NORTH CAROLINA LOCAL GOVERNMENT
PERFORMANCE MEASUREMENT PROJECT

Final Report on City Services for Fiscal Year 2010–2011

PERFORMANCE AND COST DATA

FEBRUARY 2012

COSPONSORED BY:

THE CITIES OF APEX, ASHEVILLE, BURLINGTON, CARY, CHARLOTTE, CONCORD, GREENSBORO, GREENVILLE, HICKORY, HIGH POINT, SALISBURY, WILMINGTON, WILSON, AND WINSTON-SALEM

SCHOOL OF GOVERNMENT

NORTH CAROLINA LOCAL GOVERNMENT BUDGET ASSOCIATION

UNC SCHOOL OF GOVERNMENT

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PREFACE

North Carolina municipalities are continually looking for ways to improve the efficiency and effectiveness of service delivery. As part of this effort, a group of municipalities joined together with the School of Government and the North Carolina Local Government Budget Association to create an ongoing project to compare performance and cost data for selected governmental services. This joint undertaking is known as the North Carolina Local Government Performance Measurement Project or, more commonly, as the North Carolina Benchmarking Project. This report presents performance and cost data for the fiscal year ended June 30, 2011, for the fourteen North Carolina municipalities participating in the benchmarking project—Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem. Fifteen previous reports have been published regarding municipal services and are available through the Publications Sales Office of the School of Government.

The benchmarking project is a collaborative effort. Officials from the participating local governments have made vital contributions to the success of the benchmarking project, including budget and finance staff, program and service staff, and city and town managers. Special thanks are owed to the members of the steering committee who provide the necessary leadership demanded by such a project: Ann G. Jones (chair), Budget and Evaluation Director of Winston-Salem; Suzanne Parmentier, Accounting and Budget Analyst of Apex; Tony McDowell, Budget Manager, and John Sanchez, Budget Analyst, of Asheville; Aaron Noble, Human Resources Director of Burlington; Scott Fogleman, Budget Director, Kathy Lleras, Budget Analyst, and Josh Edwards, Budget Analyst, of Cary; Toni Gortney, Budget and Evaluation Analyst, and Melia Gordon, Budget and Evaluation Analyst, of Charlotte; Robin Barham, Budget and Performance Manager, and Lesley Reder, Management Analyst, of Concord; Jon Decker, Budget Analyst of Greensboro; Katie Lumb, Financial Analyst of Greenville; Karen Hurley, Budget Analyst of Hickory; Louanne C. Hedrick, Budget Manager of High Point; Evans C. Ballard, Budget and Benchmarking Analyst of Salisbury; Kathy Mann, Senior Budget Analyst of Wilmington; Susan Rhodes, Senior Budget Analyst of Wilson; and Ben Rowe, Deputy Budget and Evaluation Director of Winston-Salem.

The benchmarking project receives contributions from other individuals who strongly support benchmarking and performance measurement. William C. Rivenbark, David N. Ammons, and A. John Vogt, faculty members with the School of Government, serve as project advisors. Special thanks go to Michael R. Smith, dean of the School of Government, and Thomas H. Thornburg, senior associate dean of the School of Government, for their leadership and support of the benchmarking project. The author wishes to acknowledge other School of Government staff who have contributed many hours to the benchmarking project, including Melissa Twomey and Dan Soileau in the Publications Division and Erik Osborne who worked on this report as a research assistant.

Dale J. Roenigk
February 2012

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INTRODUCTION

Can local governments measure their performance and cost in a meaningful way? Can performance measures in one local government be legitimately compared to the performance of another? In the fall of 1995, fourteen large municipalities and counties in North Carolina agreed to participate in a collaborative project to answer these and other questions relating to benchmarking. Seven of the jurisdictions were municipalities, forming Phase I of what is now known as the North Carolina Local Government Performance Measurement Project or, more commonly, the North Carolina Benchmarking Project. The other seven jurisdictions were counties, constituting Phase II of the benchmarking project. A third phase of the benchmarking project began in January of 1997, consisting of fourteen municipal and county, small and medium size North Carolina jurisdictions. These phases represented the pilot stage of the benchmarking project.

Since that beginning, the benchmarking project has proceeded with an ongoing agreement to collect, clean, and report comparative performance and cost data from the participating municipalities. Listed below are the fourteen municipalities that are included in this report:

- Apex
- Asheville
- Burlington
- Cary
- Charlotte
- Concord
- Greensboro
- Greenville
- Hickory
- High Point
- Salisbury
- Wilmington
- Wilson
- Winston-Salem

This report is the result of a joint undertaking of the participating municipalities, the School of Government, and the North Carolina Local Government Budget Association. The North Carolina League of Municipalities and the Local Government Commission also have contributed to the development of this report. The goals of the benchmarking project are

1. To develop/expand the use of performance measurement in local government.
2. To produce reliable performance and cost data for comparison.
3. To facilitate the use of performance and cost data for service improvement.

SERVICES

This report presents performance and cost data and accompanying explanatory information for the following service areas:

- Residential refuse collection
- Household recycling
- Yard waste/leaf collection
- Police services
- Emergency communications
- Asphalt maintenance and repair
- Fire services
- Building inspections
- Fleet maintenance
- Central human resources
- Water services

The participating units did not agree to continue the benchmarking project to endure the challenges of data collection and "data cleaning" simply to produce a report. They continue with the belief that performance measurement and benchmarking are catalysts to service improvement. No jurisdiction can be the best in every service that it provides, highlighting the notion that even outstanding performers can learn from the practices of others. Performance measurement and benchmarking are about tracking performance and cost data and making changes based on both internal and external comparisons over time.

This report is the sixteenth publication representing municipal services. The previous fifteen reports are listed below along with their publication dates:

- *Performance and Cost Data: Phase I City Services* (October 1997)
- *Performance and Cost Data: Phase III City Services* (March 1999)
- *Final Report on City Services for Fiscal Year 1997–98* (March 1999)
- *Final Report on City Services for Fiscal Year 1998–99* (February 2000)
- *Final Report on City Services for Fiscal Year 1999–2000* (February 2001)
- *Final Report on City Services for Fiscal Year 2000–2001* (February 2002)
- *Final Report on City Services for Fiscal Year 2001–2002* (February 2003)
- *Final Report on City Services for Fiscal Year 2002–2003* (February 2004)
- *Final Report on City Services for Fiscal Year 2003–2004* (February 2005)
- *Final Report on City Services for Fiscal Year 2004–2005* (February 2006)
- *Final Report on City Services for Fiscal Year 2005–2006* (February 2007)
- *Final Report on City Services for Fiscal Year 2006–2007* (February 2008)
- *Final Report on City Services for Fiscal Year 2007–2008* (February 2009)
- *Final Report on City Services for Fiscal Year 2008–2009* (February 2010)
- *Final Report on City Services for Fiscal Year 2009–2010* (February 2011)

REPORTING FORMAT

This is primarily a data report. It incorporates graphs, summary tables, and explanatory information to present the performance and cost results for each service area under study. The results of each service area by municipality are displayed with a standard, two-page format. The following information is contained in this report:

1. **Resource Measures**. These measures gauge the amount of resources or inputs municipalities allocate for the provision of a given service.
2. **Performance Measures**. Three types of performance measures are used and reported—workload, efficiency, and effectiveness. A municipality's performance is compared to the performance average, noting that the average is based on services with numerous variations and should be viewed with caution. The measures used in this report do not assess total service performance. They gauge certain service dimensions and should be approached with an understanding of the service being provided.
3. **Municipal Profile**. This includes a limited number of characteristics of each municipality, such as population density and median family income, which may affect service performance and cost. Some of the general characteristics, such as population, appear in the municipal profiles for all of the service areas. Others, such as weather and tax base served, appear in only selected profiles.
4. **Full Cost Profile**. A cost accounting model is used to calculate full or total cost of providing each service area under study. Although the cost data were collected in detail, using a collection instrument with more than seventy specific line items, the reporting format aggregates the detailed cost data into three general categories for the purpose of presentation: personal services for the direct expenses of salaries, wages, and related fringe benefits; operating costs that include direct operating expenses and indirect cost allocations; and capital costs that represent depreciation for equipment and facilities.
5. **Service Profile**. This area provides input and output data and identifies important dimensions of service delivery.
6. **Explanatory Information**. This segment of the report describes how the service is provided and identifies conditions or dimensions that affect performance and cost data of service delivery.

SUMMARY OF OVERALL RESULTS

What the project has achieved

1. The project's methodology, consisting of service profiles, performance measures, cost accounting, and explanation of results, works extremely well for data consistency and comparability. The project's accounting model is especially effective in producing reliable and materially accurate cost data.
2. The performance data have been used in numerous jurisdictions for service improvement, especially in the areas of residential refuse collection, household recycling, police services, and fleet services.

3. The project's success is directly correlated with consensus about service definitions and measurement formulas, involving numerous local government officials from the participating units.

What we have learned

1. Local governments can produce accurate, reliable, and comparable performance and cost data, which can be used for service improvement.
2. Specific service definitions are vital to performance measurement, including explanatory information.
3. Data availability and quality are very important to performance measurement.
4. Performance measurement and cost accounting are time consuming. However, performance measures provide valuable feedback when the goal is quality services at reasonable cost.

READING THE REPORT

This report presents the performance and cost data for the fourteen North Carolina municipalities participating in the benchmarking project for the fiscal year ending June 30, 2011. It also presents multiyear data for participants based on the number of fiscal years that each municipality has participated in the benchmarking project. The following table provides the five fiscal years of performance measures by final report contained within and the corresponding municipalities by fiscal year of participation.

Final Report	Jurisdictions
Final Report on City Services for Fiscal Year 2006–2007	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2007–2008	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2008–2009	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Greenville, Hickory, High Point, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2009–2010	Asheville, Burlington, Cary, Charlotte, Concord, Durham, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2010–2011	Apex, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem

The municipal profile, full cost profile, service profile, and explanatory information for each municipality are based solely on performance and cost data for the fiscal year ending June 30, 2011. Readers should be extremely careful when interpreting the performance and cost data for municipalities with multiyear data. Municipal profiles, full cost profiles, service profiles, and explanatory information that

support performance measures for the fiscal years ending June 30, 2007, through June 30, 2010, are located in prior year performance and cost data reports and can be obtained from the School of Government.

The benchmarking project considers new service areas and service changes on an annual basis under the guidance of the steering committee. Asphalt Maintenance and Repair represented a new service area for the fiscal year ending June 30, 2000. This service was previously reported as Street Pavement Maintenance. Police Services represented a new service area for the fiscal year ending June 30, 2001. This service was presented as Police Patrol and Police Investigations in prior reports. Fleet Maintenance represented a new service area for the fiscal year ending June 30, 2002. Central Human Resources represented a new service area for the fiscal year ending June 30, 2004. Finally, Water Services represented a new service area added in the fiscal year ending June 30, 2007.

Municipalities do not participate in every service area for a variety of reasons. Certain ones do not participate in Emergency Communications and Building Inspections because those services are often county functions. In some cases a municipality may not participate due to organizational structures or other issues. The following table provides the jurisdictions participating in each service area contained in this report.

Service Area	Jurisdictions
Residential Refuse Collection	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Household Recycling	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Yard Waste/Leaf Collection	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Police Services	Apex, Asheville, Burlington, Cary, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Emergency Communications	Apex, Asheville, Burlington, Cary, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, and Winston-Salem
Asphalt Maintenance and Repair	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Fire Services	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Building Inspections	Apex, Asheville, Burlington, Cary, Greensboro, Greenville, High Point, Wilson, and Winston-Salem
Fleet Maintenance	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem
Human Resources	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem

Service Area	Jurisdictions
Water Services	Apex, Asheville, Burlington, Cary, Charlotte, Concord, Greensboro, Hickory, High Point, Salisbury, Wilson, and Winston-Salem

It also should be noted that not all municipalities submit performance and cost data for each performance measure contained within the respective service area. Therefore, data are missing for selected performance measures regardless of service participation.

Performance and Cost Data

RESIDENTIAL REFUSE COLLECTION

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PERFORMANCE MEASURES FOR RESIDENTIAL REFUSE COLLECTION

SERVICE DEFINITION

This is regularly scheduled collection of household refuse or "garbage" from residential premises and other locations, including small businesses, using containers small enough that residents and/or workers can move or lift them manually. The service excludes collection of waste from dumpsters; regular or special collection of yard waste and leaves; collection of recyclable materials, white goods, or other bulky items; and any special or non-routine service provided to residences. Transportation of refuse to a landfill or a transfer station is included, but the disposal of refuse and tipping costs are excluded.

NOTES ON PERFORMANCE MEASURES

1. Tons of (Residential) Refuse Collected per 1,000 Population and per 1,000 (Residential) Collection Points

"Tons of refuse collected" is widely used as a measure of workload for this service. A collection point or pickup point is a single locale (active address) from which residential refuse is collected; it can be a single-family residence, a condominium, an apartment, or a small business that uses containers that residents or sanitation workers can move or lift. Pickup points directly generate collection work, so this measure provides a good assessment of workload. "Tons of refuse collected per 1,000 population" and "per 1,000 collection points" also serve as measures of need for this service. Because of citizen expectations and public health requirements, sanitation crews or contractors must pick up all or virtually all household refuse that residents put out for collection.

2. Cost per Ton of Residential Refuse Collected and per Residential Collection Point

These are the project's principal measures of efficiency for this service. Because of differences in numbers of people per household and the percentage of the municipal population served by curbside collection, the comparisons for these two efficiency measures can vary.

3. Full-Time Equivalent (FTE) Positions

The number of full-time equivalent (FTE) positions for residential refuse collection is the number of employees directly involved in providing the service as approved in the annual operating budget during the fiscal year. This number includes both full-time and part-time workers and both permanent and temporary workers. One FTE equates to 2,080 hours of work per year. Any combination of employees providing 2,080 hours of work annually equals one FTE. Cost data reflect all such workers. The measure "tons collected per collection FTE," however, includes only those workers who actually collect refuse and not supervisory or support personnel.

4. Number of Complaints and Number of Valid Complaints

All of the participating units take calls about residential refuse collection, and nearly all maintain records of one kind or another about such calls. However, the municipalities follow very different procedures in processing and recording these calls and determining which ones are complaints and which are not. For these reasons, the project is able to present limited comparative data about complaints or valid complaints for residential refuse collection or other solid waste services. Nonetheless, the project recommends that the participating municipalities devise common criteria for identifying complaints and procedures for processing and recording calls.

Residential Refuse Collection

Summary of Key Dimensions of Service

City or Town	Normal Collection Location	Collection Points	Tons Collected	Weekly Routes	Percentage Contracted Service	Crew Size (most commonly used)	City FTE Collection Positions	Main Equipment		Landfill/Transfer	
								Packers	Automated	Trips per Day	Distance
Apex	Curbside	11,432	11,580	13	100%	Contracted	NA	NA	NA	1	5 miles
Asheville	Curbside	29,150	23,734	33	0%	1 & 3 person	13.5	1	7	2	6 miles
Burlington	Curbside	17,854	13,285	27	0%	1 & 2 person	8.9	1	5	2	17 miles
Cary	Curbside	43,637	30,562	48	0%	1 & 4 person	29	2	10	1	20 miles
Charlotte	Curbside	211,613	172,111	310	0%	1 & 2 person	77	7	55	1.35	13 miles
Concord	Curbside	27,676	23,757	38	100%	Contracted	1.9	contractor 8	NA	2	8 miles
Greensboro	Curbside	80,251	55,698	86	0%	1 & 2 person	26.17	3	23	1.75	8 miles
Greenville	Curbside and backyard	17,431	28,287	32	0%	3 person	27	8	0	2	6 miles
Hickory	Curbside	12,100	9,306	15	0%	1 & 2 person	4.25	2	3	2	5 miles
High Point	Curbside	35,544	25,490	38	0%	1 & 3 person	26	1.5	8	2	8 miles
Salisbury	Curbside	10,817	9,320	15	0%	1 & 2 person	10	7	0	1	4 miles
Wilmington	Curbside	28,371	28,834	36	0%	2 & 3 person	34	13	0	2	10 miles
Wilson	Curbside	17,900	18,545	17	0%	1 & 3 person	11	2	5	2	10 miles
Winston-Salem	Curbside	76,064	50,269	128	0%	3 person	96	29	3	1	10 miles

NOTES

All of the municipalities currently collect residential refuse once per week.
All of the municipalities have special provisions for collecting from the back or side yards of individuals with disabilities or mobility restrictions.

EXPLANATORY FACTORS

These are factors that the project found to affect residential refuse collection performance and cost in one or more of the municipalities:

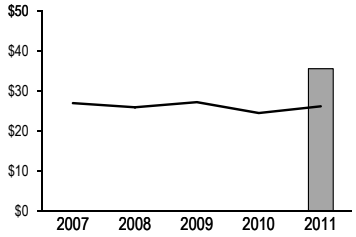
Backyard or curbside collection
Routing
Climate
Topographic conditions
Population density
Size of crews
Type of equipment used (automated)
Privatization
Participation in recycling program
Economies of scale
Distance to landfill/transfer station
Fee policies (volume-based or other)

Apex — Residential Refuse Collection

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

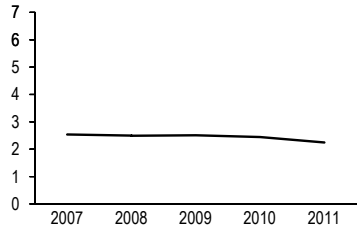
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Apex					$35.57
Average	$26.97	$25.94	$27.21	$24.50	$26.19

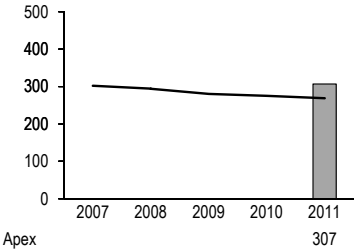
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					
Average	2.54	2.49	2.51	2.45	2.25

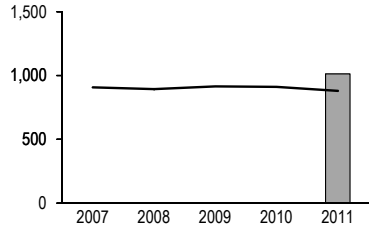
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Apex					307
Average	302	294	280	275	269

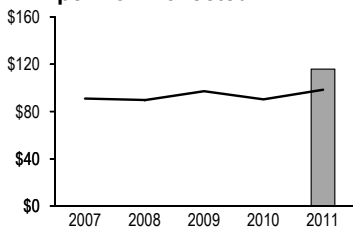
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Apex					1013
Average	907	893	915	911	880

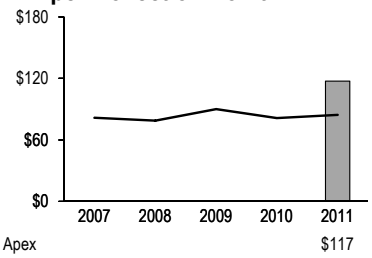
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



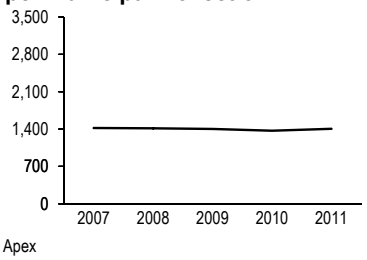
	2007	2008	2009	2010	2011
Apex					$116
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Apex					$117
Average	$82	$79	$90	$81	$84

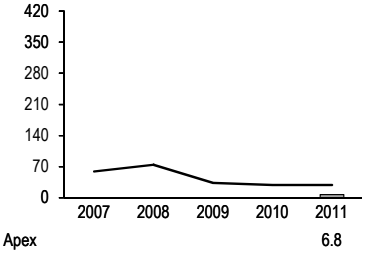
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Apex					
Average	1,418	1,414	1,403	1,368	1,406

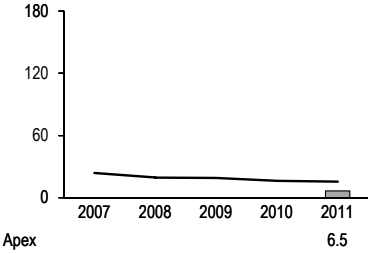
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Apex					6.8
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Apex					6.5
Average	23.8	19.4	19.0	16.2	15.5

Apex

MUNICIPAL PROFILE

Population (OSBM 2010)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$97,201

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	1,342,610
Capital Costs	$	-
TOTAL	$	1,342,610

SERVICE PROFILE

FTE Positions—Collection	Contractor
FTE Positions—Other	Contractor
Tons Collected	11,580
Residential Customers (number represents collection points)	11,432
Collection Location (backyard for fee and disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	NA
Percentage of Service Contracted	100%
Service Fee	No
Type of Equipment	Contractor

EXPLANATORY INFORMATION

Service Level and Delivery
Apex contracts with Waste Industries for refuse collection, disposal, and recycling. Only the refuse collection is reflected on this page.

Residents pay $9.35 per month for collection. Refuse is collected once a week curbside, although backyard collection is provided for disabled customers at no additional charge.Residents receiving service are provided with one ninety-six-gallon container.

The contractor collects five days a week from different routes, with an average of 2.5 routes served per day. Trash is trucked to the landfill, which is approximately 4.5 miles away.

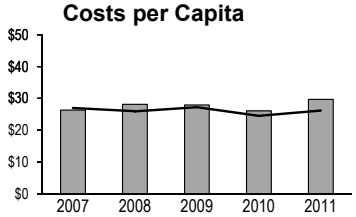
The contractor collected 11,580 tons of residential refuse during FY 2010–11, at a cost of $116 per ton. The cost per ton does not include the disposal cost per ton of $41.36 at the landfill.

Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

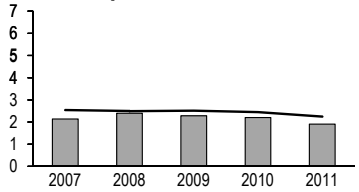
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Asheville	$26.34	$28.13	$27.93	$26.08	$29.67
Average	$26.97	$25.94	$27.21	$24.50	$26.19

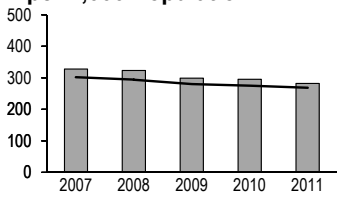
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	2.14	2.40	2.28	2.20	1.91
Average	2.54	2.49	2.51	2.45	2.25

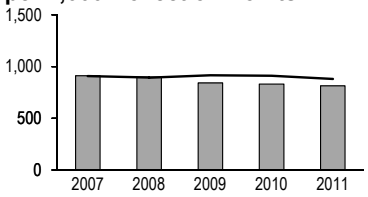
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	327.79	324	299	296	283
Average	302	294	280	275	269

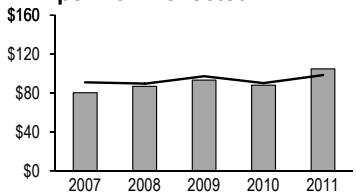
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Asheville	911	899	842	831	814
Average	907	893	915	911	880

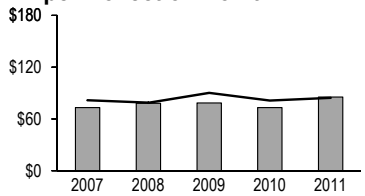
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



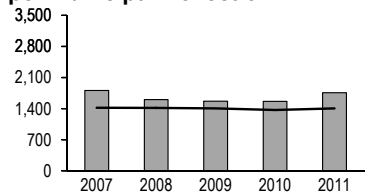
	2007	2008	2009	2010	2011
Asheville	$80	$87	$93	$88	$105
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Asheville	$73	$78	$79	$73	$85
Average	$82	$79	$90	$81	$84

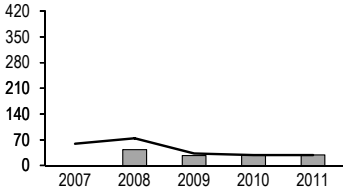
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Asheville	1,808	1,601	1,566	1,562	1,758
Average	1,418	1,414	1,403	1,368	1,406

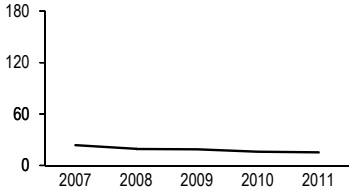
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Asheville		43.5	27.3	28.2	29.2
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Asheville					
Average	23.8	19.4	19.0	16.2	15.5

Asheville

MUNICIPAL PROFILE

Population (OSBM 2010)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2010)	$53,350

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		35.5%
Operating Costs		46.8%
Capital Costs		17.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	883,724
Operating Costs	$	1,165,741
Capital Costs	$	442,420
TOTAL	$	2,491,885

SERVICE PROFILE

FTE Positions—Collection	13.5
FTE Positions—Other	2.5
Tons Collected	23,734
Residential Customers (number represents collection points)	29,150
Collection Location (backyard for fee and disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	7 automated packers 1 packer

EXPLANATORY INFORMATION

Service Level and Delivery
Asheville collects residential refuse once a week at curbside, although backyard collection is provided for disabled customers at no charge and for other customers for a fee.

The city uses seven automated trucks with one driver from Monday to Thursday working ten-hour days. Two rear packers with two- and three-person crews are used from Monday to Friday for the collection of bulky items, clean-ups, and streets not accessible by automated trucks.

There are thirty-three main collection routes served by the automated trucks, with seven done each day. The average number of trips to the transfer station is two per day per route. Nearly all trash goes to the transfer station before going to the landfill. The average distance to the transfer station is six miles.

The city collected 23,734 tons of residential refuse during FY 2010–11, at a cost of $105 per ton. The cost per ton does not include the disposal cost per ton of $43 at the landfill or $47 at the transfer station. The transfer station is the primary disposal point for Asheville's trucks.

Residents receiving automated service are provided with one container. The majority of the containers are ninety-five-gallon capacity. Some residents use containers of sixty-five-gallon or thirty-five-gallon capacity. Residents may rent more containers if desired. Residents receiving rear-loading service provide their own containers. They are able to use up to six containers or bags.

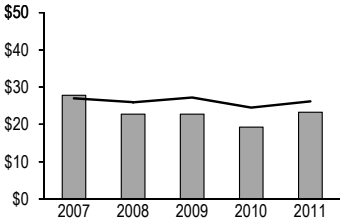
Conditions Affecting Service, Performance, and Costs
Asheville is highly automated in the area of residential refuse collection.

Burlington — Residential Refuse Collection

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

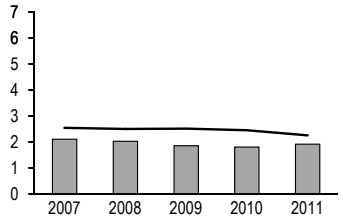
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Burlington	$27.82	$22.75	$22.74	$19.28	$23.27
Average	$26.97	$25.94	$27.21	$24.50	$26.19

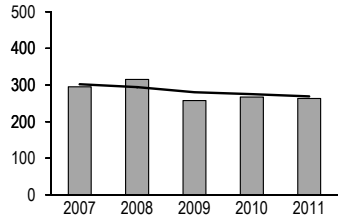
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	2.10	2.02	1.85	1.80	1.91
Average	2.54	2.49	2.51	2.45	2.25

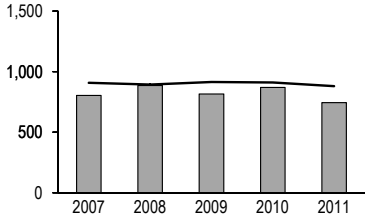
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	295	315	258	267	263
Average	302	294	280	275	269

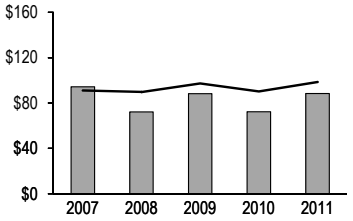
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Burlington	803	886	816	869	744
Average	907	893	915	911	880

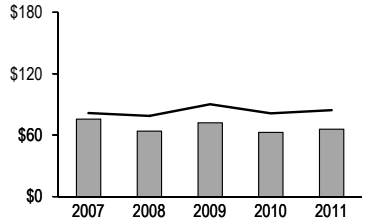
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



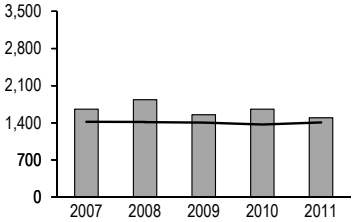
	2007	2008	2009	2010	2011
Burlington	$94	$72	$88	$72	$88
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Burlington	$76	$64	$72	$63	$66
Average	$82	$79	$90	$81	$84

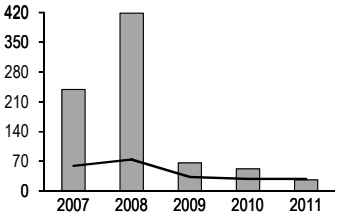
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Burlington	1,657	1,834	1,552	1,658	1,493
Average	1,418	1,414	1,403	1,368	1,406

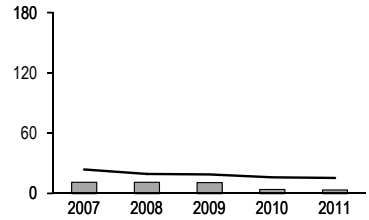
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Burlington	239.1	418.6	66.3	52.2	26.2
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Burlington	11.2	11.1	10.8	4.1	3.6
Average	23.8	19.4	19.0	16.2	15.5

Burlington

MUNICIPAL PROFILE

Population (OSBM 2010)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
Topography	Flat; gently rolling
County	Alamance
Climate	Temperate; little snow and ice
Median Family Income (US Census 2010)	$46,461

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		32.7%
Operating Costs		45.8%
Capital Costs		21.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	384,350
Operating Costs	$	538,385
Capital Costs	$	251,818
TOTAL	$	1,174,553

SERVICE PROFILE

FTE Positions—Collection	8.90
FTE Positions—Other	0.75
Tons Collected	13,285
Residential Customers (number represents collection points)	17,854
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 person
Percentage of Service Contracted	0%
Service Fee (monthly)	$6.00
Type of Equipment	5 automated packers 1 packer

EXPLANATORY INFORMATION

Service Level and Delivery
Burlington collects residential refuse once a week at curbside, although backyard collection is provided if it is medically necessary.

The city uses five automated trucks with one driver four days a week. One rear packer with a two-person crew works downtown five days per week. The average number of trips to the transfer station is two per day per route. The average distance to the landfill is seventeen miles.

The city collected 13,285 tons of residential refuse during FY 2010–11, at a cost of $88 per ton. The cost per ton does not include the disposal cost per ton of $38 at the landfill.

Residents receiving automated service are provided with one container. Residents pay a monthly fee of $6.00 for refuse collection.

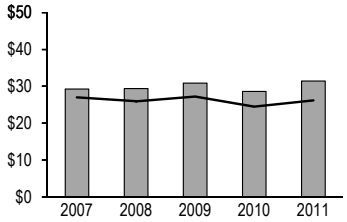
Conditions Affecting Service, Performance, and Costs
Complaints for Burlington include calls for service, inquiries, and regular complaints. Complaints are considered valid if verified by a supervisor in the field.

The City of Burlington began participation in the benchmarking project in 2007, with its first reporting being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

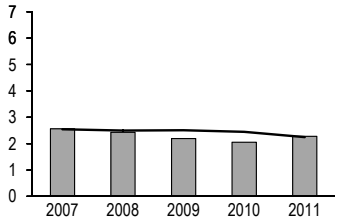
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Cary	$29.29	$29.39	$30.88	$28.61	$31.46
Average	$26.97	$25.94	$27.21	$24.50	$26.19

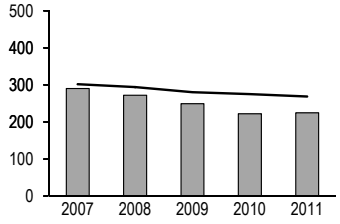
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	2.56	2.43	2.19	2.05	2.28
Average	2.54	2.49	2.51	2.45	2.25

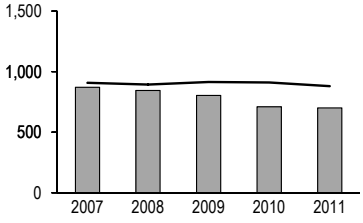
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Cary	290	272	249	222	224
Average	302	294	280	275	269

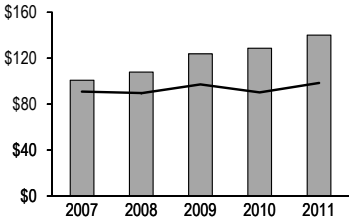
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Cary	871	844	803	711	700
Average	907	893	915	911	880

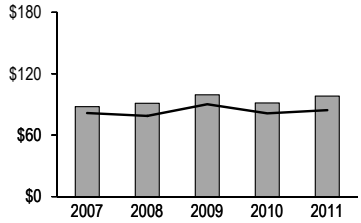
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



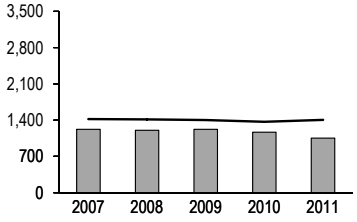
	2007	2008	2009	2010	2011
Cary	$101	$108	$124	$129	$140
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Cary	$88	$91	$100	$92	$98
Average	$82	$79	$90	$81	$84

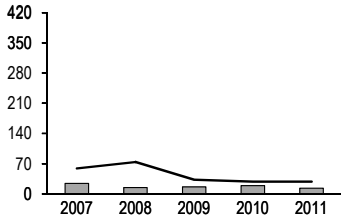
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Cary	1,223	1,203	1,223	1,168	1,054
Average	1,418	1,414	1,403	1,368	1,406

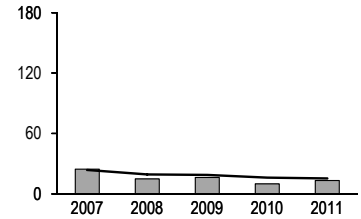
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Cary	24.7	15.0	16.3	19.3	13.4
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Cary	24.7	15.0	16.3	10.0	13.4
Average	23.8	19.4	19.0	16.2	15.5

Cary

MUNICIPAL PROFILE

Population (OSBM 2010)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2010)	$108,956

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		50.7%
Operating Costs		34.9%
Capital Costs		14.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,173,606
Operating Costs	$	1,495,301
Capital Costs	$	615,947
TOTAL	$	4,284,854

SERVICE PROFILE

FTE Positions—Collection	29.0
FTE Positions—Other	2.0
Tons Collected	30,562
Residential Customers (number represents collection points)	43,637
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 4 person
Percentage of Service Contracted	0%
Service Fee (monthly)	$14.00
Type of Equipment	10 automated packers 2 packers

EXPLANATORY INFORMATION

Service Level and Delivery

Cary residential refuse collection began making major changes during FY 2005–06, moving from backyard collection to curbside and transitioning to automation by the start of FY 2006–07. The town charges a fee of $14.00 per month, covering both solid waste and recycling services.

Cary used ten automated trucks with one driver and two rear loaders with one driver and three collectors. A total of forty-eight collection routes were used during FY 2010–11. The average distance to the landfill was twenty miles, with each route averaging one trip per day.

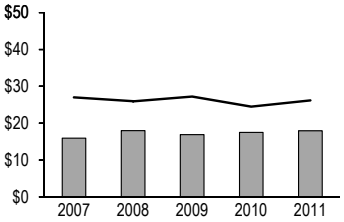
The town collected 30,562 tons of residential refuse during FY 2010–11, at a cost of $140 per ton. The cost per ton does not include the disposal cost of $32, representing the transfer station cost and the county landfill tipping fee. Residents use one ninety-five-gallon receptacle.

Conditions Affecting Service, Performance, and Costs

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

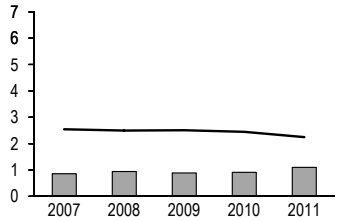
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Charlotte	$15.95	$17.98	$16.89	$17.53	$17.96
Average	$26.97	$25.94	$27.21	$24.50	$26.19

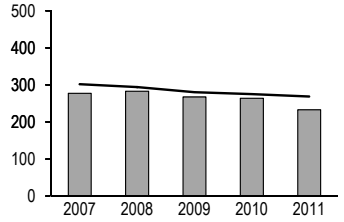
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	0.86	0.94	0.89	0.91	1.10
Average	2.54	2.49	2.51	2.45	2.25

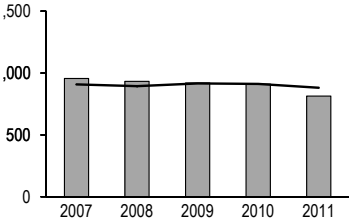
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Charlotte	277	283	267	264	233
Average	302	294	280	275	269

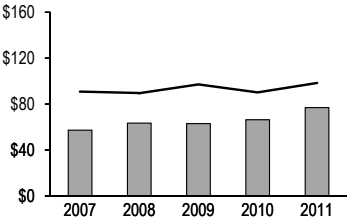
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Charlotte	956	933	919	910	813
Average	907	893	915	911	880

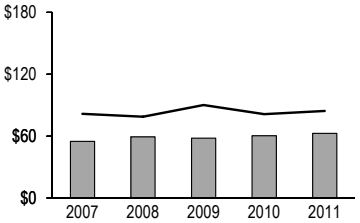
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



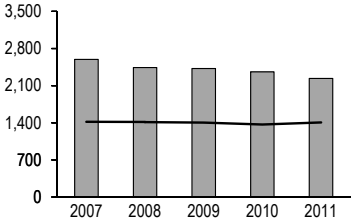
	2007	2008	2009	2010	2011
Charlotte	$58	$64	$63	$66	$77
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Charlotte	$55	$59	$58	$60	$63
Average	$82	$79	$90	$81	$84

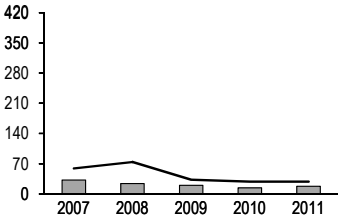
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Charlotte	2,595	2,442	2,423	2,359	2,235
Average	1,418	1,414	1,403	1,368	1,406

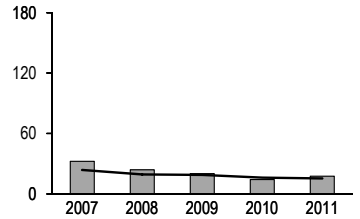
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Charlotte	32.4	24.0	20.1	14.3	17.7
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Charlotte	32.4	24.0	20.1	14.3	17.7
Average	23.8	19.4	19.0	16.2	15.5

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2010)	738,979
Land Area (Square Miles)	297.68
Persons per Square Mile	2,482
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2010)	$61,405

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		32.0%
Operating Costs		50.7%
Capital Costs		17.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,249,139
Operating Costs	$	6,732,626
Capital Costs	$	2,289,923
TOTAL	$	13,271,688

SERVICE PROFILE

FTE Positions—Collection	77.00
FTE Positions—Other	4.35
Tons Collected	172,111
Residential Customers (number represents collection points)	211,613
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	55 automated packers 7 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte collects residential refuse once a week at curbside. Backyard service is available only to those persons with valid medical reasons and physician certification. The city did not charge a fee for residential refuse collection.

The city's residential refuse collection program was reorganized from its previous system of managed competition which had some contracted collection and some city collection. Starting in FY 2010–11, all of Charlotte's residential refuse is collected by city workers. The city's collection routes were changed so that in FY 2010–11 approximately 80 percent of the collection points had service day changes at the start of the year.

City crews are composed primarily of one driver each, operating an automated packer. There were fifty-five of these crews for FY 2010–11. In addition, three crews composed of one driver and one laborer collected refuse using semi-automated packers. These crews are used primarily for backyard service for those citizens with disabilities and some multi-family complexes with less than thirty units. Small business garbage is collected by four crews, composed of one driver and one laborer, using rear loaders. Costs include reserve crews that were used as needed throughout the year.

The city serviced 310 daily collection routes once each week during FY 2010–11, with an average of 1.35 trips to the landfill per day per route at an average one-way distance of thirteen miles. Each single-family residence is provided one ninety-six-gallon rollout container. An additional receptacle may be purchased for a nominal one-time fee. Charlotte collected 172,111 tons of residential refuse during the fiscal year, at a cost of $77 per ton. The cost per ton does not include the disposal cost of $26.50, representing the landfill tipping fee.

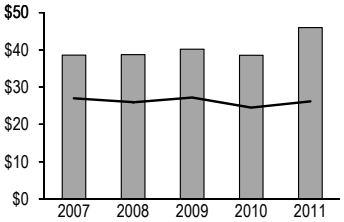
Conditions Affecting Service, Performance, and Costs
Charlotte is highly automated in the area of residential refuse collection. It considers all complaints to be valid complaints.

Concord — Residential Refuse Collection

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

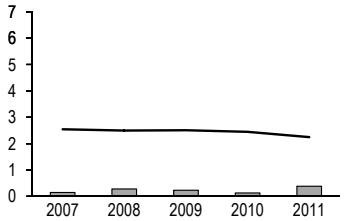
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Concord	$38.60	$38.72	$40.17	$38.54	$45.96
Average	$26.97	$25.94	$27.21	$24.50	$26.19

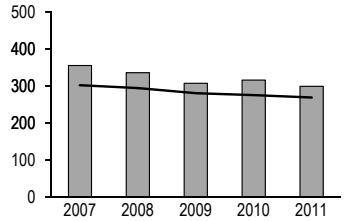
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	0.15	0.28	0.23	0.13	0.38
Average	2.54	2.49	2.51	2.45	2.25

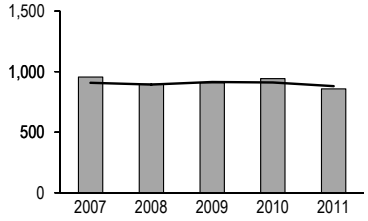
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Concord	355	336	307	316	299
Average	302	294	280	275	269

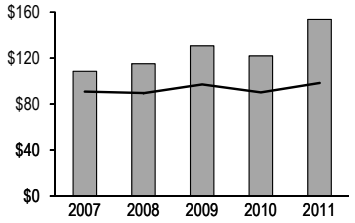
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Concord	956	896	908	942	858
Average	907	893	915	911	880

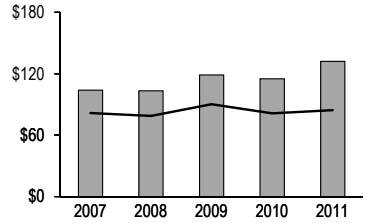
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



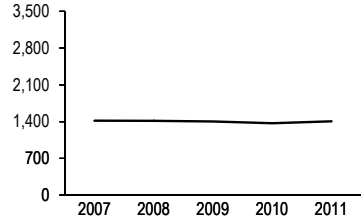
	2007	2008	2009	2010	2011
Concord	$109	$115	$131	$122	$154
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Concord	$104	$103	$119	$115	$132
Average	$82	$79	$90	$81	$84

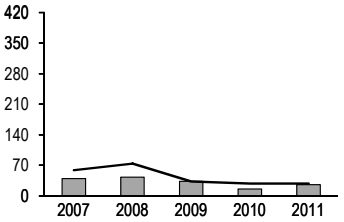
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Concord					
Average	1,418	1,414	1,403	1,368	1,406

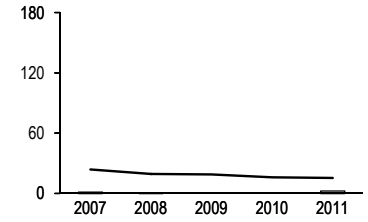
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Concord	39.6	42.9	33.4	15.9	25.8
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Concord	1.4	0.8			2.5
Average	23.8	19.4	19.0	16.2	15.5

Concord

MUNICIPAL PROFILE

Population (OSBM 2010)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
Topography	Flat; gently rolling
County	Cabarrus
Climate	Mild; some ice
Median Family Income (US Census 2010)	$63,643

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		4.6%
Operating Costs		95.3%
Capital Costs		0.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	166,390
Operating Costs	$	3,484,499
Capital Costs	$	4,078
TOTAL	$	3,654,967

SERVICE PROFILE

FTE Positions—Collection	1.9
FTE Positions—Other	1.2
Tons Collected	23,757
Residential Customers (number represents collection points)	27,676
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	2 person
Percentage of Service Contracted	100%
Service Fee	No
Type of Equipment	7–9 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Residential refuse collection service is provided once a week at curbside to Concord residents. Backyard service is available for the elderly and disabled. The city provided residential refuse collection service during FY 2010–11 under contract, with an annual cost of approximately $2.75 million.

The contractor used seven to nine two-person crews on rear loaders and one to three one-person crews on an automated packer. Residents used one ninety-five-gallon cart, with extra carts available for larger families or unusual circumstances.

The city serviced thirty-eight collection routes each week during FY 2010–11, with an average distance per residential refuse collection route per day to the landfill of eight miles. The packers made an average of two trips to the landfill per day per route.

The contractor collected 23,757 tons of residential refuse during the fiscal year, at a cost of $154 per ton.

Conditions Affecting Service, Performance, and Costs
Concord is one of only two jurisdiction participating in the project that contracts 100 percent of its residential refuse collection service. Therefore, "tons collected per collection FTE" is not used for Concord as a performance measure as this reflects only municipal workers.

Concord's "total tons collected" includes bulk trash, which is collected along with residential refuse and cannot be separated for reporting purposes.

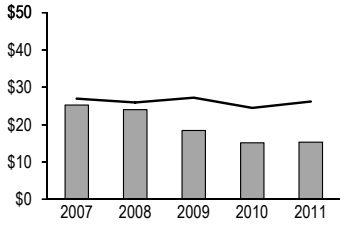
Concord defines valid complaints to mean any missed collection or request for service as determined by the city to result from contractor negligence or omission. Due to manpower shortages in FY 2006–07, city staff were unable to determine the validity of as many complaints as usual.

Greensboro Residential Refuse Collection

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

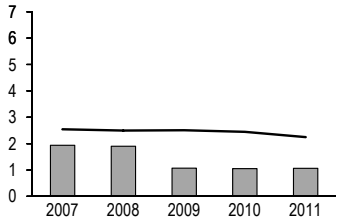
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Greensboro	$25.25	$24.00	$18.47	$15.18	$15.32
Average	$26.97	$25.94	$27.21	$24.50	$26.19

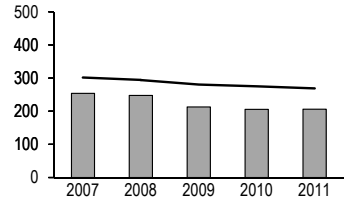
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	1.94	1.90	1.07	1.05	1.06
Average	2.54	2.49	2.51	2.45	2.25

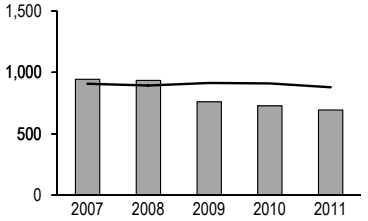
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	254	248	213	206	206
Average	302	294	280	275	269

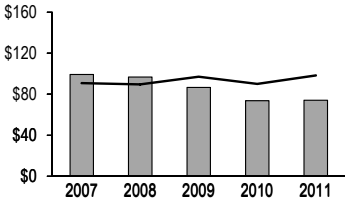
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greensboro	944	936	761	728	694
Average	907	893	915	911	880

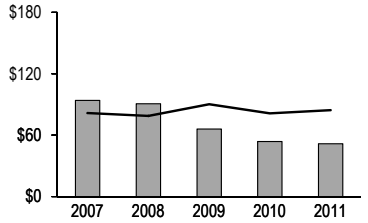
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



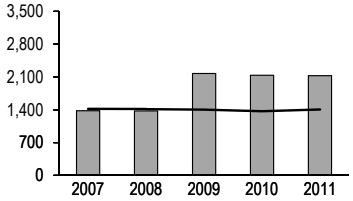
	2007	2008	2009	2010	2011
Greensboro	$99	$97	$87	$74	$74
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Greensboro	$94	$91	$66	$54	$52
Average	$82	$79	$90	$81	$84

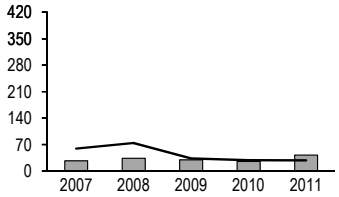
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Greensboro	1,380	1,377	2,175	2,136	2,128
Average	1,418	1,414	1,403	1,368	1,406

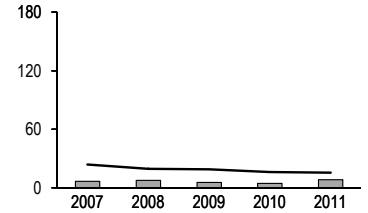
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greensboro	26.8	33.9	29.6	25.4	42.2
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greensboro	6.6	7.6	5.5	4.5	8.2
Average	23.8	19.4	19.0	16.2	15.5

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2010)	270,065
Land Area (Square Miles)	126.63
Persons per Square Mile	2,133
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2010)	$52,752

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		33.5%
Operating Costs		66.5%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,387,286
Operating Costs	$	2,750,320
Capital Costs	$	-
TOTAL	$	4,137,606

SERVICE PROFILE

FTE Positions—Collection	26.2
FTE Positions—Other	2.5
Tons Collected	55,698
Residential Customers (number represents collection points)	80,251
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 2 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	23 automated packers 3 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro provides once-a-week collection of residential refuse at curbside. Each resident is provided up to two ninety-gallon carts.

There were twenty-one city crews for FY 2010–11. Eighteen crews have one driver operating an automated packer. Three crews use rear loaders.

The city used eighty-six collection routes during the fiscal year, with each packer making an average of 1.8 trips per day to a municipal solid waste transfer station.

The city collected 55,698 tons of residential refuse during FY 2010–11, at a cost of $74 per ton.

Greensboro defines automated packers as one-armed automated-loading packers that are operated by one person. Rear loaders are rear-loading packer trucks.

Conditions Affecting Service, Performance, and Costs
Greensboro is highly automated in the area of residential refuse collection.

Prior to FY 2008–09, Greensboro's total tons collected included bulk trash, which was collected along with residential refuse and could not be separated for reporting purposes. However, these bulk collections have not been included in more recent years.

Greensboro began utilizing new software in FY 2006–07 that has allowed for better tracking of complaints.

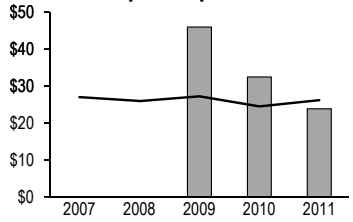
In FY 2008–09, Greensboro had a notable annexation that created some special one-time costs.

Greenville — Residential Refuse Collection

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

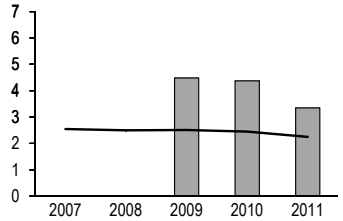
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Greenville			$46.03	$32.48	$23.86
Average	$26.97	$25.94	$27.21	$24.50	$26.19

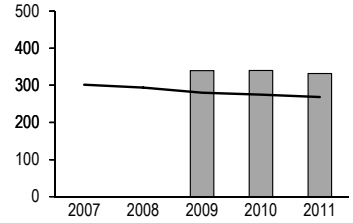
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			4.48	4.37	3.35
Average	2.54	2.49	2.51	2.45	2.25

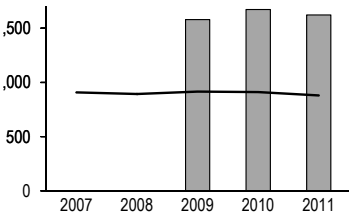
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			340	340	332
Average	302	294	280	275	269

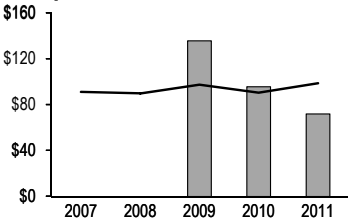
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greenville			1580	1673	1623
Average	907	893	915	911	880

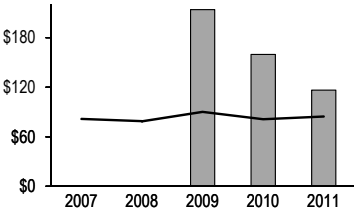
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



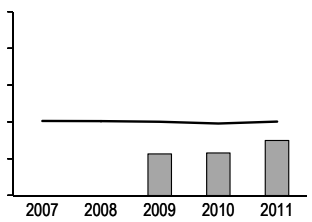
	2007	2008	2009	2010	2011
Greenville			$135	$95	$72
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Greenville			$214	$160	$117
Average	$82	$79	$90	$81	$84

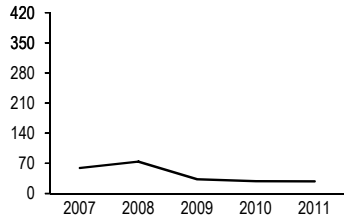
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Greenville			791	810	1,048
Average	1,418	1,414	1,403	1,368	1,406

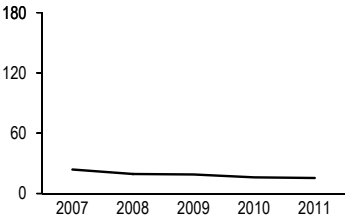
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greenville					
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greenville					
Average	23.8	19.4	19.0	16.2	15.5

Greenville

MUNICIPAL PROFILE

Population (OSBM 2010)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
Topography	Flat
County	Pitt
Climate	Mild; little snow and ice
Median Family Income (US Census 2010)	$50,395

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		67.2%
Operating Costs		20.7%
Capital Costs		12.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,365,763
Operating Costs	$	419,900
Capital Costs	$	245,781
TOTAL	$	2,031,444

SERVICE PROFILE

FTE Positions—Collection	27.00
FTE Positions—Other	1.5
Tons Collected	28,287
Residential Customers (number represents collection points)	17,431
Collection Location	Backyard/Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	3 person
Percentage of Service Contracted	0%
Service Fee (monthlly per cart)	$9.60 curbside $26 backyard
Type of Equipment	8 packers

EXPLANATORY INFORMATION

Service Level and Delivery

Greenville collects refuse from residential premises once a week at both curbside and backyard. Residents can choose which level of service to receive at different costs. Backyard collection is priced at $26 per month, while curbside is priced at $9.60 per month. About 64 percent of households have chosen curbside. White goods and electronic reclying curbside is included in the residential refuse fee.

The city uses eight crews composed of one driver and two collection workers who work four days a week. The crews use rear-loading collection trucks.

Thirty-two collection routes were employed during FY 2010–11, with an average of two trips to the transfer station per day per route. The average distance to the transfer station per route was five-and-a-half miles.

Greenville collected 28,287 tons of residential refuse during FY 2010–11, at a cost of $72 per ton. The cost per ton does not include the disposal cost of $28, representing the tipping fee at the transfer station.

Conditions Affecting Service, Performance, and Costs

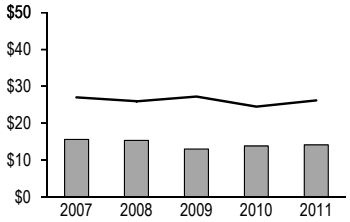
Greenville joined the project with the first year of reporting for FY 2008–09.

Greenville was one of only two municipalities participating in this project that continue to collect residential refuse from the backyard for many customers. This is a relatively labor intensive process and represents a high level of service.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

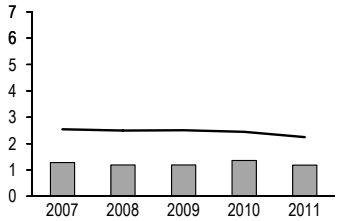
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Hickory	$15.61	$15.33	$13.01	$13.82	$14.12
Average	$26.97	$25.94	$27.21	$24.50	$26.19

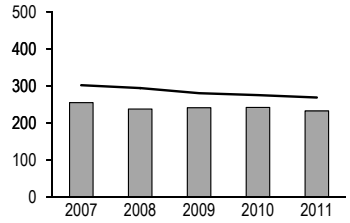
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	1.28	1.19	1.19	1.36	1.18
Average	2.54	2.49	2.51	2.45	2.25

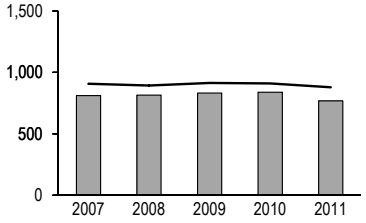
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	255	238	241	242	232
Average	302	294	280	275	269

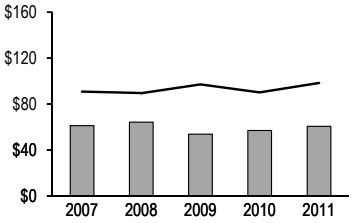
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Hickory	812	816	833	839	769
Average	907	893	915	911	880

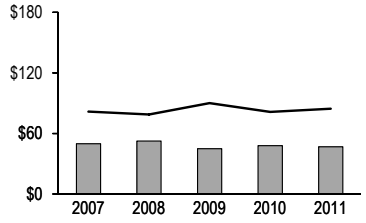
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



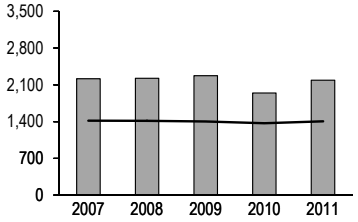
	2007	2008	2009	2010	2011
Hickory	$61	$64	$54	$57	$61
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Hickory	$50	$53	$45	$48	$47
Average	$82	$79	$90	$81	$84

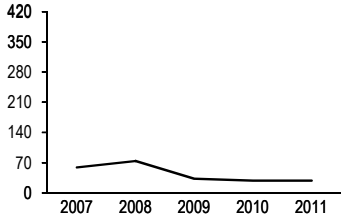
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Hickory	2,217	2,226	2,273	1,946	2,190
Average	1,418	1,414	1,403	1,368	1,406

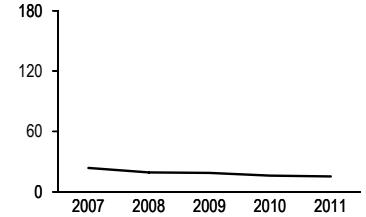
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Hickory					
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Hickory					
Average	23.8	19.4	19.0	16.2	15.5

Hickory

MUNICIPAL PROFILE

Population (OSBM 2010)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
Topography	Gently rolling
County	Catawba
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$54,093

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		38.4%
Operating Costs		40.9%
Capital Costs		20.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	217,460
Operating Costs	$	231,683
Capital Costs	$	116,935
TOTAL	$	566,078

SERVICE PROFILE

FTE Positions—Collection	4.25
FTE Positions—Other	0.5
Tons Collected	9,306
Residential Customers (number represents collection points)	12,100
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 person
Percentage of Service Contracted	0%
Service Fee (monthlly per cart)	$13
Type of Equipment	4 automated packers 1 packer

EXPLANATORY INFORMATION

Service Level and Delivery
Hickory collects refuse from residential premises once a week at curbside, although backyard collection is provided for elderly and disabled citizens. A monthly solid waste fee of $13 per cart was charged for residential refuse collection service during FY 2010–11. Each residence uses a cart provided by the city for residential refuse collection. Each cart has a capacity of ninety-six gallons and is provided at no charge. Upon request a second cart is provided to the customer for an additional solid waste fee.

The city used four one-person crews operating automated packers, one half-time crew composed of one driver and one collector working from a regular packer collecting on one-way streets and dead ends, and one quarter-time crew with one driver and one collector collecting from backyards.

Fifteen collection routes were employed during FY 2010–11, with an average of two trips to the transfer station per day per route. The average distance to the transfer station per route was five miles.

Hickory collected 9,306 tons of residential refuse during FY 2010–11, at a cost of $61 per ton. The cost per ton does not include the disposal cost of $33, representing the tipping fee at the Catawba County landfill.

Hickory defines automated packers as trucks with mechanical arms.

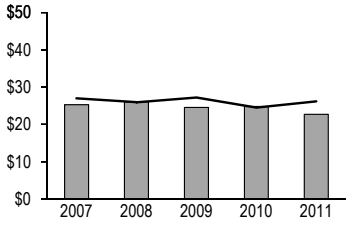
Conditions Affecting Service, Performance, and Costs
Hickory is highly automated in the area of residential refuse collection.

High Point — Residential Refuse Collection

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

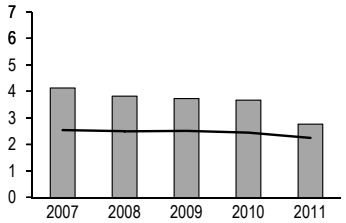
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
High Point	$25.27	$26.04	$24.55	$24.80	$22.73
Average	$26.97	$25.94	$27.21	$24.50	$26.19

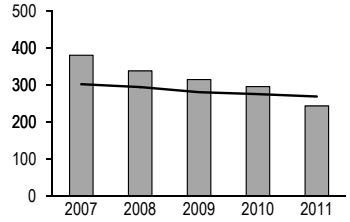
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	4.13	3.82	3.73	3.67	2.77
Average	2.54	2.49	2.51	2.45	2.25

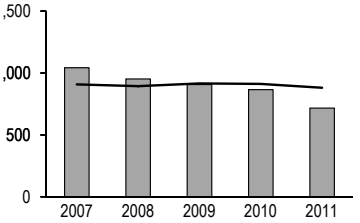
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
High Point	380	338	314	295	243
Average	302	294	280	275	269

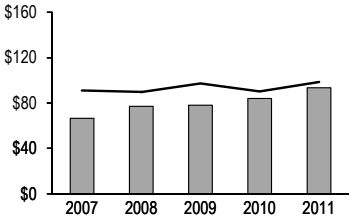
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
High Point	1042	952	907	866	717
Average	907	893	915	911	880

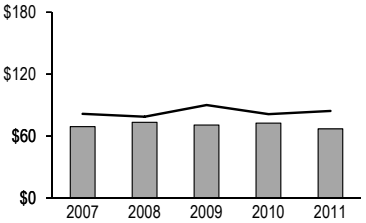
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



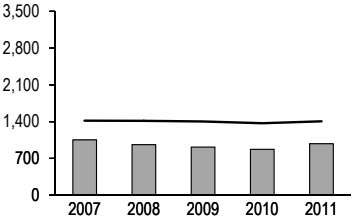
	2007	2008	2009	2010	2011
High Point	$66	$77	$78	$84	$93
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
High Point	$69	$73	$71	$73	$67
Average	$82	$79	$90	$81	$84

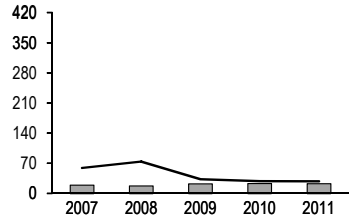
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
High Point	1,052	961	915	874	980
Average	1,418	1,414	1,403	1,368	1,406

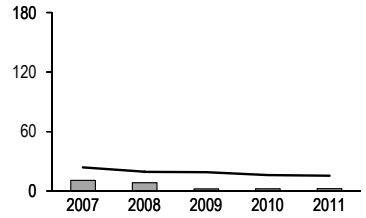
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
High Point	19.4	17.5	22.3	23.1	22.7
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
High Point	10.8	8.3	2.1	2.3	2.4
Average	23.8	19.4	19.0	16.2	15.5

High Point

MUNICIPAL PROFILE

Population (OSBM 2010)	104,788
Land Area (Square Miles)	54.05
Persons per Square Mile	1,939
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2010)	$49,720

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		58.2%
Operating Costs		28.5%
Capital Costs		13.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,386,312
Operating Costs	$	678,004
Capital Costs	$	317,662
TOTAL	$	2,381,978

SERVICE PROFILE

FTE Positions—Collection	26.0
FTE Positions—Other	3.0
Tons Collected	25,490
Residential Customers (number represents collection points)	35,544
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 3 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	8 automated packers 2 packers

EXPLANATORY INFORMATION

Service Level and Delivery
High Point collects residential refuse once a week at curbside, although backyard collection is provided for residents with verified medical disabilities. High Point also has a contract for the collection of refuse from dumpsters at multi-family units, but these costs and tons are not included in this reporting.

The city uses nine crews with automated trucks with one person and two crews with one driver and two collectors. There are thirty-eight collection routes. The average number of trips to the landfill is two per day per route. The average distance to the landfill is eight miles.

The city collected 25,490 tons of residential refuse during FY 2010–11, at a cost of $93 per ton. The cost per ton does not include the disposal cost of $26, representing the landfill tipping fee.

Residents may use up to two roll-out carts constructed so that they can be emptied by the lifting devices mounted on city trucks. The cart size is ninety-six gallons.

High Point defines rear loaders as trucks with large hoppers and bulky item capacity, with refuse loaded from the rear. Automated packers are trucks that contain a device that sweeps the refuse into the trucks and are essentially independent of external influence or control. Packers are manual trucks.

Conditions Affecting Service, Performance, and Costs
"Tons collected per collection FTE" includes only the tons collected by city crews.

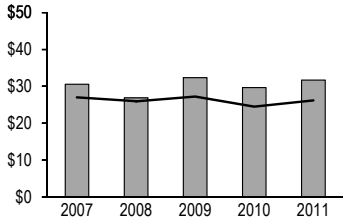
High Point began transitioning from rear packers to automated side loaders in November 2007 for two of the ten trucks. Six other automated loaders were received from January 2010 to August 2010. By 2011 the transition was complete, with nearly all residential routes being served by automated loaders except for special collections.

Salisbury Residential Refuse Collection

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

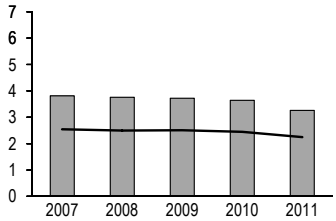
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Salisbury	$30.56	$26.87	$32.35	$29.66	$31.69
Average	$26.97	$25.94	$27.21	$24.50	$26.19

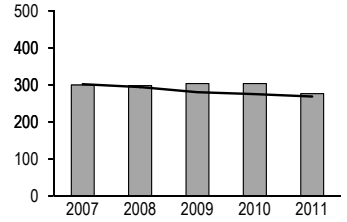
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	3.81	3.76	3.72	3.64	3.26
Average	2.54	2.49	2.51	2.45	2.25

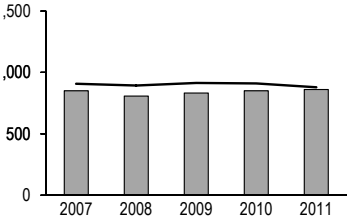
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	300	298	304	304	276
Average	302	294	280	275	269

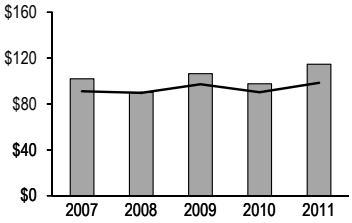
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Salisbury	850	808	833	850	862
Average	907	893	915	911	880

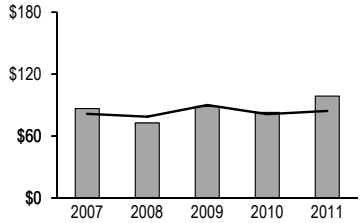
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



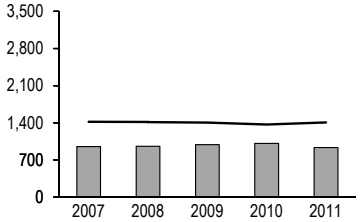
	2007	2008	2009	2010	2011
Salisbury	$102	$90	$107	$98	$115
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Salisbury	$87	$73	$89	$83	$99
Average	$82	$79	$90	$81	$84

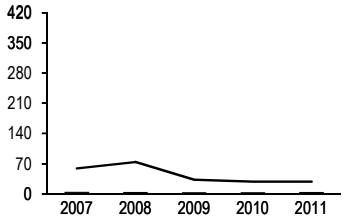
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Salisbury	952	958	987	1,011	932
Average	1,418	1,414	1,403	1,368	1,406

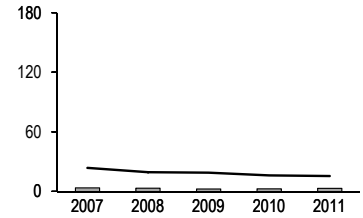
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Salisbury	3.7	3.5	2.6	2.7	3.2
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Salisbury	3.7	3.4	2.6	2.7	3.2
Average	23.8	19.4	19.0	16.2	15.5

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2010)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
Topography	Gently rolling
County	Rowan
Climate	Moderate; little snow and ice
Median Family Income (US Census 2010)	$40,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		51.0%
Operating Costs		33.4%
Capital Costs		15.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	544,611
Operating Costs	$	357,154
Capital Costs	$	166,784
TOTAL	$	1,068,549

SERVICE PROFILE

FTE Positions—Collection	10.00
FTE Positions—Other	1.00
Tons Collected	9,320
Residential Customers (number represents collection points)	10,817
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 2 person
Percentage of Service Contracted	0%
Service Fee (monthly)	$4.09
Type of Equipment	7 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Salisbury provides residential refuse collection service once per week at curbside. Backyard collection service is provided for disabled customers only. The city charges a monthly fee of $4.09 for residential collection.

The city employed four crews during FY 2010–11 with two driver-operators and two with one person each. Fifteen collection routes were used, with an average of one nineteen-mile trip per route per day to the transfer station.

Each resident has one ninety-five-gallon roll-out cart provided and paid for by the city. A second cart may be obtained. The city collected 9,320 tons of residential refuse during FY 2010–11, at a cost per ton of $115. Not included in the cost per ton was a $32 landfill tipping fee.

Salisbury defines its semi-automated packers as low-entry compactors that can be driven from either side of the truck, with the refuse being dumped in the rear of the truck from roll-out carts.

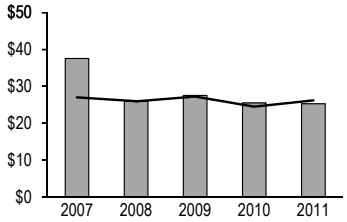
Conditions Affecting Service, Performance, and Costs
Salisbury's total tons collected includes bulk trash, which is collected along with residential refuse and cannot be separated for reporting purposes.

Wilmington — Residential Refuse Collection

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

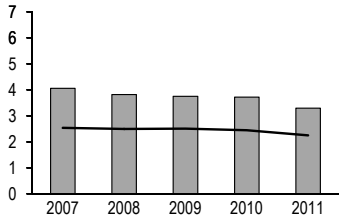
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Wilmington	$37.55	$25.95	$27.55	$25.49	$25.29
Average	$26.97	$25.94	$27.21	$24.50	$26.19

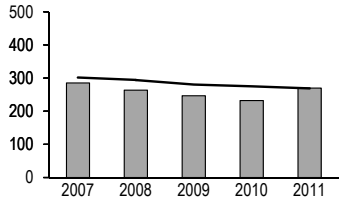
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	4.06	3.82	3.75	3.72	3.30
Average	2.54	2.49	2.51	2.45	2.25

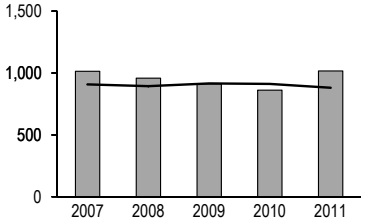
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Wilmington	285	264	247	232	270
Average	302	294	280	275	269

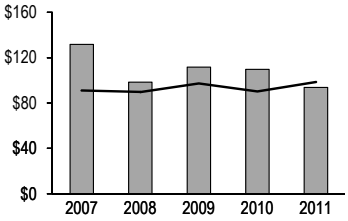
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilmington	1014	958	911	861	1016
Average	907	893	915	911	880

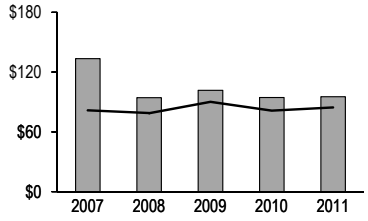
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



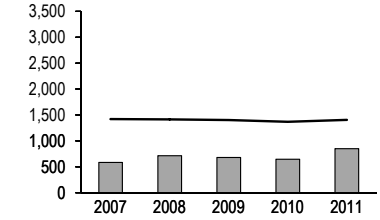
	2007	2008	2009	2010	2011
Wilmington	$132	$98	$112	$110	$94
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Wilmington	$133	$94	$102	$94	$95
Average	$82	$79	$90	$81	$84

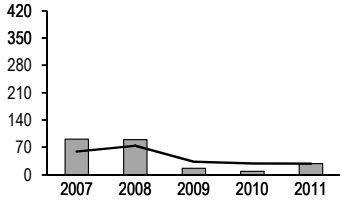
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Wilmington	584	714	680	645	848
Average	1,418	1,414	1,403	1,368	1,406

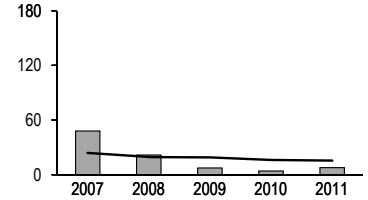
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilmington	90.9	89.6	16.6	8.6	28.4
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilmington	47.9	21.7	7.5	4.1	7.8
Average	23.8	19.4	19.0	16.2	15.5

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2010)	106,882
Land Area (Square Miles)	51.49
Persons per Square Mile	2,076
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild
Median Family Income (US Census 2010)	$57,892

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		45.8%
Operating Costs		42.9%
Capital Costs		11.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,237,993
Operating Costs	$	1,160,279
Capital Costs	$	305,195
TOTAL	$	2,703,467

SERVICE PROFILE

FTE Positions—Collection	34.0
FTE Positions—Other	1.3
Tons Collected	28,834
Residential Customers (number represents collection points)	28,371
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	2 & 3 person
Percentage of Service Contracted	0%
Service Fee	$24.40 for maxi $20 for mini
Type of Equipment	13 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Wilmington provides basic refuse collection service for residences once a week at curbside. Customers may elect twice-a-week collection for a premium charge. Wilmington provides all collection containers and carts to its customers. Customers may use either a ninety-gallon or forty-gallon cart.

A volume-based fee system is used to finance residential refuse collection. This is designed to encourage residents to reduce the amount of refuse they generate. The city charged a monthly fee of $24.40 for ninety-gallon carts and $20 for forty-gallon carts during FY 2010–11.

During FY 2006–07, Wilmington made a major shift in bringing all of refuse collection back in house after relying mostly on private contractors in earlier years. This transition required the hiring of a substantial number of staff and a large amount of one-time costs for the purchase of roll-out carts.

During FY 2010–11, Wilmington used nine crews of one driver and two collectors and four crews with one driver and one collector. All crews use semi-automated packer trucks.

Thirty-six collection routes were used during FY 2010–11, with an average of two trips per route per day to the landfill. The average distance to the landfill was 9.5 miles. The city collected 28,834 tons of residential refuse during FY 2010–11, at a cost of $94 per ton. The cost per ton does not include the disposal cost of $55.65 for the landfill tipping fee.

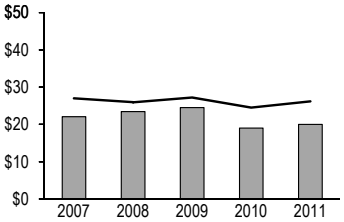
Wilmington defines semi-automated packers as packer trucks that have tippers on them to lift the carts.

Conditions Affecting Service, Performance, and Costs
Wilmington defines a valid complaint as any complaint registered if there is no evidence to dispute it. The high level of complaints in prior years was one of the reasons for bringing back more of refuse collection under city operations.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

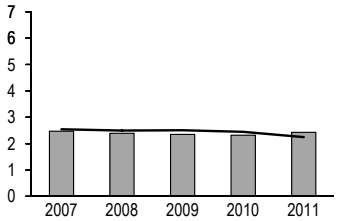
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Wilson	$22.06	$23.44	$24.51	$19.01	$20.00
Average	$26.97	$25.94	$27.21	$24.50	$26.19

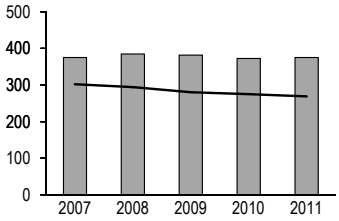
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	2.47	2.39	2.35	2.32	2.43
Average	2.54	2.49	2.51	2.45	2.25

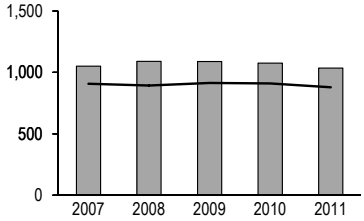
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Wilson	375	385	382	372	375
Average	302	294	280	275	269

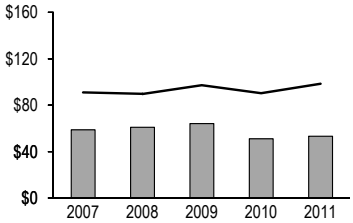
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilson	1052	1091	1089	1076	1036
Average	907	893	915	911	880

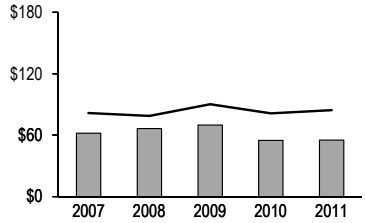
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



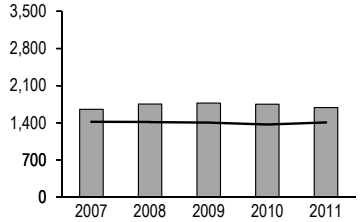
	2007	2008	2009	2010	2011
Wilson	$59	$61	$64	$51	$53
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Wilson	$62	$66	$70	$55	$55
Average	$82	$79	$90	$81	$84

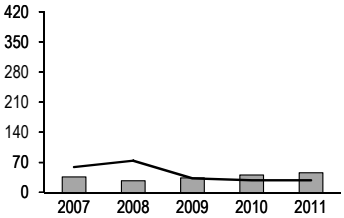
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Wilson	1,655	1,755	1,773	1,750	1,686
Average	1,418	1,414	1,403	1,368	1,406

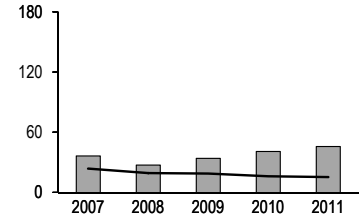
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilson	36.4	27.5	34.0	40.9	45.9
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilson	36.4	27.5	34.0	40.9	45.9
Average	23.8	19.4	19.0	16.2	15.5

Wilson

MUNICIPAL PROFILE

Population (OSBM 2010)	49,421
Land Area (Square Miles)	28.76
Persons per Square Mile	1,718
Topography	Flat
County	Wilson
Climate	Mild; little snow and ice
Median Family Income (US Census 2010)	$43,442

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		41.9%
Operating Costs		34.8%
Capital Costs		23.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	414,228
Operating Costs	$	343,901
Capital Costs	$	230,517
TOTAL	$	988,646

SERVICE PROFILE

FTE Positions—Collection	11.0
FTE Positions—Other	1.0
Tons Collected	18,545
Residential Customers (number represents collection points)	17,900
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 3 person
Percentage of Service Contracted	0%
Service Fee (monthly)	$15.00
Type of Equipment	5 automated packers 2 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Residential refuse collection service is provided once a week at curbside to Wilson residents. Senior citizens and disabled persons may apply for and receive backyard pickup. There is currently a monthly $15 fee per household for residential refuse collection service.

The city used five one-person crews during FY 2010–11 working from automated packers. The city also used two three-person crews composed of one driver and two collectors working from semi-automated rear loaders. Residents are required to use ninety-six-gallon roll-out containers.

The city serviced seventeen collection routes each week during FY 2010–11. The packers made an average of two trips to the disposal facility per day per route, with the distance to the transfer station being ten miles.

Wilson collected 18,545 tons of residential refuse during the fiscal year, at a cost of $53 per ton. The cost per ton does not include the disposal cost of $37.61, representing the tipping fee at the transfer station.

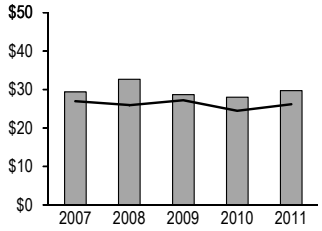
Wilson defines automated packers as fully automated trucks requiring one driver. Packers are rear-loading, semi-automated trucks requiring one driver and two collectors.

Conditions Affecting Service, Performance, and Costs
The city of Wilson considers all complaints to be valid complaints.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2011

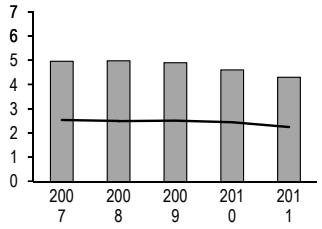
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2007	2008	2009	2010	2011
Winston-Salem	$29.37	$32.65	$28.69	$28.01	$29.71
Average	$26.97	$25.94	$27.21	$24.50	$26.19

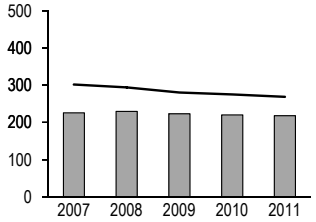
Residential Refuse FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	4.96	4.98	4.90	4.60	4.30
Average	2.54	2.49	2.51	2.45	2.25

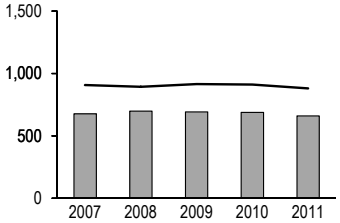
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	226	230	223	220	218
Average	302	294	280	275	269

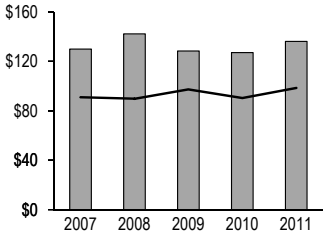
Residential Refuse Tons per 1,000 Collection Points



	2007	2008	2009	2010	2011
Winston-Salem	677	699	693	689	661
Average	907	893	915	911	880

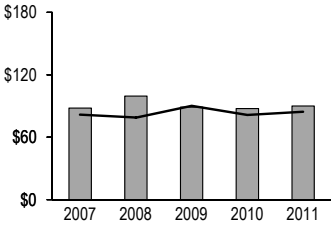
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



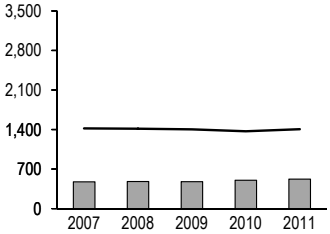
	2007	2008	2009	2010	2011
Winston-Salem	$130	$142	$128	$127	$136
Average	$91	$90	$97	$90	$98

Residential Refuse Collection Cost per Collection Point



	2007	2008	2009	2010	2011
Winston-Salem	$88	$99	$89	$88	$90
Average	$82	$79	$90	$81	$84

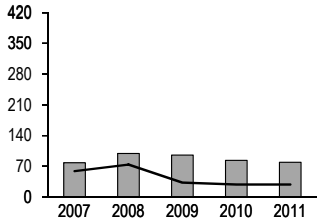
Refuse Tons Collected per Municipal Collection FTE



	2007	2008	2009	2010	2011
Winston-Salem	475	481	477	502	524
Average	1,418	1,414	1,403	1,368	1,406

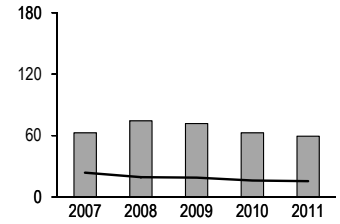
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Winston-Salem	78.3	99.1	95.7	83.6	79.1
Average	59.1	74.1	33.1	28.6	28.4

Valid Complaints per 1,000 Collection Points



	2007	2008	2009	2010	2011
Winston-Salem	62.6	74.4	71.8	62.7	59.3
Average	23.8	19.4	19.0	16.2	15.5

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2010)	230,345
Land Area (Square Miles)	132.45
Persons per Square Mile	1,739
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$51,491

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		56.4%
Operating Costs		32.2%
Capital Costs		11.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,863,128
Operating Costs	$	2,200,275
Capital Costs	$	780,258
TOTAL	$	6,843,661

SERVICE PROFILE

FTE Positions—Collection	96.00
FTE Positions—Other	3.00
Tons Collected	50,269
Residential Customers (number represents collection points)	76,064
Collection Location	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 3 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	3 automated packers 29 packers

EXPLANATORY INFORMATION

Service Level and Delivery

Winston-Salem collects residential refuse once a week from backyards and at curbside. The city implemented a voluntary curbside collection program in March 2005. In October 2010, the city began the transition to mandatory curbside collection.

The city uses twenty-nine three-person crews composed of a driver and two collectors equipped with rear-loading packers to collect most of the residential refuse. In addition, there are three automated trucks with one person, one special collections truck with one person, and one central business district crew with one driver and one collector.

Residents may use three thirty-two-gallon containers or one ninety-six-gallon roll-out cart. There was no fee for the residential refuse service during FY 2010–11.

The city collected 50,269 tons of residential refuse during FY 2010–11 from 76,064 collection points. The cost per ton was $139, which does not include the tipping fee of $36 per ton. The city used 128 collection routes during the fiscal year, with an average of one trip per route per day to the landfill. The average distance to the landfill was ten miles.

Winston-Salem primarily uses rear-loading packers, which are trucks that load from the back. Two lifters are on the back of each truck. The crews hook their carts onto these lifters and dump the refuse into the back of the truck. The compactor blade also is located in the back of the truck.

Conditions Affecting Service, Performance, and Costs

UNC
SCHOOL OF
GOVERNMENT

Performance and Cost Data

HOUSEHOLD RECYCLING

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR HOUSEHOLD RECYCLING

SERVICE DEFINITION

This includes both curbside collection and processing of household recyclable materials from residences and certain other locations and the drop-off of such materials by citizens at recycling stations or centers. The recyclable materials collected are mainly aluminum and steel cans, plastics, glass bottles, newspapers, magazines, and cardboard. The curbside portion of this service involves regularly scheduled collection that utilizes containers small enough that residents and/or workers can move or lift them. Excluded are collection of yard waste, leaves, and commercial recycling.

NOTES ON PERFORMANCE MEASURES

1. Workload and Efficiency Measures

The same sorts of workload and efficiency measures are used for household recycling as for residential refuse collection. The project's workload measures for household recycling are tons of recyclable materials collected per 1,000 population and per 1,000 collection points, and the efficiency measures for this service are cost per ton of recyclable materials collected, cost per collection point, and tons of household recyclable materials collected per full-time equivalent (FTE) position directly involved in household recycling. FTEs for recycling are calculated in the same way as they are for residential refuse collection. Only those FTE positions that actually collect recyclables are used for the measure "tons collected per FTE."

2. Tons Solid Waste Landfilled per 1,000 Population

"Tons solid waste landfilled per 1,000 population" is used as a workload measure. Although not all residential refuse is recyclable, much more of it is likely to be recycled in the future as recycling technology improves and markets for recyclable materials grow. Thus tons of solid waste landfilled per 1,000 population serves as a useful indicator of the need for household recycling.

3. Community Set-Out Rate in Household Recycling

The project uses this as a measure of household recycling effectiveness. Residents in municipalities with curbside recycling choose whether to participate in the program and the extent of their participation. As the portion of households participating in household recycling grows, the more effective recycling is likely to be in reducing the volume of residential refuse. This measure combines the set-out rate for those participating and the participation rate to estimate the percentage of potential households that are actually recycling.

4. Tons of Household Recyclable Materials Collected as a Percentage of the Sum of Tons of Residential Refuse Collected Plus Tons of Household Recyclable Materials Collected

This measure assesses the magnitude of household recycling in relation to residential refuse collected for disposal. A household recycling program is effective to the extent it diverts residential refuse from the disposal stream.

Household Recycling

Summary of Key Dimensions of Service

City or Town	Drop-Off Sites		Collection Frequency	Recyclables Sorted at Curb?	Collection Points	Community Set-Out Rate	Tons Collected	Percentage of Waste Stream Diverted from Landfill	Percentage Service Contracted	FTE Collection Positions
	City Owned	Other								
Apex	0	0	1 x week	No	12,082	62%	3,634	24%	100%	0
Asheville	1	2	1 x 2 weeks	Yes	27,597	76%	6,662	22%	98%	0
Burlington	0	3	1 x 2 weeks	Yes	17,854	67%	2,084	14%	99%	0
Cary	1	0	1 x 2 weeks	Yes	44,754	80%	11,154	27%	0%	12
Charlotte	0	13	1 x 2 weeks	Yes	207,738	50%	41,770	20%	100%	0
Concord	0	1	1 x week	No	27,676	70%	3,579	13%	100%	1.5
Greensboro	17	0	1 x 2 weeks	No	80,251	53%	18,269	25%	0%	15
Greenville	2	89	1 x week	No	17,431	NA	3,599	11%	0%	15
Hickory	2	0	1 x week	Yes	12,100	80%	1,787	16%	70%	0.5
High Point	10	0	1 x 2 weeks	No	35,544	75%	8,816	26%	0%	3
Salisbury	0	0	1 x week	Yes	10,427	33%	929	9%	100%	0
Wilmington	0	0	1 x week	No	16,974	36%	5,253	15%	0%	10.25
Wilson	0	0	1 x week	No	19,900	38%	1,468	7%	0%	6
Winston-Salem	9	0	1 x week	Yes	76,064	53%	10,947	18%	100%	0

NOTES

Community Set-out Rate is a combination of the participation rate and the participant's set-out rate.

