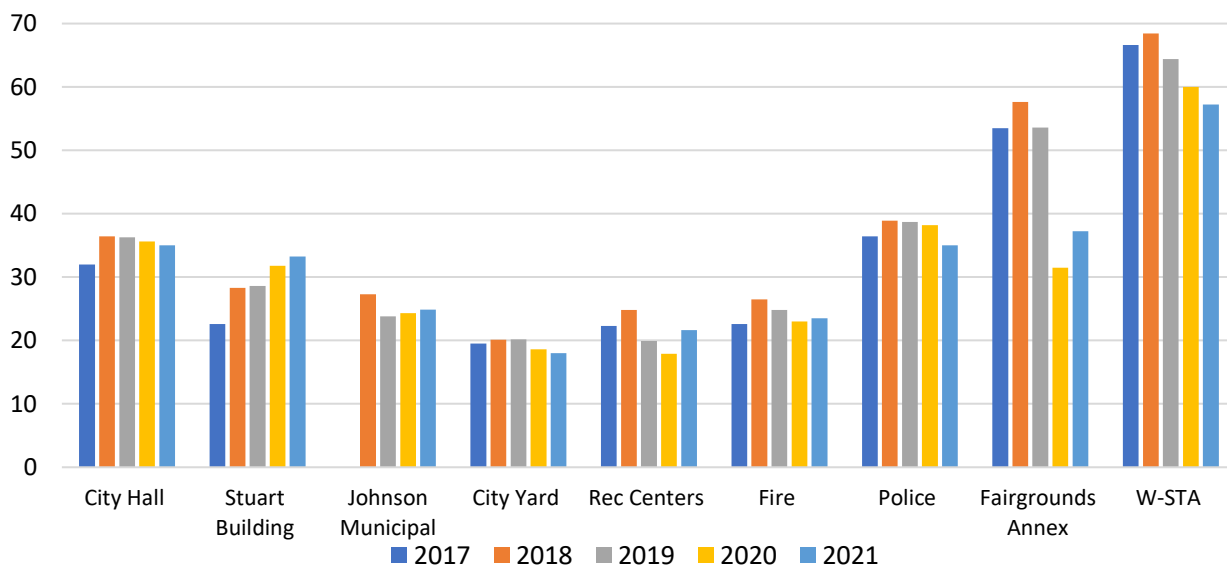
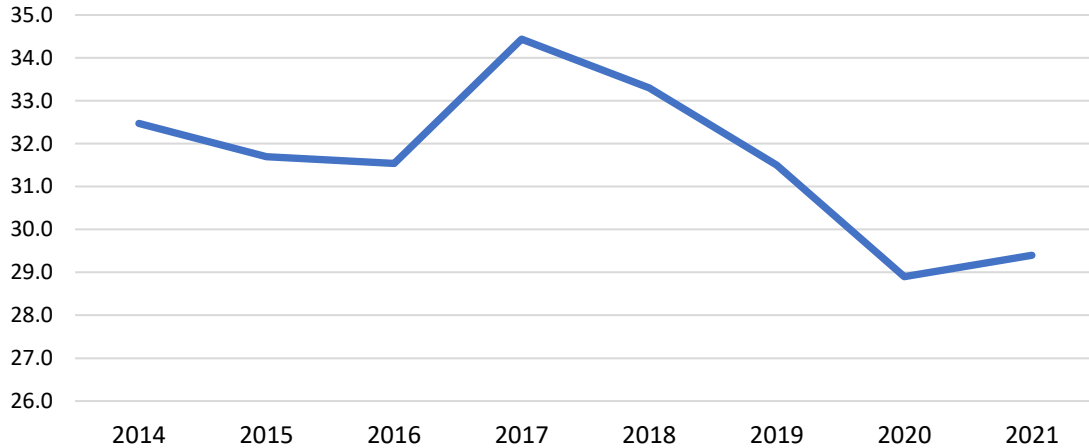


Figure 6 shows the trendline of the average efficiency of the buildings for which CO₂ per square foot is calculate. From 2014 through 2021, there has been an overall 9.5% decrease in the average across all facilities.