EXPLANATORY FACTORS

These are factors that the project found to affect household recycling collection performance and cost in one or more of the municipalities:

Types of items eligible for recycling
Landfill tipping fees for solid waste
Commitment of city officials to recycling
Number of drop-off centers
Community education
Market prices for recyclable materials
Demographic makeup of community

UNC
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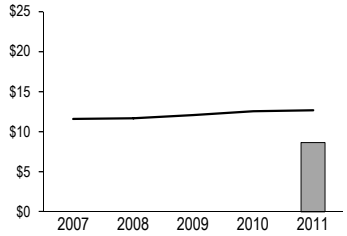
Apex Household Recycling

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

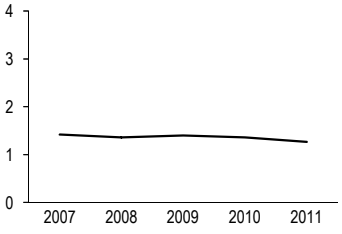
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Apex					$8.64
Average	$11.59	$11.67	$12.06	$12.56	$12.67

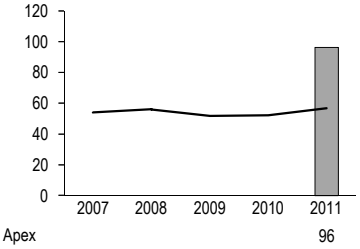
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					
Average	1.42	1.36	1.40	1.36	1.26

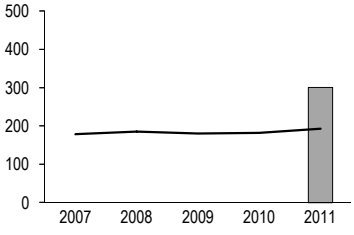
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



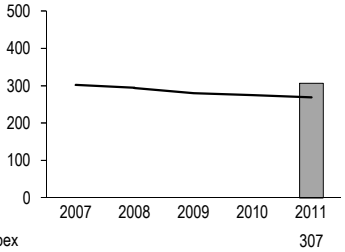
	2007	2008	2009	2010	2011
Apex					96
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Apex					301
Average	178	185	180	182	192

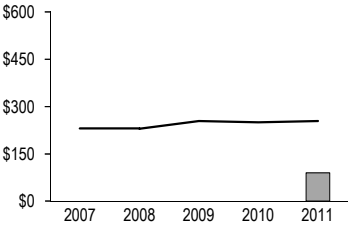
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Apex					307
Average	302	294	280	275	269

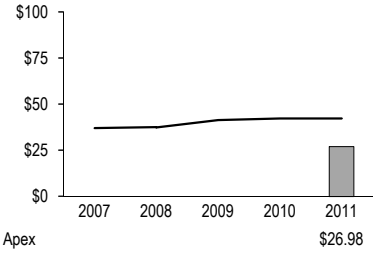
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



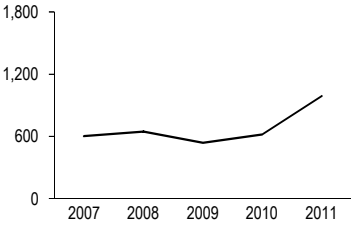
	2007	2008	2009	2010	2011
Apex					$90
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Apex					$26.98
Average	$36.96	$37.46	$41.45	$42.34	$42.23

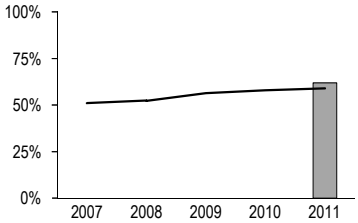
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Apex					
Average	602	647	541	619	991

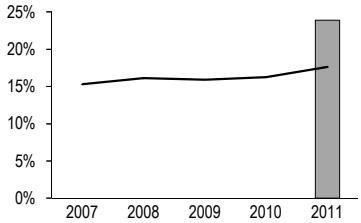
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Apex					62.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Apex					23.9%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Apex

MUNICIPAL PROFILE

Population (OSBM 2010)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$97,201

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	326,005
Capital Costs	$	-
TOTAL	$	326,005

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	3,634
Collection Points	12,082
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	100.0%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Apex contracts with Waste Industries for refuse collection, disposal, and recycling. Only the recycling collection is reflected on this page. The town offers curbside recycling to al residents. Residents pay a $2.25 fee per container per month.

The following materials are collected:

- plastics
- paperboard
- chipboard
- paper tubes
- corrugated cardboard
- aluminum
- tin and steel cans
- glass
- newspaper
- magazines and catelogs
- phone books.

Residents living within Apex are encouraged to participate in the curbside recycling program. The program serves 12,082 residences.

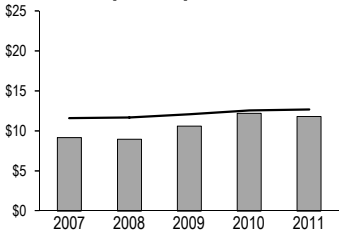
Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

Asheville Household Recycling

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

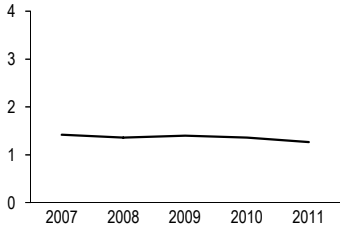
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Asheville	$9.14	$8.94	$10.61	$12.19	$11.81
Average	$11.59	$11.67	$12.06	$12.56	$12.67

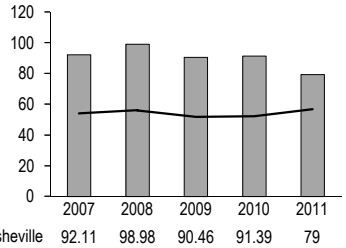
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville					
Average	1.42	1.36	1.40	1.36	1.26

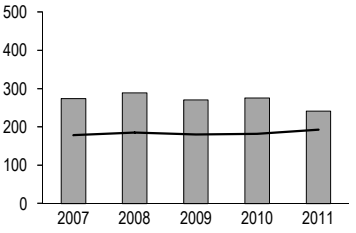
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



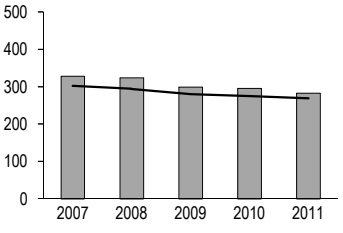
	2007	2008	2009	2010	2011
Asheville	92.11	98.98	90.46	91.39	79
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Asheville	273	289	270	276	241
Average	178	185	180	182	192

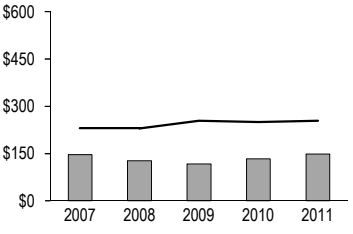
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	327.79	323.54	299.23	295.78	283
Average	302	294	280	275	269

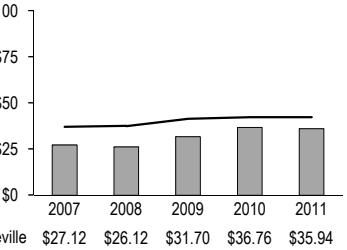
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



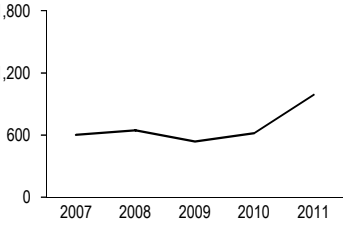
	2007	2008	2009	2010	2011
Asheville	$146	$128	$117	$133	$149
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Asheville	$27.12	$26.12	$31.70	$36.76	$35.94
Average	$36.96	$37.46	$41.45	$42.34	$42.23

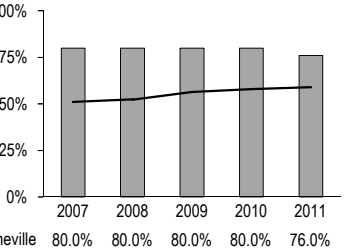
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Asheville					
Average	602	647	541	619	991

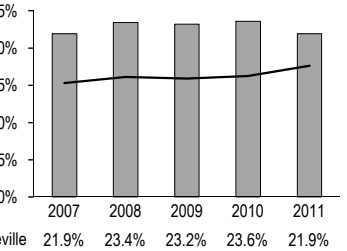
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Asheville	80.0%	80.0%	80.0%	80.0%	76.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Asheville	21.9%	23.4%	23.2%	23.6%	21.9%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Asheville

MUNICIPAL PROFILE

Population (OSBM 2010)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2010)	$53,350

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	991,714
Capital Costs	$	-
TOTAL	$	991,714

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	6,662
Collection Points	27,597
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	1
Percentage of Service Contracted	97.5%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
The city offers curbside recycling service to all residential customers. The service was provided by contract during FY 2010–11.

Asheville charges a $2.95 monthly fee for its recycling service. Recyclables are collected using a two-bin system, with curbside sorting from the collection vehicle. The following materials are collected:

- mixed paper
- newspaper
- corrugated cardboard
- clear, green, and brown glass bottles
- all platstic bottles
- aluminum and steel cans
- telephone books (seasonal)
- aerosol cans.

Residents living within the city of Asheville are encouraged to participate in the curbside recycling program. The program serves 27,597 residences, with each residence receiving two recycling bins at no charge. One green bin is used for mixed paper (e.g., office paper, cereal boxes, magazines, and junk mail). The other bin is used for newspaper, metal cans, plastic bottles, and glass bottles and jars. Cardboard needs to be flattened and placed under the green bin. Recycling is collected every other week on the regular trash day. A curbside recycling truck comes to each neighborhood on a predetermined schedule and separates the recyclables at the curb. Curbside recycling is provided by contract with Curbside Management Incorporated.

There are three drop-off centers within Asheville. One is serviced by the curbside contractor, a second is serviced by another contractor, and a third is operated by Buncombe County. These centers are set up for people who do not have curbside recycling pickup at their homes or businesses. Anyone can use these centers to drop off their recycling twenty-four hours a day, seven days a week.

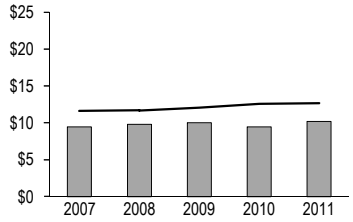
Conditions Affecting Service, Performance, and Costs
The set-out rate is based on the contractor's estimate in monthly reports.

Burlington Household Recycling

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

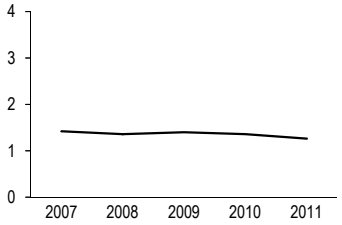
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Burlington	$9.46	$9.78	$10.01	$9.45	$10.20
Average	$11.59	$11.67	$12.06	$12.56	$12.67

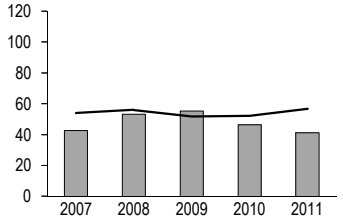
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington					
Average	1.42	1.36	1.40	1.36	1.26

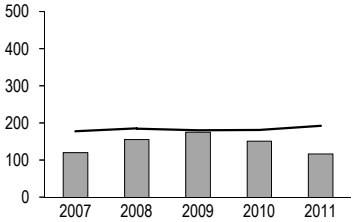
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



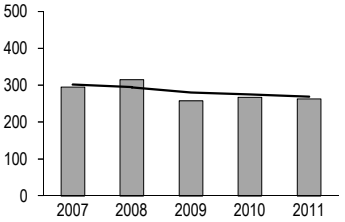
	2007	2008	2009	2010	2011
Burlington	42.65	53.25	55.36	46.41	41
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Burlington	120	155	175	151	117
Average	178	185	180	182	192

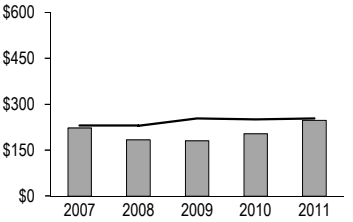
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	295.17	315.13	257.58	266.97	263
Average	302	294	280	275	269

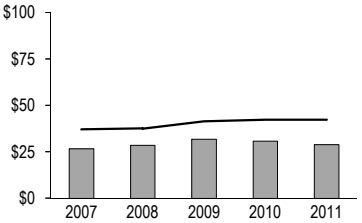
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



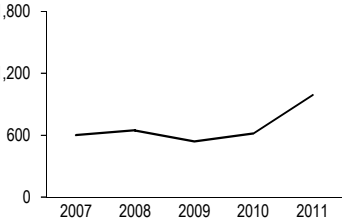
	2007	2008	2009	2010	2011
Burlington	$222	$184	$181	$204	$247
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Burlington	$26.63	$28.51	$31.73	$30.77	$28.83
Average	$36.96	$37.46	$41.45	$42.34	$42.23

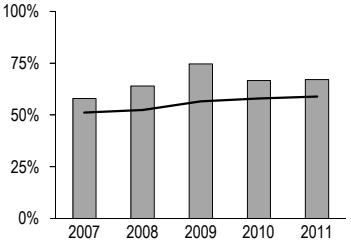
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Burlington					
Average	602	647	541	619	991

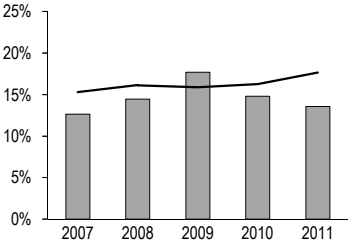
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Burlington	58.0%	64.0%	74.6%	66.6%	67.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Burlington	12.6%	14.5%	17.7%	14.8%	13.6%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Burlington

MUNICIPAL PROFILE

Population (OSBM 2010)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
Topography	Flat; gently rolling
County	Alamance
Climate	Temperate; little snow and ice
Median Family Income (US Census 2010)	$46,461

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	514,664
Capital Costs	$	-
TOTAL	$	514,664

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	2,084
Collection Points	17,854
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	0
Percentage of Service Contracted	100%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Burlington offers curbside recycling to all city residents. The service was contracted through Tidewater Fibre Corporation in FY 2010–11.

The city charges a monthly fee of $2.29 for recycling, which is included in the solid waste fee. Collection of recyclables is done every two weeks. Residents are provided with twenty-two-gallon size bins. Items collected include:

- plastic jugs and bottles, No. 1 and No. 2
- aluminum cans
- steel cans
- corrugated cardboard
- chipboard
- newspaper and inserts
- phone books
- mixed paper
- magazines
- clear, green, amber, and brown glass bottles and jars.

Alamance County provides three drop-off recycling sites.

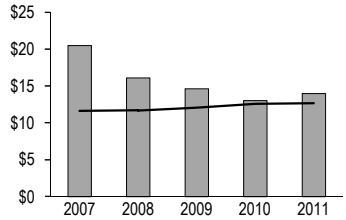
Conditions Affecting Service, Performance, and Costs
The set-out rate is provided annually by the contractor.

The City of Burlington began participation in the benchmarking project in 2007, with its first reporting being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

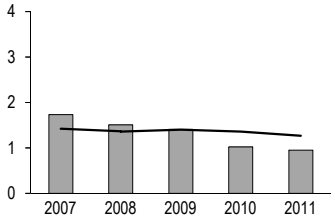
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Cary	$20.46	$16.08	$14.61	$13.00	$13.95
Average	$11.59	$11.67	$12.06	$12.56	$12.67

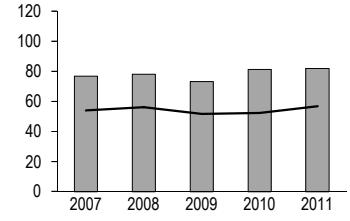
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	1.73	1.51	1.41	1.02	0.95
Average	1.42	1.36	1.40	1.36	1.26

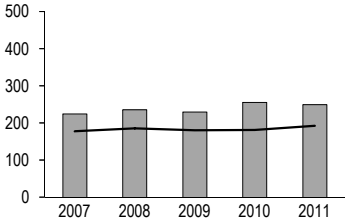
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



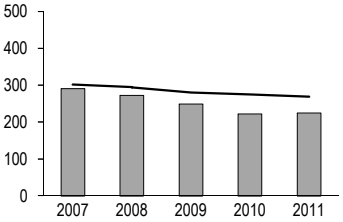
	2007	2008	2009	2010	2011
Cary	76.74	77.93	73.08	81.24	82
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Cary	224	235	230	255	249
Average	178	185	180	182	192

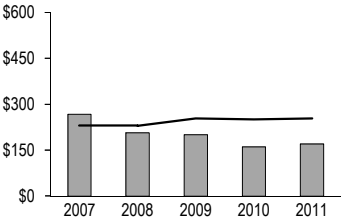
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Cary	290.42	272.15	249.29	222.18	224
Average	302	294	280	275	269

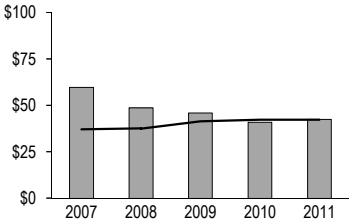
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



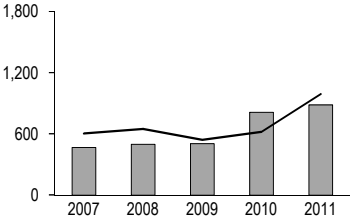
	2007	2008	2009	2010	2011
Cary	$267	$206	$200	$160	$170
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Cary	$59.74	$48.57	$45.91	$40.83	$42.45
Average	$36.96	$37.46	$41.45	$42.34	$42.23

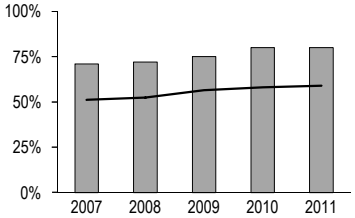
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Cary	465	498	504	810	882
Average	602	647	541	619	991

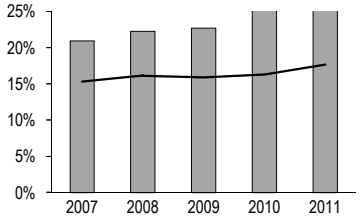
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Cary	71.0%	72.0%	75.0%	80.0%	80.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Cary	20.9%	22.3%	22.7%	26.8%	26.7%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Cary

MUNICIPAL PROFILE

Population (OSBM 2010)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2010)	$108,956

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		48.2%
Operating Costs		34.8%
Capital Costs		17.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	915,302
Operating Costs	$	661,936
Capital Costs	$	322,392
TOTAL	$	1,899,630

SERVICE PROFILE

FTE Positions—Collection	12.0
FTE Positions—Other	1.0
Tons Collected	11,154
Collection Points	44,754
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	1
Percentage of Service Contracted	0%
Revenue from Recycling	$395,675
Revenue as Percentage of Cost	20.8%

EXPLANATORY INFORMATION

Service Level and Delivery
Cary provides biweekly curbside collection of recyclable materials and maintains one drop-off recycling center. The town changed from weekly to biweekly collection in July 2010. The town does not contract any portion of its recycling program. There is a recycling fee, but it is a component of the residential refuse fee.

Materials collected in the curbside program and at the drop-off recycling center include the following:

- newspaper
- chipboard
- phone books
- junk mail
- glossy white paper
- glossy magazines and catalogs
- corrugated cardboard
- milk/juice gable-top cartons
- aluminum cans and foil
- steel and tin food cans
- clear, green, and brown glass bottles and jars
- plastic materials, such as No. 1, No. 2, No. 5, and No. 7 bottles
- used motor oil, electronics, and appliances on request.

The town collected 10,579 tons from the curbside collection and gathered 575 tons at its drop-off site. The town changed to comingled recycling at the curb during FY 2006–07, eliminating curbside sorting. Cary received $395,675 in revenue from the sale of recyclables during FY 2010–11.

Cary defines a valid complaint as a complaint that has been verified in the field by a supervisor.

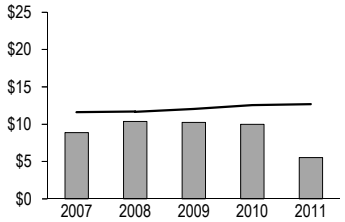
Conditions Affecting Service, Performance, and Costs
The set-out rate is calculated annually.

Charlotte Household Recycling

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

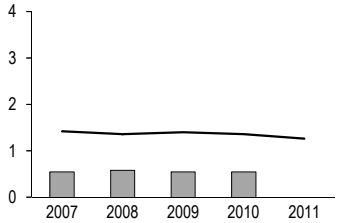
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Charlotte	$8.89	$10.37	$10.23	$9.99	$5.55
Average	$11.59	$11.67	$12.06	$12.56	$12.67

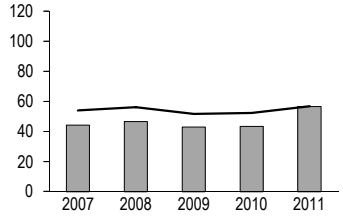
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	0.55	0.58	0.55	0.55	
Average	1.42	1.36	1.40	1.36	1.26

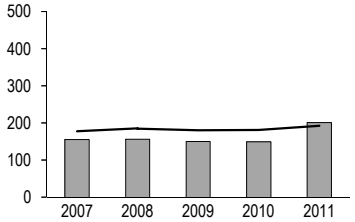
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



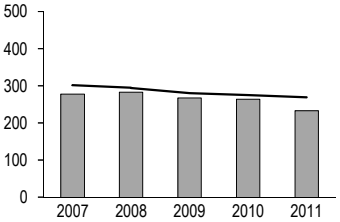
	2007	2008	2009	2010	2011
Charlotte	44.2	46.63	42.85	43.38	57
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Charlotte	155	156	150	150	201
Average	178	185	180	182	192

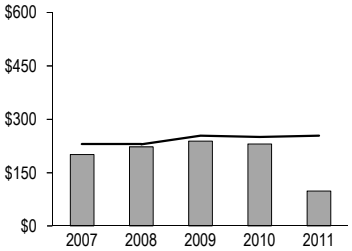
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Charlotte	277.37	282.82	267.37	263.71	233
Average	302	294	280	275	269

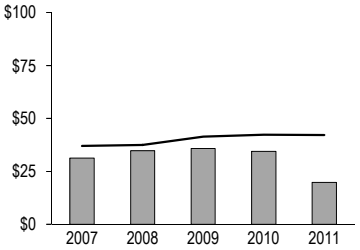
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



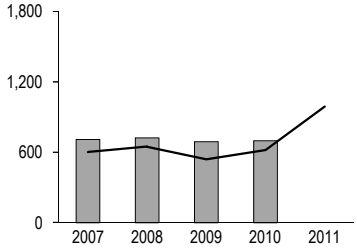
	2007	2008	2009	2010	2011
Charlotte	$201	$222	$239	$230	$98
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Charlotte	$31.24	$34.80	$35.81	$34.48	$19.73
Average	$36.96	$37.46	$41.45	$42.34	$42.23

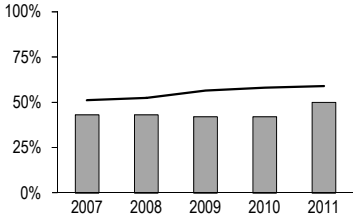
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Charlotte	710	722	689	699	
Average	602	647	541	619	991

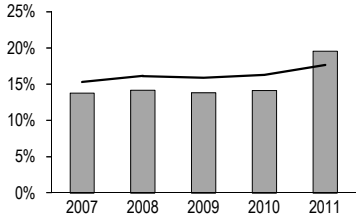
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Charlotte	43.0%	43.0%	42.0%	42.0%	50.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Charlotte	13.7%	14.2%	13.8%	14.1%	19.5%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2010)	738,979
Land Area (Square Miles)	297.68
Persons per Square Mile	2,482
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2010)	$61,405

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		99.5%
Capital Costs		0.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	4,078,223
Capital Costs	$	20,471
TOTAL	$	4,098,694

SERVICE PROFILE

FTE Positions—Collection	0.00
FTE Positions—Other	3.50
Tons Collected	41,770
Collection Points	207,738
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	0
Percentage of Service Contracted	100.0%
Revenue from Recycling	$212,192
Revenue as Percentage of Cost	5.2%

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte provides curbside recycling collection to single-family residential customers once every two weeks. In FY 2010–11, the service was changed from being provided by both city staff and contractors under a managed competition system to now being completely contracted out. Materials collected in the recycling program include the following:

- glass
- plastic
- aluminum
- newspaper
- magazines
- catalogs
- phone books
- cardboard
- milk cartons
- aerosol cans
- juice boxes.

Recycling was changed to a single stream in FY 2010–11. The majority of users were switched to ninety-five or ninety-six-gallon roll-out containers rather than the previous sixteen-gallon bins. The city receives a modest amount from sale of recyclables, which totaled $212,192 for the year.

The county operates several recycling drop-off centers that are available for use by citizens of Charlotte and Mecklenburg County. Tonnage from the drop-off centers is not included in this report.

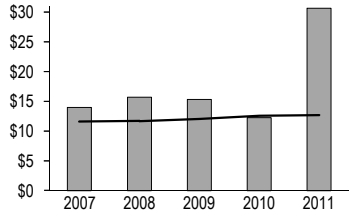
Conditions Affecting Service, Performance, and Costs
The set-out rate is calculated daily, as the trucks are outfitted with Radio Frequency Identification (RFID) readers and the recycling carts have RFID chips installed.

Concord — Household Recycling

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

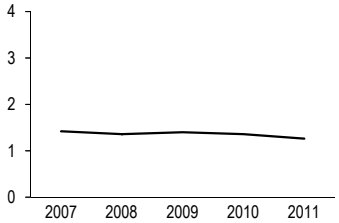
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Concord	$13.97	$15.69	$15.35	$12.23	$30.65
Average	$11.59	$11.67	$12.06	$12.56	$12.67

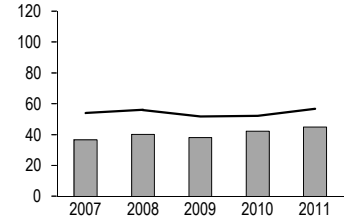
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord					
Average	1.42	1.36	1.40	1.36	1.26

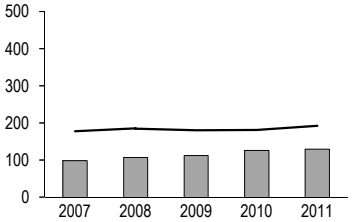
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



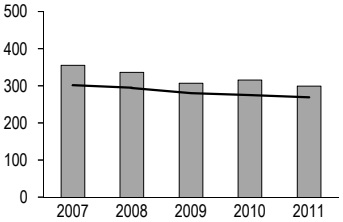
	2007	2008	2009	2010	2011
Concord	36.59	40.24	38.11	42.21	45
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Concord	99	107	113	126	129
Average	178	185	180	182	192

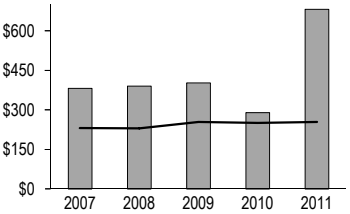
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Concord	354.83	335.76	306.98	315.68	299
Average	302	294	280	275	269

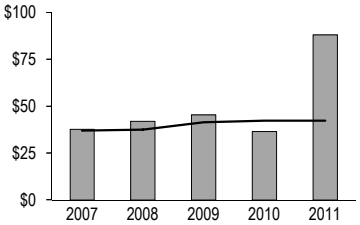
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



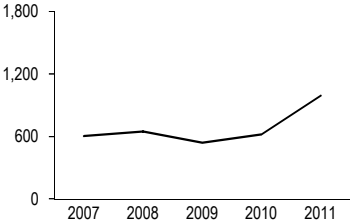
	2007	2008	2009	2010	2011
Concord	$382	$390	$403	$290	$681
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Concord	$37.64	$41.90	$45.43	$36.50	$88.07
Average	$36.96	$37.46	$41.45	$42.34	$42.23

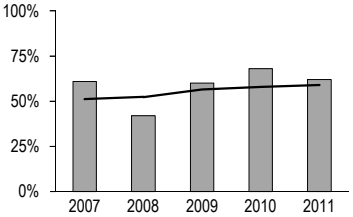
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Concord					
Average	602	647	541	619	991

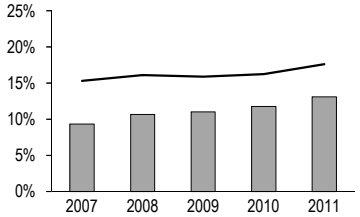
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Concord	61.0%	42.0%	60.0%	68.0%	62.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Concord	9.3%	10.7%	11.0%	11.8%	13.1%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Concord

MUNICIPAL PROFILE

Population (OSBM 2010)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
Topography	Flat
County	Cabarrus
Climate	Mild; some snow and ice
Median Family Income (US Census 2010)	$63,643

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		5.1%
Operating Costs		94.1%
Capital Costs		0.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	123,785
Operating Costs	$	2,294,186
Capital Costs	$	19,393
TOTAL	$	2,437,364

SERVICE PROFILE

FTE Positions—Collection	1.5
FTE Positions—Other	1.1
Tons Collected	3,579
Collection Points	27,676
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	100%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Concord provides once-a-week curbside collection of recyclable materials from households. The city uses a contractor to provide recycling collection. Residents place materials into bins. The recyclable materials collected include:

- glass
- newspaper
- magazines
- mixed paper and mail
- No. 1 and No. 2 plastics
- metal and aluminum food and beverage containers.

Concord uses a contract collector for regular residential curbside recycling. The materials are collected on a commingled basis weekly from each participating resident and delivered to a materials recovery facility (MRF) in Charlotte for separation and marketing.

Conditions Affecting Service, Performance, and Costs
In FY 2010–11, Concord purchased new recycling carts. The cost of these carts is a special one-time expense that is not treated as capital because each cart is below a dollar threshold. The large jump in the various cost measures for recycling is therefore a special one-time jump that will not be repeated.

The set-out rate is caculated twice a year.

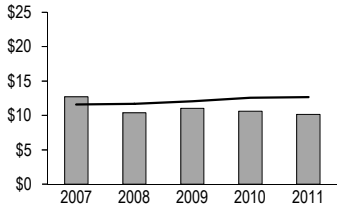
The city collects a small amount of recyclables in the form of tires and millennium metals totaling sixty-two tons in FY 2010–2011.

Greensboro Household Recycling

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

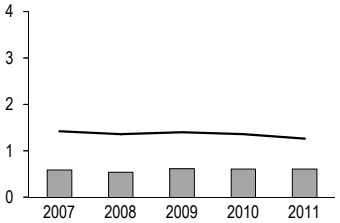
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Greensboro	$12.69	$10.37	$11.03	$10.62	$10.15
Average	$11.59	$11.67	$12.06	$12.56	$12.67

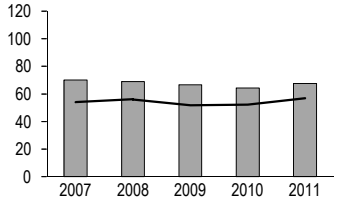
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	0.59	0.54	0.62	0.61	0.61
Average	1.42	1.36	1.40	1.36	1.26

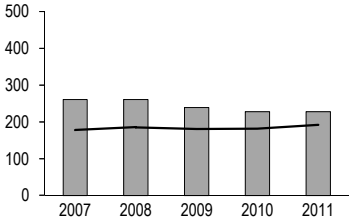
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



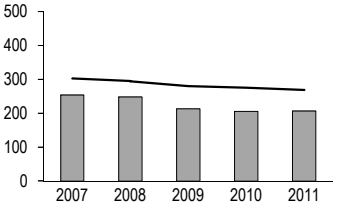
	2007	2008	2009	2010	2011
Greensboro	70.09	69.04	66.71	64.3	68
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greensboro	261	261	238	228	228
Average	178	185	180	182	192

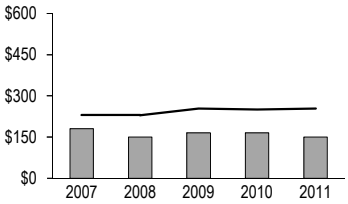
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	253.75	247.83	212.94	205.55	206
Average	302	294	280	275	269

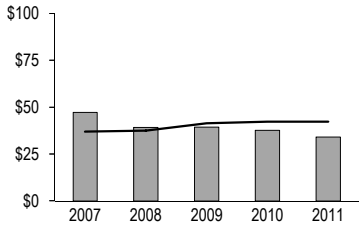
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



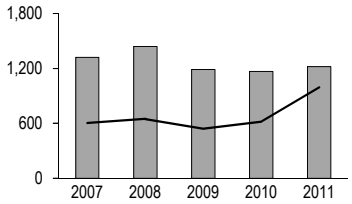
	2007	2008	2009	2010	2011
Greensboro	$181	$150	$165	$165	$150
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Greensboro	$47.23	$39.15	$39.43	$37.62	$34.17
Average	$36.96	$37.46	$41.45	$42.34	$42.23

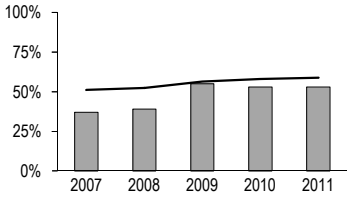
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Greensboro	1319	1439	1189	1166	1218
Average	602	647	541	619	991

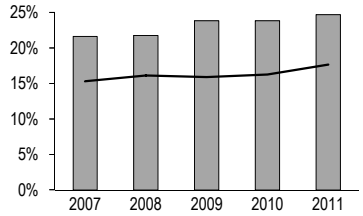
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Greensboro	37.0%	39.0%	55.0%	53.0%	53.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Greensboro	21.6%	21.8%	23.9%	23.8%	24.7%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2010)	270,065
Land Area (Square Miles)	126.63
Persons per Square Mile	2,133
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2010)	$52,752

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		31.6%
Operating Costs		68.4%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	865,302
Operating Costs	$	1,876,660
Capital Costs	$	-
TOTAL	$	2,741,962

SERVICE PROFILE

FTE Positions—Collection	15.0
FTE Positions—Other	1.5
Tons Collected	18,269
Collection Points	80,251
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	17
Percentage of Service Contracted	0%
Revenue from Recycling	$355,455
Revenue as Percentage of Cost	13.0%

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro operates a voluntary commingled collection process for its recycling customers. Recycling services are provided to the community by means of single ninety-gallon automated containers and by green translucent bags. Partnerships also are maintained with fire departments, the county school system, the extension office, and the parks department for providing drop-off sites. There are seventeen city-owned drop-off sites, but these collected tons are not reported in Greensboro's data.

Greensboro changed its recycling pickup from once per week to every other week in FY 2007–08. Recycling materials are not sorted curbside. Instead they are set out in one container, picked up by an automated-collection crew, and taken to an off-site contractor who sorts and recycles the materials. Greensboro provides the collection pickup and delivery to the contractor's location, while the contractor provides for recovery of materials and disposal of the residuals they are unable to recycle.

Materials collected by Greensboro's household recycling program include:

- No. 1 and No. 2 plastics
- newspaper
- magazines
- telephone books
- cardboard
- aluminum and steel cans
- chipboard (cereal boxes)
- glass jars and bottles
- plastic soda bottles and milk jugs
- office paper
- empty aerosol cans.

Greensboro contracts with a private firm for separation, packaging, and sale of recyclable materials. City payments to the contractor for FY 2010–11 are included in total cost. The contractor pays the city 50 percent of the net proceeds that the contractor receives from the sale of recyclable items. The estimated revenues for sale of recyclables for residential recycling for FY 2010–11 was $355,455.

Conditions Affecting Service, Performance, and Costs
Greensboro is highly automated in gathering materials from its recycling program.

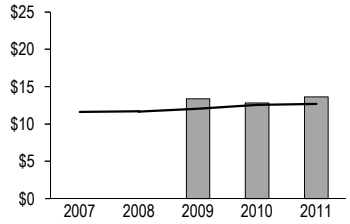
Greensboro switched from weekly collection to every other week in FY 2007–08, which explains part of the increase in the community set-out rate. Additionally, an education campaign to increase participation was conducted. The set-out rate was based on a manual count done on a weekly basis.

Greenville Household Recycling

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

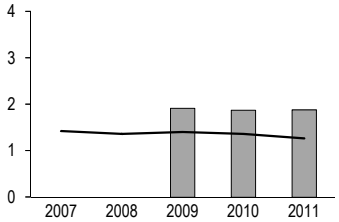
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Greenville			$13.39	$12.80	$13.65
Average	$11.59	$11.67	$12.06	$12.56	$12.67

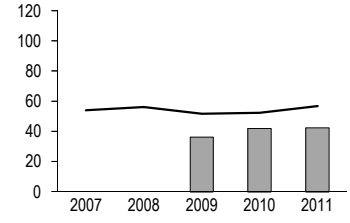
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			1.91	1.87	1.88
Average	1.42	1.36	1.40	1.36	1.26

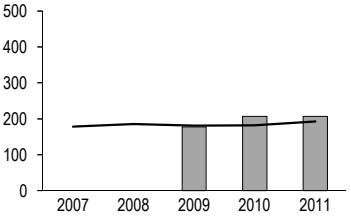
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



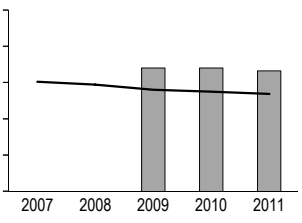
	2007	2008	2009	2010	2011
Greenville			36.19	41.98	42
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greenville			178	206	206
Average	178	185	180	182	192

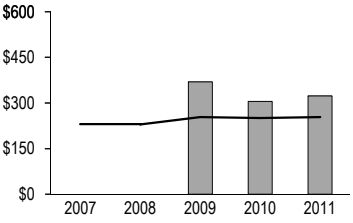
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			339.79	340.19	332
Average	302	294	280	275	269

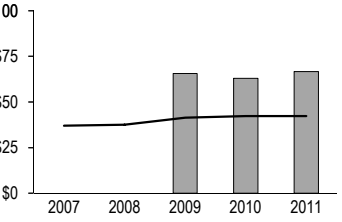
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



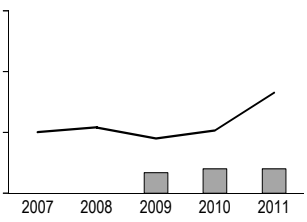
	2007	2008	2009	2010	2011
Greenville			$370	$305	$323
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Greenville			$65.66	$62.94	$66.69
Average	$36.96	$37.46	$41.45	$42.34	$42.23

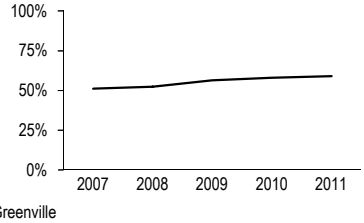
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Greenville			202	240	240
Average	602	647	541	619	991

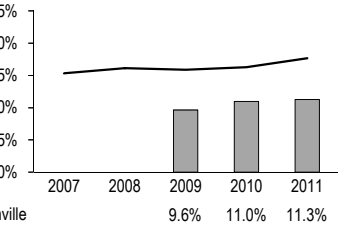
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Greenville					
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Greenville			9.6%	11.0%	11.3%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Greenville

MUNICIPAL PROFILE

Population (OSBM 2010)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
Topography	Flat
County	Pitt
Climate	Mild; little snow and ice
Median Family Income (US Census 2010)	$50,395

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.9%
Operating Costs		24.3%
Capital Costs		11.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	742,261
Operating Costs	$	282,991
Capital Costs	$	137,180
TOTAL	$	1,162,432

SERVICE PROFILE

FTE Positions—Collection	15.0
FTE Positions—Other	1.0
Tons Collected	3,599
Collection Points	17,431
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	2
Percentage of Service Contracted	0%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Greenville offers once-a-week curbside or backyard collection of recyclable materials to its residents through a city-run program. Residents can choose to have backyard collection for a higher fee. The recycling fee is included in the solid waste fee for residential refuse collection. The recycling materials include:

- newspaper and magazines
- cardboard
- aluminum and steel cans
- No. 1 and No. 2 plastics
- glass of all colors
- white goods.

Greenville's household recycling program also uses two city-owned drop-off recycling centers and eighty-nine other sites connected to multi-family complexes. Tonnage and cost for these other drop-off sites are not included in the performance and cost data.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in July 2009, with the first year of reporting being for FY 2008–09.

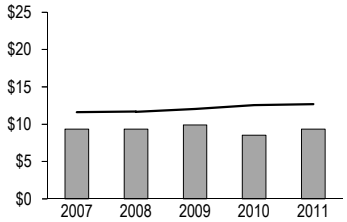
Greenville does not track the number of households which set out recyclables on a weekly basis.

Hickory — Household Recycling

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

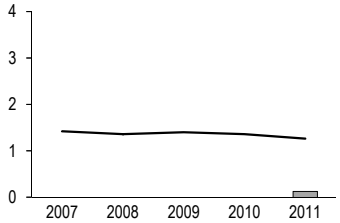
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Hickory	$9.34	$9.34	$9.90	$8.52	$9.33
Average	$11.59	$11.67	$12.06	$12.56	$12.67

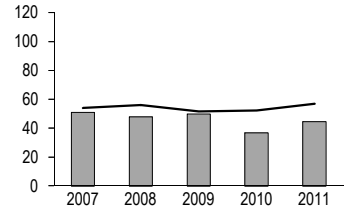
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory					0.13
Average	1.42	1.36	1.40	1.36	1.26

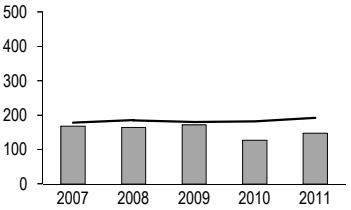
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



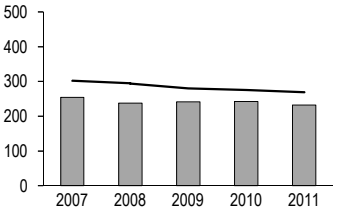
	2007	2008	2009	2010	2011
Hickory	51.03	47.85	49.82	36.73	45
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Hickory	168	164	172	127	148
Average	178	185	180	182	192

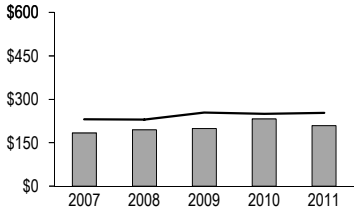
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	254.67	237.75	241.02	241.87	232
Average	302	294	280	275	269

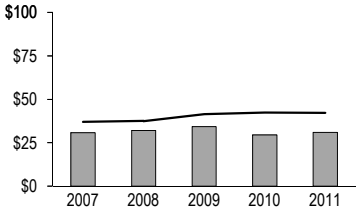
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



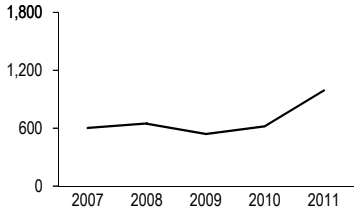
	2007	2008	2009	2010	2011
Hickory	$183	$195	$199	$232	$209
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Hickory	$30.84	$32.03	$34.22	$29.53	$30.90
Average	$36.96	$37.46	$41.45	$42.34	$42.23

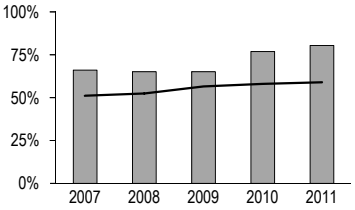
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Hickory					
Average	602	647	541	619	991

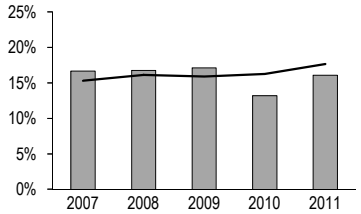
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Hickory	66.0%	65.0%	65.0%	76.9%	80.4%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Hickory	16.7%	16.8%	17.1%	13.2%	16.1%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Hickory

MUNICIPAL PROFILE

Population (OSBM 2010)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
Topography	Gently rolling
County	Catawba
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$54,093

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		7.0%
Operating Costs		93.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	26,207
Operating Costs	$	347,625
Capital Costs	$	16
TOTAL	$	373,848

SERVICE PROFILE

FTE Positions—Collection	0.5
FTE Positions—Other	0.01
Tons Collected	1,787
Collection Points	12,100
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	2
Percentage of Service Contracted	70%
Revenue from Recycling	$86,292
Revenue as Percentage of Cost	23.1%

EXPLANATORY INFORMATION

Service Level and Delivery
Hickory offers once-a-week curbside collection of recyclable materials to its residents through a contractual agreement. The recycling materials collected include:

- newspaper and magazines
- aluminum and steel cans
- No. 1 and No. 2 plastics
- glass—all colors
- phone books and junk mail.

Hickory's household recycling program also uses two drop-off recycling centers. One is staffed, and the other is not. These centers collect antifreeze and oil in addition to the same household materials that are collected at the curb. Tonnage and costs for this service are included in the performance and cost data.

A separate commercial recycling program that services businesses and multi-family units is operated by the city. The program utilizes city workers and equipment to collect cardboard and paper in addition to the curbside materials. The performance and cost data do not include the commercial program.

The city charges residents a monthly fee for recycling, which is included in the monthly solid waste fee. In FY 2010–11, the city collected $86,292 in revenue from the sale of recyclables. The market for recyclables has improved in the last year.

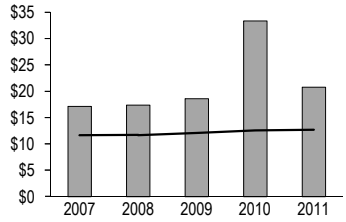
Conditions Affecting Service, Performance, and Costs
The set-out rate is calculated on a monthly basis by the contractor.

High Point — Household Recycling

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

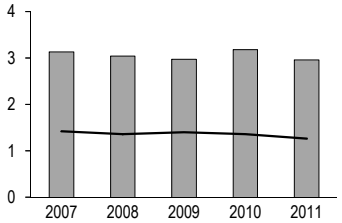
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
High Point	$17.13	$17.34	$18.59	$33.36	$20.78
Average	$11.59	$11.67	$12.06	$12.56	$12.67

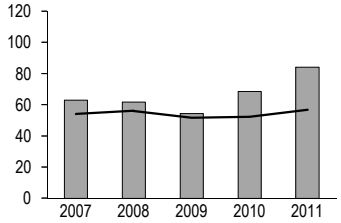
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	3.13	3.04	2.97	3.18	2.96
Average	1.42	1.36	1.40	1.36	1.26

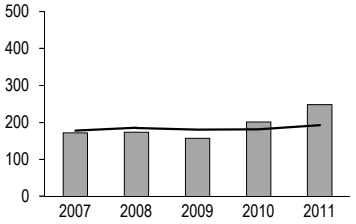
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



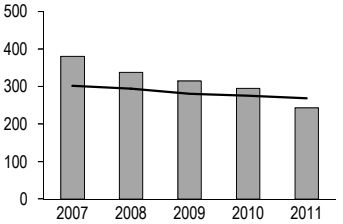
	2007	2008	2009	2010	2011
High Point	62.91	61.76	54.36	68.53	84
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
High Point	172	174	157	201	248
Average	178	185	180	182	192

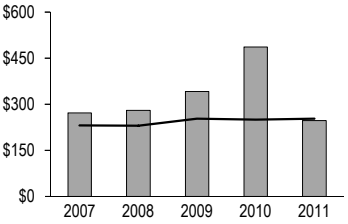
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
High Point	380.26	337.84	314.3	295.21	243
Average	302	294	280	275	269

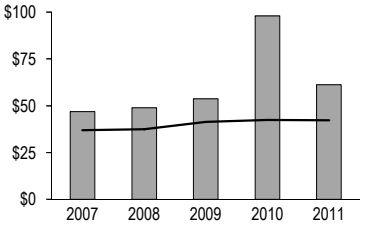
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



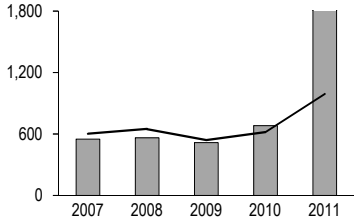
	2007	2008	2009	2010	2011
High Point	$272	$281	$342	$487	$247
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
High Point	$46.93	$48.87	$53.62	$97.83	$61.25
Average	$36.96	$37.46	$41.45	$42.34	$42.23

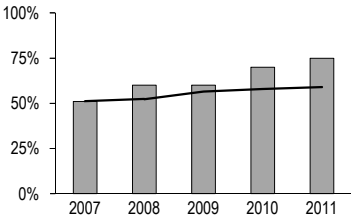
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
High Point	552	563	517	683	2848
Average	602	647	541	619	991

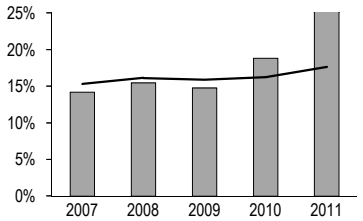
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
High Point	51.0%	60.0%	60.0%	70.0%	75.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
High Point	14.2%	15.5%	14.7%	18.8%	25.7%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

High Point

MUNICIPAL PROFILE

Population (OSBM 2010)	104,788
Land Area (Square Miles)	53.81
Persons per Square Mile	1,948
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2010)	$49,720

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		11.0%
Operating Costs		85.1%
Capital Costs		3.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	239,019
Operating Costs	$	1,852,913
Capital Costs	$	85,108
TOTAL	$	2,177,040

SERVICE PROFILE

FTE Positions—Collection	3.00
FTE Positions—Other	28.00
Tons Collected	8,816
Collection Points	35,544
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	10
Percentage of Service Contracted	0%
Revenue from Recycling	$1,056,049
Revenue as Percentage of Cost	48.5%

EXPLANATORY INFORMATION

Service Level and Delivery
The city offers curbside collection every other week. Large ninety-six-gallon containers are provided to customers. Additional carts may be purchased. The recycling program is a city function.

Recyclables are collected using four recycling crews that work in the Environmental Services Division. Each crew consists of one driver and one laborer. There also are ten drop-off sites throughout the city for newspaper collection. The following materials are collected:

- plastic
- glass
- metal and aluminum cans
- magazines
- newspaper
- phone books
- cardboard
- mixed paper.

The city also operates and owns a material recovery facility (MRF). There is a buy-back center at the MRF to service individuals selling recyclables. This report includes the cost and FTE positions for the MRF. Drop-off sites include the MRF and nine recycling dumpsters.

Conditions Affecting Service, Performance, and Costs
The city used a random sample to determine the set-out rate.

High Point has been working on improving efficiency and processing of recyclables for resale. Combined with better markets for recyclable materials, revenue from sales of recyclable materials are up, totaling over $1 million.

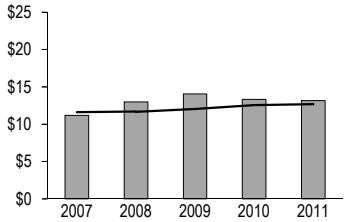
High Point made a transition in FY 2009–10 to less frequent automated collection. This changeover brought with it a large amount of one-time costs associated with recycling containers and new collection equipment.

Salisbury Household Recycling

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

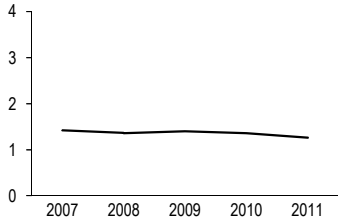
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Salisbury	$11.20	$12.99	$14.05	$13.35	$13.16
Average	$11.59	$11.67	$12.06	$12.56	$12.67

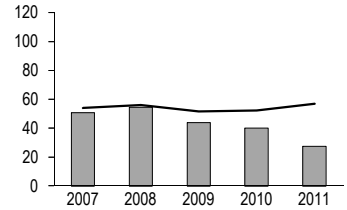
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury					
Average	1.42	1.36	1.40	1.36	1.26

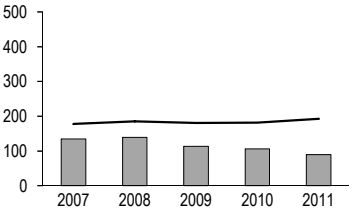
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



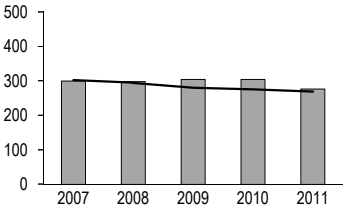
	2007	2008	2009	2010	2011
Salisbury	50.77	54.54	43.9	40.08	28
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Salisbury	134	139	113	106	89
Average	178	185	180	182	192

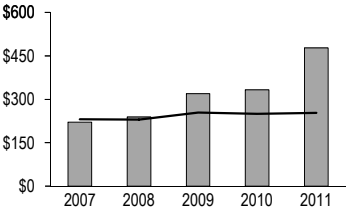
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	299.62	297.96	303.69	303.76	276
Average	302	294	280	275	269

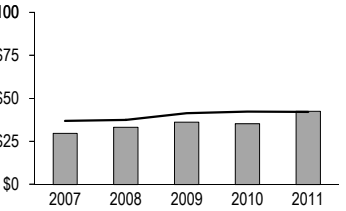
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



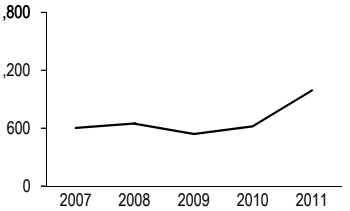
	2007	2008	2009	2010	2011
Salisbury	$221	$238	$320	$333	$478
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Salisbury	$29.65	$33.17	$36.25	$35.28	$42.58
Average	$36.96	$37.46	$41.45	$42.34	$42.23

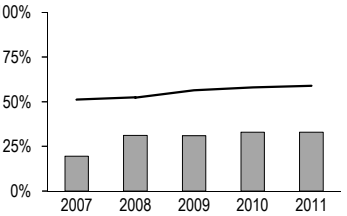
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Salisbury					
Average	602	647	541	619	991

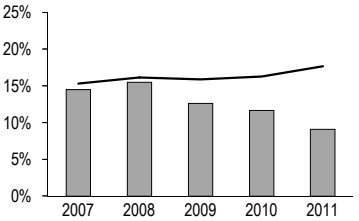
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Salisbury	19.5%	31.1%	31.0%	33.0%	33.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Salisbury	14.5%	15.5%	12.6%	11.7%	9.1%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2010)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
Topography	Gently rolling
County	Rowan
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$40,192

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	0.0%
Operating Costs	100.0%
Capital Costs	0.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	443,938
Capital Costs	$	-
TOTAL	$	443,938

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	929
Collection Points	10,427
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	100%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Salisbury provides once-a-week curbside collection of recyclable materials from households. The city charged a monthly recycling fee of $4.03 in FY 2010–11. The city provides and pays for the fourteen-gallon recycling bins that residents use. The city contracts 100 percent of its recycling program. Recyclables are sorted at the curb by the contractor and taken to the county recycling site.

The recyclable materials collected include:

- glass (all colors)
- newspaper
- magazines and catalogs
- mixed paper and mail
- telephone books
- cardboard—broken down and cereal boxes
- plastics—No. 1 and No. 2
- aluminum cans
- steel cans.

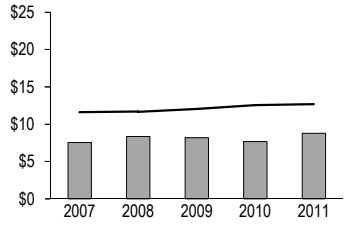
Conditions Affecting Service, Performance, and Costs
The set-out rate was reported monthly by the contractor. The city reserves the right to conduct unannounced follow-up inspections of the collection process.

Wilmington — Household Recycling

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

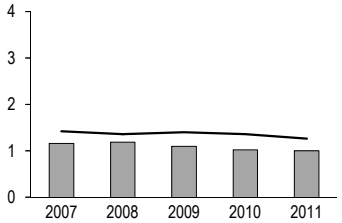
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Wilmington	$7.53	$8.37	$8.21	$7.67	$8.79
Average	$11.59	$11.67	$12.06	$12.56	$12.67

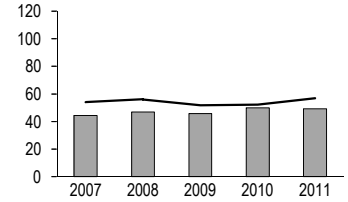
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	1.16	1.19	1.1	1.02	1.01
Average	1.42	1.36	1.40	1.36	1.26

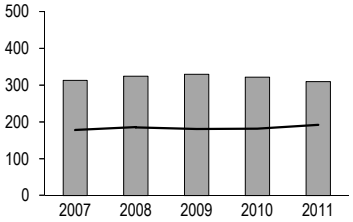
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



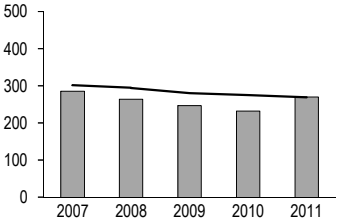
	2007	2008	2009	2010	2011
Wilmington	44.49	46.84	45.68	50	49
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilmington	312	324	329	321	309
Average	178	185	180	182	192

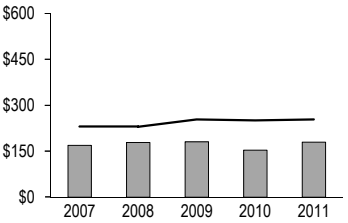
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Wilmington	285.22	263.67	246.85	232.32	270
Average	302	294	280	275	269

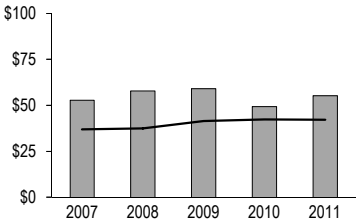
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



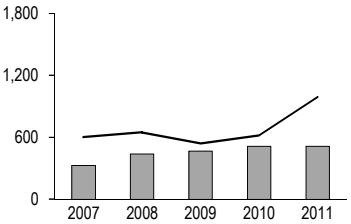
	2007	2008	2009	2010	2011
Wilmington	$169	$179	$180	$153	$179
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Wilmington	$52.85	$57.83	$59.14	$49.27	$55.33
Average	$36.96	$37.46	$41.45	$42.34	$42.23

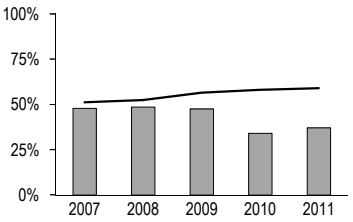
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Wilmington	328	438	467	515	512
Average	602	647	541	619	991

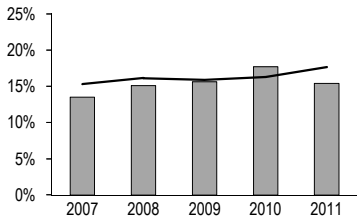
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Wilmington	47.8%	48.6%	47.5%	34.1%	37.1%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Wilmington	13.5%	15.1%	15.6%	17.7%	15.4%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2010)	106,882
Land Area (Square Miles)	51.49
Persons per Square Mile	2,076
Topography	Flat; gently rolling
County	New Hanover
Climate	Mild
Median Family Income (US Census 2010)	$57,892

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.2%
Operating Costs		32.4%
Capital Costs		14.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	499,877
Operating Costs	$	304,579
Capital Costs	$	134,717
TOTAL	$	939,173

SERVICE PROFILE

FTE Positions—Collection	10.25
FTE Positions—Other	0.50
Tons Collected	5,253
Collection Points	16,974
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	0%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Wilmington's household recycling program provides curbside pickup of materials once each week to residences, small businesses, and small apartment complexes that choose to participate. During FY 2006–07, Wilmington made a major shift in its recycling program. Starting in November 2006, the city assumed all responsibility for recycling collection. Prior to that time, 100 percent of this work was performed by a contractor. For FY 2010–11, city crews gathered 5,253 tons of recyclables. The transition from a contracted service to a wholly city-run collection program entailed a significant amount of one-time costs, such as for purchasing equipment and collection bins.

Materials collected by Wilmington's recycling program include:

- green, brown, and clear glass
- aluminum beverage cans and steel cans
- newspaper
- certain plastics (No. 1 and No. 2)
- all paper products
- cardboard (downtown only).

A separate recycling fee is not charged, but the cost of the program is included in the solid waste fee paid by city residents. Recycling containers are provided to residents at no cost. Recyclables are not separated at curbside but go into a single stream which is handled at the regional recycling facility.

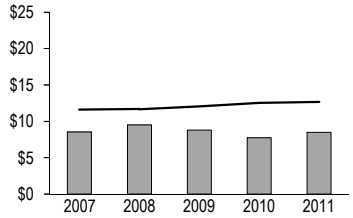
Conditions Affecting Service, Performance, and Costs
Of the potential eligible households that could join in the voluntary program 59 percent, or 16,974 households, chose to participate. Of these participating households,62 percent set out their recycling on average. Thus, approximately 37 percent of the households that could join were actually setting out recyclables during a regular collection week.

Wilson Household Recycling

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

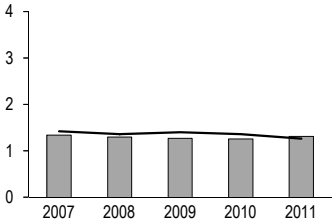
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Wilson	$8.54	$9.49	$8.80	$7.74	$8.49
Average	$11.59	$11.67	$12.06	$12.56	$12.67

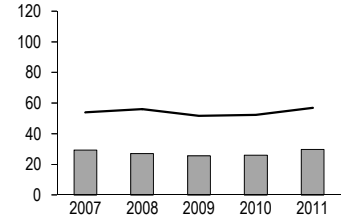
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	1.34	1.3	1.27	1.26	1.32
Average	1.42	1.36	1.40	1.36	1.26

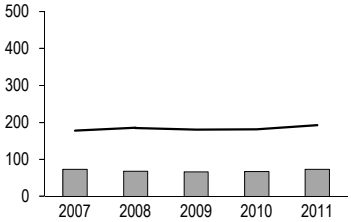
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



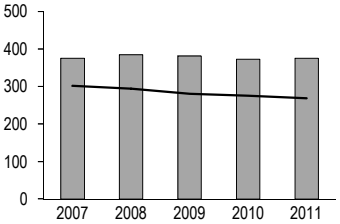
	2007	2008	2009	2010	2011
Wilson	29.23	26.92	25.65	25.94	30
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilson	74	69	66	67	74
Average	178	185	180	182	192

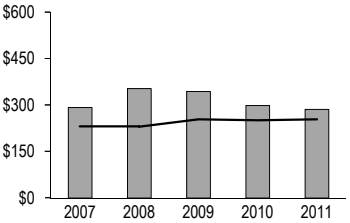
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Wilson	374.88	384.64	381.55	372.36	375
Average	302	294	280	275	269

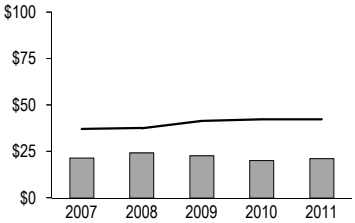
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



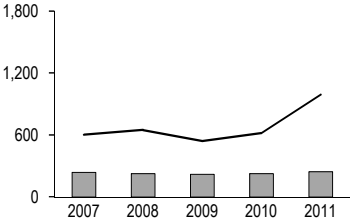
	2007	2008	2009	2010	2011
Wilson	$292	$353	$343	$298	$286
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Wilson	$21.47	$24.17	$22.71	$20.10	$21.08
Average	$36.96	$37.46	$41.45	$42.34	$42.23

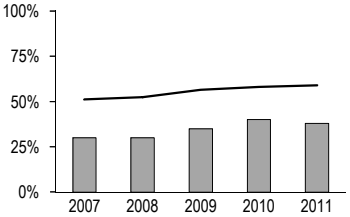
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Wilson	237	225	219	224	245
Average	602	647	541	619	991

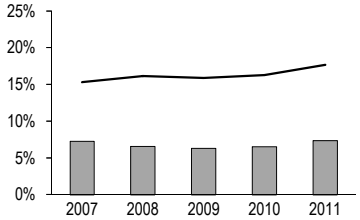
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Wilson	30.0%	30.0%	35.0%	40.0%	38.0%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Wilson	7.2%	6.5%	6.3%	6.5%	7.3%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Wilson

MUNICIPAL PROFILE

Population (OSBM 2010)	49,421
Land Area (Square Miles)	28.76
Persons per Square Mile	1,718
Topography	Flat
County	Wilson
Climate	Mild; little snow and ice
Median Family Income (US Census 2010)	$43,442

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		45.0%
Operating Costs		36.3%
Capital Costs		18.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	188,907
Operating Costs	$	152,371
Capital Costs	$	78,179
TOTAL	$	419,457

SERVICE PROFILE

FTE Positions—Collection	6.0
FTE Positions—Other	0.5
Tons Collected	1,468
Collection Points	19,900
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	0%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Wilson's household recycling program provides curbside pickup of materials once each week to residents on the same day as residential refuse collection but by different crews. The recycling program is part of the Division of Environmental Services.

The following materials are collected:

- aluminum and steel cans
- No. 1 and No. 2 plastic containers
- newsprint
- clear, green, and brown glass
- waste oil on a call-in basis.

Wilson used two three-person crews in FY 2010–11, consisting of one driver and two collectors each.

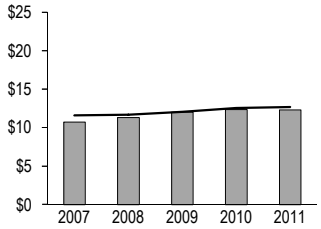
Conditions Affecting Service, Performance, and Costs
The set-out rate was calculated on a monthly basis with drivers on the recycling trucks using counters.

Winston-Salem Household Recycling

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2011

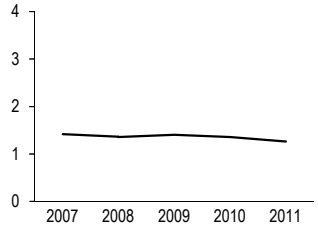
RESOURCE Measures

Recycling Services Cost per Capita



	2007	2008	2009	2010	2011
Winston-Salem	$10.73	$11.29	$12.02	$12.34	$12.30
Average	$11.59	$11.67	$12.06	$12.56	$12.67

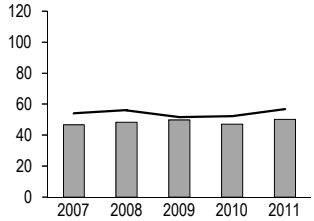
Recycling Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem					
Average	1.42	1.36	1.40	1.36	1.26

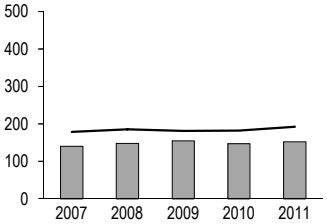
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



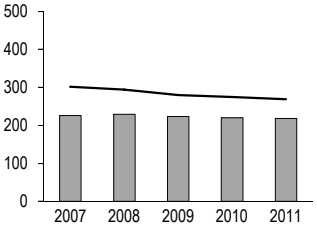
	2007	2008	2009	2010	2011
Winston-Salem	46.77	48.32	49.87	47.06	50
Average	54	56	52	52	57

Tons Recyclables Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Winston-Salem	140	147	155	147	152
Average	178	185	180	182	192

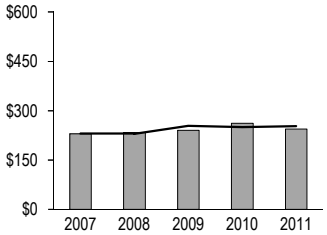
Tons Solid Waste Landfilled per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	225.86	229.56	223.42	220.39	218
Average	302	294	280	275	269

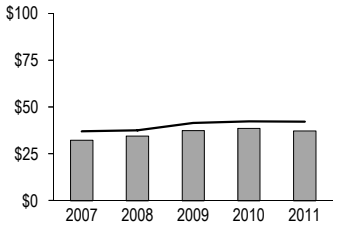
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



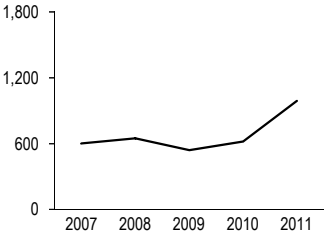
	2007	2008	2009	2010	2011
Winston-Salem	$229	$234	$241	$262	$245
Average	$230	$230	$254	$250	$254

Recycling Services Cost per Collection Point



	2007	2008	2009	2010	2011
Winston-Salem	$32.17	$34.44	$37.29	$38.56	$37.25
Average	$36.96	$37.46	$41.45	$42.34	$42.23

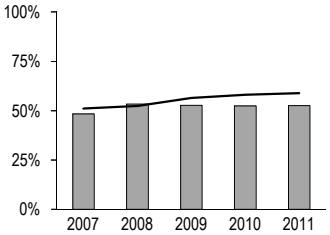
Tons Collected Curbside per Municipal FTE



	2007	2008	2009	2010	2011
Winston-Salem					
Average	602	647	541	619	991

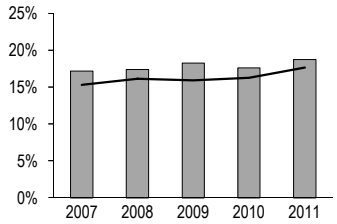
EFFECTIVENESS Measures

Community Set-Out Rate



	2007	2008	2009	2010	2011
Winston-Salem	48.4%	53.3%	52.8%	52.5%	52.6%
Average	51.1%	52.3%	56.5%	58.0%	58.9%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2007	2008	2009	2010	2011
Winston-Salem	17.2%	17.4%	18.2%	17.6%	18.7%
Average	15.3%	16.1%	15.9%	16.3%	17.6%

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2010)	230,345
Land Area (Square Miles)	132.45
Persons per Square Mile	1,739
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$51,491

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		2.3%
Operating Costs		97.7%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	64,117
Operating Costs	$	2,768,330
Capital Costs	$	901
TOTAL	$	2,833,348

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	1.0
Tons Collected	10,947
Collection Points	76,064
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	9
Percentage of Service Contracted	100%
Revenue from Recycling	$384,704
Revenue as Percentage of Cost	13.6%

EXPLANATORY INFORMATION

Service Level and Delivery
Winston-Salem provides weekly curbside household recycling service to its single-family residences using bins and collects recyclables placed in ninety-six-gallon carts weekly from multi-family dwellings and small businesses. The city provides nine drop-off sites for cardboard at its fire stations. Items collected in the city's curbside household recycling program include:

- aluminum and steel cans
- all plastic bottles
- green, amber, and clear glass
- newspaper
- magazines, telephone books, and junk mail
- chipboard
- corrugated cardboard (no bundling requirement)
- office paper
- aerosol cans.

The city contracts for 100 percent of its curbside household recycling program. The contractor separates recyclables at the curb, placing paper products in one compartment on the truck and non-paper products in another. The contractor takes the recyclables to a processing facility where commodities are further separated. The city does not charge a recycling fee. Revenue to the city for the sale of recyclables was $384,704 during FY 2010–11.

Conditions Affecting Service, Performance, and Costs
Winston-Salem's recycling program is funded entirely by landfill tipping fees.

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Performance and Cost Data

YARD WASTE/LEAF COLLECTION

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PERFORMANCE MEASURES FOR YARD WASTE/LEAF COLLECTION

SERVICE DEFINITION

Yard waste and leaf collection includes regularly scheduled or special collection of these items. Such collection may occur from the curb, backyard, or another locale. Yard waste and leaves may be bagged, placed in containers, or loose. The service definition excludes the collection of white goods and other bulky items. Although some municipalities collect yard waste and leaves with household refuse or other trash, they do separate the two at some point in the collection process because yard waste and leaves cannot be placed in landfills.

NOTES ON PERFORMANCE MEASURES

1. Tons Collected per 1,000 Population and per 1,000 Collection Points

These are the same performance measures that are used for residential refuse collection, except that tonnage is for yard waste, leaves, and miscellaneous trash rather than residential refuse. “Collection points” refers to the number of residential premises served by regularly scheduled collection of yard waste, leaves, and miscellaneous trash.

2. Cost per Ton Collected

Cost is measured using the project’s full cost accounting model, calculating direct, indirect, and capital costs. Tons are as defined above.

3. Tons Collected per Collection FTE

The number of full-time equivalent (FTE) positions refers to the number of employees or laborers who were directly involved in collection of yard waste, leaves, and miscellaneous trash during the fiscal year. This number includes temporary, permanent, full-time, and part-time workers. Such workers can be sanitation, street, or other municipal employees. One FTE equals 2,080 hours of work per year. Any combination of employees providing 2,080 hours of work per year is one FTE.

4. Complaints (and Valid Complaints) per 10,000 Collection Points

Complaints are those tracked by each jurisdiction, using its own criteria and procedures. Collection points are as defined above. The municipalities follow very different procedures in processing and recording these calls and determining which ones are complaints and which are not. For these reasons, the project is able to present limited comparative data about complaints or valid complaints. Nonetheless, the project recommends that the participating municipalities devise common criteria for identifying complaints and procedures for processing and recording calls.

Yard Waste/Leaf Collection

Summary of Key Dimensions of Service

City or Town	Yard Waste Collection		Seasonal Loose Leaf Collection	Collection Points	Tons Collected		FTE Positions
	Location	Frequency			Yard Waste	Loose Leaves	
Apex	Curbside	1 x week	NA	11,337	4,944	NA	10.25
Asheville	Curbside	2 x month	2 sweeps	29,150	6,364	2,502	17.8
Burlington	Curbside	1 x week	4 sweeps	17,854	5,292	2,998	14.32
Cary	Curbside	1 x week	2 sweeps	43,637	13,394	3,160	26.9
Charlotte	Curbside	1 x week	NA	207,738	51,503	na	77
Concord	Curbside	1 x week	3 sweeps	27,676	6,489	1,767	24.6
Greensboro	Curbside	1 x week	2 sweeps	80,251	15,568	9,306	41.2
Greenville	Curbside	1 x week	1 x week	20,000	21,000		20.75
Hickory	Curbside	1 x week	2 sweeps	12,100	3,522	2,903	9.75
High Point	Curbside	1 x week	2 sweeps	35,544	5,407	1,700	15.5
Salisbury	Curbside	1 x week	1 x 3 weeks	12,000	4,650	4,890	7
Wilmington	Curbside	1 x week	NA	27,583	11,598	NA	21.6
Wilson	Curbside	1 x week	1 x 3 weeks	19,900	6,958	1,435	15.5
Winston-Salem	Curbside	Yard Waste Cart 1 x week Brush every 10 days	2 to 3 sweeps	14,040 for yard waste cart and 76,064 for other	23,544	13,450	84.96

NOTES

Municipalities with no reported seasonal leaf collection collect leaves as part of their yard waste collection programs.

EXPLANATORY FACTORS

These are factors that the project found to affect yard waste and leaf collection performance and cost in one or more of the municipalities:

Whether or not a fee is charged for collection
Residential/commercial/industrial nature of the community
Policies regarding sizes and types of items collected
Extent of seasonal leaf collection service
Landfill policies and tipping fees

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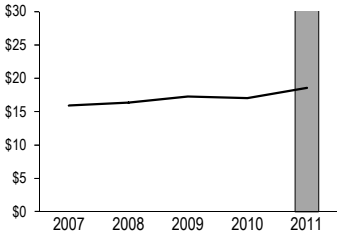
Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

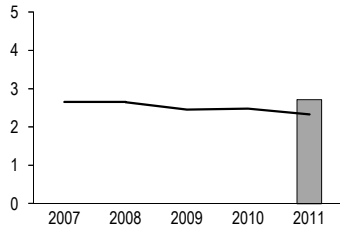
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Apex					$33.12
Average	$15.89	$16.34	$17.28	$17.03	$18.59

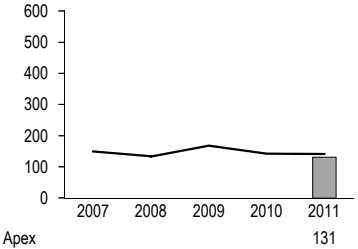
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					2.7
Average	2.7	2.6	2.5	2.5	2.3

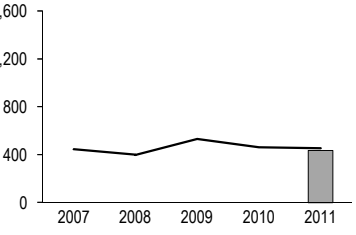
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Apex					131
Average	149	133	168	142	142

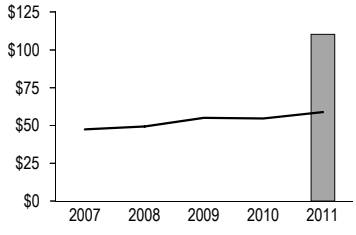
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Apex					436
Average	445	399	531	462	453

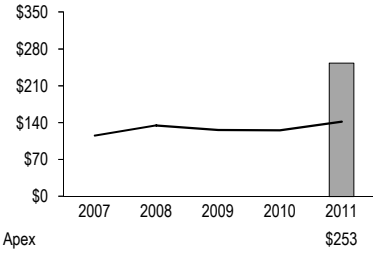
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



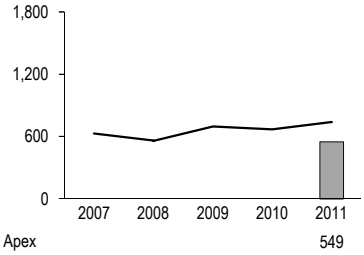
	2007	2008	2009	2010	2011
Apex					$110
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Apex					$253
Average	$115	$135	$126	$125	$142

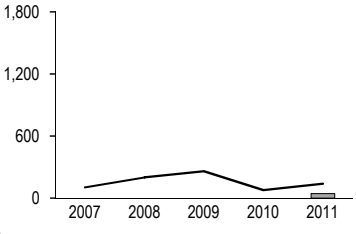
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Apex					549
Average	628	559	698	670	739

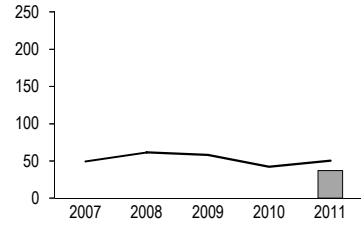
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Apex					46
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Apex					37
Average	49	61	58	42	50

Apex

MUNICIPAL PROFILE

Population (OSBM 2010)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$97,201

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		47.0%
Operating Costs		42.9%
Capital Costs		10.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	587,154
Operating Costs	$	536,773
Capital Costs	$	126,344
TOTAL	$	1,250,271

SERVICE PROFILE

FTE Positions—Collection	9.0
FTE Positions—Other	1.3
Collection Points	
Yard Waste	11,337
Tons Collected	
Yard Waste	4,944
Leaves	Included above
TOTAL	4,944
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	NA
Service Fee	$4 per month

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Apex collects yard waste curbside once per week for all city residents. The town collects vegetative matter from residential landscaping. The town does not operate a seasonal leaf collection but leaves are collected year round as part of the weekly service. Land clearing debris is not collected. The town charges $4 per month for collection of yard waste.

There are three grass/vacuum trucks, two two-person limb-chipping crews, and one grapple truck operator for larger items. These crews cover the town every week using a five-day-a-week schedule.

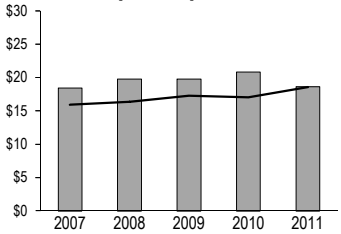
Conditions Affecting Service, Performance, and Costs

Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

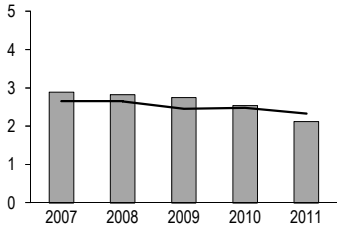
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Asheville	$18.43	$19.78	$19.75	$20.81	$18.63
Average	$15.89	$16.34	$17.28	$17.03	$18.59

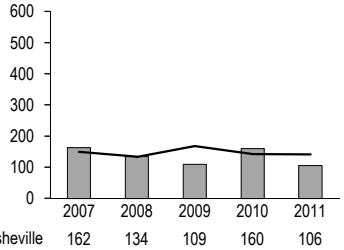
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	2.9	2.8	2.8	2.5	2.1
Average	2.7	2.6	2.5	2.5	2.3

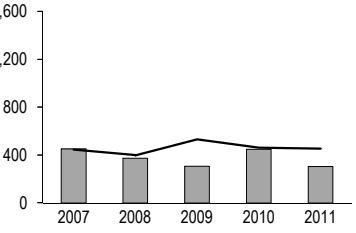
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	162	134	109	160	106
Average	149	133	168	142	142

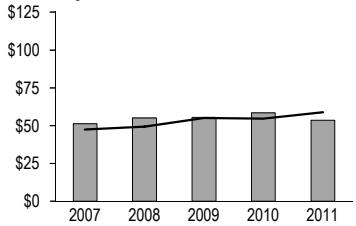
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Asheville	452	373	307	448	304
Average	445	399	531	462	453

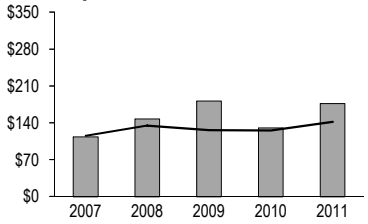
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



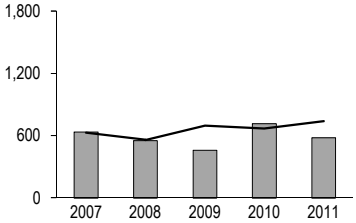
	2007	2008	2009	2010	2011
Asheville	$51	$55	$56	$58	$54
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Asheville	$113	$147	$181	$130	$176
Average	$115	$135	$126	$125	$142

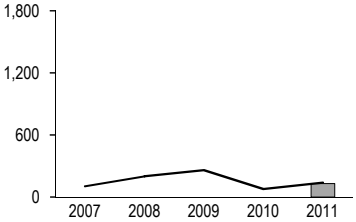
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Asheville	634	551	458	714	579
Average	628	559	698	670	739

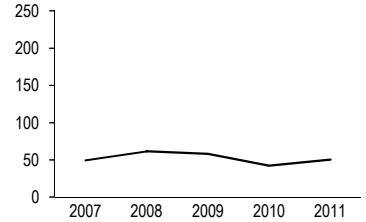
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Asheville					130
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Asheville					
Average	49	61	58	42	50

Asheville

MUNICIPAL PROFILE

Population (OSBM 2010)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2010)	$53,350

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		37.4%
Operating Costs		55.0%
Capital Costs		7.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	584,808
Operating Costs	$	860,059
Capital Costs	$	119,774
TOTAL	$	1,564,641

SERVICE PROFILE

FTE Positions—Collection	15.3
FTE Positions—Other	2.5
Collection Points	
Yard Waste	29,150
Leaves	29,150
Tons Collected	
Yard Waste	6,364
Leaves	2,502
TOTAL	8,866
Collection Frequency	
Yard Waste	1 x month
Loose Leaves (Seasonal Collection)	1 x month
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Asheville collects yard waste curbside twice per month for all city residents. The city collects yard trimmings no longer than four feet and no wider than six inches. Grass clippings and materials cut by contractors are not collected.

There are three one-person crews on knucklebooms, scheduled for approximately four-and-one-half days per week. One two-person crew on a tractor and sway car and three three-person crews operating rear packers collect yard waste five days per week.

The city does not charge a fee for yard waste collection. A $5 fee is charged for white goods, and a $10 fee is charged for dead animals.

Asheville vacuums leaves at the curb twice on a pre-set schedule during the leaf season, which lasts from the beginning of November to the end of January. Leaves may be bagged and placed at the curb for regular weekly yard waste collection.

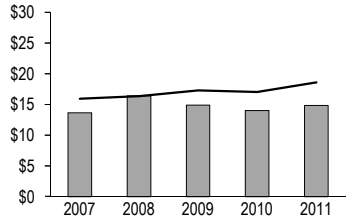
Conditions Affecting Service, Performance, and Costs
Asheville had several major winter storms during the year which damaged trees and led to an increase in the tons of yard waste.

Burlington — Yard Waste/Leaf Collection

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

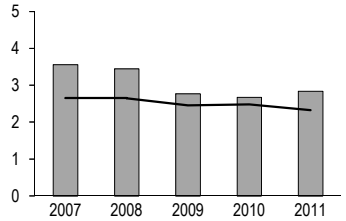
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Burlington	$13.64	$16.41	$14.90	$14.00	$14.83
Average	$15.89	$16.34	$17.28	$17.03	$18.59

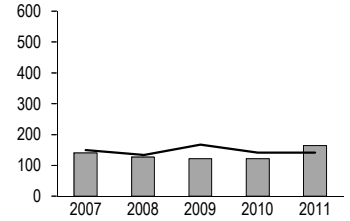
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	3.6	3.4	2.8	2.7	2.8
Average	2.7	2.6	2.5	2.5	2.3

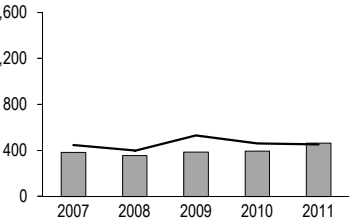
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	141	127	122	122	164
Average	149	133	168	142	142

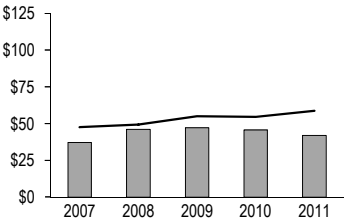
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Burlington	384	357	386	396	464
Average	445	399	531	462	453

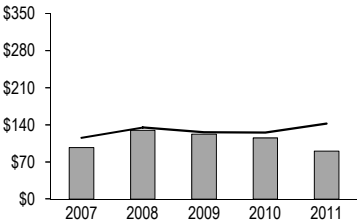
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



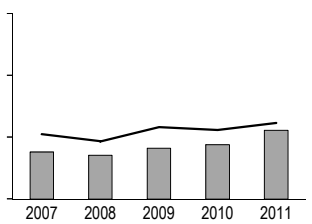
	2007	2008	2009	2010	2011
Burlington	$37	$46	$47	$46	$42
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Burlington	$97	$129	$122	$115	$90
Average	$115	$135	$126	$125	$142

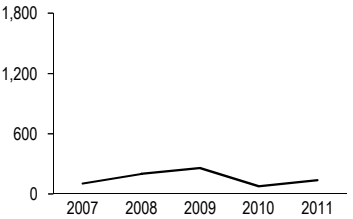
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Burlington	454	424	492	527	667
Average	628	559	698	670	739

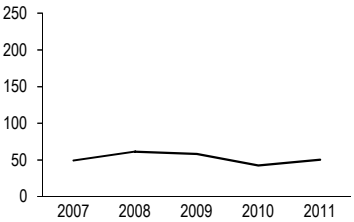
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Burlington					
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Burlington					
Average	49	61	58	42	50

Burlington

MUNICIPAL PROFILE

Population (OSBM 2010)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
Topography	Flat; gently rolling
County	Alamance
Climate	Temperate; little snow and ice
Median Family Income (US Census 2010)	$46,461

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		52.0%
Operating Costs		20.0%
Capital Costs		28.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	389,513
Operating Costs	$	149,598
Capital Costs	$	209,651
TOTAL	$	748,762

SERVICE PROFILE

FTE Positions—Collection	12.42
FTE Positions—Other	1.90
Collection Points	
Yard Waste	17,854
Leaves	17,854
Tons Collected	
Yard Waste	5,292
Leaves	2,998
TOTAL	8,290
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	4 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Yard waste is collected by the Burlington Sanitation Division once per week. Residents may put yard waste in cans, bags, or simply stack it curbside. The amount per household cannot exceed fifty pounds each week. There is a $4.50 charge for each three cubic yards of yard waste removed; the first three cubic yards are free.

The city uses two three-person crews four days per week. Each crew has one driver and two collectors and uses a rear loader.

Burlington's Grounds and Cemetary Division conducts seasonal loose leaf collection from mid-October through January. Leaves are placed curbside and collected by vacuum. Four sweeps are made through each section of the city. Additionally, call-in collections are available in February. When not performing loose leaf collection, permanent employees provide mowing and lawn and grounds care.

Loose leaf collection is done with five crews consisting of one driver and two collectors using a box dump and vacuum machine. One of the collectors on each crew is a part-time employee. The city also uses one self-contained one-armed leaf truck with one permanent employee. Leaves are also accepted in the regular weekly yard waste collection if they are bagged or placed in a container.

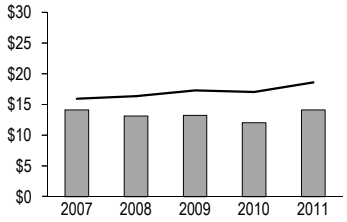
Conditions Affecting Service, Performance, and Costs
The city does not track complaints or valid complaints.

Burlington began participation in the benchmarking project in 2007, with its first reporting being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

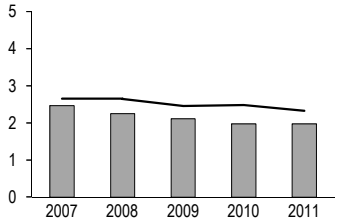
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Cary	$14.11	$13.10	$13.22	$12.01	$14.12
Average	$15.89	$16.34	$17.28	$17.03	$18.59

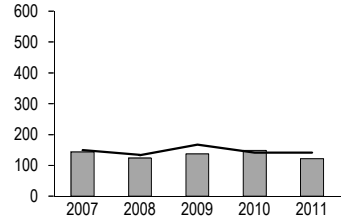
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	2.5	2.3	2.1	2.0	2.0
Average	2.7	2.6	2.5	2.5	2.3

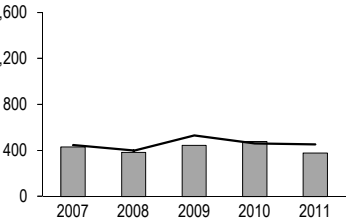
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Cary	144	123	138	149	122
Average	149	133	168	142	142

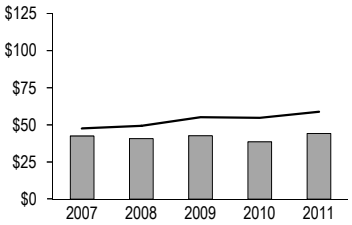
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Cary	431	383	444	477	379
Average	445	399	531	462	453

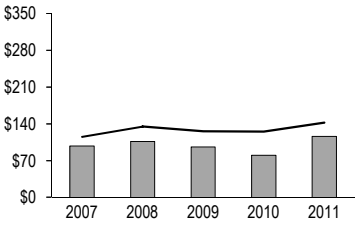
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



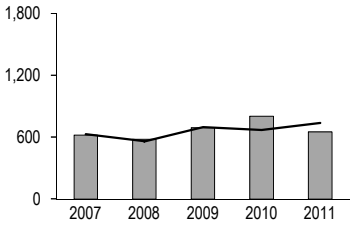
	2007	2008	2009	2010	2011
Cary	$42	$41	$43	$38	$44
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Cary	$98	$106	$96	$80	$116
Average	$115	$135	$126	$125	$142

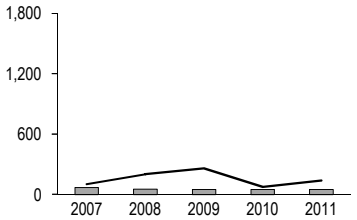
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Cary	620	580	692	803	652
Average	628	559	698	670	739

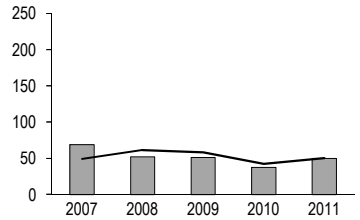
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Cary	69	55	51	51	50
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Cary	69	52	51	37	50
Average	49	61	58	42	50

MUNICIPAL PROFILE

Population (OSBM 2010)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2010)	$108,956

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		55.3%
Operating Costs		35.8%
Capital Costs		8.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,063,718
Operating Costs	$	687,554
Capital Costs	$	171,615
TOTAL	$	1,922,887

SERVICE PROFILE

FTE Positions—Collection	25.4
FTE Positions—Other	1.5
Collection Points	
Yard Waste	43,637
Leaves	43,637
Tons Collected	
Yard Waste	13,394
Leaves	3,160
TOTAL	16,554
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery

Cary's yard waste is collected curbside weekly on the same day the customer's regular trash is collected. The yard waste program includes the collection of grass clippings, pine straw, fallen leaves, shrubbery, twigs, small tree limbs, and Christmas trees. Branches must be shorter than four feet in length and less than four inches in diameter. The total volume to be picked up at a household cannot exceed 240 cubic feet. There is no separate fee charged for yard waste collection.

Town crews collect all yard waste at the curb. Collections are done Tuesday through Friday using four crews with four people in each crew—a driver and three collectors. Additionally, a special annual Christmas tree collection is made at the curb in January.

Cary has a seasonal leaf collection program that collects two times in the fall and one time in the spring. Leaves are collected at the curbside by vacuum by nine crews consisting of one driver and two collectors. The driver is a regular full-time employee, while the collectors are seasonal temporary workers.

Cary defines valid complaints as those that have been verified in the field by a supervisor.

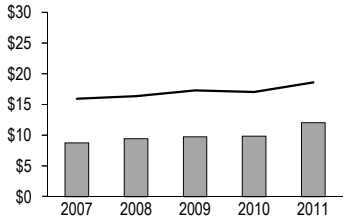
Conditions Affecting Service, Performance, and Costs

Charlotte — Yard Waste/Leaf Collection

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

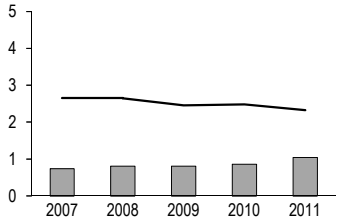
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Charlotte	$8.73	$9.40	$9.73	$9.81	$12.02
Average	$15.89	$16.34	$17.28	$17.03	$18.59

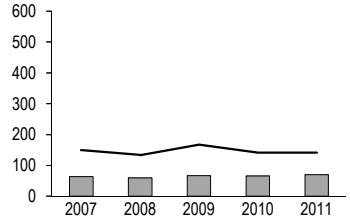
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	0.7	0.8	0.8	0.9	1.0
Average	2.7	2.6	2.5	2.5	2.3

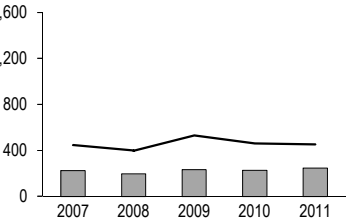
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Charlotte	64	59	67	66	70
Average	149	133	168	142	142

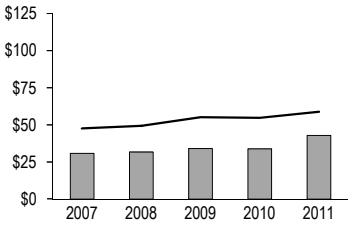
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Charlotte	225	198	233	227	248
Average	445	399	531	462	453

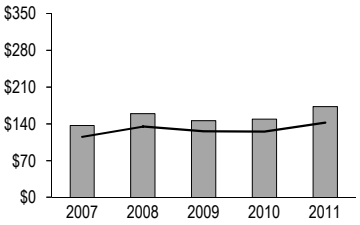
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



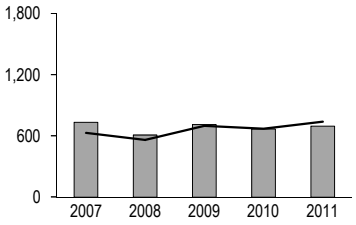
	2007	2008	2009	2010	2011
Charlotte	$31	$32	$34	$34	$43
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Charlotte	$137	$159	$146	$149	$172
Average	$115	$135	$126	$125	$142

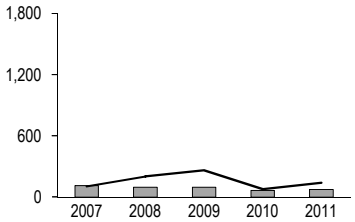
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Charlotte	732	606	712	668	696
Average	628	559	698	670	739

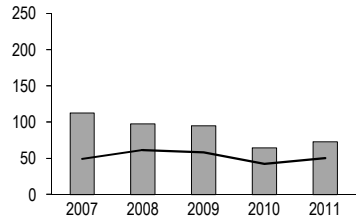
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Charlotte	112	98	95	65	73
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Charlotte	112	98	95	65	73
Average	49	61	58	42	50

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2010)	738,979
Land Area (Square Miles)	297.68
Persons per Square Mile	2,482
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2010)	$61,405

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		41.5%
Operating Costs		44.3%
Capital Costs		14.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,683,706
Operating Costs	$	3,933,732
Capital Costs	$	1,263,295
TOTAL	$	8,880,733

SERVICE PROFILE

FTE Positions—Collection	74.00
FTE Positions—Other	3.00
Collection Points	
Yard Waste	207,738
Tons Collected	
Yard Waste	51,503
Leaves	included above
TOTAL	51,503
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	NA
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte collects yard waste once per week curbside. The collection process was significantly revised for FY 2010–11. Previously Charlotte had been divided into zones, with private contractors competing and providing some yard waste services. However, the City now performs all yard waste collection.

Yard waste includes leaves, stems, grass, limbs, and other residential organic matter. Limbs should be separated in piles small enough for one individual to handle. Leaves and grass clippings must be placed in untied plastic bags or in uncovered trash cans. Yard waste placed at the curb by a commercial landscaping service will not be collected by the city. The city of Charlotte used thirty-four two-person crews working from rear loaders to service the entire city. Additional trucks and six additional staff are allocated as a yard waste reserve.

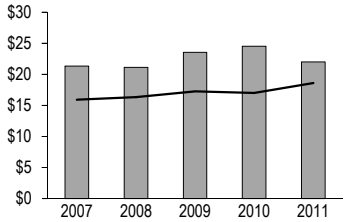
Leaves are collected in bags and are debagged at the curb as part of the regular yard waste service. A special seasonal leaf collection is not done by the city of Charlotte.

Conditions Affecting Service, Performance, and Costs
Starting with FY 2010–11, Charlottle's yard waste function is being wholly performed by the city. In earlier years it was done by a combination of city staff and a zone contract.

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

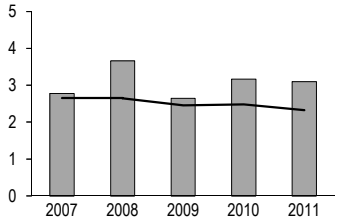
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Concord	$21.35	$21.13	$23.54	$24.55	$22.02
Average	$15.89	$16.34	$17.28	$17.03	$18.59

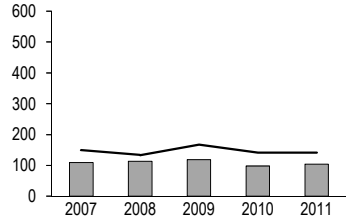
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	2.8	3.7	2.7	3.2	3.1
Average	2.7	2.6	2.5	2.5	2.3

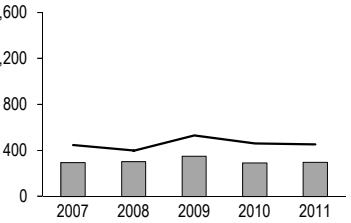
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Concord	109	114	118	98	104
Average	149	133	168	142	142

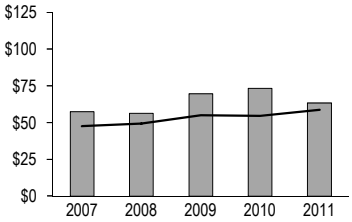
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Concord	295	303	350	292	298
Average	445	399	531	462	453

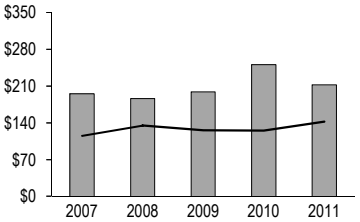
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



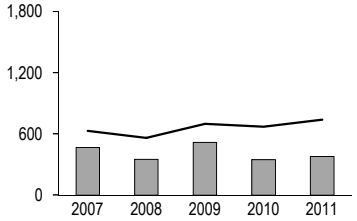
	2007	2008	2009	2010	2011
Concord	$58	$56	$70	$73	$63
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Concord	$195	$186	$199	$251	$212
Average	$115	$135	$126	$125	$142

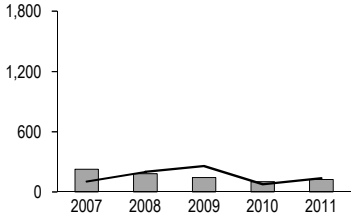
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Concord	467	349	516	347	379
Average	628	559	698	670	739

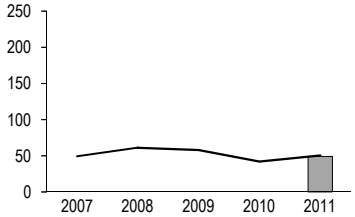
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Concord	228	185	145	105	127
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Concord					50
Average	49	61	58	42	50

Concord

MUNICIPAL PROFILE

Population (OSBM 2010)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
Topography	Flat
County	Cabarrus
Climate	Mild; some snow and ice
Median Family Income (US Census 2010)	$63,643

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.5%
Operating Costs		20.2%
Capital Costs		14.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,147,635
Operating Costs	$	353,902
Capital Costs	$	249,626
TOTAL	$	1,751,163

SERVICE PROFILE

FTE Positions—Collection	21.80
FTE Positions—Other	2.80
Collection Points	
Yard Waste	27,676
Leaves	27,676
Tons Collected	
Yard Waste	6,489
Leaves	1,767
TOTAL	8,256
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	3 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Concord collects all yard waste once per week. Yard waste includes limbs, logs, grass clippings, shrubbery clippings, and leaves.

Concord used five two-person crews with garbage trucks and dump trucks to collect yard waste during FY 2010–11. Four two-person crews also were used to collect limbs and brush with knuckleboom trucks on a weekly basis.

Concord's seasonal loose leaf collection runs from mid-October through mid-February. Each street is serviced following a publicized schedule a minimum of four times for loose leaf collection during this period. Residents who bag their leaves receive weekly collection along with the normal yard waste collection program.

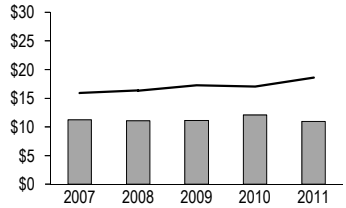
Conditions Affecting Service, Performance, and Costs
Concord shifted to more use of city staff for yard waste collection in FY 2007–08 and less use of inmate labor to supplement city crews.

Greensboro Yard Waste/Leaf Collection

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

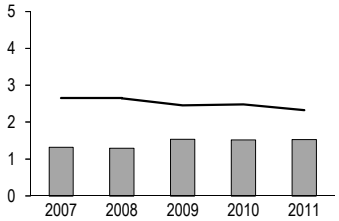
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Greensboro	$11.26	$11.09	$11.13	$12.09	$10.95
Average	$15.89	$16.34	$17.28	$17.03	$18.59

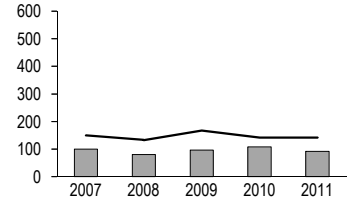
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	1.3	1.3	1.5	1.5	1.5
Average	2.7	2.6	2.5	2.5	2.3

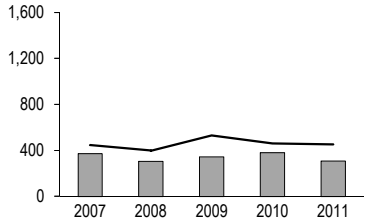
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	100	81	96	108	92
Average	149	133	168	142	142

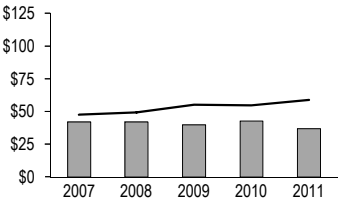
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greensboro	373	305	345	382	310
Average	445	399	531	462	453

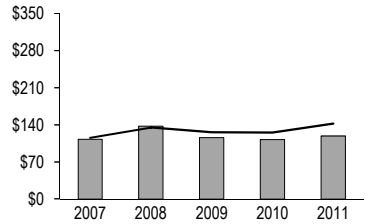
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



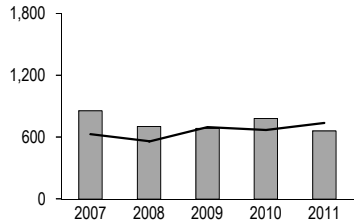
	2007	2008	2009	2010	2011
Greensboro	$42	$42	$40	$43	$37
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Greensboro	$112	$137	$115	$112	$119
Average	$115	$135	$126	$125	$142

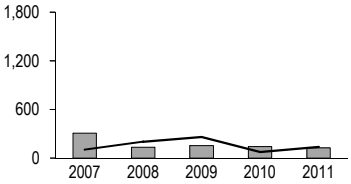
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Greensboro	857	705	685	780	661
Average	628	559	698	670	739

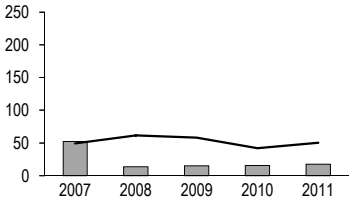
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Greensboro	308	136	153	144	127
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Greensboro	52	14	15	16	18
Average	49	61	58	42	50

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2010)	270,065
Land Area (Square Miles)	126.63
Persons per Square Mile	2,133
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2010)	$52,752

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		39.6%
Operating Costs		60.4%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,171,351
Operating Costs	$	1,786,374
Capital Costs	$	-
TOTAL	$	2,957,725

SERVICE PROFILE

FTE Positions—Collection	37.62
FTE Positions—Other	3.58
Collection Points	
Yard Waste	80,251
Leaves	80,251
Tons Collected	
Yard Waste	15,568
Leaves	9,306
TOTAL	24,874
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro collects yard waste once per week curbside, either in clear plastic bags, thirty-five-gallon containers, or tied in bundles not to exceed fifty pounds or five feet in length. Yard waste includes grass, weeds, leaves, tree trimmings, plants, shrubbery trimmings, and other materials generated in yard maintenance. Yard waste does include some bagged leaves during the fall, and this waste is not broken out separately into leaf collection.

The city provides yard waste service to all single-family residences inside the city limits. Yard waste crews include nine two-person crews that rotate between driver and collector. The crews work four days per week, ten hours per day.

Seasonal leaf collection (October through January) is provided by Greensboro's Field Operations Division. Leaves are picked up a minimum of three times from November until mid-January by vacuuming the leaves from the curb.

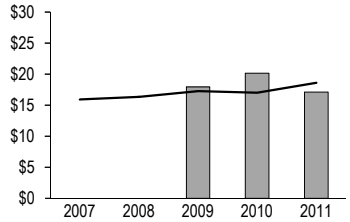
Conditions Affecting Service, Performance, and Costs
Greensboro began utilizing new software in FY 2006–07 which has allowed for better tracking of complaints.

Greenville — Yard Waste/Leaf Collection

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

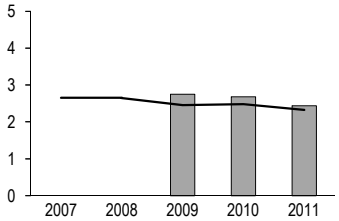
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Greenville			$17.94	$20.15	$17.13
Average	$15.89	$16.34	$17.28	$17.03	$18.59

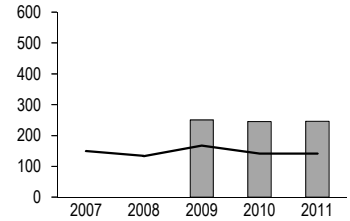
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			2.8	2.7	2.4
Average	2.7	2.6	2.5	2.5	2.3

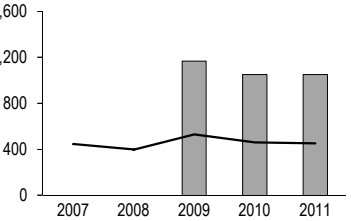
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			251	245	247
Average	149	133	168	142	142

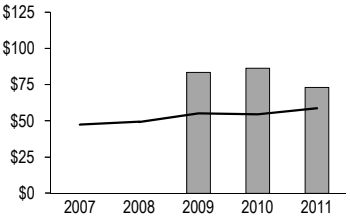
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Greenville			1167	1050	1050
Average	445	399	531	462	453

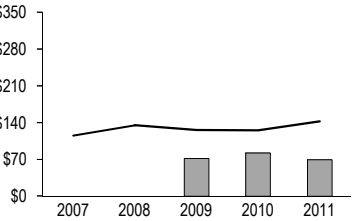
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



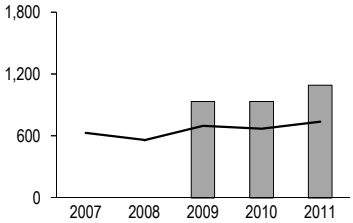
	2007	2008	2009	2010	2011
Greenville			$83	$86	$73
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Greenville			$72	$82	$69
Average	$115	$135	$126	$125	$142

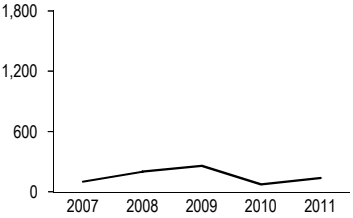
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Greenville			933	933	1091
Average	628	559	698	670	739

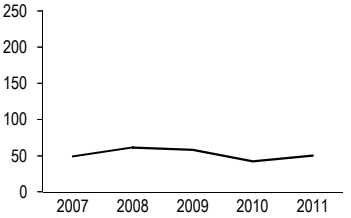
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Greenville					
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Greenville					
Average	49	61	58	42	50

Greenville

MUNICIPAL PROFILE

Population (OSBM 2010)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
Topography	Flat
County	Pitt
Climate	Mild; little snow and ice
Median Family Income (US Census 2010)	$50,395

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.0%
Operating Costs		22.1%
Capital Costs		12.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	948,425
Operating Costs	$	321,714
Capital Costs	$	188,623
TOTAL	$	1,458,762

SERVICE PROFILE

FTE Positions—Collection	19.3
FTE Positions—Other	1.50
Collection Points	
Yard Waste	20,000
Leaves	20,000
Tons Collected	
Yard Waste	NA
Leaves	NA
TOTAL	21,000
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	1 x week
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Greenville collects yard waste once per week curbside. Yard waste includes tree limbs up to six feet in length or four inches in diameter, bushes, grass clippings, and other vegetative matter. The city does not charge a separate fee for yard waste, leaves, or bulky items. It is part of the solid waste fee.

Greenville uses seven two-person crews to collect yard waste. Crews include a driver and a collection worker. Each crew has an assigned route for each day.

The city's seasonal leaf collection service runs from November to February. Leaves are collected weekly from the backs of curbs. The city uses five crews, each having a driver and two collection workers. The leaf collection crews are all seasonal employees.

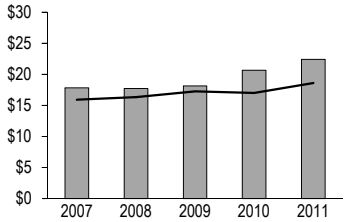
Conditions Affecting Service, Performance, and Costs
Greenville joined the project in July 2009, with the first year of reporting being for FY 2008–09.

Greenville does not collect data on complaints for yard waste services.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

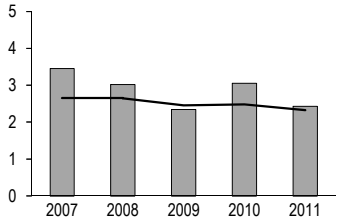
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Hickory	$17.85	$17.75	$18.15	$20.69	$22.42
Average	$15.89	$16.34	$17.28	$17.03	$18.59

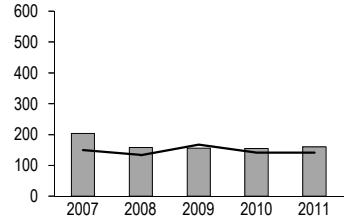
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	3.5	3.0	2.3	3.1	2.4
Average	2.7	2.6	2.5	2.5	2.3

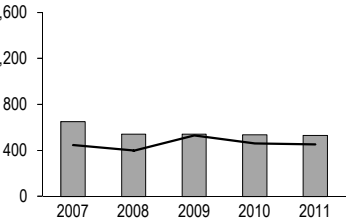
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	204	158	157	155	160
Average	149	133	168	142	142

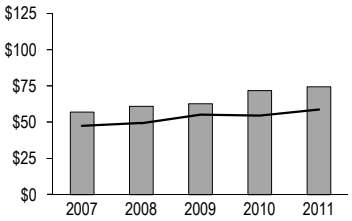
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Hickory	651	541	541	536	531
Average	445	399	531	462	453

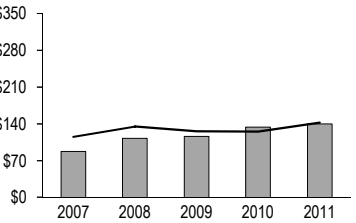
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



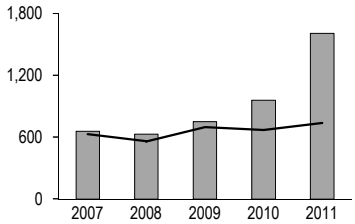
	2007	2008	2009	2010	2011
Hickory	$57	$61	$63	$72	$74
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Hickory	$87	$113	$116	$134	$140
Average	$115	$135	$126	$125	$142

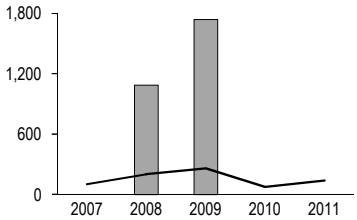
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Hickory	656	628	749	957	1606
Average	628	559	698	670	739

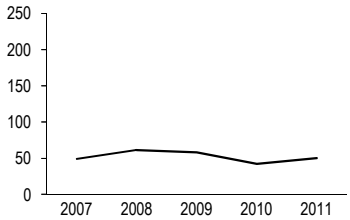
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Hickory		1086	1737		
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Hickory					
Average	49	61	58	42	50

Hickory

MUNICIPAL PROFILE

Population (OSBM 2010)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
Topography	Gently rolling
County	Catawba
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$54,093

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		47.3%
Operating Costs		38.5%
Capital Costs		14.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	424,776
Operating Costs	$	346,235
Capital Costs	$	127,577
TOTAL	$	898,588

SERVICE PROFILE

FTE Positions—Collection	4.0
FTE Positions—Other	5.75
Collection Points	
Yard Waste	12,100
Leaves	12,100
Tons Collected	
Yard Waste	3,522
Leaves	2,903
TOTAL	6,425
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Hickory collects yard waste once per week curbside. Yard waste includes tree limbs less than six feet in length and six inches in diameter, shrubs, grass clippings, leaves, and other vegetative matter. The city does not charge a separate fee for yard waste, leaves, or bulky items. It is part of the solid waste fee. Residents use either clear plastic bags or open containers.

Hickory is divided into five sections for the yard waste program. Three routes are serviced each day within each section, using three rear loaders comprised of one driver and one laborer each. Large piles are collected with a knuckleboom loader with one driver on a scheduled basis working about half-time.

All yard waste is collected and stockpiled at the city yard waste facility. Debris is ground into mulch or compost and sold back to citizens or used for city projects.

The city's seasonal leaf collection service runs from November to January. There are two sweeps down each city street during this time. City crews use leaf vacuums to collect leaves in box trucks. Hickory uses temporary contract workers to help with leaf colleciton. These seasonal employees are counted in the total employee count, but only for the one-fourth of the year they work.

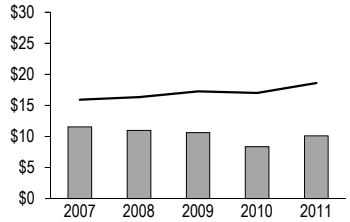
Conditions Affecting Service, Performance, and Costs
Hickory's yard waste collection is set up to provide regular service but also takes requests for service when collection is needed. These calls for service cannot be separated out from actual complaints. The high rate of "collection complaints per 10,000 collection points" is driven by this reporting structure rather than by true complaints about service. Hickory does not allocate the resources it would take to differentiate between valid and non-valid complaints. Complaints for FY 2006–07, FY 2009–10, and FY 2010–11 were not available.

High Point — Yard Waste/Leaf Collection

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

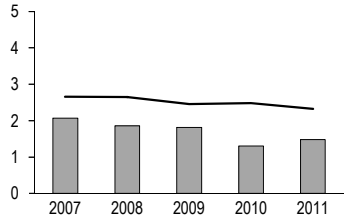
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
High Point	$11.55	$10.98	$10.62	$8.35	$10.12
Average	$15.89	$16.34	$17.28	$17.03	$18.59

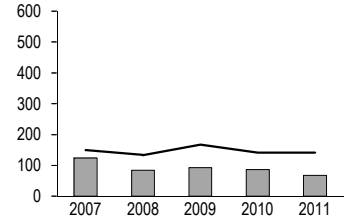
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	2.1	1.9	1.8	1.3	1.5
Average	2.7	2.6	2.5	2.5	2.3

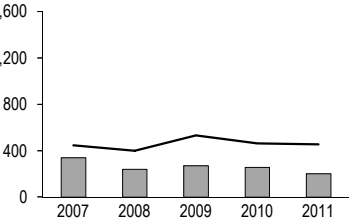
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
High Point	124	85	93	87	68
Average	149	133	168	142	142

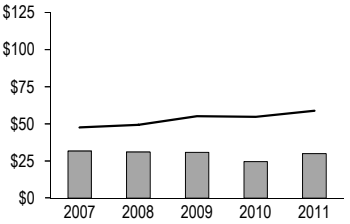
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
High Point	339	239	268	254	200
Average	445	399	531	462	453

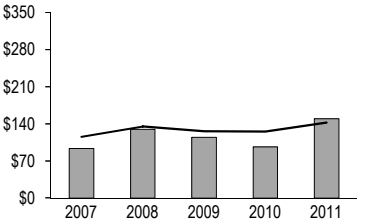
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



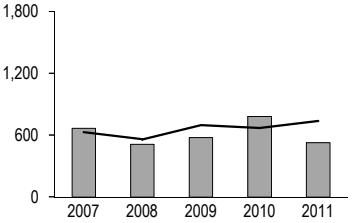
	2007	2008	2009	2010	2011
High Point	$32	$31	$31	$24	$30
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
High Point	$93	$130	$114	$96	$149
Average	$115	$135	$126	$125	$142

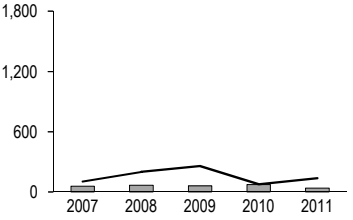
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
High Point	665	512	575	781	526
Average	628	559	698	670	739

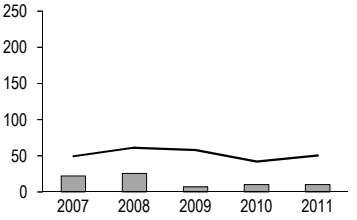
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
High Point	60	70	63	76	40
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
High Point	22	26	7	10	10
Average	49	61	58	42	50

High Point

MUNICIPAL PROFILE

Population (OSBM 2010)	104,788
Land Area (Square Miles)	53.81
Persons per Square Mile	1,948
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2010)	$49,720

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.5%
Operating Costs		22.4%
Capital Costs		8.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	736,560
Operating Costs	$	237,045
Capital Costs	$	86,445
TOTAL	$	1,060,050

SERVICE PROFILE

FTE Positions—Collection	13.5
FTE Positions—Other	2.0
Collection Points	
Yard Waste	35,544
Leaves	35,544
Tons Collected	
Yard Waste	5,407
Leaves	1,700
TOTAL	7,107
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Yard waste collection in High Point's program consists solely of vegetative matter resulting from landscaping and lawn maintenance, including grass clippings, leaves, brush, tree branches, flowers, and other organic materials. Loose tree limbs will be picked up within two weeks.

Yard waste is collected once each week curbside using three three-person crews. Each crew is composed of one driver and two collectors. The city also uses a boom truck with a single driver/operator. The work schedule is from Monday through Thursday. There is no separate fee charged for yard waste collection.

The city provides two citywide cycles of loose leaf collection beginning mid-November and continuing through mid-January. There are usually three leaf collection crews with one person each on the truck-mounted vacuum trucks and four crews with five employees on pick-up trucks with a self-contained vacuum. Bagged leaves are collected once per week with the regular yard waste.

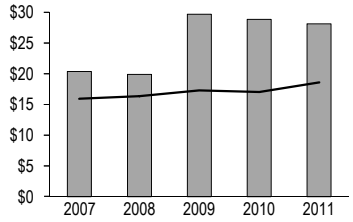
Conditions Affecting Service, Performance, and Costs
There was a shift of employees out of the yard waste collection in FY 2009–10. The city had been picking up bulk limbs, but this was discontinued as it was not required by ordinance. The employees were shifted over to bulk white good colleciton. Stopping collection of the bulk limbs led to a small increase in citizen complaints.

Salisbury Yard Waste/Leaf Collection

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

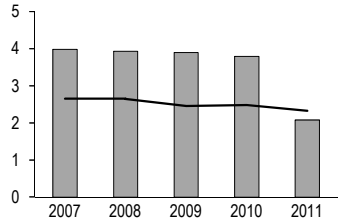
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Salisbury	$20.37	$19.90	$29.69	$28.86	$28.10
Average	$15.89	$16.34	$17.28	$17.03	$18.59

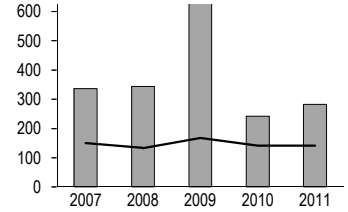
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	4.0	3.9	3.9	3.8	2.1
Average	2.7	2.6	2.5	2.5	2.3

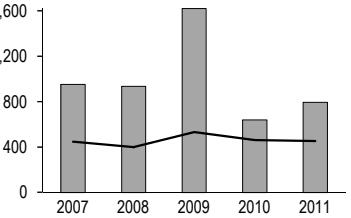
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	336	344	629	242	283
Average	149	133	168	142	142

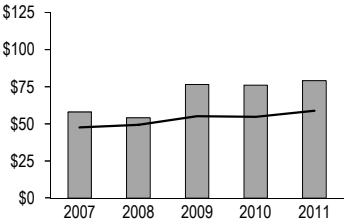
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Salisbury	953	934	1619	639	795
Average	445	399	531	462	453

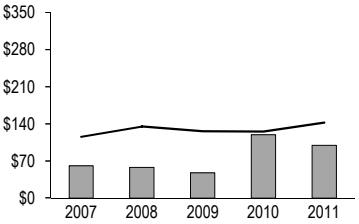
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



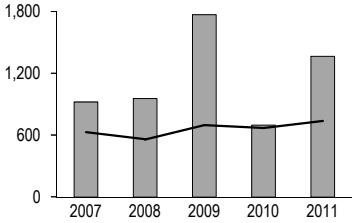
	2007	2008	2009	2010	2011
Salisbury	$58	$54	$76	$76	$79
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Salisbury	$61	$58	$47	$119	$99
Average	$115	$135	$126	$125	$142

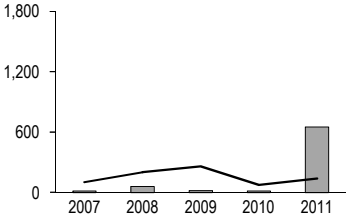
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Salisbury	921	956	1767	697	1363
Average	628	559	698	670	739

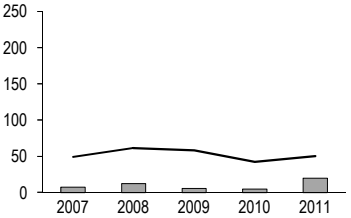
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Salisbury	17	60	18	17	650
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Salisbury	8	12	6	5	20
Average	49	61	58	42	50

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2010)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
Topography	Gently Rolling
County	Rowan
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$40,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.0%
Operating Costs		29.8%
Capital Costs		17.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	502,720
Operating Costs	$	282,213
Capital Costs	$	162,775
TOTAL	$	947,708

SERVICE PROFILE

FTE Positions—Collection	7.00
FTE Positions—Other	0.00
Collection Points	
Yard Waste	12,000
Leaves	12,000
Tons Collected	
Yard Waste	4,650
Leaves	4,890
TOTAL	9,540
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	1 x 3 weeks
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery

Yard waste is picked up weekly at the curb in Salisbury. Yard waste includes limbs, shrubs, bagged grass clippings, and bagged leaves. It is collected the same day as trash and recycling materials for city residents.

The city uses from two to three two-person crews, each consisting of a driver and laborer, on packer trucks for yard waste collection. One to two additional two-member crews operating two knuckleboom trucks collect large brush piles and limbs. One supervisor patrols the routes throughout the day, coordinating pick-ups and responding to citizen requests.

Loose leaves are collected curbside during leaf season, which runs from mid-October through March. Loose leaves are collected every third week during leaf season. Bagged leaves are collected as part of the weekly yard waste program.

One to seven crews, each composed of an operator, a street maintenance worker, and a seasonal worker, are used for the annual leaf collection program.

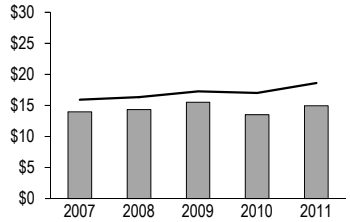
Conditions Affecting Service, Performance, and Costs

Wilmington — Yard Waste/Leaf Collection

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

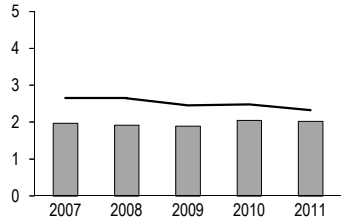
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Wilmington	$13.97	$14.32	$15.50	$13.51	$14.95
Average	$15.89	$16.34	$17.28	$17.03	$18.59

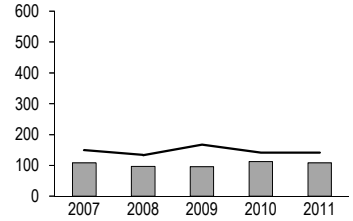
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	2.0	1.9	1.9	2.1	2.0
Average	2.7	2.6	2.5	2.5	2.3

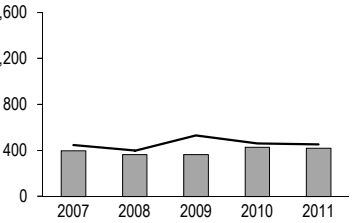
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Wilmington	108	97	96	112	109
Average	149	133	168	142	142

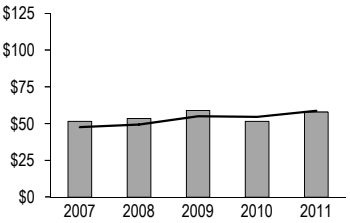
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilmington	398	363	363	427	420
Average	445	399	531	462	453

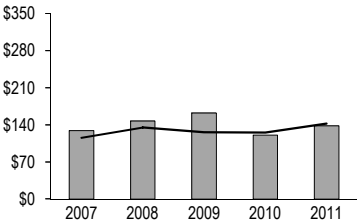
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



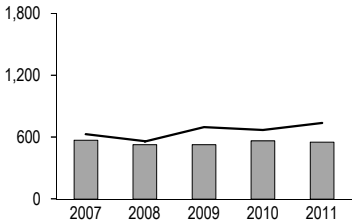
	2007	2008	2009	2010	2011
Wilmington	$51	$53	$59	$52	$58
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Wilmington	$129	$147	$162	$121	$138
Average	$115	$135	$126	$125	$142

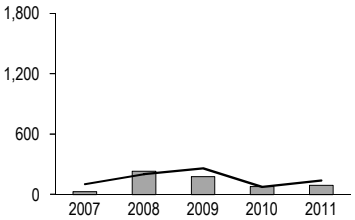
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Wilmington	570	527	527	563	552
Average	628	559	698	670	739

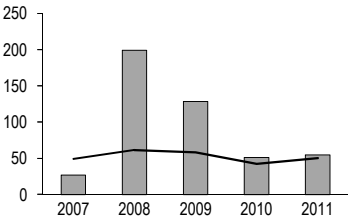
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Wilmington	29	233	179	79	91
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Wilmington	27	199	128	51	55
Average	49	61	58	42	50

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2010)	106,882
Land Area (Square Miles)	51.49
Persons per Square Mile	2,076
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild
Median Family Income (US Census 2010)	$57,892

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		50.8%
Operating Costs		36.3%
Capital Costs		12.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	810,844
Operating Costs	$	580,277
Capital Costs	$	206,367
TOTAL	$	1,597,488

SERVICE PROFILE

FTE Positions—Collection	21.00
FTE Positions—Other	0.60
Collection Points	
Yard Waste	27,583
Tons Collected	
Yard Waste	11,598
Leaves	Included above
TOTAL	11,598
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	NA
Service Fee	Included in solid waste fee

EXPLANATORY INFORMATION

Service Level and Delivery

The city collects yard waste curbside once per week. Yard waste is defined as organic material, grass and shrubbery clippings, small branches, twigs, leaves, and pine needles. Tree limbs and branches cannot be longer than six feet in length or more than six inches in diameter.

There is no limit on the type or number of containers that residents can use when placing yard waste at the curb for pick up, but the amount of crew time spent at each household is limited to fifteen minutes. Yard waste is picked up by eight crews using packer trucks staffed by two-person crews consisting of one driver and one laborer working four ten-hour days each week.

There was no separate fee for yard waste collection including bulky items. However, the cost is included in the fee for solid waste collection.

Leaf collection is not a separate function for the city of Wilmington. Leaves are collected throughout the year with the regular yard waste program.

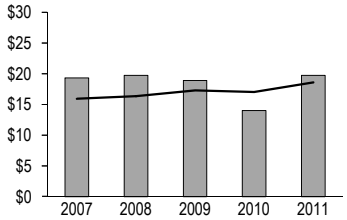
Conditions Affecting Service, Performance, and Costs

Wilson — Yard Waste/Leaf Collection

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

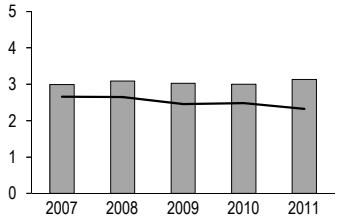
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Wilson	$19.33	$19.74	$18.90	$14.00	$19.71
Average	$15.89	$16.34	$17.28	$17.03	$18.59

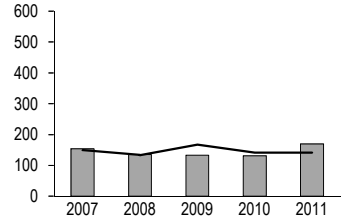
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	3.0	3.1	3.0	3.0	3.1
Average	2.7	2.6	2.5	2.5	2.3

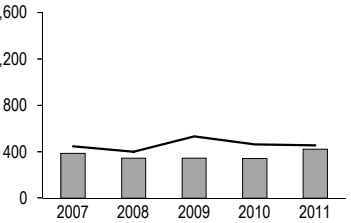
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Wilson	154	135	133	132	170
Average	149	133	168	142	142

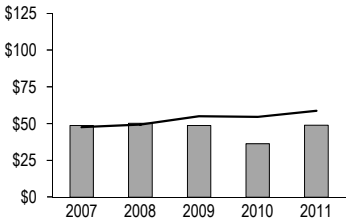
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Wilson	386	345	343	342	422
Average	445	399	531	462	453

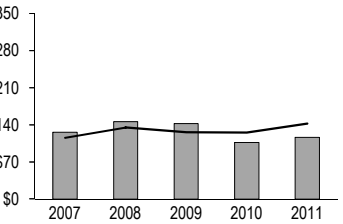
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



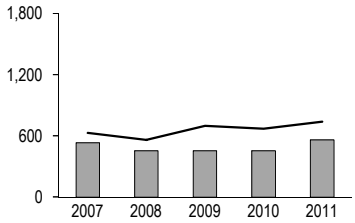
	2007	2008	2009	2010	2011
Wilson	$49	$50	$49	$36	$49
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Wilson	$126	$146	$142	$106	$116
Average	$115	$135	$126	$125	$142

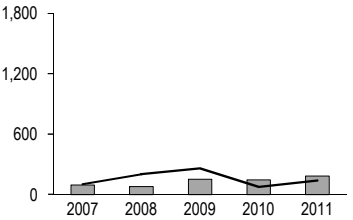
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Wilson	533	453	453	453	560
Average	628	559	698	670	739

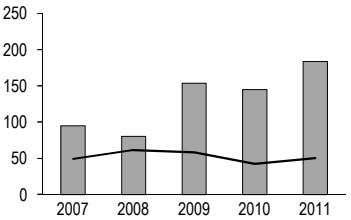
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Wilson	95	80	154	145	183
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Wilson	95	80	154	145	183
Average	49	61	58	42	50

Wilson

MUNICIPAL PROFILE

Population (OSBM 2010)	49,421
Land Area (Square Miles)	28.76
Persons per Square Mile	1,718
Topography	Flat
County	Wilson
Climate	Mild; little snow and ice
Median Family Income (US Census 2010)	$43,442

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		43.7%
Operating Costs		36.3%
Capital Costs		20.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	425,763
Operating Costs	$	353,477
Capital Costs	$	194,936
TOTAL	$	974,176

SERVICE PROFILE

FTE Positions—Collection	15.0
FTE Positions—Other	0.5
Collection Points	
Yard Waste	19,900
Leaves	19,900
Tons Collected	
Yard Waste	6,958
Leaves	1,435
TOTAL	8,393
Collection Frequency	
Yard Waste	1 x week
Loose Leaves (Seasonal Collection)	1 x 3 weeks
Service Fee	Included in solid waste fee

EXPLANATORY INFORMATION

Service Level and Delivery

Yard waste is containerized in bags, sheets, roll-out containers, or other container types for collection by rear-loader packers. Yard waste is collected once per week by compost crews on the same day as residential refuse collection.

The city uses two three-person crews on Tuesday and Friday and three to four three-person crews on Monday and Thursday to collect yard waste. Each crew is composed of one driver and two workers. These crews rotate collection between residential refuse and yard waste. A one-person crew uses a knuckleboom truck to collect large limbs daily.

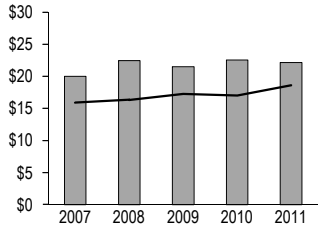
The city's leaf season is from mid-October to mid-January. Leaves are collected loose at the curb on a one-to-three-week cycle. The city uses leaf vacuum machines and compacting leaf trucks to collect loose leaves.

Six to eight three-person crews are used to collect loose leaves. The drivers are permanent employees. Collectors are seasonal employees.

Conditions Affecting Service, Performance, and Costs

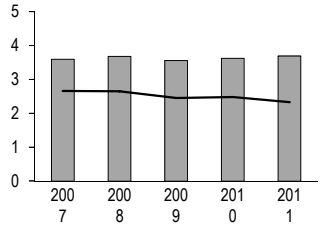
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2007	2008	2009	2010	2011
Winston-Salem	$20.03	$22.45	$21.51	$22.55	$22.13
Average	$15.89	$16.34	$17.28	$17.03	$18.59

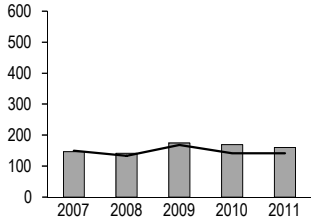
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	3.6	3.7	3.6	3.6	3.7
Average	2.7	2.6	2.5	2.5	2.3

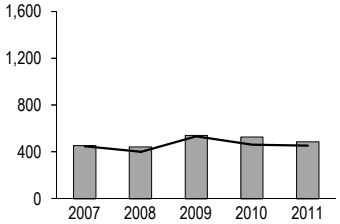
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	147	142	174	169	161
Average	149	133	168	142	142

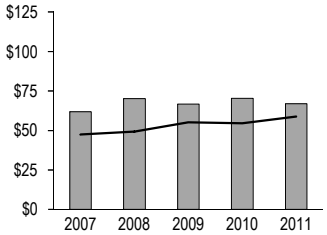
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2007	2008	2009	2010	2011
Winston-Salem	453	442	540	528	486
Average	445	399	531	462	453

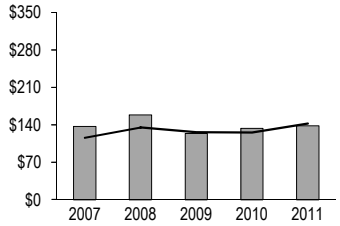
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



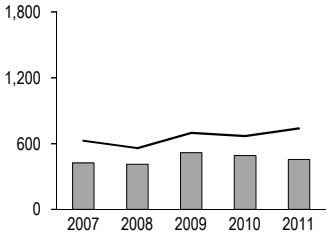
	2007	2008	2009	2010	2011
Winston-Salem	$62	$70	$67	$70	$67
Average	$47	$49	$55	$55	$59

Yard Waste and Leaf Collection Cost per Ton Collected



	2007	2008	2009	2010	2011
Winston-Salem	$137	$159	$123	$133	$138
Average	$115	$135	$126	$125	$142

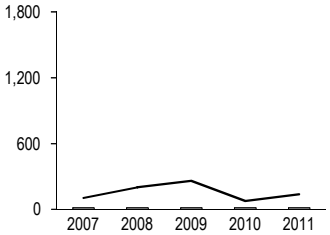
Yard Waste and Leaf Tons Collected per Collection FTE



	2007	2008	2009	2010	2011
Winston-Salem	425	414	517	490	457
Average	628	559	698	670	739

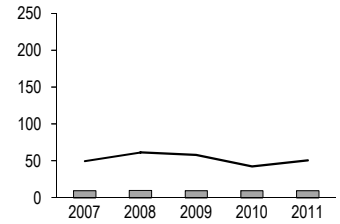
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Winston-Salem	15	17	16	16	16
Average	104	202	261	77	139

Valid Complaints per 10,000 Collection Points



	2007	2008	2009	2010	2011
Winston-Salem	10	10	10	10	9
Average	49	61	58	42	50

MUNICIPAL PROFILE

Population (OSBM 2010)	230,345
Land Area (Square Miles)	132.45
Persons per Square Mile	1,739
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some snow and ice
Median Family Income (US Census 2010)	$51,491

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		52.4%
Operating Costs		31.4%
Capital Costs		16.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,669,531
Operating Costs	$	1,601,262
Capital Costs	$	827,786
TOTAL	$	5,098,579

SERVICE PROFILE

FTE Positions—Collection	80.91
FTE Positions—Other	4.05
Collection Points	
Brush Collection	76,064
Leaves	76,064
Yard Waste Cart	14,040
Tons Collected	
Yard and Brush Waste	23,544
Leaves	13,450
TOTAL	36,994
Collection Frequency	
Yard Waste	1 x week
Brush collection	1 x 10 work days
Loose Leaves (Seasonal Collection)	1 x 3 weeks
Service Fee	See explanatory information

EXPLANATORY INFORMATION

Service Level and Delivery
The city operates a curbside collection program for brush, leaves, and bulky items. Brush is collected throughout the year, while leaves and bulky items are collected on a seasonal basis. Brush is defined as small tree limbs, branches, and shrubbery clippings. Tree and shrubbery limbs cannot be larger than six inches in diameter or six feet in length. A city ordinance requires that brush be collected once every ten working days except during leaf season. There were no separate fees for the curbside collection program.

The yard waste cart program provides weekly collection of containerized yard waste placed in ninety-six-gallon carts. Starting in FY 2002–03, this service is provided year round and serves 14,040 households. The city uses six one-person crews using automated packers and one two-person crew using a rear-loading packer to service these carts. Collection is provided Monday through Thursday. Carts are delivered on Friday.

Residents who participate in the yard waste cart program pay an annual $60 fee. Residents also pay for the ninety-six-gallon carts at a cost of $60 if the cart is picked up or $65 if the cart is delivered. A household can have up to three carts.

The city's seasonal leaf collection program picks up leaves that are deposited at the curb between November 1 and January 15. Loose leaves are vacuumed two to three times during this time period. Containerized leaves are collected throughout the year as part of the yard waste program. The city uses thirty-two crews for seasonal leaf collection, with a combination of equipment operators, maintenance workers, and both permanent and seasonal workers.

Conditions Affecting Service, Performance, and Costs
The performance measure "cost per collection point" is based on 76,064 collection points.

UNC
SCHOOL OF
GOVERNMENT

Performance and Cost Data

POLICE SERVICES

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR POLICE SERVICES

SERVICE DEFINITION
Police Services consist of all police activities performed by sworn and non-sworn personnel. This includes, but is not limited to, activities performed by patrol, traffic, investigations, special units, support staff, supervisors, and police administration. This definition captures all functions of the police department except for emergency communications.

NOTES ON PERFORMANCE MEASURES

1. Dispatched Calls
These are calls resulting in the dispatch of an officer. Most dispatches result from calls coming into the emergency communications center or the police department, but some are self-initiated by officers on duty. Multiple calls resulting in the dispatch of several officers are counted as one.

2. Uniform Crime Reporting (UCR) Part I Crimes
Uniform Crime Reporting (UCR) Part I crimes include crimes against persons (criminal homicide, forcible rape, robbery, and aggravated assault) and crimes against property (burglary, larceny, motor vehicle theft, and arson).

3. Incident Based Reporting (IBR) Part I Crimes
Incident Based Reporting (IBR) Part I crimes include crimes against persons (criminal homicide, forcible rape, robbery, and aggravated assault) and crimes against property (burglary, larceny, motor vehicle theft, and arson). The difference between the UCR method and the IBR method for reporting crimes is that IBR counts crime and arrest activities at the incident level as opposed to counting only the most serious crime with multiple offenses.

4. Full-Time Equivalent (FTE) Positions: Sworn Officers
The number of full-time equivalent (FTE) positions is the number of budgeted positions for sworn officers during the fiscal year.

5. Response Time to High Priority Calls
Each police department defines high priority calls somewhat differently. The definitions generally refer to crimes in progress or situations where there are risks of injury or threats to life or property. Response time commences with the dispatch of an officer and ends with the arrival of the officer at the scene of the incident. The officer may be dispatched while on patrol or from the police station.

Police Services

Summary of Key Dimensions of Service

City or Town	Police Department Accredited?	Number of Sworn Officers	Average Length of Service for Sworn Officers (Years)	Number of Patrol Vehicles	Reporting Format	Part I Crimes			Part II Crimes	Dispatched Calls	Number of Traffic Accidents
						Against Persons	Against Property	Total			
Apex	No	55	7.6	45	IBR	32	812	844	2,026	27,703	969
Asheville	Yes	210	8.5	205	IBR	431	3,678	4,109	3,231	108,266	6,432
Burlington	Yes	125	9.9	151	IBR	404	4,243	4,647	5,950	66,769	2,902
Cary	Yes	174	9.3	121	IBR	112	2,304	2,416	2,532	126,762	3,690
Concord	No	158	9.6	182	IBR	101	3,145	3,246	1,906	91,927	2,869
Greensboro	Yes	643	10.0	228	IBR	1,265	13,833	15,098	15,403	307,263	8,177
Greenville	Yes	187	8.8	196	IBR	492	4,012	4,504	4,783	89,466	5,010
Hickory	No	118	9.4	145	IBR	188	2,359	2,547	3,392	64,668	1,937
High Point	No	227	10.6	238	UCR	578	4,779	5,357	2,979	119,529	2,298
Salisbury	Yes	88	10.1	101	IBR	200	2,159	2,359	2,233	34,171	1,788
Wilmington	No	267	11.1	270	UCR	661	5,485	6,146	4,754	182,124	3,563
Wilson	Yes	119	9.1	137	UCR	254	2,247	2,501	3,873	89,943	2,328
Winston-Salem	Yes	545	10.9	418	IBR	1,675	13,953	15,628	33,286	260,408	8,232

EXPLANATORY FACTORS

These are factors that the project found to affect police services performance and cost in one or more of the municipalities:

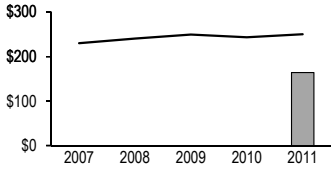
Demographic makeup of the community
Community policing policies
Population density and land area
Downtown area characteristics
Use of incident based reporting
Presence of unique problems in particular areas, such as drugs or gangs
Emphasis on quick response to all calls
Vehicle take-home policy
Beat structure
Use of special units

UNC
SCHOOL OF
GOVERNMENT

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

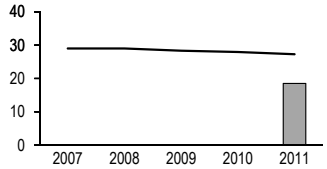
RESOURCE Measures

Police Services Costs per Capita



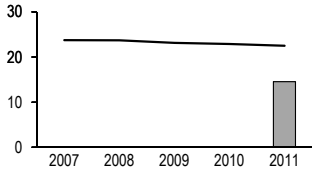
	2007	2008	2009	2010	2011
Apex					$164
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Apex					18.5
Average	29.0	29.1	28.3	28.0	27.3

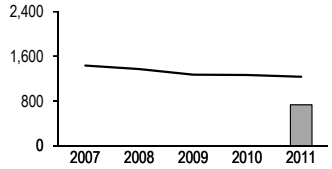
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Apex					14.6
Average	23.8	23.7	23.2	22.9	22.5

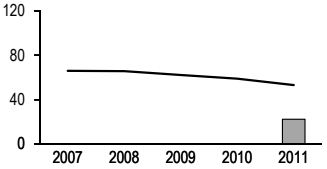
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Apex					734
Average	1,435	1,374	1,274	1,266	1,234

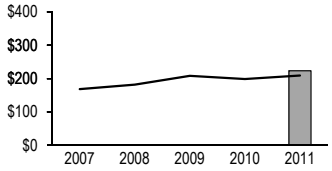
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Apex					22.4
Average	65.9	65.7	62.2	58.9	53.2

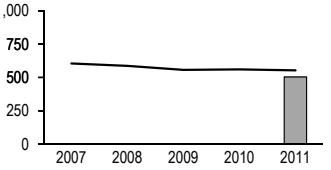
EFFICIENCY Measures

Police Services Cost per Call Dispatched



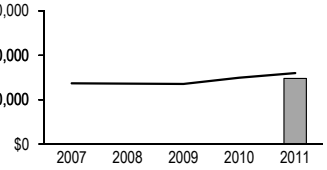
	2007	2008	2009	2010	2011
Apex					$223
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



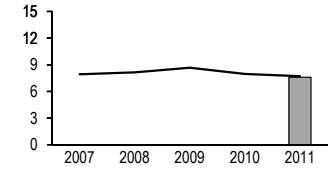
	2007	2008	2009	2010	2011
Apex					504
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Apex					$14,805
Average	$13,703	$13,626	$13,532	$14,953	$16,011

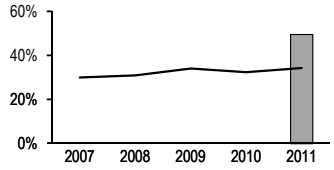
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Apex					7.6
Average	7.9	8.1	8.7	8.0	7.7

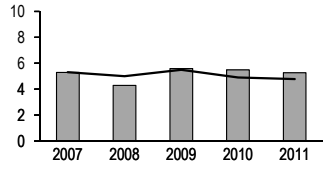
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Apex					49.5%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Apex	5.3	4.3	5.6	5.5	5.3
Average	5.3	5.0	5.5	4.9	4.8

MUNICIPAL PROFILE

Population (OSBM 2010)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
County	Wake
Median Family Income (US Census 2010)	$97,201
Unemployment Rate (ESC-10)	8.4%
Part I Crimes Reported	
Homicide	0
Rape	2
Robbery	7
Assault	23
Burglary	97
Larceny	691
Auto Theft	18
Arson	6
TOTAL	844

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		71.2%
Operating Costs		20.4%
Capital Costs		8.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,407,555
Operating Costs	$	1,263,918
Capital Costs	$	516,995
TOTAL	$	6,188,468

SERVICE PROFILE

FTE Positions—Sworn	55.0
FTE Positions—Other	15.0
Part I Crimes Cleared	
Persons	21
Property	397
TOTAL	418
Reporting Format	IBR
Part II Crimes Reported	2,026
Number of Calls Dispatched	27,703
Traffic Accidents	969
Property Damage	$4,978,455

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Apex Police Department provides an array of police services, including patrol, investigations, a special response unit, and school resource officers at the high school and middle schools located in the town to provide quality service.

The city had seventy sworn officer positions authorized for FY 2010–11, with an average length of service of about seven-and-a-half years. Police services occupies a headquarters located in downtown Apex, newly built in 2010, which houses all divisions in the depatment. There is also an unmanned substation attached to one of the fire stations.

Officers in Apex in the partrol division work twelve-hour modified DuPont schedules. Each patrol squad is also assigned a flex officer. The traffic unit works a modified DuPont schedule based on crash statistics. The investigations division works Monday through Friday from 8 a.m. to 5 p.m. with one investigator working from 2 p.m. to 11 p.m. The investigator working the late shift is also the on-call investigator, and this position rotates every week.

Patrol and investigation units are assigned individual vehicles. Command staff also have individually assigned vehicles which are the only take-home vehicles in the fleet.

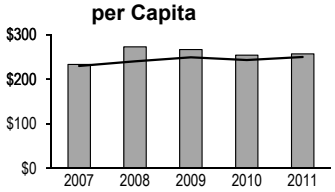
The police department was successful in clearing a total of 418 Part I cases in FY 20100–11.

The definition of a high priority call in Apex is any call when the immediate arrival and presence of the police may prevent death or injury or alleviate the threat of death or injury.

Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

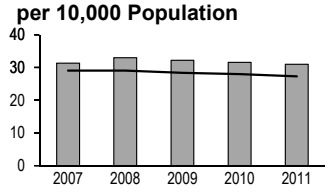
RESOURCE Measures

Police Services Costs per Capita



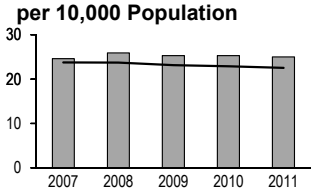
	2007	2008	2009	2010	2011
Asheville	$233.25	$273	$267	$254	$257
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	31.3	33.0	32.2	31.6	31.0
Average	29.0	29.1	28.3	28.0	27.3

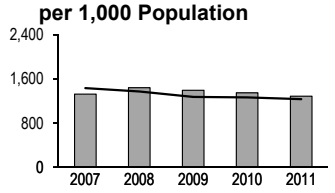
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	24.6	25.9	25.3	25.3	25.0
Average	23.8	23.7	23.2	22.9	22.5

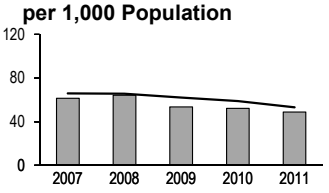
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	1,324	1,441	1,394	1,348	1,289
Average	1,435	1,374	1,274	1,266	1,234

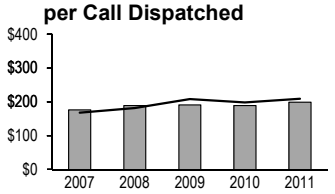
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	61.5	64.3	53.6	52.3	48.9
Average	65.9	65.7	62.2	58.9	53.2

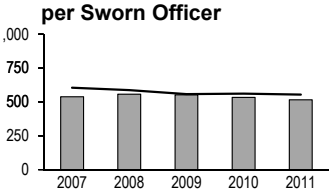
EFFICIENCY Measures

Police Services Cost per Call Dispatched



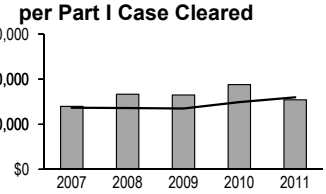
	2007	2008	2009	2010	2011
Asheville	$176	$189	$191	$189	$199
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



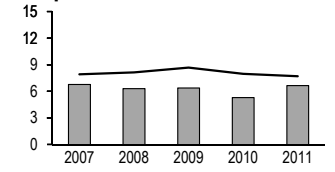
	2007	2008	2009	2010	2011
Asheville	538	557	552	533	516
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Asheville	$13,987	$16,711	$16,536	$18,814	$15,442
Average	$13,703	$13,626	$13,532	$14,953	$16,011

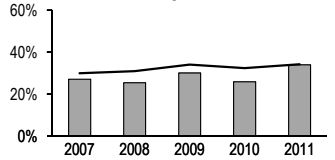
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Asheville	6.8	6.3	6.4	5.3	6.7
Average	7.9	8.1	8.7	8.0	7.7

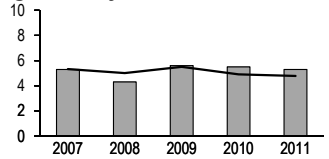
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Asheville	27.1%	25.4%	30.1%	25.9%	34.0%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Asheville	5.3	4.3	5.6	5.5	5.3
Average	5.3	5.0	5.5	4.9	4.8

MUNICIPAL PROFILE

Population (OSBM 2010)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
County	Buncombe
Median Family Income (US Census 2010)	$53,350
Unemployment Rate (ESC-10)	8.4%
Part I Crimes Reported	
Homicide	2
Rape	31
Robbery	165
Assault	233
Burglary	743
Larceny	2,636
Auto Theft	291
Arson	8
TOTAL	4,109

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		71.1%
Operating Costs		21.2%
Capital Costs		7.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	15,346,350
Operating Costs	$	4,576,515
Capital Costs	$	1,649,696
TOTAL	$	21,572,561

SERVICE PROFILE

FTE Positions—Sworn	210.0
FTE Positions—Other	50.0
Part I Crimes Cleared	
Persons	296
Property	1,101
TOTAL	1,397
Reporting Format	IBR
Part II Crimes Reported	3,231
Number of Calls Dispatched	108,266
Traffic Accidents	6,432
Property Damage	$11,803,506

EXPLANATORY INFORMATION

Service Level and Delivery
The Asheville Police Department provides an array of police services, including patrol, investigations, a telephone response unit, a canine unit, a special response unit, animal control, a drug enforcement unit, a hostage negotiation team, a hazardous device team, and several other special programs to provide quality service.

The city had 210 sworn officer positions authorized for FY 2010–11, with an average length of service of about nine years. Police services occupies five facilities, the main downtown facility shared by the fire department and four substations.

Officers in Asheville work a varied DuPont schedule based on a fourteen-day period, working six twelve-hour days and one eight-hour day. The schedule requires two or three days on followed by two days off in alternating sequences over the two-week period. A power squad is assigned to work the evening shift during the peak time of calls. Detectives work four ten-hour days with half the detectives off Monday and the other half off on Fridays. Detective supervisors work five eight-hour days.

Specialty units such as traffic, SWAT, and detectives have assigned take-home cars. Additionally, sergeants and higher-ranked officers also have assigned vehicles. Patrol cars have multiple users.

The police department was successful in clearing a total of 1,397 Part I cases in FY 2010–11.

The definition of a high priority call in Asheville is any call dealing with a crime in progress or a situation where there is immediate danger to a person.

Conditions Affecting Service, Performance, and Costs
Asheville switched over its crime reporting format from UCR to IBR in June 2009.

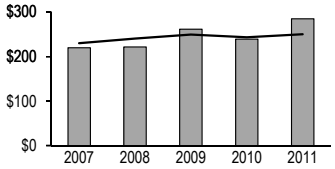
Significant efforts have been made starting in FY 2006–07 to reduce drug crime in Asheville. The number of Part I crimes has declined, which is believed to be due in part to the focus on reducing drug crime.

Asheville's costs for police services were up in FY 2007–08 due to the addition of fifteen sworn officers during the year and the final stages of implementation of a market-based pay plan for police officers.

The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included in the response time. Due to a better classification of high priority calls at the Asheville communications unit, police have been able to lower their response time to high priority calls.

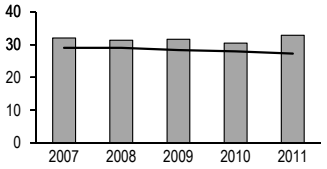
RESOURCE Measures

Police Services Costs per Capita



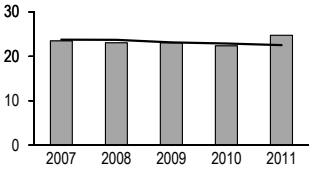
	2007	2008	2009	2010	2011
Burlington	$219.46	$221	$261	$239	$285
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	32.1	31.3	31.6	30.5	32.9
Average	29.0	29.1	28.3	28.0	27.3

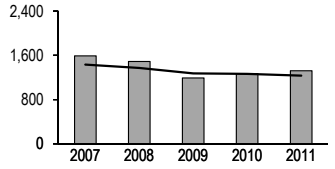
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	23.5	23.1	23.0	22.4	24.8
Average	23.8	23.7	23.2	22.9	22.5

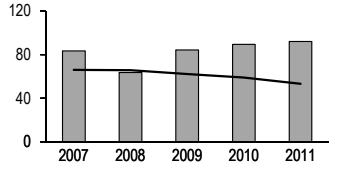
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	1,591	1,490	1,193	1,269	1,323
Average	1,435	1,374	1,274	1,266	1,234

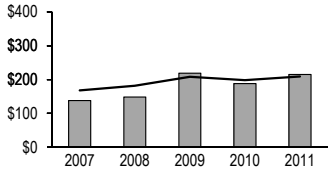
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	83.4	63.6	84.2	89.4	92.1
Average	65.9	65.7	62.2	58.9	53.2

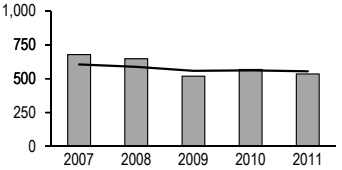
EFFICIENCY Measures

Police Services Cost per Call Dispatched



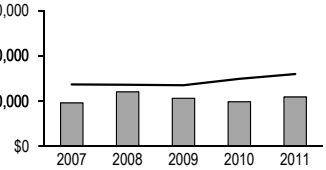
	2007	2008	2009	2010	2011
Burlington	$138	$148	$219	$188	$215
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



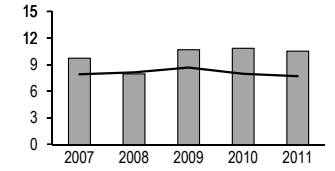
	2007	2008	2009	2010	2011
Burlington	678	647	518	568	534
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Burlington	$9,601	$12,044	$10,614	$9,853	$10,917
Average	$13,703	$13,626	$13,532	$14,953	$16,011

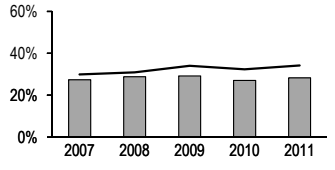
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Burlington	9.7	8.0	10.7	10.8	10.5
Average	7.9	8.1	8.7	8.0	7.7

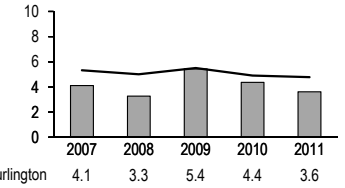
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Burlington	27.4%	28.9%	29.2%	27.1%	28.3%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Burlington	4.1	3.3	5.4	4.4	3.6
Average	5.3	5.0	5.5	4.9	4.8

Burlington

MUNICIPAL PROFILE

Population (OSBM 2010)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
County	Alamance
Median Family Income (US Census 2010)	$46,461
Unemployment Rate (ESC-10)	11.4%
Part I Crimes Reported	
Homicide	3
Rape	16
Robbery	85
Assault	300
Burglary	817
Larceny	3,276
Auto Theft	141
Arson	9
TOTAL	4,647

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.3%
Operating Costs		19.2%
Capital Costs		7.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	10,529,694
Operating Costs	$	2,764,394
Capital Costs	$	1,073,059
TOTAL	$	14,367,147

SERVICE PROFILE

FTE Positions—Sworn	125.0
FTE Positions—Other	41.0
Part I Crimes Cleared	
Persons	247
Property	1,069
TOTAL	1,316
Reporting Format	IBR
Part II Crimes Reported	5,950
Number of Calls Dispatched	66,769
Traffic Accidents	2,902
Property Damage	$4,564,106

EXPLANATORY INFORMATION

Service Level and Delivery

The Burlington Police Department provides an array of police services, including patrol, investigations, a telephone response unit, a canine unit, a motorcycle unit, a special response unit, a drug enforcement unit, an animal control officer, and other programs to provide quality service.

The town had 125 sworn officer positions authorized for FY 2010–11, with an average length of service of ten years. Police services occupies its own separate building. There are also several substations and a separate facility for animal control services and a pet adoption center.

Burlington's uniform patrol officers work a permanent day or night shift with four days on, four days off, for 10.75 hours each day for a total of 2,080 hours per year. The schedule includes eighty-four court hours and forty training hours. Investigators work a forty-hour week of four ten-hour days.

Vehicles are assigned following a take-home policy. All sworn employees with the exception of the Chief, Deputy Chief, and Major have take-home vehicles.

The definition of a high priority call in Burlington is any call requiring immediate police response. These include crimes in progress where there is a threat to life and officers responding to traffic crashes or other incidents creating a life threatening situation.

The police department was successful in clearing a total of 1,316 Part I cases in FY 2010–11.

Conditions Affecting Service, Performance, and Costs

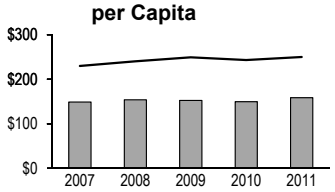
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included in the response time.

Burlington began participation in the benchmarking project in 2007, with its first reporting data being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

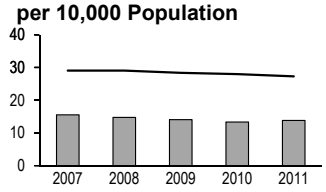
RESOURCE Measures

Police Services Costs per Capita



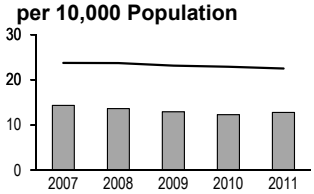
	2007	2008	2009	2010	2011
Cary	$148.71	$154	$153	$150	$159
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Cary	15.5	14.7	14.0	13.3	13.8
Average	29.0	29.1	28.3	28.0	27.3

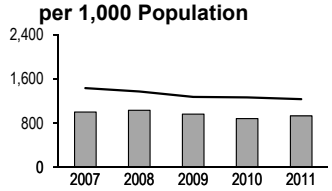
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Cary	14.3	13.7	12.9	12.3	12.8
Average	23.8	23.7	23.2	22.9	22.5

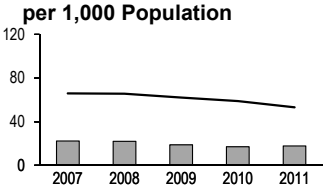
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Cary	1,002	1,033	964	883	931
Average	1,435	1,374	1,274	1,266	1,234

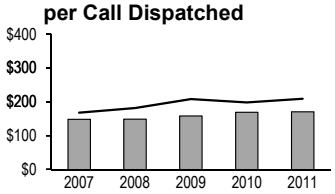
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Cary	22.3	22.0	18.8	17.1	17.7
Average	65.9	65.7	62.2	58.9	53.2

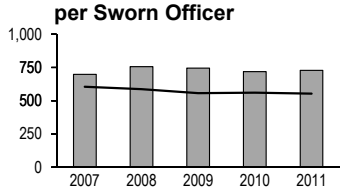
EFFICIENCY Measures

Police Services Cost per Call Dispatched



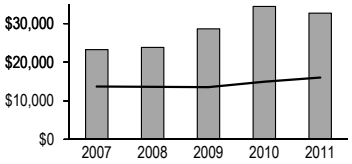
	2007	2008	2009	2010	2011
Cary	$148	$149	$158	$169	$170
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



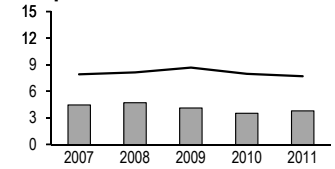
	2007	2008	2009	2010	2011
Cary	699	757	746	719	729
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Cary	$23,235	$23,835	$28,624	$34,450	$32,694
Average	$13,703	$13,626	$13,532	$14,953	$16,011

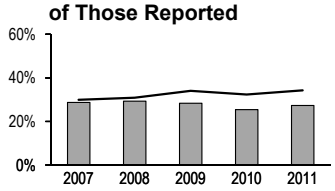
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Cary	4.5	4.7	4.1	3.5	3.8
Average	7.9	8.1	8.7	8.0	7.7

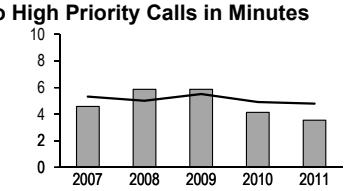
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Cary	28.7%	29.3%	28.4%	25.5%	27.4%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Cary	4.6	5.9	5.9	4.1	3.6
Average	5.3	5.0	5.5	4.9	4.8

MUNICIPAL PROFILE

Population (OSBM 2010)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
County	Wake
Median Family Income (US Census 2010)	$108,956
Unemployment Rate (ESC-10)	8.4%
Part I Crimes Reported	
Homicide	0
Rape	18
Robbery	43
Assault	51
Burglary	518
Larceny	1,699
Auto Theft	82
Arson	5
TOTAL	2,416

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.4%
Operating Costs		19.7%
Capital Costs		5.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	16,087,500
Operating Costs	$	4,250,636
Capital Costs	$	1,272,801
TOTAL	$	21,610,937

SERVICE PROFILE

FTE Positions—Sworn	174.0
FTE Positions—Other	14.0
Part I Crimes Cleared	
Persons	72
Property	589
TOTAL	661
Reporting Format	IBR
Part II Crimes Reported	2,532
Number of Calls Dispatched	126,762
Traffic Accidents	3,690
Property Damage	$12,575,350

EXPLANATORY INFORMATION

Service Level and Delivery
The Cary Police Department provides an array of police services, including patrol, investigations, a motorcycle unit, a special response unit, bicycle patrol, animal control, drug enforcement, a youth services program for public schools, and a canine unit.

The town had 174 sworn officer positions authorized for FY 2010–11, with an average length of service of 9.38 years. The primary police headquarters is located in a three-story building shared with the town's technology services department. The department also operates three substations.

In order to provide continuous service to the citizens of Cary, personnel are assigned to permanent shifts. These shifts overlap by design to provide sufficient protection during shift changes and to provide additional coverage during the times of peak activity. Tuesday through Friday the staff consists of three platoons of officers working ten-hour shifts. Saturday through Monday the staff consists of two platoons of officers working twelve-and-a-half-hour shifts. Investigators work on-call schedules and are also scheduled to work some evening hours to ensure coverage during the most active times of the day.

Two uniformed patrol officers are assigned to each marked vehicle. Traffic officers and detectives are assigned individual vehicles. Only the detective on call is allowed to take home a vehicle, and the on-call assignment rotates.

The town defines a high priority call as one which is life threatening in nature.

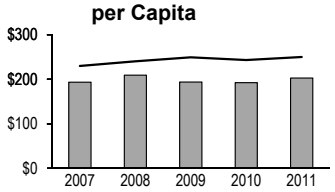
The police department was successful in clearing a total of 661 Part I cases in FY 2010–11.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

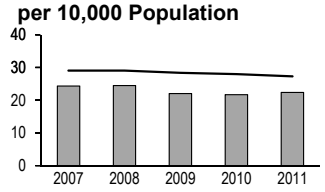
RESOURCE Measures

Police Services Costs per Capita



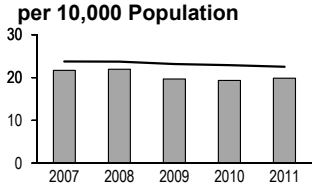
	2007	2008	2009	2010	2011
Concord	$193.25	$209	$194	$192	$203
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Concord	24.3	24.5	22.0	21.7	22.4
Average	29.0	29.1	28.3	28.0	27.3

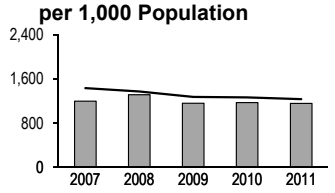
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Concord	21.7	21.9	19.7	19.3	19.9
Average	23.8	23.7	23.2	22.9	22.5

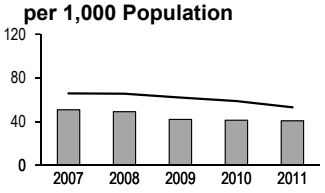
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Concord	1,197	1,314	1,161	1,171	1,156
Average	1,435	1,374	1,274	1,266	1,234

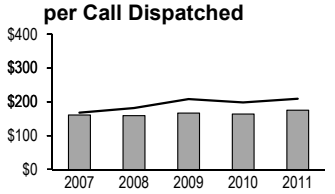
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Concord	50.9	49.2	42.1	41.4	40.8
Average	65.9	65.7	62.2	58.9	53.2

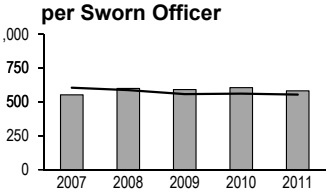
EFFICIENCY Measures

Police Services Cost per Call Dispatched



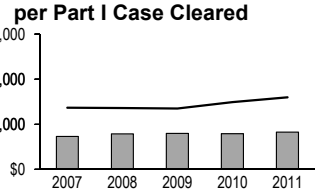
	2007	2008	2009	2010	2011
Concord	$161	$159	$167	$164	$175
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



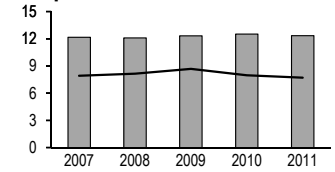
	2007	2008	2009	2010	2011
Concord	552	599	591	606	582
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Concord	$7,323	$7,876	$7,999	$7,944	$8,268
Average	$13,703	$13,626	$13,532	$14,953	$16,011

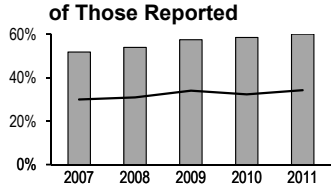
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Concord	12.2	12.1	12.3	12.5	12.3
Average	7.9	8.1	8.7	8.0	7.7

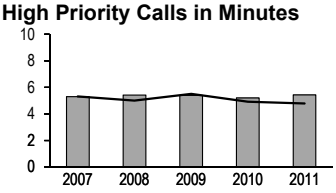
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Concord	51.8%	54.0%	57.5%	58.5%	60.1%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Concord	5.3	5.4	5.4	5.2	5.4
Average	5.3	5.0	5.5	4.9	4.8

Concord

MUNICIPAL PROFILE

Population (OSBM 2010)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
County	Cabarrus
Median Family Income (US Census 2010)	$63,640
Unemployment Rate (ESC-10)	11.3%
Part I Crimes Reported	
Homicide	3
Rape	14
Robbery	41
Assault	43
Burglary	360
Larceny	2,610
Auto Theft	155
Arson	20
TOTAL	3,246

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.8%
Operating Costs		19.4%
Capital Costs		9.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	11,422,559
Operating Costs	$	3,124,430
Capital Costs	$	1,583,180
TOTAL	$	16,130,169

SERVICE PROFILE

FTE Positions—Sworn	158.0
FTE Positions—Other	20.0
Part I Crimes Cleared	
Persons	72
Property	1,879
TOTAL	1,951
Reporting Format	IBR
Part II Crimes Reported	1,906
Number of Calls Dispatched	91,927
Traffic Accidents	2,869
Property Damage	$10,275,368

EXPLANATORY INFORMATION

Service Level and Delivery
Concord's police department provides an array of police services, including patrol, investigations, a traffic unit, a telephone response unit, a canine unit, a special response unit, a bicycle patrol unit, a drug enforcement unit, and other programs such as school resource officers.

The city had 158 sworn officer positions authorized for FY 2010–11, with an average length of service of 9.6 years. The police headquarters is in a new separate building located downtown. Four substations are used, two in fire stations and two in shopping malls.

Uniformed patrol officers work twelve-hour rotating shifts. Investigators work five eight-hour days on first and second shifts. District Commanders have the authority to change individual schedules to meet peak demands.

The city defines high priority emergency calls as those involving an assault in progress, personal injury, breaking and entering, or robbery in progress.

Concord uses a one-on-one car plan. Officers may take their vehicles home if they live in the city or within one mile of the city limits.

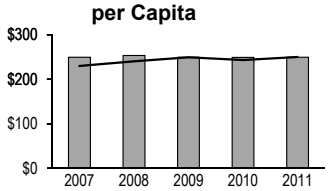
The police department was successful in clearing a total of 1,951 Part I cases in FY 2010–11.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

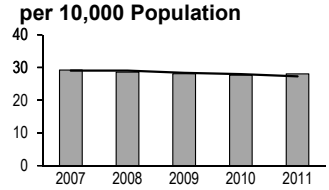
RESOURCE Measures

Police Services Costs per Capita



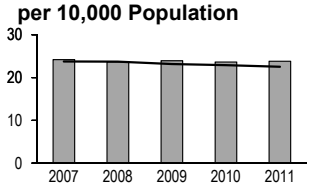
	2007	2008	2009	2010	2011
Greensboro	$249.28	$253	$249	$249	$249
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	29.2	28.6	28.1	27.6	28.0
Average	29.0	29.1	28.3	28.0	27.3

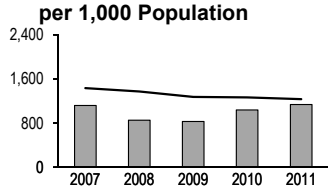
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	24.2	23.7	23.9	23.6	23.8
Average	23.8	23.7	23.2	22.9	22.5

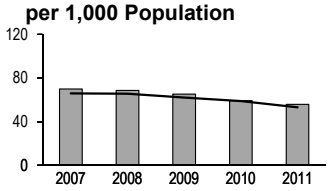
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	1,120	854	830	1,038	1,138
Average	1,435	1,374	1,274	1,266	1,234

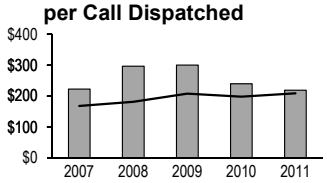
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	70.0	68.7	65.3	59.4	55.9
Average	65.9	65.7	62.2	58.9	53.2

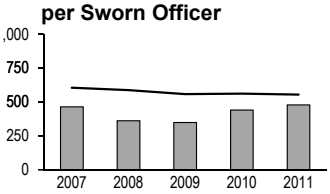
EFFICIENCY Measures

Police Services Cost per Call Dispatched



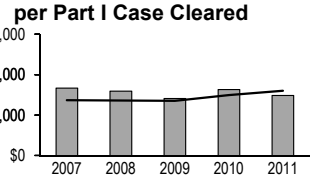
	2007	2008	2009	2010	2011
Greensboro	$222	$297	$301	$240	$219
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



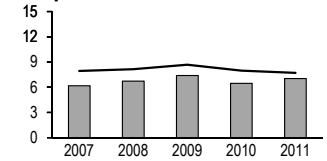
	2007	2008	2009	2010	2011
Greensboro	463	361	347	440	478
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Greensboro	$16,683	$15,923	$14,113	$16,338	$14,876
Average	$13,703	$13,626	$13,532	$14,953	$16,011

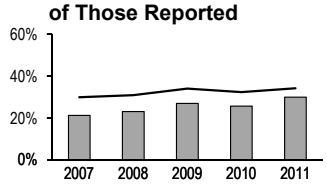
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Greensboro	6.2	6.7	7.4	6.5	7.0
Average	7.9	8.1	8.7	8.0	7.7

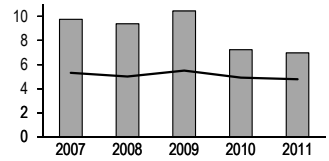
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Greensboro	21.3%	23.2%	27.1%	25.7%	30.0%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Greensboro	9.8	9.4	10.5	7.2	7.0
Average	5.3	5.0	5.5	4.9	4.8

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2010)	270,065
Land Area (Square Miles)	126.63
Persons per Square Mile	2,133
County	Guilford
Median Family Income (US Census 2010)	$52,752
Unemployment Rate (ESC-10)	10.9%
Part I Crimes Reported	
Homicide	22
Rape	64
Robbery	600
Assault	579
Burglary	4,227
Larceny	8,734
Auto Theft	780
Arson	92
TOTAL	15,098

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		78.3%
Operating Costs		21.7%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	52,760,077
Operating Costs	$	14,584,572
Capital Costs	$	-
TOTAL	$	67,344,649

SERVICE PROFILE

FTE Positions—Sworn	643.0
FTE Positions—Other	114.0
Part I Crimes Cleared	
Persons	733
Property	3,794
Total	4,527
Reporting Format	IBR
Part II Crimes Reported	15,403
Number of Calls Dispatched	307,263
Traffic Accidents	8,177
Property Damage	$28,115,202

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro provides comprehensive police services, including patrol, investigations, a traffic unit, a telephone response unit, a forensics laboratory, a canine unit, a motorcycle unit, a special response unit, a bicycle patrol unit, a drug enforcement unit, and a student outreach and recruiting program.

The city had 643 sworn officer positions authorized for FY 2010–11, with an average length of service of ten years. The police department is housed in a downtown facility with other city departments. The city also has three substations that serve as remote line-up facilities.

Patrol officers work a four-days on and four-days off fixed schedule. There are four shifts each day, with each patrol officer shift lasting eleven hours. Investigators and administrative personnel work Monday through Friday from 8 a.m. to 5 p.m. Schedules can be adjusted at any time according to call demand, special events, or special incidents.

Line patrol officers do not take vehicles home. Patrol supervisors, division commanders, and some investigators take vehicles home depending on their assignment.

Greensboro defines a high priority emergency call as one where there is a potential for imminent serious injury or death.

The police department was successful in clearing a total of 4,527 Part I cases in FY 2010–11.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls with the exception of traffic stops and report-only calls.

A new dispatch system in Greensboro implemented in FY 2007–08 prevents repeat calls leading to multiple dispatches. If a call comes in from the same area on the same incident, it will combine the calls rather than generating multiple dispatches. This system change means the number of dispatched calls for Greensboro declined due not to service changes but primarily data reporting differences.

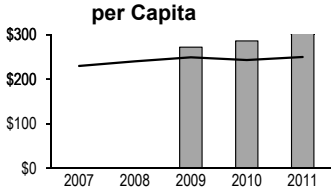
Beginning in FY 2009–10, Greensboro refined its reporting of response time and now only includes patrol calls, which are the majority of calls. Calls to special units are no longer included. A change was also made in the prioritization of calls, which improved response time for the most urgent calls.

Dispatched calls rose noticeably over earlier years due to significant annexations to the city.

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

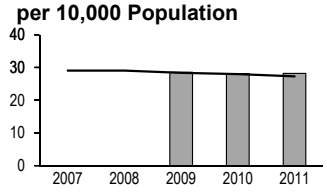
RESOURCE Measures

Police Services Costs per Capita



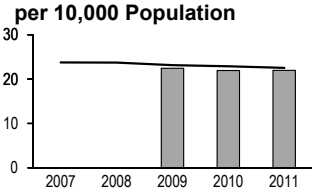
	2007	2008	2009	2010	2011
Greenville			$272	$286	$376
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			28.5	28.1	28.2
Average	29.0	29.1	28.3	28.0	27.3

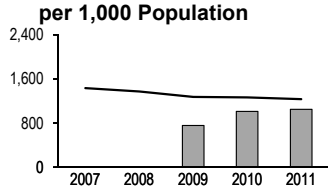
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			22.5	21.9	22.0
Average	23.8	23.7	23.2	22.9	22.5

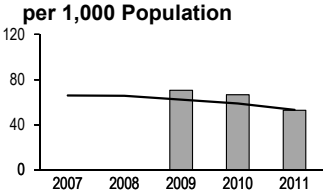
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			757	1,013	1,051
Average	1,435	1,374	1,274	1,266	1,234

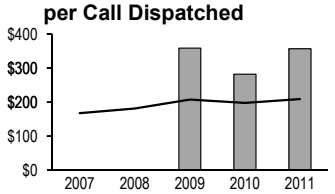
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			70.6	66.7	52.9
Average	65.9	65.7	62.2	58.9	53.2

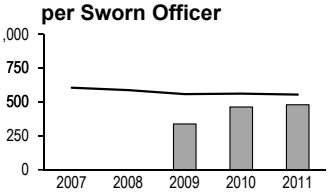
EFFICIENCY Measures

Police Services Cost per Call Dispatched



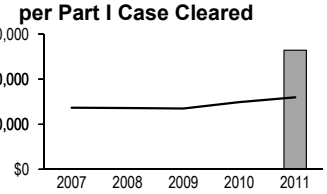
	2007	2008	2009	2010	2011
Greenville			$359	$282	$357
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



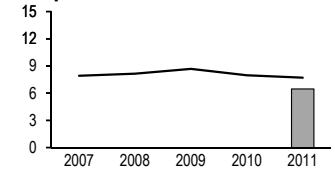
	2007	2008	2009	2010	2011
Greenville			337	462	478
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Greenville					$26,454
Average	$13,703	$13,626	$13,532	$14,953	$16,011

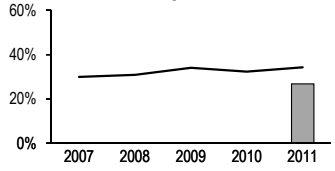
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Greenville					6.5
Average	7.9	8.1	8.7	8.0	7.7

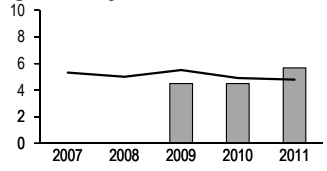
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Greenville					26.8%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Greenville			4.5	4.5	5.7
Average	5.3	5.0	5.5	4.9	4.8

Greenville

MUNICIPAL PROFILE

Population (OSBM 2010)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
County	Pitt
Median Family Income (US Census 2010)	$50,395
Unemployment Rate (ESC-10)	10.1%
Part I Crimes Reported	
Homicide	4
Rape	29
Robbery	180
Assault	279
Burglary	1,186
Larceny	2,691
Auto Theft	126
Arson	9
TOTAL	4,504

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		52.9%
Operating Costs		43.7%
Capital Costs		3.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	16,909,054
Operating Costs	$	13,986,732
Capital Costs	$	1,087,295
TOTAL	$	31,983,081

SERVICE PROFILE

FTE Positions—Sworn	187.0
FTE Positions—Other	53.0
Part I Crimes Cleared	
Persons	191
Property	1,018
TOTAL	1,209
Reporting Format	IBR
Part II Crimes Reported	4,783
Number of Calls Dispatched	89,466
Traffic Accidents	5,010
Property Damage	$13,000,000

EXPLANATORY INFORMATION

Service Level and Delivery
Greenville provides a full array of police services, including patrol, investigations, a canine unit, a special response unit, bicycle patrol, and drug enforcement.