Figure 6. Average CO₂ per Square Foot Trendline

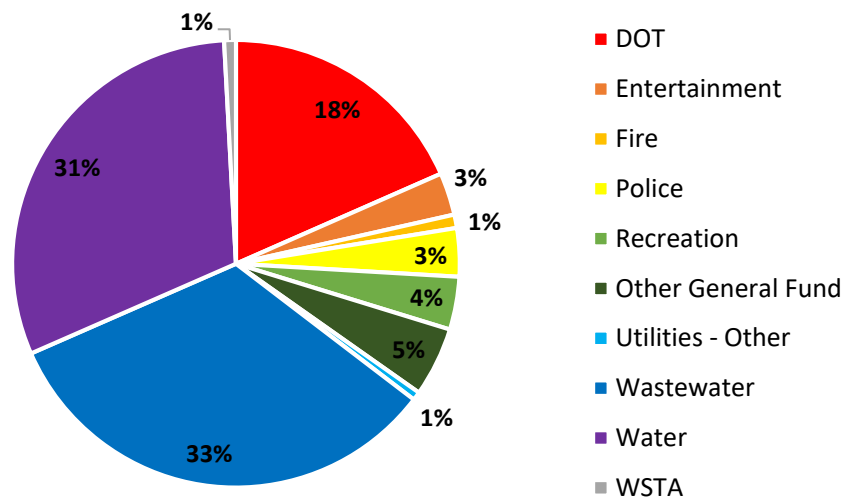


5.2.3 ELECTRIC ENERGY USE

Electricity use for city operations increased in 2021 by 3.3 million kilowatt hours (kWh) compared to 2020, which can be contributed to city operations steadily returning to more normal operations levels. This is equivalent to a 3% increase.

Figure 7 shows the breakdown of electric energy use by department. Police, fire, and WSTA departments all continued to see decreases in electric energy use, though the reliance on natural gas in all these facilities increased to meet the energy demand. However, because of this transition, emissions at these facilities continue to decrease or remain similar to 2020 emissions.

Figure 7. Electricity Use from city operations by department



5.2.4 LED UPGRADES

Staff continues to monitor the electricity use and cost impacts from LED lighting upgrades. Figure 8 shows the cost and energy consumption trends of street lights and figure 9 shows the trends for the city-owned parking decks. While electricity and overall emissions have increased this year, DOT streetlight and parking deck annual energy use continued to decrease. From 2020 to 2021, there was a 1.1% decrease in street light electricity use and a 1.8% decrease in parking electricity use. The cost decrease for the street lights was offset from new lighting on Salem Parkway and US 52 that became the city’s responsibility.