The city had 187 sworn officer positions authorized for FY 2010–11, with an average length of service of 8.8 years. The police department occupies space in the city government building.

Patrol officers work a rotating schedule of two on/two off/three on/2 off/2on/3off. There are four shifts each day for patrol officers, with the shifts lasting eleven hours. Investigators and administrative personnel work Monday through Friday, with eight hour shifts. Schedules are subject to change based on call demand, special events, or unusual events.

Some patrol officers do have take-home vehicles. There are seven to eight take home cars per shift. They are assigned by seniority and whether or not the officer lives in the city limits. Officers on a shift who do not have a take home car are assigned a pool car to drive each day. All investigators and administation personnel (with one exception) have take home cars.

Greenville defines high priority emergency calls as those situations that present a potential for imminent serious injury or death. These calls will be dispatched to the first available patrol unit, which may require a citywide dispatch.

The police department was successful in clearing a total of 1,209 Part I cases in FY 2010–11.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in July 2009, with the first year of reporting being for FY 2008–09.

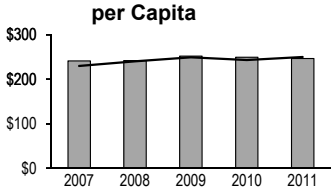
Greenville switched to a new records management system near the end of FY 2008–09. Due to complications with the system changeover, the city was not able to provide data on clearances for crimes for FY 2008–09.

The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included in the response times.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

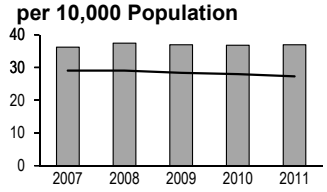
RESOURCE Measures

Police Services Costs per Capita



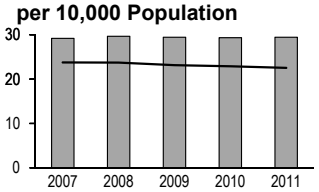
	2007	2008	2009	2010	2011
Hickory	$241.30	$242	$252	$249	$246
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	36.2	37.4	36.9	36.8	36.9
Average	29.0	29.1	28.3	28.0	27.3

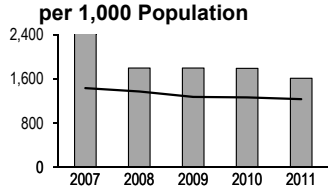
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	29.2	29.7	29.4	29.3	29.4
Average	23.8	23.7	23.2	22.9	22.5

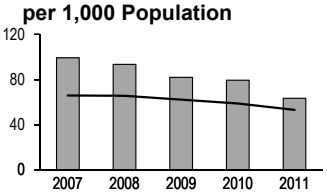
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	2,520	1,797	1,797	1,792	1,613
Average	1,435	1,374	1,274	1,266	1,234

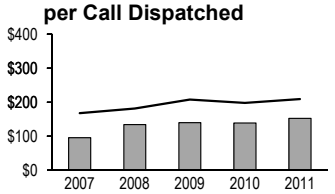
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	99.4	93.6	82.0	79.5	63.5
Average	65.9	65.7	62.2	58.9	53.2

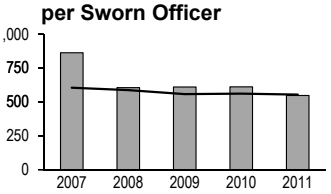
EFFICIENCY Measures

Police Services Cost per Call Dispatched



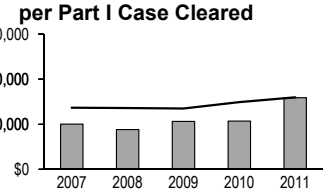
	2007	2008	2009	2010	2011
Hickory	$96	$135	$140	$139	$153
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



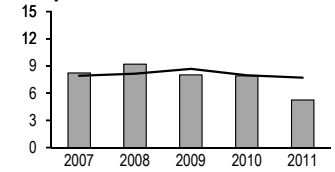
	2007	2008	2009	2010	2011
Hickory	863	606	611	611	548
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Hickory	$10,042	$8,851	$10,659	$10,732	$15,903
Average	$13,703	$13,626	$13,532	$14,953	$16,011

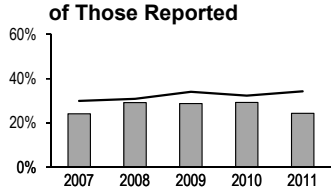
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Hickory	8.2	9.2	8.0	7.9	5.3
Average	7.9	8.1	8.7	8.0	7.7

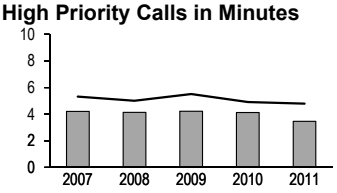
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Hickory	24.2%	29.2%	28.8%	29.2%	24.4%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Hickory	4.2	4.1	4.2	4.1	3.5
Average	5.3	5.0	5.5	4.9	4.8

Hickory

MUNICIPAL PROFILE

Population (OSBM 2010)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
County	Catawba
Median Family Income (US Census 2010)	$54,093
Unemployment Rate (ESC-10)	13.1%
Part I Crimes Reported	
Homicide	4
Rape	13
Robbery	76
Assault	95
Burglary	535
Larceny	1,700
Auto Theft	113
Arson	11
TOTAL	2,547

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.5%
Operating Costs		19.9%
Capital Costs		6.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,256,336
Operating Costs	$	1,969,564
Capital Costs	$	649,618
TOTAL	$	9,875,518

SERVICE PROFILE

FTE Positions—Sworn	118.0
FTE Positions—Other	30.0
Part I Crimes Cleared	
Persons	94
Property	527
TOTAL	621
Reporting Format	IBR
Part II Crimes Reported	3,392
Number of Calls Dispatched	64,668
Traffic Accidents	1,937
Property Damage	$7,006,537

EXPLANATORY INFORMATION

Service Level and Delivery
Hickory provides a full array of police services, including patrol, investigations, a traffic unit, a laboratory facility, a canine unit, a special response unit, bicycle patrol, a jail/holding facility, animal control, drug enforcement, and a DARE program.

The city had 118 sworn officer positions authorized for FY 2010–11, with an average length of service of 9.4 years. The police department occupies its own three-story facility, completed in January 1996. Each of the five community police areas has an office located in its respective community. These offices are not staffed. They are used for interviews, to obtain information, to store supplies, and to make phone calls.

Patrol officers work a fourteen-day, 80.5-hour cycle. During this period, officers work seven 11.5-hour days. Each of the five districts is commanded by a lieutenant who establishes schedules based on need.

Investigators work Monday through Friday, either from 8:30 a.m. to 5:00 p.m. or 3:30 p.m. to 12:00 a.m. for the second-shift on-call investigators.

Hickory uses the one-officer, one-car plan. Officers take vehicles home if they live in or within one mile of the city. Officers who are members of specialized units needed for emergency response, such as special operations, K-9, or criminial investigations, may also take their vehicles home.

Hickory defines high priority emergency calls as those situations that present an in-progress threat to life or serious property loss. Officers are authorized to utilize blue lights and sirens during responses and may exceed posted speed limits by up to twenty miles per hour.

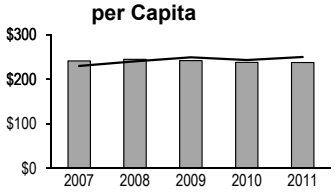
The police department was successful in clearing a total of 621 Part I cases in FY 2010–11.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

Beginning in FY 2007–08, Hickory was no longer including property checks and citizen contacts as part of total service calls for service or dispatches. The decline represents not a drop in service but a change in what was being counted.

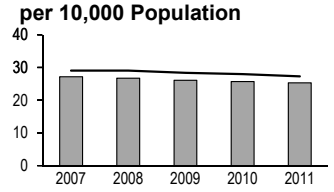
RESOURCE Measures

Police Services Costs per Capita



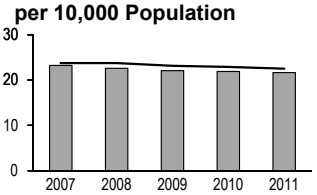
	2007	2008	2009	2010	2011
High Point	$241.27	$245	$242	$238	$238
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
High Point	27.2	26.7	26.1	25.7	25.3
Average	29.0	29.1	28.3	28.0	27.3

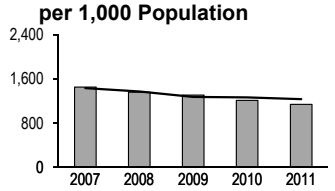
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
High Point	23.3	22.6	22.1	21.9	21.7
Average	23.8	23.7	23.2	22.9	22.5

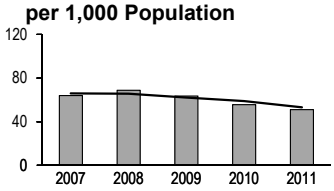
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
High Point	1,453	1,359	1,307	1,211	1,141
Average	1,435	1,374	1,274	1,266	1,234

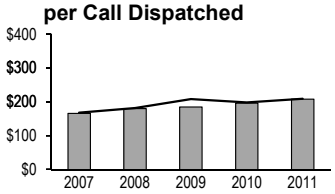
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
High Point	64.0	68.8	63.6	55.6	51.1
Average	65.9	65.7	62.2	58.9	53.2

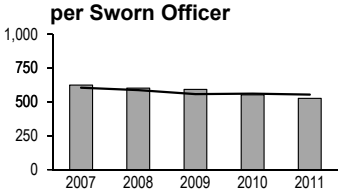
EFFICIENCY Measures

Police Services Cost per Call Dispatched



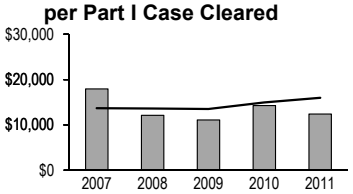
	2007	2008	2009	2010	2011
High Point	$166	$180	$185	$196	$208
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



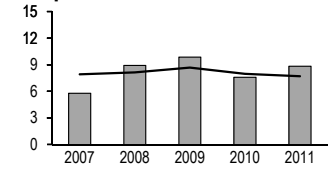
	2007	2008	2009	2010	2011
High Point	625	602	592	553	527
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
High Point	$17,950	$12,131	$11,107	$14,289	$12,421
Average	$13,703	$13,626	$13,532	$14,953	$16,011

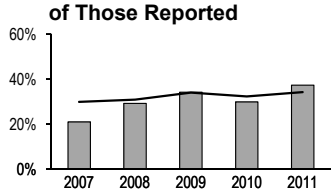
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
High Point	5.8	8.9	9.9	7.6	8.8
Average	7.9	8.1	8.7	8.0	7.7

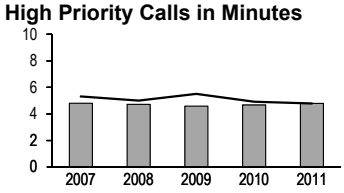
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
High Point	21.0%	29.3%	34.2%	29.9%	37.4%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
High Point	4.8	4.7	4.6	4.7	4.8
Average	5.3	5.0	5.5	4.9	4.8

MUNICIPAL PROFILE

Population (OSBM 2010)	104,788
Land Area (Square Miles)	53.81
Persons per Square Mile	1,948
County	Guilford
Median Family Income (US Census 2010)	$49,720
Unemployment Rate (ESC-10)	10.9%
Part I Crimes Reported	
Homicide	4
Rape	28
Robbery	233
Assault	313
Burglary	1,239
Larceny	3,295
Auto Theft	220
Arson	25
TOTAL	5,357

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.3%
Operating Costs		20.4%
Capital Costs		5.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	18,500,764
Operating Costs	$	5,067,247
Capital Costs	$	1,324,189
TOTAL	$	24,892,200

SERVICE PROFILE

FTE Positions—Sworn	227.0
FTE Positions—Other	38.0
Part I Crimes Cleared	
Persons	362
Property	1,642
TOTAL	2,004
Reporting Format	UCR
Part II Crimes Reported	2,979
Number of Calls Dispatched	119,529
Traffic Accidents	2,298
Property Damage	$10,428,481

EXPLANATORY INFORMATION

Service Level and Delivery
High Point's police department provides an array of police services, including patrol, investigations, traffic, a telephone response unit, a forensics laboratory, a canine unit, a motorcycle unit, a special response unit, a bicycle patrol unit, an animal control function, a drug enforcement unit, and other programs such as school resource officers.

The city had 227 sworn officer positions authorized for FY 2010–11, with an average length of service of 10.6 years. The police department is located in a separate building from city hall.

Patrol officers work a 10.5-hour shift on either the first, second, or third shift. Officers are assigned to separate teams and alternate four days on and four days off. In order to provide coverage for peak hours, the second and third shifts overlap by 5.5 hours. This applies to both daytime and night coverage.

Detectives work a twenty-eight-day cycle of five days on and two days off. The first shift is from 8 a.m. to 5 p.m., and the second shift is from 4 p.m. to 12 a.m. Each week, three detectives rotate to cover the second shift.

Each officer is assigned a vehicle. Officers living within the city limits take vehicles home. If the officer lives outside of the city limits, the vehicle must be parked at an approved location within the city.

The city defines high priority emergency calls as those where the threat of physical injury or the level of danger created by a suspect or condition requires such a response.

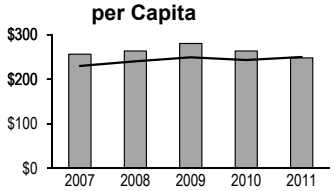
The police department was successful in clearing a total of 2,004 Part I cases in FY 2010–11.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

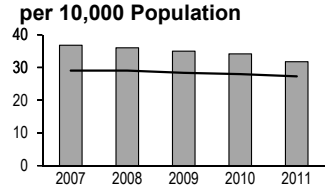
RESOURCE Measures

Police Services Costs per Capita



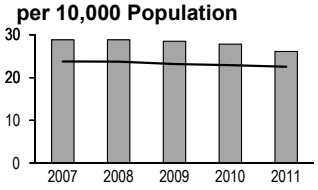
	2007	2008	2009	2010	2011
Salisbury	$256.24	$263	$280	$264	$248
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	36.8	36.0	35.0	34.1	31.7
Average	29.0	29.1	28.3	28.0	27.3

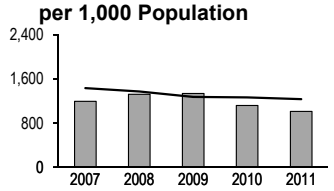
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	28.8	28.8	28.5	27.8	26.1
Average	23.8	23.7	23.2	22.9	22.5

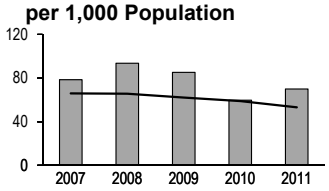
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	1,196	1,324	1,336	1,121	1,013
Average	1,435	1,374	1,274	1,266	1,234

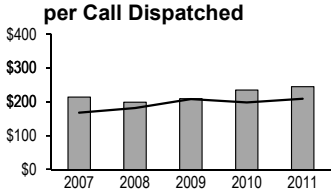
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	78.6	93.7	85.3	59.7	70.0
Average	65.9	65.7	62.2	58.9	53.2

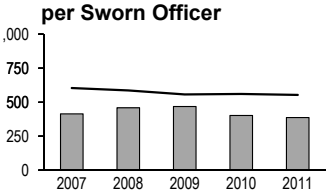
EFFICIENCY Measures

Police Services Cost per Call Dispatched



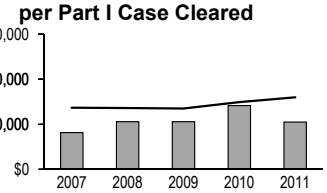
	2007	2008	2009	2010	2011
Salisbury	$214	$199	$210	$235	$245
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



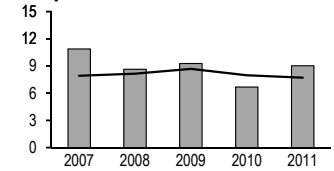
	2007	2008	2009	2010	2011
Salisbury	415	460	469	403	388
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Salisbury	$8,173	$10,586	$10,603	$14,177	$10,523
Average	$13,703	$13,626	$13,532	$14,953	$16,011

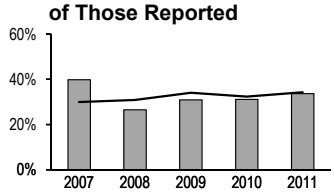
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Salisbury	10.9	8.6	9.3	6.7	9.0
Average	7.9	8.1	8.7	8.0	7.7

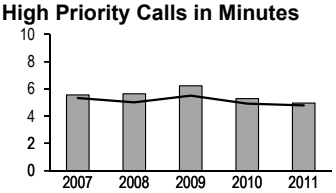
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Salisbury	39.9%	26.6%	31.0%	31.1%	33.7%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Salisbury	5.6	5.6	6.2	5.3	5.0
Average	5.3	5.0	5.5	4.9	4.8

MUNICIPAL PROFILE

Population (OSBM 2010)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
County	Rowan
Median Family Income (US Census 2010)	$40,192
Unemployment Rate (ESC-10)	12.8%
Part I Crimes Reported	
Homicide	5
Rape	8
Robbery	81
Assault	106
Burglary	411
Larceny	1,634
Auto Theft	103
Arson	11
TOTAL	2,359

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		66.9%
Operating Costs		22.9%
Capital Costs		10.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,594,620
Operating Costs	$	1,915,435
Capital Costs	$	855,566
TOTAL	$	8,365,621

SERVICE PROFILE

FTE Positions—Sworn	88.0
FTE Positions—Other	19.0
Part I Crimes Cleared	
Persons	124
Property	671
TOTAL	795
Reporting Format	IBR
Part II Crimes Reported	2,233
Number of Calls Dispatched	35,447
Traffic Accidents	1,788
Property Damage	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Salisbury's police department provides an array of police services, including patrol, investigations, traffic, canine, special response, bicycle patrol, drug enforcement units, animal control, a school program, and other programs.

The city had eighty-eight sworn officer positions authorized for FY 2010–11, with an average length of service of 10.1 years. The police department is located in a two-story facility and also has two substations. One substation is located in a neighborhood and one substation is in office space located at Rowan Regional Medical Center.

Uniformed officers work a variety of shift schedules. The most common schedule is one twelve-hour shift, with two days on and two off, three days on and two off, and then two days on and three off. A few officers work 10.5-hour shifts, with four days on and three off. This 10.5-hour shift serves as flex coverage during the day's heaviest call volume period and can be moved according to departmental need.

Officers are assigned a vehicle when hired and are allowed to take it home if they live within Rowan County. If they live within Rowan County but beyond five miles of the city limits, they have to reimburse the city for the cost of mileage in excess of the five miles.

The police department was successful in clearing a total of 795 Part I cases in FY 2010–11.

The city defines high priority emergency calls as those involving crimes that are in progress or calls that are life threatening or potentially life threatening.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

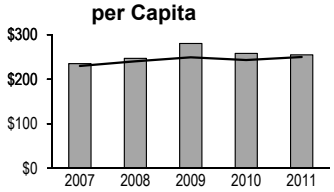
Salisbury has increased special initiatives to reduce crime, such as through projects aimed at "hot spots" and aggressive prosecutions through Project Safe.

Wilmington — Police Services

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

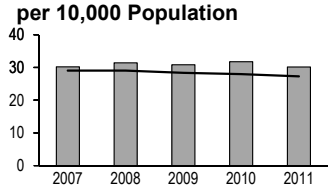
RESOURCE Measures

Police Services Costs per Capita



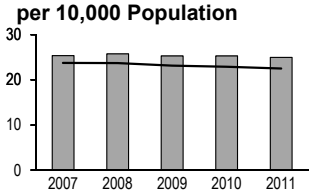
	2007	2008	2009	2010	2011
Wilmington	$235.09	$247	$280	$258	$255
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	30.2	31.4	30.8	31.8	30.1
Average	29.0	29.1	28.3	28.0	27.3

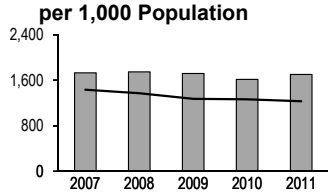
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	25.4	25.8	25.3	25.3	25.0
Average	23.8	23.7	23.2	22.9	22.5

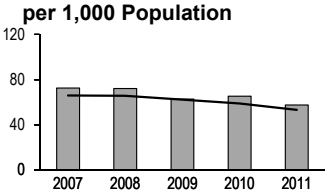
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Wilmington	1,731	1,748	1,720	1,617	1,704
Average	1,435	1,374	1,274	1,266	1,234

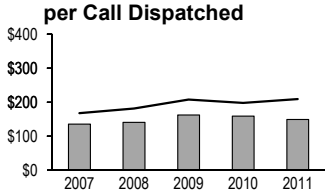
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Wilmington	72.6	72.2	62.8	65.3	57.5
Average	65.9	65.7	62.2	58.9	53.2

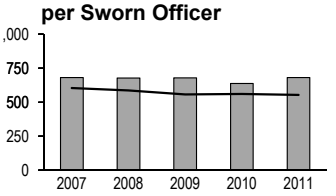
EFFICIENCY Measures

Police Services Cost per Call Dispatched



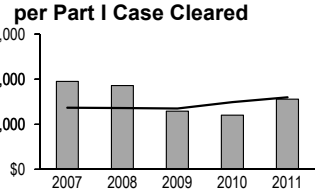
	2007	2008	2009	2010	2011
Wilmington	$136	$141	$163	$160	$149
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



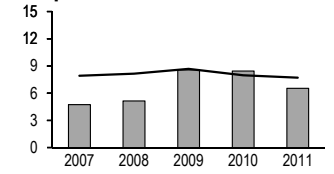
	2007	2008	2009	2010	2011
Wilmington	682	679	680	639	682
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Wilmington	$19,546	$18,608	$12,925	$12,054	$15,602
Average	$13,703	$13,626	$13,532	$14,953	$16,011

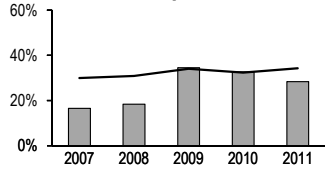
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Wilmington	4.7	5.2	8.6	8.5	6.5
Average	7.9	8.1	8.7	8.0	7.7

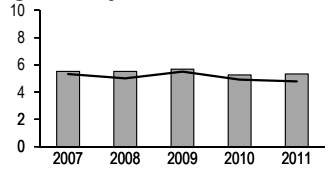
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Wilmington	16.6%	18.4%	34.5%	32.7%	28.4%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Wilmington	5.5	5.5	5.7	5.3	5.3
Average	5.3	5.0	5.5	4.9	4.8

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2010)	106,882
Land Area (Square Miles)	51.49
Persons per Square Mile	2,076
County	New Hanover
Median Family Income (US Census 2010)	$57,892
Unemployment Rate (ESC-10)	9.7%
Part I Crimes Reported	
Homicide	9
Rape	42
Robbery	255
Assault	355
Burglary	1,441
Larceny	3,619
Auto Theft	408
Arson	17
TOTAL	6,146

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		67.2%
Operating Costs		23.5%
Capital Costs		9.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	18,291,859
Operating Costs	$	6,385,295
Capital Costs	$	2,547,851
TOTAL	$	27,225,005

SERVICE PROFILE

FTE Positions—Sworn	267.0
FTE Positions—Other	55.0
Part I Crimes Cleared	
Persons	407
Property	1,790
TOTAL	2,197
Reporting Format	UCR
Part II Crimes Reported	4,754
Number of Calls Dispatched	182,124
Traffic Accidents	3,563
Property Damage	$15,577,140

EXPLANATORY INFORMATION

Service Level and Delivery
Wilmington operates a full-service police department, including patrol, investigations, a traffic unit, a telephone response unit, a canine unit, a mounted/equine unit, a special response unit, drug enforcement, a warrants unit, and other crime prevention programs.

The city had 267 sworn officer positions authorized for FY 2010–11, with an average length of service of 11.1 years. The police department took occupancy of a new facility early in 2007 located on the northside of the city. The department has one substation housing the special operations division and a second substation for the Southeast Patrol region.

There are eight shifts for patrol officers. There are two shifts for investigators, a day shift and an evening one.

Take-home vehicles are assigned at the discretion of the chief or deputy chief. Generally, the chief, deputy chiefs, captains, lieutenants, and sergeants receive take-home cars. Additionally, specialty units such as the emergency response team and traffic are assigned take-home vehicles. Under the Individual Vehicle Assignment Program (IVAP), all sworn personnel with two years of service who live within fifteen miles of the Wilmington city limits are assigned take-home cars.

The police department was successful in clearing a total of 1,745 Part I cases in FY 2010–11.

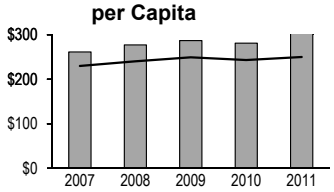
Wilmington defines high priority emergency calls as those involving incidents in progress and presenting the potential for injury or property damage or situations where a suspect is at the scene and will elude apprehension or create a potential for personal injury, damage, or loss if officers do not arrive rapidly.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

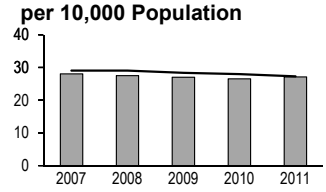
RESOURCE Measures

Police Services Costs per Capita



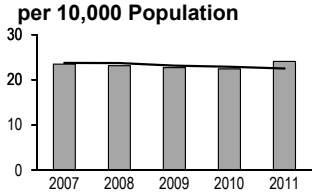
	2007	2008	2009	2010	2011
Wilson	$261.36	$277	$287	$281	$305
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	28.0	27.5	27.0	26.5	27.1
Average	29.0	29.1	28.3	28.0	27.3

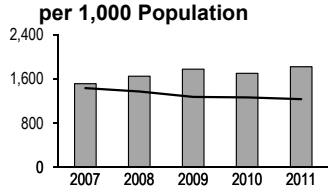
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	23.5	23.1	22.7	22.4	24.1
Average	23.8	23.7	23.2	22.9	22.5

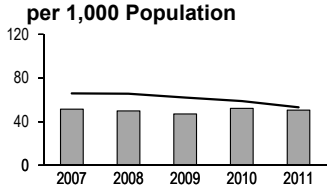
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Wilson	1,513	1,650	1,776	1,702	1,820
Average	1,435	1,374	1,274	1,266	1,234

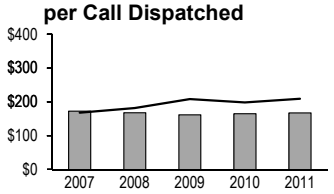
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Wilson	51.6	49.9	47.1	52.2	50.6
Average	65.9	65.7	62.2	58.9	53.2

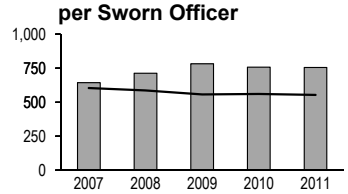
EFFICIENCY Measures

Police Services Cost per Call Dispatched



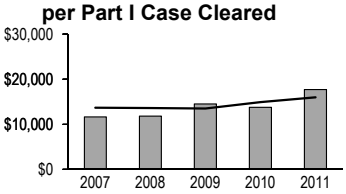
	2007	2008	2009	2010	2011
Wilson	$173	$168	$162	$165	$167
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



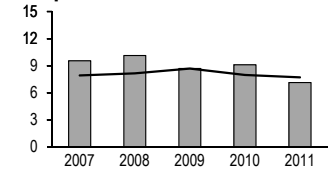
	2007	2008	2009	2010	2011
Wilson	645	714	783	759	756
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Wilson	$11,652	$11,835	$14,532	$13,778	$17,735
Average	$13,703	$13,626	$13,532	$14,953	$16,011

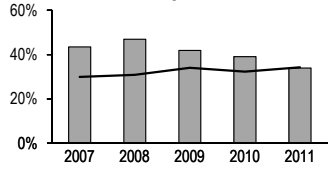
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Wilson	9.6	10.1	8.7	9.1	7.1
Average	7.9	8.1	8.7	8.0	7.7

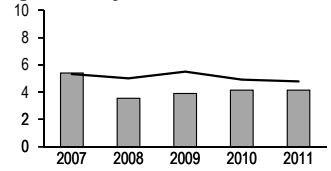
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Wilson	43.5%	47.0%	41.9%	39.1%	33.9%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Wilson	5.4	3.6	3.9	4.2	4.2
Average	5.3	5.0	5.5	4.9	4.8

Wilson

MUNICIPAL PROFILE

Population (OSBM 2010)	49,421
Land Area (Square Miles)	28.76
Persons per Square Mile	1,718
County	Wilson
Median Family Income (US Census 2010)	$43,442
Unemployment Rate (ESC-10)	12.7%
Part I Crimes Reported	
Homicide	3
Rape	10
Robbery	95
Assault	146
Burglary	681
Larceny	1,468
Auto Theft	95
Arson	3
TOTAL	2,501

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		62.5%
Operating Costs		29.3%
Capital Costs		8.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	9,409,188
Operating Costs	$	4,404,822
Capital Costs	$	1,242,663
TOTAL	$	15,056,673

SERVICE PROFILE

FTE Positions—Sworn	119.0
FTE Positions—Other	15.0
Part I Crimes Cleared	
Persons	157
Property	692
TOTAL	849
Reporting Format	UCR
Part II Crimes Reported	3,873
Number of Calls Dispatched	89,943
Traffic Accidents	2,328
Property Damage	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Wilson's police department provides an array of police services, including patrol, investigations, a telephone response unit, a forensics laboratory, a canine unit, a part-time mounted equine unit, a special response unit, street crimes, drug enforcement, and other services.

The city had 119 sworn officer positions authorized for FY 2010–11, with an average length of service of 9.1 years. The main police department headquarters is located in downtown Wilson, housing administration, records, property, major case investigations, police information services, victim services, evidence, and recruitment and training. There are six substations.

Patrol officers work twelve-hour shifts, working fourteen days of a twenty-eight day cycle (168 hours). Shifts are either 7 a.m. to 7 p.m. or 7 p.m. to 7 a.m. and are rotated every two weeks. Department needs may cause shifts to vary.

Investigators generally work eight-hour shifts five days per week. Shifts are 8 a.m. to 5 p.m.

Each patrol officer is assigned a vehicle and may take the vehicle home if he or she resides in the city. Officers living outside the city limits park their vehicles at businesses.

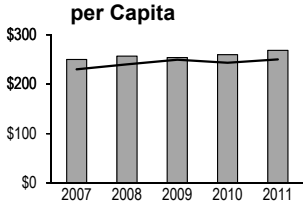
The police department was successful in clearing a total of 849 Part I cases in FY 2010–11.

Wilson defines high priority emergency calls as calls related to crimes in progress that require immediate response: murder, rape, robbery, burglary, arson/fire, and assaults.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first unit to arrive. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

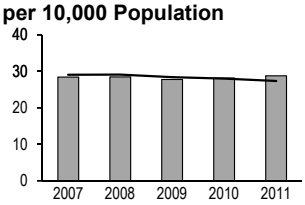
RESOURCE Measures

Police Services Costs per Capita



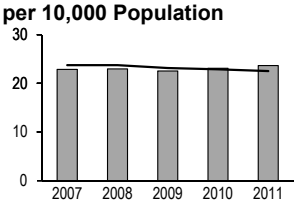
	2007	2008	2009	2010	2011
Winston-Salem	$249.80	$257	$254	$259	$268
Average	$230	$240	$249	$243	$250

Total Police Services Personnel per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	28.4	28.4	27.7	28.1	28.7
Average	29.0	29.1	28.3	28.0	27.3

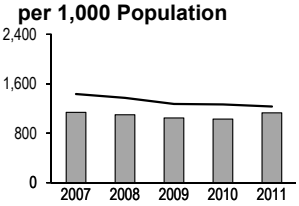
Sworn Police Officers per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	22.9	23.0	22.6	23.1	23.7
Average	23.8	23.7	23.2	22.9	22.5

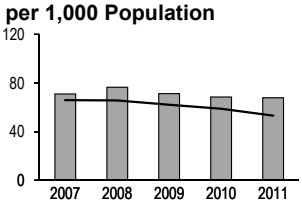
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	1,138	1,099	1,046	1,029	1,131
Average	1,435	1,374	1,274	1,266	1,234

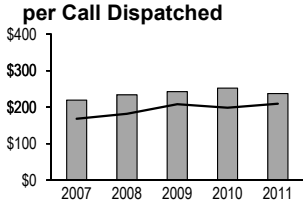
Part I Crimes per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	71.1	76.6	71.4	68.6	67.8
Average	65.9	65.7	62.2	58.9	53.2

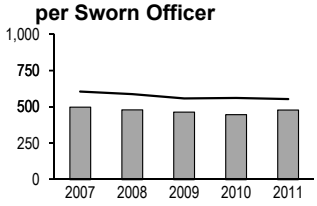
EFFICIENCY Measures

Police Services Cost per Call Dispatched



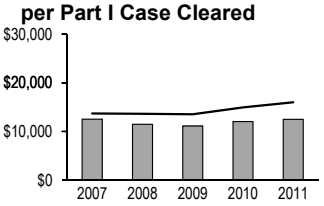
	2007	2008	2009	2010	2011
Winston-Salem	$219	$234	$242	$252	$237
Average	$168	$182	$208	$198	$209

Calls Dispatched per Sworn Officer



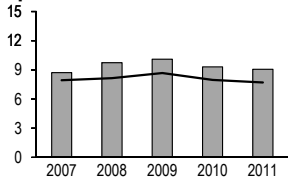
	2007	2008	2009	2010	2011
Winston-Salem	498	478	464	446	478
Average	605	587	557	561	554

Police Services Cost per Part I Case Cleared



	2007	2008	2009	2010	2011
Winston-Salem	$12,538	$11,488	$11,138	$12,055	$12,500
Average	$13,703	$13,626	$13,532	$14,953	$16,011

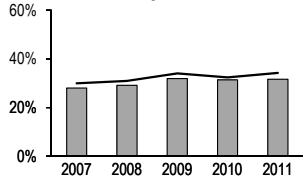
Part I Cases Cleared per Sworn Officer



	2007	2008	2009	2010	2011
Winston-Salem	8.7	9.7	10.1	9.3	9.1
Average	7.9	8.1	8.7	8.0	7.7

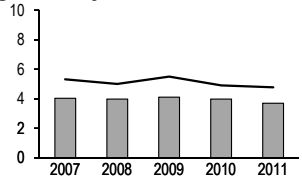
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2007	2008	2009	2010	2011
Winston-Salem	28.0%	29.2%	31.9%	31.4%	31.6%
Average	30.0%	30.9%	34.1%	32.4%	34.3%

Response Time to High Priority Calls in Minutes



	2007	2008	2009	2010	2011
Winston-Salem	4.0	4.0	4.1	4.0	3.7
Average	5.3	5.0	5.5	4.9	4.8

MUNICIPAL PROFILE

Population (OSBM 2010)	230,345
Land Area (Square Miles)	132.45
Persons per Square Mile	1,739
County	Forsyth
Median Family Income (US Census 2010)	$51,491
Unemployment Rate (ESC-10)	9.9%
Part I Crimes Reported	
Homicide	13
Rape	112
Robbery	457
Assault	1,093
Burglary	4,689
Larceny	8,592
Auto Theft	672
Arson	NA
TOTAL	15,628

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.5%
Operating Costs		15.7%
Capital Costs		8.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	46,654,093
Operating Costs	$	9,694,091
Capital Costs	$	5,428,432
TOTAL	$	61,776,616

SERVICE PROFILE

FTE Positions—Sworn	545.0
FTE Positions—Other	117.0
Part I Crimes Cleared	
Persons	917
Property	3,666
Reporting Format	IBR
Part II Crimes Reported	33,286
Number of Calls Dispatched	260,408
Traffic Accidents	8,232
Property Damage	$24,200,707

EXPLANATORY INFORMATION

Service Level and Delivery
Winston-Salem provides an array of police services to its citizens, including patrol, investigations, a traffic enforcement unit, a telephone response unit, a canine unit, a special response unit, bicycle patrol, drug enforcement, a gang unit, and other crime prevention programs.

The city had 545 sworn officer positions authorized for FY 2010–11, with an average length of service of 10.9 years. The police department occupies the public safety center. It houses the police department, emergency communications, and the fire department administration. The special investigations division occupies offices in leased space in another facility. A downtown bike patrol office is maintained in the central downtown area.

The department employs a forward-rotating schedule of five shifts. Officers work five days on and four days off. Shifts are ten hours in length. The majority of investigators work Monday through Friday from 8 a.m. to 5 p.m.

Patrol vehicles are assigned to individual officers. Officers residing within Forsyth County take their vehicles home. If officers reside outside of the county, they park their vehicles in a residential or business area within the city limits.

The police department was successful in clearing a total of 4,583 Part I crimes in FY 2010–11 in 4,506 distinct cases.

Winston-Salem defines highest priority emergency calls as those dealing with a significant threat of imminent injury to persons or with crimes against persons that are in progress or just occurred and where the suspect is still there.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

The Winston-Salem Police Department does not investigate arsons, so arsons are not included in the crimes reported here. Arson investigations are handled by the Winston-Salem Fire Department.

During FY 2010–11, the Police Department received state funding to create a DWI Task Force consisting of four officers from the Winston-Salem Police Department, one from the Forsyth County Shieriff's Office, and one from the Kernersville Police Department. Because the unit did not start until midyear, the number of sworn FTE positions only includes two FTE's to represent the Police Department's officers for half the year.

UNC
SCHOOL OF
GOVERNMENT

Performance and Cost Data

EMERGENCY COMMUNICATIONS

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR EMERGENCY COMMUNICATIONS

SERVICE DEFINITION

This service refers to the receipt and handling of 911 and other calls by an emergency communications center. Such a center must answer all calls, including those that come in over 911 lines and others that come over regular phone lines. Some calls result in the dispatch of a police or other emergency response unit. Others do not.

NOTES ON PERFORMANCE MEASURES

1. Number of Calls Answered and Number of Calls Dispatched per 1,000 Population

These are used as measures of workload. All calls coming into a police emergency communications center must be answered; therefore these measures assess service workload. Calls coming into a center also reflect actual or existing, if not full potential, need for emergency communications services. Many calls coming into a center are dispatched. Others come in over regular telephone lines, and still others may be referred to the center by an external call-taker, such as a county emergency communications center.

2. Telecommunicators

Telecommunicators are the personnel who handle the calls in the communication centers. They may take calls, dispatch calls, or do both. Telecommunicators receive specialized training. They work on a shift schedule that generally allows twenty-four-hours-a-day, seven-days-a-week coverage.

3. Average Number of Seconds from Initial Ring to Answer and Percentage of Calls Answered within Twenty Seconds

These are effectiveness measures that assess how quickly telecommunicators answer calls.

4. Average Processing Time (Seconds)

This is an effectiveness measure, representing the average time in seconds between when the telecommunicator answers the telephone and when Computer-Aided Dispatch (CAD) entry begins. This measure is often referred to as “talk time.”

5. For Calls Dispatched, Average Number of Seconds from CAD Entry to Dispatch—Highest Priority Calls

Some calls result in the dispatch of a police or other emergency response unit to a threatening or other similar emergency situation. Other calls result in a dispatch to a serious—but not emergency—situation. Other calls do not result in a dispatch. This measure assesses dispatch time for high priority, emergency situations.

Emergency Communications

Summary of Key Dimensions of Service

City or Town	Population Served	Number of FTEs	Average Length of Service for Call Takers (in years)	Total Incoming Calls Handled	Total E-911 Calls Handled	Total Dispatches	Outgoing Calls Other Than Dispatches
Apex	37,749	10	10.5	48,793	3,373	28,038	11,580
Asheville	83,986	25	7.4	211,527	29,962	108,266	45,654
Burlington	50,475	14	8.2	128,387	21,555	85,729	33,014
Cary	136,203	23	6.1	164,497	55,227	143,809	35,239
Concord	79,521	22	6.6	127,201	37,459	107,341	38,564
Greensboro	490,371	90	8.6	600,400	355,922	422,546	146,029
Greenville	85,152	17	6.5	113,723	26,716	89,466	NA
Hickory	40,084	13	9.6	118,114	12,338	64,668	NA
High Point	104,788	27	10.3	271,272	80,612	158,975	87,084
Salisbury	33,722	11	7.8	63,124	12,029	34,673	NA
Winston-Salem	230,345	49	7.9	495,684	213,049	285,649	83,226

NOTES

The population served by the municipal emergency communications center may go beyond municipal boundaries up to the entire county in some cases where the service is a consolidated center.

EXPLANATORY FACTORS

These are factors that the project found to affect emergency communication performance and cost in one or more of the municipalities:

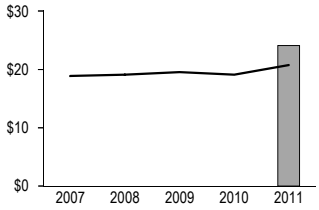
Types of emergency response units dispatched, such as police, fire, and EMS
Number and proportion of nonemergency calls received by center
Types of assistance or advice, such as medical, that telecommunicators provide over the phone
Technology available to telecommunication centers
City's definition of what constitutes an "emergency" and "highest priority" call
Service to city only or to city and outlying areas
Training of telecommunicators
Demographic makeup of community
Organizational configuration and staffing for service

UNC
SCHOOL OF
GOVERNMENT

Key: Apex ■ Benchmarking Average — Fiscal Years 2006 through 2010

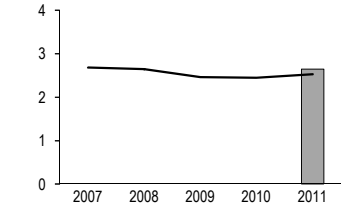
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Apex					$24.10
Average	$18.84	$19.09	$19.54	$19.09	$20.75

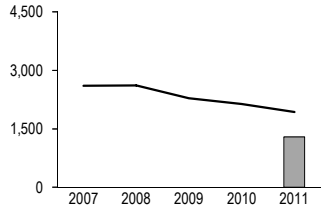
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					2.65
Average	2.68	2.64	2.46	2.45	2.53

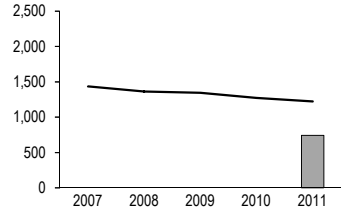
WORKLOAD Measures

Total Calls Answered per 1,000 Population



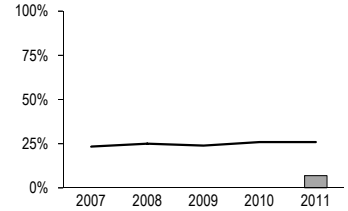
	2007	2008	2009	2010	2011
Apex					1,293
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Apex					743
Average	1,434	1,363	1,345	1,272	1,222

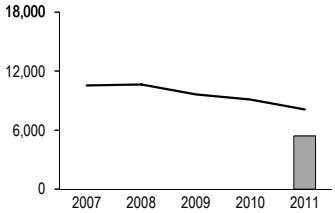
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Apex					6.9%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

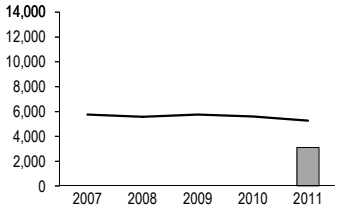
EFFICIENCY Measures

Calls Answered per Telecomunicator



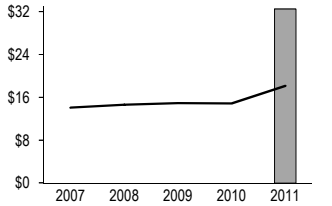
	2007	2008	2009	2010	2011
Apex					5,421
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Apex					3,115
Average	5,732	5,569	5,757	5,596	5,265

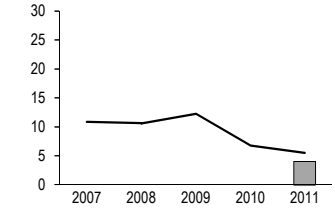
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Apex					$32.45
Average	$14.04	$14.60	$14.91	$14.83	$18.13

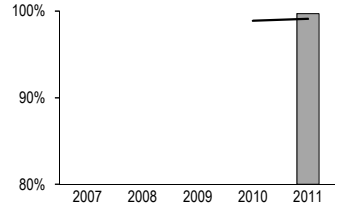
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



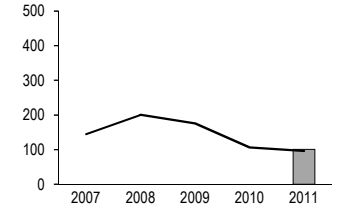
	2007	2008	2009	2010	2011
Apex					4
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Apex					100%
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Apex					101
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
County	Wake
Median Family Income (US Census 2010)	$97,201
Unemployment Rate (ESC-10)	8.4%
Population Growth (OMB 2000–2010)	86.8%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.2%
Operating Costs		17.3%
Capital Costs		8.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	675,548
Operating Costs	$	157,116
Capital Costs	$	77,252
TOTAL	$	909,916

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	9.0
Other	1.0
Total Incoming Calls	48,793
Total 911 Calls	3,373
Total Calls Dispatched	28,038
Revenue from E-911 Fees	None

EXPLANATORY INFORMATION

Service Level and Delivery
The Apex Emergency Communicatons Center is a division within the Apex Police Department. This center is a secondary PSAP within Wake County, using Raleigh computer-aided dispatch as a remote position. The communications center dispathes calls for police, fire, public works, and utilities.

The town owns a 150-foot radio tower which is tied into the Wake County radio system. The system is an 800 MHz system tied into the state VIPER system for radio operations.

Apex's emergency communications center handled a total of 48,793 incoming calls in FY 2010–11 and dispatched 28,038 calls. The city defines highest priority emergency calls as those with immediate life or property risk or in-progress calls.

Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

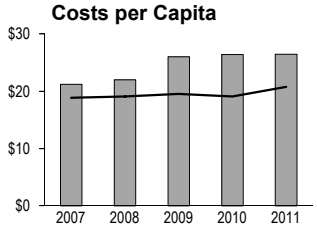
CAD entry for Apex does not begin immediately but is activated by operators.

Asheville Emergency Communications

Key: Asheville ■ Benchmarking Average — Fiscal Years 2006 through 2010

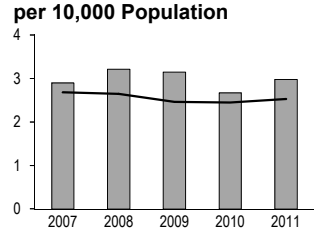
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Asheville	$21.23	$21.99	$26.01	$26.39	$26.45
Average	$18.84	$19.09	$19.54	$19.09	$20.75

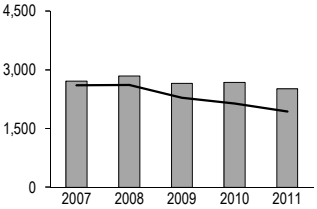
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	2.90	3.21	3.15	2.67	2.98
Average	2.68	2.64	2.46	2.45	2.53

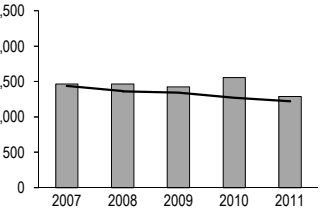
WORKLOAD Measures

Total Calls Answered per 1,000 Population



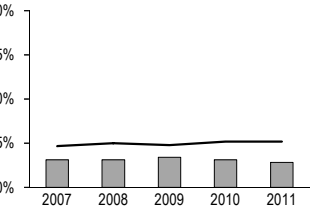
	2007	2008	2009	2010	2011
Asheville	2,712	2,838	2,651	2,677	2,519
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	1,464	1,466	1,425	1,556	1,289
Average	1,434	1,363	1,345	1,272	1,222

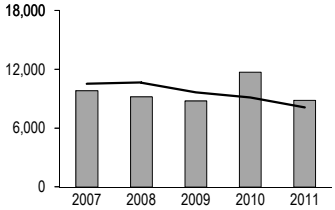
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Asheville	15.6%	15.5%	17.0%	15.5%	14.2%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

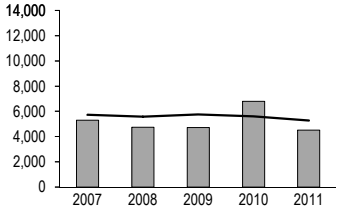
EFFICIENCY Measures

Calls Answered per Telecomunicator



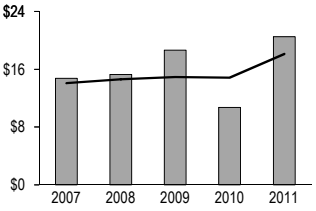
	2007	2008	2009	2010	2011
Asheville	9,807	9,205	8,771	11,702	8,814
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Asheville	5,295	4,755	4,713	6,803	4,511
Average	5,732	5,569	5,757	5,596	5,265

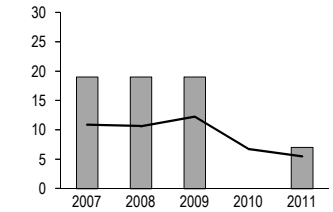
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Asheville	$14.75	$15.26	$18.65	$10.72	$20.52
Average	$14.04	$14.60	$14.91	$14.83	$18.13

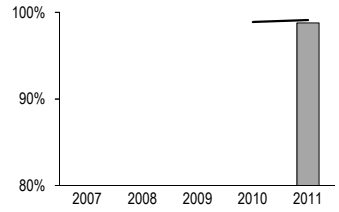
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



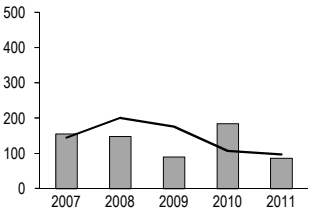
	2007	2008	2009	2010	2011
Asheville	19	19	19		7
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Asheville					99%
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Asheville	155	148	90	184	86
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
County	Buncombe
Median Family Income (US Census 2010)	$53,350
Unemployment Rate (ESC-10)	8.4%
Population Growth (OMB 2000–2010)	21.9%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		56.3%
Operating Costs		41.5%
Capital Costs		2.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,250,696
Operating Costs	$	922,920
Capital Costs	$	47,654
TOTAL	$	2,221,270

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	24.0
Other	1.0
Total Incoming Calls	211,527
Total 911 Calls	29,962
Total Calls Dispatched	108,266
Revenue from E-911 Fees	None

EXPLANATORY INFORMATION

Service Level and Delivery
Asheville's Communication Unit handles emergency calls for police and other assistance calls coming into the center from the city. The center is organizationally located in the Support Services Division of the police department. The city handles adminstrative calls, requests for police response, and E–911 calls.

The communications center operates twenty-four hours a day, seven days a week, using three rotating shifts. The communications center uses a call-taker for its E-911 emergency calls. Buncombe County takes such calls and directs them by computer to the city's communication center. Non-emergency calls, however, come directly into the city's communications center.

The city owns its communications infrastructure, consisting of three towers. One tower is used for repeated radio communications, while the other two towers are stand-alone sites which require officers/ telecommunicators to manually switch channels. The city used the Motorola Simulcast.

Asheville's emergency communications center handled a total of 211,527 incoming calls in FY 2010–11 and dispatched 108,266 calls. The city defines highest priority emergency calls as crimes in progress and situations that are property or life threatening.

Conditions Affecting Service, Performance, and Costs
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

CAD entry is an immediate action beginning when a telecommunicator hits "new call" or "new event."

Asheville's community policing initiative encourages citizens to report criminal activity, and this has generated more calls over time. The wider use of cell phones has also made it easier for citizens to respond immediately, which has probably increased calls as well.

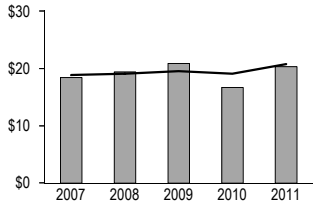
Asheville's communication unit has made an effort to better categorize high priority calls, which has helped reduce the time between the start of CAD entry to dispatch.

Burlington Emergency Communications

Key: Burlington ■ Benchmarking Average — Fiscal Years 2006 through 2010

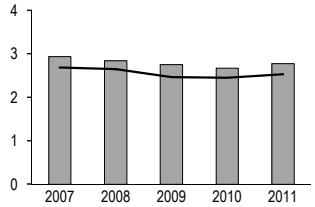
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Burlington	$18.42	$19.38	$20.89	$16.68	$20.29
Average	$18.84	$19.09	$19.54	$19.09	$20.75

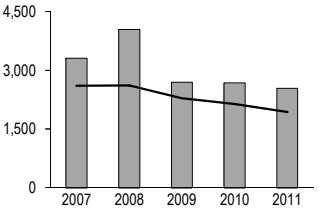
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	2.94	2.84	2.75	2.67	2.77
Average	2.68	2.64	2.46	2.45	2.53

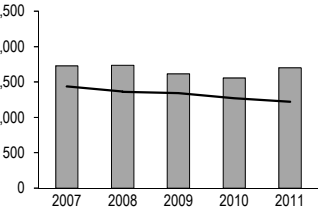
WORKLOAD Measures

Total Calls Answered per 1,000 Population



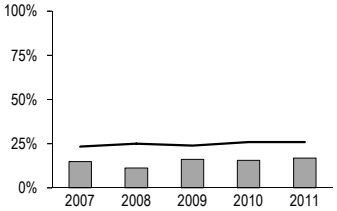
	2007	2008	2009	2010	2011
Burlington	3,305	4,042	2,699	2,677	2,544
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	1,726	1,735	1,615	1,556	1,698
Average	1,434	1,363	1,345	1,272	1,222

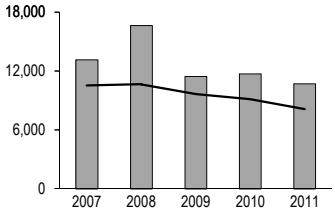
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Burlington	14.8%	11.3%	16.0%	15.5%	16.8%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

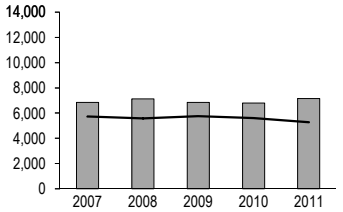
EFFICIENCY Measures

Calls Answered per Telecomunicator



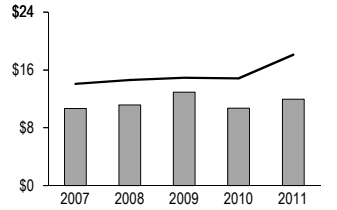
	2007	2008	2009	2010	2011
Burlington	13,137	16,621	11,453	11,702	10,699
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Burlington	6,858	7,132	6,854	6,803	7,144
Average	5,732	5,569	5,757	5,596	5,265

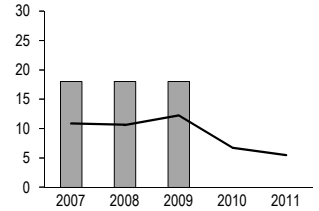
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Burlington	$10.68	$11.17	$12.93	$10.72	$11.95
Average	$14.04	$14.60	$14.91	$14.83	$18.13

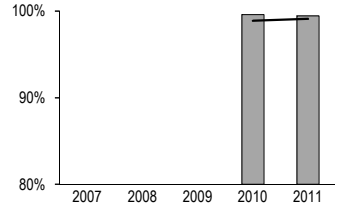
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



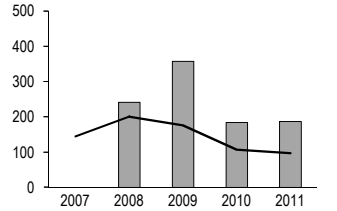
	2007	2008	2009	2010	2011
Burlington	18	18	18		
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Burlington				100%	99%
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Burlington		241	357	184	187
Average	144	201	176	107	97

Burlington

MUNICIPAL PROFILE

Population (OSBM 2009)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
County	Alamance
Median Family Income (US Census 2010)	$46,461
Unemployment Rate (ESC-10)	11.4%
Population Growth (OMB 2000–2010)	16.8%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		66.4%
Operating Costs		32.1%
Capital Costs		1.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	680,356
Operating Costs	$	329,202
Capital Costs	$	14,580
TOTAL	$	1,024,138

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	12.0
Other	2.0
Total Incoming Calls	128,387
Total 911 Calls	21,555
Total Calls Dispatched	85,729
Revenue from E-911 Fees	None

EXPLANATORY INFORMATION

Service Level and Delivery
The emegency communications center is a division within the Burlington police department. The unit is responsible for dispatching police and fire personnel for the city.

Burlington uses a mixed-mode analog/digital twenty-eight-channel trunked system with five towers shared with Greensboro and Guilford County. The communications infrastructure is a joint venture with Guilford County and the City of Greensboro. Burlington owns the subscriber units and infrastructure on its end of the system. The system is interfaced with the original Guilford/Greensboro system.

Burlington's communication center handled a total of 128,387 incoming calls in FY 2010–11, dispatching 85,729 calls. The city defines highest priority emergency calls as any report that relates to a significant threat of imminent injury to a person or substantial damage to property.

Conditions Affecting Service, Performance, and Costs
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

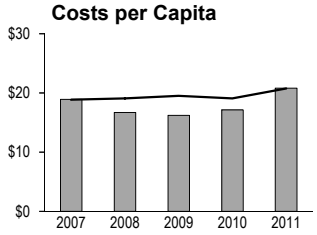
CAD entry is an immediate action with a new call or command line keystroke initiation.

Burlington began participation in the benchmarking project in 2007, with its first reporting data being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2006 through 2010

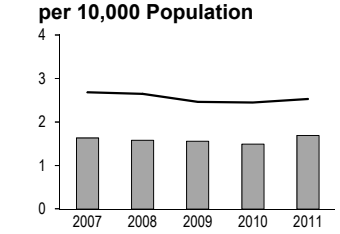
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Cary	$18.91	$16.74	$16.26	$17.17	$20.81
Average	$18.84	$19.09	$19.54	$19.09	$20.75

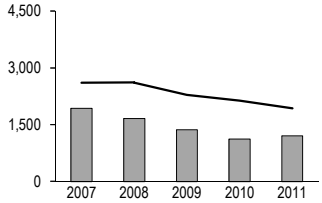
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	1.63	1.58	1.56	1.49	1.69
Average	2.68	2.64	2.46	2.45	2.53

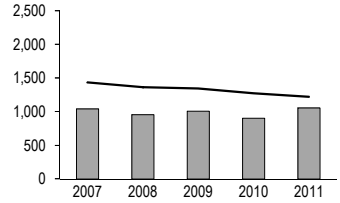
WORKLOAD Measures

Total Calls Answered per 1,000 Population



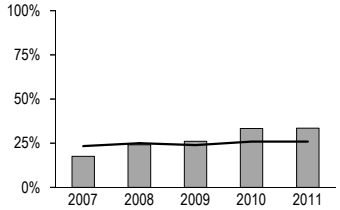
	2007	2008	2009	2010	2011
Cary	1,928	1,660	1,366	1,120	1,208
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Cary	1,041	956	1,005	902	1,056
Average	1,434	1,363	1,345	1,272	1,222

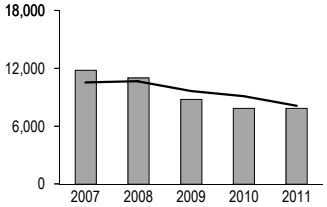
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Cary	17.6%	24.2%	26.1%	33.4%	33.6%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

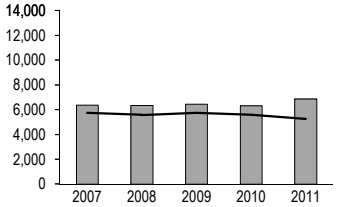
EFFICIENCY Measures

Calls Answered per Telecomunicator



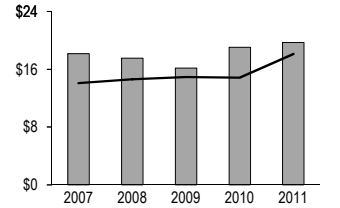
	2007	2008	2009	2010	2011
Cary	11,792	11,003	8,773	7,853	7,833
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Cary	6,370	6,338	6,455	6,328	6,848
Average	5,732	5,569	5,757	5,596	5,265

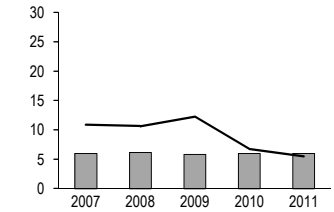
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Cary	$18.16	$17.52	$16.17	$19.03	$19.71
Average	$14.04	$14.60	$14.91	$14.83	$18.13

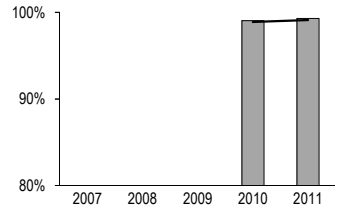
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



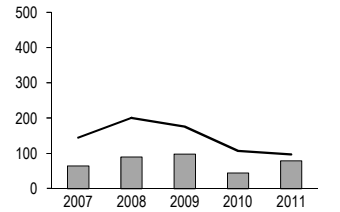
	2007	2008	2009	2010	2011
Cary	6	6	6	6	6
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Cary				99%	99%
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Cary	64	90	98	44	79
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
County	Wake
Median Family Income (US Census 2010)	$108,956
Unemployment Rate (ESC-10)	8.4%
Population Growth (OMB 2000–2010)	44.1%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.5%
Operating Costs		24.1%
Capital Costs		2.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,082,526
Operating Costs	$	683,699
Capital Costs	$	68,503
TOTAL	$	2,834,728

SERVICE PROFILE

FTE Positions		
Telecommunicators/Call-Takers		21.0
Other		2.0
Total Incoming Calls		164,497
Total 911 Calls		55,227
Total Calls Dispatched		143,809
Revenue from E-911 Fees	$	434,032

EXPLANATORY INFORMATION

Service Level and Delivery
The Cary Police Department handles all emergency and non-emergency communications for the town of Cary, dispatching all police and fire services for the town. The communications center is staffed with full-time telecommunicators, including five shift supervisors, who answer all emergency and non-emergency calls for service.

Cary uses the Motorola SMARTNET 800 MHz radio system, with all the radio equipment being owned by the town. The town has two emergency back-up channels, one for police and one for fire. The transmission tower is located ten miles south of the communications center and is linked via microwave.

Cary's center handled a total of 164,497 calls in FY 2010–11, dispatching 143,809 calls. The city defines highest priority emergency calls as any report that relates to a significant threat of imminent injury to a person or substantial damage to property.

Cary received $434,032 in E–911 revenues to support the system operations.

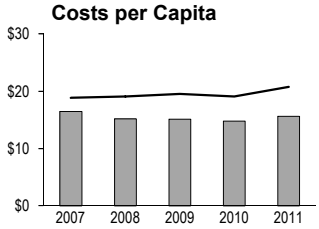
Conditions Affecting Service, Performance, and Costs
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009-10.

During FY 2011, the Town of Cary switched to a new Computer-Assisted Dispatch (CAD) system. The new CAD system has a manual dispatch, where the old system did this automatically. The process change has resulted in the average seconds for dispatch increasing over the prior year. As the telecommunicators have become familiar with the system, the average dispatch time is expected to come back down.

Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

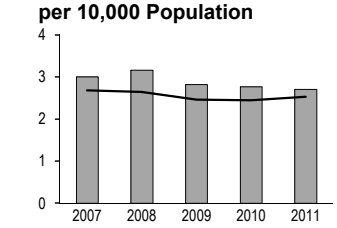
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Concord	$16.45	$15.18	$15.13	$14.78	$15.60
Average	$18.84	$19.09	$19.54	$19.09	$20.75

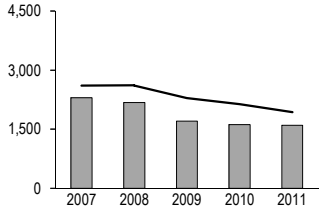
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	3.00	3.17	2.82	2.77	2.70
Average	2.68	2.64	2.46	2.45	2.53

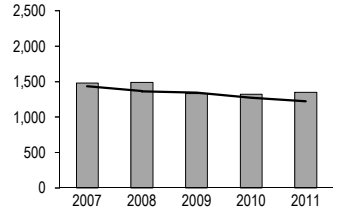
WORKLOAD Measures

Total Calls Answered per 1,000 Population



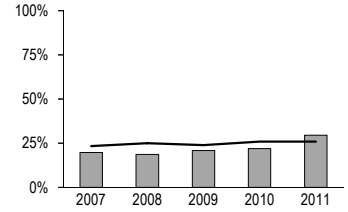
	2007	2008	2009	2010	2011
Concord	2,301	2,175	1,710	1,618	1,600
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Concord	1,482	1,489	1,329	1,322	1,350
Average	1,434	1,363	1,345	1,272	1,222

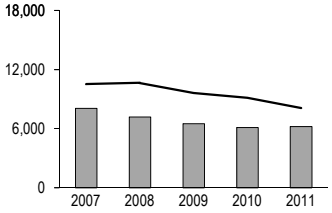
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Concord	19.8%	18.6%	20.9%	21.9%	29.4%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

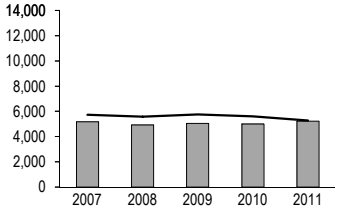
EFFICIENCY Measures

Calls Answered per Telecomunicator



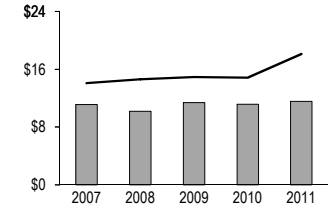
	2007	2008	2009	2010	2011
Concord	8,052	7,188	6,487	6,123	6,205
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Concord	5,186	4,921	5,043	5,004	5,236
Average	5,732	5,569	5,757	5,596	5,265

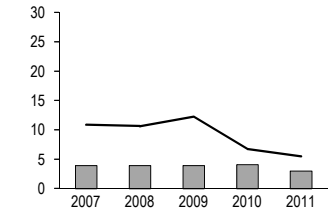
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Concord	$11.10	$10.20	$11.38	$11.18	$11.56
Average	$14.04	$14.60	$14.91	$14.83	$18.13

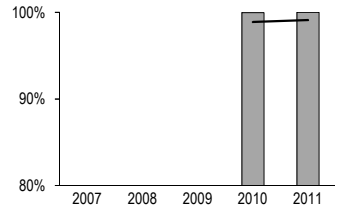
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



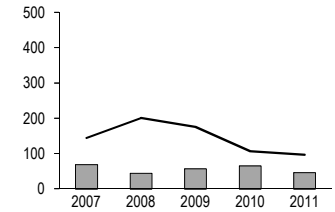
	2007	2008	2009	2010	2011
Concord	4	4	4	4	3
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Concord				100%	100%
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Concord	69	44	57	65	46
Average	144	201	176	107	97

Concord

MUNICIPAL PROFILE

Population (OSBM 2009)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
County	Cabarrus
Median Family Income (US Census 2010)	$63,643
Unemployment Rate (ESC-10)	11.3%
Population Growth (OMB 2000–2010)	42.1%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		86.4%
Operating Costs		12.3%
Capital Costs		1.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,071,792
Operating Costs	$	152,904
Capital Costs	$	15,974
TOTAL	$	1,240,670

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	20.50
Other	1.00
Total Incoming Calls	127,201
Total 911 Calls	37,459
Total Calls Dispatched	107,341
Revenue from E-911 Fees	None

EXPLANATORY INFORMATION

Service Level and Delivery
Concord's emergency communications center handles E-911 and non-emergency calls for the city. The emergency communications function of the city is separate from the police and fire functions and does not answer or transfer administrative calls for those departments. The emergency communications center does answer calls for utility and other city departments after hours, which is reflected in the number of incoming calls.

The city uses an 800 MHz system, which is a twelve-channel, five-site system shared with Cabarrus County and the City of Kannapolis.

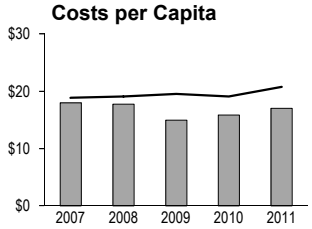
Concord's center handled a total of 127,201 calls in FY 2010–11, dispatching 107,341 calls.

Conditions Affecting Service, Performance, and Costs
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2006 through 2010

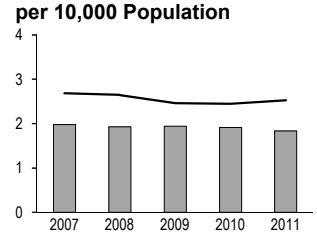
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Greensboro	$17.97	$17.73	$14.94	$15.84	$17.04
Average	$18.84	$19.09	$19.54	$19.09	$20.75

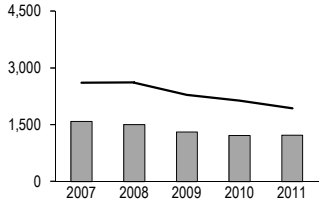
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	1.98	1.93	1.94	1.91	1.84
Average	2.68	2.64	2.46	2.45	2.53

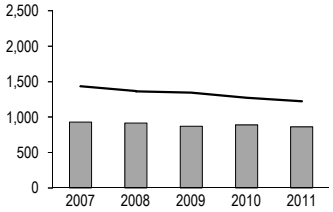
WORKLOAD Measures

Total Calls Answered per 1,000 Population



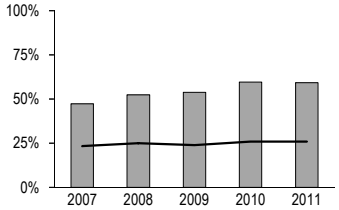
	2007	2008	2009	2010	2011
Greensboro	1,587	1,497	1,304	1,215	1,224
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	930	917	873	891	862
Average	1,434	1,363	1,345	1,272	1,222

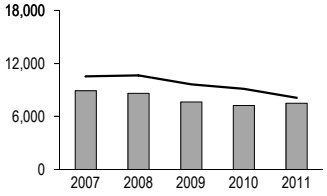
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Greensboro	47.3%	52.3%	53.9%	59.6%	59.3%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

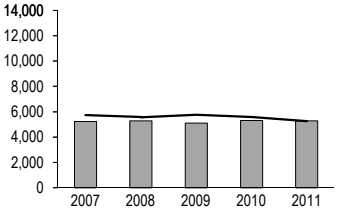
EFFICIENCY Measures

Calls Answered per Telecomunicator



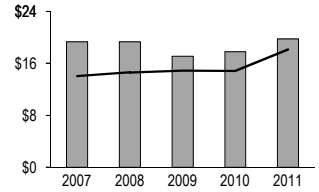
	2007	2008	2009	2010	2011
Greensboro	8,910	8,622	7,632	7,226	7,505
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Greensboro	5,222	5,284	5,108	5,302	5,282
Average	5,732	5,569	5,757	5,596	5,265

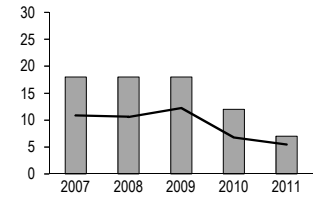
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Greensboro	$19.32	$19.33	$17.12	$17.77	$19.77
Average	$14.04	$14.60	$14.91	$14.83	$18.13

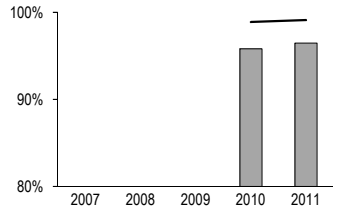
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



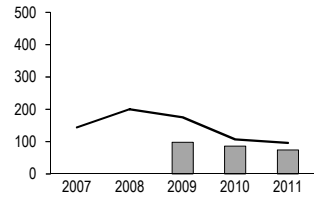
	2007	2008	2009	2010	2011
Greensboro	18	18	18	12	7
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Greensboro				96%	96%
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Greensboro			98	86	75
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	490,371
Land Area (Square Miles)	649.42
Persons per Square Mile	755
County	Guilford
Median Family Income (US Census 2010)	$52,752
Unemployment Rate (ESC-10)	10.9%
Population Growth (OMB 2000–2010)	20.6%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.1%
Operating Costs		31.9%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,688,538
Operating Costs	$	2,665,625
Capital Costs	$	-
TOTAL	$	8,354,163

SERVICE PROFILE

FTE Positions		
Telecommunicators/Call-Takers		81.0
Other		9.0
Total Incoming Calls		600,400
Total 911 Calls		355,922
Total Calls Dispatched		422,546
Revenue from E-911 Fees	$	1,412,000

EXPLANATORY INFORMATION

Service Level and Delivery

Guilford Metro 911 operates under a interlocal agreement between the City of Greensboro and Guilford County. The PSAP serves as a separate department providing emergency communications for the City of Greensboro, Guilford County, and Gibsonville (except for the City of High Point Police and Fire). The services include dispatch and call intake for all law agencies, fire agencies, and EMS. The consolidation process also enabled the first update of all 911 equipment in ten years and the creation of a back-up E–911 center to improve disaster preparedness. These changes contributed to slightly higher operational costs.

Guilford Metro 911 uses a twenty-eight-channel Motorola Smartset 800 MHz radio system. The system has five tower sites and is jointly owned with Guilford County.

Greensboro's communication center handled a total of 600,400 incoming calls in FY 2010–11, dispatching 422,546 calls. The city defines highest priority emergency calls as call types that require the fastest response, such as shootings, robberies, and domestic violence.

Greensboro received $1,412,000 in E–911 revenues to support the system operations.

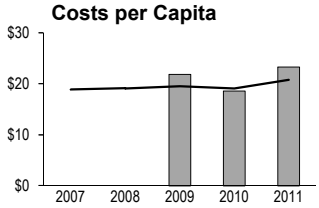
Conditions Affecting Service, Performance, and Costs

The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

Key: Greenville ■ Benchmarking Average — Fiscal Years 2006 through 2010

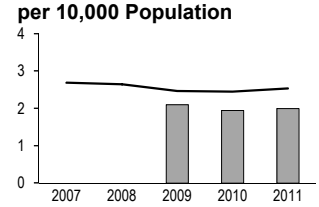
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Greenville			$21.85	$18.55	$23.27
Average	$18.84	$19.09	$19.54	$19.09	$20.75

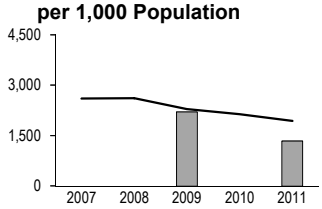
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			2.10	1.94	2.00
Average	2.68	2.64	2.46	2.45	2.53

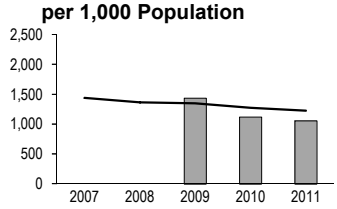
WORKLOAD Measures

Total Calls Answered per 1,000 Population



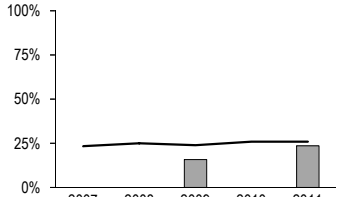
	2007	2008	2009	2010	2011
Greenville			2,207		1,336
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			1,431	1,115	1,051
Average	1,434	1,363	1,345	1,272	1,222

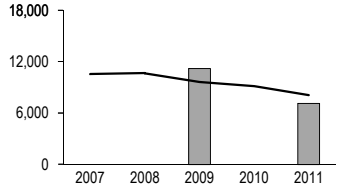
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Greenville			15.8%		23.5%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

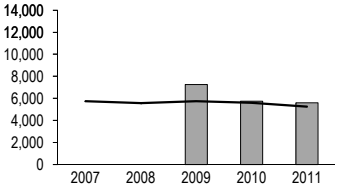
EFFICIENCY Measures

Calls Answered per Telecomunicator



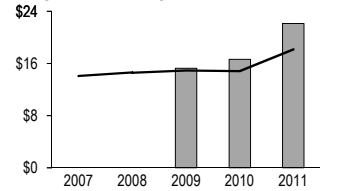
	2007	2008	2009	2010	2011
Greenville			11,184		7,108
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Greenville			7,252	5,753	5,592
Average	5,732	5,569	5,757	5,596	5,265

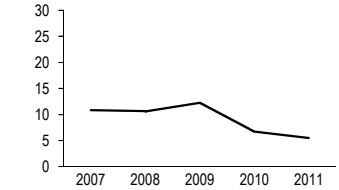
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Greenville			$15.27	$16.64	$22.14
Average	$14.04	$14.60	$14.91	$14.83	$18.13

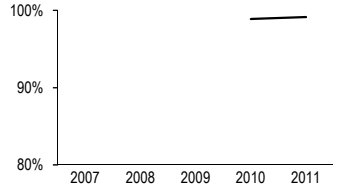
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



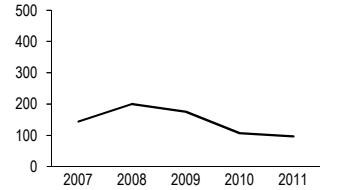
	2007	2008	2009	2010	2011
Greenville					
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Greenville					
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Greenville					
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
County	Pitt
Median Family Income (US Census 2010)	$50,395
Unemployment Rate (ESC-10)	10.1%
Population Growth (OMB 2000–2010)	39.1%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		49.9%
Operating Costs		46.0%
Capital Costs		4.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	987,657
Operating Costs	$	912,351
Capital Costs	$	81,211
TOTAL	$	1,981,219

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	16.0
Other	1.0
Total Incoming Calls	113,723
Total 911 Calls	26,716
Total Calls Dispatched	89,466
Revenue from E-911 Fees	None

EXPLANATORY INFORMATION

Service Level and Delivery
Greenville's emergency communications center is a secondary public safety answering point, with Pitt County being the primary answering point. Pitt County initially receives all 911 calls and dispatches fire and EMS calls inside the city limits. All 911 calls for police services are transferred to the Greenville Police Department emergency communications center for dispatch. Calls can also be directly made to the police department over a dedicated emergency line.

The city does not own its own communications system and infrastructure. Greenville operate on the VIPER system maintained by the North Carolina State Highway Patrol. This system if fully maintained and operated by the state. The system has one tower located within the city limits and fully supports communication interoperability among all law enforcement agencies in Pitt County and with Greenville Fire/Rescue and East Care medical transport.

Greenville's center took in 113,723 incoming calls in FY 2010–11 and dispatched 89,466 calls.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in 2009, with the first year of reporting being for FY 2008–09.

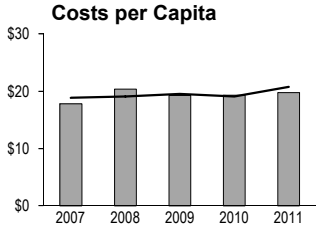
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

The system in use during most of the fiscal year required that a unicode for the incident type and a location be entered before the CAD entry could be started. Starting in June 2009, a new system allowed CAD entry to be automatically generated by hitting a "New Call" icon.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2006 through 2010

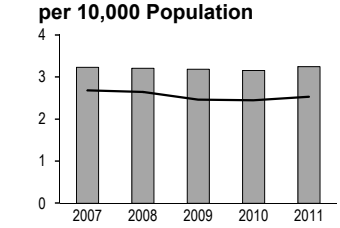
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Hickory	$17.82	$20.36	$19.26	$19.33	$19.77
Average	$18.84	$19.09	$19.54	$19.09	$20.75

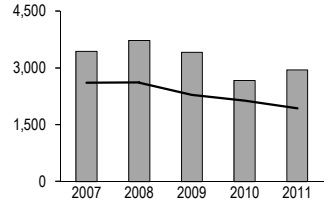
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	3.23	3.21	3.19	3.16	3.24
Average	2.68	2.64	2.46	2.45	2.53

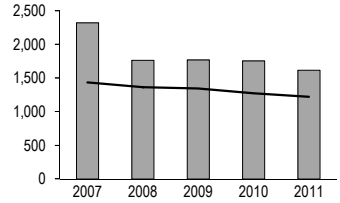
WORKLOAD Measures

Total Calls Answered per 1,000 Population



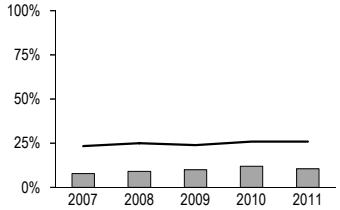
	2007	2008	2009	2010	2011
Hickory	3,436	3,726	3,411	2,670	2,947
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	2,319	1,765	1,768	1,752	1,613
Average	1,434	1,363	1,345	1,272	1,222

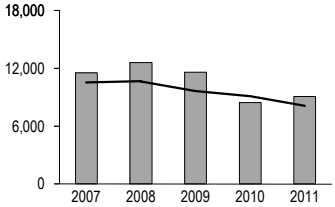
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Hickory	7.8%	9.0%	10.0%	12.0%	10.4%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

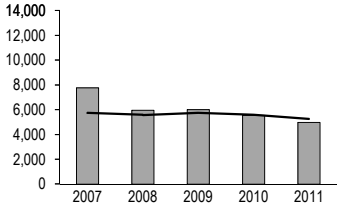
EFFICIENCY Measures

Calls Answered per Telecomunicator



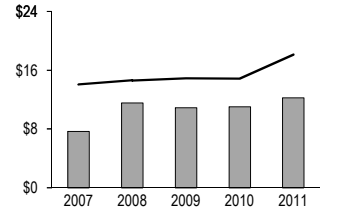
	2007	2008	2009	2010	2011
Hickory	11,515	12,583	11,587	8,450	9,086
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Hickory	7,771	5,959	6,007	5,546	4,974
Average	5,732	5,569	5,757	5,596	5,265

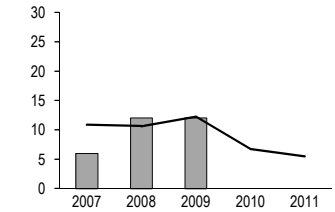
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Hickory	$7.68	$11.54	$10.90	$11.03	$12.25
Average	$14.04	$14.60	$14.91	$14.83	$18.13

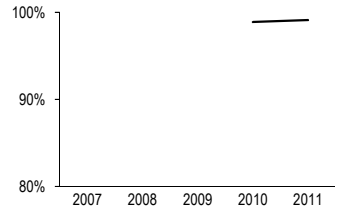
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



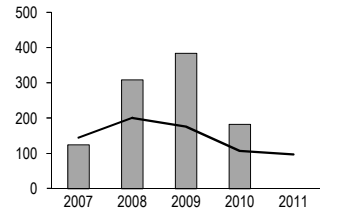
	2007	2008	2009	2010	2011
Hickory	6	12	12		
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Hickory					
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Hickory	124	308	384	182	
Average	144	201	176	107	97

Hickory

MUNICIPAL PROFILE

Population (OSBM 2009)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
County	Catawba
Median Family Income (US Census 2010)	$54,093
Unemployment Rate (ESC-10)	13.1%
Population Growth (OMB 2000–2010)	7.7%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		84.4%
Operating Costs		13.8%
Capital Costs		1.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	668,476
Operating Costs	$	109,298
Capital Costs	$	14,589
TOTAL	$	792,363

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	13.0
Other	0.0
Total Incoming Calls	118,114
Total 911 Calls	12,338
Total Calls Dispatched	64,668
Revenue from E-911 Fees	None

EXPLANATORY INFORMATION

Service Level and Delivery
Hickory's emergency communications center is a secondary public safety answering point, with Catawba County being the primary answering point. Catwaba County initially receives all 911 calls and dispatches fire and EMS calls inside the city limits. All 911 calls for police services are transferred to the emergency communications center for dispatch. Any emergency calls for other city services are transferred to the emergency communications center between 3:30 p.m. and 7:00 a.m.

The city owns its communications system and infrastructure. It uses an Ericson 800 MHz radio system. There is one 1,350-foot tower and antennas at two other sites. The system serves approximately 200 users in five city departments.

Hickory's center handled a total of 118,114 calls in FY 2010–11, dispatching 64,668 calls.

Conditions Affecting Service, Performance, and Costs
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

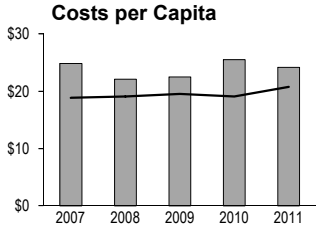
Incoming calls in Hickory are down because of changes in how calls are routed. Several special units now have their own administrative phones, so calls no longer come through the emergency communications center. Additionally, the animal control unit's operations were moved out of the police department, so their calls are now being fed through code enforcement.

High Point — Emergency Communications

Key: High Point ■ Benchmarking Average — Fiscal Years 2006 through 2010

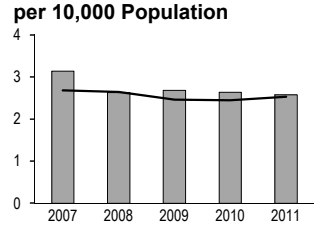
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
High Point	$24.86	$22.08	$22.51	$25.53	$24.18
Average	$18.84	$19.09	$19.54	$19.09	$20.75

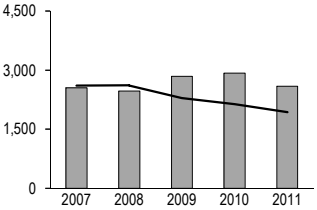
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	3.14	2.63	2.68	2.64	2.58
Average	2.68	2.64	2.46	2.45	2.53

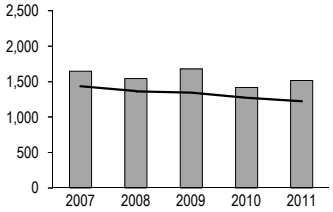
WORKLOAD Measures

Total Calls Answered per 1,000 Population



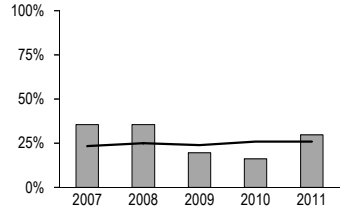
	2007	2008	2009	2010	2011
High Point	2,552	2,471	2,847	2,925	2,589
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
High Point	1,647	1,543	1,677	1,415	1,517
Average	1,434	1,363	1,345	1,272	1,222

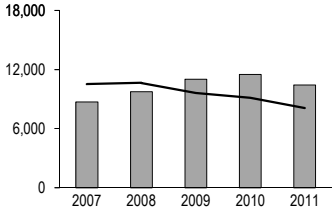
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
High Point	35.6%	35.6%	19.6%	16.2%	29.7%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

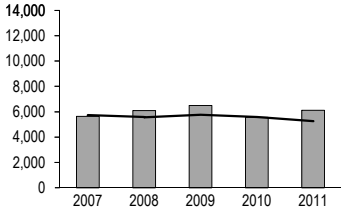
EFFICIENCY Measures

Calls Answered per Telecomunicator



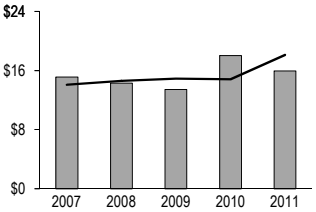
	2007	2008	2009	2010	2011
High Point	8,718	9,764	11,020	11,501	10,434
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
High Point	5,624	6,099	6,491	5,563	6,114
Average	5,732	5,569	5,757	5,596	5,265

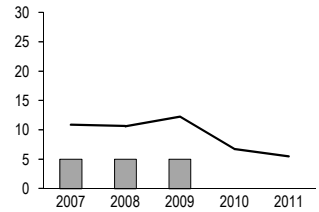
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
High Point	$15.10	$14.31	$13.42	$18.04	$15.94
Average	$14.04	$14.60	$14.91	$14.83	$18.13

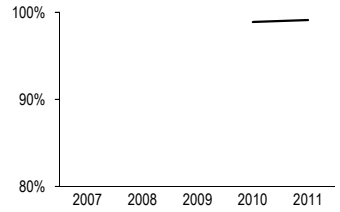
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



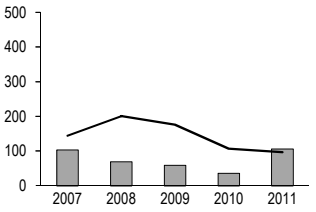
	2007	2008	2009	2010	2011
High Point	5	5	5		
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
High Point					
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
High Point	103	69	59	36	106
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	104,788
Land Area (Square Miles)	53.81
Persons per Square Mile	1,948
County	Guilford
Median Family Income (US Census 2010)	$49,720
Unemployment Rate (ESC-10)	10.9%
Population Growth (OMB 2000–2010)	22.1%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		78.3%
Operating Costs		21.4%
Capital Costs		0.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,983,510
Operating Costs	$	542,023
Capital Costs	$	8,263
TOTAL	$	2,533,796

SERVICE PROFILE

FTE Positions		
Telecommunicators/Call-Takers		26.0
Other		1.0
Total Incoming Calls		271,272
Total 911 Calls		80,612
Total Calls Dispatched		158,975
Revenue from E-911 Fees	$	394,569

EXPLANATORY INFORMATION

Service Level and Delivery
High Point's emergency communications center is a civilian-staffed and city-managed department. The center functions as a primary public safety answering point (PSAP), dispatching all police and fire calls within the city; medical calls are routed to Guilford County EMS.

The center has ten consoles, seven of which are dispatch positions. Operations are conducted by four teams of five telecommunicators and a supervisor. All telecommunicators are cross-trained in fire and police dispatch and function as call-takers and dispatchers. Personnel assigned to the center work rotating twelve-hour shifts.

The city of High Point owns its communications infrastructure. Communications utilizes an 800 MHz radio system that implements analog and digital talk groups. The city uses a Motorola SmartNet system with three towers.

High Point's center handled a total of 271,272 calls in FY 2010–11, dispatching 158,975 calls. The city defines highest priority emergency calls as situations likely to result in loss of life, injury, or property damage and crimes in progress.

High Point received $394,569 in E–911 revenues to support the system operations.

Conditions Affecting Service, Performance, and Costs
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

High Point was unable to provide data on certain measures given a change in technology.

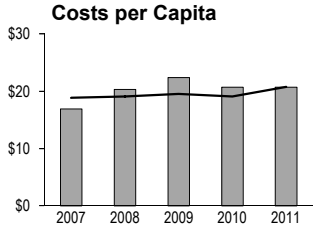
High Point made a concentrated effort to reduce the time from the start of CAD entry to dispatch in FY 2008, including daily review of their performance at the end of each day. Additionally, there were several new employees in the prior year, so that as they have become more experienced they have become more proficient.