Figure 8. Street Light Energy & Cost

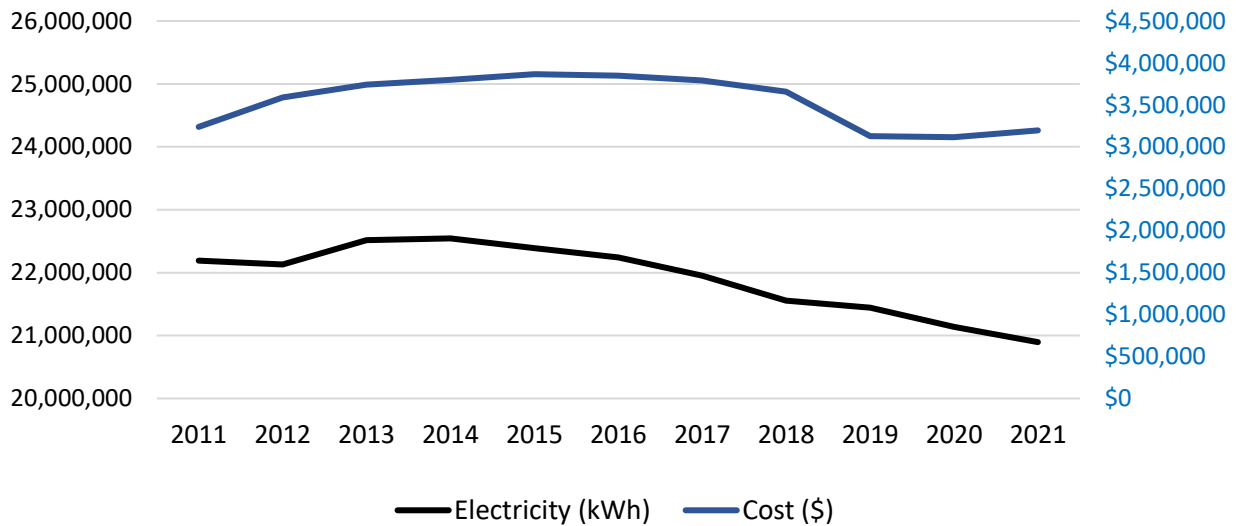
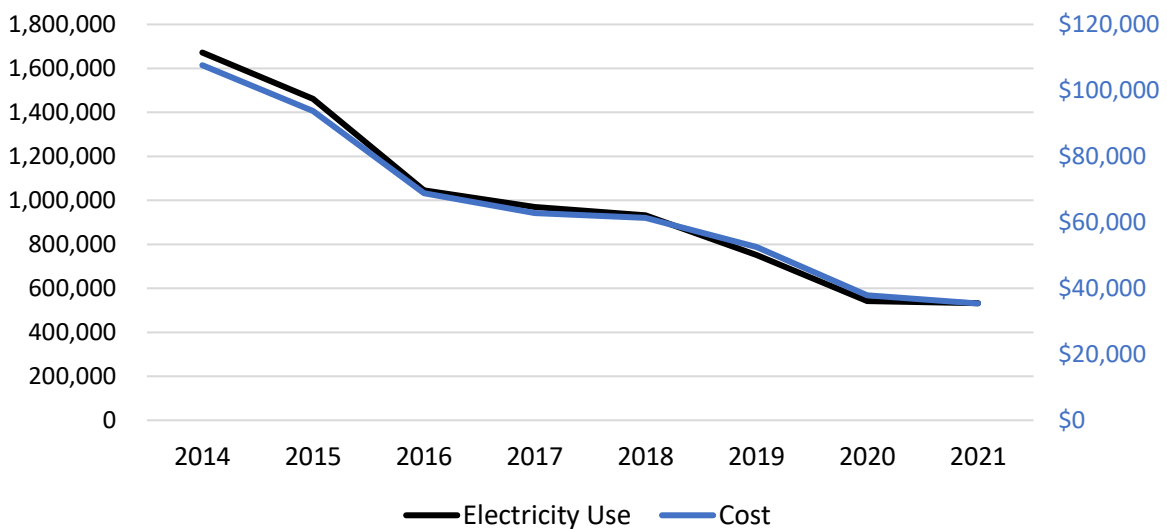
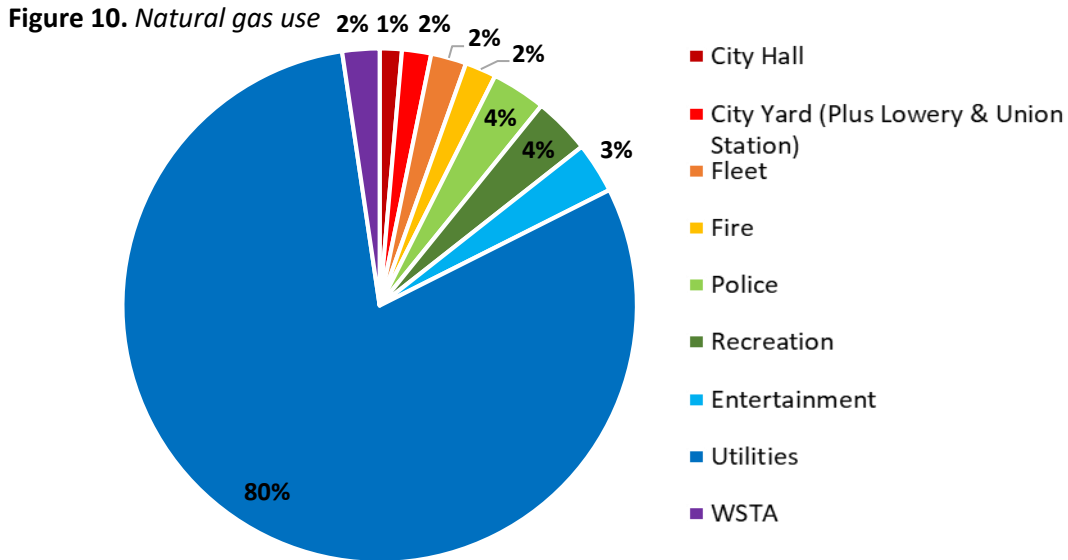


Figure 9. WS DOT Parking Trends



5.2.5 NATURAL GAS USE

The city’s total natural gas use, seen in figure 10, can be attributed largely to City/County Utilities operations through their wastewater treatment plant facilities. Because 80% of total natural gas use comes from that department, the use from Utilities and other uses will be discussed separately.