There was a high volume of personnel exits in the police department during the year due to retirements and resignations, and because of a city-wide hiring freeze many positions were left vacant. As a result, there were fewer officers on the street to respond to disptached calls resulting in a higher dispatch response time.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2006 through 2010

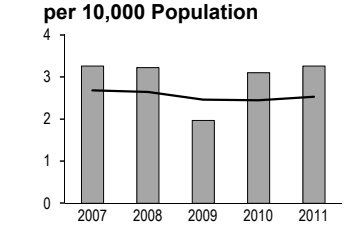
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Salisbury	$16.89	$20.33	$22.40	$20.69	$20.72
Average	$18.84	$19.09	$19.54	$19.09	$20.75

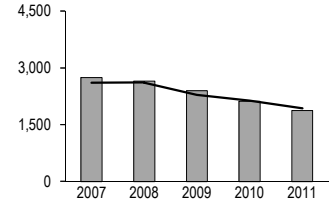
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	3.26	3.22	1.97	3.10	3.26
Average	2.68	2.64	2.46	2.45	2.53

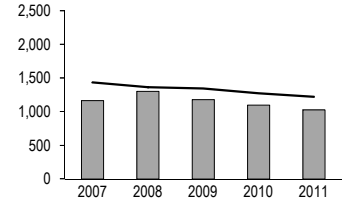
WORKLOAD Measures

Total Calls Answered per 1,000 Population



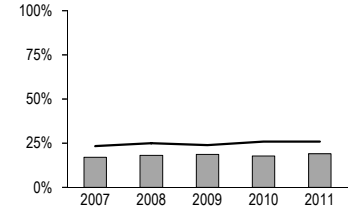
	2007	2008	2009	2010	2011
Salisbury	2,747	2,649	2,396	2,120	1,872
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	1,162	1,303	1,179	1,099	1,028
Average	1,434	1,363	1,345	1,272	1,222

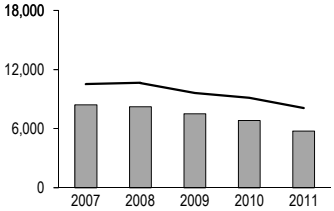
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Salisbury	17.0%	18.1%	18.6%	17.8%	19.1%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

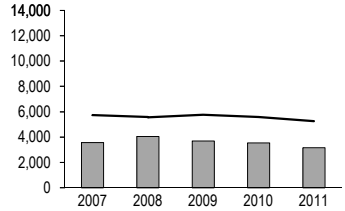
EFFICIENCY Measures

Calls Answered per Telecomunicator



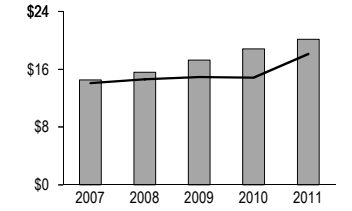
	2007	2008	2009	2010	2011
Salisbury	8,414	8,219	7,502	6,838	5,739
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Salisbury	3,559	4,042	3,693	3,545	3,152
Average	5,732	5,569	5,757	5,596	5,265

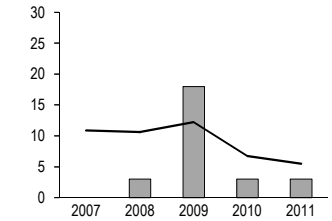
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Salisbury	$14.54	$15.61	$17.29	$18.83	$20.15
Average	$14.04	$14.60	$14.91	$14.83	$18.13

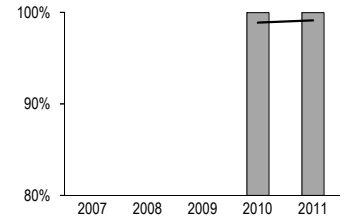
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



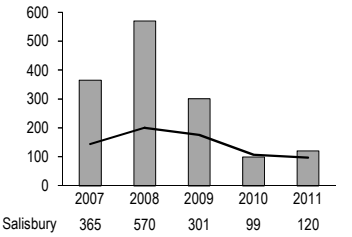
	2007	2008	2009	2010	2011
Salisbury		3	18	3	3
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Salisbury				100%	100%
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Salisbury	365	570	301	99	120
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
County	Rowan
Median Family Income (US Census 2010)	$40,192
Unemployment Rate (ESC-10)	12.8%
Population Growth (OMB 2000–2010)	27.4%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.6%
Operating Costs		23.2%
Capital Costs		6.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	492,913
Operating Costs	$	162,137
Capital Costs	$	43,510
TOTAL	$	698,560

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	11.0
Other	0.0
Total Incoming Calls	63,124
Total 911 Calls	12,029
Total Calls Dispatched	34,673
Revenue from E-911 Fees	None

EXPLANATORY INFORMATION

Service Level and Delivery
The emergency communications center is located in the police department and processes 911 emergency and non-emergency calls. Fire and EMS calls are handled by Rowan County. Many of the calls come directly to the center. Others from city residents go initially to the Rowan County communications center and are immediately switched to the city's police communications center. The city's center operates twenty-four hours a day, seven days a week.

The city owns its communications equipment, including infrastructure. The system is a Motorola 800 MHz trunked Smartnet system with a single, twenty-channel analog site and two GHz microwave sites.

Salisbury's communication center reported total incoming calls of 63,124 for FY 2010–11, dispatching 34,673 calls. The city defines highest priority emergency calls as those involving crimes in progress and calls involving injury or imminent injury to a person.

Conditions Affecting Service, Performance, and Costs
The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

Salisbury was unable to provide data for some of the effectiveness measures given the structure of its database.

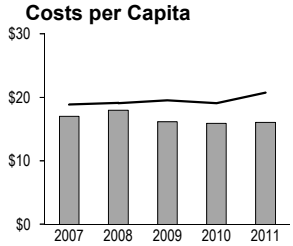
The money collected from the E-911 fee in Salisbury all goes to Rowan County.

Winston-Salem Emergency Communications

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2006 through 2010

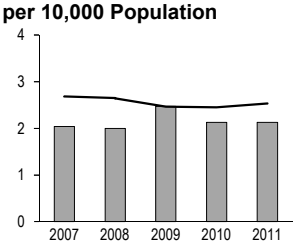
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2007	2008	2009	2010	2011
Winston-Salem	$17.03	$17.97	$16.16	$15.93	$16.07
Average	$18.84	$19.09	$19.54	$19.09	$20.75

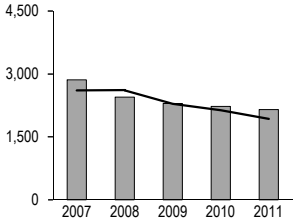
Emergency Communications FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	2.04	2.00	2.47	2.13	2.13
Average	2.68	2.64	2.46	2.45	2.53

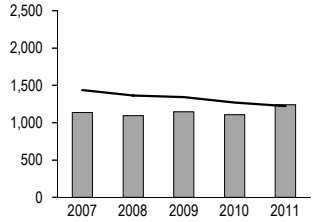
WORKLOAD Measures

Total Calls Answered per 1,000 Population



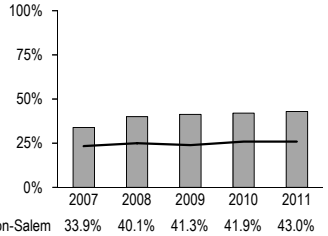
	2007	2008	2009	2010	2011
Winston-Salem	2,858	2,450	2,295	2,225	2,152
Average	2,603	2,612	2,288	2,138	1,935

Calls Dispatched per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	1,135	1,094	1,147	1,108	1,240
Average	1,434	1,363	1,345	1,272	1,222

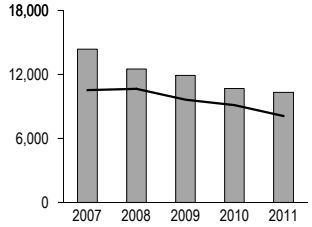
E–911 Calls as a Percentage of All Incoming Calls



	2007	2008	2009	2010	2011
Winston-Salem	33.9%	40.1%	41.3%	41.9%	43.0%
Average	23.3%	25.0%	23.9%	26.0%	26.0%

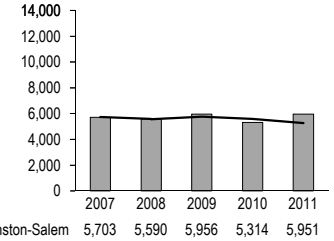
EFFICIENCY Measures

Calls Answered per Telecomunicator



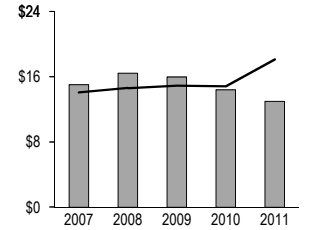
	2007	2008	2009	2010	2011
Winston-Salem	14,357	12,523	11,915	10,677	10,327
Average	10,522	10,636	9,632	9,119	8,106

Calls Dispatched per Telecommunicator



	2007	2008	2009	2010	2011
Winston-Salem	5,703	5,590	5,956	5,314	5,951
Average	5,732	5,569	5,757	5,596	5,265

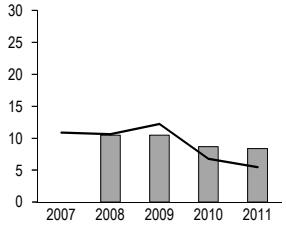
Emergency Communications Cost per Call Dispatched



	2007	2008	2009	2010	2011
Winston-Salem	$15.00	$16.43	$15.97	$14.38	$12.96
Average	$14.04	$14.60	$14.91	$14.83	$18.13

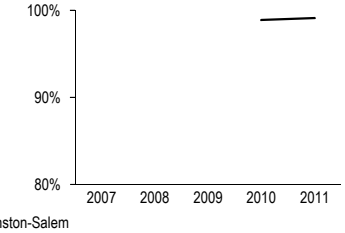
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



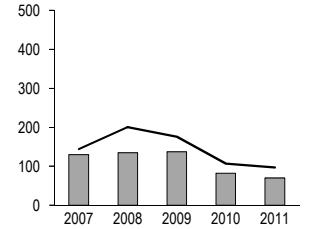
	2007	2008	2009	2010	2011
Winston-Salem		11	11	9	8
Average	11	11	12	7	5

Percent of E–911 Calls Answered within Twenty Seconds



	2007	2008	2009	2010	2011
Winston-Salem					
Average				99%	99%

Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



	2007	2008	2009	2010	2011
Winston-Salem	130	135	137	82	70
Average	144	201	176	107	97

MUNICIPAL PROFILE

Population (OSBM 2009)	230,345
Land Area (Square Miles)	132.45
Persons per Square Mile	1,739
County	Forsyth
Median Family Income (US Census 2010)	$51,491
Unemployment Rate (ESC-10)	9.9%
Population Growth (OMB 2000–2010)	24.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.1%
Operating Costs		27.8%
Capital Costs		3.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,557,116
Operating Costs	$	1,028,476
Capital Costs	$	116,617
TOTAL	$	3,702,209

SERVICE PROFILE

FTE Positions		
Telecommunicators/Call-Takers		48.0
Other		1.0
Total Incoming Calls		495,684
Total E-911 Calls		213,049
Total Calls Dispatched		285,649
Revenue from E-911 Fees	$	1,085,907

EXPLANATORY INFORMATION

Service Level and Delivery

Winston-Salem's emergency communications center is part of the police department and handles 911 and non-emergency calls for police and fire. Calls received for EMS, the sheriff's department, and the highway patrol are transferred to the appropriate agency. All telecommunicators are trained as call-takers and dispatchers. Call-takers are not considered as separate positions in classification when hiring personnel.

The city owns the infrastructure but contracts with local vendors to provide telecommuncations service. The City of Winston-Salem and Forsyth County implemented a voice radio system in October 2004. The Motoroloa ASTRO 800 MHz Trunked Simulcast system is made up of eight tower sites utilizing fifteen channels. The Winston-Salem Police Department uses a non-trunked 800 MHz system for the mobile data system, with one transmitter site using three channels.

Winston-Salem's center handled a total of 495,684 calls in FY 2010–11, dispatching 285,649 calls. The city defines highest priority emergency calls as calls with a significant threat of imminent injury to persons or calls for crimes against persons that are in progress or just occurred and the suspect is still there.

Conditions Affecting Service, Performance, and Costs

The measure "percent of E–911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

UNC
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Performance and Cost Data

ASPHALT MAINTENANCE AND REPAIR

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR ASPHALT MAINTENANCE AND REPAIR

SERVICE DEFINITION

Asphalt Maintenance and Repair includes the activities of pothole repair, repaving, surface treatment, structure adjustments, milling, and utility cuts. It does not include reconstruction, handicap ramps, storm drainage, sidewalks, curb and gutter, row maintenance, street cleaning and sweeping, pavement marking, lane widening, unpaved street maintenance, or snow and ice removal.

NOTES ON PERFORMANCE MEASURES

1. Lane Miles Maintained

This measure refers to total lane miles that a municipality maintains, including state streets and municipal streets. The standard lane mile is 12 feet in width and 5,280 feet in length. Some jurisdictions do not track lane miles. Therefore, a methodology must be employed to calculate lane miles for participation.

2. Potholes and Utility Cuts per Lane Mile

Breaks in pavement due to potholes or to intentional utility cuts affects asphalt maintenance workload in the short term and long term because of breaks in the pavement integrity.

3. Cost of Road Treatment per Lane Mile

This is the cost of different types of asphalt treatment that a municipality may use to maintain or repair roads. Treatments include preservation such as crack or slurry sealing, resurfacing, which is typically one to two inches of new asphalt, and rehabilitation, which combines resurfacing with milling work to repair more damaged roads.

4. Cost of Asphalt Maintenance and Repair

Total cost of asphalt maintenance and repair represents the total direct, indirect, and capital costs taken from the accounting form. “Cost of maintenance” represents total cost from the accounting form minus cost of any treatment efforts by contract and municipal crews.

5. Percentage of Street Segments Rated 85 or Better and Below 45

Many municipalities use standard rating systems for assessing street pavement condition. These systems apply professionally determined criteria and embody scales that provide relatively objective ratings. These measures indicate the proportion of street segments that are rated 85 or better, which is good condition, and those rated below 45, which is poor condition, on the most recent street pavement assessment.

6. Percentage of Potholes Repaired Within 24 Hours

Repair of potholes in a timely manner is important for maintaining pavement integrity and minimizing further damage to the street and vehicle traffic.

Asphalt Maintenance and Repair

Summary of Key Dimensions of Service

			Total Lane Miles Treated by Type			Percent Treated			
City or Town	Lane Miles Maintained	Number of Registered Motor Vehicles	Preservation	Resurfacing	Rehabilitation	Preservation	Resurfacing	Rehabilitation	FTE Positions for City Staff
Apex	243.0	29,396	0.0	0.0	1.7	0.0%	0.0%	0.7%	8.0
Asheville	704.9	65,737	0.0	9.9	0.9	0.0%	1.4%	0.1%	23.1
Burlington	534.0	NA	11.4	14.3	3.8	2.1%	2.7%	0.7%	6.0
Cary	927.0	105,513	0.0	21.4	1.7	0.0%	2.3%	0.2%	14.5
Charlotte	5185.4	524,634	48.2	111.5	220.3	0.9%	2.1%	4.2%	125.0
Concord	662.7	58,000	0.0	11.5	2.1	0.0%	1.7%	0.3%	10.0
Greensboro	3624.0	NA	53.0	48.4	0.0	1.5%	1.3%	0.0%	51.0
Greenville	535.9	NA	0.0	0.0	0.0	0.0%	0.0%	0.0%	6.0
Hickory	719.2	30,709	10.0	8.3	0.0	1.4%	1.2%	0.0%	7.0
High Point	1471.0	59,225	0.0	7.6	0.9	0.0%	0.5%	0.1%	15.3
Salisbury	343.9	NA	0.0	6.3	0.0	0.0%	1.8%	0.0%	2.3
Wilmington	796.4	114,665	3.2	0.0	0.0	0.4%	0.0%	0.0%	17.0
Wilson	687.5	38,207	6.0	5.8	4.5	0.9%	0.8%	0.7%	5.5
Winston-Salem	2165.7	167,898	27.9	30.2	15.9	1.3%	1.4%	0.7%	41.8

EXPLANATORY FACTORS

These are factors that the project found to affect asphalt maintenance and repair performance and cost in one or more of the municipalities:

Costs of materials in different cities
Weather conditions and terrain
Vehicle burden placed on streets
Age of street infrastructure
Depth of materials applied in repaving
Extent of contracting

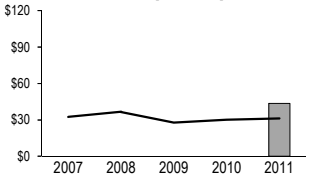
UNC
SCHOOL OF
GOVERNMENT

Apex — Asphalt Maintenance and Repair

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

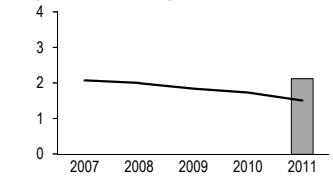
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



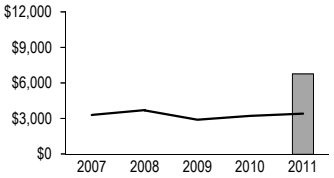
	2007	2008	2009	2010	2011
Apex					$43.49
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					2.12
Average	2.07	2.00	1.84	1.73	1.50

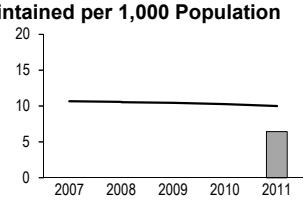
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Apex					$6,758
Average	$3,297	$3,686	$2,911	$3,228	$3,424

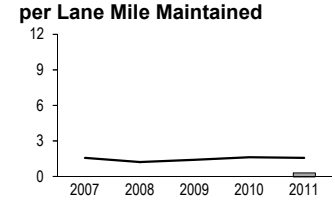
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



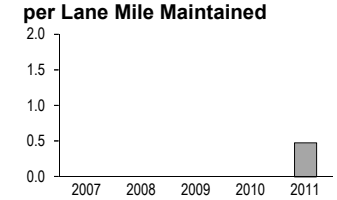
	2007	2008	2009	2010	2011
Apex					6.4
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Apex					0.31
Average	1.57	1.22	1.43	1.63	1.59

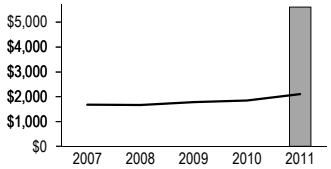
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Apex					0.47
Average					0.55

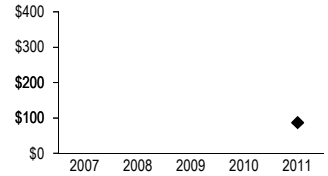
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



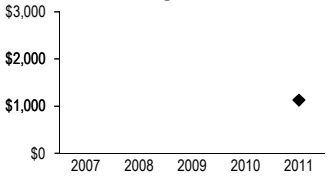
	2007	2008	2009	2010	2011
Apex					$5,607
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



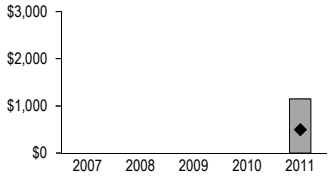
	2007	2008	2009	2010	2011
Apex					
Average					$87

Cost per Lane Mile for Resurfacing Treatment



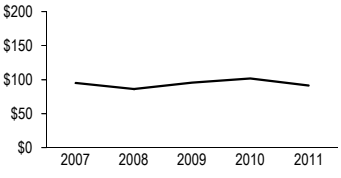
	2007	2008	2009	2010	2011
Apex					
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Apex					$1,150
Average					$501

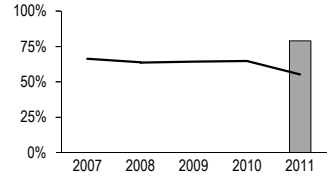
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Apex					
Average	$95	$86	$96	$102	$91

EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better

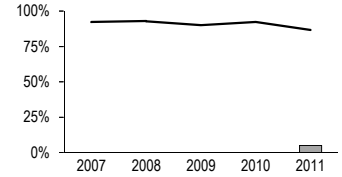


	2007	2008	2009	2010	2011
Apex					79%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45

	2007	2008	2009	2010	2011
Apex					4.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Apex					5%
Average	92%	93%	90%	92%	87%

MUNICIPAL PROFILE

Population (OSBM 2010)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$97,201

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		23.9%
Operating Costs		65.4%
Capital Costs		10.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	392,031
Operating Costs	$	1,072,924
Capital Costs	$	176,783
TOTAL	$	1,641,738

SERVICE PROFILE

FTE Positions—Crews		5.00
FTE Positions—Other		3.00
Lane Miles Maintained		243.0
Lane Miles Treated		
Preservation		0.0
Resurfacing		0.0
Rehabilitation		1.7
TOTAL		1.7
Total Costs for All Treatment Types	$	279,513
Potholes Repaired		$75
Number of Utility Cuts		$115
Registered Vehicles		29,396
Registered Vehicles/Square Mile		1,906

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Apex's Street Department was responsible for maintaining 243 lane miles during FY 2010–11. The Streets Department is part of the Public Works and Utilites Division for the town.

The town treated 1.74 lane miles during the fiscal year, equating to approximately 0.72 percent of total lane miles. All of this work was rehabilitation work, meaning both milling and resurfacing. The work was done by contractor, with the average depth used at 1.25 inches. The contractor used 2,775 tons of asphalt for the resurfacing.

The city reported that 79 percent of its lane miles were rated 85 or better on the pavement condition rating. The rating was performed by US Infrastructure using windshield survey in 2011.

The number of potholes reported for FY 2010–11 was seventy-five. The percentage of potholes repaired within twenty-four hours was approximately 5 percent. The town only repairs within one day those potholes which are considered large and dangerous. Smaller potholes are repaired when the streets crews can get to them.

The Steets Department also repaired 115 utility cuts and made eighteen large maintenance patches as part of their maintenance work.

Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

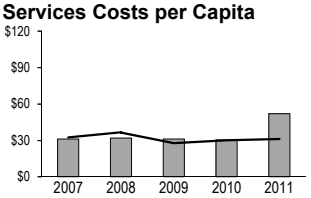
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Asheville — Asphalt Maintenance and Repair

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

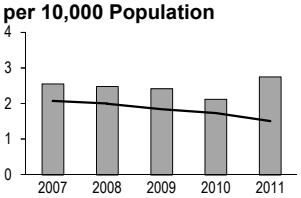
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



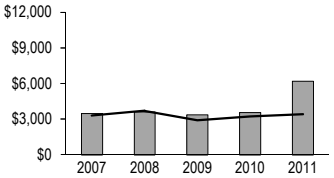
	2007	2008	2009	2010	2011
Asheville	$31.15	$31.92	$31.14	$30.50	$51.90
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	2.55	2.48	2.42	2.12	2.75
Average	2.07	2.00	1.84	1.73	1.50

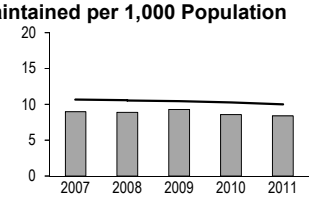
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Asheville	$3,465	$3,600	$3,354	$3,556	$6,183
Average	$3,297	$3,686	$2,911	$3,228	$3,424

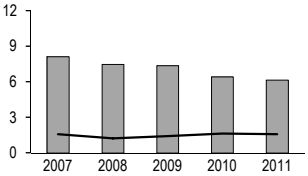
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



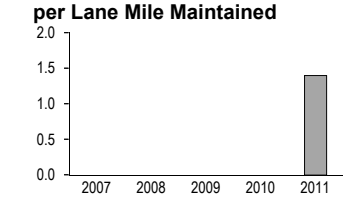
	2007	2008	2009	2010	2011
Asheville	9.0	8.9	9.3	8.6	8.4
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Asheville	8.12	7.48	7.36	6.41	6.13
Average	1.57	1.22	1.43	1.63	1.59

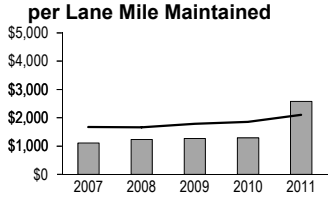
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Asheville					1.40
Average					0.55

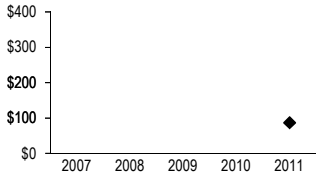
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



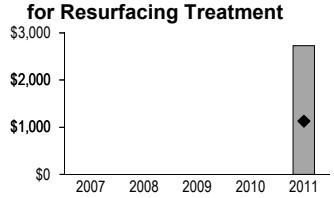
	2007	2008	2009	2010	2011
Asheville	$1,112	$1,235	$1,268	$1,295	$2,582
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



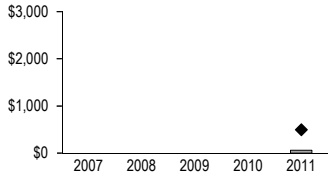
	2007	2008	2009	2010	2011
Asheville					
Average					$87

Cost per Lane Mile for Resurfacing Treatment



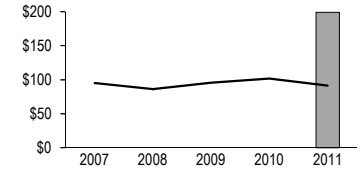
	2007	2008	2009	2010	2011
Asheville					$2,728
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Asheville					$62
Average					$501

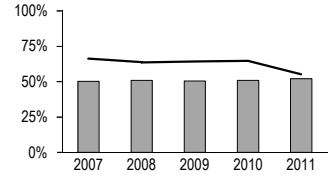
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Asheville					$199
Average	$95	$86	$96	$102	$91

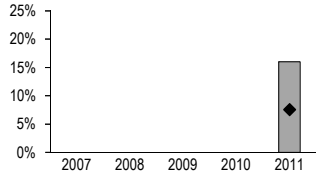
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



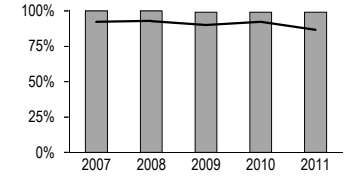
	2007	2008	2009	2010	2011
Asheville	50%	51%	51%	51%	52%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Asheville					16.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Asheville	100%	100%	99%	99%	99%
Average	92%	93%	90%	92%	87%

Asheville

MUNICIPAL PROFILE

Population (OSBM 2010)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2010)	$40,494

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		26.1%
Operating Costs		67.5%
Capital Costs		6.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,137,977
Operating Costs	$	2,943,370
Capital Costs	$	277,340
TOTAL	$	4,358,687

SERVICE PROFILE

FTE Positions—Crews		21.00
FTE Positions—Other		2.09
Lane Miles Maintained		704.9
Lane Miles Treated		
Preservation		0.0
Resurfacing		9.9
Rehabilitation		0.9
TOTAL		10.8
Total Costs for All Treatment Types	$	1,966,921
Potholes Repaired		4321
Number of Utility Cuts		98
Registered Vehicles		65,737
Registered Vehicles/Square Mile		1,463

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Asheville was responsible for maintaining 705 lane miles during FY 2010–11. The city treated 1.7 lane miles during the year, equating to approximately 0.72 percent of total lane miles.

The repair work for the year was rehabilitation work consisting of milling and resurfacing. This work was done by contract crews. A total of 2,775 tons of asphalt was used, with an average depth laid of 1.25 inches.

The city reported that 52 percent of its lane miles were rated 85 or above on its most recent street pavement condition rating. This rating was done by in-house staff using ITRE in 2009.

The number of potholes reported for FY 2010–11 was 4,321. The percentage of potholes repaired within twenty-four hours was approximately 99 percent.

The city has a permitting system for any utility cuts that must be made either by city or contractor crews. A total of 986 utility cuts were repaired during the year.

Conditions Affecting Service, Performance, and Costs

Due to the somewhat harsher mountain weather in Asheville compared to the other benchmarking partners, problems with pavement, such as potholes, tend to be more common.

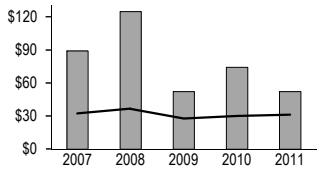
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Burlington — Asphalt Maintenance and Repair

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

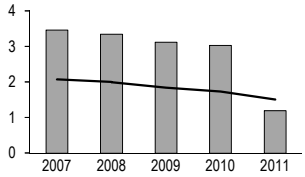
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



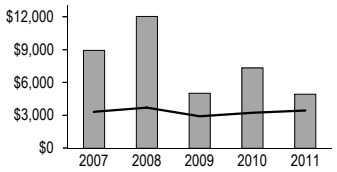
	2007	2008	2009	2010	2011
Burlington	$89.18	$124.65	$52.22	$74.10	$52.07
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	3.46	3.34	3.12	3.03	1.19
Average	2.07	2.00	1.84	1.73	1.50

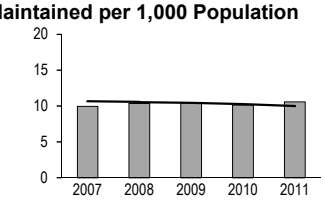
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Burlington	$8,946	$12,045	$5,008	$7,325	$4,922
Average	$3,297	$3,686	$2,911	$3,228	$3,424

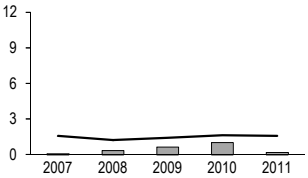
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



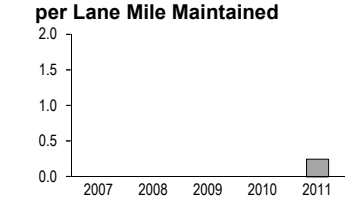
	2007	2008	2009	2010	2011
Burlington	10.0	10.4	10.4	10.1	10.6
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Burlington	0.08	0.34	0.63	1.01	0.18
Average	1.57	1.22	1.43	1.63	1.59

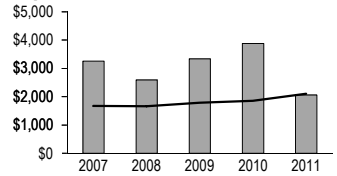
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Burlington					0.24
Average					0.55

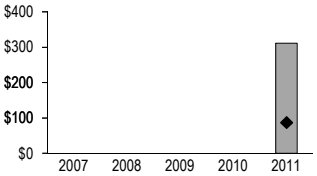
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



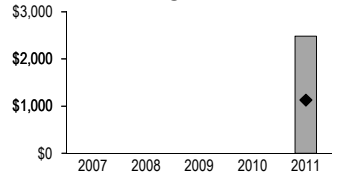
	2007	2008	2009	2010	2011
Burlington	$3,263	$2,590	$3,338	$3,881	$2,060
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



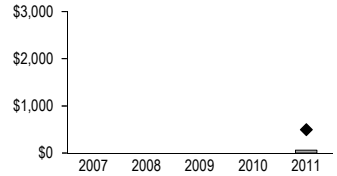
	2007	2008	2009	2010	2011
Burlington					$311
Average					$87

Cost per Lane Mile for Resurfacing Treatment



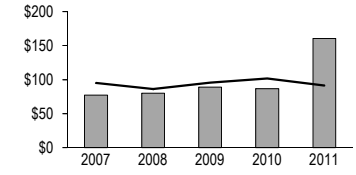
	2007	2008	2009	2010	2011
Burlington					$2,485
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Burlington					$66
Average					$501

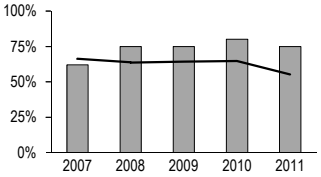
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Burlington	$77	$80	$89	$86	$160
Average	$95	$86	$96	$102	$91

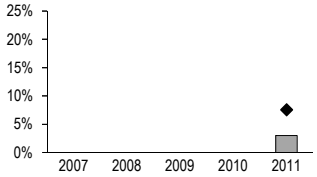
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



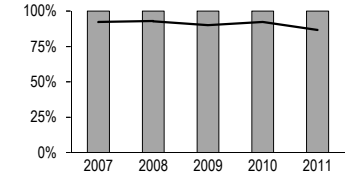
	2007	2008	2009	2010	2011
Burlington	62%	75%	75%	80%	75%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Burlington					3.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Burlington	100%	100%	100%	100%	100%
Average	92%	93%	90%	92%	87%

Burlington

MUNICIPAL PROFILE

Population (OSBM 2010)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
Topography	Flat; gently rolling
County	Alamance
Climate	Mild; little ice and snow
Median Family Income (US Census 2010)	$46,461

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		7.5%
Operating Costs		73.9%
Capital Costs		18.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	196,747
Operating Costs	$	1,942,461
Capital Costs	$	489,025
TOTAL	$	2,628,233

SERVICE PROFILE

FTE Positions—Crews		5.00
FTE Positions—Other		1.00
Lane Miles Maintained		534.0
Lane Miles Treated		
Preservation		11.4
Resurfacing		14.3
Rehabilitation		3.8
TOTAL		29.5
Total Costs for All Treatment Types	$	1,528,117
Potholes Repaired		97
Number of Utility Cuts		130
Registered Vehicles		NA
Registered Vehicles/Square Mile		NA

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Burlington was responsible for maintaining 534 lane miles during FY 2010–11. The city treated a total of 29.4 lanes miles, equating to approximately 5.5 percent of total lane miles.

Of the street work done, 11.4 lane miles were given preservation treatment such as crack sealing or thin overlays. Resurfacing work was done on 14.3 lane miles and an additional 3.8 lane miles were rehabilitated with milling followed by resurfacing. All of the work involving resurfacing was done by contractors who used 8,280 tons of asphalt and laid an average 1.5 inch thickness on repaired pavement. The preservation work was done by contractors and city crews.

The city reported that 75 percent of its street lane miles rated 85 or above on its most recent rating. The most recent study relied on USI-ITRE and was conducted in 2009.

The city reported a total of ninety-seven potholes with 100 percent repaired within twenty-four hours. The city takes a proactive approach and eliminates many potential potholes before they form. The city covers one-sixth of the city each month looking for potential problems. There were 130 utility cuts in roads repaired during the year, with the repairs being done by the city after private utilities got a permit.

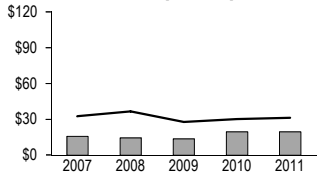
Conditions Affecting Service, Performance, and Costs
The City of Burlington began participation in the benchmarking project in 2007, with its first reporting data being for FY 2006–07.

Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

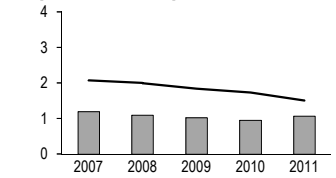
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



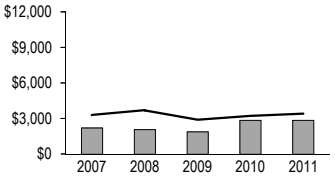
	2007	2008	2009	2010	2011
Cary	$15.80	$14.31	$13.56	$19.39	$19.46
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	1.19	1.09	1.02	0.95	1.06
Average	2.07	2.00	1.84	1.73	1.50

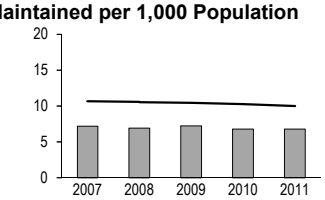
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Cary	$2,192	$2,065	$1,875	$2,848	$2,860
Average	$3,297	$3,686	$2,911	$3,228	$3,424

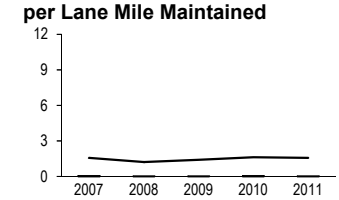
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



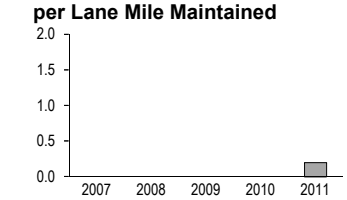
	2007	2008	2009	2010	2011
Cary	7.2	6.9	7.2	6.8	6.8
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Cary	0.08	0.06	0.07	0.09	0.07
Average	1.57	1.22	1.43	1.63	1.59

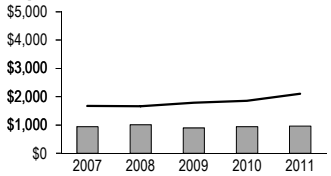
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Cary					0.20
Average					0.55

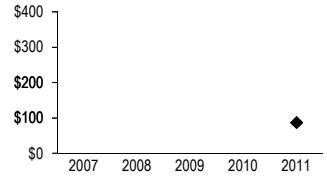
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



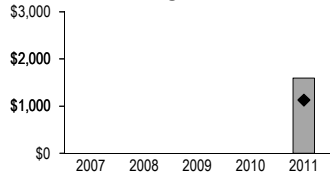
	2007	2008	2009	2010	2011
Cary	$945	$1,013	$897	$947	$967
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



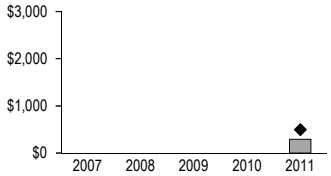
	2007	2008	2009	2010	2011
Cary					
Average					$87

Cost per Lane Mile for Resurfacing Treatment



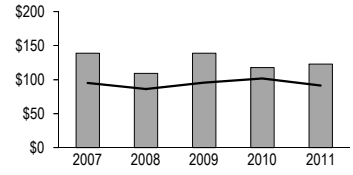
	2007	2008	2009	2010	2011
Cary					$1,596
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Cary					$297
Average					$501

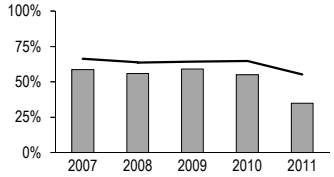
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Cary	$139	$109	$139	$118	$123
Average	$95	$86	$96	$102	$91

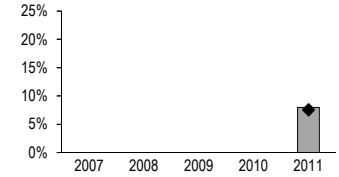
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



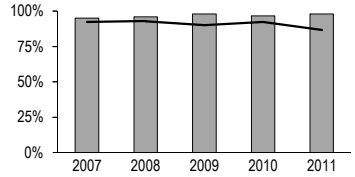
	2007	2008	2009	2010	2011
Cary	59%	56%	59%	55%	35%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Cary					8.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Cary	95%	96%	98%	97%	98%
Average	92%	93%	90%	92%	87%

MUNICIPAL PROFILE

Population (OSBM 2010)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
Topography	Flat; gently rolling
County	Wake
Climate	Mild; little ice and snow
Median Family Income (US Census 2010)	$108,956

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		9.4%
Operating Costs		85.2%
Capital Costs		5.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	248,531
Operating Costs	$	2,259,284
Capital Costs	$	143,085
TOTAL	$	2,650,900

SERVICE PROFILE

FTE Positions—Crews		12.50
FTE Positions—Other		2.00
Lane Miles Maintained		927.0
Lane Miles Treated		
Preservation		0.0
Resurfacing		21.4
Rehabilitation		1.7
TOTAL		23.1
Total Costs for All Treatment Types	$	1,754,737
Potholes Repaired		62
Number of Utility Cuts		183
Registered Vehicles		105,513
Registered Vehicles/Square Mile		1,938

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Cary was responsible for maintaining 927 lane miles during FY 2010–11. A total of 23.1 lane miles received some form of repair work, equating to approximately 2.5 percent of total lane miles.

For repair work done, 21.4 lane miles were resurfaced by contract crews and an additional 1.7 lane miles were rehabilitated by contractors with milling followed by resurfacing. A total of 12,029 tons of asphalt was used during the fiscal year by contractors for these resurfacing projects. The average resurfacing depth used was 1.25 inches by contractor crews.

The town reported that 35 percent of its street segments rated 85 or above on its most recent pavement condition rating. The most recent study relied on ITRE and was conducted in 2011.

The number of potholes reported for FY 2010–11 was sixty-two. The percentage of potholes repaired within twenty-four hours was 98 percent.

A total of 183 utility cuts were made and repaired during the year. The town repairs its own cuts within five days. Other planned utility cuts require a permit before breaking pavement.

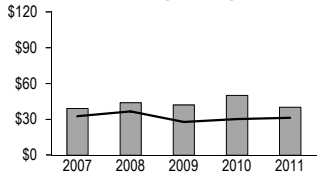
Conditions Affecting Service, Performance, and Costs
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Charlotte — Asphalt Maintenance and Repair

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

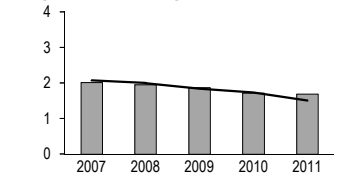
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



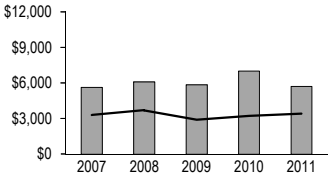
	2007	2008	2009	2010	2011
Charlotte	$39.02	$44.00	$41.95	$49.95	$40.12
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	2.01	1.95	1.87	1.71	1.69
Average	2.07	2.00	1.84	1.73	1.50

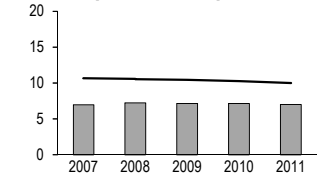
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Charlotte	$5,618	$6,097	$5,848	$7,007	$5,718
Average	$3,297	$3,686	$2,911	$3,228	$3,424

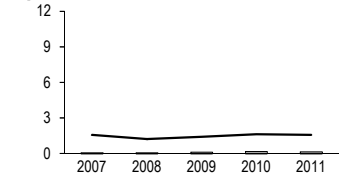
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



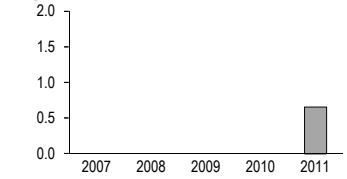
	2007	2008	2009	2010	2011
Charlotte	7.0	7.2	7.2	7.1	7.0
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Charlotte	0.07	0.06	0.11	0.17	0.15
Average	1.57	1.22	1.43	1.63	1.59

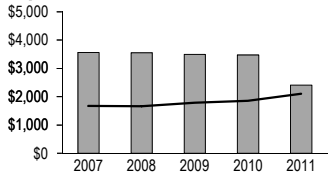
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Charlotte					0.65
Average					0.55

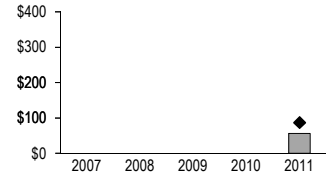
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



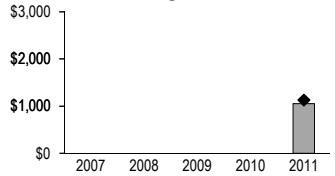
	2007	2008	2009	2010	2011
Charlotte	$3,560	$3,555	$3,492	$3,477	$2,412
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



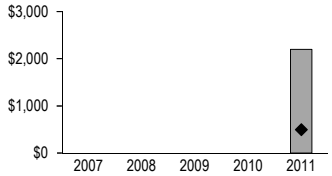
	2007	2008	2009	2010	2011
Charlotte					$56
Average					$87

Cost per Lane Mile for Resurfacing Treatment



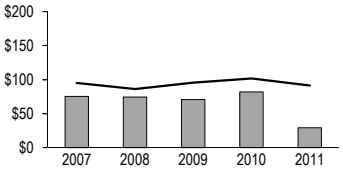
	2007	2008	2009	2010	2011
Charlotte					$1,053
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Charlotte					$2,197
Average					$501

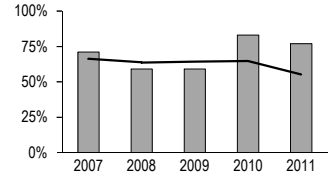
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Charlotte	$75	$74	$71	$82	$29
Average	$95	$86	$96	$102	$91

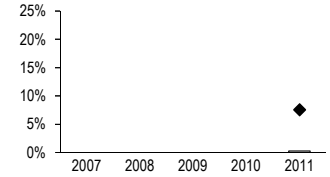
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



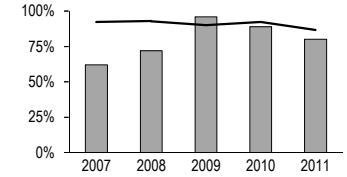
	2007	2008	2009	2010	2011
Charlotte	71%	59%	59%	83%	77%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Charlotte					0.3%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Charlotte	62%	72%	96%	89%	80%
Average	92%	93%	90%	92%	87%

MUNICIPAL PROFILE

Population (OSBM 2010)	738,979
Land Area (Square Miles)	297.68
Persons per Square Mile	2,482
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2010)	$61,405

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		22.9%
Operating Costs		64.7%
Capital Costs		12.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,796,206
Operating Costs	$	19,177,938
Capital Costs	$	3,676,875
TOTAL	$	29,651,019

SERVICE PROFILE

FTE Positions—Crews		107.00
FTE Positions—Other		18.00
Lane Miles Maintained		5,185.4
Lane Miles Treated		
Preservation		48.2
Resurfacing		111.5
Rehabilitation		220.3
TOTAL		380.0
Total Costs for All Treatment Types	$	17,145,369
Potholes Repaired		790
Number of Utility Cuts		3386
Registered Vehicles		524,634
Registered Vehicles/Square Mile		1,762

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Charlotte Street Maintenance Division provides service in the areas of maintenance and repair of street drainage structures; sidewalks; storm debris clean-up; and speciality repair items such as brick walls, decorative pavers, fences, and guardrails. During FY 2010–11, the city was responsible for maintaining 5,185 lane miles and treated 379.9 lane miles, equating to approximately 7.3 percent of total lane miles.

Of the treatement work done during the year, 48.2 lane miles received preservation work, completed by both city crews and contractors, such as crack sealing or thin overlays. Resurfacing work covered 111.5 lane miles and was all done by contractors. Additionally, 220.3 lane miles were rehabilitated with milling followed by resurfacing. A total of 186,103 tons of asphalt was used during the fiscal year for resurfacing by contractors. The average resurfacing depth used was 1.07 inches by contractors.

The city reported that 77 percent of its lane miles rated 85 or above on its most recent pavement condition rating conducted in the year 2010. The roads were independently rated by US Infrastructure of Carolina.

The number of potholes reported for FY 2010–11 was 790. The percentage of potholes repaired within twenty-four hours was 80 percent.

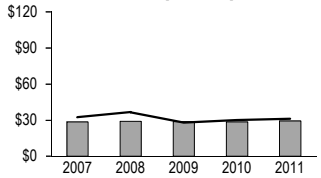
Conditions Affecting Service, Performance, and Costs
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Concord — Asphalt Maintenance and Repair

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

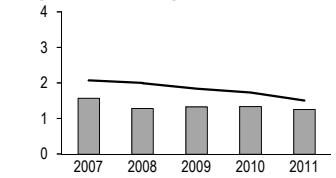
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



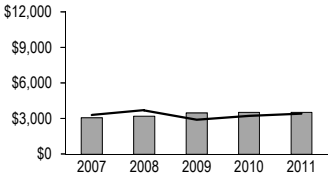
	2007	2008	2009	2010	2011
Concord	$28.48	$29.19	$28.74	$28.63	$29.26
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	1.57	1.28	1.33	1.34	1.25
Average	2.07	2.00	1.84	1.73	1.50

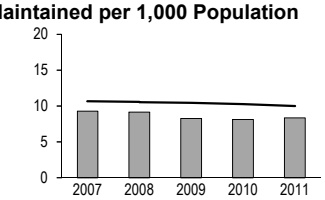
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Concord	$3,073	$3,188	$3,478	$3,529	$3,511
Average	$3,297	$3,686	$2,911	$3,228	$3,424

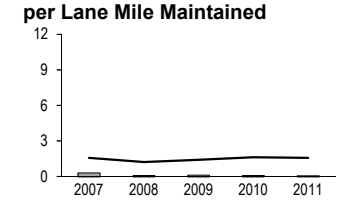
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



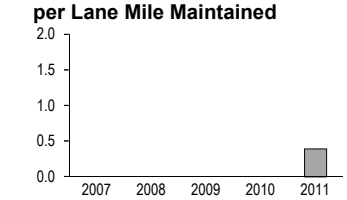
	2007	2008	2009	2010	2011
Concord	9.3	9.2	8.3	8.1	8.3
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Concord	0.31	0.09	0.12	0.11	0.06
Average	1.57	1.22	1.43	1.63	1.59

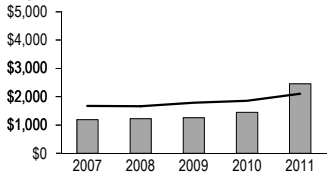
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Concord					0.39
Average					0.55

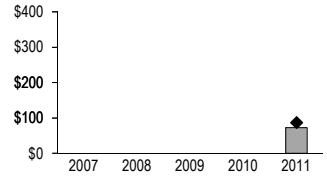
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



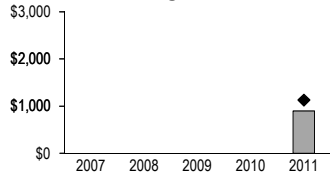
	2007	2008	2009	2010	2011
Concord	$1,195	$1,226	$1,259	$1,453	$2,462
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



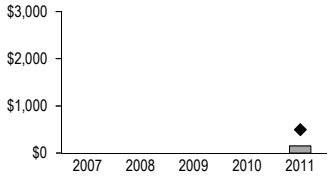
	2007	2008	2009	2010	2011
Concord					$73
Average					$87

Cost per Lane Mile for Resurfacing Treatment



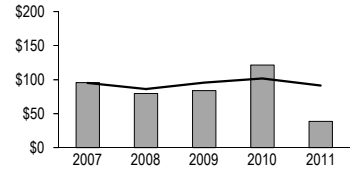
	2007	2008	2009	2010	2011
Concord					$898
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Concord					$151
Average					$501

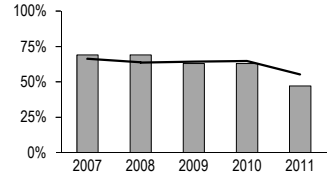
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Concord	$96	$80	$84	$122	$39
Average	$95	$86	$96	$102	$91

EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better

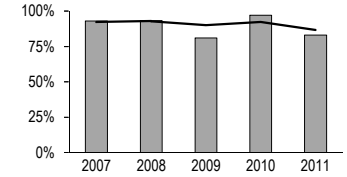


	2007	2008	2009	2010	2011
Concord	69%	69%	63%	63%	47%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45

	2007	2008	2009	2010	2011
Concord					1.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Concord	93%	93%	81%	97%	83%
Average	92%	93%	90%	92%	87%

Concord

MUNICIPAL PROFILE

Population (OSBM 2010)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
Topography	Flat; gently rolling
County	Cabarrus
Climate	Mild; some ice
Median Family Income (US Census 2010)	$63,643

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		24.9%
Operating Costs		69.5%
Capital Costs		5.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	580,024
Operating Costs	$	1,616,339
Capital Costs	$	130,301
TOTAL	$	2,326,664

SERVICE PROFILE

FTE Positions—Crews		7.00
FTE Positions—Other		2.95
Lane Miles Maintained		662.7
Lane Miles Treated		
Preservation		0.0
Resurfacing		11.5
Rehabilitation		2.1
TOTAL		13.6
Total Costs for All Treatment Types	$	695,117
Potholes Repaired		39
Number of Utility Cuts		257
Registered Vehicles		58,000
Registered Vehicles/Square Mile		962

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Concord was responsible for maintaining 662.7 lane miles during FY 2010–11. The city treated a total of 13.6 lane miles during the year, equating to 2.1 percent of total lane miles.

All of the 13.6 lane miles treated involved resurfacing work. Additionally, 2.1 miles of that total also included milling work done before the resurfacing. The resurfacing work was done by contract crews who used 15,444 tons of asphalt and used an average resurfacing depth of two inches.

The city reported that 47 percent of its lane miles rated 85 or above on its most pavement condition rating conducted in the year 2010 using a city system based on North Carolina Department of Transportation ratings.

The number of potholes reported for FY 2010–11 was thirty-nine, including those reported by citizens and the city. The percentage of potholes repaired within twenty-four hours was 83 percent.

Conditions Affecting Service, Performance, and Costs
The costs associated with asphalt maintenance and resurfacing are influenced by competition due to the location of three asphalt plants within the city limits.

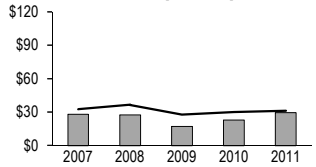
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Greensboro — Asphalt Maintenance and Repair

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

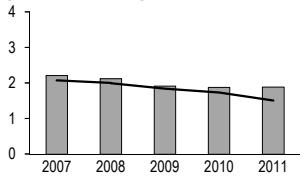
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



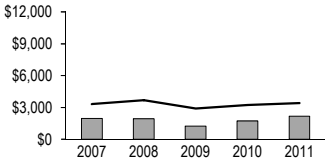
	2007	2008	2009	2010	2011
Greensboro	$28.14	$27.60	$17.07	$22.90	$29.43
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	2.21	2.12	1.91	1.88	1.89
Average	2.07	2.00	1.84	1.73	1.50

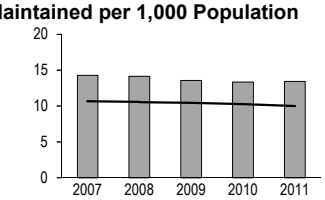
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Greensboro	$1,972	$1,948	$1,259	$1,719	$2,193
Average	$3,297	$3,686	$2,911	$3,228	$3,424

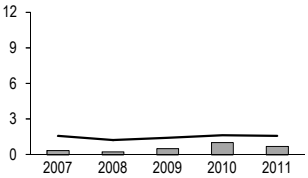
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



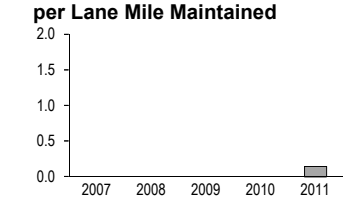
	2007	2008	2009	2010	2011
Greensboro	14.3	14.2	13.6	13.3	13.4
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Greensboro	0.33	0.23	0.50	1.02	0.69
Average	1.57	1.22	1.43	1.63	1.59

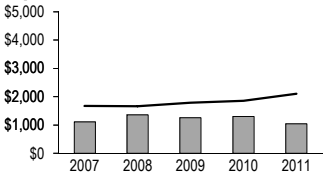
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Greensboro					0.14
Average					0.55

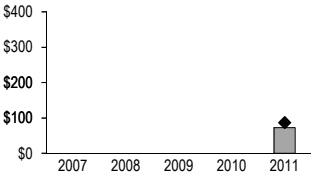
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



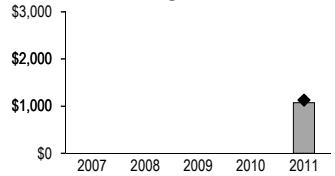
	2007	2008	2009	2010	2011
Greensboro	$1,113	$1,365	$1,259	$1,305	$1,044
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



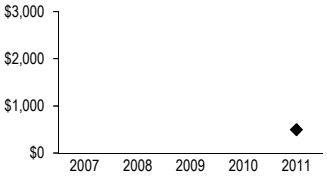
	2007	2008	2009	2010	2011
Greensboro					$73
Average					$87

Cost per Lane Mile for Resurfacing Treatment



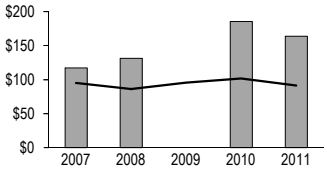
	2007	2008	2009	2010	2011
Greensboro					$1,076
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Greensboro					
Average					$501

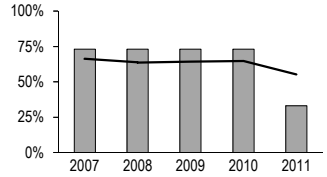
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Greensboro	$117	$131		$185	$164
Average	$95	$86	$96	$102	$91

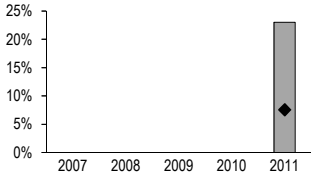
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



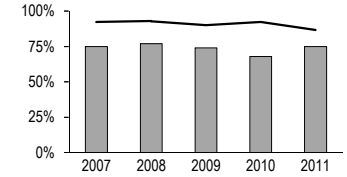
	2007	2008	2009	2010	2011
Greensboro	73%	73%	73%	73%	33%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Greensboro					23.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Greensboro	75%	77%	74%	68%	75%
Average	92%	93%	90%	92%	87%

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2010)	270,065
Land Area (Square Miles)	126.63
Persons per Square Mile	2,133
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow
Median Family Income (US Census 2010)	$52,752

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		39.8%
Operating Costs		60.2%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,877,051
Operating Costs	$	2,841,960
Capital Costs	$	-
TOTAL	$	4,719,011

SERVICE PROFILE

FTE Positions—Crews		45.00
FTE Positions—Other		6.00
Lane Miles Maintained		3,624.0
Lane Miles Treated		
Preservation		53.0
Resurfacing		48.4
Rehabilitation		0.0
TOTAL		101.4
Total Costs for All Treatment Types	$	4,165,000
Potholes Repaired		2510
Number of Utility Cuts		512
Registered Vehicles		NA
Registered Vehicles/Square Mile		NA

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Greensboro was responsible for maintaining 3,624 lane miles during FY 2010–11. This includes 925 lane miles of state roads. Greensboro treated a total of 101.4 lane miles during the year, equating to about 2.8 percent of total lane miles.

Of the treatment work done on Greensboro's streets, 53 of the lane miles had preservation work such as crack sealing or thin overlays. Most of this preservation work was done by city crews. The remaining 48.4 lane miles were resurfaced by contract crews who used a total of 23,800 tons of asphalt and used an average resurfacing depth of 1.25 inches.

The city reported that 33 percent of its lane miles rated 85 or above on its most recent pavement condition rating conducted in the year 2010 by a consultant using the ITRE system.

The number of potholes reported for FY 2010–11 was 2,510. The percentage of potholes repaired within twenty-four hours was 75 percent.

Conditions Affecting Service, Performance, and Costs
Changes in tracking software have improved the accuracy of potholes reported and asphalt used.

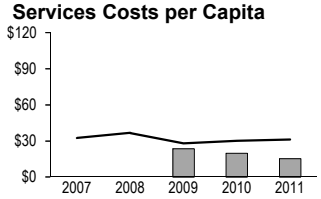
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Greenville — Asphalt Maintenance and Repair

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

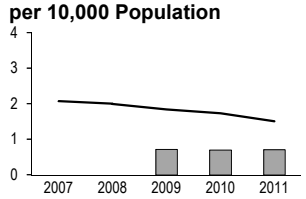
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



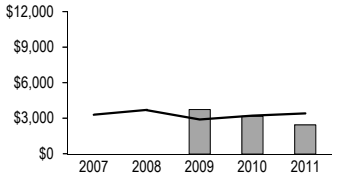
	2007	2008	2009	2010	2011
Greenville			$23.38	$19.85	$15.30
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			0.72	0.70	0.70
Average	2.07	2.00	1.84	1.73	1.50

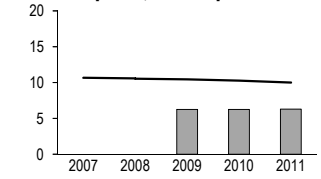
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Greenville			$3,731	$3,179	$2,431
Average	$3,297	$3,686	$2,911	$3,228	$3,424

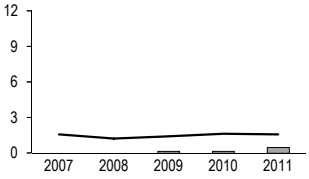
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



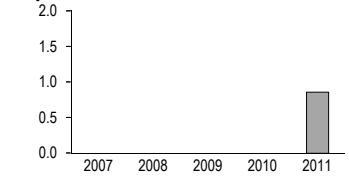
	2007	2008	2009	2010	2011
Greenville			6.3	6.2	6.3
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Greenville			0.14	0.14	0.47
Average	1.57	1.22	1.43	1.63	1.59

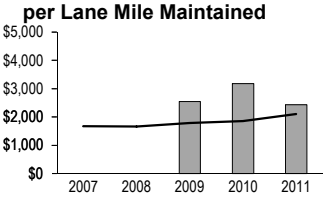
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Greenville					0.86
Average					0.55

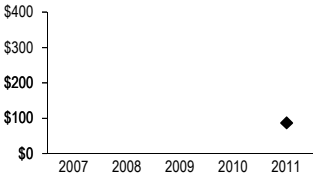
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



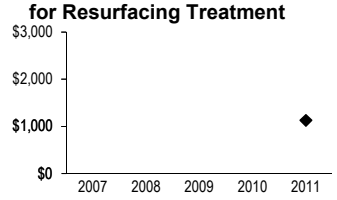
	2007	2008	2009	2010	2011
Greenville			$2,551	$3,179	$2,431
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



	2007	2008	2009	2010	2011
Greenville					
Average					$87

Cost per Lane Mile for Resurfacing Treatment

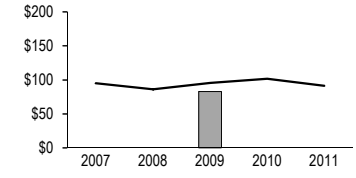


	2007	2008	2009	2010	2011
Greenville					
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment

	2007	2008	2009	2010	2011
Greenville					
Average					$501

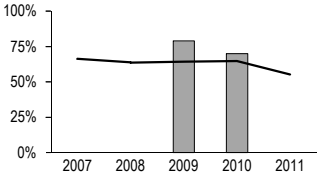
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Greenville			$83		
Average	$95	$86	$96	$102	$91

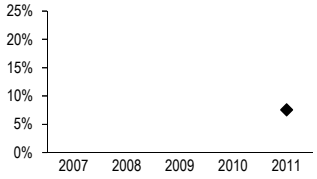
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



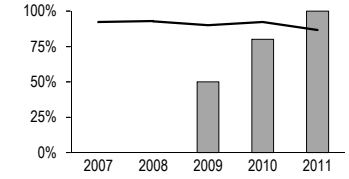
	2007	2008	2009	2010	2011
Greenville			79%	70%	
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Greenville					
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Greenville			50%	80%	100%
Average	92%	93%	90%	92%	87%

Greenville

MUNICIPAL PROFILE

Population (OSBM 2010)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
Topography	Flat
County	Pitt
Climate	Mild; little ice and snow
Median Family Income (US Census 2010)	$50,395

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		40.4%
Operating Costs		36.2%
Capital Costs		23.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	525,813
Operating Costs	$	470,929
Capital Costs	$	305,827
TOTAL	$	1,302,569

SERVICE PROFILE

FTE Positions—Crews		5.00
FTE Positions—Other		1.00
Lane Miles Maintained		535.9
Lane Miles Treated		
Preservation		0.0
Resurfacing		0.0
Rehabilitation		0.0
TOTAL		0.0
Total Costs for All Treatment Types	$	-
Potholes Repaired		253
Number of Utility Cuts		459
Registered Vehicles		NA
Registered Vehicles/Square Mile		NA

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Greenville was responsible for maintaining 535.86 lane miles during FY 2010–11, all city streets. During the year, Greenville reported no streetment treatment projects such as resurfacing or preservation.

The number of potholes reported for FY 2010–11 was 253, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was reported as 100 percent. The streets division also repaired 459 utility cuts during the year.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in 2009, with the first year of reporting being for FY 2008–09.

Greenville was not able to provide pavement condition ratings for FY 2010–11.

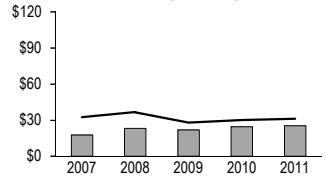
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Hickory — Asphalt Maintenance and Repair

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

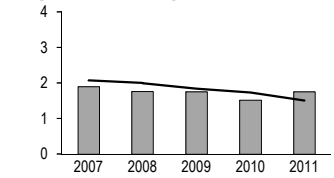
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



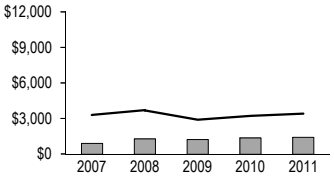
	2007	2008	2009	2010	2011
Hickory	$17.56	$23.13	$21.84	$24.58	$25.44
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	1.89	1.76	1.75	1.52	1.75
Average	2.07	2.00	1.84	1.73	1.50

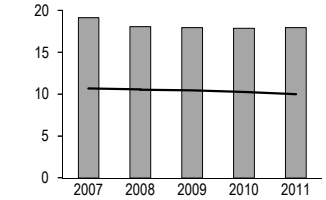
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Hickory	$919	$1,280	$1,217	$1,375	$1,418
Average	$3,297	$3,686	$2,911	$3,228	$3,424

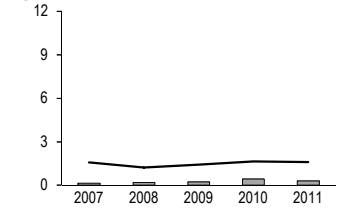
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



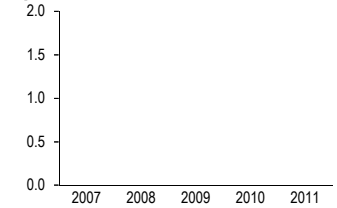
	2007	2008	2009	2010	2011
Hickory	19.1	18.1	17.9	17.9	17.9
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Hickory	0.15	0.19	0.23	0.44	0.29
Average	1.57	1.22	1.43	1.63	1.59

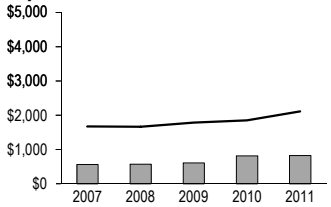
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Hickory					
Average					0.55

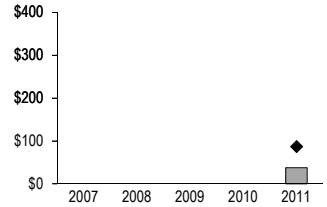
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



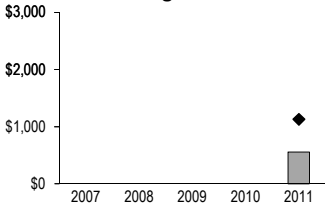
	2007	2008	2009	2010	2011
Hickory	$565	$575	$610	$819	$824
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



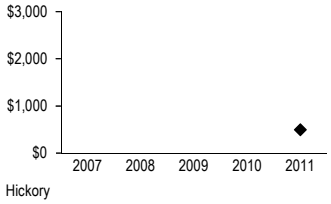
	2007	2008	2009	2010	2011
Hickory					$37
Average					$87

Cost per Lane Mile for Resurfacing Treatment



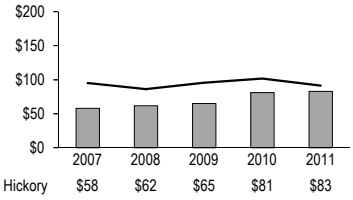
	2007	2008	2009	2010	2011
Hickory					$556
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Hickory					
Average					$501

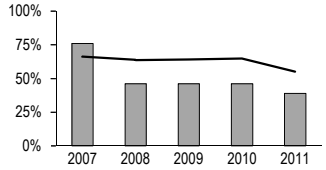
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Hickory	$58	$62	$65	$81	$83
Average	$95	$86	$96	$102	$91

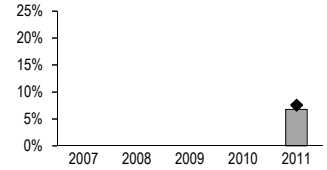
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



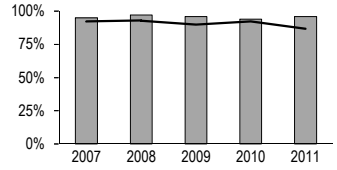
	2007	2008	2009	2010	2011
Hickory	76%	46%	46%	46%	39%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Hickory					6.8%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Hickory	95%	97%	96%	94%	96%
Average	92%	93%	90%	92%	87%

Hickory

MUNICIPAL PROFILE

Population (OSBM 2010)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
Topography	Gently rolling
County	Catawba
Climate	Moderate; some ice and snow
Median Family Income (US Census 2010)	$54,093

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		28.6%
Operating Costs		55.1%
Capital Costs		16.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	291,095
Operating Costs	$	562,084
Capital Costs	$	166,388
TOTAL	$	1,019,567

SERVICE PROFILE

FTE Positions—Crews		6.00
FTE Positions—Other		1.00
Lane Miles Maintained		719.2
Lane Miles Treated		
Preservation		10.0
Resurfacing		8.3
Rehabilitation		0.0
TOTAL		18.3
Total Costs for All Treatment Types	$	426,850
Potholes Repaired		208
Number of Utility Cuts		NA
Registered Vehicles		30,709
Registered Vehicles/Square Mile		1,033

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Hickory was responsible for maintaining 719.2 lane miles during FY 2010–11, including 238.8 lane miles of state roads. The city treated a total of 18.3 lane miles by various methods, equating to 2.5 percent of total lane miles.

The city treated ten lane miles with city crews using preservation techniques such as sealing or thin overlays. The city also resurfaced 8.3 lane miles. A total of 4,819 tons of asphalt was used by contractors during the fiscal year for resurfacing projects. The average resurfacing depth used by the city was 1.5 inches.

The city reported that 39 percent of its lane miles rated 85 or above on its most recent pavement condition rating conducted in the year 2007. The city used ITRE to conduct its rating system.

The number of potholes reported for FY 2010–11 was 208, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 96 percent.

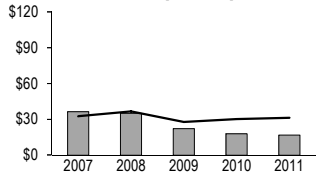
Conditions Affecting Service, Performance, and Costs
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

High Point — Asphalt Maintenance and Repair

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

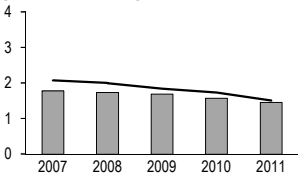
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



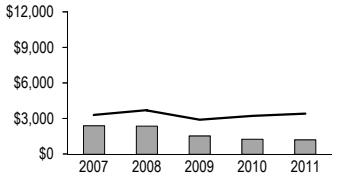
	2007	2008	2009	2010	2011
High Point	$36.42	$35.04	$22.19	$17.79	$16.80
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	1.78	1.73	1.69	1.57	1.46
Average	2.07	2.00	1.84	1.73	1.50

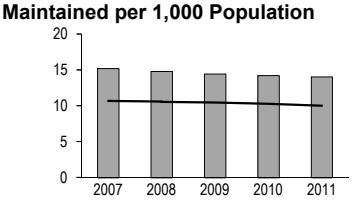
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
High Point	$2,403	$2,372	$1,537	$1,253	$1,197
Average	$3,297	$3,686	$2,911	$3,228	$3,424

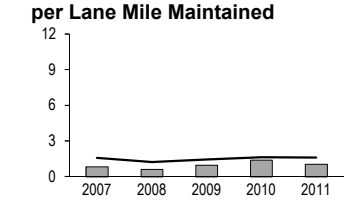
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



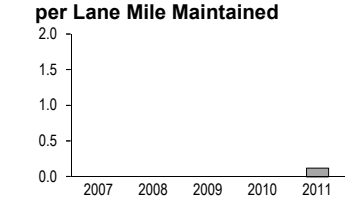
	2007	2008	2009	2010	2011
High Point	15.2	14.8	14.4	14.2	14.0
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
High Point	0.81	0.62	0.95	1.38	1.04
Average	1.57	1.22	1.43	1.63	1.59

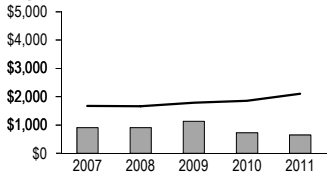
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
High Point					0.12
Average					0.55

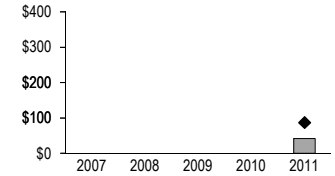
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



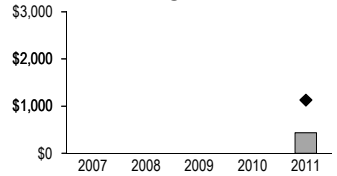
	2007	2008	2009	2010	2011
High Point	$910	$911	$1,140	$729	$650
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



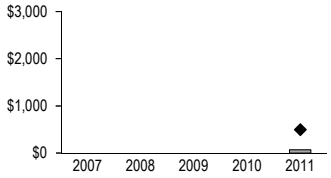
	2007	2008	2009	2010	2011
High Point					$42
Average					$87

Cost per Lane Mile for Resurfacing Treatment



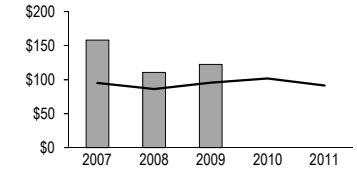
	2007	2008	2009	2010	2011
High Point					$434
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
High Point					$71
Average					$501

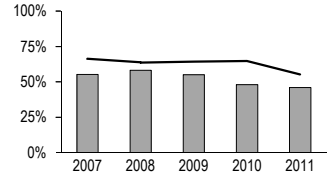
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
High Point	$158	$110	$122		
Average	$95	$86	$96	$102	$91

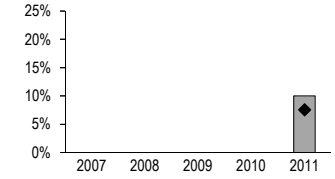
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



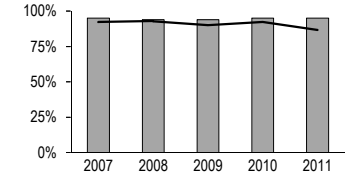
	2007	2008	2009	2010	2011
High Point	55%	58%	55%	48%	46%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
High Point					10.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
High Point	95%	94%	94%	95%	95%
Average	92%	93%	90%	92%	87%

High Point

MUNICIPAL PROFILE

Population (OSBM 2010)	104,788
Land Area (Square Miles)	53.81
Persons per Square Mile	1,948
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow
Median Family Income (US Census 2010)	$49,720

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		43.1%
Operating Costs		49.5%
Capital Costs		7.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	759,612
Operating Costs	$	871,782
Capital Costs	$	129,537
TOTAL	$	1,760,931

SERVICE PROFILE

FTE Positions—Crews		14.00
FTE Positions—Other		1.25
Lane Miles Maintained		1,471.0
Lane Miles Treated		
Preservation		0.0
Resurfacing		7.6
Rehabilitation		0.9
TOTAL		8.5
Total Costs for All Treatment Types	$	805,341
Potholes Repaired		1533
Number of Utility Cuts		174
Registered Vehicles		59,225
Registered Vehicles/Square Mile		1,101

EXPLANATORY INFORMATION

Service Level and Delivery
The City of High Point was responsible for maintaining 1,471 lane miles during FY 2010–11, which includes 340 lane miles of state roads. The city treated 8.5 lane miles by various methods, equating to 0.58 percent of total lane miles.

The city resurfaced a total of 8.5 lane miles using city crews. Additionally, 0.9 lane miles of this resurfacing total was preceded by milling work. A total of 4,702 tons of asphalt was used for resurfacing projects. The average resurfacing depth was 1.50 inches by city crews.

The city reported that 46 percent of its street segments rated 85 or above on its most recent pavement condition rating conducted in the year 2011. The rating was done by a consultant using the ITRE rating system.

The number of potholes reported for FY 2010–11 was 1,533, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 95 percent.

A total of 174 utility cuts were made in the streets during the year. The Water and Sewer Division tracks these cuts and pays an outside contractor to repair. No permits are required.

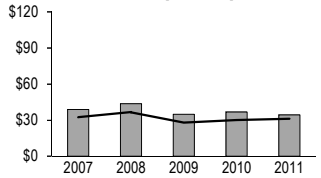
Conditions Affecting Service, Performance, and Costs
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Salisbury — Asphalt Maintenance and Repair

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

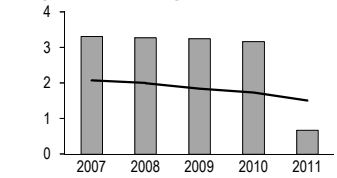
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



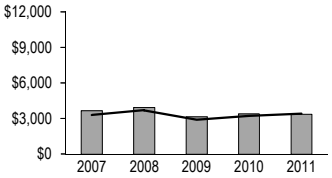
	2007	2008	2009	2010	2011
Salisbury	$38.81	$43.61	$34.93	$36.72	$34.31
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	3.31	3.27	3.24	3.16	0.67
Average	2.07	2.00	1.84	1.73	1.50

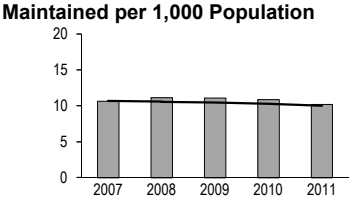
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Salisbury	$3,646	$3,922	$3,154	$3,378	$3,365
Average	$3,297	$3,686	$2,911	$3,228	$3,424

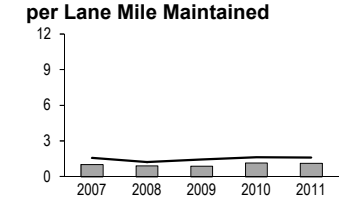
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



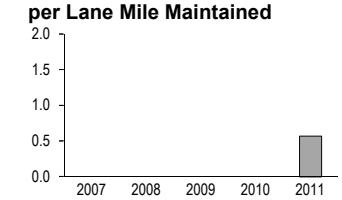
	2007	2008	2009	2010	2011
Salisbury	10.6	11.1	11.1	10.9	10.2
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Salisbury	1.00	0.91	0.87	1.14	1.12
Average	1.57	1.22	1.43	1.63	1.59

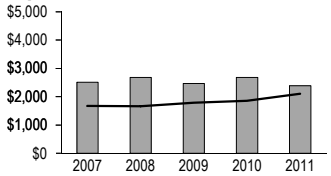
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Salisbury					0.57
Average					0.55

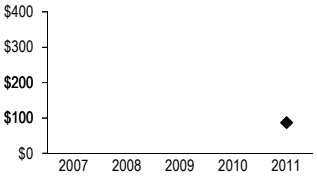
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



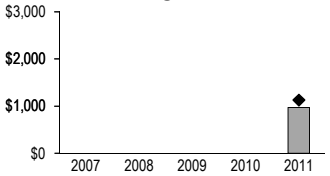
	2007	2008	2009	2010	2011
Salisbury	$2,514	$2,685	$2,466	$2,686	$2,389
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



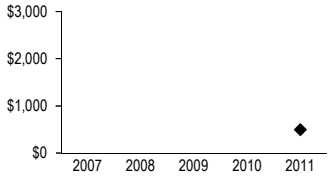
	2007	2008	2009	2010	2011
Salisbury					
Average					$87

Cost per Lane Mile for Resurfacing Treatment



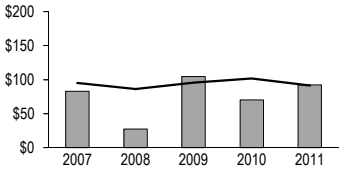
	2007	2008	2009	2010	2011
Salisbury					$975
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Salisbury					
Average					$501

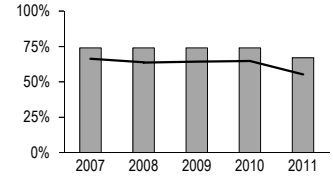
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Salisbury	$83	$27	$105	$70	$92
Average	$95	$86	$96	$102	$91

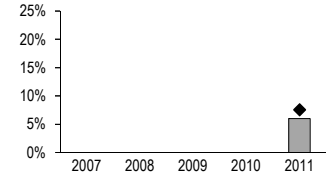
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



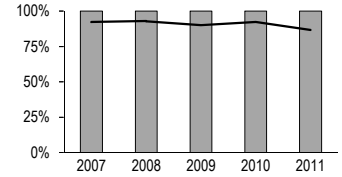
	2007	2008	2009	2010	2011
Salisbury	74%	74%	74%	74%	67%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Salisbury					6.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Salisbury	100%	100%	100%	100%	100%
Average	92%	93%	90%	92%	87%

MUNICIPAL PROFILE

Population (OSBM 2010)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
Topography	Gently rolling
County	Rowan
Climate	Moderate; some ice and snow
Median Family Income (US Census 2010)	$40,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		25.5%
Operating Costs		51.2%
Capital Costs		23.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	295,117
Operating Costs	$	592,719
Capital Costs	$	269,108
TOTAL	$	1,156,944

SERVICE PROFILE

FTE Positions—Crews		2.00
FTE Positions—Other		0.25
Lane Miles Maintained		343.9
Lane Miles Treated		
Preservation		0.0
Resurfacing		6.3
Rehabilitation		0.0
TOTAL		6.3
Total Costs for All Treatment Types	$	335,373
Potholes Repaired		386
Number of Utility Cuts		195
Registered Vehicles		NA
Registered Vehicles/Square Mile		NA

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Salisbury was responsible for maintaining 343.86 lane miles during FY 2010–11. The city resurfaced a total of 6.34 lane miles, or 1.8 percent of total lane miles.

The resurfacing work done for the city was performed by contract crews. The contractors used a total of 3,640 tons of asphalt and the average resurfacing depth used by the contractor was 1.5 inches.

The city reported that 67 percent of its lane miles rated 85 or above on its most recent pavement condition rating conducted in the year 2010. The city used a consultant for the rating who relied on ITRE as its rating system.

The number of potholes reported for FY 2010–11 was 386. The percentage of potholes repaired within twenty-four hours was 100 percent.

Conditions Affecting Service, Performance, and Costs

The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

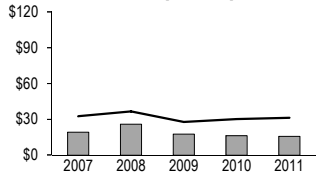
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Wilmington — Asphalt Maintenance and Repair

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

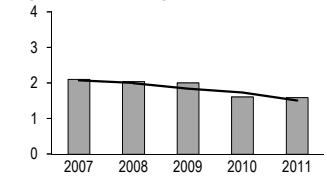
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



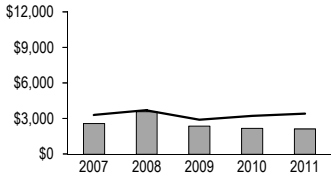
	2007	2008	2009	2010	2011
Wilmington	$19.29	$25.88	$17.59	$16.20	$15.80
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	2.10	2.04	2.00	1.61	1.59
Average	2.07	2.00	1.84	1.73	1.50

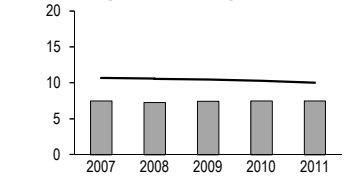
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Wilmington	$2,589	$3,569	$2,369	$2,165	$2,121
Average	$3,297	$3,686	$2,911	$3,228	$3,424

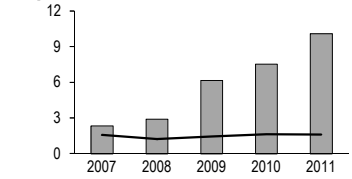
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



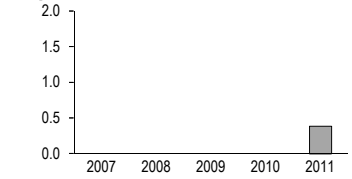
	2007	2008	2009	2010	2011
Wilmington	7.5	7.3	7.4	7.5	7.5
Average	10.7	10.6	10.5	10.3	10.0

Reported Potholes per Lane Mile Maintained



	2007	2008	2009	2010	2011
Wilmington	2.34	2.91	6.16	7.53	10.09
Average	1.57	1.22	1.43	1.63	1.59

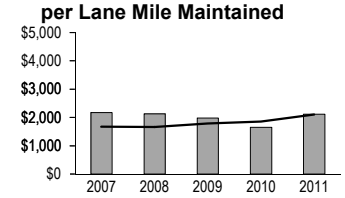
Repaired Utility Cuts per Lane Mile Maintained



	2007	2008	2009	2010	2011
Wilmington					0.38
Average					0.55

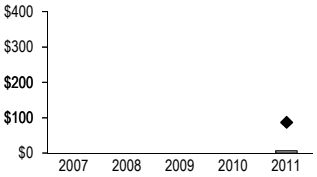
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



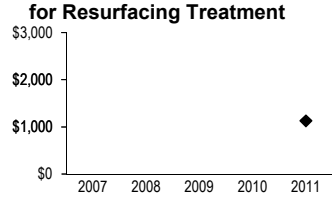
	2007	2008	2009	2010	2011
Wilmington	$2,174	$2,128	$1,977	$1,653	$2,114
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



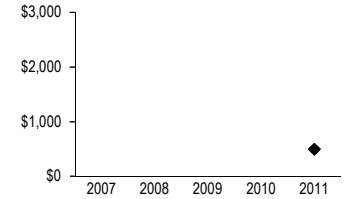
	2007	2008	2009	2010	2011
Wilmington					$7
Average					$87

Cost per Lane Mile for Resurfacing Treatment



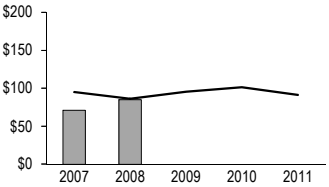
	2007	2008	2009	2010	2011
Wilmington					
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Wilmington					
Average					$501

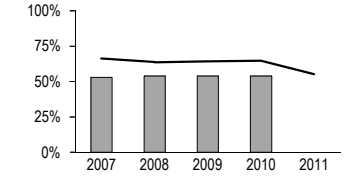
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Wilmington	$71	$85			
Average	$95	$86	$96	$102	$91

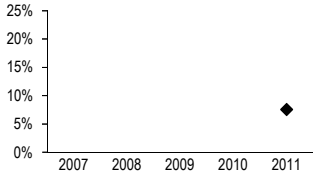
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



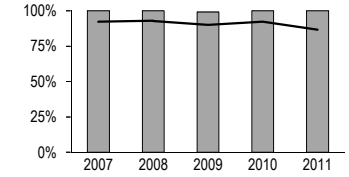
	2007	2008	2009	2010	2011
Wilmington	53%	54%	54%	54%	
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Wilmington					
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Wilmington	100%	100%	99%	100%	100%
Average	92%	93%	90%	92%	87%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2010)	106,882
Land Area (Square Miles)	51.49
Persons per Square Mile	2,076
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild
Median Family Income (US Census 2010)	$57,892

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		42.9%
Operating Costs		37.9%
Capital Costs		19.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	724,632
Operating Costs	$	640,501
Capital Costs	$	323,786
TOTAL	$	1,688,919

SERVICE PROFILE

FTE Positions—Crews		15.00
FTE Positions—Other		2.00
Lane Miles Maintained		796.4
Lane Miles Treated		
Preservation		3.2
Resurfacing		0.0
Rehabilitation		0.0
TOTAL		3.2
Total Costs for All Treatment Types	$	5,273
Potholes Repaired		8035
Number of Utility Cuts		305
Registered Vehicles		114,665
Registered Vehicles/Square Mile		2,227

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilmington was responsible for maintaining 796.4 lane miles during FY 2010–11. The city treated 3.2 lane miles during the year, or 0.4 percent of total lane miles.

The treatment work done on streets during the year involved preservation techniques by city crews on 3.2 lane miles. Preservation techniques include such methods as crack sealing and thin overlays.

The city reported that 58 percent of its lane miles rated 85 or better on its most recent pavement condition rating conducted in the year 2005. The street rating was conducted using MicroPaver.

The number of potholes reported for FY 2010–11 was 8,035. The percentage of potholes repaired within twenty-four hours was 100 percent.

Conditions Affecting Service, Performance, and Costs
The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

Maintenance costs for FY 2006–07 included money for repair work in preparation for pavement rehabilitation activities for the next year.

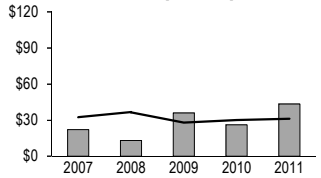
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Wilson — Asphalt Maintenance and Repair

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

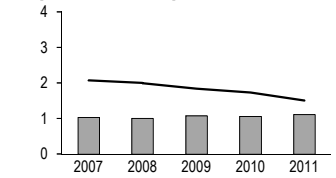
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



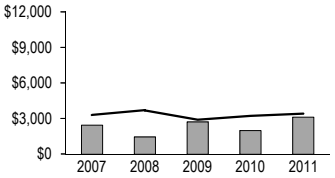
	2007	2008	2009	2010	2011
Wilson	$22.26	$13.05	$36.11	$26.06	$43.36
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	1.03	1.00	1.08	1.06	1.11
Average	2.07	2.00	1.84	1.73	1.50

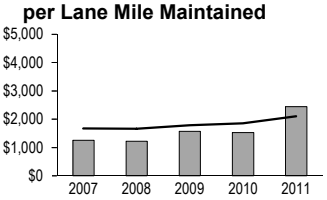
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Wilson	$2,445	$1,455	$2,721	$1,976	$3,116
Average	$3,297	$3,686	$2,911	$3,228	$3,424

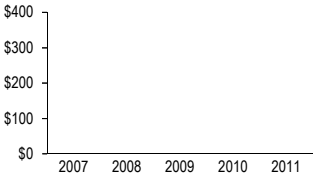
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



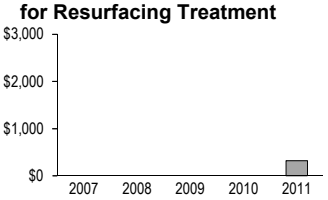
	2007	2008	2009	2010	2011
Wilson	$1,255	$1,230	$1,576	$1,529	$2,450
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment



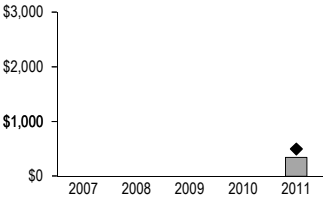
	2007	2008	2009	2010	2011
Wilson					
Average					$87

Cost per Lane Mile for Resurfacing Treatment



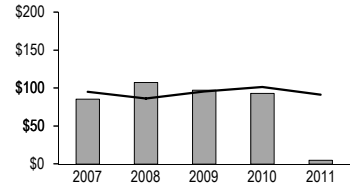
	2007	2008	2009	2010	2011
Wilson					$319
Average					$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2007	2008	2009	2010	2011
Wilson					$347
Average					$501

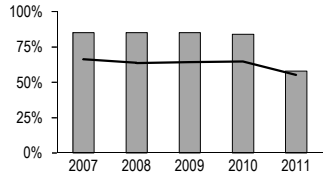
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Wilson	$85	$107	$97	$93	$5
Average	$95	$86	$96	$102	$91

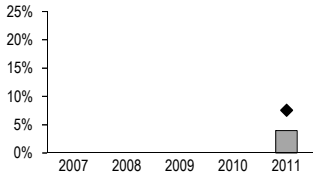
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



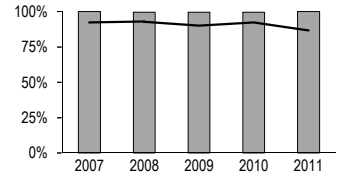
	2007	2008	2009	2010	2011
Wilson	85%	85%	85%	84%	58%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2007	2008	2009	2010	2011
Wilson					4.0%
Average					7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Wilson	100%	100%	100%	100%	100%
Average	92%	93%	90%	92%	87%

Wilson

MUNICIPAL PROFILE

Population (OSBM 2010)	49,421
Land Area (Square Miles)	28.76
Persons per Square Mile	1,718
Topography	Flat
County	Wilson
Climate	Mild; little ice and snow
Median Family Income (US Census 2010)	$43,442

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		15.5%
Operating Costs		80.2%
Capital Costs		4.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	331,084
Operating Costs	$	1,718,797
Capital Costs	$	92,824
TOTAL	$	2,142,705

SERVICE PROFILE

FTE Positions—Crews		5.00
FTE Positions—Other		0.50
Lane Miles Maintained		687.5
Lane Miles Treated		
Preservation		6.0
Resurfacing		5.8
Rehabilitation		4.5
TOTAL		16.3
Total Costs for All Treatment Types	$	458,077
Potholes Repaired		671
Number of Utility Cuts		1018
Registered Vehicles		38,207
Registered Vehicles/Square Mile		1,328

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilson was responsible for maintaining 687.54 lane miles of city streets during FY 2010–11. The city treated a total of 16.3 lane miles during the year, or 2.4 percent of the total lane miles.