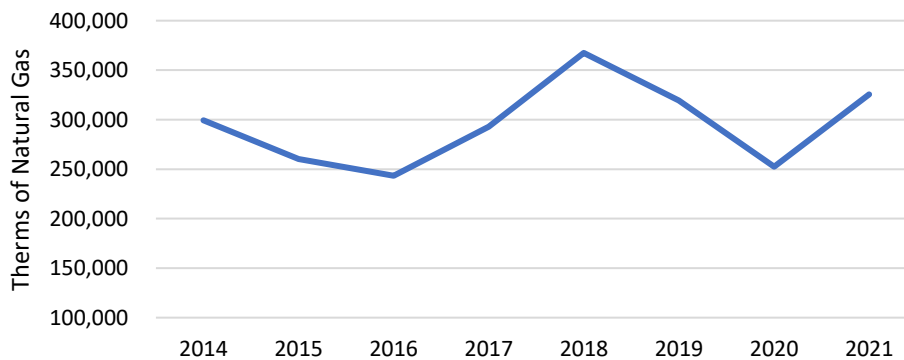
UTILITIES ANALYSIS

In 2021, the Muddy Creek Wastewater Treatment Plant’s combined heat and power (CHP) generator operated fully in 2021 and consumed over 400,000 therms of natural gas as a supplemental fuel. There was also a valve failure in the biosolids dryer that prevented full biogas utilization. This led to 16% more therms being used in 2021. Staff plans to consume less natural gas in 2022 at the CHP generator and BioSolids Dryer.

OTHER NATURAL GAS USAGE ANALYSIS

When looking at the natural gas used by non-Utilities departments and facilities, there was a 22.4% increase this year compared to 2020, and 1.8% more than in 2019. This trend shown in figure 11 shows a steady returning to regular operations pre-pandemic.

Figure 11. Non-utility natural gas use



5.2.5 DEGREE DAYS

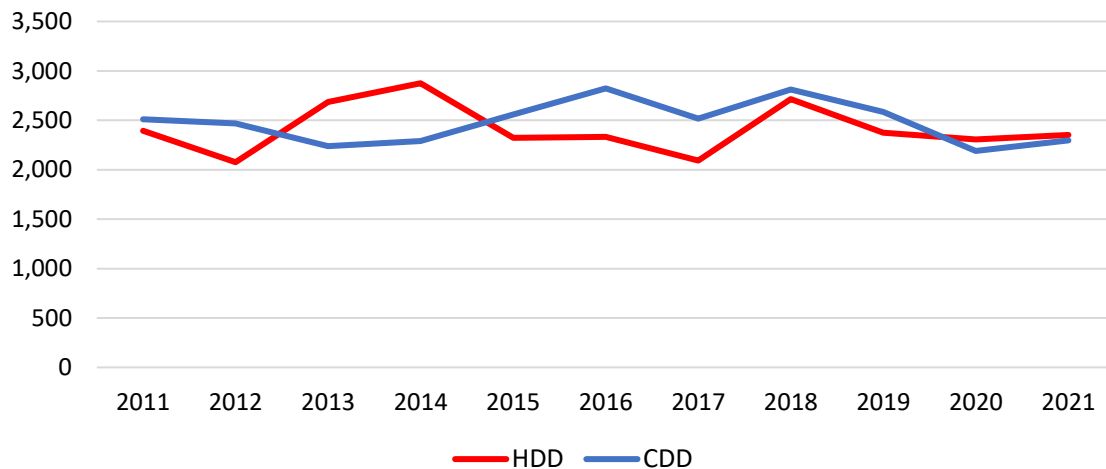
A tracking tool often used to evaluate the performance of new equipment or major upgrades to heating and cooling systems is known as degree-days. The two primary uses for degree-days in buildings are:

- To estimate energy consumption and carbon dioxide emissions due to space heating and cooling for new build and major renovations
- For ongoing energy monitoring and analysis of existing buildings based on historical data

Degree-days are the difference between a reference base temperature and the average temperature of the day. Below that base, energy is being generated for heating (a heating degree-day). Above a base temperature of 60 degrees, energy is generated for cooling (a cooling degree-day).