Wilson used a variety of treatment methods during the year. Six lane miles were treated with preservation methods such as crack sealing by city crews. Basic resurfacing was done on 5.8 lane miles. In addition, 4.5 lane miles were rehabilitated where workers first milled the streets and then resurfaced them. The city used contractors for the resurfacing and rehabilitation work. The contractors used a total of 44,956 tons of asphalt, with an avearge depth of 1.5 inches.

The city reported that 58 percent of its lane miles rated 85 or above on its most recent pavement condition rating conducted in the year 2009. The city relied on a consultant for the rating who used a customized rating based on ITRE.

The number of potholes reported for FY 2010–11 was 671. The percentage of potholes repaired within twenty-four hours was 100 percent.

Conditions Affecting Service, Performance and Costs
The cost of asphalt and maintenance materials is directly related to fluctuations in the price of petroleum prices.

Wilson experienced a cold and rainy winter with several inclement weather events which resulted in more potholes. The city's crack-sealing operation is helping to minimize potholes.

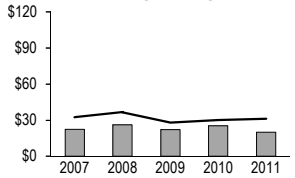
Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment" "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

Winston-Salem — Asphalt Maintenance and Repair

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2011

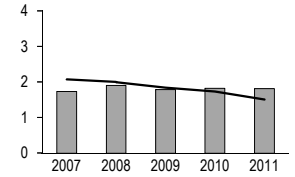
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



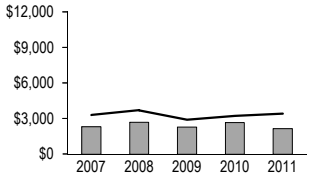
	2007	2008	2009	2010	2011
Winston-Salem	$22.53	$26.21	$22.05	$25.35	$20.14
Average	$32.39	$36.55	$27.91	$30.16	$31.21

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	1.73	1.90	1.79	1.82	1.81
Average	2.07	2.00	1.84	1.73	1.50

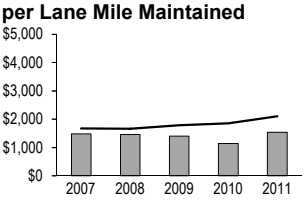
Service Costs per Lane Mile of Road Maintained



	2007	2008	2009	2010	2011
Winston-Salem	$2,301	$2,695	$2,295	$2,657	$2,143
Average	$3,297	$3,686	$2,911	$3,228	$3,424

EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained

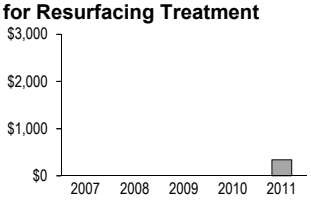


	2007	2008	2009	2010	2011
Winston-Salem	$1,480	$1,468	$1,403	$1,150	$1,546
Average	$1,674	$1,665	$1,787	$1,854	$2,110

Cost per Lane Mile for Preservation Treatment

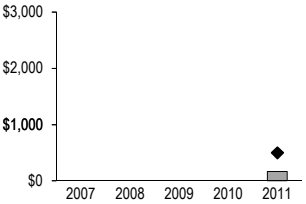
	2011
Winston-Salem	$85
Average	$87

Cost per Lane Mile for Resurfacing Treatment



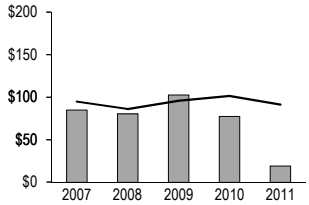
	2011
Winston-Salem	$343
Average	$1,133

Cost per Lane Mile for Rehabilitation Treatment



	2011
Winston-Salem	$169
Average	$501

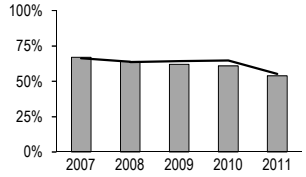
Cost per Ton for Contract Resurfacing



	2007	2008	2009	2010	2011
Winston-Salem	$85	$80	$103	$78	$19
Average	$95	$86	$96	$102	$91

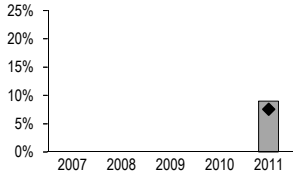
EFFECTIVENESS Measures

Percent of Lane Miles Rated 85 or Better



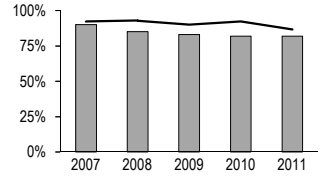
	2007	2008	2009	2010	2011
Winston-Salem	67%	64%	62%	61%	54%
Average	66%	64%	64%	65%	55%

Percent of Lane Miles Rated Below 45



	2011
Winston-Salem	9.0%
Average	7.6%

Percentage of Potholes Repaired within 24 hours



	2007	2008	2009	2010	2011
Winston-Salem	90%	85%	83%	82%	82%
Average	92%	93%	90%	92%	87%

MUNICIPAL PROFILE

Population (OSBM 2010)	230,345
Land Area (Square Miles)	132.4
Persons per Square Mile	1,739
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some ice and snow
Median Family Income (US Census 2010)	$51,491

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		23.2%
Operating Costs		70.2%
Capital Costs		6.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,075,207
Operating Costs	$	3,256,639
Capital Costs	$	308,184
TOTAL	$	4,640,030

SERVICE PROFILE

FTE Positions—Crews		38.00
FTE Positions—Other		3.80
Lane Miles Maintained		2,165.7
Lane Miles Treated		
Preservation		27.9
Resurfacing		30.2
Rehabilitation		15.9
TOTAL		74.0
Total Costs for All Treatment Types	$	1,292,048
Potholes Repaired		1455
Number of Utility Cuts		532
Registered Vehicles		167,898
Registered Vehicles/Square Mile		1,268

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Winston-Salem was responsible for maintaining 2,165.67 lane miles of city streets during FY 2010–11. The city treated 74 lane miles, or 3.4 percent of the total lane miles.

The city used a variety of treatment methods for repair of roads. A total of 27.9 lane miles were treated by city and contracted crews with preservation methods such as crack sealing or thin overlays. A total of 30.2 lane miles had basic resurfacing done by primarily contract crews but some city crews. Finally, 15.9 lane miles were rehabilitated with milling followed by resurfacing. A total of 35,297 tons of asphalt was used by contracted and city crews for resurfacing, with an average depth of 1.5 inches.

The city reported that 54 percent of its lane miles rated 85 or above on its most recent pavement condition rating conducted in the year 2011. The city used Pavement Tracking System (PTS) as its rating system.

The city reported 1,455 potholes in FY 2010–11. The percentage of potholes repaired within twenty-four hours was estimated at 82 percent. Policy is to repair within twenty-four hours, but the lower level is a result of weekends and sick or vacation time of repair crews.

Conditions Affecting Service, Performance, and Costs
The hard winter conditions led to an increase in potholes. Snow, ice, and rain combined with the cold weather created more stress on the street paving and led to more failures. There was also a backlog of work after the winter due to the fact that most of the available asphalt plants were not operating due to inclement weather and colder temperatures.

Beginning with the FY 2010–11 reporting year, new performance measures were added to this service area. These include "cost per lane mile for preservation treatment," "cost per lane mile for resurfacing treatment," "cost per lane mile for rehabilitation treatment," and "percent of lane miles rated below 45." In addition, the measure "cost of maintenance per lane mile maintained" has been altered to back out some treatment costs that were formerly counted as maintenance. This means that for some jurisdictions, the "cost of maintenance per lane mile maintained" has dropped in FY 2010–11 due to changes in the definition rather than actual drops in maintenance.

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Performance and Cost Data

FIRE SERVICES

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PERFORMANCE MEASURES FOR FIRE SERVICES

SERVICE DEFINITION
Fire Services refers to the activities and programs relating to the prevention and suppression of fires, responses to calls for service, rescue service (if provided), fire inspections (if provided), responses to hazardous materials calls (if provided), and fire education services. The services provided by fire departments vary from city to city, but the common goal remains the same: to protect the lives and property of the community served.

NOTES ON PERFORMANCE MEASURES

1. Number of Actual Fires per 1,000 Population
The total number of actual fires includes all types of fires, including structural fires.

2. Fire Inspections Completed per 1,000 Population
Fire inspections include Level I, II, and III inspections.

3. Number of Fire Department Responses per 1,000 Population
Responses include those to fires, medical emergencies, false alarms, and other types of situations that result in mobilization of fire equipment and personnel.

4. Cost per Fire Department Response
The cost represents the total cost of fire services and is calculated using a full cost accounting model that captures direct, indirect, and capital costs. Response is as defined above.

5. Number of Inspections Completed per Fire Inspector FTE
One full-time equivalent (FTE) position equals 2,080 hours of work per year. Any combination of employees providing 2,080 hours of work per year is counted as one FTE.

6. Average Turnout and Travel Time for First Unit Dispatched under "Priority One" Situations
Fast response is a critical determinant in how successful fire responders will be. Response time is calculated by adding both the turnout time (the time the dispatch is received until the first unit is out the door) and the travel time (the time the first unit is out the door until the unit arrives on the scene).

7. Percentage of Full Responses within Eight Minutes
The speed of fire department responses can be judged both by the time for the first unit arriving and also by how long it takes a full complement of trucks and personnel to respond to an emergency. The percentage within eight minutes takes into account travel time.

8. Percentage of Fires Confined to Object or Room of Origin

Containment of fires to as small an area as possible limits total damages. The degree of containment depends on how quickly the fire department is called and also is an effectiveness measure that is reported to the state.

9. Percentage of Fires for Which Cause Is Determined

Investigation of the causes of fires can be an important part of prevention and suppression efforts. While the cause of all fires cannot always be determined, being able to identify causes is important if lessons are to be learned from the investigations.

10. Percentage of Fire Code Violations "Cleared" by Correction or Imposition of Penalty within Ninety Days

Fire code violations are violations of state and local laws and regulations as found through fire inspections. The violators are given time to correct the violation before a penalty is imposed. This is an effectiveness measure that provides an indication of timeliness of follow-up.

11. Percentage of Cases with Lost Pulse Where Pulse Is Recovered at Time of Transfer for Transport

Fire departments frequently are the first responders to medical calls, including cases where an individual has no pulse either at the time of arrival or during the response. This effectiveness measure reports the percentage of these cases where the patient has recovered a pulse by the time responsibility for care has been transferred to emergency responders who will transport the patient to a hospital. Many patients cannot be saved and recovery of pulse does not guarantee survival at the hospital.

Fire Services

Summary of Key Dimensions of Service

City or Town	Population Served	Land Area Served (in Square Miles)	Value of Property in Service Area (in Billions)	Total Number of Fire Department Responses	Fire Code Violations Found	Number of Community Fire Stations	Number of Fire Services FTEs	ISO* Rating
Apex	105,368	77.4	$13.2	2,432	2,679	4	53	5-town 9-outlying
Asheville	89,309	59.5	$11.5	14,083	6,293	12	239	3
Burlington	50,475	25.2	$4.2	7,142	2,299	5	92	3
Cary	137,643	55.8	$20.8	7,490	4,338	7	211	3
Charlotte	1,277,606	604.5	$135.8	98,845	30,892	40	1,165	3
Concord	82,690	66.7	$11.0	7,920	1,509	10	192	3
Greensboro	281,882	142.3	$25.3	30,393	16,415	24	530	1
Greenville	111,300	66.3	$7.6	16,267	882	6	157	3
Hickory	45,099	42.7	$5.1	5,990	4,156	6	137	3
High Point	114,604	66.8	$10.1	11,209	2,650	14	223	2
Salisbury	33,722	22.2	$2.9	4,074	2,364	4	78	2
Wilmington	106,882	51.5	$14.1	9,750	3,363	11	220	2
Wilson	49,421	28.8	$3.9	3,857	4,952	5	97	2
Winston-Salem	230,345	132.4	$21.3	25,198	8,840	18	343	3

NOTES

*ISO - Insurance Service Office

EXPLANATORY FACTORS

These are factors that the project found to affect fire services performance and cost in one or more of the municipalities:

Population and area served
Value of property area protected in service area
Number of engine companies
Number of fire department responses
Fire code violations
ISO rating
Age of housing stock

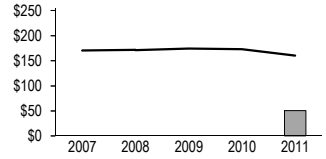
Apex

Fire Services

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

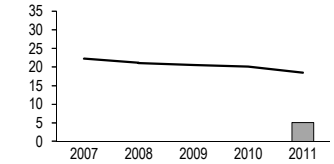
RESOURCE Measures

Fire Services Costs per Capita



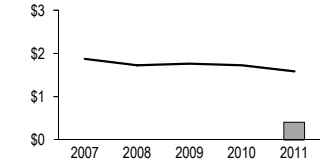
	2007	2008	2009	2010	2011
Apex					$51
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					5.0
Average	22.2	21.1	20.5	20.1	18.5

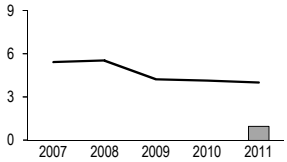
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Apex					$0.40
Average	$1.87	$1.72	$1.77	$1.73	$1.59

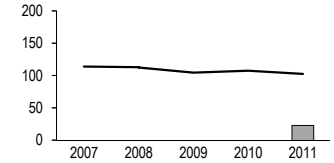
WORKLOAD Measures

Actual Fires per 1,000 Population



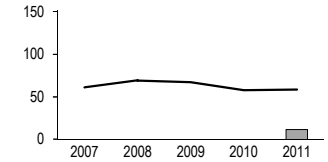
	2007	2008	2009	2010	2011
Apex					0.98
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Apex					23
Average	114	113	105	108	102

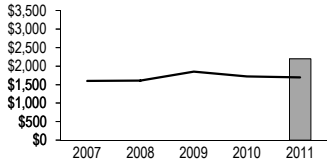
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Apex					11
Average	61	69	67	58	58

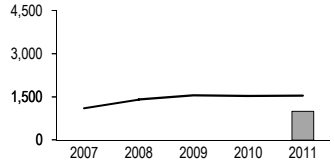
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Apex					$2,194
Average	$1,592	$1,609	$1,849	$1,725	$1,691

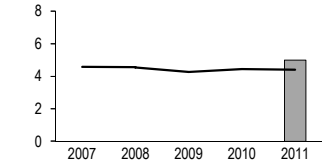
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Apex					994
Average	1,107	1,410	1,552	1,536	1,544

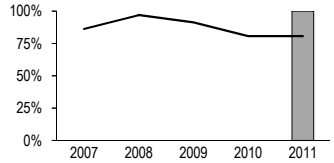
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



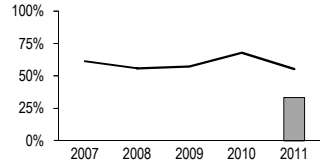
	2007	2008	2009	2010	2011
Apex					5.0
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



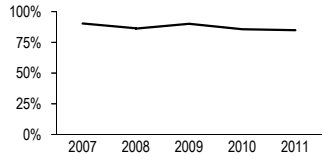
	2007	2008	2009	2010	2011
Apex					100%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



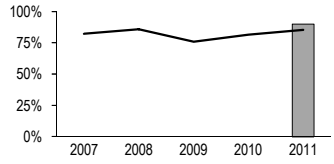
	2007	2008	2009	2010	2011
Apex					33%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



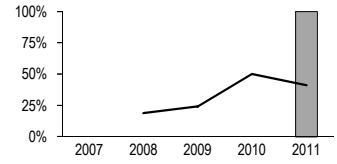
	2007	2008	2009	2010	2011
Apex					
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Apex					90%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Apex					100.0%
Average	18.7%	24.0%	49.9%	41.1%	

Apex

MUNICIPAL PROFILE

Population Served	105,368
Land Area Served (Square Miles)	77.4
Persons Served per Square Mile	1,361
Topography	Flat; gently rolling
County	Wake
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		67.6%
Operating Costs		20.8%
Capital Costs		11.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,606,803
Operating Costs	$	1,112,269
Capital Costs	$	617,329
TOTAL	$	5,336,401

SERVICE PROFILE

FTE Positions—Firefighters	48.0
FTE Positions—Other	5.0
Fire Stations	4
First-Line Fire Apparatus	
Pumpers	3
Aerial Trucks	1
Quints	1
Squads	0
Rescue	3
Other	10
Fire Department Responses	2,432
All Fire Responses	103
Structural Fires Reported	45
Estimated Fire Loss (millions)	$1.69
Amount of Property Protected (millions)	$13,218.26
Number of Fire Education Programs or Events	486

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Apex Fire Department is to protect life, property, and the environment from fire, medical emergencies, natural disasters, and other emergencies for those who live, work, and travel in and through the town and surrounding area. In addition to the town, the Fire Department serves an additional sixty-two square miles in surrounding fire districts.

The fire department uses a shift schedule where they work one twenty-four-hour shift on schedule and one off every three days, followed by a four-day break. On average shift personnel work ten to eleven days per twenty-eight day cycle.

The area within the Town of Apex has an ISO rating of 5, while the surrounding fire districts served have an ISO rating of 9. The rating was last updated in 2004.

The Apex Fire Department conducted 1,193 fire maintenance, construction, and reinspections during FY 2010–11. The Apex Fire Department handles all inspections within the town limits and coordinates with the Wake County Fire Marshall for joint inspections in the extra-territorial jurisdiction for new construction, fire alarms, and sprinkler reviews and inspections. Apex has a fire marshal and one inspector.

All fire investigations in Apex are handled by the Wake County Fire Marshal. Apex assists in investigations but does not provide the investigative reports.

Conditions Affecting Service, Performance, and Costs

Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

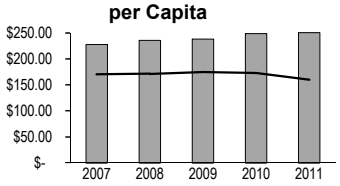
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Asheville Fire Services

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

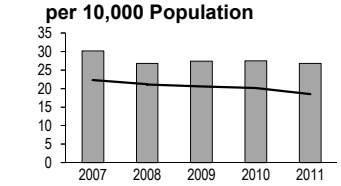
RESOURCE Measures

Fire Services Costs per Capita



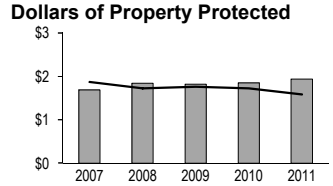
	2007	2008	2009	2010	2011
Asheville	$227.6	$235.5	$237.9	$248.5	$250
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	30.2	26.8	27.4	27.5	26.8
Average	22.2	21.1	20.5	20.1	18.5

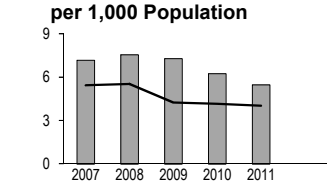
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Asheville	$1.69	$1.84	$1.82	$1.85	$1.94
Average	$1.87	$1.72	$1.77	$1.73	$1.59

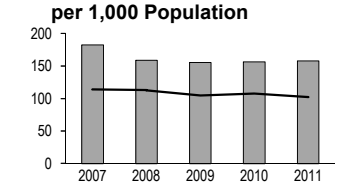
WORKLOAD Measures

Actual Fires per 1,000 Population



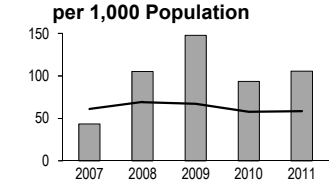
	2007	2008	2009	2010	2011
Asheville	7.17	7.54	7.27	6.23	5.46
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	182	159	155	156	158
Average	114	113	105	108	102

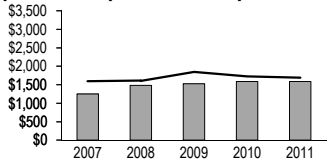
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Asheville	44	105	148	94	106
Average	61	69	67	58	58

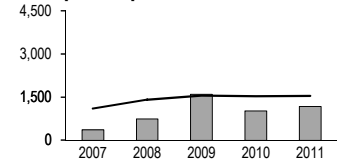
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Asheville	$1,248	$1,483	$1,530	$1,591	$1,588
Average	$1,592	$1,609	$1,849	$1,725	$1,691

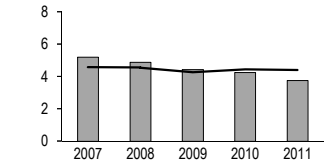
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Asheville	366	742	1,593	1,018	1,180
Average	1,107	1,410	1,552	1,536	1,544

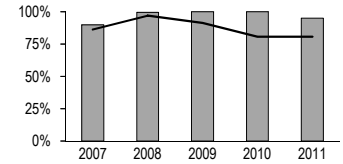
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



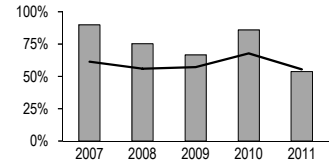
	2007	2008	2009	2010	2011
Asheville	5.2	4.9	4.4	4.3	3.8
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



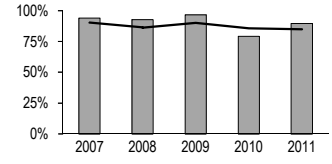
	2007	2008	2009	2010	2011
Asheville	90%	100%	100%	100%	95%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



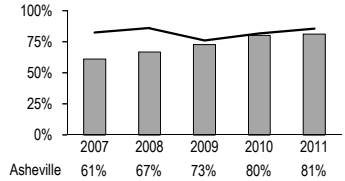
	2007	2008	2009	2010	2011
Asheville	90%	75%	67%	86%	54%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



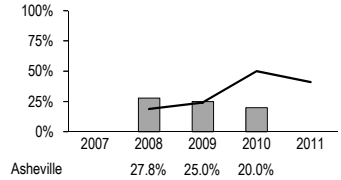
	2007	2008	2009	2010	2011
Asheville	94%	93%	96%	79%	90%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Asheville	61%	67%	73%	80%	81%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Asheville		27.8%	25.0%	20.0%	
Average		18.7%	24.0%	49.9%	41.1%

Asheville

MUNICIPAL PROFILE

Population Served	89,309
Land Area Served (Square Miles)	59.5
Persons Served per Square Mile	1,500
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.1%
Operating Costs		16.9%
Capital Costs		10.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	16,131,062
Operating Costs	$	3,784,719
Capital Costs	$	2,444,802
TOTAL	$	22,360,583

SERVICE PROFILE

FTE Positions—Firefighters	219.0
FTE Positions—Other	20.0
Fire Stations	12
First-Line Fire Apparatus	
Pumpers	9
Aerial Trucks	4
Quints	1
Squads	2
Rescue	1
Other	0
Fire Department Responses	14,083
All Fire Responses	488
Structural Fires Reported	80
Estimated Fire Loss (millions)	$2.83
Amount of Property Protected (millions)	$11,527.82
Number of Fire Education Programs or Events	277

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Asheville Fire and Rescue Department is to protect the lives, property, and environment of all people within Asheville and the town of Biltmore Forest by preventing the occurrence and minimizing the adverse effects of fires, accidents, and all other emergencies.

The fire department contains the following divisions: administration, emergency response, fire marshal's office, and professional standards.

The fire department uses a modified shift schedule that includes twenty-four hours on duty and twenty-four hours off duty, averaging fifty-six hours per week. The work schedule is as follows: twenty-four hours on, twenty-four hours off; twenty-four hours on, forty-eight hours off; twenty-four hours on, twenty-four hours off; twenty-four hours on, ninety-six hours off. This works out to an average work week of fifty-six hours.

The city has an ISO rating of 3, as rated in 2007.

The Asheville Fire Department conducted 9,438 fire maintenance, construction, and reinspections during FY 2010–11. The fire marshal's office is comprised of two sections. One section is responsible for existing construction and another for new construction. Deputy fire marshals (DFM) are responsible for conducting periodic fire prevention inspections inside the corporate limits of the City of Asheville, as required by the N.C. Office of The State Fire Marshal. The Asheville city council adopted a fee schedule for periodic fire inspections. These fees are based on a cost recovery basis. Each deputy fire marshal conducts fire inspections of every commercial premise located within Asheville. Most personnel work a day shift, while several work a twenty-four-hour shift. These DFM's are liaisons to the other divisions on matters regarding code enforcement, fire investigations, and pre-incident planning.

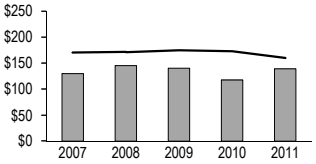
Conditions Affecting Service, Performance, and Costs

The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Fire inspections in Asheville were down in FY 2009–10 due to a drop in new construction.

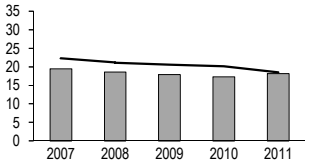
RESOURCE Measures

Fire Services Costs per Capita



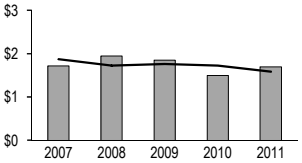
	2007	2008	2009	2010	2011
Burlington	$130	$145	$141	$118	$139
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	19.4	18.6	17.9	17.3	18.1
Average	22.2	21.1	20.5	20.1	18.5

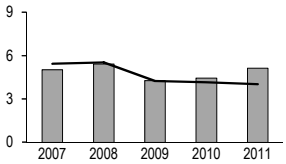
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Burlington	$1.72	$1.95	$1.85	$1.50	$1.69
Average	$1.87	$1.72	$1.77	$1.73	$1.59

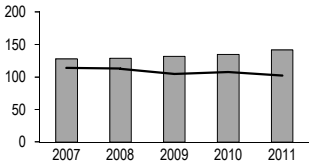
WORKLOAD Measures

Actual Fires per 1,000 Population



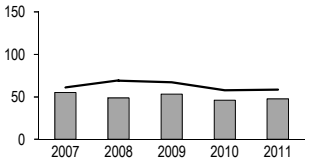
	2007	2008	2009	2010	2011
Burlington	5.01	5.42	4.26	4.43	5.13
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	128	129	132	135	141
Average	114	113	105	108	102

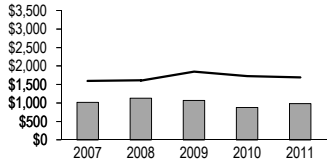
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Burlington	55	49	53	46	48
Average	61	69	67	58	58

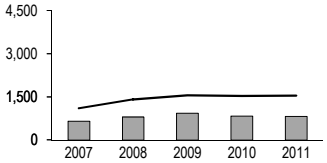
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Burlington	$1,019	$1,125	$1,068	$874	$984
Average	$1,592	$1,609	$1,849	$1,725	$1,691

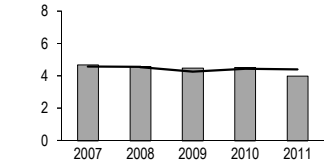
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Burlington	654	802	926	825	815
Average	1,107	1,410	1,552	1,536	1,544

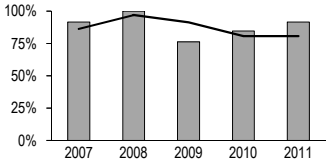
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



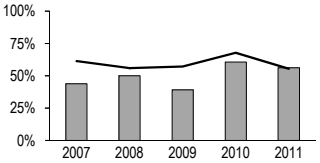
	2007	2008	2009	2010	2011
Burlington	4.7	4.6	4.5	4.5	4.0
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



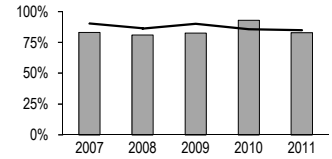
	2007	2008	2009	2010	2011
Burlington	92%	100%	76%	85%	92%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



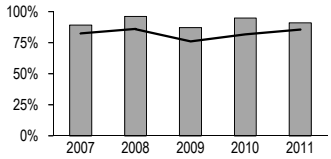
	2007	2008	2009	2010	2011
Burlington	44%	50%	39%	61%	56%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



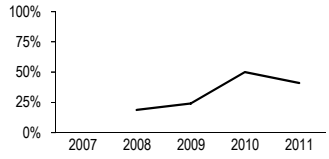
	2007	2008	2009	2010	2011
Burlington	83%	81%	82%	93%	83%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Burlington	89%	96%	87%	95%	91%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Burlington					
Average		18.7%	24.0%	49.9%	41.1%

Burlington

MUNICIPAL PROFILE

Population Served	50,475
Land Area Served (Square Miles)	25.2
Persons Served per Square Mile	2,002
Topography	Flat; gently rolling
County	Alamance
Climate	Mild; little ice or snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.8%
Operating Costs		13.4%
Capital Costs		10.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,327,201
Operating Costs	$	938,878
Capital Costs	$	764,150
TOTAL	$	7,030,229

SERVICE PROFILE

FTE Positions—Firefighters	81.0
FTE Positions—Other	10.5
Fire Stations	5
First-Line Fire Apparatus	
Pumpers	4
Aerial Trucks	1
Quints	1
Squads	1
Rescue	1
Other	1
Fire Department Responses	7,142
All Fire Responses	259
Structural Fires Reported	48
Estimated Fire Loss (millions)	$1.40
Amount of Property Protected (millions)	$4,152.83
Number of Fire Education Programs or Events	292

EXPLANATORY INFORMATION

Service Level and Delivery
The mission of the City of Burlington's Fire Department is to protect the lives, property, and environment of all people within Burlington by preventing the occurrence and minimizing the adverse effects of fires, accidents, and all other emergencies. The department is divided into three areas: suppression, fire prevention, and training.

Burlington uses three shifts for staffing fire houses. All shift personnel work on a rotating schedule, twenty-four hours on, followed by forty-eight hours off.

The city has an ISO rating of 3, as rated in 2005.

The Fire Department conducted 2,405 fire maintenance, construction, and reinspections during FY 2010–11. Fire Prevention Bureau personnel conduct general fire inspections as well as inspections for fireworks, blasting, tank installations/removals, and night inspections for overcrowding/exit obstructions for assembly occupancies. Apartment complexes generate one file.

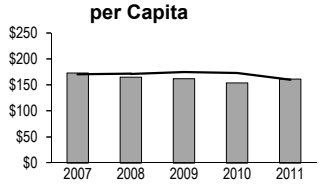
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

The City of Burlington began participation in the benchmarking project in 2007, with its first reporting data being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

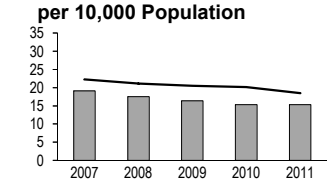
RESOURCE Measures

Fire Services Costs per Capita



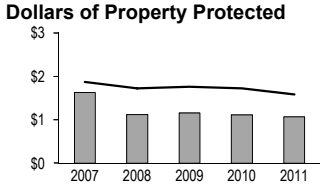
	2007	2008	2009	2010	2011
Cary	$173	$165	$162	$154	$161
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	19.1	17.5	16.3	15.3	15.4
Average	22.2	21.1	20.5	20.1	18.5

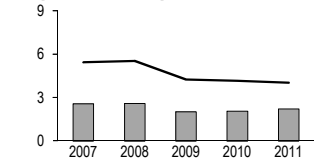
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Cary	$1.63	$1.12	$1.16	$1.11	$1.07
Average	$1.87	$1.72	$1.77	$1.73	$1.59

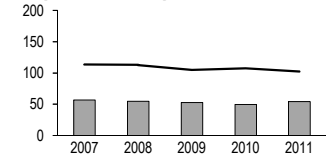
WORKLOAD Measures

Actual Fires per 1,000 Population



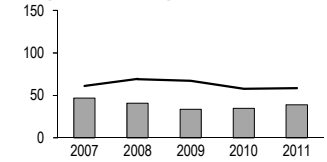
	2007	2008	2009	2010	2011
Cary	2.57	2.58	2.01	2.05	2.22
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Cary	57	55	53	50	54
Average	114	113	105	108	102

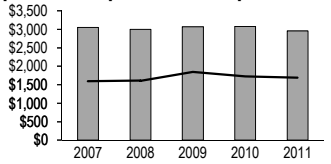
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Cary	47	41	34	35	39
Average	61	69	67	58	58

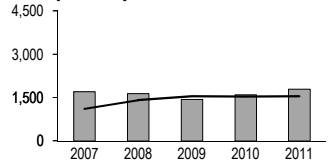
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Cary	$3,049	$2,996	$3,067	$3,079	$2,960
Average	$1,592	$1,609	$1,849	$1,725	$1,691

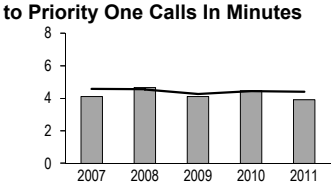
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Cary	1,706	1,638	1,443	1,597	1,788
Average	1,107	1,410	1,552	1,536	1,544

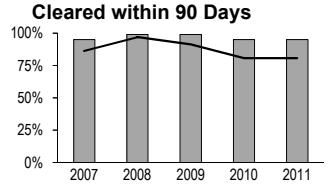
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



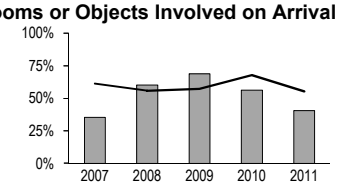
	2007	2008	2009	2010	2011
Cary	4.1	4.7	4.1	4.5	3.9
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



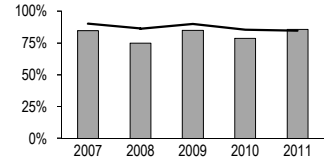
	2007	2008	2009	2010	2011
Cary	95%	99%	99%	95%	95%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



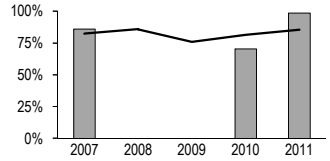
	2007	2008	2009	2010	2011
Cary	35%	60%	69%	56%	41%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



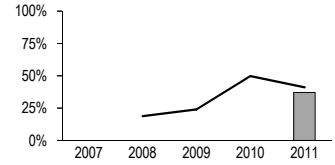
	2007	2008	2009	2010	2011
Cary	85%	75%	85%	79%	86%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Cary	86%			70%	98%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Cary					37.1%
Average	18.7%	24.0%	49.9%	41.1%	

MUNICIPAL PROFILE

Population Served	137,643
Land Area Served (Square Miles)	55.8
Persons Served per Square Mile	2,469
Topography	Flat; gently rolling
County	Wake
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.6%
Operating Costs		19.2%
Capital Costs		7.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	16,312,262
Operating Costs	$	4,258,019
Capital Costs	$	1,597,415
TOTAL	$	22,167,696

SERVICE PROFILE

FTE Positions—Firefighters	189.0
FTE Positions—Other	22.4
Fire Stations	7
First-Line Fire Apparatus	
Pumpers	7
Aerial Trucks	4
Quints	0
Squads	0
Rescue	3
Other	9
Fire Department Responses	7,490
All Fire Responses	305
Structural Fires Reported	64
Estimated Fire Loss (millions)	$2.77
Amount of Property Protected (millions)	$20,769.81
Number of Fire Education Programs or Events	239

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Cary Fire Department provides fire protection, emergency medical services (EMS), technical rescue (except hazmat technician and specialist level service), fire code enforcement services, and plans review.

All emergency services (shift) personnel are trained and certified as NC FFII, EMT–with defibrillator, and rescue technicians. Emergency services staff members work from seven fire stations on three twenty-four-hour shifts. Each shift is divided into two battalions, each supervised by a battalion chief. Currently each battalion consists of three or four fire stations, each having an engine company and either a ladder truck or light rescue company.

The town has an ISO rating of 3, as rated in 2010.

The town conducted 5,365 fire maintenance, construction, and reinspections during FY 2010–11. The Cary Fire Department's Risk Management Division utilizes the state mandated one-, two-, and three-year inspection schedule as its goal for providing inspection services. It conducts inspections on all projects for which a permit is issued. For all violations found during routine inspections, follow-up inspections are used until the violation is resolved. For apartment complexes, each separate building that requires an inspection has a file for that particular building and each building is counted as one separate inspection. The Risk Management Division also conducts follow-up inspections for all alarm malfunctions and false alarms in businesses. It issues the charges for permits outlined in the fire code and does charge a penalty/fine for alarm malfunctions and false alarms.

All risk management personnel are certified as Standard Level 3 inspectors. The fire marshal, who currently manages the division, reviews various site, building, and systems plans and serves as the direct supervisor for the inspection staff. In addition to plans review and code enforcement services, the division provides public education services through a public educator.

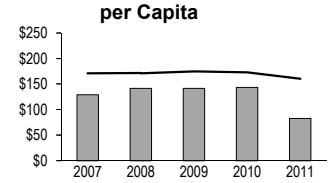
Conditions Affecting Service, Performance, and Costs

The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

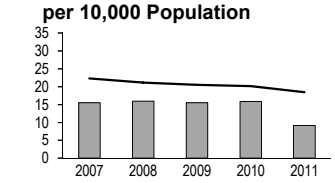
RESOURCE Measures

Fire Services Costs per Capita



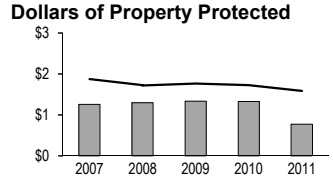
	2007	2008	2009	2010	2011
Charlotte	$129	$142	$142	$144	$82
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	15.5	15.9	15.5	15.9	9.1
Average	22.2	21.1	20.5	20.1	18.5

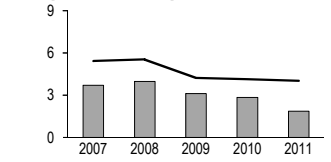
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Charlotte	$1.26	$1.30	$1.34	$1.33	$0.78
Average	$1.87	$1.72	$1.77	$1.73	$1.59

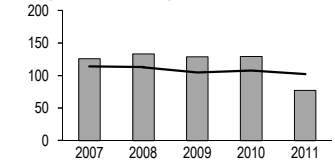
WORKLOAD Measures

Actual Fires per 1,000 Population



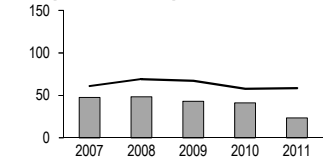
	2007	2008	2009	2010	2011
Charlotte	3.70	3.97	3.11	2.85	1.86
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Charlotte	126	133	129	129	77
Average	114	113	105	108	102

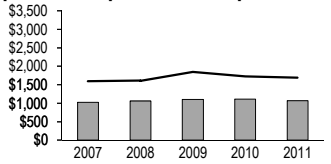
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Charlotte	47	48	43	41	23
Average	61	69	67	58	58

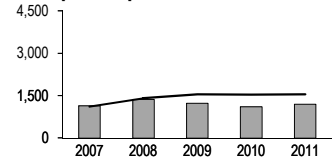
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Charlotte	$1,027	$1,061	$1,101	$1,112	$1,066
Average	$1,592	$1,609	$1,849	$1,725	$1,691

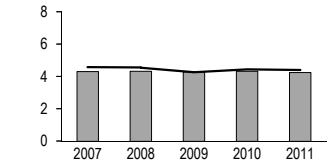
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Charlotte	1,143	1,365	1,227	1,101	1,195
Average	1,107	1,410	1,552	1,536	1,544

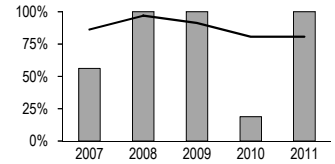
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



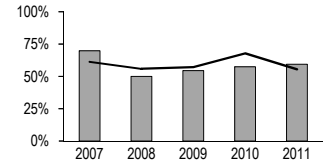
	2007	2008	2009	2010	2011
Charlotte	4.3	4.3	4.3	4.3	4.3
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



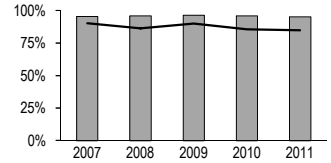
	2007	2008	2009	2010	2011
Charlotte	56%	100%	100%	19%	100%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



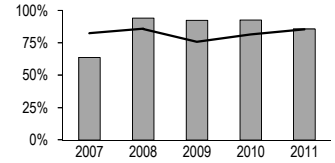
	2007	2008	2009	2010	2011
Charlotte	70%	50%	55%	58%	59%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



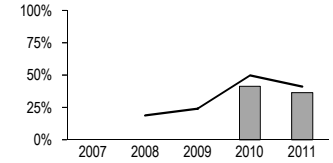
	2007	2008	2009	2010	2011
Charlotte	95%	96%	96%	96%	95%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Charlotte	64%	94%	92%	93%	86%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Charlotte				41.5%	36.5%
Average		18.7%	24.0%	49.9%	41.1%

MUNICIPAL PROFILE

Population Served	1,277,606
Land Area Served (Square Miles)	604.5
Persons Served per Square Mile	2,114
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		82.3%
Operating Costs		14.8%
Capital Costs		2.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	86,692,971
Operating Costs	$	15,558,223
Capital Costs	$	3,091,985
TOTAL	$	105,343,179

SERVICE PROFILE

FTE Positions—Firefighters	1041.0
FTE Positions—Other	124.0
Fire Stations	41
First-Line Fire Apparatus	
Pumpers	41
Aerial Trucks	0
Quints	15
Squads	0
Rescue	2
Other	36
Fire Department Responses	98,845
All Fire Responses	2,382
Structural Fires Reported	567
Estimated Fire Loss (millions)	$25.92
Amount of Property Protected (millions)	$135,840.36
Number of Fire Education Programs or Events	1870

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Charlotte Fire Department is to minimize the risk of fire and other hazards to the life and property of the citizens of Charlotte. To accomplish this mission, the department provides response to and mitigation of fires, medical emergencies, hazardous materials incidents, aircraft emergencies, technical rescues, and other emergencies as they arise. These services are provided immediately to any person who has a need anywhere within the corporate limits of Charlotte.

The divisions of the Charlotte Fire Department are operations (A, B, C), training, administration, communications, logistics, fire prevention, and fire investigation.

The city uses a modified twenty-four-hour/forty-eight-hour shift schedule, using four twenty-four-hour shifts in a twelve-day cycle. The cycle is on one day, off one day, on one day, off two days, on one day, off one day, on one day, off four days. In addition, firefighters receive a Kelley day (ten hours) off and a Kelley night (fourteen hours) off every seven weeks to maintain the number of hours worked per week at fifty-two.

The city has an ISO rating of 3.

The Fire Department conducted 29,886 fire maintenance, construction, and reinspections during FY 2010–11. All inspections are performed by certified fire inspectors who are employees of the Fire Prevention Bureau. The inspectors handle certificate of occupancy inspections, permit inspections and issuances, regular code enforcement inspections, and reinspections. The Bureau currently uses separate inspections on each building of an apartment complex.

Conditions Affecting Service, Performance, and Costs

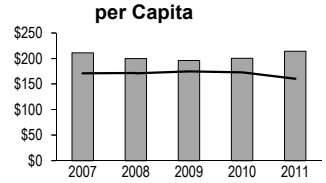
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

One of the fire stations staffed by Charlotte is at the airport.

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

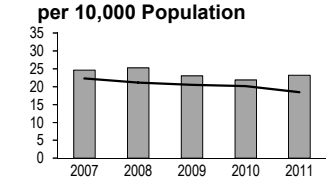
RESOURCE Measures

Fire Services Costs per Capita



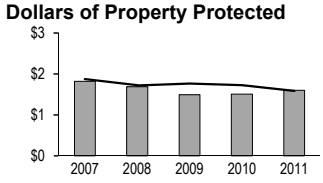
	2007	2008	2009	2010	2011
Concord	$211	$200	$196	$201	$214
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	24.6	25.3	23.0	21.9	23.2
Average	22.2	21.1	20.5	20.1	18.5

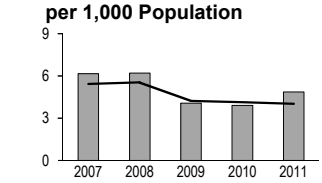
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Concord	$1.82	$1.69	$1.49	$1.51	$1.61
Average	$1.87	$1.72	$1.77	$1.73	$1.59

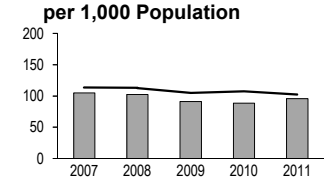
WORKLOAD Measures

Actual Fires per 1,000 Population



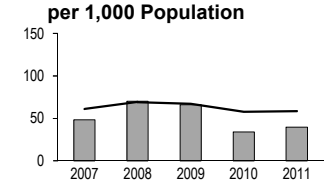
	2007	2008	2009	2010	2011
Concord	6.16	6.20	4.07	3.92	4.86
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Concord	105	103	91	89	96
Average	114	113	105	108	102

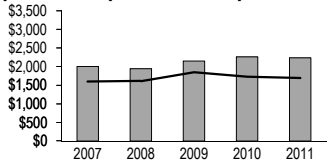
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Concord	48	70	66	34	40
Average	61	69	67	58	58

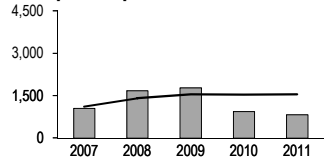
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Concord	$2,007	$1,947	$2,149	$2,261	$2,232
Average	$1,592	$1,609	$1,849	$1,725	$1,691

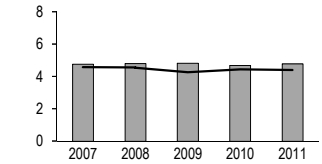
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Concord	1,053	1,674	1,770	934	820
Average	1,107	1,410	1,552	1,536	1,544

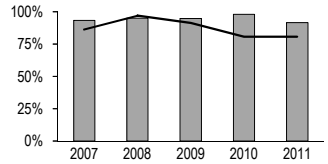
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



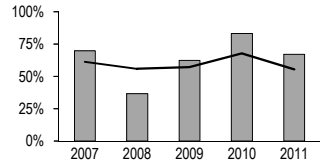
	2007	2008	2009	2010	2011
Concord	4.8	4.8	4.8	4.7	4.8
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



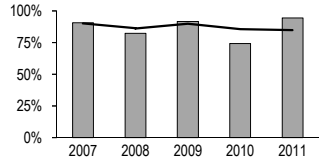
	2007	2008	2009	2010	2011
Concord	93%	95%	95%	98%	92%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



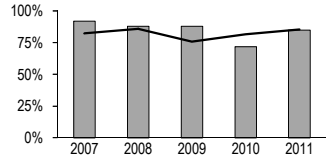
	2007	2008	2009	2010	2011
Concord	70%	37%	62%	83%	67%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



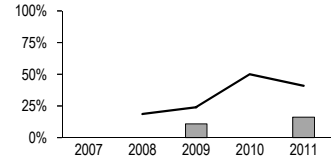
	2007	2008	2009	2010	2011
Concord	91%	82%	92%	74%	95%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Concord	92%	88%	88%	72%	85%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Concord			10.8%		16.3%
Average		18.7%	24.0%	49.9%	41.1%

Concord

MUNICIPAL PROFILE

Population Served	82,690
Land Area Served (Square Miles)	66.7
Persons Served per Square Mile	1,239
Topography	Flat; gently rolling
County	Cabarrus
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.4%
Operating Costs		17.6%
Capital Costs		12.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	12,278,479
Operating Costs	$	3,111,961
Capital Costs	$	2,289,319
TOTAL	$	17,679,759

SERVICE PROFILE

FTE Positions—Firefighters	168.0
FTE Positions—Other	24.0
Fire Stations	11
First-Line Fire Apparatus	
Pumpers	8
Aerial Trucks	3
Quints	1
Squads	0
Rescue	1
Other	10
Fire Department Responses	7,920
All Fire Responses	402
Structural Fires Reported	82
Estimated Fire Loss (millions)	$2.84
Amount of Property Protected (millions)	$11,012.25
Number of Fire Education Programs or Events	516

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Concord's Fire Department is committed to providing a positive work environment to enable the department and personnel to strive for and achieve excellence in fire protection services.

The department is committed to the following: providing leadership through a management/employee team organizational concept that is dedicated to modern-day management principles and practices; providing the citizens with the best possible modern-day fire protection and life safety services in a courteous, professional, and cost-effective manner; providing equal opportunity for all employees to excel in their job performance and career development; striving to continually increase the public's awareness through fire prevention activities, public education, and community-based services; maintaining and striving to improve on an open, informative flow of correct information so that all employees and employee teams reach their goals and objectives; subscribing to departmental values of honesty, professionalism, teamwork, loyalty, dedication, and commitment to serving the public; and planning for change to develop and prepare the department to always strive for excellence.

The fire department in Concord contains the following divisions: administration, suppression, operations, training and career development, fire-risk management, and emergency management.

The fire department utilizes a shift schedule that includes twenty-four hours on and forty-eight hours off.

The city has an ISO rating of 3, as rated in 2004.

The fire department conducted 3,281 fire maintenance, construction,and reinspections during FY 2010–11. Inspections are conducted by the Fire-Risk Management Division. Each inspector has an assigned area of the city and a specific number of inspections to complete. Each occupancy is counted separately in the inspections number. An apartment complex would be considered as one occupancy. Reinspections are conducted within forty-five days to confirm corrections.

Conditions Affecting Service, Performance and Costs

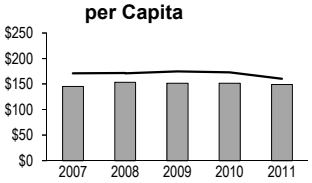
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

One of the fire stations for Concord is at the airport.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

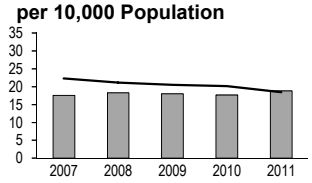
RESOURCE Measures

Fire Services Costs per Capita



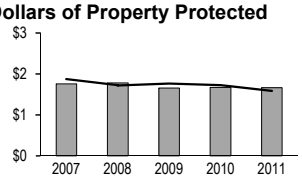
	2007	2008	2009	2010	2011
Greensboro	$145	$153	$151	$152	$149
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	17.6	18.3	18.0	17.7	18.8
Average	22.2	21.1	20.5	20.1	18.5

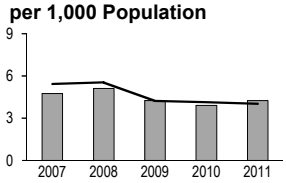
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Greensboro	$1.76	$1.78	$1.66	$1.67	$1.66
Average	$1.87	$1.72	$1.77	$1.73	$1.59

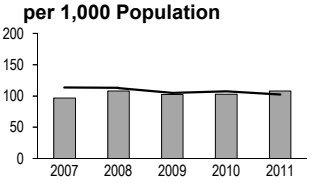
WORKLOAD Measures

Actual Fires per 1,000 Population



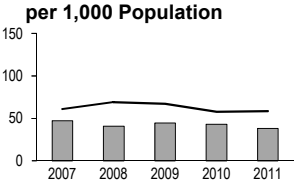
	2007	2008	2009	2010	2011
Greensboro	4.75	5.11	4.26	3.92	4.25
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	97	108	102	103	108
Average	114	113	105	108	102

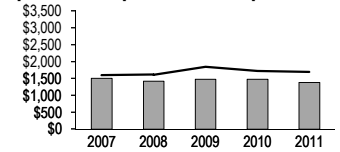
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Greensboro	47	41	45	43	38
Average	61	69	67	58	58

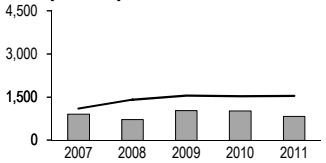
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Greensboro	$1,503	$1,417	$1,480	$1,471	$1,382
Average	$1,592	$1,609	$1,849	$1,725	$1,691

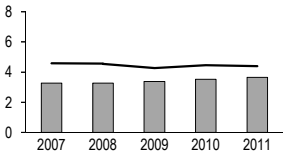
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Greensboro	912	721	1,035	1,021	831
Average	1,107	1,410	1,552	1,536	1,544

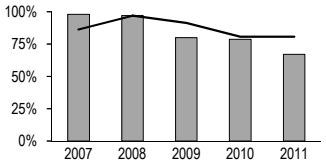
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



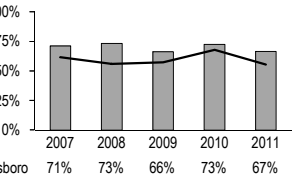
	2007	2008	2009	2010	2011
Greensboro	3.3	3.3	3.4	3.5	3.7
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



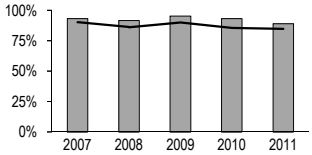
	2007	2008	2009	2010	2011
Greensboro	98%	97%	80%	79%	67%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



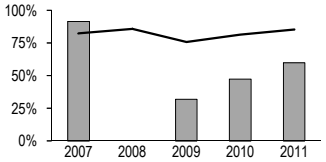
	2007	2008	2009	2010	2011
Greensboro	71%	73%	66%	73%	67%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



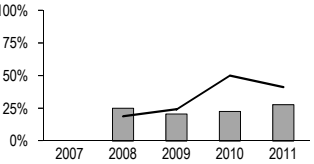
	2007	2008	2009	2010	2011
Greensboro	93%	92%	95%	93%	89%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Greensboro	91%		32%	47%	60%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Greensboro		25.0%	20.6%	22.4%	27.6%
Average		18.7%	24.0%	49.9%	41.1%

Greensboro

MUNICIPAL PROFILE

Population Served	281,882
Land Area Served (Square Miles)	142.3
Persons Served per Square Mile	1,981
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		80.7%
Operating Costs		19.3%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	33,892,469
Operating Costs	$	8,110,548
Capital Costs	$	-
TOTAL	$	42,003,017

SERVICE PROFILE

FTE Positions—Firefighters	474.0
FTE Positions—Other	56.0
Fire Stations	24
First-Line Fire Apparatus	
Pumpers	23
Aerial Trucks	0
Quints	9
Squads	0
Rescue	1
Other	0
Fire Department Responses	30,393
All Fire Responses	1,197
Structural Fires Reported	263
Estimated Fire Loss (millions)	$5.56
Amount of Property Protected (millions)	$25,261.32
Number of Fire Education Programs or Events	1,025

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Greensboro Fire Department is to provide the public the best possible service in a courteous, professional, and cost-effective manner; to provide leadership through a well-defined management team committed to the departmental management philosophy; to provide equal opportunity for all employees in job performance and career development; to enhance public awareness through education, activities, and services; to maintain an open, informative flow of information so that all municipal departments may reach their goals and objectives; and to subscribe to honesty, integrity, and fairness.

The Fire Department contains the following divisions: administrative services, resource management, and emergency services.

The Fire Department utilizes a shift schedule that includes twenty-four hours on and forty-eight hours off. For Fair Labor Standards Act (FLSA) purposes, the department utilizes a twenty-seven-day cycle.

The city has an ISO rating of 1, the highest rating possible to receive, as rated in 2006.

The fire department in Greensboro conducted 10,802 fire maintenance, construction, and reinspections during FY 2010–11. General inspections are performed according to the mandated inspection schedule, which is based on occupancy type established in the International Fire Code. Complaints are addressed within twenty-four hours and are handled twenty-four hours a day as shift personnel are available. Inspectors generally work in districts and work in specialized areas, including educational, institutional, high rise, privilege licenses, and certificates of compliance. Apartment complexes are assigned one file number for the entire complex.

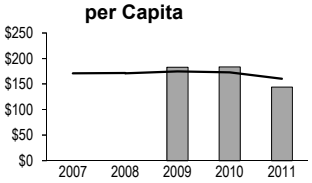
Conditions Affecting Service, Performance, and Costs

The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

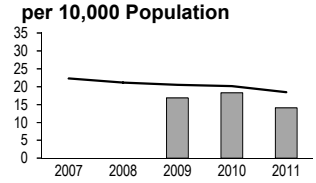
RESOURCE Measures

Fire Services Costs per Capita



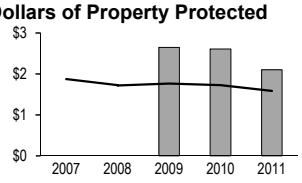
	2007	2008	2009	2010	2011
Greenville			$183	$183	$144
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			16.8	18.3	14.1
Average	22.2	21.1	20.5	20.1	18.5

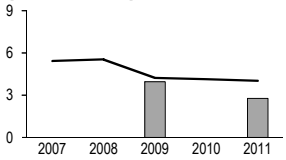
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Greenville			$2.65	$2.61	$2.10
Average	$1.87	$1.72	$1.77	$1.73	$1.59

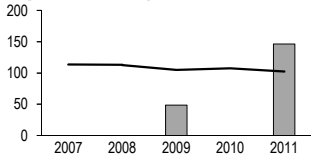
WORKLOAD Measures

Actual Fires per 1,000 Population



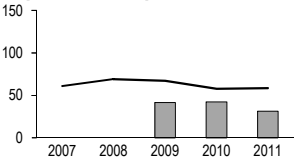
	2007	2008	2009	2010	2011
Greenville			3.96		2.79
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			49		146
Average	114	113	105	108	102

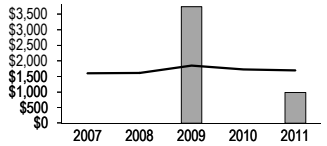
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Greenville			42	42	31
Average	61	69	67	58	58

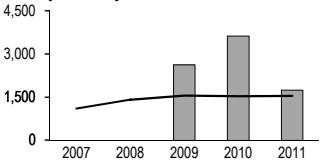
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Greenville			$3,740		$986
Average	$1,592	$1,609	$1,849	$1,725	$1,691

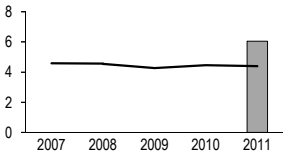
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Greenville			2,616	3,625	1,745
Average	1,107	1,410	1,552	1,536	1,544

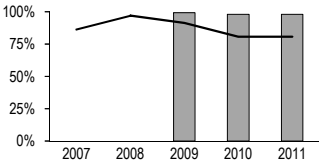
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



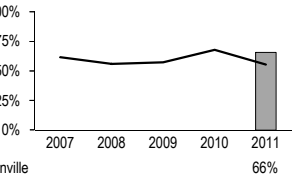
	2007	2008	2009	2010	2011
Greenville					6.1
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



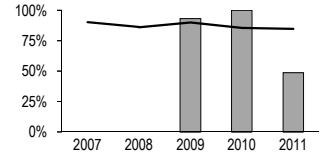
	2007	2008	2009	2010	2011
Greenville			99%	98%	98%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



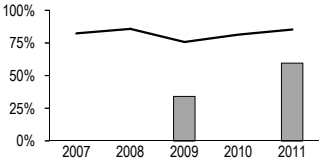
	2007	2008	2009	2010	2011
Greenville					66%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



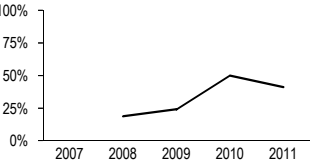
	2007	2008	2009	2010	2011
Greenville			93%	100%	49%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Greenville			34%		60%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Greenville					
Average		18.7%	24.0%	49.9%	41.1%

Greenville

MUNICIPAL PROFILE

Population Served	111,300
Land Area Served (Square Miles)	66.3
Persons Served per Square Mile	1,678
Topography	flat
County	Pitt
Climate	Mild; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.4%
Operating Costs		17.8%
Capital Costs		11.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	11,287,784
Operating Costs	$	2,857,878
Capital Costs	$	1,894,762
TOTAL	$	16,040,424

SERVICE PROFILE

FTE Positions—Firefighters	100.0
FTE Positions—Other	57.0
Fire Stations	6
First-Line Fire Apparatus	
Pumpers	1
Aerial Trucks	0
Quints	6
Squads	0
Rescue	1
Other	NA
Fire Department Responses	16,267
All Fire Responses	310
Structural Fires Reported	73
Estimated Fire Loss (millions)	$0.80
Amount of Property Protected (millions)	$7,631.51
Number of Fire Education Programs or Events	11

EXPLANATORY INFORMATION

Service Level and Delivery
The primary goals of the Greenville Fire and Rescue Department are to prevent fires and save lives and property by providing emergency response services for fires or medical emergencies.

Emergency personnel work a 24.25-hour shift followed by 47.75 hours off.

The city has an ISO rating of 3, as rated in 2007.

The fire department in Greenville conducted 3,489 fire maintenance, construction, and reinspections during FY 2010–11. The Life Safety Services Division handles all inspection-related matters following the International Fire Code.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in 2009, with the first year of reporting being for FY 2008–09.

The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

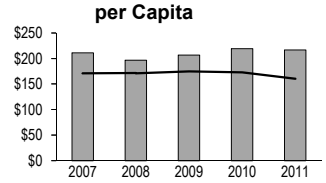
Greenville is one of only two cities in the benchmarking project which has Emergency Medical Services provided through the city fire department. In the other jurisdictions, EMS is provided by county departments.

Complications with the data tracking prevented Greenville from being able to submit numbers on fire incidents and several other measures for earlier fiscal years.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

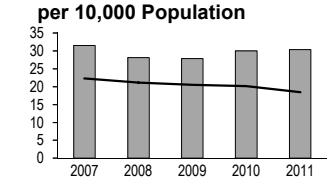
RESOURCE Measures

Fire Services Costs per Capita



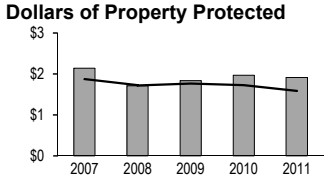
	2007	2008	2009	2010	2011
Hickory	$211	$197	$207	$219	$216
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	31.5	28.1	27.9	30.0	30.4
Average	22.2	21.1	20.5	20.1	18.5

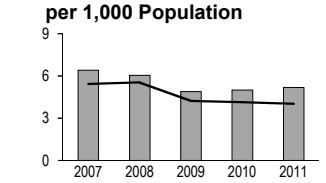
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Hickory	$2.14	$1.71	$1.84	$1.97	$1.91
Average	$1.87	$1.72	$1.77	$1.73	$1.59

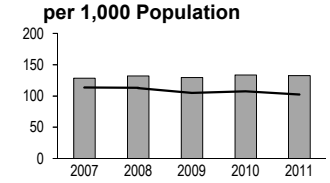
WORKLOAD Measures

Actual Fires per 1,000 Population



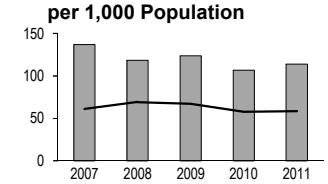
	2007	2008	2009	2010	2011
Hickory	6.41	6.04	4.88	5.01	5.19
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	128	132	129	134	133
Average	114	113	105	108	102

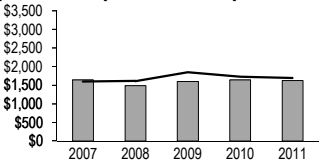
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Hickory	137	118	124	107	114
Average	61	69	67	58	58

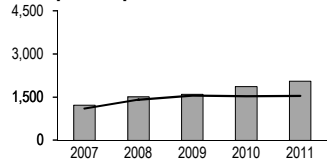
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Hickory	$1,642	$1,491	$1,597	$1,639	$1,629
Average	$1,592	$1,609	$1,849	$1,725	$1,691

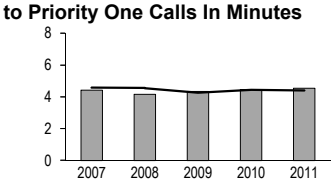
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Hickory	1,215	1,512	1,593	1,863	2,052
Average	1,107	1,410	1,552	1,536	1,544

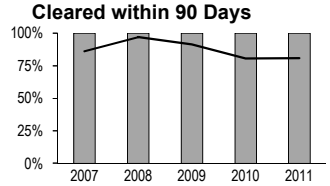
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



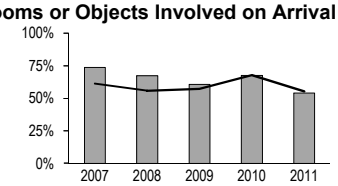
	2007	2008	2009	2010	2011
Hickory	4.4	4.2	4.4	4.5	4.5
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



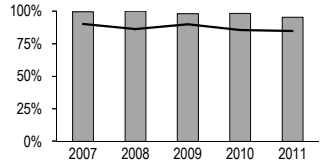
	2007	2008	2009	2010	2011
Hickory	100%	100%	100%	100%	100%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



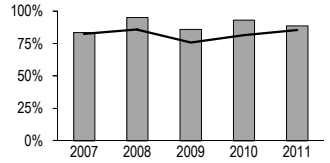
	2007	2008	2009	2010	2011
Hickory	74%	67%	61%	68%	54%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



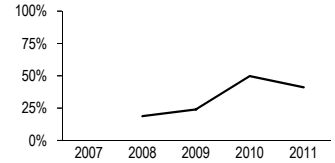
	2007	2008	2009	2010	2011
Hickory	100%	100%	98%	98%	95%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Hickory	84%	95%	86%	93%	89%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Hickory					
Average	18.7%	24.0%	49.9%	41.1%	

Hickory

MUNICIPAL PROFILE

Population Served	45,099
Land Area Served (Square Miles)	42.7
Persons Served per Square Mile	1,057
Topography	gently rolling
County	Catawba
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		81.8%
Operating Costs		13.4%
Capital Costs		4.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,980,146
Operating Costs	$	1,309,139
Capital Costs	$	466,911
TOTAL	$	9,756,196

SERVICE PROFILE

FTE Positions—Firefighters	117.0
FTE Positions—Other	20.0
Fire Stations	7
First-Line Fire Apparatus	
Pumpers	6
Aerial Trucks	2
Quints	0
Squads	0
Rescue	1
Other	3
Fire Department Responses	5,990
All Fire Responses	234
Structural Fires Reported	48
Estimated Fire Loss (millions)	$2.52
Amount of Property Protected (millions)	$5,094.73
Number of Fire Education Programs or Events	471

EXPLANATORY INFORMATION

Service Level and Delivery
The primary goals of the Hickory Fire Department are to prevent fires, save lives and property, and protect the environment by providing vast amounts of training and planning for the formulation of a successful fire service delivery system.

The fire department contains the following divisions: administration, fire prevention, public education, training, maintenance, and fire suppression.

Fire suppression personnel work a twenty-four-hour shift with forty-eight hours off between shifts. The twenty-four-hour shift begins at 8 a.m.

The city has an ISO rating of 3, as rated in 2005

The fire department in Hickory conducted 5,130 fire maintenance, construction, and reinspections during FY 2010–11. Fire prevention inspectors are assigned Level I, Level II, and Level III inspections. They also review construction and fire protection plans and inspect the installation of fire protection systems. The inspectors also accompany building inspectors during certificate of occupancy inspections and are responsible for conducting fire investigations, fire hydrant flow tests, occupancy and site visits, and other activities as assigned.

Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

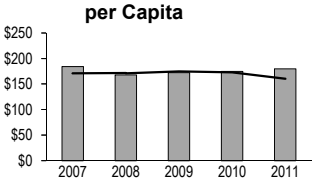
One of the fire stations staffed by Hickory is at the regional airport.

High Point — Fire Services

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

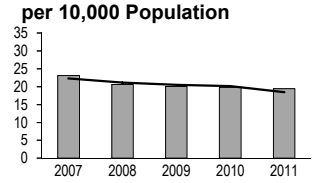
RESOURCE Measures

Fire Services Costs per Capita



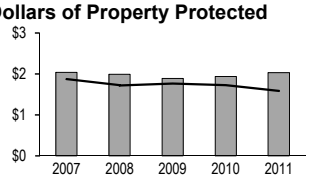
	2007	2008	2009	2010	2011
High Point	$184	$168	$172	$175	$180
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	23.1	20.6	20.1	19.8	19.5
Average	22.2	21.1	20.5	20.1	18.5

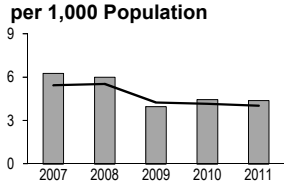
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
High Point	$2.04	$1.99	$1.89	$1.94	$2.04
Average	$1.87	$1.72	$1.77	$1.73	$1.59

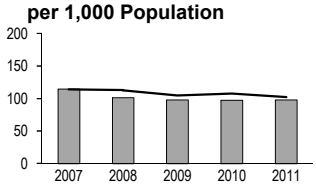
WORKLOAD Measures

Actual Fires per 1,000 Population



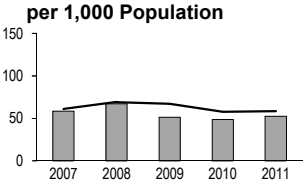
	2007	2008	2009	2010	2011
High Point	6.25	6.00	3.96	4.45	4.38
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
High Point	114	101	98	97	98
Average	114	113	105	108	102

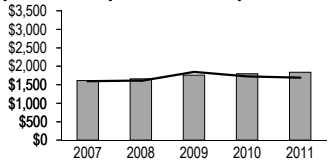
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
High Point	58	67	51	49	52
Average	61	69	67	58	58

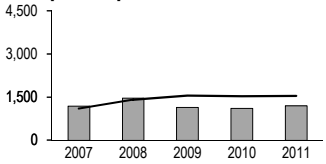
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
High Point	$1,610	$1,657	$1,762	$1,797	$1,836
Average	$1,592	$1,609	$1,849	$1,725	$1,691

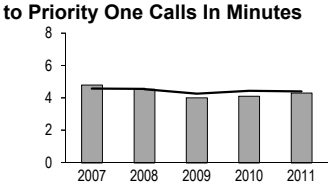
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
High Point	1,188	1,465	1,140	1,105	1,201
Average	1,107	1,410	1,552	1,536	1,544

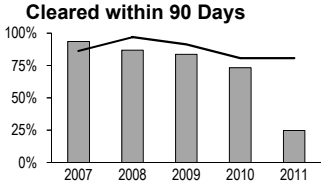
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



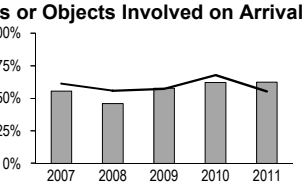
	2007	2008	2009	2010	2011
High Point	4.8	4.6	4.0	4.1	4.3
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



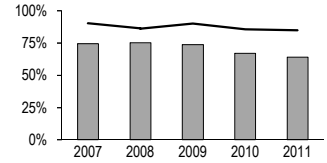
	2007	2008	2009	2010	2011
High Point	94%	87%	84%	73%	25%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



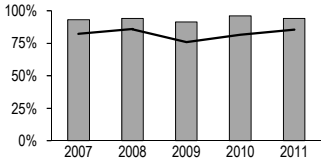
	2007	2008	2009	2010	2011
High Point	56%	46%	58%	62%	62%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



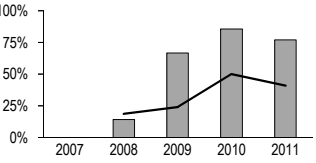
	2007	2008	2009	2010	2011
High Point	74%	75%	74%	67%	64%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
High Point	93%	94%	91%	96%	94%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
High Point		14.3%	66.7%	85.7%	76.9%
Average		18.7%	24.0%	49.9%	41.1%

MUNICIPAL PROFILE

Population Served	114,604
Land Area Served (Square Miles)	66.8
Persons Served per Square Mile	1,716
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.2%
Operating Costs		16.3%
Capital Costs		9.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	15,275,831
Operating Costs	$	3,347,620
Capital Costs	$	1,956,922
TOTAL	$	20,580,373

SERVICE PROFILE

FTE Positions—Firefighters	200.0
FTE Positions—Other	23.0
Fire Stations	14
First-Line Fire Apparatus	
Pumpers	13
Aerial Trucks	3
Quints	0
Squads	3
Rescue	0
Other	9
Fire Department Responses	11,209
All Fire Responses	502
Structural Fires Reported	109
Estimated Fire Loss (millions)	$3.03
Amount of Property Protected (millions)	$10,109.11
Number of Fire Education Programs or Events	290

EXPLANATORY INFORMATION

Service Level and Delivery
The High Point Fire Department provides the following functions: firefighting, emergency medical response, rescue response, hazardous material technician response, inspection, fleet/vehicle maintenance, departmental technical services, and public life safety education and community relations.

The fire department contains the following divisions: administration, operations, and technical services.

Firefighters work twenty-four-hour shifts followed by forty-eight hours off. This cycle is repeated three times and is then followed by a four-day break, resulting in an average work week of fifty-six hours over a twenty-seven-day period.

The city has an ISO rating of 2, as rated in 2005.

The fire department in High Point conducted 6,004 fire maintenance, construction, and reinspections during FY 2010–11. All Level I inspections are conducted by fire suppression personnel. They are responsible for making the first inspection on an occupancy as well as conducting the first reinspection for that occupancy within thirty days. If code violations are not corrected, the case is turned over to fire prevention personnel for follow-up. All Level II and Level III inspections are conducted by fire prevention staff. All reinspections are conducted on thirty-day cycles.

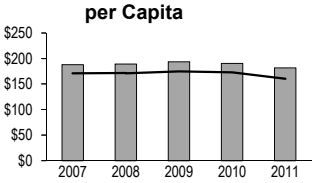
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Salisbury Fire Services

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

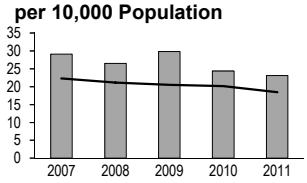
RESOURCE Measures

Fire Services Costs per Capita



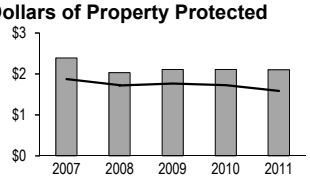
	2007	2008	2009	2010	2011
Salisbury	$188	$189	$194	$191	$181
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	29.1	26.5	29.8	24.3	23.1
Average	22.2	21.1	20.5	20.1	18.5

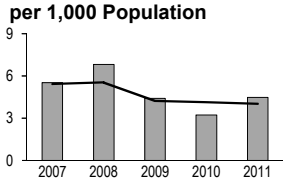
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Salisbury	$2.39	$2.03	$2.11	$2.11	$2.11
Average	$1.87	$1.72	$1.77	$1.73	$1.59

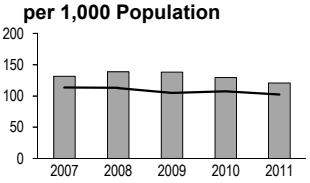
WORKLOAD Measures

Actual Fires per 1,000 Population



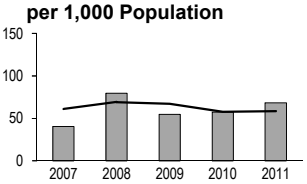
	2007	2008	2009	2010	2011
Salisbury	5.52	6.81	4.40	3.22	4.48
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	132	139	138	130	121
Average	114	113	105	108	102

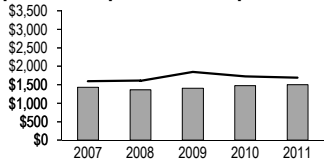
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Salisbury	40	80	55	58	68
Average	61	69	67	58	58

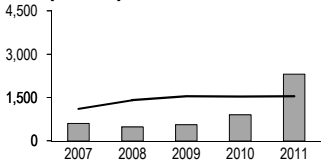
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Salisbury	$1,428	$1,363	$1,403	$1,472	$1,500
Average	$1,592	$1,609	$1,849	$1,725	$1,691

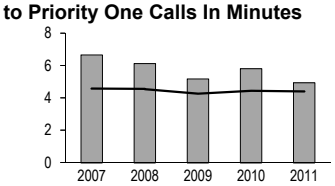
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Salisbury	610	486	563	910	2,308
Average	1,107	1,410	1,552	1,536	1,544

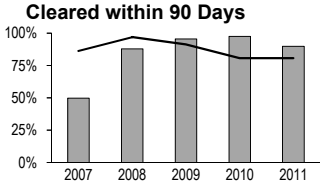
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



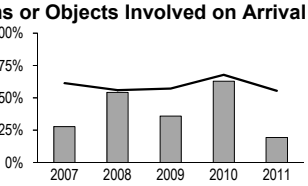
	2007	2008	2009	2010	2011
Salisbury	6.7	6.1	5.2	5.8	4.9
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



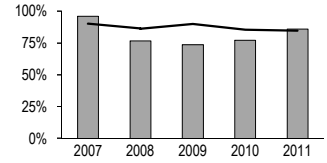
	2007	2008	2009	2010	2011
Salisbury	50%	88%	96%	98%	90%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



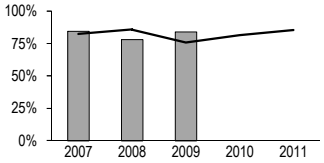
	2007	2008	2009	2010	2011
Salisbury	28%	54%	36%	63%	19%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



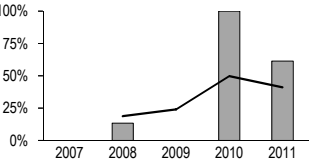
	2007	2008	2009	2010	2011
Salisbury	96%	77%	74%	77%	86%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Salisbury	85%	78%	84%		
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Salisbury		13.3%		100.0%	61.5%
Average		18.7%	24.0%	49.9%	41.1%

Salisbury

MUNICIPAL PROFILE

Population Served	33,722
Land Area Served (Square Miles)	22.2
Persons Served per Square Mile	1,520
Topography	Gently rolling
County	Rowan
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.9%
Operating Costs		21.6%
Capital Costs		12.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,026,690
Operating Costs	$	1,320,665
Capital Costs	$	765,336
TOTAL	$	6,112,691

SERVICE PROFILE

FTE Positions—Firefighters	72.0
FTE Positions—Other	6.0
Fire Stations	4
First-Line Fire Apparatus	
Pumpers	0
Aerial Trucks	0
Quints	4
Squads	1
Rescue	1
Other	1
Fire Department Responses	4,074
All Fire Responses	151
Structural Fires Reported	62
Estimated Fire Loss (millions)	$0.90
Amount of Property Protected (millions)	$2,903.17
Number of Fire Education Programs or Events	32

EXPLANATORY INFORMATION

Service Level and Delivery

The statement of purpose for the Salisbury Fire Department is to provide capable, well-trained personnel and necessary equipment to suppress fires and effectively manage hazardous chemical accidents that may occur in the community related to transportation or industry; to provide rescue services as needed and basic life support through an updated First Responder Program; and to work toward a more fire safe community through loss prevention activities, including inspections, code enforcement, minimum housing activities, and public education programs.

The Fire Department contains the following divisions: fire control, loss prevention, training, and logistics.

The shift schedule for the Fire Department is twenty-four hours on and forty-eight hours off for three cycles. There are three shifts. Captains and firefighters get a twenty-four-hour Kelley day plus four hours off for any twenty-eight-day cycle exceeding 212 hours worked. The city has some part-time personnel working to fill vacant spots on the shifts due to Kelley days. Salisbury now is a quint system of deployment and duty. The quint trucks combine the duties of an engine and a truck company into a single company.

The city has an ISO rating of 2, as rated in 2007.

The fire department in Salisbury reported 2,308 fire maintenance, construction, and reinspections conducted in FY 2010–11. The city follows or exceeds the state guidelines for frequency of inspections for all occupancies. Apartment buildings have one file number. Reinspections are performed at thirty-day intervals. Fees are assessed at the third inspection.

Conditions Affecting Service, Performance, and Costs

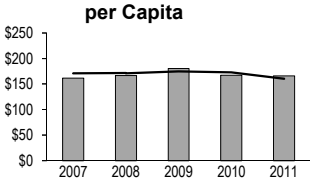
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Wilmington — Fire Services

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

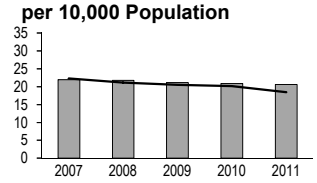
RESOURCE Measures

Fire Services Costs per Capita



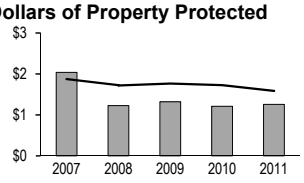
	2007	2008	2009	2010	2011
Wilmington	$161	$167	$180	$167	$166
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	22.0	21.8	21.1	20.9	20.6
Average	22.2	21.1	20.5	20.1	18.5

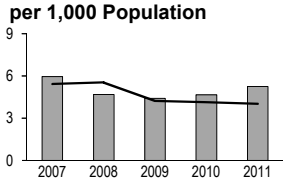
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Wilmington	$2.04	$1.23	$1.32	$1.21	$1.26
Average	$1.87	$1.72	$1.77	$1.73	$1.59

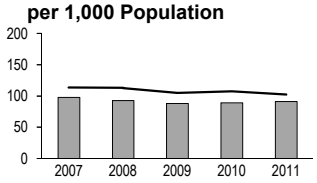
WORKLOAD Measures

Actual Fires per 1,000 Population



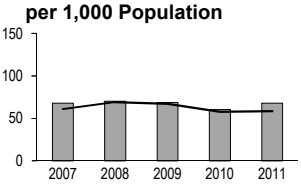
	2007	2008	2009	2010	2011
Wilmington	5.96	4.69	4.41	4.67	5.25
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Wilmington	98	93	88	89	91
Average	114	113	105	108	102

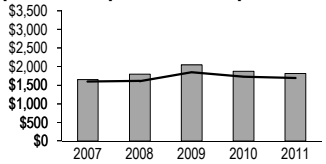
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Wilmington	68	70	69	60	68
Average	61	69	67	58	58

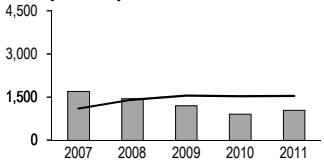
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Wilmington	$1,648	$1,797	$2,050	$1,877	$1,818
Average	$1,592	$1,609	$1,849	$1,725	$1,691

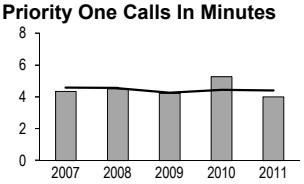
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Wilmington	1,698	1,442	1,197	910	1,037
Average	1,107	1,410	1,552	1,536	1,544

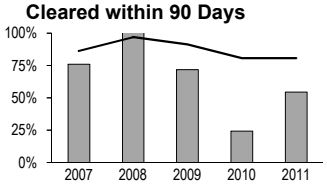
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



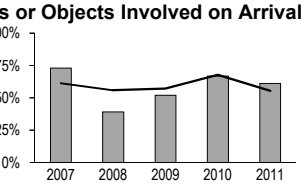
	2007	2008	2009	2010	2011
Wilmington	4.3	4.5	4.2	5.3	4.0
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



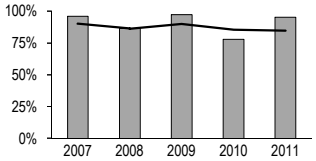
	2007	2008	2009	2010	2011
Wilmington	76%	108%	72%	24%	55%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



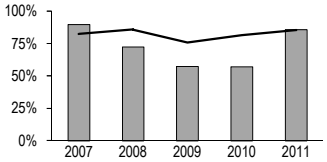
	2007	2008	2009	2010	2011
Wilmington	73%	39%	52%	67%	61%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



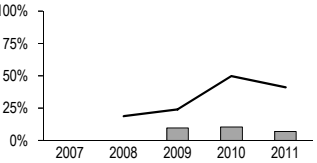
	2007	2008	2009	2010	2011
Wilmington	96%	87%	97%	78%	95%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Wilmington	90%	72%	57%	57%	86%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Wilmington			9.8%	10.5%	7.1%
Average		18.7%	24.0%	49.9%	41.1%

Wilmington

MUNICIPAL PROFILE

Population Served	106,882
Land Area Served (Square Miles)	51.5
Persons Served per Square Mile	2,076
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.6%
Operating Costs		18.2%
Capital Costs		12.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	12,346,367
Operating Costs	$	3,225,834
Capital Costs	$	2,154,873
TOTAL	$	17,727,074

SERVICE PROFILE

FTE Positions—Firefighters	190.0
FTE Positions—Other	30.0
Fire Stations	11
First-Line Fire Apparatus	
Pumpers	11
Aerial Trucks	2
Quints	0
Squads	0
Rescue	2
Other	12
Fire Department Responses	9,750
All Fire Responses	561
Structural Fires Reported	97
Estimated Fire Loss (millions)	$2.67
Amount of Property Protected (millions)	$14,098.66
Number of Fire Education Programs or Events	350

EXPLANATORY INFORMATION

Service Level and Delivery
The Wilmington Fire Department provides the following services in addition to fire suppression and fire prevention for the city of Wilmington: EMS/First Response, hazardous materials, high angle and confined rescue, scuba diving, and fire inspection.

The Fire Department contains the following divisions: fire suppression, fire prevention, and support services.

The city uses a rotating shift consisting of three shifts of twenty-four hours, with a day off between shifts. This is followed by four days off before the cycle repeats itself.

The city has an ISO rating of 2, as rated in 2005.

The fire department in Wilmington conducted 7,262 fire maintenance, construction, and reinspections during FY 2010–11. The Wilmington Fire Prevention Bureau follows the required inspection schedule for all occupancies within the corporate limits of the city. Each building in an apartment complex is counted as an inspection. Reinspections also are counted as inspections for tracking purposes.

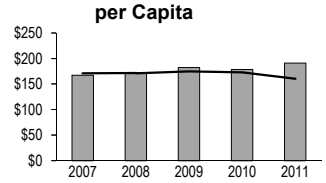
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Wilson — Fire Services

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

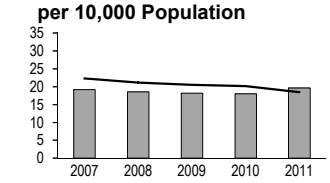
RESOURCE Measures

Fire Services Costs per Capita



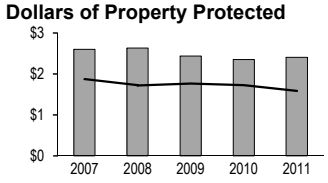
	2007	2008	2009	2010	2011
Wilson	$167	$172	$182	$178	$191
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	19.2	18.5	18.2	18.0	19.6
Average	22.2	21.1	20.5	20.1	18.5

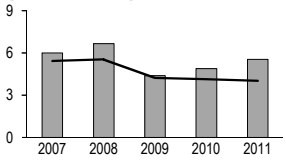
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Wilson	$2.60	$2.63	$2.44	$2.35	$2.41
Average	$1.87	$1.72	$1.77	$1.73	$1.59

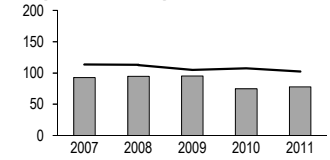
WORKLOAD Measures

Actual Fires per 1,000 Population



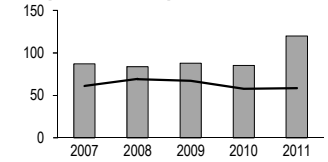
	2007	2008	2009	2010	2011
Wilson	5.99	6.66	4.38	4.89	5.54
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Wilson	93	95	95	75	78
Average	114	113	105	108	102

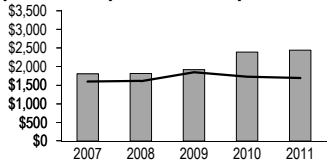
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Wilson	87	84	88	85	120
Average	61	69	67	58	58

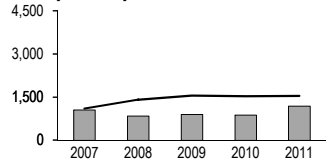
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Wilson	$1,807	$1,814	$1,915	$2,391	$2,446
Average	$1,592	$1,609	$1,849	$1,725	$1,691

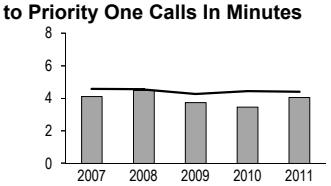
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Wilson	1,056	839	899	880	1,184
Average	1,107	1,410	1,552	1,536	1,544

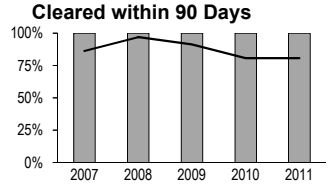
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



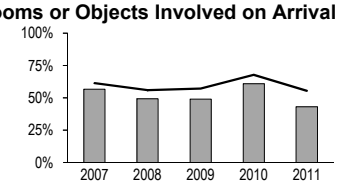
	2007	2008	2009	2010	2011
Wilson	4.1	4.5	3.7	3.5	4.1
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



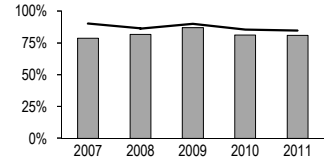
	2007	2008	2009	2010	2011
Wilson	100%	100%	100%	100%	100%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



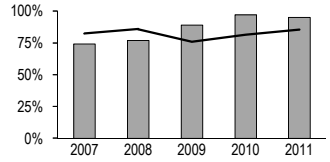
	2007	2008	2009	2010	2011
Wilson	57%	49%	49%	61%	43%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



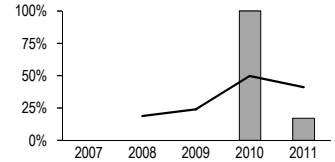
	2007	2008	2009	2010	2011
Wilson	79%	82%	87%	81%	81%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Wilson	74%	77%	89%	97%	95%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Wilson				100.0%	17.1%
Average		18.7%	24.0%	49.9%	41.1%

Wilson

MUNICIPAL PROFILE

Population Served	49,421
Land Area Served (Square Miles)	28.8
Persons Served per Square Mile	1,718
Topography	Flat
County	Wilson
Climate	Mild; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.5%
Operating Costs		22.5%
Capital Costs		7.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,561,744
Operating Costs	$	2,123,722
Capital Costs	$	749,920
TOTAL	$	9,435,386

SERVICE PROFILE

FTE Positions—Firefighters	84.0
FTE Positions—Other	13.0
Fire Stations	5
First-Line Fire Apparatus	
Pumpers	3
Aerial Trucks	1
Quints	2
Squads	0
Rescue	0
Other	1
Fire Department Responses	3,857
All Fire Responses	274
Structural Fires Reported	51
Estimated Fire Loss (millions)	$1.84
Amount of Property Protected (millions)	$3,919.25
Number of Fire Education Programs or Events	375

EXPLANATORY INFORMATION

Service Level and Delivery
Wilson Fire/Rescue Services is a public safety organization whose mission is to assist the public in the protection of life and property by minimizing the impact of fire, medical emergencies, and potential disasters or events that affect the community and the environment.

Wilson Fire/Rescue Services has two major divisions. Operations handles emergency responses and equipment maintenance. Support Services handles fire prevention and education, facility maintenance, IM/GIS, and budget.

Firefighters work twenty-four hours on and twenty-four hours off. Each work cycle consists of three twenty-four shifts with a day off between shifts. A four-day break is then provided before the cycle repeats itself.

The city has an ISO rating of 2, as rated in 2005.

The fire department in Wilson conducted 5,922 fire maintenance, construction, and reinspections during FY 2010–11. Fire inspections are conducted by the Fire Prevention Bureau on a daily basis. Inspectors are assigned a district to handle all inspections. A charge is made on the third reinspection.

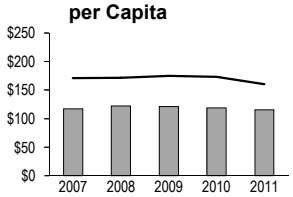
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Winston-Salem Fire Services

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2011

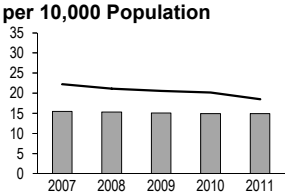
RESOURCE Measures

Fire Services Costs per Capita



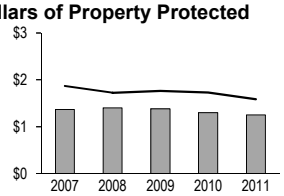
	2007	2008	2009	2010	2011
Winston-Salem	$117	$122	$121	$119	$116
Average	$170	$171	$175	$173	$160

Fire Services Total FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	15.4	15.3	15.1	14.9	14.9
Average	22.2	21.1	20.5	20.1	18.5

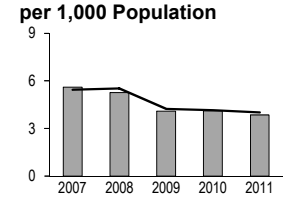
Fire Services Cost per Thousand Dollars of Property Protected



	2007	2008	2009	2010	2011
Winston-Salem	$1.37	$1.40	$1.38	$1.30	$1.25
Average	$1.87	$1.72	$1.77	$1.73	$1.59

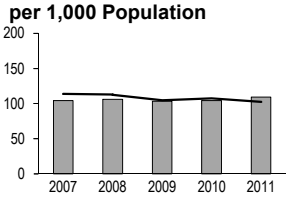
WORKLOAD Measures

Actual Fires per 1,000 Population



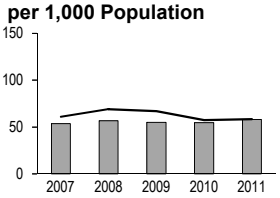
	2007	2008	2009	2010	2011
Winston-Salem	5.60	5.27	4.10	4.11	3.85
Average	5.42	5.52	4.24	4.15	4.02

Fire Department Responses per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	105	106	103	104	109
Average	114	113	105	108	102

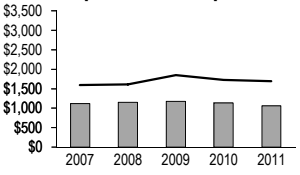
Fire Inspections Completed per 1,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	54	57	55	55	58
Average	61	69	67	58	58

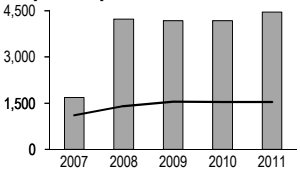
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2007	2008	2009	2010	2011
Winston-Salem	$1,118	$1,151	$1,172	$1,135	$1,057
Average	$1,592	$1,609	$1,849	$1,725	$1,691

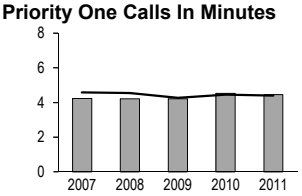
Inspections Completed per Inspector FTE



	2007	2008	2009	2010	2011
Winston-Salem	1,688	4,230	4,175	4,180	4,462
Average	1,107	1,410	1,552	1,536	1,544

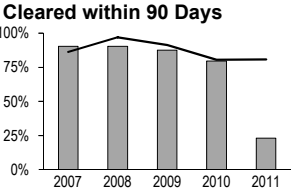
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



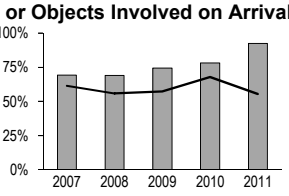
	2007	2008	2009	2010	2011
Winston-Salem	4.2	4.2	4.2	4.5	4.5
Average	4.6	4.5	4.3	4.5	4.4

Percentage of Fire Code Violations Cleared within 90 Days



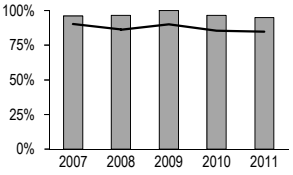
	2007	2008	2009	2010	2011
Winston-Salem	90%	90%	88%	80%	23%
Average	86%	97%	91%	81%	81%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



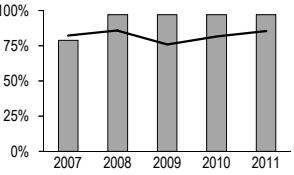
	2007	2008	2009	2010	2011
Winston-Salem	69%	69%	75%	78%	93%
Average	61%	56%	57%	68%	55%

Percentage of Fires for Which Cause Was Determined



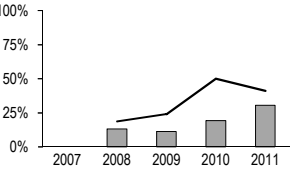
	2007	2008	2009	2010	2011
Winston-Salem	96%	97%	100%	97%	95%
Average	90%	86%	90%	86%	85%

Percentage of Full Response Within 8 Minutes Travel Time



	2007	2008	2009	2010	2011
Winston-Salem	79%	97%	97%	97%	97%
Average	82%	86%	76%	82%	85%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2007	2008	2009	2010	2011
Winston-Salem		13.1%	11.3%	19.2%	30.4%
Average		18.7%	24.0%	49.9%	41.1%

Winston-Salem

MUNICIPAL PROFILE

Population Served	230,345
Land Area Served (Square Miles)	132.4
Persons Served per Square Mile	1,739
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.5%
Operating Costs		13.5%
Capital Costs		7.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	21,167,480
Operating Costs	$	3,592,523
Capital Costs	$	1,870,882
TOTAL	$	26,630,885

SERVICE PROFILE

FTE Positions—Firefighters	316.0
FTE Positions—Other	27.0
Fire Stations	18
First-Line Fire Apparatus	
Pumpers	18
Aerial Trucks	5
Quints	0
Squads	0
Rescue	1
Other	13
Fire Department Responses	25,198
All Fire Responses	887
Structural Fires Reported	329
Estimated Fire Loss (millions)	$6.35
Amount of Property Protected (millions)	$21,335.50
Number of Fire Education Programs or Events	1059

EXPLANATORY INFORMATION

Service Level and Delivery
The mission of the Winston-Salem Fire Department is to protect the lives and property of all people within Winston-Salem by reducing the occurrence and minimizing the effects of fires.

The Winston-Salem Fire Department contains the following six divisions: fire suppression, vehicle maintenance, planning, community education, fire prevention, and administration.

Fire suppression personnel work a twenty-one-day cycle with an average of fifty-six hours per week.

The city has an ISO rating of 3, as rated in 2006.

The fire department in Winston-Salem conducted 12,840 fire maintenance, construction,and reinspections during FY 2010–11. The fire department inspection program includes inspections that 1) ensure reasonable life safety conditions within a structure; 2) identify fire hazards; and 3) determine the proper installation, operation, and maintenance of fire protection features, systems, and appliances within buildings. The fire department inspection program involves both the Fire Prevention Bureau and the fire engine companies. Similar to the Fire Prevention Bureau, all fire stations have inspection responsibilities and conduct building inspections within their assigned territory. Each business within the city limits is inspected annually and receives as many return visits as necessary for fire code compliance.

Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Winston-Salem has a high number of inspections per inspector FTE when compared to the other jurisdictions. The city defines an inspection as a site interior and/or exterior survey of a building, operation, event, condition, and/or activity for the purpose of verifying fire and building code compliance.

UNC
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Performance and Cost Data

BUILDING INSPECTIONS

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR BUILDING INSPECTIONS

SERVICE DEFINITION

Building inspection services refers to permit issuance and inspections for building, electrical, mechanical (including heating and cooling), and plumbing work on new residential and commercial construction or additions and alterations to enforce the North Carolina State Building Code and related local building regulations. The inspection process includes the receipt of permit applications, review of plans and specifications, issuance of permits, and follow-up field inspections to ensure compliance. Excluded are the enforcement of zoning and subdivision regulations, fire codes, minimum housing codes, erosion and sedimentation control regulations, watershed regulations, historic preservation ordinances, and other development regulations or plans.

NOTES ON PERFORMANCE MEASURES

1. Building Inspections per 1,000 Population

Building inspections are those required by the North Carolina State Building Code for general building, electrical, mechanical (including heating and cooling), and plumbing work associated with construction projects. Inspections include reinspections. They do not include non–building code inspections or consultation visits.

2. Value of Total Building Permits as Percentage of Tax Base of Area Served

When a building permit is issued, the dollar amount of the work specified in the contract(s) authorizing the work is recorded as the value of the building permit. Tax base refers to the taxable valuation used for levying the fiscal year property tax for the area served.

3. Value of Commercial Permits as Percentage of Tax Base of Area Served

Commercial building permits are issued for construction of business, manufacturing, institutional, and other nonresidential buildings or improvements. Tax base is defined above.

4. Cost per Building Inspection and Inspections per Day per Inspector

Building inspections are defined above. Cost is determined using the project's full cost accounting model, including direct, indirect, and capital costs. An inspector full-time equivalent (FTE) is calculated using a work year of 235 days. Inspector FTEs include permanent, temporary, part-time, and full-time inspectors.

5. Value of Building Permits per FTE

Value of building permits is defined above. Inspectors must be certified by the state to enforce the state building code and be able to review plans and conduct inspections to enforce that code. Inspector FTEs exclude supervisors, who may be certified but who spend less than 50 percent of their time performing inspections. Inspector FTEs also exclude support personnel who are not certified.

6. Number of Plan Reviews per Reviewer FTE

The state building code requires that plans and specifications for most commercial and residential construction be reviewed before permits are issued for such construction. Reviewer FTEs are calculated using a 2,080-hour work year, the actual number of plan reviews conducted during the fiscal year, and the number of plan reviewers.

7. Percentage of Inspection Responses within One Working Day of Request

A request for inspection may be by phone, in person, or in writing. A response refers to at least beginning an inspection, regardless of whether approval of the work occurs. The majority of inspections are completed the same day initiated. A response to a request within one working day means that the inspection is initiated before the end of the workday following the day on which the request is made.

8. Percentage of Inspections that Are Reinspections

A reinspection occurs when a building inspector must inspect work that has previously been inspected. A reinspection can occur due to problems found in the original inspection or for other reasons.

Building Inspections

Summary of Key Dimensions of Service

City or Town	Area Served (in Square Miles)	Population Growth from 2000 to 2009	Building Inspections by Trade					Number of Plan Reviews	Building Inspector FTEs	Total Staff FTEs
			Building	Electrical	Mechanical	Plumbing	Total			
Apex	34.7	86.8%	4,899	3,713	2,873	2,406	13,891	1,188	3.0	9.0
Asheville	62.9	21.9%	10,036	6,780	4,647	4,309	25,772	2,889	12.0	32.0
Burlington	41.1	12.4%	1,681	2,476	1,896	1,274	7,327	138	5.50	9.00
Cary	66.0	44.1%	24,805	13,767	14,564	10,423	63,559	3,205	19.0	41.6
Greensboro	131.9	20.6%	24,251	15,099	11,139	8,991	59,480	1,016	17.5	32.0
Greenville	66.0	39.1%	4,248	4,366	4,536	2,292	15,442	550	5.0	10.0
High Point	59.3	22.1%	7,619	5,586	4,593	3,341	21,139	917	9.5	16.0
Wilson	57.7	11.3%	1,821	1,697	1,827	970	6,315	212	2.6	5.4
Winston-Salem	396.0	24.0%	14,938	12,756	12,640	8,494	48,828	1,264	19.0	30.3

EXPLANATORY FACTORS

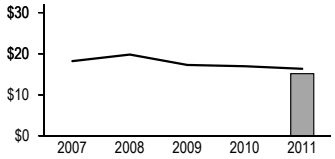
These are factors that the project found to affect building inspection performance and cost in one or more of the municipalities:

Rate of growth and development in city
Size and complexity of construction projects
Geographic area served by county building inspections
Inspectors' enforcement of local development regulations
Emphasis given to plan review in each jurisdiction
Inspector specialization
Organization of the building inspection function

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

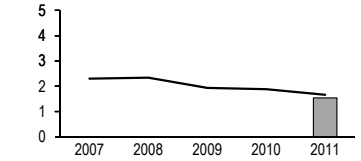
RESOURCE Measures

Building Inspections Services Costs per Capita



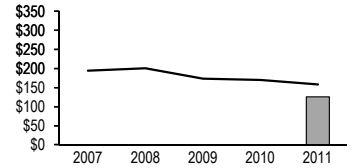
	2007	2008	2009	2010	2011
Apex					$15.15
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					1.54
Average	2.30	2.34	1.94	1.88	1.66

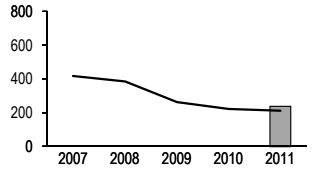
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Apex					$126
Average	$194	$201	$173	$170	$158

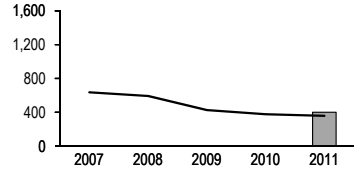
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



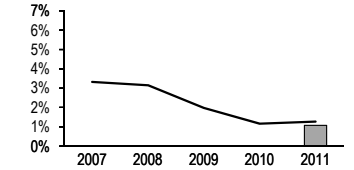
	2007	2008	2009	2010	2011
Apex					237
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



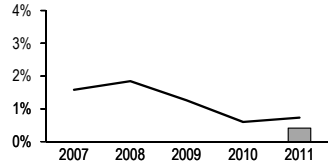
	2007	2008	2009	2010	2011
Apex					400
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



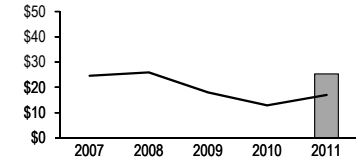
	2007	2008	2009	2010	2011
Apex					1.08%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Apex					0.41%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

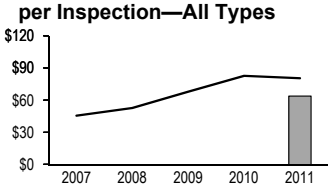
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Apex					$25.3
Average	$24.6	$26.0	$18.0	$12.9	$17.0

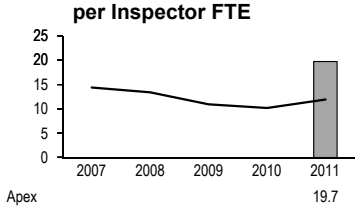
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



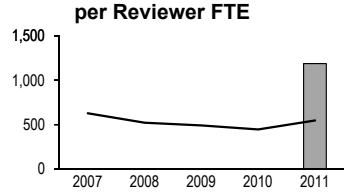
	2007	2008	2009	2010	2011
Apex					$63.80
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Apex					19.7
Average	14.4	13.4	10.9	10.2	11.9

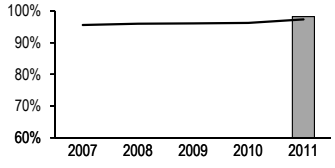
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Apex					1,188
Average	628	521	490	446	546

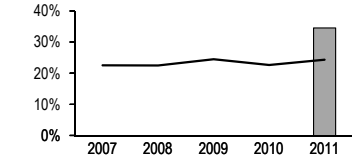
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Apex					98.2%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Apex					34.5%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

Apex

MUNICIPAL PROFILE

Population Served	58,514
Land Area Served (Square Miles)	34.69
Persons Served per Square Mile	1,687
Topography	Flat; gently rolling
Estimated Tax Base Served (billions) (Assessed Value)	$7.1
County	Wake

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.4%
Operating Costs		19.1%
Capital Costs		7.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	650,827
Operating Costs	$	169,107
Capital Costs	$	66,334
TOTAL	$	886,268

SERVICE PROFILE

Number of Inspections by Type	
Building	4,899
Electrical	3,713
Mechanical	2,873
Plumbing	2,406
TOTAL	13,891
Building Permit Values	
Residential	$44,300,000
Multi-Family	$2,500,000
Commercial	$29,200,000
TOTAL	$76,000,000
FTE Inspectors	
Building	0.0
Electrical	0.0
Mechanical	0.0
Plumbing	0.0
All Trades	3.0
TOTAL INSPECTORS	3.0
FTE Plan Reviewers	1.0
Other FTE Positions	5.0
Inspection Fee Revenue	$710,000

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Apex provides building inspeciton services though the Building Inspections and Permits Department. The Department is organized into two major divisions, building inspections and engineering. The Department provides inspections for all of the Town of Apex and nearly sixteen miles of area in its extraterritorial jurisdiction (ETJ).

All building inspectors in Apex serve each of the major trades. The Department enforces the North Carolina State Building Code.

The Department has a goal of having all inspectors fully qualified for the technical, administrative, and customer service aspects of their job. Training is accomplished primariliy by offsite seminars and conferences offered by state-approved sponsors.

Apex has a standard that all inspection requests recorded by a permit technician or the permit office voice mail by 3 a.m. are to be performed on the next business day.

Total revenue received from inspection fees amounted to $710,000 for FY 2010–11.

Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

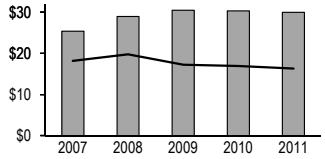
The population served is calculated by adding the population of Apex with the population of the ETJ. The tax base served is calculated by adding the tax base of Apex with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Wake County and multiplying them by the square miles of the ETJ.

Asheville — Building Inspections

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

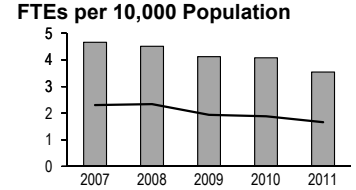
RESOURCE Measures

Building Inspections Services Costs per Capita



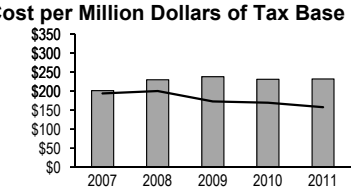
	2007	2008	2009	2010	2011
Asheville	$25.40	$28.99	$30.53	$30.37	$29.99
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	4.66	4.51	4.12	4.08	3.54
Average	2.30	2.34	1.94	1.88	1.66

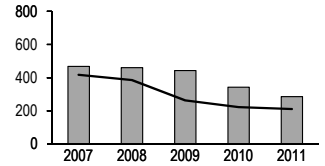
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Asheville	$202	$230	$238	$231	$232
Average	$194	$201	$173	$170	$158

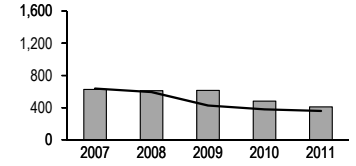
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



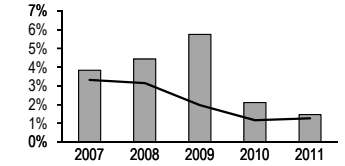
	2007	2008	2009	2010	2011
Asheville	469	461	443	343	285
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



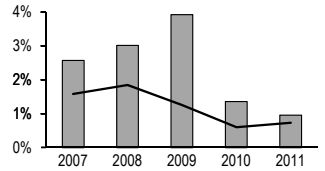
	2007	2008	2009	2010	2011
Asheville	626	610	614	482	410
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



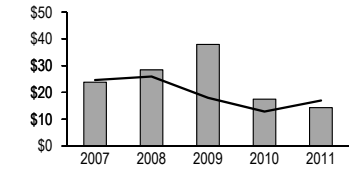
	2007	2008	2009	2010	2011
Asheville	3.84%	4.44%	5.76%	2.12%	1.48%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Asheville	2.57%	3.02%	3.92%	1.36%	0.95%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

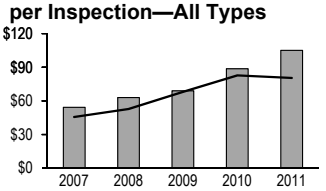
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Asheville	$23.8	$28.4	$37.9	$17.5	$14.3
Average	$24.6	$26.0	$18.0	$12.9	$17.0

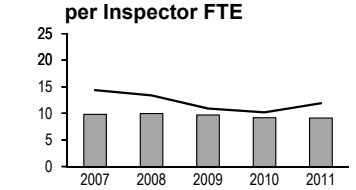
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



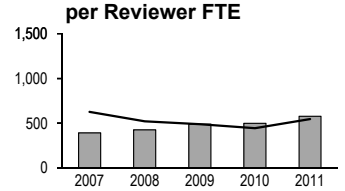
	2007	2008	2009	2010	2011
Asheville	$54.22	$62.91	$68.95	$88.62	$105.08
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Asheville	9.8	10.0	9.7	9.2	9.1
Average	14.4	13.4	10.9	10.2	11.9

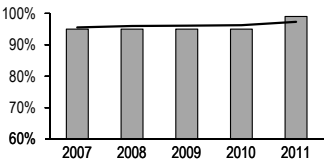
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Asheville	392	427	490	500	578
Average	628	521	490	446	546

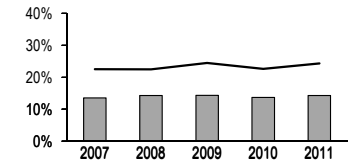
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Asheville	95.0%	95.0%	95.0%	95.0%	99.0%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Asheville	13.6%	14.3%	14.4%	13.7%	14.3%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

MUNICIPAL PROFILE

Population Served	90,308
Land Area Served (Square Miles)	62.86
Persons Served per Square Mile	1,437
Topography	Hills, mountains
Estimated Tax Base Served (billions) (Assessed Value)	$11.6
County	Buncombe

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.5%
Operating Costs		22.6%
Capital Costs		4.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,964,487
Operating Costs	$	611,433
Capital Costs	$	132,113
TOTAL	$	2,708,033

SERVICE PROFILE

Number of Inspections by Type	
Building	10,036
Electrical	6,780
Mechanical	4,647
Plumbing	4,309
TOTAL	25,772
Building Permit Values	
Residential	$44,802,176
Multi-Family	$15,938,280
Commercial	$111,164,398
TOTAL	$171,904,854
FTE Inspectors	
Building	2.0
Electrical	2.0
Mechanical	1.0
Plumbing	1.0
All Trades	6.0
TOTAL INSPECTORS	12.0
FTE Plan Reviewers	5.0
Other FTE Positions	15.0
Inspection Fee Revenue	$2,605,157

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Asheville Building Safety Department provides building inspection and permitting services to all areas within the Asheville city limits and, beginning in FY 2006–07, its extraterritorial jurisdiction (ETJ).

Inspectors include those who function in all trades and those who are certified in one of the following four trades: building, electrical, plumbing, or mechanical. The city is divided into two geographic areas for commericial inspections, with an inspector from each trade assigned to each area. The city is divided into six areas for inspection of one- and two-family dwellings, with one inspector assigned for each area performing all trades. The Department enforces the North Carolina State Building Code and the Asheville Minimum Housing Code. The costs and the positions associated with enforcing the housing code are excluded from the project's performance and cost data.

The Department has a goal of twelve training days per inspector per year. Inspectors are required to obtain certification in their primary trade plus two others. A career ladder encourages inspectors to work toward obtaining Level III certification in their primary trade and Level II certification in two other trades. Training is a high priority for the Department, with an emphasis on code consistency. Training for contractors and designers also is a high priority for the Department.

Asheville's policy is that all calls received for inspection before 7:30 a.m. receive same-day inspection.

Total revenue received from inspection fees amounted to $2.6 million for FY 2010–11. The fee schedule separates fees for each type of permit, with specific fees depending on type of work, cost, square footage, and other factors. One free reinspection is granted per trade per project. Additional inspections are provided for a fee of $75 that must be paid prior to the inspection.

Conditions Affecting Service, Performance, and Costs

The population served is calculated by adding the population of Asheville with the population of the ETJ. The tax base served is calculated by adding the tax base of Asheville with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Buncombe County and multiplying them by the square miles of the ETJ.

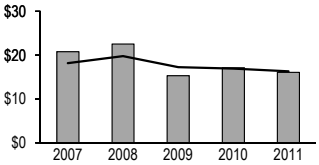
The city has many old and historic buildings that are difficult to renovate and bring into compliance with the state code. The city also has days during which snow and ice impact service delivery for this city function.

Burlington — Building Inspections

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

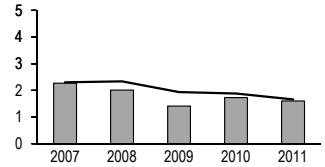
RESOURCE Measures

Building Inspections Services Costs per Capita



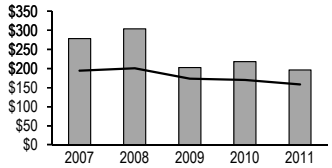
	2007	2008	2009	2010	2011
Burlington	$20.79	$22.53	$15.30	$17.11	$16.07
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	2.27	2.01	1.41	1.73	1.61
Average	2.30	2.34	1.94	1.88	1.66

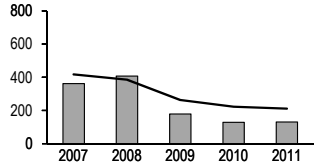
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Burlington	$279	$304	$203	$218	$196
Average	$194	$201	$173	$170	$158

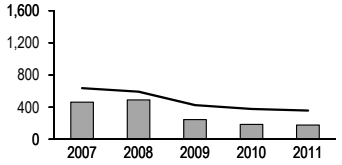
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



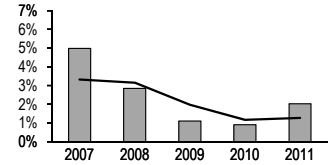
	2007	2008	2009	2010	2011
Burlington	362	407	178	128	131
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



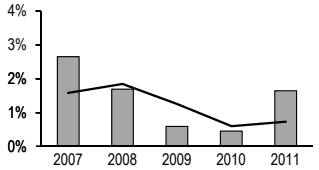
	2007	2008	2009	2010	2011
Burlington	464	492	246	187	178
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



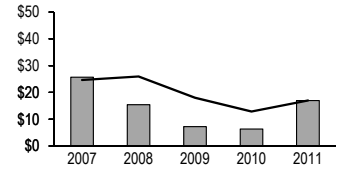
	2007	2008	2009	2010	2011
Burlington	4.98%	2.85%	1.10%	0.91%	2.03%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Burlington	2.65%	1.70%	0.59%	0.45%	1.65%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

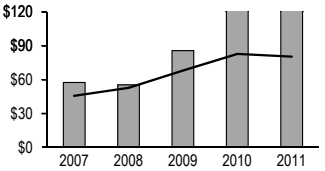
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Burlington	$25.7	$15.4	$7.2	$6.3	$17.0
Average	$24.6	$26.0	$18.0	$12.9	$17.0

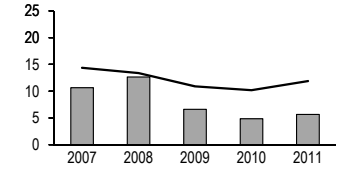
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



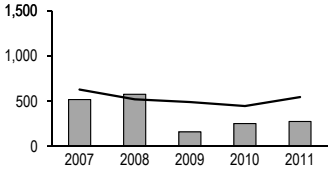
	2007	2008	2009	2010	2011
Burlington	$57.39	$55.34	$85.72	$133.40	$122.83
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Burlington	10.6	12.6	6.6	4.8	5.7
Average	14.4	13.4	10.9	10.2	11.9

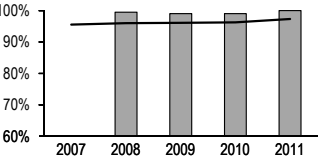
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Burlington	518	576	160	252	276
Average	628	521	490	446	546

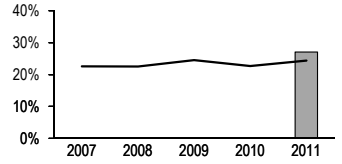
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Burlington		99.5%	99.0%	99.0%	100.0%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Burlington					27.0%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

Burlington

MUNICIPAL PROFILE

Population Served	56,016
Land Area Served (Square Miles)	41.10
Persons Served per Square Mile	1,363
Topography	Flat; gently rolling
Estimated Tax Base Served (billions) (Assessed Value)	$4.6
County	Alamance

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.6%
Operating Costs		27.8%
Capital Costs		8.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	572,798
Operating Costs	$	249,915
Capital Costs	$	77,277
TOTAL	$	899,990

SERVICE PROFILE

Number of Inspections by Type	
Building	1,681
Electrical	2,476
Mechanical	1,896
Plumbing	1,274
TOTAL	7,327
Building Permit Values	
Residential	$17,632,114
Multi-Family	In commercial
Commercial	$75,643,413
TOTAL	$93,275,527
FTE Inspectors	
Building	0.5
Electrical	1.0
Mechanical	2.0
Plumbing	1.0
All Trades	1.0
TOTAL INSPECTORS	5.5
FTE Plan Reviewers	0.5
Other FTE Positions	3.0
Inspection Fee Revenue	$495,291

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Burlington Building Inspections Division is under the the Public Works Department. The Division provides commercial and residential inspections within the city limits and the extraterritorial zoning district properties covering about sixteen square miles outside the city boundaries.

The inspections department uses inspectors certified in individual building trades. Training meets the state requirement of six hours a year for each trade.

Burlington does not currently have any standards for the length of time between a request for an inspection and the actual inspection.

Total revenue received from inspection fees amounted to $495,291 for FY 2010–11. The fee schedule separates fees for the type of work. Burlington charges $50 for a third reinspection, $75 for a fourth reinspection, and $100 for any additional reinspections. The number of reinspections for the year was not available.

Conditions Affecting Service, Performance, and Costs
The population served is calculated by adding the population of Burlington with the population of the extraterritorial jurisdiction (ETJ). The tax base served is calculated by adding the tax base of Burlington with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Alamance County and multiplying them by the square miles of the ETJ.

The City of Burlington began participation in the benchmarking project in 2007, with its first reporting data being for FY 2006–07.

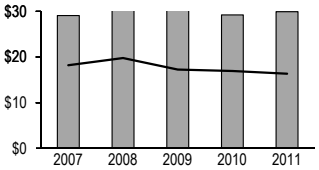
The City of Burlington started residential plan reviews on June 1, 2009.

The broad downturn in the economy has reduced building activity and the number of requests for inspections.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

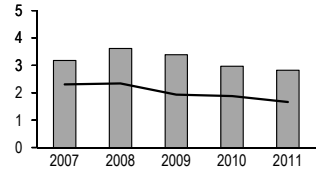
RESOURCE Measures

Building Inspections Services Costs per Capita



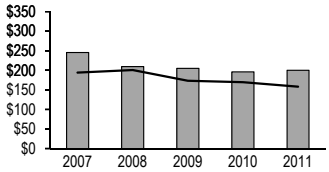
	2007	2008	2009	2010	2011
Cary	$29.07	$33.38	$31.62	$29.23	$29.92
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	3.18	3.62	3.39	2.97	2.82
Average	2.30	2.34	1.94	1.88	1.66

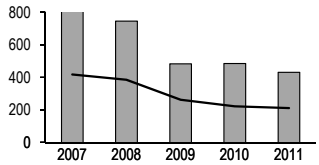
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Cary	$246	$209	$205	$196	$200
Average	$194	$201	$173	$170	$158

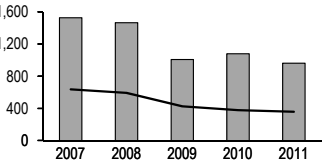
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



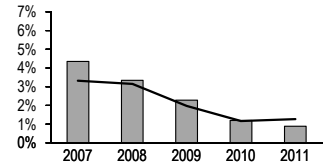
	2007	2008	2009	2010	2011
Cary	836	745	483	485	431
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



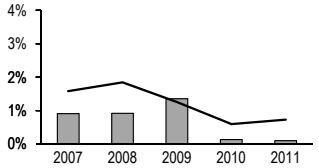
	2007	2008	2009	2010	2011
Cary	1,527	1,466	1,007	1,080	963
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



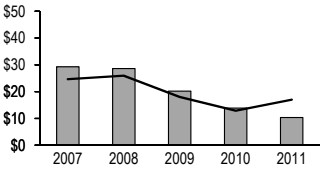
	2007	2008	2009	2010	2011
Cary	4.35%	3.34%	2.29%	1.20%	0.89%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Cary	0.91%	0.92%	1.36%	0.14%	0.10%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

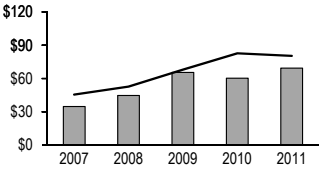
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Cary	$29.3	$28.6	$20.2	$13.9	$10.3
Average	$24.6	$26.0	$18.0	$12.9	$17.0

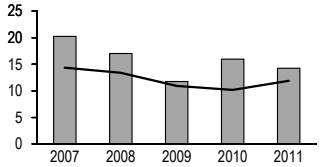
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



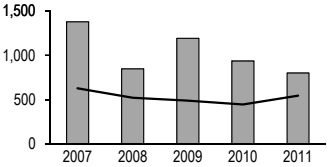
	2007	2008	2009	2010	2011
Cary	$34.76	$44.80	$65.50	$60.30	$69.45
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Cary	20.2	17.0	11.8	16.0	14.2
Average	14.4	13.4	10.9	10.2	11.9

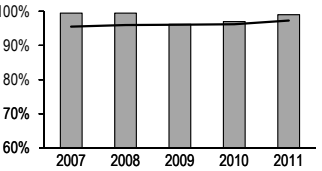
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Cary	1,379	848	1,192	936	801
Average	628	521	490	446	546

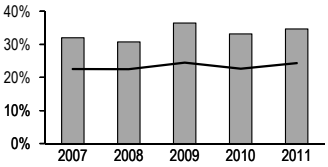
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Cary	99.5%	99.5%	96.2%	97.0%	99.0%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Cary	32.0%	30.8%	36.5%	33.2%	34.7%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

Cary

MUNICIPAL PROFILE

Population Served	147,567
Land Area Served (Square Miles)	66.02
Persons Served per Square Mile	2,235
Topography	Flat; gently rolling
Estimated Tax Base Served (billions) (Assessed Value)	$22.1
County	Wake

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.0%
Operating Costs		19.6%
Capital Costs		4.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,355,709
Operating Costs	$	864,530
Capital Costs	$	194,250
TOTAL	$	4,414,489

SERVICE PROFILE

Number of Inspections by Type	
Building	24,805
Electrical	13,767
Mechanical	14,564
Plumbing	10,423
TOTAL	63,559
Building Permit Values	
Residential	$173,146,005
Multi-Family	$0
Commercial	$22,720,875
TOTAL	$195,866,880
FTE Inspectors	
Building	7.0
Electrical	4.0
Mechanical	3.0
Plumbing	3.0
All Trades	2.0
TOTAL INSPECTORS	19.0
FTE Plan Reviewers	4.0
Other FTE Positions	18.6
Inspection Fee Revenue	$2,095,954

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Cary provides building inspection services within its corporate limits and extraterritorial jurisdiction (ETJ) through its inspections and permits department. The department is a full-service function, meeting all requirements mandated by the N.C. General Statutes. The department consists of two main divisions. The permitting division processes all construction-related permits and related fees. Associated functions include plans review, assigning property addresses, and zoning set-back review. The inspections division performs construction-related inspections to ensure compliance with the state building code and the building regulations listed in the Town of Cary code of ordinances. The town has both single-trade inspectors and all trade inspectors.

The building permit and inspection process includes the receipt of permit applications, review of plans and specifications, issuance of permits, and follow-up field inspections to ensure compliance. Excluded are the enforcement of zoning and subdivision regulations, fire codes, minimum housing codes, erosion and sedimentation control regulations, watershed regulations, historic preservation ordinances, and other development regulations or plans.

The Town of Cary supports both in-house and state-sponsored training classes for inspectors on a regular basis. While in-house field training revolves around peer mentoring, the town's Human Resources Department offers a wide variety of customer service–related classes. The Town's Technology Services Department also supports code enforcement officials by offering regular computer classes through a state-of-the-art computer lab. Code enforcement officials also attend annual workshops and seminars sponsored by the various state inspections trade groups.

Total revenue received from inspection fees amounted to $2.1 million for FY 2010–11. The fee schedule separates fees for each type of permit, with specific fees depending on a minimum amount, square footage, and other factors. Reinspection fees are charged if a violation has been sighted and not corrected on the next inspection or if an inspection is scheduled and the work has not been completed.

Conditions Affecting Service, Performance, and Costs

The population served is calculated by adding the population of Cary with the population of the ETJ. The tax base served is calculated by adding the tax base of Cary with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Wake County and multiplying them by the square miles of the ETJ.

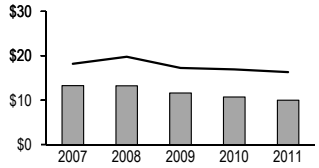
The broad downturn in the economy has reduced building activity and the number of requests for inspections.

Greensboro — Building Inspections

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

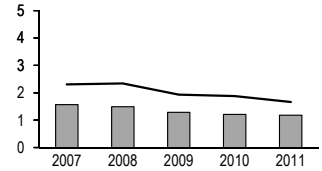
RESOURCE Measures

Building Inspections Services Costs per Capita



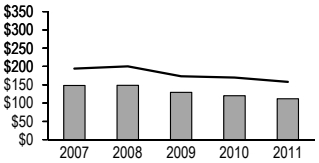
	2007	2008	2009	2010	2011
Greensboro	$13.28	$13.24	$11.63	$10.72	$10.00
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	1.57	1.49	1.29	1.21	1.18
Average	2.30	2.34	1.94	1.88	1.66

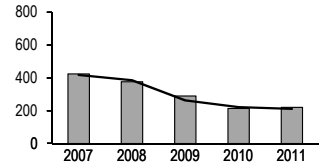
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Greensboro	$148	$148	$129	$120	$112
Average	$194	$201	$173	$170	$158

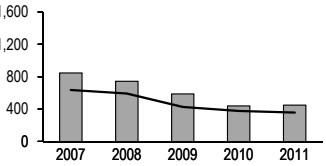
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



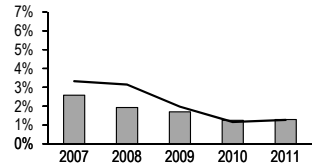
	2007	2008	2009	2010	2011
Greensboro	424	377	290	214	220
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



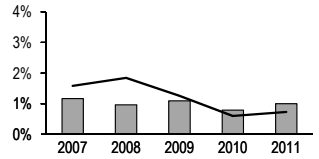
	2007	2008	2009	2010	2011
Greensboro	847	743	588	441	451
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



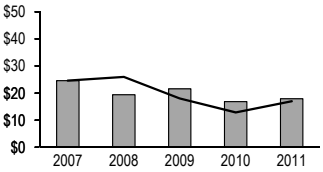
	2007	2008	2009	2010	2011
Greensboro	2.58%	1.93%	1.70%	1.25%	1.30%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Greensboro	1.17%	0.97%	1.10%	0.79%	1.00%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

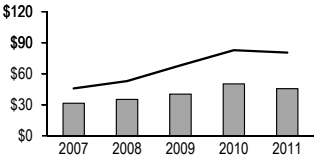
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Greensboro	$24.6	$19.4	$21.6	$16.9	$17.9
Average	$24.6	$26.0	$18.0	$12.9	$17.0

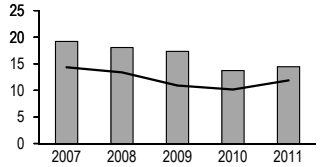
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



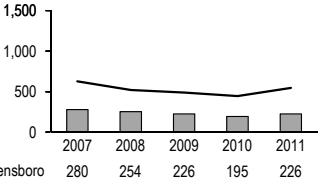
	2007	2008	2009	2010	2011
Greensboro	$31.31	$35.14	$40.13	$50.16	$45.42
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Greensboro	19.2	18.1	17.4	13.7	14.5
Average	14.4	13.4	10.9	10.2	11.9

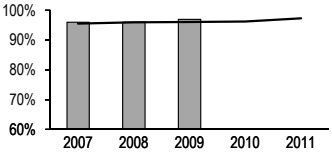
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Greensboro	280	254	226	195	226
Average	628	521	490	446	546

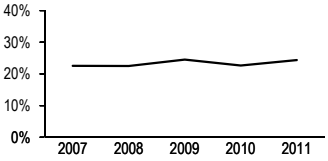
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Greensboro	96.0%	96.0%	97.0%		
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Greensboro					
Average	22.6%	22.5%	24.5%	22.7%	24.4%

MUNICIPAL PROFILE

Population Served	270,065
Land Area Served (Square Miles)	131.94
Persons Served per Square Mile	2,047
Topography	Flat; gently rolling
Estimated Tax Base Served (billions) (Assessed Value)	$24.2
County	Guilford

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.6%
Operating Costs		23.4%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,068,418
Operating Costs	$	632,963
Capital Costs	$	-
TOTAL	$	2,701,381

SERVICE PROFILE

Number of Inspections by Type	
Building	24,251
Electrical	15,099
Mechanical	11,139
Plumbing	8,991
TOTAL	59,480
Building Permit Values	
Residential	$70,886,398
Multi-Family	NA
Commercial	$242,304,375
TOTAL	$313,190,773
FTE Inspectors	
Building	7.0
Electrical	4.5
Mechanical	3.0
Plumbing	3.0
All Trades	0.0
TOTAL INSPECTORS	17.5
FTE Plan Reviewers	4.5
Other FTE Positions	10.0
Inspection Fee Revenue	$1,944,570

EXPLANATORY INFORMATION

Service Level and Delivery

Inspections is a division of the Engineering and Inspections Department of the City of Greensboro. The inspections division consists of plans review, building inspections, plumbing inspections, mechanical inspections, electrical inspections, and local code enforcement. The city services the incorporated portion of the city but not the extraterritorial jurisdiction areas.

Trade inspectors are required to attain a Level III certification of their primary building trade within two years. Mechanical and plumbing inspectors are required to attain a secondary certification. Local ordinance inspectors are required to attain a Level I certification. All certified inspectors are required to take and pass a law and administrative course.

All requests for inspections are responded to within forty-eight hours or less. Nearly all requests, 96 percent, are called into the city's automated system or entered onto its website.

Total revenue received from inspection fees amounted to $1.9 million for FY 2010–11. If a request for inspection is made and the job is not ready or corrections have not been made, a $45 fee for each reinspection is assessed.

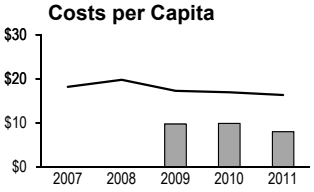
Conditions Affecting Service, Performance, and Costs

The broad downturn in the economy has reduced building activity and the number of requests for inspections.

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

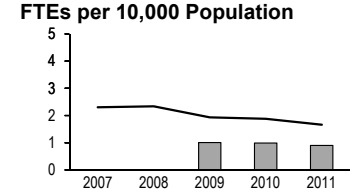
RESOURCE Measures

Building Inspections Services Costs per Capita



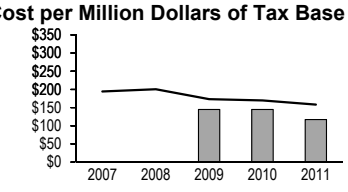
	2007	2008	2009	2010	2011
Greenville			$9.77	$9.89	$8.04
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			1.01	0.99	0.90
Average	2.30	2.34	1.94	1.88	1.66

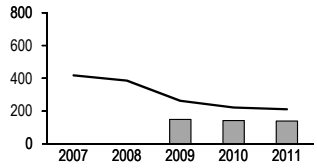
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Greenville			$145	$145	$117
Average	$194	$201	$173	$170	$158

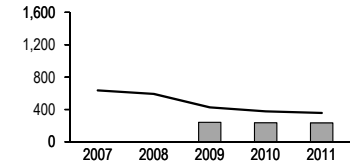
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



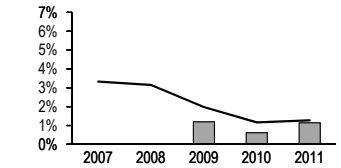
	2007	2008	2009	2010	2011
Greenville			149	142	139
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



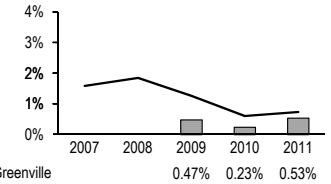
	2007	2008	2009	2010	2011
Greenville			243	237	234
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



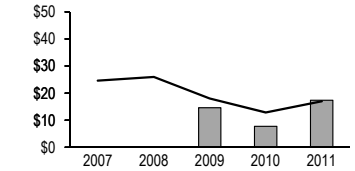
	2007	2008	2009	2010	2011
Greenville			1.20%	0.61%	1.14%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Greenville			0.47%	0.23%	0.53%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

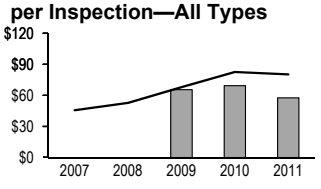
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Greenville			$14.6	$7.7	$17.4
Average	$24.6	$26.0	$18.0	$12.9	$17.0

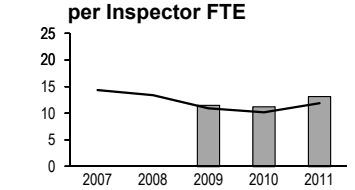
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



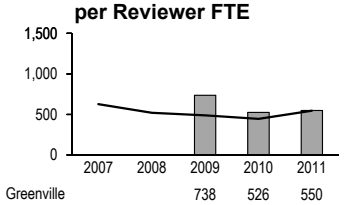
	2007	2008	2009	2010	2011
Greenville			$65.61	$69.41	$57.62
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Greenville			11.5	11.2	13.1
Average	14.4	13.4	10.9	10.2	11.9

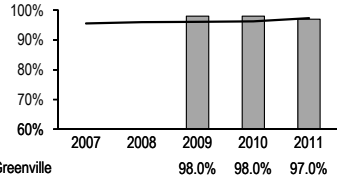
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Greenville			738	526	550
Average	628	521	490	446	546

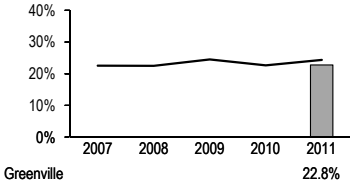
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Greenville			98.0%	98.0%	97.0%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Greenville					22.8%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

Greenville

MUNICIPAL PROFILE

Population Served	110,723
Land Area Served (Square Miles)	66.00
Persons Served per Square Mile	1,678
Topography	Flat
Estimated Tax Base Served (billions) (Assessed Value)	$7.6
County	Pitt

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.2%
Operating Costs		15.9%
Capital Costs		4.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	705,102
Operating Costs	$	141,906
Capital Costs	$	42,728
TOTAL	$	889,736

SERVICE PROFILE

Number of Inspections by Type	
Building	4,248
Electrical	4,366
Mechanical	4,536
Plumbing	2,292
TOTAL	15,442
Building Permit Values	
Residential	$25,922,399
Multi-Family	$20,628,420
Commercial	$40,232,217
TOTAL	$86,783,036
FTE Inspectors	
Building	0.0
Electrical	0.0
Mechanical	0.0
Plumbing	0.0
All Trades	5.0
TOTAL INSPECTORS	5.0
FTE Plan Reviewers	1.0
Other FTE Positions	4.0
Inspection Fee Revenue	$711,153

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Greenville provides detailed inspections service within the city limits and its extraterritorial jurisdiction (ETJ). The city provides building, plumbing, electrical, and mechanical code enforcement services.

Total revenue received from inspection fees amounted to $711,153 for FY 2010–11. Inspection and permit fees depend on the type of construction or work, value of construction, and other factors.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in 2009, with the first year of reporting being for FY 2008–09.

The population served is calculated by adding the population of Greenville with the population of the ETJ. The tax base served is calculated by adding the tax base of Greenville with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Pitt County and multiplying them by the square miles of the ETJ.

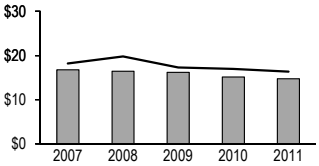
The downturn in the economy has decreased the demand for inspections services from earlier years.

High Point — Building Inspections

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

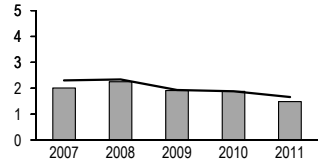
RESOURCE Measures

Building Inspections Services Costs per Capita



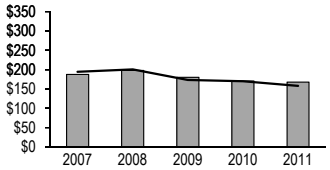
	2007	2008	2009	2010	2011
High Point	$16.75	$16.45	$16.17	$15.12	$14.74
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	2.01	2.25	1.91	1.88	1.49
Average	2.30	2.34	1.94	1.88	1.66

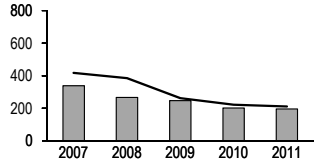
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
High Point	$187	$198	$180	$171	$168
Average	$194	$201	$173	$170	$158

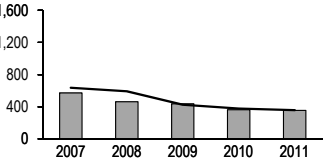
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



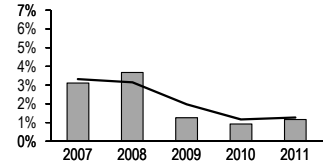
	2007	2008	2009	2010	2011
High Point	339	267	247	202	196
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



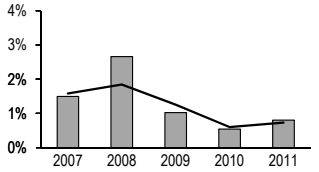
	2007	2008	2009	2010	2011
High Point	572	463	437	364	357
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



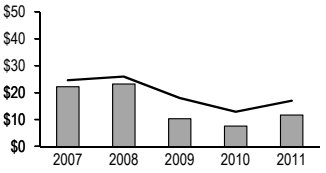
	2007	2008	2009	2010	2011
High Point	3.11%	3.68%	1.26%	0.92%	1.17%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
High Point	1.50%	2.66%	1.03%	0.54%	0.81%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

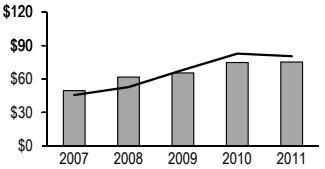
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
High Point	$22.2	$23.2	$10.3	$7.6	$11.6
Average	$24.6	$26.0	$18.0	$12.9	$17.0

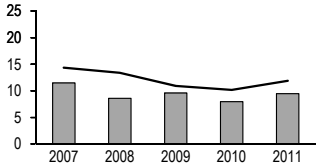
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



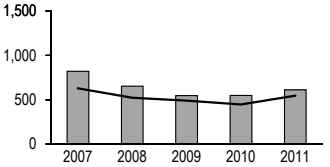
	2007	2008	2009	2010	2011
High Point	$49.45	$61.68	$65.47	$74.72	$75.12
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
High Point	11.5	8.6	9.6	8.0	9.5
Average	14.4	13.4	10.9	10.2	11.9

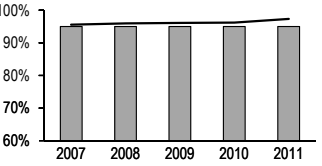
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
High Point	821	652	547	549	611
Average	628	521	490	446	546

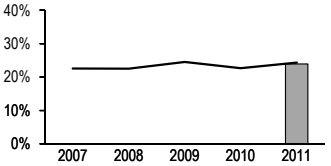
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
High Point	95.0%	95.0%	95.0%	95.0%	95.0%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
High Point					23.9%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

High Point

MUNICIPAL PROFILE

Population Served	107,718
Land Area Served (Square Miles)	59.29
Persons Served per Square Mile	1,817
Topography	Flat; gently rolling
Estimated Tax Base Served (billions) (Assessed Value)	$9.5
County	Guilford

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.0%
Operating Costs		21.8%
Capital Costs		6.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,142,817
Operating Costs	$	346,129
Capital Costs	$	99,046
TOTAL	$	1,587,992

SERVICE PROFILE

Number of Inspections by Type	
Building	7,619
Electrical	5,586
Mechanical	4,593
Plumbing	3,341
TOTAL	21,139
Building Permit Values	
Residential	$34,137,119
Multi-Family	In commercial
Commercial	$76,529,671
TOTAL	$110,666,790
FTE Inspectors	
Building	3.0
Electrical	2.5
Mechanical	2.5
Plumbing	1.5
All Trades	0.0
TOTAL INSPECTORS	9.5
FTE Plan Reviewers	1.5
Other FTE Positions	5.0
Inspection Fee Revenue	$707,990

EXPLANATORY INFORMATION

Service Level and Delivery
The inspections department of High Point provides building, plumbing, electrical, and mechanical code enforcement services to the incorporated area of the city in addition to a small portion of the rural/suburban extraterritorial jurisdiction (ETJ) within Guilford County.

Fire inspections and permit records are maintained by the inspections department, but fire inspections are performed by fire marshals. The department also has a local codes division, which enforces zoning, housing, public nuisance, and vehicle codes. This staff was not included in this report.

Inspectors are required to complete a level of training prior to receiving individual assignments. Prior to completing the required training, employees must work under the direct supervision of their supervisor or assigned employees. Training includes formal classroom and on-the-job training in code enforcement, technical codes, related state and local code laws, safety, and personnel regulations.

All inspection requests received by midnight are inspected the next business day.

Total revenue received from inspection fees amounted to $707,990 for FY 2010–11. Inspection and permit fees depend on the type of construction or work, value of construction, and other factors.

Conditions Affecting Service, Performance, and Costs
The population served is calculated by adding the population of High Point with the population of the ETJ. The tax base served is calculated by adding the tax base of High Point with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Guilford County and multiplying them by the square miles of the ETJ.

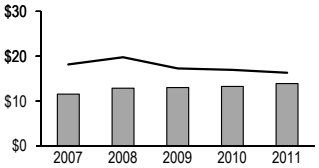
The broad downturn in the economy has reduced building activity and the number of requests for inspections.

Wilson — Building Inspections

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

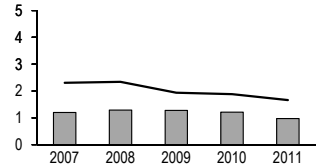
RESOURCE Measures

Building Inspections Services Costs per Capita



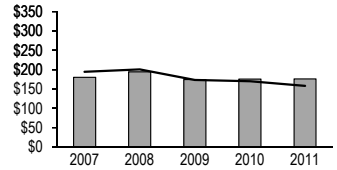
	2007	2008	2009	2010	2011
Wilson	$11.55	$12.87	$13.01	$13.26	$13.91
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	1.20	1.29	1.28	1.21	0.97
Average	2.30	2.34	1.94	1.88	1.66

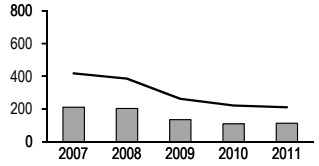
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Wilson	$180	$194	$174	$175	$176
Average	$194	$201	$173	$170	$158

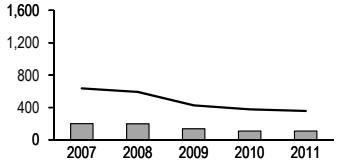
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



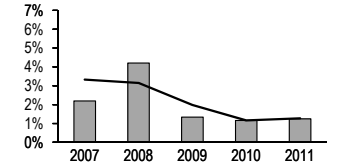
	2007	2008	2009	2010	2011
Wilson	212	204	136	110	114
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



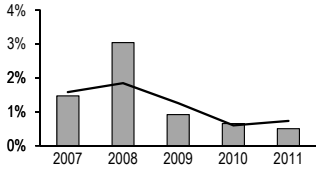
	2007	2008	2009	2010	2011
Wilson	202	199	138	110	109
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



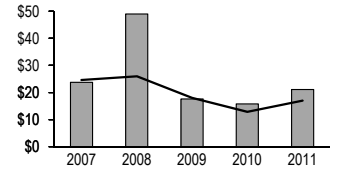
	2007	2008	2009	2010	2011
Wilson	2.19%	4.21%	1.33%	1.16%	1.25%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Wilson	1.47%	3.04%	0.92%	0.65%	0.50%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

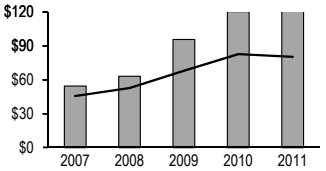
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Wilson	$23.8	$49.0	$17.6	$15.8	$21.1
Average	$24.6	$26.0	$18.0	$12.9	$17.0

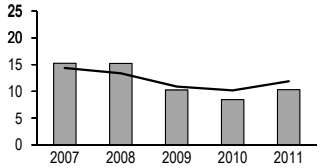
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



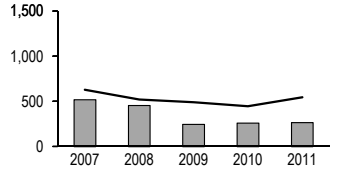
	2007	2008	2009	2010	2011
Wilson	$54.51	$63.13	$95.78	$120.39	$122.46
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Wilson	15.2	15.2	10.3	8.5	10.3
Average	14.4	13.4	10.9	10.2	11.9

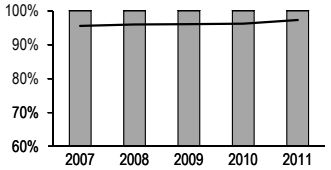
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Wilson	518	455	245	260	265
Average	628	521	490	446	546

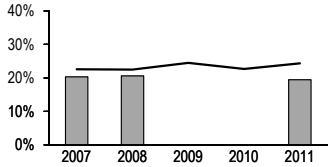
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Wilson	100.0%	100.0%	100.0%	100.0%	100.0%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Wilson	20.3%	20.6%			19.4%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

Wilson

MUNICIPAL PROFILE

Population Served	55,594
Land Area Served (Square Miles)	57.70
Persons Served per Square Mile	964
Topography	Flat
Estimated Tax Base Served (billions) (Assessed Value)	$4.4
County	Wilson

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.2%
Operating Costs		25.8%
Capital Costs		6.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	527,767
Operating Costs	$	199,245
Capital Costs	$	46,296
TOTAL	$	773,308

SERVICE PROFILE

Number of Inspections by Type	
Building	1,821
Electrical	1,697
Mechanical	1,827
Plumbing	970
TOTAL	6,315
Building Permit Values	
Residential	$25,429,405
Multi-Family	$7,381,171
Commercial	$22,044,665
TOTAL	$54,855,241
FTE Inspectors	
Building	0.0
Electrical	0.0
Mechanical	0.0
Plumbing	0.0
All Trades	2.6
TOTAL INSPECTORS	2.6
FTE Plan Reviewers	0.8
Other FTE Positions	2.00
Inspection Fee Revenue	$356,002

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilson's inspection team serves an area consisting of the area within the corporate limits and the extraterritorial zoning jurisdiction (ETJ) that is approximately one mile beyond the city limits.

Inspection services are currently provided by three inspectors, one field supervisor, and the inspections divisions manager. Two permit technicians provide support to this function. For commercial jobs, each inspector is assigned a primary inspection field. For residential jobs, inspectors hold certificates in all trade areas. Fire inspections are handled by certified inspectors in the fire department but are occasionally conducted by building inspectors who have fire inspection certification.

It is the policy of the inspection work team to respond to an inspection request on the same working day if the request is made prior to 8:30 a.m. and to respond to an inspection request by the following working day if the request is made after 8:30 a.m. Most inspections are completed the same day as the request.

Total revenue received from inspection fees amounted to $356,002 for FY 2010–11. Building inspection fees had been increased in FY 2007–08. Inspection and permit fees depend on the type of construction or work, the value of construction, and other factors. A reinspection fee is assessed when making an inspection for the same trade that had been previously rejected.

Conditions Affecting Service, Performance, and Costs
The population served is calculated by adding the population of Wilson with the population of the ETJ. The tax base served is calculated by adding the tax base of Wilson with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Wilson County and multiplying them by the square miles of the ETJ.

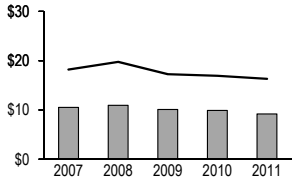
The broad downturn in the economy has reduced building activity and the number of requests for inspections.

Winston-Salem Building Inspections

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2011

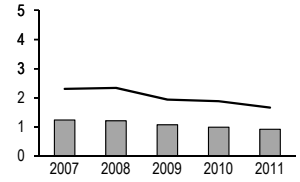
RESOURCE Measures

Building Inspections Services Costs per Capita



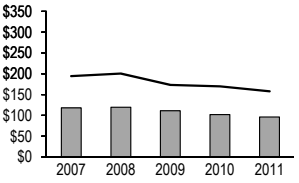
	2007	2008	2009	2010	2011
Winston-Salem	$10.52	$10.94	$10.12	$9.90	$9.19
Average	$18.19	$19.77	$17.27	$16.95	$16.33

Building Inspections Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	1.24	1.21	1.07	0.99	0.92
Average	2.30	2.34	1.94	1.88	1.66

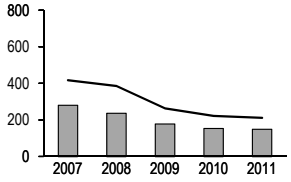
Building Inspections Services Cost per Million Dollars of Tax Base



	2007	2008	2009	2010	2011
Winston-Salem	$118	$120	$111	$102	$96
Average	$194	$201	$173	$170	$158

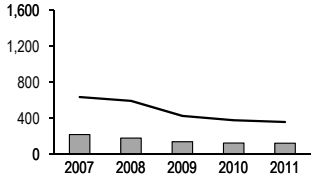
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



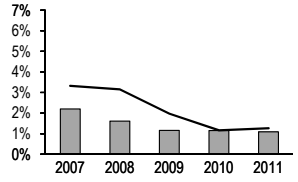
	2007	2008	2009	2010	2011
Winston-Salem	280	237	178	153	148
Average	417	385	263	222	211

Inspections per Square Mile in Service Area



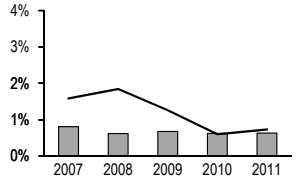
	2007	2008	2009	2010	2011
Winston-Salem	218	181	138	125	123
Average	637	593	426	378	358

Value of Building Permits as Percentage of Tax Base of Area Served



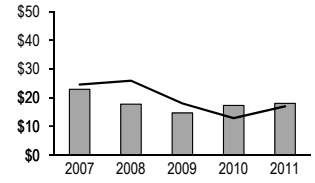
	2007	2008	2009	2010	2011
Winston-Salem	2.21%	1.61%	1.16%	1.16%	1.09%
Average	3.32%	3.15%	1.97%	1.17%	1.27%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2007	2008	2009	2010	2011
Winston-Salem	0.81%	0.62%	0.68%	0.63%	0.63%
Average	1.58%	1.85%	1.26%	0.60%	0.73%

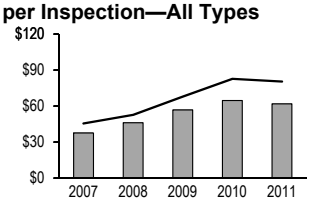
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2007	2008	2009	2010	2011
Winston-Salem	$22.9	$17.8	$14.7	$17.3	$18.0
Average	$24.6	$26.0	$18.0	$12.9	$17.0

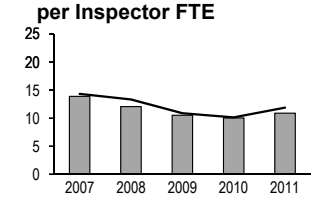
EFFICIENCY Measures

Building Services Cost per Inspection—All Types



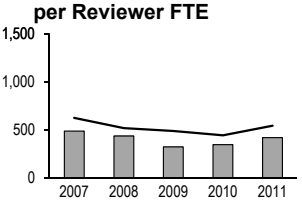
	2007	2008	2009	2010	2011
Winston-Salem	$37.59	$46.21	$56.82	$64.66	$61.89
Average	$45.60	$52.74	$68.00	$82.71	$80.41

Inspections per Day per Inspector FTE



	2007	2008	2009	2010	2011
Winston-Salem	13.9	12.1	10.6	10.1	10.9
Average	14.4	13.4	10.9	10.2	11.9

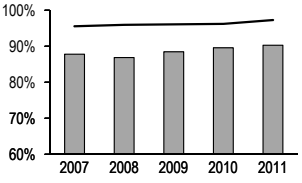
Plan Reviews per Year per Reviewer FTE



	2007	2008	2009	2010	2011
Winston-Salem	491	438	325	349	421
Average	628	521	490	446	546

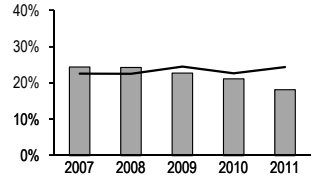
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2007	2008	2009	2010	2011
Winston-Salem	87.8%	86.9%	88.5%	89.6%	90.3%
Average	95.6%	96.0%	96.1%	96.2%	97.3%

Percentage of Inspections that Are Reinspections



	2007	2008	2009	2010	2011
Winston-Salem	24.4%	24.3%	22.7%	21.1%	18.1%
Average	22.6%	22.5%	24.5%	22.7%	24.4%

MUNICIPAL PROFILE

Population Served	328,842
Land Area Served (Square Miles)	396.00
Persons Served per Square Mile	830
Topography	Gently rolling
Estimated Tax Base Served (billions) (Assessed Value)	$31.4
County	Forsyth

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		62.5%
Operating Costs		31.7%
Capital Costs		5.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,889,267
Operating Costs	$	957,957
Capital Costs	$	174,777
TOTAL	$	3,022,001

SERVICE PROFILE

Number of Inspections by Type	
Building	14,938
Electrical	12,756
Mechanical	12,640
Plumbing	8,494
TOTAL	48,828
Building Permit Values	
Residential	$144,017,959
Multi-Family	In residential
Commercial	$198,700,467
TOTAL	$342,718,426
FTE Inspectors	
Building	5.0
Electrical	5.0
Mechanical	5.0
Plumbing	4.0
All Trades	0.0
TOTAL INSPECTORS	19.0
FTE Plan Reviewers	3.0
Other FTE Positions	8.4
Inspection Fee Revenue	$2,250,178

EXPLANATORY INFORMATION

Service Level and Delivery
The Inspections Division is a combined program for Winston-Salem and Forsyth County, providing building inspections services for all areas of the county with the exception of the Town of Kernersville.

Inspectors are certified in one of the following four trades: building, electrical, mechanical, or plumbing. Inspectors drive to and from inspection sites in city-owned vehicles. Besides the North Carolina State Building Code, the Inspections Division enforces zoning codes and soil and sedimentation control regulations. Full-time equivalent positions and costs for these responsibilities are excluded from the project's figures for building inspections.

It is the policy of the Inspections Division to respond to inspection requests within one working day 90 percent of the time.

Total revenue received from inspection fees amounted to $2.25 million for FY 2010–11. Inspection and permit fees depend on the type of construction or work, value of the construction, and other factors. An extra trip charge of $40 is assessed for each reinspection due to a second and subsequent failed inspection on each permit.

Conditions Affecting Service, Performance, and Costs
The broad downturn in the economy has reduced building activity and the number of requests for inspections.

UNC
SCHOOL OF
GOVERNMENT

Performance and Cost Data

FLEET MAINTENANCE

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR FLEET MAINTENANCE

SERVICE DEFINITION

Fleet maintenance represents the scheduled and unscheduled maintenance of rolling stock performed by the central garage and by contractual work assigned by the central garage. This includes preventive, predictive, corrective, and breakdown maintenance. Excluded from this definition are rolling stock not maintained by the central garage and the broader activities of fleet services such as rolling stock replacement and disposal, fuel station operation, and pool vehicle management.

NOTES ON PERFORMANCE MEASURES

1. Number of Vehicle Equivalent Units (VEUs) per Technician FTE

Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance effort. The number of VEUs in a municipality is determined by taking the number of rolling stock units in different classes of vehicles and multiplying them by a class weight for that category of vehicle. Vehicle categories include cars; light, medium, and heavy vehicles; trailed equipment; off-road/ construction/tractor units; and buses. The number of full-time equivalent (FTE) positions for technicians is the number of employees directly involved in providing the maintenance services for the municipality's rolling stock as approved in the annual operating budget for the fiscal year.

2. Number of Preventive Maintenances Completed In-House per Technician FTE

The number of preventive maintenance jobs (PMs) completed in-house is the total number completed for the fiscal year ending June 30 that are done by the municipality's staff. The number of full-time equivalent (FTE) positions for technicians is the same as defined above.

3. Cost per Work Order

The cost represents the total cost of fleet maintenance and is calculated using the full cost accounting model that captures direct, indirect, and capital costs. Work orders include the total number of work orders produced, including those related to contractual work, for the fiscal year ending June 30.

4. Cost per Vehicle Equivalent Unit (VEU)

The cost represents the total cost of fleet maintenance and is calculated using the full cost accounting model that captures direct, indirect, and capital costs. Vehicle Equivalent Units (VEUs) are calculated as defined above for the fiscal year ending June 30.

5. Hours Billed as a Percentage of Total Hours
The total number of billable hours includes all hours for technicians available for work during the fiscal year. Billable hours are calculated by multiplying 2,080 (hours in a normal working year) by the number of full-time equivalent (FTE) positions for technicians as defined above. However, this number of FTEs is adjusted for vacancies. Hours billed represents actual hours billed during the fiscal year by the central garage to departments, divisions, and programs.

6. Preventive Maintenances (PMs) as a Percentage of All Work Orders
This measure is based on the total number of preventive maintenance jobs (PMs) (done in-house or by outside contractors) completed during the fiscal year divided by the total number of work orders (including contractual work) completed during the fiscal year for that jurisdiction.

7. Percentage of PMs Completed on Schedule
Based on the total number of PMs as defined above, this measure represents the percentage of PMs completed as scheduled as defined by the respective jurisdiction's standards.

8. Percentage of Work Orders Completed within Twenty-Four Hours
Based on the total number of work orders as defined above, this measure represents the percentage of work orders completed during the fiscal year within twenty-four hours of being received.

9. Percentage of Rolling Stock Available per Day
Based on the total number of rolling stock units as defined above, this measure represents the average percentage of rolling stock available for use per working day of the jurisdiction.

10. Percentage of Work Orders Requiring Repeat Repair within Thirty Days
Based on the total number of work orders as defined above, this measure represents the percentage of works orders (completed work on a unit of rolling stock) requiring repeat repair for the same problem within thirty days.

Fleet Maintenance

Summary of Key Dimensions of Service

City or Town	Number of Rolling Stock Maintained	Average Age of Rolling Stock (in Years)	Number of Work Orders	Number of Preventive Maintenances	Number of Work Bays	Authorized Technician FTEs	Labor Rate (per Hour)	Parts Inventory Turnover per Year	Fund Type
Apex	266	6.7	1,916	878	4	3.5	NA	4.0	General Fund
Asheville	887	10.2	4,669	1,416	16	9.0	$50–Cars and Small Trucks $60–Large Truck and Off-Road	2.1	General Fund
Burlington	467	10.6	3,789	2,449	19	11.0	$55–Heavy Equipment $45–Auto/Light Truck $35–Small Engine/Mowers	0.7	General Fund
Cary	818	5.8	4,799	1,855	7	8.0	$60.00	NA	Internal Service
Charlotte	4,719	6.5	36,496	13,882	111	73.8	$50.55	4.8	General Fund
Concord	803	7.4	4,239	1,929	8	8.0	$22.00	5.5	Internal Service
Greensboro	1,984	5.0	11,831	5,299	33	32.0	$52.00	3.4	Internal Service
Greenville	568	6.9	6,821	2,326	13	13.0	$42.83	1.1	General Fund
Hickory	546	9.7	6,120	1,406	14	6.0	$44.50	4.0	Internal Service
High Point	946	8.8	4,654	2,042	17	12.0	$60.00	4.0	Internal Service
Salisbury	534	9.2	4,442	1,217	14	7.0	NA	1.7	General Fund
Wilmington	725	7.3	4,424	1,863	20	9.0	$68.00	5.0	Internal Service
Wilson	772	8.9	6,089	1,469	15	11.0	$44.00	1.0	General Fund
Winston-Salem	1,759	8.3	10,334	4,824	31	16.0	$50.00	2.9	Internal Service

EXPLANATORY FACTORS

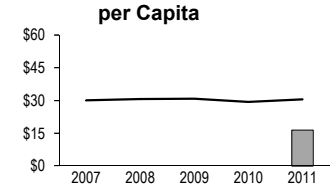
These are factors that the project found to affect fleet maintenance performance and cost in one or more of the municipalities:

Number of vehicles maintained
Types of vehicles maintained
Fleet replacement plan
Average age of vehicles by type
Average miles driven for each type of vehicle
Preventive maintenance classification system
Preventive maintenance schedule

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

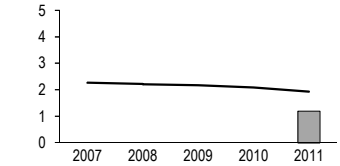
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



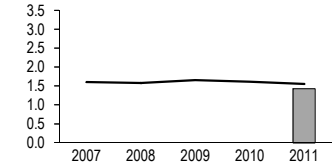
	2007	2008	2009	2010	2011
Apex					$16.49
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					1.19
Average	2.26	2.21	2.18	2.09	1.93

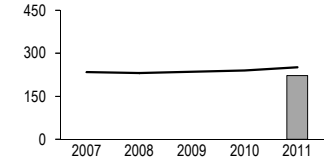
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Apex					1.42
Average	1.60	1.57	1.66	1.61	1.55

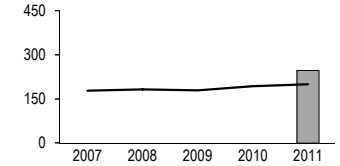
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Apex					223
Average	234	231	236	240	252

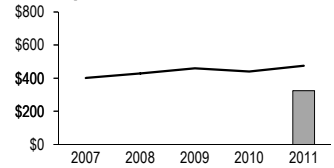
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Apex					247
Average	178	182	179	194	200

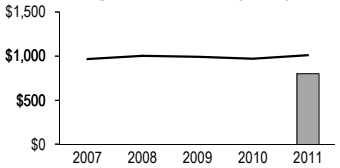
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



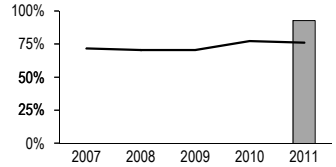
	2007	2008	2009	2010	2011
Apex					$325
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Apex					$799
Average	$963	$1,002	$994	$972	$1,009

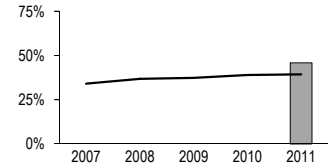
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Apex					93%
Average	72%	70%	70%	77%	76%

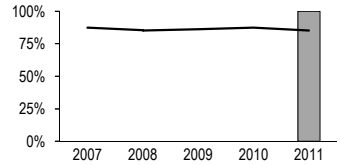
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



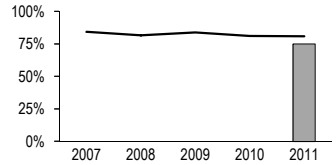
	2007	2008	2009	2010	2011
Apex					46%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



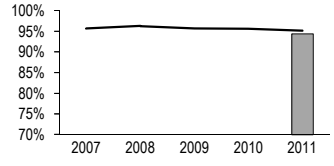
	2007	2008	2009	2010	2011
Apex					100%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



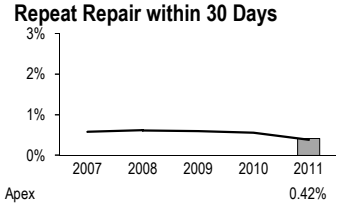
	2007	2008	2009	2010	2011
Apex					75%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Apex					94%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Apex					0.42%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	2	8.0 Years
Cars—Severe Usage	43	5.8 Years
Light Vehicles	91	4.9 Years
Medium Vehicles	21	9.0 Years
Heavy—Sanitation	0	NA
Heavy—Sewer	1	2.0 Years
Heavy—Fire Apparatus	10	10.0 Years
Heavy—Other	16	7.0 Years
Trailed Equipment	59	8.1 Years
Off-Road/Construction/Tractors	23	8.3 Years
Buses	0	NA
TOTAL	266	

Vehicle Equivalent Units (VEUs)	779

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	30.8%
Operating Costs	57.8%
Capital Costs	11.4%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	191,834
Operating Costs	$	359,847
Capital Costs	$	70,943
TOTAL	$	622,624

SERVICE PROFILE

FTE Positions—Technician	3.5
FTE Positions—Other	1.0
Work Bays	4
Average Rolling Stock Units Available per Day	251
Hours Billed	6,744
Work Orders	1,916
Repeat Repairs within 30 Days	8
Work Orders Completed within 24 hours	1,437
Preventive Maintence (PMs)	878
PMs Completed as Scheduled	878

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet Services is a division of the Facility and Fleet Services Department in the Town of Apex. The activities for this operation are accounted for in the general fund.

The town does not charge departments for labor but does track time technicians spend on work orders. There is no charge to departments for parts or sublet work. Parts inventory turned over approximately four times during the fiscal year.

The following services were contracted out during FY 2010–11:

- transmission repairs
- extended repair order work
- major engine repairs
- body work
- EMS amubulance body service work
- electric line truck repairs
- major hydraulic cylinder repairs
- fire truck pump repairs.

Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

In Apex the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date or within mileage parameters.

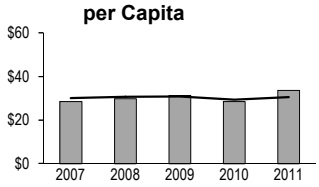
In addition to rolling stock, Apex's fleet services has maintenance responsibilities for other pieces of equipment, including asphalt rollers, whacker and roller tamps, portable generators, ballfield conditions, various types of ATVs, weedeaters, lawnmowers, chainsaws, sump pumps, water pumps, snow plows, flail mowers, boat motors, light towers, and stump grinders.

Asheville Fleet Maintenance

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

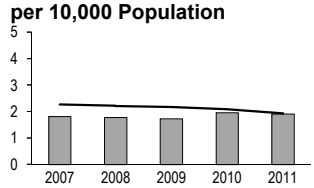
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



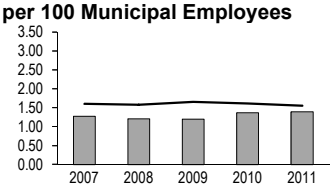
	2007	2008	2009	2010	2011
Asheville	$28.48	$29.77	$31.26	$28.42	$33.59
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	1.81	1.77	1.73	1.95	1.91
Average	2.26	2.21	2.18	2.09	1.93

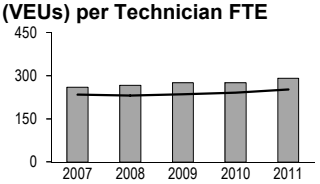
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Asheville	1.28	1.20	1.20	1.36	1.40
Average	1.60	1.57	1.66	1.61	1.55

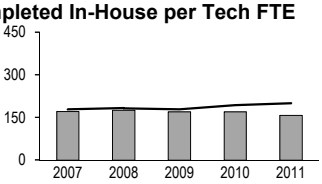
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Asheville	259	266	276	276	290
Average	234	231	236	240	252

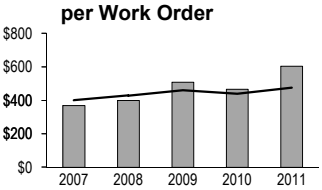
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Asheville	170	176	170	170	157
Average	178	182	179	194	200

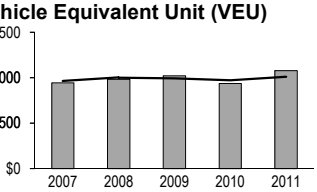
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



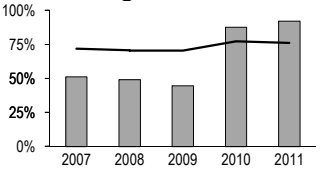
	2007	2008	2009	2010	2011
Asheville	$368	$399	$507	$466	$604
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Asheville	$943	$983	$1,023	$938	$1,079
Average	$963	$1,002	$994	$972	$1,009

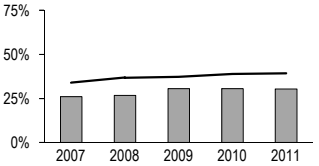
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Asheville	51%	49%	44%	88%	92%
Average	72%	70%	70%	77%	76%

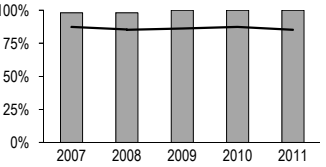
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



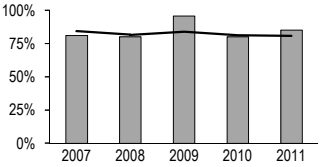
	2007	2008	2009	2010	2011
Asheville	26%	27%	31%	31%	30%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



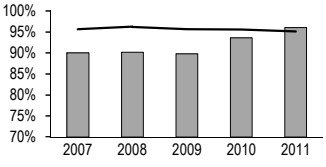
	2007	2008	2009	2010	2011
Asheville	98%	98%	100%	100%	100%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



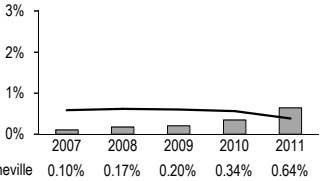
	2007	2008	2009	2010	2011
Asheville	81%	80%	96%	80%	85%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Asheville	90%	90%	90%	94%	96%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Asheville	0.10%	0.17%	0.20%	0.34%	0.64%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
County	Buncombe
Topography	Hills, mountains
Climate	Moderate; ice and snow

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	30	8.8 Years
Cars—Severe Usage	179	6.5 Years
Light Vehicles	279	10.5 Years
Medium Vehicles	28	17.8 Years
Heavy—Sanitation	18	5.6 Years
Heavy—Sewer	2	3.5 Years
Heavy—Fire Apparatus	29	9.4 Years
Heavy—Other	49	8.3 Years
Trailed Equipment	216	13.0 Years
Off-Road/Construction/Tractors	55	9.4 Years
Buses	2	23.1 Years
TOTAL	887	

Vehicle Equivalent Units (VEUs)	2,614

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	31.0%
Operating Costs	66.9%
Capital Costs	2.1%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 873,996
Operating Costs	$ 1,886,831
Capital Costs	$ 60,154
TOTAL	$ 2,820,981

SERVICE PROFILE

FTE Positions—Technician	9.0
FTE Positions—Other	7.0
Work Bays	16
Average Rolling Stock Units Available per Day	852
Hours Billed	17,222
Work Orders	4,669
Repeat Repairs within 30 Days	30
Work Orders Completed within 24 hours	3,969
Preventive Maintence (PMs)	1,416
PMs Completed as Scheduled	1,416

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet management is a division of the Asheville Public Works Department, consisting of the fleet maintenance garage and a fueling station. The activities for this operation are accounted for in the general fund.

Charges for maintenance services included a $50-an-hour labor rate for passenger cars and light trucks up to one ton in weight and a $60-an-hour labor rate for vehicles over one ton in weight and off-road vehicles, a 30 percent markup on parts, and a 5 percent markup on sublet work. Parts inventory turned over 2.1 times during the fiscal year.

The following services were contracted out during FY 2010–11:

- major automatic and manual transmission repairs
- front-end alignments
- major emergency generator repairs
- aerial inspections
- major engine repairs
- paint and body repairs
- tire repairs on trucks over one ton
- major hydraulic cylinder repairs
- refuse truck body packer repairs.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

In Asheville, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month as the scheduled date.

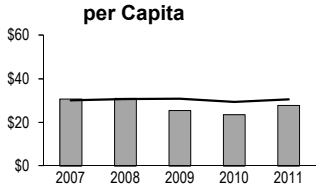
In addition to rolling stock, Asheville's fleet services has maintenance responsibilities for other pieces of equipment, including snow plows, sand spreaders, emergency generators, water pumps, chain saws, a pressure washer, a curb builder, and other city equipment.

Burlington Fleet Maintenance

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

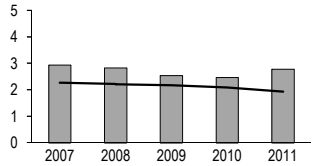
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



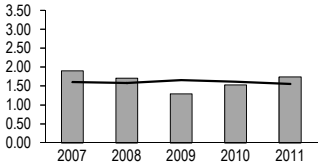
	2007	2008	2009	2010	2011
Burlington	$30.66	$31.02	$25.39	$23.45	$27.79
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	2.93	2.83	2.54	2.46	2.77
Average	2.26	2.21	2.18	2.09	1.93

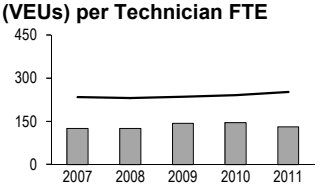
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Burlington	1.90	1.71	1.29	1.53	1.74
Average	1.60	1.57	1.66	1.61	1.55

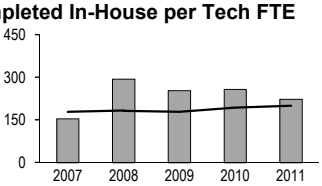
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Burlington	125	126	143	145	130
Average	234	231	236	240	252

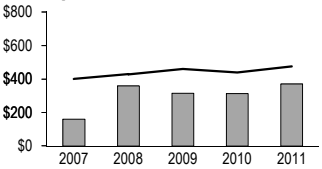
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Burlington	154	293	252	257	223
Average	178	182	179	194	200

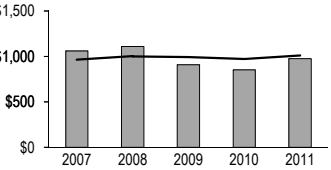
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



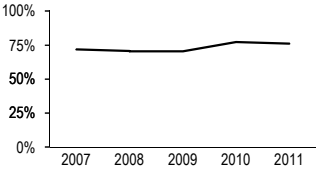
	2007	2008	2009	2010	2011
Burlington	$159	$358	$314	$314	$370
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Burlington	$1,062	$1,110	$908	$853	$977
Average	$963	$1,002	$994	$972	$1,009

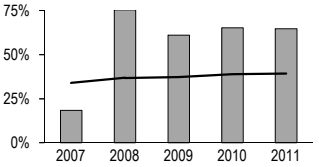
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Burlington					
Average	72%	70%	70%	77%	76%

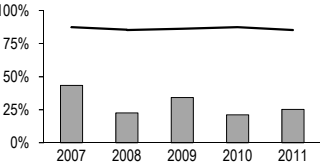
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



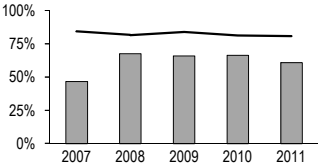
	2007	2008	2009	2010	2011
Burlington	18%	75%	61%	65%	65%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



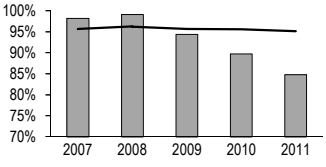
	2007	2008	2009	2010	2011
Burlington	43%	23%	34%	21%	25%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



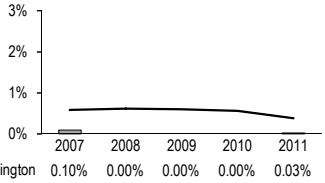
	2007	2008	2009	2010	2011
Burlington	47%	67%	66%	66%	61%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Burlington	98%	99%	94%	90%	85%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Burlington	0.10%	0.00%	0.00%	0.00%	0.03%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
County	Alamance
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	46	4.9 Years
Cars—Severe Usage	86	5.4 Years
Light Vehicles	122	10.5 Years
Medium Vehicles	40	13.4 Years
Heavy—Sanitation	19	7.0 Years
Heavy—Sewer	4	17.0 Years
Heavy—Fire Apparatus	10	11.2 Years
Heavy—Other	3	10.8 Years
Trailed Equipment	89	15.8 Years
Off-Road/Construction/Tractors	46	14.9 Years
Buses	2	10.5 Years
TOTAL	467	

Vehicle Equivalent Units (VEUs)	1,435

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	43.9%
Operating Costs	53.1%
Capital Costs	3.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	616,095
Operating Costs	$	744,431
Capital Costs	$	42,148
TOTAL	$	1,402,674

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	3.0
Work Bays	19
Average Rolling Stock Units Available per Day	396
Hours Billed	10,274
Work Orders	3,789
Repeat Repairs within 30 Days	1
Work Orders Completed within 24 hours	2,300
Preventive Maintence (PMs)	2,449
PMs Completed as Scheduled	620

EXPLANATORY INFORMATION

Service Level and Delivery
Burlington's fleet mantenance is performed by the Equipment Services Division of the Public Works Department. The activities for this operation were accounted for in the general fund.

There are no charges for hourly labor, but a tracking fee is used for internal purposes. There is a 5 percent markup on parts but no markup on sublet work.

The following services were contracted out during FY 2010–11:

- bodywork
- alignments
- major transmission repairs
- machine work
- windshield replacement
- upholstery work
- aerial inspections
- wrecker service
- two-way radio work.