In 2021, heating and cooling degree days were higher than 2020, though remained below the historical averages of 2,458 for heating and 2,448 for cooling degree days. Because of this, it can be assumed that air conditioning and heating demands haven't returned fully to pre-pandemic operation levels.

Figure 12. Heating degree and cooling degree days



APPENDIX A

Table 4. *Internal Sustainability Action Plan updates*

DESCRIPTION OF GOAL		HOW GOAL WAS MET
ENERGY SYSTEMS		
OBJECTIVE	Explore renewable energy generation options	See below.
STRATEGY	Identify potential locations for solar panels on city facilities	Staff in the Office of Sustainability completed an analysis of possible sites based on criteria that included roof age, public visibility and whether the facility was on Duke Energy's time of use rate. This was presented to the Community Development/Housing/General Government Committee in December 2021.
ACTION 3	Invest in the installation of solar panels on city facilities	\$255,000 was awarded through the 2022-2027 Capital Improvement Plan.
GREEN SPACE		
OBJECTIVE	Carbon Sequestration	See below.
STRATEGY	Assess the state of the city's urban forest	Informal assessments have been performed utilizing tools include iTree and Tree Equity Score, showing at least 50% coverage of tree canopy in the city.
OBJECTIVE	Bee City USA	See below.
STRATEGY	Implement pollinator friendly practices in field operations	The Bee City USA liaison with the help of the Food Resilience Program Manager started the process of creating a Pesticide Management Plan for the vegetation management practices of the city.
ACTION 1	Increase the number of native pollinator plants utilized in landscape maintenance and flower beds annually	The Vegetation Management Division of Property and Facilities Management and Keep Winston-Salem Beautiful continue to meet this action. Vegetation Management has also increased the number of perennials. KWSB is utilizing at least eight natives in the flower bed program.
WASTE SYSTEMS		
OBJECTIVE	Recycling Market Awareness	See below.
STRATEGY	Staff will work on pursuing a new recycling services contract	Staff released an RFP for recycling services in June 2021 and received proposals back in July 2021. Staff identified Waste Management as the best option for the newest recycling services contract for five years of processing services and one year of collection services, with the city taking over collections by April 2023.

Table 5. *Internal Sustainability Action Plan updates related to COVID-19*

	DESCRIPTION OF GOAL	HOW GOAL IS IMPACTED BY COVID-19
TRANSPORTATION		
OBJECTIVE	Encourage employees to use transportation options beyond single occupancy motor vehicles	See below.
STRATEGY 1	Initiate a Transportation Demand Management program for city employees	During the pandemic, employees have been encouraged to work from home when possible. While this isn't meant to be a travel demand management strategy, it has greatly reduce the amount of employee trips, achieving the same goal.
STRATEGY 2	Collect and analyze data to track employee travel behavior	This strategy is also impacted by employees working from home. Accomplishing this strategy is more impactful when all employees are reporting to their offices as it would help inform any strategies to reduce vehicle miles traveled. However, currently we are still experiencing reduced travel volumes in 2021 which achieves the same goal, at least temporarily.

APPENDIX B

Figure 13. CDP Score

CDP SNAPSHOT REPORT 2021



City of Winston-Salem, NC

Your region North America
Country United States of America
Final score B

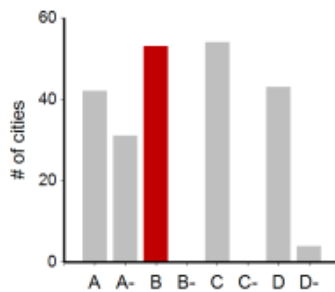
This snapshot report presents the score that City of Winston-Salem, NC received for its response to the Cities 2021 Questionnaire. CDP's scoring methodology has been developed to incentivize and better enable cities to measure and manage their environmental risks, impacts, and action. This report acts as a tool for gaining an overview of environmental performance and how the city's response can be improved in the future. Responses are scored using the [2021 CDP Cities Scoring Methodology](#). Scores are private to cities, although CDP will recognize and reward the highest scoring cities.

YOUR CDP FINAL SCORE



[Click here](#) for a detailed explanation of your score, along with recommendations and resources for cities who receive a Management band score

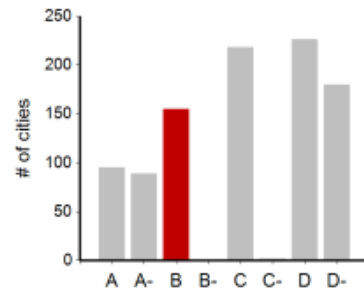
REGIONAL DISTRIBUTION



The bar chart above shows the count of scores achieved by cities in your region.

The score for City of Winston-Salem, NC is shown in red.

GLOBAL DISTRIBUTION



The bar chart above shows the count of scores achieved by cities globally.

The score for City of Winston-Salem, NC is shown in red.

APPENDIX C

The following table is the results of the 2021 ACEEE Cities Clean Energy Scorecard Report. The North Carolina cities are highlighted in green and Winston-Salem is highlighted in yellow.

Table 6. ACEEE Cities Clean Energy Scorecard rankings

Rank	City	State	Community-wide Initiatives (15 pts)	Buildings Policies (30 pts)	Transportation policies (30 pts)	Energy and water utilities (15 pts)	Local gov't operations (10 pts)	Total
1	San Francisco	CA	7	21	25	13.5	7.5	74
2	Seattle	WA	12	23	19.5	11	6.5	72
3	Washington, D.C.	DC	9.5	19	24	13.5	5.5	71.5
4	Minneapolis	MN	8.5	22	19.5	13.5	6.5	70
5	Boston	MA	5.5	19	22.5	15	7.5	69.5
6	New York	NY	6	24	22	12.5	5	69.5
7	Denver	CO	9.5	26.5	16	13	4	69
8	Los Angeles	CA	9	19.5	18.5	13.5	6.5	67
9	San Jose	CA	10	19.5	17.5	14	2.5	63.5
10	Oakland	CA	6.5	15.5	20.5	13.5	6.5	62.5
11	Portland	OR	7.5	13.5	19.5	11.5	7.5	59.5
12	Chicago	IL	5.5	20	16	13.5	2.5	57.5
13	Philadelphia	PA	8	16	17	9	5	55
14	Austin	TX	8.5	19	12.5	8.5	6	54.5
15	Atlanta	GA	4.5	13.5	18	8	4	48
16	San Diego	CA	5	12.5	13	12.5	4.5	47.5
17	Chula Vista	CA	4	18.5	7.5	12.5	4.5	47
18	Hartford	CT	4.5	12	12.5	12	5	46
19	Sacramento	CA	4	12	15	10.5	4.5	46
20	Saint Paul	MN	5.5	10.5	13	13	3.5	45.5
21	Pittsburgh	PA	7.5	10.5	16	7	4	45
22	Orlando	FL	7	12	11.5	6	7.5	44
22	Phoenix	AZ	7	10.5	13	9	4.5	44
24	Honolulu	HI	4.5	9.5	14.5	9	4	41.5
24	Baltimore	MD	5.5	8.5	15	9.5	3	41.5
26	Providence	RI	4	4.5	13	13	6.5	41
27	Long Beach	CA	2.5	14	13	7	4	40.5
28	Columbus	OH	5	10.5	11.5	10.5	2.5	40
28	St. Louis	MO	4.5	19	8	6.5	2	40
30	Aurora	CO	3	17.5	6.5	11.5	0	38.5
31	Albuquerque	NM	2.5	8.5	12.5	9.5	5	38
31	Las Vegas	NV	5.5	10.5	11	5	6	38
31	Grand Rapids	MI	2	9	10.5	12.5	4	38

34	Houston	TX	5	8.5	11	7.5	4.5	36.5
34	Salt Lake City	UT	4	7.5	11.5	9.5	4	36.5
36	Kansas City	MO	3.5	9	12.5	6.5	4.5	36
37	San Antonio	TX	6	10.5	8	5.5	5.5	35.5
38	Cleveland	OH	4	6	11.5	8.5	4	34
39	Madison	WI	1	7	11.5	9	5	33.5
40	Riverside	CA	3	11	7	9.5	2.5	33
41	Boise	ID	3	8.5	7.5	7.5	4.5	31
42	Charlotte	NC	3.5	6	10	7	3.5	30
43	Knoxville	TN	4.5	5.5	8	7	4	29
43	Dallas	TX	3.5	9	8.5	4	4	29
43	Cincinnati	OH	4	9	7	6	3	29
46	Nashville	TN	2.5	7.5	8.5	6	4	28.5
47	Fresno	CA	0	12	4	9.5	1.5	27
47	Richmond	VA	4.5	6.5	11	3.5	1.5	27
49	Miami	FL	4.5	7	10.5	3	1	26
49	Springfield	MA	2.5	8	6	9.5	0	26
51	St. Petersburg	FL	4.5	6.5	7	3	4.5	25.5
51	Rochester	NY	0	9	8	6.5	2	25.5
53	Buffalo	NY	1	6.5	7.5	8	2	25
53	Milwaukee	WI	4	6	7.5	7	0.5	25
55	Worcester	MA	0.5	7	4.5	9.5	3	24.5
55	New Haven	CT	3.5	5	5.5	7.5	3	24.5
57	Bakersfield	CA	0	10	2	9.5	2.5	24
58	Colorado Springs	CO	1.5	17.5	2	2	0.5	23.5
59	Louisville	KY	3.5	6	9	4	0.5	23
60	Memphis	TN	3	5.5	7.5	5.5	1	22.5
61	Reno	NV	2	13.5	5.5	0.5	0.5	22
61	Detroit	MI	1	5.5	7.5	6.5	1.5	22
61	Oxnard	CA	0.5	9	3.5	9	0	22
64	Indianapolis	IN	4	1.5	6.5	7	2.5	21.5
64	Raleigh	NC	2.5	4	6.5	6	2.5	21.5
66	Des Moines	IA	4	8.5	3	5.5	0	21
67	Stockton	CA	0	8	4	8.5	0	20.5
67	New Orleans	LA	4.5	4	7.5	3.5	1	20.5
69	Mesa	AZ	0.5	6	5	5	2	18.5
69	Bridgeport	CT	1	4	6	5.5	2	18.5
71	Tucson	AZ	0.5	7.5	5.5	2	2	17.5
71	Fort Worth	TX	0.5	5.5	6.5	4.5	0.5	17.5
73	Newark	NJ	0.5	6.5	5	3.5	0.5	16
74	Syracuse	NY	0	4	4.5	6.5	0.5	15.5

75	Virginia Beach	VA	1	5.5	3	2.5	3	15
76	Dayton	OH	1.5	3.5	4.5	5	0	14.5
77	El Paso	TX	0.5	4	3	5	1.5	14
77	Toledo	OH	1	4	4	5	0	14
79	Charleston	SC	2	2	5	2	2	13
80	Jacksonville	FL	1	3	6	2	0.5	12.5
81	Tampa	FL	1.5	3.5	4.5	2	0	11.5
82	Henderson	NV	0	7.5	2.5	1	0	11
82	Tulsa	OK	0.5	0.5	3.5	5.5	1	11
84	Oklahoma City	OK	0	0.5	7	2.5	0.5	10.5
84	Akron	OH	1	3	3	3.5	0	10.5
86	Birmingham	AL	0.5	3	4.5	0.5	1.5	10
87	Winston-Salem	NC	0	0.5	3	5	1	9.5
88	Allentown	PA	0	3.5	2	3.5	0	9
89	Omaha	NE	0.5	1	6.5	0	0	8
90	Columbia	SC	1.5	1	2.5	2.5	0	7.5
90	Greensboro	NC	0	2	3	2	0.5	7.5
90	Lakeland	FL	0.5	3	3.5	0.5	0	7.5
93	San Juan	PR	0	6	1	0	0	7
94	Little Rock	AR	0.5	0.5	2.5	2.5	0	6
95	Augusta	GA	0	1.5	1.5	2.5	0	5.5
95	Provo	UT	1	1.5	2	1	0	5.5
97	McAllen	TX	0	3.5	0.5	1	0	5
98	Cape Coral	FL	0	2.5	1	0.5	0.5	4.5
99	Wichita	KS	0	0	1	1.5	1.5	4
100	Baton Rouge	LA	0	1	1.5	1	0	3.5