In addition to rolling stock, Burlington's Equipment Services Division has maintenance responsibility for bush hogs, edgers, pavers, pressure washers, riding mowers, generators, chain saws, push mowers, grinders, paint machines, spreaders, aerators, directional signs, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

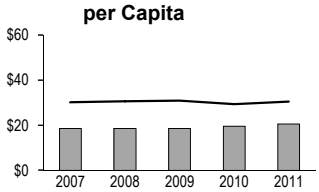
In Burlington, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is based on mileage parameters. While most PMs are done within twenty-four hours of arrival at the fleet shop, not all vehicles are brought in by departments on time to allow completion on schedule.

The City of Burlington began participation in the benchmarking project in 2007, with its reporting data being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

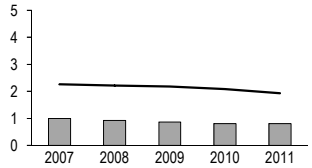
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



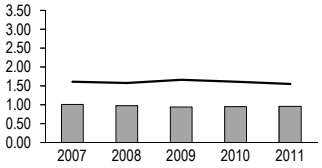
	2007	2008	2009	2010	2011
Cary	$18.59	$18.64	$18.59	$19.52	$20.59
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	1.00	0.92	0.86	0.81	0.81
Average	2.26	2.21	2.18	2.09	1.93

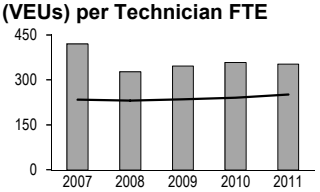
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Cary	1.01	0.98	0.94	0.95	0.96
Average	1.60	1.57	1.66	1.61	1.55

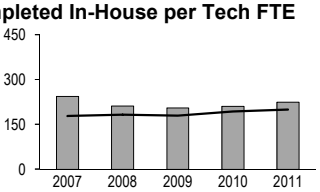
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Cary	420	327	346	357	353
Average	234	231	236	240	252

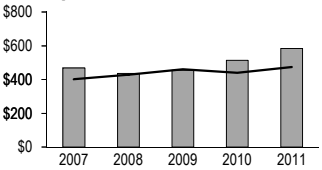
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Cary	244	211	204	210	224
Average	178	182	179	194	200

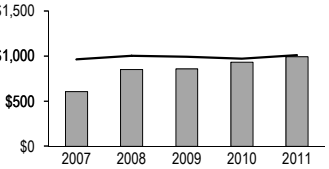
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



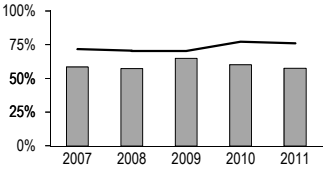
	2007	2008	2009	2010	2011
Cary	$468	$436	$456	$513	$584
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Cary	$606	$850	$857	$933	$993
Average	$963	$1,002	$994	$972	$1,009

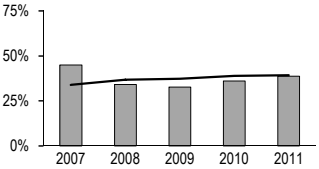
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Cary	58%	57%	65%	60%	58%
Average	72%	70%	70%	77%	76%

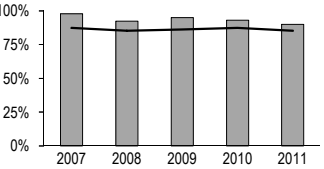
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



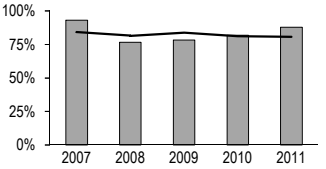
	2007	2008	2009	2010	2011
Cary	45%	34%	33%	36%	39%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



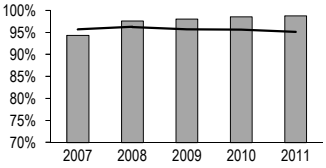
	2007	2008	2009	2010	2011
Cary	98%	92%	95%	93%	90%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



	2007	2008	2009	2010	2011
Cary	93%	77%	78%	82%	88%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Cary	94%	98%	98%	99%	99%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days

	2007	2008	2009	2010	2011
Cary	0.09%	0.12%	0.10%	0.06%	0.08%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	34	11.5 Years
Cars—Severe Usage	115	3.6 Years
Light Vehicles	275	5.3 Years
Medium Vehicles	63	7.0 Years
Heavy—Sanitation	32	4.2 Years
Heavy—Sewer	4	3.8 Years
Heavy—Fire Apparatus	18	9.0 Years
Heavy—Other	13	6.5 Years
Trailed Equipment	67	7.4 Years
Off-Road/Construction/Tractors	197	5.8 Years
Buses	0	NA
TOTAL	818	

Vehicle Equivalent Units (VEUs)	2,823

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	25.2%
Operating Costs	68.7%
Capital Costs	6.1%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 707,824
Operating Costs	$ 1,925,184
Capital Costs	$ 171,123
TOTAL	$ 2,804,131

SERVICE PROFILE

FTE Positions—Technician	8.0
FTE Positions—Other	3.0
Work Bays	7
Average Rolling Stock Units Available per Day	808
Hours Billed	9,581
Work Orders	4,799
Repeat Repairs within 30 Days	4
Work Orders Completed within 24 hours	4,218
Preventive Maintence (PMs)	1,855
PMs Completed as Scheduled	1,670

EXPLANATORY INFORMATION

Service Level and Delivery
Cary's Fleet Division is located in the Public Works and Utilities Department. It operates as an internal service fund where departments are charged according to actual usage and all expenses and revenues are tracked separately from the general fund.

The division charges $60 an hour for labor on all vehicle types and a 19 percent markup on parts sold. A flat fee of $19 is charged on sublet work.

Cary has a contract with NAPA where space is provided for a parts warehouse, but parts are only sold to Cary when used. Parts are stocked based on an annual review of parts used and maintenance requirements. NAPA does not charge a stocking/restocking fee.

The following services were contracted out during FY 2010–11:

- body work
- tire replacement (tires over 16 inches)
- some major transmission work
- some engine overhaul
- striping/decal work for law enforcement and fire vehicles only.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

In Cary, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month as the scheduled date or within mileage parameters.

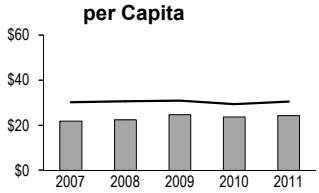
In addition to rolling stock, Cary's fleet services has maintenance responsibilities for riding mowers, weedwackers, rotor tillers, tamps, saws, chippers, rollers, excavators, loaders, salt spreaders, concrete mixers, seeders, aerators, generators, an asphalt heater and trench master, and other town equipment.

Charlotte — Fleet Maintenance

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

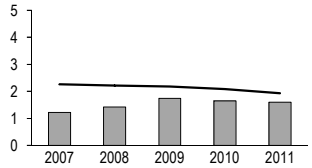
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



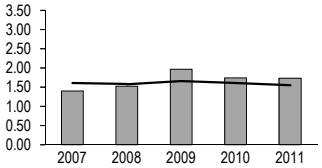
	2007	2008	2009	2010	2011
Charlotte	$21.89	$22.38	$24.63	$23.72	$24.21
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	1.22	1.42	1.74	1.65	1.60
Average	2.26	2.21	2.18	2.09	1.93

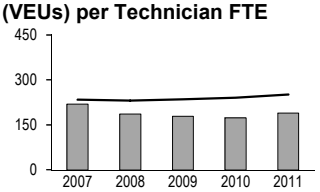
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Charlotte	1.40	1.52	1.96	1.74	1.74
Average	1.60	1.57	1.66	1.61	1.55

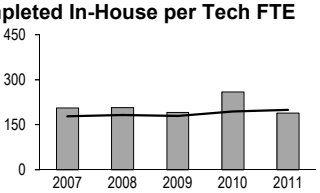
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Charlotte	220	186	178	173	190
Average	234	231	236	240	252

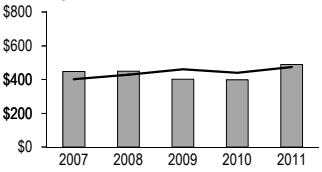
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Charlotte	206	207	191	258	188
Average	178	182	179	194	200

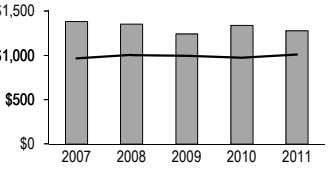
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



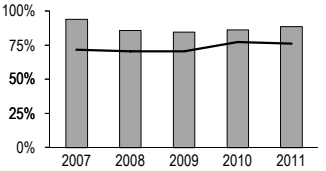
	2007	2008	2009	2010	2011
Charlotte	$448	$450	$403	$399	$490
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Charlotte	$1,382	$1,353	$1,240	$1,337	$1,277
Average	$963	$1,002	$994	$972	$1,009

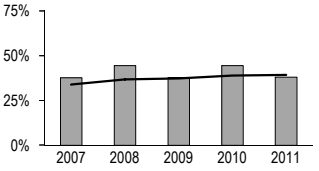
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Charlotte	94%	86%	84%	86%	88%
Average	72%	70%	70%	77%	76%

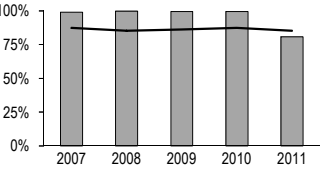
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



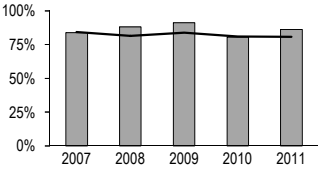
	2007	2008	2009	2010	2011
Charlotte	38%	44%	38%	44%	38%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



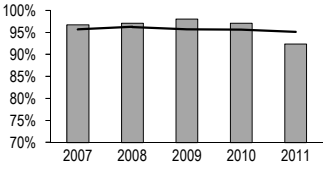
	2007	2008	2009	2010	2011
Charlotte	99%	100%	99%	99%	81%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



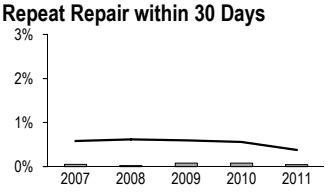
	2007	2008	2009	2010	2011
Charlotte	84%	88%	91%	80%	86%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Charlotte	97%	97%	98%	97%	92%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Charlotte	0.05%	0.02%	0.08%	0.08%	0.05%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	738,979
Land Area (Square Miles)	297.7
Persons per Square Mile	2,482
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	836	6.4 Years
Cars—Severe Usage	932	3.9 Years
Light Vehicles	1477	6.0 Years
Medium Vehicles	174	8.1 Years
Heavy—Sanitation	148	4.1 Years
Heavy—Sewer	27	5.7 Years
Heavy—Fire Apparatus	94	8.5 Years
Heavy—Other	142	7.6 Years
Trailed Equipment	402	9.0 Years
Off-Road/Construction/Tractors	463	11.3 Years
Buses	24	3.1 Years
TOTAL	4,719	

Vehicle Equivalent Units (VEUs)	14,012

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	40.9%
Operating Costs	57.6%
Capital Costs	1.5%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 7,317,261
Operating Costs	$ 10,308,297
Capital Costs	$ 263,227
TOTAL	$ 17,888,785

SERVICE PROFILE

FTE Positions—Technician	73.8
FTE Positions—Other	44.5
Work Bays	111
Average Rolling Stock Units Available per Day	4,357
Hours Billed	120,009
Work Orders	36,496
Repeat Repairs within 30 Days	17
Work Orders Completed within 24 hours	31,442
Preventive Maintence (PMs)	13,882
PMs Completed as Scheduled	11,200

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Charlotte and the County of Mecklenburg merged fleet maintenance services under a city-operated program beginning July 1, 2009. The data reported here are inclusive of both fleets. The services are provided by Charlotte's Equipment Management Division, which is part of Business Support Services. Fleet maintenance is one of four sections within the Equipment Management Division. All activities for this operation are accounted for in the general fund. The Equipment Management Division currently charges an administrative fee per unit to compensate for the overhead of administrative staff, including tags and title work, specification writing, and fleet analysis. This fee is currently $26 per city vehicle and $28.51 for county vehicles.

Charges for maintenance services included a $50.55-per-hour labor rate, a 22.27 percent markup charge on parts sold, and a 13.68 percent markup charge on sublet work. Part caps are negotiated individually, based on very special and specific needs. All sublet transactions are subject to a $500 cap.

The following services were contracted out during FY 2010–11: accident repair, body work, spring repairs, front-end alignment, glass replacement, fuel system repair, engine overhauls, transmission overhauls, towing, some tire service, police car preparation, heavy tire replacement and repair, some light-vehicle preventive maintenance, painting/graphic installation, and radio/computer installation or removal.

Conditions Affecting Service, Performance, and Costs

Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent. Charlotte indicated 65.25 technician FTEs were actually available for work during FY 2010–11 for this calculation.

In Charlotte the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date and within mileage parameters.

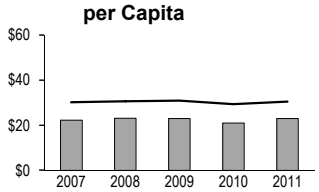
In addition to rolling stock, Charlotte's fleet services had maintenance responsibilities for generators, mowers, weedwackers, compressors, saws, blowers, fans, asphalt-tar/kettles, edgers, snow plows, spreaders, tamps, mixers, chippers, posthole diggers, grinders, pressure washers, and other city equipment.

Concord — Fleet Maintenance

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

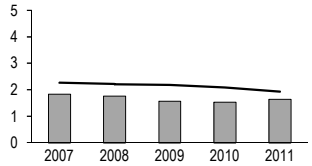
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



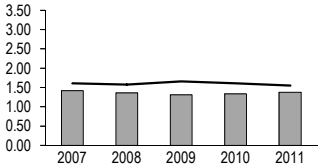
	2007	2008	2009	2010	2011
Concord	$22.20	$23.07	$22.93	$20.94	$22.91
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	1.83	1.76	1.56	1.53	1.63
Average	2.26	2.21	2.18	2.09	1.93

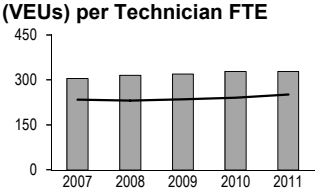
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Concord	1.42	1.36	1.31	1.33	1.37
Average	1.60	1.57	1.66	1.61	1.55

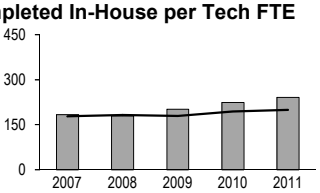
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Concord	305	315	319	328	328
Average	234	231	236	240	252

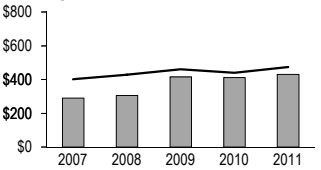
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Concord	183	179	202	224	241
Average	178	182	179	194	200

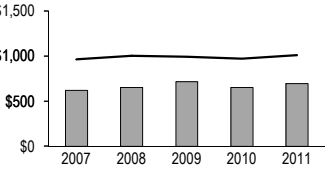
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



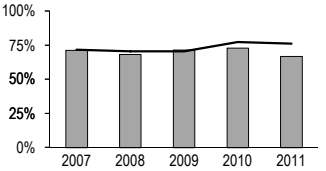
	2007	2008	2009	2010	2011
Concord	$291	$306	$415	$412	$430
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Concord	$621	$651	$717	$652	$694
Average	$963	$1,002	$994	$972	$1,009

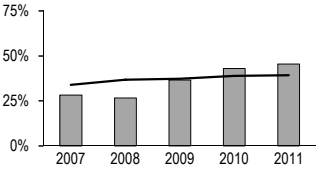
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Concord	71%	68%	71%	73%	67%
Average	72%	70%	70%	77%	76%

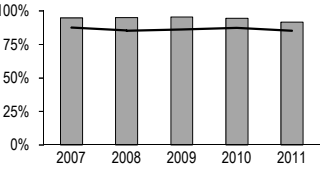
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



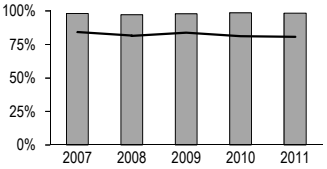
	2007	2008	2009	2010	2011
Concord	28%	27%	37%	43%	46%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



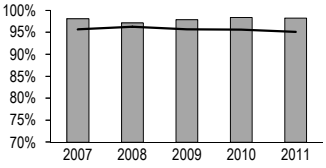
	2007	2008	2009	2010	2011
Concord	95%	95%	95%	94%	91%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



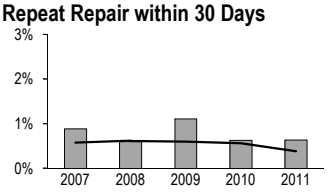
	2007	2008	2009	2010	2011
Concord	98%	97%	98%	98%	98%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Concord	98%	97%	98%	98%	98%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Concord	0.88%	0.60%	1.11%	0.63%	0.64%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
County	Cabarrus
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	13	10.3 Years
Cars—Severe Usage	160	4.8 Years
Light Vehicles	226	7.4 Years
Medium Vehicles	49	7.7 Years
Heavy—Sanitation	13	6.0 Years
Heavy—Sewer	3	8.0 Years
Heavy—Fire Apparatus	25	9.9 Years
Heavy—Other	53	6.7 Years
Trailed Equipment	151	9.8 Years
Off-Road/Construction/Tractors	94	7.8 Years
Buses	16	6.9 Years
TOTAL	803	

Vehicle Equivalent Units (VEUs)	2,625

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	45.6%
Operating Costs	51.4%
Capital Costs	3.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	830,928
Operating Costs	$	935,863
Capital Costs	$	55,127
TOTAL	$	1,821,918

SERVICE PROFILE

FTE Positions—Technician	8.0
FTE Positions—Other	5.0
Work Bays	8
Average Rolling Stock Units Available per Day	789
Hours Billed	10,666
Work Orders	4,239
Repeat Repairs within 30 Days	27
Work Orders Completed within 24 hours	4,164
Preventive Maintence (PMs)	1,929
PMs Completed as Scheduled	1,765

EXPLANATORY INFORMATION

Service Level and Delivery
Concord's Fleet Department operates as a separate city department through an internal service fund, charging other departments for services rendered.

A labor rate of $22 per hour is charged for all maintenance services. There is no markup charge for parts or sublet work. Parts inventory turned over 5.46 times during the fiscal year.

The following services were contracted out during FY 2010–11:

- body repairs
- aerial device repairs
- front-end alignments.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent. Concord indicated 7.69 technician FTEs were actually working during FY 2010–11 for this calculation.

In Concord, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date.

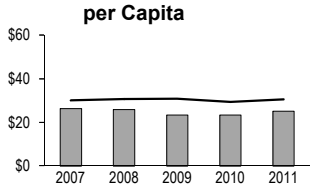
In addition to rolling stock, Concord's fleet services has maintenance responsibilities for generators, mowers, weedeaters, chainsaws, chop saws, leaf blowers, tamps, pumps, power washers, and other city equipment.

Greensboro Fleet Maintenance

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

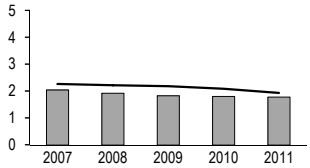
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



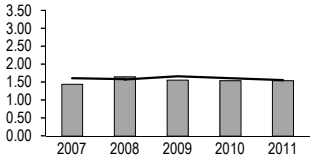
	2007	2008	2009	2010	2011
Greensboro	$26.33	$25.89	$23.30	$23.37	$25.16
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	2.04	1.92	1.83	1.80	1.78
Average	2.26	2.21	2.18	2.09	1.93

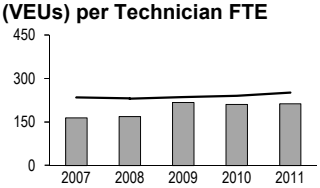
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Greensboro	1.44	1.65	1.56	1.54	1.54
Average	1.60	1.57	1.66	1.61	1.55

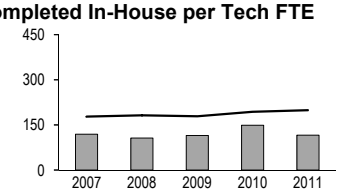
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Greensboro	164	169	217	210	212
Average	234	231	236	240	252

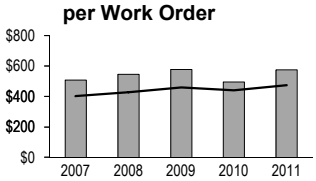
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Greensboro	120	107	116	149	116
Average	178	182	179	194	200

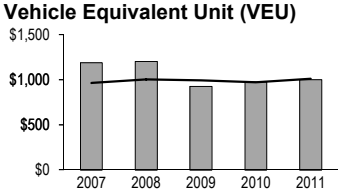
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



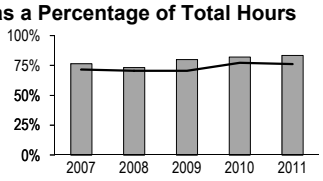
	2007	2008	2009	2010	2011
Greensboro	$507	$546	$578	$496	$574
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Greensboro	$1,188	$1,200	$927	$976	$1,000
Average	$963	$1,002	$994	$972	$1,009

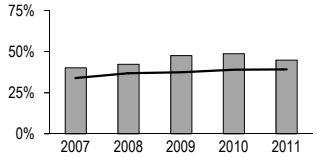
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Greensboro	76%	73%	80%	82%	83%
Average	72%	70%	70%	77%	76%

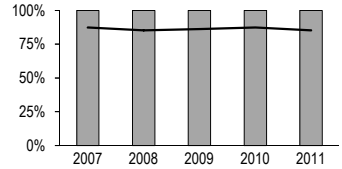
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



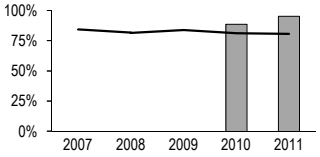
	2007	2008	2009	2010	2011
Greensboro	40%	42%	47%	49%	45%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



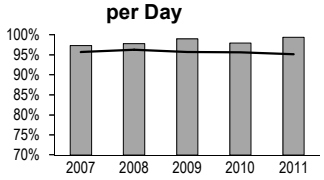
	2007	2008	2009	2010	2011
Greensboro	100%	100%	100%	100%	100%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



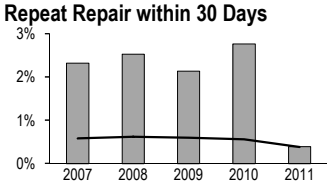
	2007	2008	2009	2010	2011
Greensboro				89%	95%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Greensboro	97%	98%	99%	98%	99%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Greensboro	2.32%	2.53%	2.13%	2.77%	0.39%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	270,065
Land Area (Square Miles)	126.63
Persons per Square Mile	2,133
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	185	4.0 Years
Cars—Severe Usage	323	3.0 Years
Light Vehicles	420	6.0 Years
Medium Vehicles	92	6.0 Years
Heavy—Sanitation	90	4.0 Years
Heavy—Sewer	6	5.0 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	146	6.0 Years
Trailed Equipment	176	7.0 Years
Off-Road/Construction/Tractors	546	5.0 Years
Buses	0	NA
TOTAL	1,984	

Vehicle Equivalent Units (VEUs)	6,798

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	47.3%
Operating Costs	52.7%
Capital Costs	0.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	3,215,076
Operating Costs	$	3,579,950
Capital Costs	$	-
TOTAL	$	6,795,026

SERVICE PROFILE

FTE Positions—Technician	32.0
FTE Positions—Other	16.0
Work Bays	33
Average Rolling Stock Units Available per Day	1,972
Hours Billed	55,514
Work Orders	11,831
Repeat Repairs within 30 Days	46
Work Orders Completed within 24 hours	11,274
Preventive Maintence (PMs)	5,299
PMs Completed as Scheduled	5,299

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro's fleet maintenance operation is housed within the Equipment Services Division of the Finance Department. The Division consists of four sections: administration, services, parts, and tires. All activities for this operation are accounted for in an internal service fund with other departments and programs charged for its maintenance services on a cost recovery basis.

The labor rate for FY 2010–11 was $52 an hour. Charges included a 25 percent markup for parts sold and a 5 percent markup for sublet work.

The following services were contracted out during FY 2010–11:

- body work
- glass repair
- upholstery repair
- most automotive and light-duty oil changes
- other repairs when workload exceeded in-house capacity.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

In Greensboro, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" uses milegage parameters and scheduled dates within the calendar month or within thirty days of schedule.

Number of repeat repairs within thirty days is tracked by the City fleet management software. This data reflects an inflated number of repeat repairs within thirty days due to repair type coding on the parts and/or shop maintenance that can incorrectly attribute additional maintenance as a repeat repair. This data will be tracked manually in the future to reflect a more accurate figure. The average monthly repeat repairs in FY 2010–11 suggest the past reported data may be inflated by an average of 300 annually.

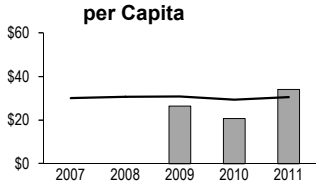
In addition to rolling stock, Greensboro's fleet services has maintenance responsibilities for generators, saws, blowers, various police equipment, asphalt pavers, sprayers, hydraulic hammers, a motor mixer, pumps, snow plows, spreaders, and other equipment.

Greenville — Fleet Maintenance

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

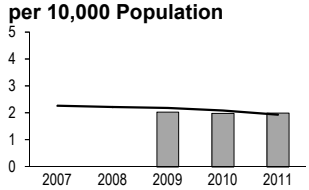
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



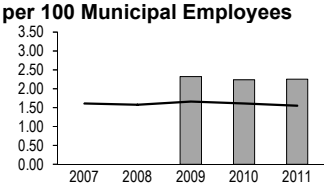
	2007	2008	2009	2010	2011
Greenville			$26.35	$20.66	$34.11
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			2.03	1.98	2.00
Average	2.26	2.21	2.18	2.09	1.93

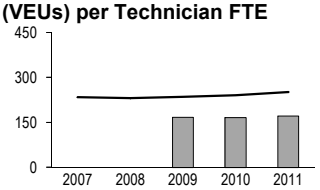
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Greenville			2.32	2.24	2.25
Average	1.60	1.57	1.66	1.61	1.55

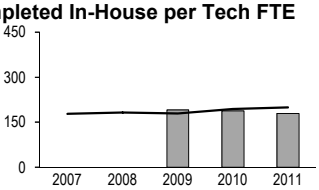
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Greenville			167	167	172
Average	234	231	236	240	252

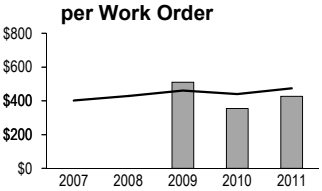
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Greenville			191	187	179
Average	178	182	179	194	200

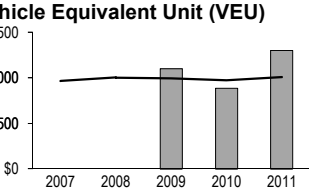
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



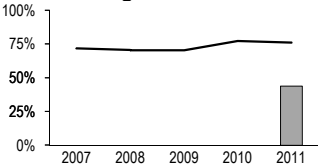
	2007	2008	2009	2010	2011
Greenville			$510	$354	$426
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Greenville			$1,098	$886	$1,301
Average	$963	$1,002	$994	$972	$1,009

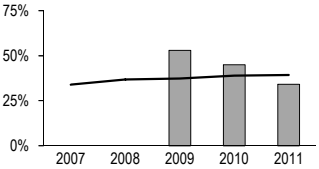
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Greenville					44%
Average	72%	70%	70%	77%	76%

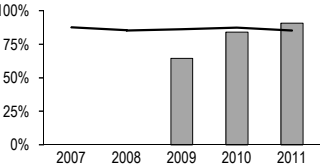
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



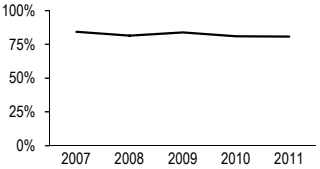
	2007	2008	2009	2010	2011
Greenville			53%	45%	34%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



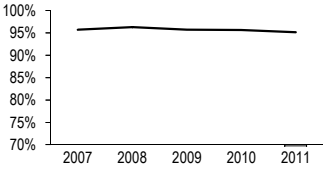
	2007	2008	2009	2010	2011
Greenville			64%	84%	91%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



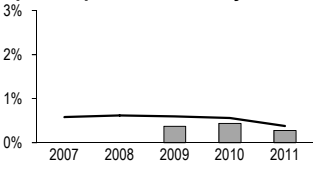
	2007	2008	2009	2010	2011
Greenville					
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Greenville					0%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Greenville			0.37%	0.44%	0.28%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
County	Pitt
Topography	Flat
Climate	Mild

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	83	7.0 Years
Cars—Severe Usage	100	6.5 Years
Light Vehicles	143	8.0 Years
Medium Vehicles	25	7.0 Years
Heavy—Sanitation	42	4.5 Years
Heavy—Sewer	1	5.5 Years
Heavy—Fire Apparatus	15	7.0 Years
Heavy—Other	38	7.0 Years
Trailed Equipment	42	NA
Off-Road/Construction/Tractors	68	11.0 Years
Buses	11	4.0 Years
TOTAL	568	

Vehicle Equivalent Units (VEUs)	1,905

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	35.6%
Operating Costs	63.4%
Capital Costs	1.0%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 1,034,052
Operating Costs	$ 1,841,922
Capital Costs	$ 28,762
TOTAL	$ 2,904,736

SERVICE PROFILE

FTE Positions—Technician	13.0
FTE Positions—Other	4.0
Work Bays	13
Average Rolling Stock Units Available per Day	NA
Hours Billed	11,845
Work Orders	6,821
Repeat Repairs within 30 Days	19
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	2,326
PMs Completed as Scheduled	2,107

EXPLANATORY INFORMATION

Service Level and Delivery
The Fleet Division is a part of Greenville's Public Works Department. All activities for this operation are accounted for as part of the city's general fund.

The Division charges the Transit and Sanitation Departments a $60-per-hour-labor rate for maintenance services and has a 15 percent markup on on parts or sublet work.

The following services were contracted out for FY 2010–11:

- alignments
- major body and paint repair
- two-way radio installs
- emergency light installs
- exhaust repair
- glass repair or replacement
- transmission overhaul
- major engine repair
- warranty repairs
- towing.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in 2009, with the first year of reporting being for FY 2008–09.

Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

In Greenville, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date or mileage parameters.

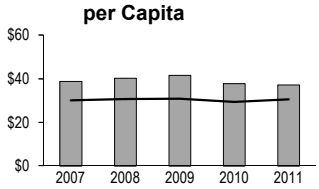
In addition to rolling stock, Greenville's fleet division has maintenance responsibilities for generators, lawnmowers, blowers, weedeaters, light towers, tampers, chainsaws, golf carts, utility carts, bush hogs, sprayers, fog machines, tractors, salt spreaders, leaf vacuums, concrete saws, an asphalt melter, rollers, a stump grinder, trail mowers, and other equipment.

Hickory — Fleet Maintenance

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

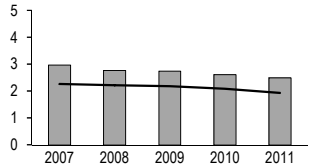
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



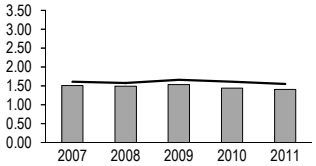
	2007	2008	2009	2010	2011
Hickory	$38.72	$40.21	$41.58	$37.66	$37.07
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	2.97	2.76	2.74	2.61	2.49
Average	2.26	2.21	2.18	2.09	1.93

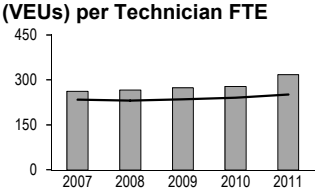
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Hickory	1.51	1.49	1.54	1.44	1.40
Average	1.60	1.57	1.66	1.61	1.55

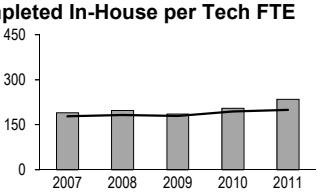
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Hickory	262	266	273	278	318
Average	234	231	236	240	252

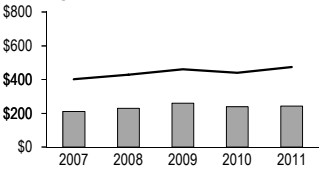
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Hickory	190	197	185	204	234
Average	178	182	179	194	200

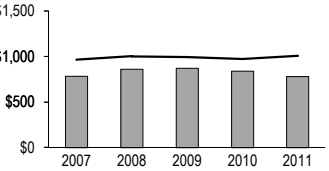
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



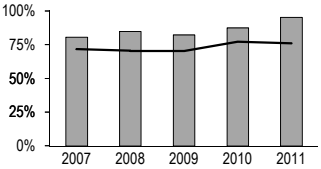
	2007	2008	2009	2010	2011
Hickory	$210	$230	$259	$239	$243
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Hickory	$782	$859	$871	$838	$780
Average	$963	$1,002	$994	$972	$1,009

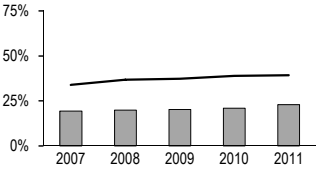
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Hickory	81%	85%	82%	88%	95%
Average	72%	70%	70%	77%	76%

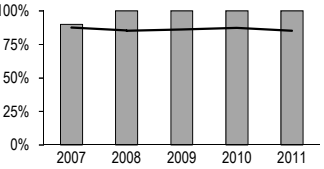
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



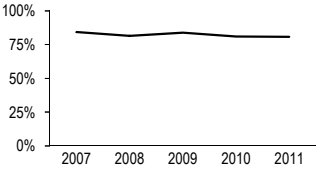
	2007	2008	2009	2010	2011
Hickory	19%	20%	20%	21%	23%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



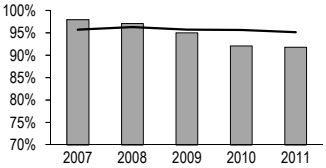
	2007	2008	2009	2010	2011
Hickory	90%	100%	100%	100%	100%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



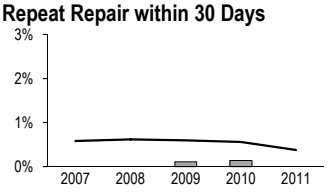
	2007	2008	2009	2010	2011
Hickory					
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Hickory	98%	97%	95%	92%	92%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Hickory			0.11%	0.14%	
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
County	Catawba
Topography	Gently rolling
Climate	Moderate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	23	8.2 Years
Cars—Severe Usage	144	5.8 Years
Light Vehicles	104	8.6 Years
Medium Vehicles	35	12.8 Years
Heavy—Sanitation	28	8.1 Years
Heavy—Sewer	7	11.4 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	23	12.8 Years
Trailed Equipment	53	11.4 Years
Off-Road/Construction/Tractors	129	13.2 Years
Buses	0	NA
TOTAL	546	

Vehicle Equivalent Units (VEUs)	1,905

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	37.3%
Operating Costs	59.4%
Capital Costs	3.2%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	554,961
Operating Costs	$	883,377
Capital Costs	$	47,770
TOTAL	$	1,486,108

SERVICE PROFILE

FTE Positions—Technician	6.0
FTE Positions—Other	4.0
Work Bays	14
Average Rolling Stock Units Available per Day	501
Hours Billed	11,899
Work Orders	6,120
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	1,406
PMs Completed as Scheduled	1,406

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet Maintenance is a division of Hickory's Public Services Department and consists of a garage office, a parts warehouse, a welding shop, a maintenance shop, fleet wash, a fuel station, and a compressed natural gas station. All activities for this operation are accounted for in an internal service fund.

The division charges a $44.50-per-hour labor rate for maintenance services and a 25 percent markup charge on parts sold. There is no markup charge for sublet work.

The following services were contracted out for FY 2010–11:

- alignments
- body work
- large wrecker service
- special machine work
- starter/alternator repair
- glass repair or replacement
- transmission repairs.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

In Hickory, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date.

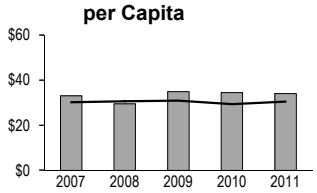
In addition to rolling stock, Hickory's fleet services has maintenance responsibilities for electronic signs, saws, weedeaters, sewer machines, hole piercing tools, boring machines, pumps, mowers, edgers, a sand blaster, pressure washers, blowers, mules, spreaders, generators, tamps, vacuums, airport equipment, grinders, a fleet wash station, a CNG fuel station, a gasoline and diesel fuel station, and other equipment.

High Point — Fleet Maintenance

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

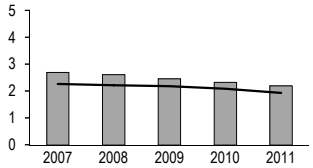
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



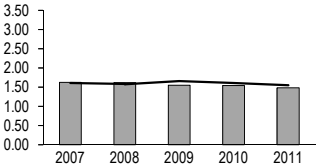
	2007	2008	2009	2010	2011
High Point	$33.03	$29.56	$34.87	$34.54	$34.05
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	2.69	2.61	2.45	2.32	2.19
Average	2.26	2.21	2.18	2.09	1.93

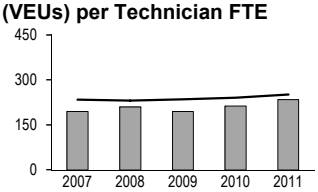
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
High Point	1.63	1.62	1.55	1.54	1.48
Average	1.60	1.57	1.66	1.61	1.55

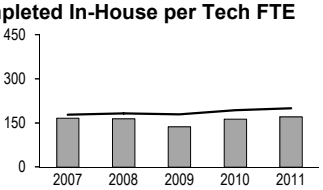
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
High Point	195	210	194	213	234
Average	234	231	236	240	252

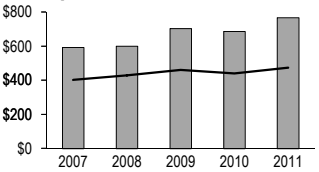
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
High Point	166	164	136	162	170
Average	178	182	179	194	200

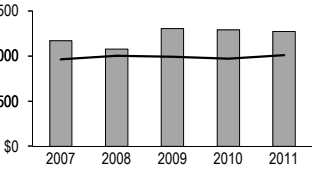
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



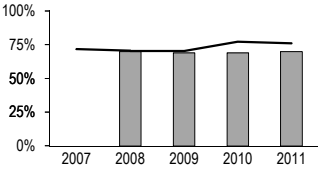
	2007	2008	2009	2010	2011
High Point	$593	$599	$702	$686	$767
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
High Point	$1,169	$1,077	$1,306	$1,292	$1,272
Average	$963	$1,002	$994	$972	$1,009

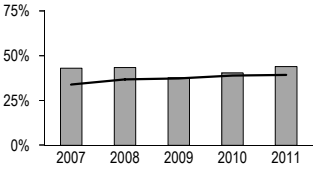
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
High Point		70%	69%	69%	70%
Average	72%	70%	70%	77%	76%

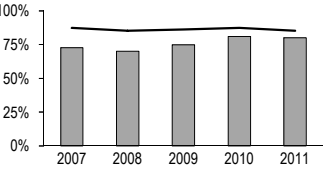
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



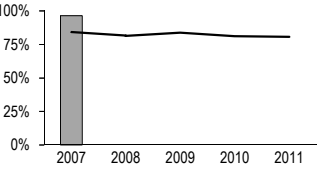
	2007	2008	2009	2010	2011
High Point	43%	43%	38%	40%	44%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



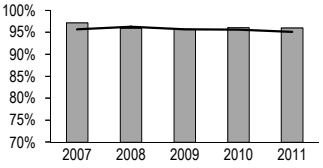
	2007	2008	2009	2010	2011
High Point	73%	70%	75%	81%	80%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



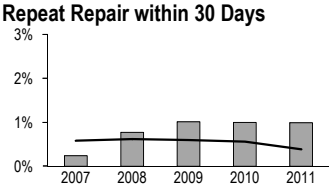
	2007	2008	2009	2010	2011
High Point	96%				
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
High Point	97%	96%	96%	96%	96%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
High Point	0.24%	0.77%	1.01%	1.00%	0.99%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

High Point

MUNICIPAL PROFILE

Population (OSBM 2009)	104,788
Land Area (Square Miles)	53.81
Persons per Square Mile	1,948
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	43	8.0 Years
Cars—Severe Usage	216	8.0 Years
Light Vehicles	271	8.0 Years
Medium Vehicles	31	10.0 Years
Heavy—Sanitation	24	8.0 Years
Heavy—Sewer	4	8.0 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	56	10.0 Years
Trailed Equipment	121	10.0 Years
Off-Road/Construction/Tractors	180	10.0 Years
Buses	0	NA
TOTAL	946	

Vehicle Equivalent Units (VEUs)	2,806

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	40.0%
Operating Costs	56.6%
Capital Costs	3.4%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 1,428,668
Operating Costs	$ 2,019,809
Capital Costs	$ 119,785
TOTAL	$ 3,568,262

SERVICE PROFILE

FTE Positions—Technician	12.0
FTE Positions—Other	11.0
Work Bays	17
Average Rolling Stock Units Available per Day	908
Hours Billed	17,472
Work Orders	4,654
Repeat Repairs within 30 Days	46
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	2,042
PMs Completed as Scheduled	1,633

EXPLANATORY INFORMATION

Service Level and Delivery
High Point's Fleet Maintenance Department is a separate entity, consisting of a director, administrative staff, support, and technicians. All activities in this operation are accounted for in an internal service fund, where costs are recovered through maintenance and service charges to other city departments.

Labor is billed at $60 per hour. There is no markup charge on parts sold or sublet work. Parts inventory turned four times during the fiscal year.

The following services were contracted out during FY 2010–11:

- body work
- windshield/glass replacements
- front-end alignment
- mufflers/exhaust systems
- after-hours towing
- car washes
- refurbishing special equipment
- upholstery repairs
- hydraulic cylinder and pump rebuilds
- 50 percent of engine and transmission overhauls
- tire repairs for heavy equipment
- maintenance and repairs covered under manufacturer warranty.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

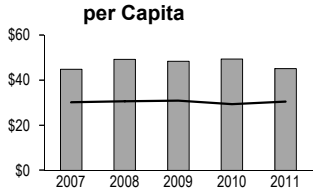
In High Point, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within certain mileage parameters or every three months, whichever comes first.

Salisbury Fleet Maintenance

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

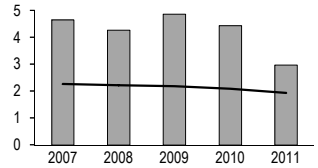
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



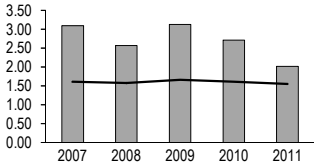
	2007	2008	2009	2010	2011
Salisbury	$44.80	$49.22	$48.45	$49.40	$45.16
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	4.64	4.26	4.86	4.43	2.97
Average	2.26	2.21	2.18	2.09	1.93

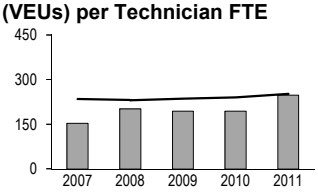
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Salisbury	3.09	2.57	3.13	2.71	2.02
Average	1.60	1.57	1.66	1.61	1.55

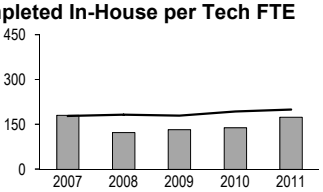
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Salisbury	153	202	194	194	247
Average	234	231	236	240	252

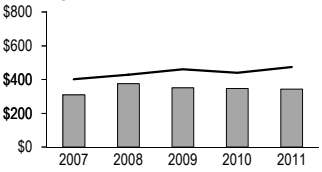
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Salisbury	180	122	133	139	174
Average	178	182	179	194	200

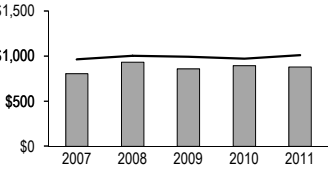
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



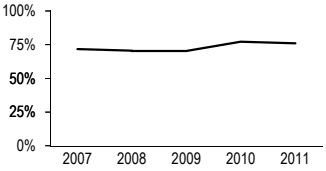
	2007	2008	2009	2010	2011
Salisbury	$309	$375	$351	$347	$343
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Salisbury	$804	$932	$858	$894	$880
Average	$963	$1,002	$994	$972	$1,009

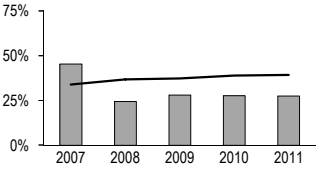
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Salisbury					
Average	72%	70%	70%	77%	76%

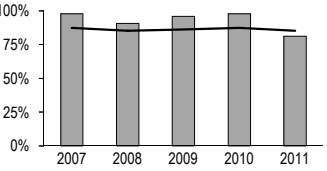
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



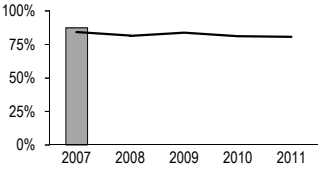
	2007	2008	2009	2010	2011
Salisbury	45%	24%	28%	28%	27%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



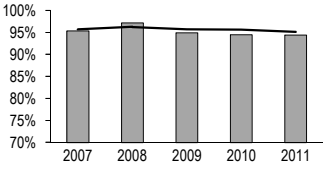
	2007	2008	2009	2010	2011
Salisbury	98%	91%	96%	98%	81%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



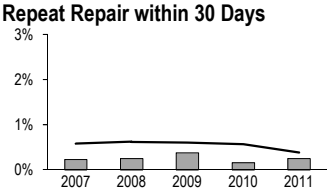
	2007	2008	2009	2010	2011
Salisbury	87%				
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Salisbury	95%	97%	95%	94%	94%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Salisbury	0.23%	0.25%	0.38%	0.16%	0.25%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
County	Rowan
Topography	Gently rolling
Climate	Moderate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	5	8.0 Years
Cars—Severe Usage	98	4.7 Years
Light Vehicles	168	7.6 Years
Medium Vehicles	25	7.2 Years
Heavy—Sanitation	11	7.6 Years
Heavy—Sewer	3	7.3 Years
Heavy—Fire Apparatus	13	13.0 Years
Heavy—Other	28	11.7 Years
Trailed Equipment	90	14.2 Years
Off-Road/Construction/Tractors	83	11.3 Years
Buses	10	13.0 Years
TOTAL	534	

Vehicle Equivalent Units (VEUs)	1,730

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	46.3%
Operating Costs	49.6%
Capital Costs	4.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	705,600
Operating Costs	$	755,546
Capital Costs	$	61,596
TOTAL	$	1,522,742

SERVICE PROFILE

FTE Positions—Technician	7.0
FTE Positions—Other	3.0
Work Bays	14
Average Rolling Stock Units Available per Day	504
Hours Billed	NA
Work Orders	4,442
Repeat Repairs within 30 Days	11
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	1,217
PMs Completed as Scheduled	989

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet Maintenance is a division of the Public Services Department and operates the fleet and transit shops. All activities in this operation are accounted for in Salisbury's general fund.

There is no markup on any parts sold or sublet work performed on city vehicles. However, for work done on vehicles owned by other local governments such as the county, the city charges for labor and includes a markup on parts and sublet work.

The following services were contracted out during FY 2010–11:

- body work
- exhaust system repairs
- towing.

In addition to maintenance responsibilities for the city's rolling stock, the fleet maintenance division also maintains vehicles for Rowan County and two trolleys for downtown Salisbury. The division also has responsibility for equipment, including generators, water pumps, hydraulic power units, mowers, tamps, weedwackers, jack hammers, rescue equipment, air compressors, sidewalk sweepers, thermo plastic equipment, hydraulic hammers, pavement saws, chain saws, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

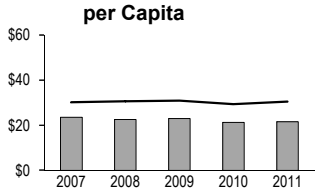
In Salisbury, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of scheduled maintenance or within defined mileage parameters.

Wilmington — Fleet Maintenance

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

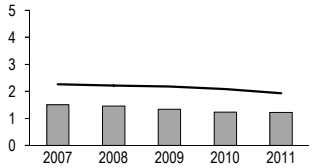
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



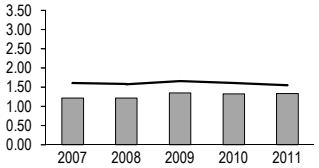
	2007	2008	2009	2010	2011
Wilmington	$23.56	$22.53	$22.95	$21.22	$21.53
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	1.50	1.46	1.34	1.23	1.22
Average	2.26	2.21	2.18	2.09	1.93

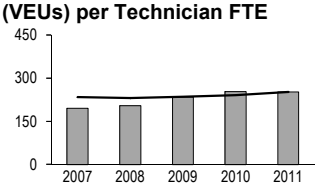
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilmington	1.21	1.21	1.35	1.32	1.33
Average	1.60	1.57	1.66	1.61	1.55

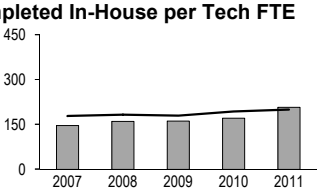
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Wilmington	195	204	234	253	252
Average	234	231	236	240	252

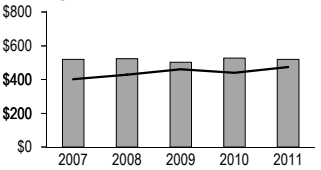
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Wilmington	146	159	161	170	207
Average	178	182	179	194	200

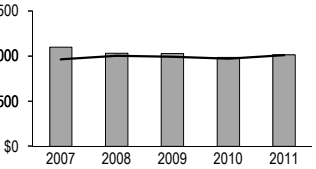
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



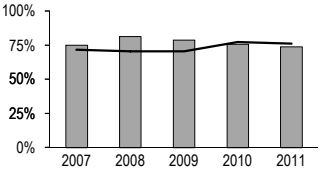
	2007	2008	2009	2010	2011
Wilmington	$519	$524	$502	$527	$520
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Wilmington	$1,100	$1,032	$1,029	$984	$1,014
Average	$963	$1,002	$994	$972	$1,009

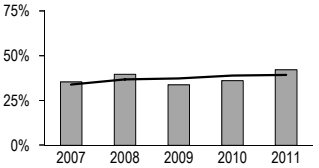
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Wilmington	75%	81%	79%	76%	74%
Average	72%	70%	70%	77%	76%

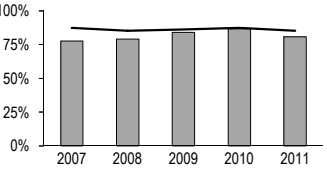
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



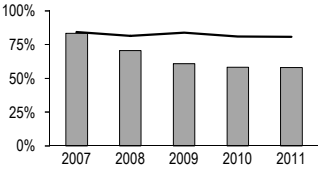
	2007	2008	2009	2010	2011
Wilmington	35%	40%	34%	36%	42%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



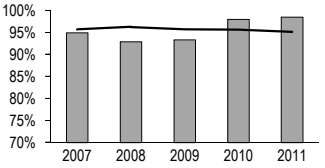
	2007	2008	2009	2010	2011
Wilmington	78%	79%	84%	87%	81%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



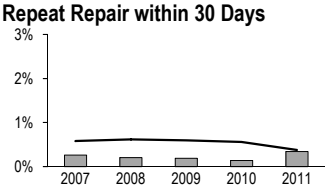
	2007	2008	2009	2010	2011
Wilmington	83%	71%	61%	58%	58%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Wilmington	95%	93%	93%	98%	98%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Wilmington	0.26%	0.20%	0.19%	0.14%	0.34%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2009)	106,882
Land Area (Square Miles)	51.49
Persons per Square Mile	2,076
County	New Hanover
Topography	Flat; coastal plain
Climate	Mild

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	112	6.6 Years
Cars—Severe Usage	183	4.7 Years
Light Vehicles	206	8.3 Years
Medium Vehicles	59	10.5 Years
Heavy—Sanitation	33	6.9 Years
Heavy—Sewer	8	1.9 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	24	5.4 Years
Trailed Equipment	27	12.2 Years
Off-Road/Construction/Tractors	71	9.0 Years
Buses	2	4.4 Years
TOTAL	725	

Vehicle Equivalent Units (VEUs)	2,269

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	32.5%
Operating Costs	61.9%
Capital Costs	5.5%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 748,819
Operating Costs	$ 1,425,439
Capital Costs	$ 126,969
TOTAL	$ 2,301,227

SERVICE PROFILE

FTE Positions—Technician	9.0
FTE Positions—Other	4.0
Work Bays	20
Average Rolling Stock Units Available per Day	714
Hours Billed	13,790
Work Orders	4,424
Repeat Repairs within 30 Days	15
Work Orders Completed within 24 hours	2,565
Preventive Maintence (PMs)	1,863
PMs Completed as Scheduled	1,503

EXPLANATORY INFORMATION

Service Level and Delivery

The Fleet Management Division is a part of the Finance Department. All activities in this operation are accounted for in an internal service fund, where costs are recovered through maintenance and service charges to other city departments. Fleet Management leases city-owned vehicles to the other city departments for an annual fee that covers all preventive maintenance, insurance, and replacement fund contributions. Repairs that are required because of misuse and abuse are not covered and are billed back to departments. The city also contracts with Cape Fear Public Utility Authority to provide maintenance on many of their vehicles and equipment.

The division charged a $68-per-hour labor rate for all services. There was a 10 percent markup for special order parts sold but no markup for other parts or sublet work.

The following services were contracted out during FY 2010–11:

- wrecker service
- body repairs
- trasmission repairs
- engine overhauls
- exhaust repairs
- front-end alignments on medium and heavy trucks
- some tire repairs
- some hydraulic repairs
- vehicle washes
- other miscellaneous work when workload is too heavy

In addition to maintenance responsibilities for rolling stock, the Fleet Management Division in Wilmington maintains some non-rolling pieces of equipment and does some fabrication and welding as needed. Equipment maintained includes small portable generators, pumps, saws, mowers, and other city equipment.

Conditions Affecting Service, Performance, and Costs

Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent. Wilmington indicated nine technician FTEs were actually available working during FY 2010–11 for this calculation.

In Wilmington, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty calendar days of scheduled date or within mileage parameters.

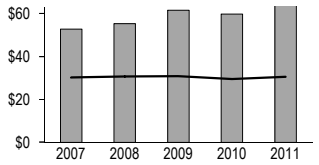
The Wilmington Fleet Management Division maintained over 200 pieces of rolling stock for the Cape Fear Public Utility Authority under a service contract with the utility in FY 2010–11.

Wilson — Fleet Maintenance

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

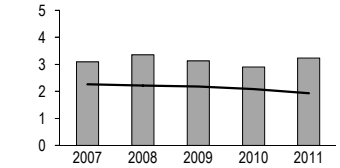
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



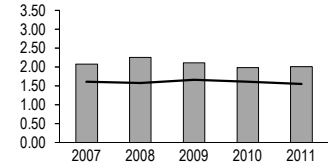
	2007	2008	2009	2010	2011
Wilson	$52.75	$55.25	$61.55	$59.69	$63.76
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	3.09	3.35	3.13	2.90	3.24
Average	2.26	2.21	2.18	2.09	1.93

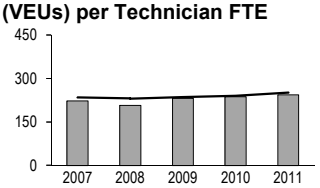
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilson	2.07	2.26	2.11	1.98	2.01
Average	1.60	1.57	1.66	1.61	1.55

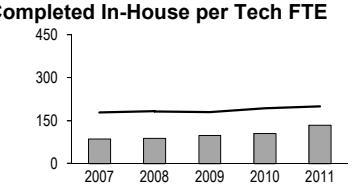
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Wilson	223	207	231	236	244
Average	234	231	236	240	252

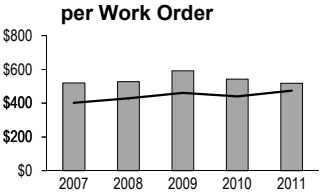
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Wilson	86	88	98	105	134
Average	178	182	179	194	200

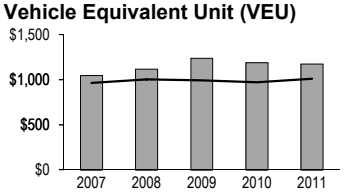
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



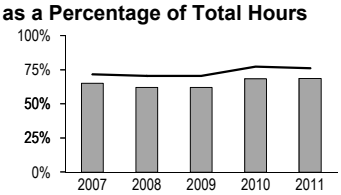
	2007	2008	2009	2010	2011
Wilson	$520	$527	$592	$542	$517
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Wilson	$1,044	$1,117	$1,236	$1,187	$1,175
Average	$963	$1,002	$994	$972	$1,009

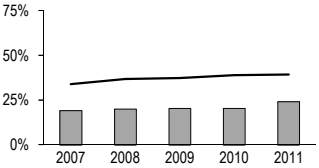
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Wilson	65%	62%	62%	68%	69%
Average	72%	70%	70%	77%	76%

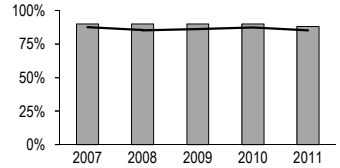
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



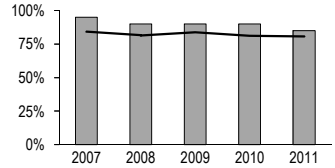
	2007	2008	2009	2010	2011
Wilson	19%	20%	20%	20%	24%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



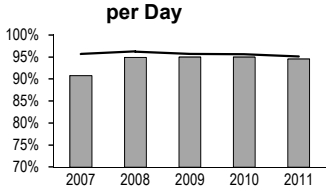
	2007	2008	2009	2010	2011
Wilson	90%	90%	90%	90%	88%
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



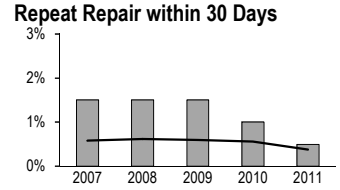
	2007	2008	2009	2010	2011
Wilson	95%	90%	90%	90%	85%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Wilson	91%	95%	95%	95%	95%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Wilson	1.50%	1.50%	1.50%	1.00%	0.49%
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	49,421
Land Area (Square Miles)	28.76
Persons per Square Mile	1,718
County	Wilson
Topography	Flat
Climate	Mild

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	35	10.0 Years
Cars—Severe Usage	125	6.0 Years
Light Vehicles	172	10.0 Years
Medium Vehicles	35	9.0 Years
Heavy—Sanitation	33	7.0 Years
Heavy—Sewer	6	12.0 Years
Heavy—Fire Apparatus	10	13.0 Years
Heavy—Other	66	8.0 Years
Trailed Equipment	136	8.0 Years
Off-Road/Construction/Tractors	148	11.0 Years
Buses	6	6.0 Years
TOTAL	772	

Vehicle Equivalent Units (VEUs)	2,682

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	32.2%
Operating Costs	63.0%
Capital Costs	4.8%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 1,013,885
Operating Costs	$ 1,985,538
Capital Costs	$ 151,436
TOTAL	$ 3,150,859

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	5.0
Work Bays	15
Average Rolling Stock Units Available per Day	730
Hours Billed	15,827
Work Orders	6,089
Repeat Repairs within 30 Days	30
Work Orders Completed within 24 hours	5,176
Preventive Maintence (PMs)	1,469
PMs Completed as Scheduled	1,293

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet maintenance is a division housed within the Department of Public Services. All activities in this operation are accounted for in the general fund.

Charges for maintenance services included a $44-per-hour labor rate, a 25 percent markup charge on parts sold, and a 5 percent markup charge on sublet work.

The following services were contracted out during FY 2010–11:

- body repairs
- paint work
- wrecker service
- radiator repairs
- alignment
- muffler repairs

In addition to rolling stock, Wilson's fleet services has maintenance responsibilities for generators, mowers, tamps, leaf machines, water pumps, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

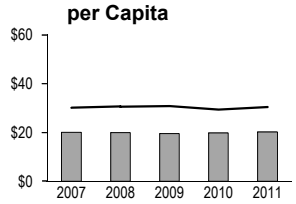
In Wilson, the preventive maintenance completion standard for "percentage of PMs completed as scheduled" varies, including both calendar and mileage standards.

Winston-Salem Fleet Maintenance

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2011

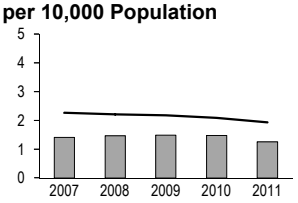
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



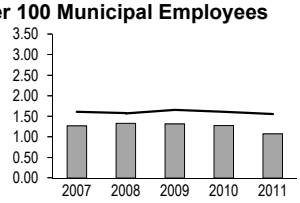
	2007	2008	2009	2010	2011
Winston-Salem	$20.08	$19.98	$19.55	$19.82	$20.27
Average	$30.09	$30.63	$30.88	$29.42	$30.48

Fleet Maintenance FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	1.41	1.47	1.49	1.48	1.26
Average	2.26	2.21	2.18	2.09	1.93

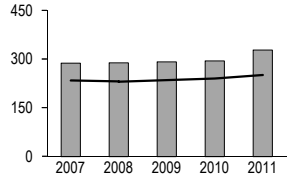
Fleet Maintenance FTEs per 100 Municipal Employees



	2007	2008	2009	2010	2011
Winston-Salem	1.27	1.33	1.31	1.28	1.07
Average	1.60	1.57	1.66	1.61	1.55

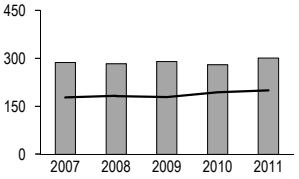
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2007	2008	2009	2010	2011
Winston-Salem	288	289	291	294	328
Average	234	231	236	240	252

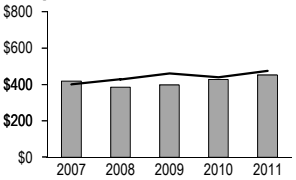
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2007	2008	2009	2010	2011
Winston-Salem	287	283	290	280	302
Average	178	182	179	194	200

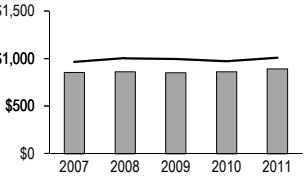
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



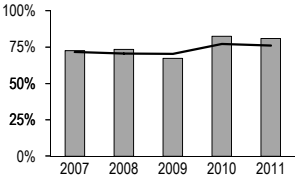
	2007	2008	2009	2010	2011
Winston-Salem	$418	$385	$397	$428	$452
Average	$401	$428	$460	$440	$475

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2007	2008	2009	2010	2011
Winston-Salem	$854	$861	$849	$859	$889
Average	$963	$1,002	$994	$972	$1,009

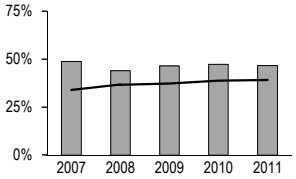
Hours Billed as a Percentage of Total Hours



	2007	2008	2009	2010	2011
Winston-Salem	73%	73%	67%	82%	81%
Average	72%	70%	70%	77%	76%

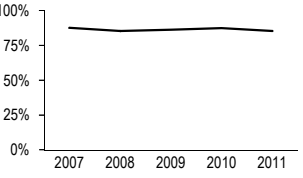
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



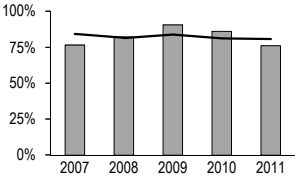
	2007	2008	2009	2010	2011
Winston-Salem	49%	44%	47%	47%	47%
Average	34%	37%	37%	39%	39%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



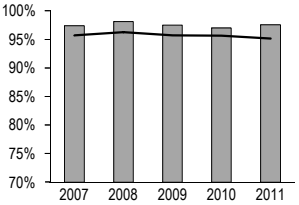
	2007	2008	2009	2010	2011
Winston-Salem					
Average	87%	85%	86%	87%	85%

Percentage of Work Orders Completed within 24 Hours



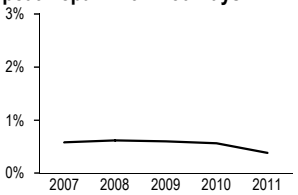
	2007	2008	2009	2010	2011
Winston-Salem	77%	82%	91%	86%	76%
Average	84%	81%	84%	81%	81%

Percentage of Rolling Stock Available per Day



	2007	2008	2009	2010	2011
Winston-Salem	97%	98%	97%	97%	98%
Average	96%	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2007	2008	2009	2010	2011
Winston-Salem					
Average	0.58%	0.62%	0.60%	0.56%	0.38%

MUNICIPAL PROFILE

Population (OSBM 2009)	230,345
Land Area (Square Miles)	132.45
Persons per Square Mile	1,739
County	Forsyth
Topography	Gently rolling
Climate	Moderate

Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	252	6.5 Years
Cars—Severe Usage	433	5.3 Years
Light Vehicles	422	7.4 Years
Medium Vehicles	125	9.8 Years
Heavy—Sanitation	65	7.8 Years
Heavy—Sewer	7	11.3 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	53	8.0 Years
Trailed Equipment	135	15.4 Years
Off-Road/Construction/Tractors	267	11.9 Years
Buses	0	NA
TOTAL	1,759	

Vehicle Equivalent Units (VEUs)	5,251

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	31.9%
Operating Costs	66.3%
Capital Costs	1.8%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	$ 1,487,782
Operating Costs	$ 3,097,115
Capital Costs	$ 84,801
TOTAL	$ 4,669,698

SERVICE PROFILE

FTE Positions—Technician	16.0
FTE Positions—Other	13.0
Work Bays	31
Average Rolling Stock Units Available per Day	1,716
Hours Billed	26,098
Work Orders	10,334
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	7,864
Preventive Maintence (PMs)	4,824
PMs Completed as Scheduled	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet Services is a division of the General Services Department, consisting of eight units: vehicle maintenance administration, contract monitoring administration, heavy equipment, service station, vehicle leasing, parts, light equipment, and tire shop. All activities in this operation are accounted for in an internal service fund.

Charges for maintenance services included a $50-per-hour labor rate, a 26 percent markup charge for parts sold, and a 13 percent markup charge for sublet work.

The following services were contracted out during FY 2010–11:

- body work
- welding
- hydraulic cylinder and pump repair
- glass repair
- towing
- transmission repair

In addition to rolling stock, Winston-Salem's Feet Services has maintenance responsibilities for mowers, weedeaters, water pumps, chain saws, wacker tamps, pavement stripers, tractor implements, leaf blowers, power trimmers, salt spreaders, snow plows, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs, reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

The "percentage of PMs completed as scheduled" and "percentage of work orders requiring repeat repairs within 30 days" were not available.

UNC
SCHOOL OF
GOVERNMENT

Performance and Cost Data

CENTRAL HUMAN RESOURCES

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR CENTRAL HUMAN RESOURCES

SERVICE DEFINITION

Central human resources represents an internal support service. It is characterized by various functions related to the daily management of human capital or personnel, including compensation analysis; position classification; benefits administration; management of employee training and development; employee relations; position control; employee performance evaluations; recruitment and selection; occupational health, wellness, and safety programs; administration of a Human Resources Information System (HRIS); and general administration of the central human resources office. Excluded from the counts here are staff who may be assisting with certain human resource functions but are not in the central human resources department, such as employees who might be assigned to individual departments. Also excluded from this service area is risk financing, including general liability insurance and workers' compensation.

NOTES ON PERFORMANCE MEASURES

1. Total Workforce FTEs per 10,000 Population

The number of full-time equivalent (FTE) positions includes all permanent full-time and permanent part-time employees budgeted for the municipality. One FTE equates to 2,080 hours of work per year. Any combination of employees providing 2,080 hours of annual work equals one FTE.

2. Number of Applications Received per 100 Employees

Human resources is responsible for the recruitment and selection of applicants to fill new or vacant positions.

3. Number of Position Requisitions per 100 Employees

Position requisitions are submitted to the human resources office by departments seeking to fill vacant positions.

4. Cost per Employee

The cost represents the total cost of human resources for the fiscal year ending June 30 and is calculated using the project's full-cost accounting model, which captures direct, indirect, and capital costs. Cost per employee is the primary measure of cost efficiency for this service area.

5. Ratio of Human Resources Staff to Total Workforce

This is a calculation of human resource FTEs divided by the total number of permanent municipal workforce, including full- and part-time staff.

6. Probationary Period Completion Rate (New Hires)

Most organizations require that new employees complete a probationary employment period, typically lasting three to eighteen months from the hire date, depending on the job classification. This effectiveness measure is calculated by dividing the total number of employees that completed the probationary period by the number of employees eligible to complete the probationary period during the fiscal year.

7. Employee Total Turnover Rate
The employee turnover rate is calculated by dividing the total number of separated staff during the fiscal year by the total number of authorized positions.

8. Employee Voluntary Turnover Rate
The voluntary employee turnover rate is calculated by dividing the number of voluntarily separated staff during the fiscal year by the total number of authorized positions. Voluntary separations include retirements and resignations.

9. Percentage of Grievances Resolved at Department Level
Most jurisdictions have a process in place for handling formal grievances filed by employees. This effectiveness measure is calculated by dividing the number of formal grievances that were resolved within the respective department (prior to going to a higher level or third party for resolution) by the total number of grievances filed during the fiscal year.

10. Average Number of Days from Position Post Date to Hire Date
This includes the number of working days from the date a job is posted to the hire date (first day of employment). It includes only recruitments for permanent full-time and part-time positions that were completed during the fiscal year. This measure excludes recruitment of temporary workers.

Central Human Resources

Summary of Key Dimensions of Service

City or Town	Total Number of Authorized Municipal Positions	Average Length of Service (in Years)	Number of Position Requisitions	Number of Employment Applications Processed	Number of Retirees Serviced	Probationary Period	Turnover Rate	Number of HR FTEs
Apex	316	8.1	31	2,572	21	6 & 12 months	6.0%	3.8
Asheville	1,146	9.1	125	2,921	242	6 months	7.9%	15.7
Burlington	804	8.7	29	1,443	14	6 & 12 months	8.6%	3.0
Cary	1,150	9.8	301	7,050	128	6 & 12 months	4.2%	12.3
Charlotte	6,809	10.8	382	81,821	2,304	6 & 12 months	6.0%	32.8
Concord	947	9.5	66	5,528	na	6 & 12 months	7.1%	6.0
Greensboro	3,124	11.7	284	8,735	1,367	6 & 12 months	7.5%	34.0
Greenville	755	10.0	52	7,226	172	6 & 12 months	5.7%	9.0
Hickory	712	10.2	35	1,928	64	12 months	5.6%	5.5
High Point	1,554	10.8	218	1,420	94	12 months	5.4%	12.5
Salisbury	495	NA	39	3,698	60	6 months	16.8%	6.0
Wilmington	976	10.1	112	2,933	137	12 & 18 months	8.0%	7.5
Wilson	796	9.9	48	2,509	280	12 months	7.2%	5.1
Winston-Salem	2,875	11.1	155	25,396	76	None	6.9%	18.0

NOTES

For municipalities with varying probationary periods, typically fire and/or police personnel have longer probationary periods.

EXPLANATORY FACTORS

These are factors that the project found to affect human resources performance and cost in one or more of the municipalities:

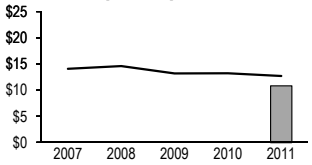
Decentralization of HR functions
Personnel policies
External economic climate
Unemployment rate
Extent of contracting out for services
Departmental discretion regarding vacancies
Hiring freezes
State and/or federal mandates

Apex — Central Human Resources

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

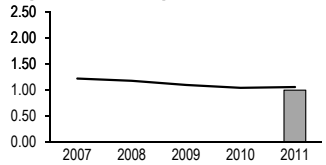
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Apex					$10.83
Average	$14.09	$14.59	$13.19	$13.21	$12.71

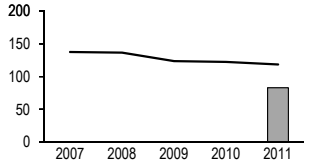
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					0.99
Average	1.22	1.18	1.09	1.04	1.05

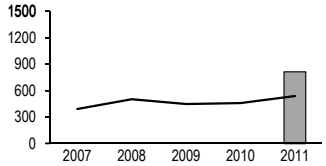
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



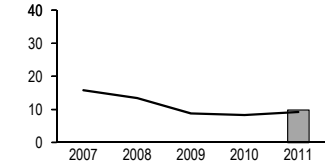
	2007	2008	2009	2010	2011
Apex					83
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Apex					814
Average	392	501	447	459	539

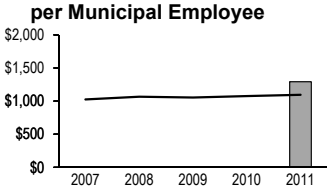
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Apex					9.8
Average	15.8	13.5	8.8	8.3	9.2

EFFICIENCY Measures

Human Resources Cost per Municipal Employee



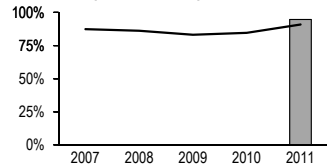
	2007	2008	2009	2010	2011
Apex					$1,293
Average	$1,025	$1,066	$1,056	$1,075	$1,095

Ratio of Human Resources Staff to 100 Municipal Employees

	2007	2008	2009	2010	2011
Apex					1.19
Average	0.87	0.85	0.85	0.82	0.88

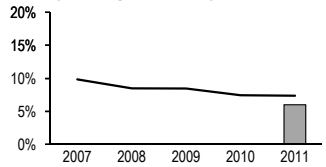
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



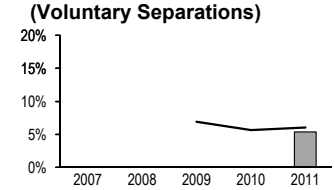
	2007	2008	2009	2010	2011
Apex					95%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



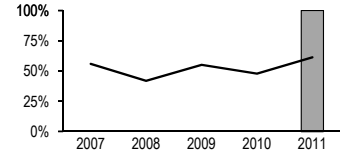
	2007	2008	2009	2010	2011
Apex					6.0%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



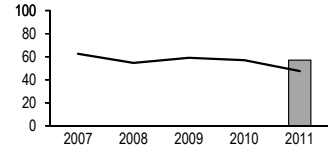
	2007	2008	2009	2010	2011
Apex					5.4%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Apex					100%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Apex					57
Average	63	55	59	57	47

Apex

MUNICIPAL PROFILE

Population (OSBM 2010)	37,749
Land Area (Square Miles)	15.43
Persons per Square Mile	2,447
Unemployment Rate (ESC-10)	8.4%
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.3%
Operating Costs		29.3%
Capital Costs		2.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	279,167
Operating Costs	$	119,923
Capital Costs	$	9,620
TOTAL	$	408,710

SERVICE PROFILE

FTE Positions	
Administration	2.00
Generalist/Specialist	1.00
Staff Support (Clerical)	0.75
Total Authorized Workforce	316
Authorized FTEs	313.0
Number of Position Requisitions	31
Employment Applications Processed	2,572
Employee Turnover	
Voluntary Separations	17
Involuntary Separations	2
TOTAL SEPARATIONS	19
Average Length of Service (Months)	97.0
Formal Grievances Filed by Employees	1
EEOC Complaints Filed	0
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	1
Positions Studied	72

EXPLANATORY INFORMATION

Service Level and Delivery
The Human Resources Department for Apex provides a comprehensive assortment of services, including occupational health and wellness, benefits, recruitment and selection, compensation, employee relations, and training and development programs

One employee compensation study was completed during the fiscal year covering seventy-two postions. The Town of Apex studies one-third of the job classifications every three years and uses a consultant to assist in this process.

The town's probationary period for new employees was six months for general employees and twelve months for sworn police, fire, and EMS personnel.

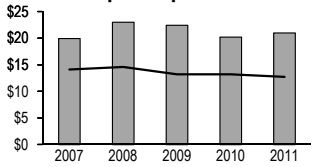
Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

Asheville — Central Human Resources

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

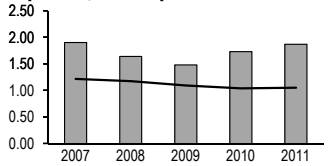
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Asheville	$19.94	$23.00	$22.41	$20.20	$20.99
Average	$14.09	$14.59	$13.19	$13.21	$12.71

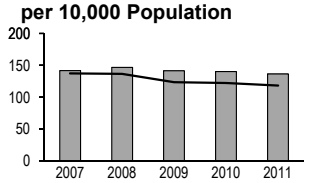
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	1.90	1.64	1.48	1.73	1.87
Average	1.22	1.18	1.09	1.04	1.05

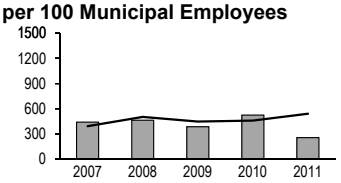
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	142	147	142	140	136
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



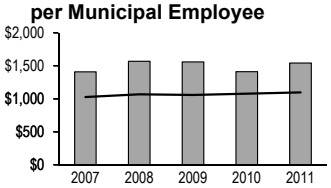
	2007	2008	2009	2010	2011
Asheville	440	463	386	524	255
Average	392	501	447	459	539

Position Requisitions per 100 Municipal Employees

	2007	2008	2009	2010	2011
Asheville	19.8	19.0	12.8	14.7	10.9
Average	15.8	13.5	8.8	8.3	9.2

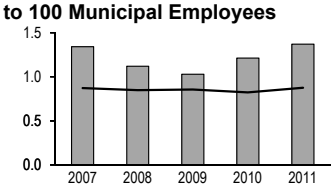
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Asheville	$1,406	$1,567	$1,557	$1,410	$1,539
Average	$1,025	$1,066	$1,056	$1,075	$1,095

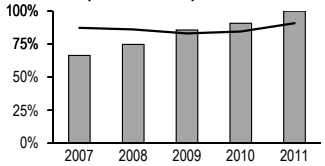
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Asheville	1.34	1.12	1.03	1.21	1.37
Average	0.87	0.85	0.85	0.82	0.88

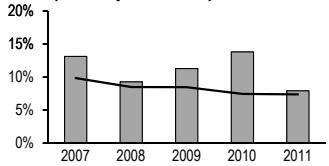
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



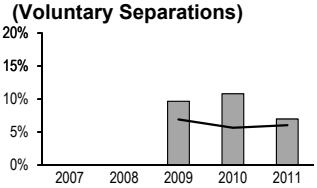
	2007	2008	2009	2010	2011
Asheville	66%	75%	86%	91%	100%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



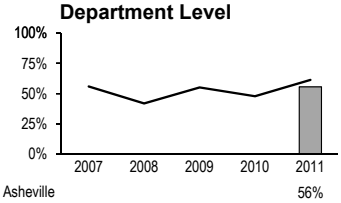
	2007	2008	2009	2010	2011
Asheville	13.2%	9.3%	11.3%	13.8%	7.9%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



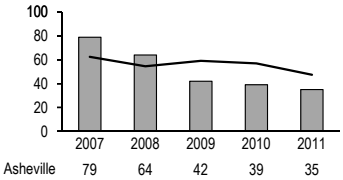
	2007	2008	2009	2010	2011
Asheville			9.7%	10.8%	7.0%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Asheville					56%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Asheville	79	64	42	39	35
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	83,986
Land Area (Square Miles)	44.95
Persons per Square Mile	1,869
Unemployment Rate (ESC-10)	8.6%
County	Buncombe
Topography	Hills, mountains
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.1%
Operating Costs		35.6%
Capital Costs		1.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,112,433
Operating Costs	$	627,677
Capital Costs	$	23,129
TOTAL	$	1,763,239

SERVICE PROFILE

FTE Positions	
Administration	4.00
Generalist/Specialist	9.20
Staff Support (Clerical)	2.50
Total Authorized Workforce	1,146
Authorized FTEs	1146.0
Number of Position Requisitions	125
Employment Applications Processed	2,921
Employee Turnover	
Voluntary Separations	80
Involuntary Separations	11
TOTAL SEPARATIONS	91
Average Length of Service (Months)	109.0
Formal Grievances Filed by Employees	9
EEOC Complaints Filed	3
Length of Probationary Employment Period	6 months
Compensation Studies Completed	26
Positions Studied	30

EXPLANATORY INFORMATION

Service Level and Delivery
The Human Resources Department provides a comprehensive assortment of services, including occupational health and wellness, benefits, recruitment and selection, compensation, employee relations, and youth development programs.

Thirty postions were studied in twenty-six different compensation studies during the year.

The city's probationary period for new employees is six months.

Conditions Affecting Service, Performance, and Costs
The city's data include the following positions (and related costs) that perform human resource functions but are not part of the city's Human Resources Department: Health Services Supervisor, Registered Nurse, administrative staff, and a wellness coordinator (half of this position is included in the human resources costs).

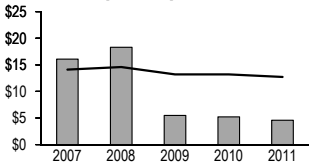
Employee relations issues are resolved through the city's administration.

All advertising costs for vacant positions is now paid for out of the Human Resources budget, with the exception of industry-specific websites or publications specifically requested by the individual departments. Priori to FY 2007–08, departments in Asheville paid for advertising individually. This has raised costs in HR somewhat.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

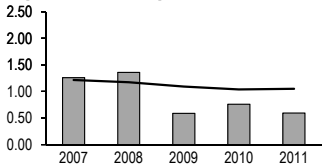
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Burlington	$16.09	$18.31	$5.49	$5.22	$4.59
Average	$14.09	$14.59	$13.19	$13.21	$12.71

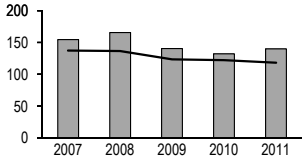
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	1.26	1.36	0.59	0.76	0.59
Average	1.22	1.18	1.09	1.04	1.05

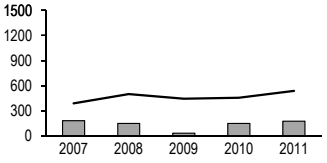
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



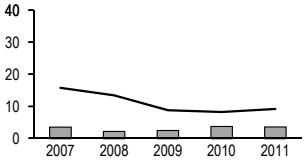
	2007	2008	2009	2010	2011
Burlington	154	166	141	132	140
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Burlington	184	151	35	152	179
Average	392	501	447	459	539

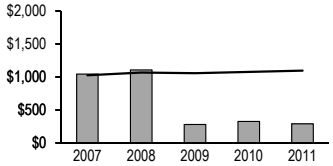
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Burlington	3.5	2.2	2.5	3.8	3.6
Average	15.8	13.5	8.8	8.3	9.2

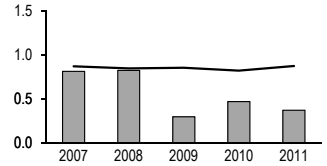
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Burlington	$1,042	$1,106	$279	$324	$288
Average	$1,025	$1,066	$1,056	$1,075	$1,095

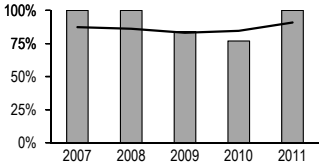
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Burlington	0.81	0.82	0.30	0.47	0.37
Average	0.87	0.85	0.85	0.82	0.88

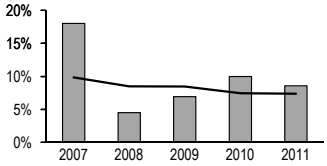
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



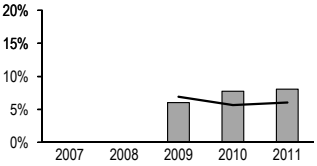
	2007	2008	2009	2010	2011
Burlington	100%	100%	84%	77%	100%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



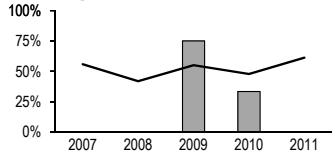
	2007	2008	2009	2010	2011
Burlington	18.0%	4.5%	6.9%	10.0%	8.6%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



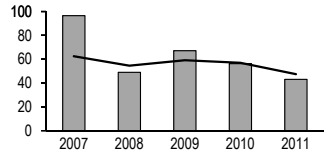
	2007	2008	2009	2010	2011
Burlington			6.0%	7.8%	8.1%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Burlington	0%		75%	33%	0%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Burlington	97	49	67	56	43
Average	63	55	59	57	47

Burlington

MUNICIPAL PROFILE

Population (OSBM 2010)	50,475
Land Area (Square Miles)	25.21
Persons per Square Mile	2,002
Unemployment Rate (ESC-10)	11.4%
County	Alamance
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		87.1%
Operating Costs		12.9%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	202,005
Operating Costs	$	29,895
Capital Costs	$	-
TOTAL	$	231,900

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	2.00
Staff Support (Clerical)	0.00
Total Authorized Workforce	804
Authorized FTEs	706.0
Number of Position Requisitions	29
Employment Applications Processed	1,443
Employee Turnover	
Voluntary Separations	65
Involuntary Separations	4
TOTAL SEPARATIONS	69
Average Length of Service (Months)	104.0
Formal Grievances Filed by Employees	1
EEOC Complaints Filed	2
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	3
Positions Studied	550

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Burlington's Human Resources Department is a separate department consisting of three full-time positions: an HR director and two HR specialists.

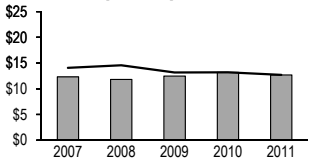
The city's probationary period for new employees is twelve months for police and six months for all other employees.

Conditions Affecting Service, Performance, and Costs
The City of Burlington began participation in the benchmarking project in 2007, with its first reporting data being for FY 2006–07.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

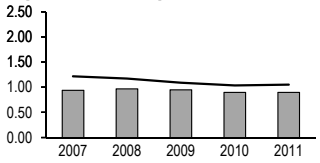
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Cary	$12.33	$11.83	$12.47	$13.19	$12.71
Average	$14.09	$14.59	$13.19	$13.21	$12.71

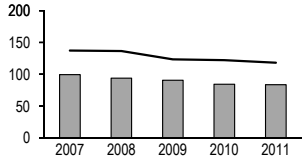
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary	0.94	0.97	0.95	0.90	0.90
Average	1.22	1.18	1.09	1.04	1.05

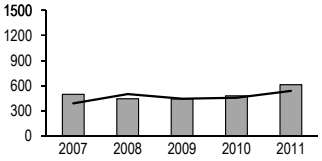
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



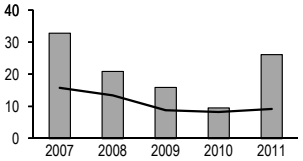
	2007	2008	2009	2010	2011
Cary	100	94	91	84	84
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Cary	499	446	445	480	613
Average	392	501	447	459	539

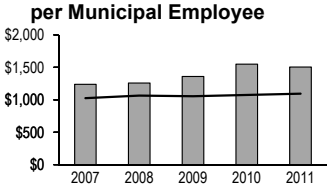
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Cary	32.8	20.9	15.9	9.5	26.2
Average	15.8	13.5	8.8	8.3	9.2

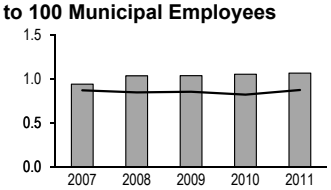
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Cary	$1,239	$1,257	$1,361	$1,549	$1,505
Average	$1,025	$1,066	$1,056	$1,075	$1,095

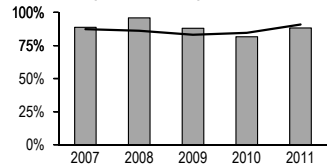
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Cary	0.94	1.03	1.04	1.05	1.07
Average	0.87	0.85	0.85	0.82	0.88

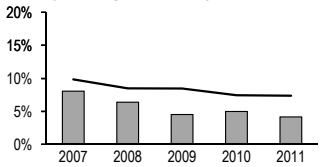
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



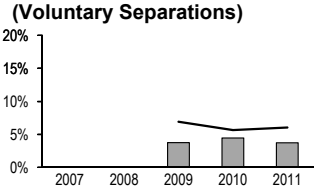
	2007	2008	2009	2010	2011
Cary	89%	96%	88%	82%	88%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



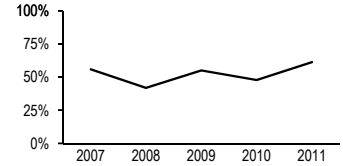
	2007	2008	2009	2010	2011
Cary	8.1%	6.4%	4.5%	5.0%	4.2%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



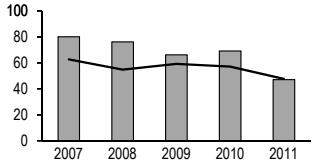
	2007	2008	2009	2010	2011
Cary			3.8%	4.5%	3.7%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Cary	0%	0%		0%	0%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Cary	80	76	66	69	47
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	136,203
Land Area (Square Miles)	54.43
Persons per Square Mile	2,502
Unemployment Rate (ESC-10)	8.4%
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.0%
Operating Costs		33.3%
Capital Costs		1.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,124,222
Operating Costs	$	575,529
Capital Costs	$	30,752
TOTAL	$	1,730,503

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	5.00
Staff Support (Clerical)	4.25
Total Authorized Workforce	1,150
Authorized FTEs	1,140.0
Number of Position Requisitions	301
Employment Applications Processed	7,050
Employee Turnover	
Voluntary Separations	43
Involuntary Separations	5
TOTAL SEPARATIONS	48
Average Length of Service (Months)	118.0
Formal Grievances Filed by Employees	1
EEOC Complaints Filed	0
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	1
Positions Studied	136

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Cary's Human Resources Department includes the following: a director, an employee relations manager, an employee benefits manager, a training and development program administrator, an employee safety coordinator, three human resources consultants who handle all recruitment and day-to-day employee issues, two human resources assistants who support each of the consultants, one safety technician, and two administrative secretaries.

The town conducted one compensation study during FY 2010–11 that involved the study of 136 positions.

The town's probationary period for new employees is six months for non–public safety employees and twelve months for public safety employees.

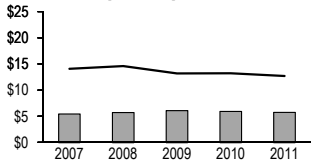
Conditions Affecting Service, Performance, and Costs
The employee benefits manager also administers workers' compensation. In many other organizations, this function is performed within a risk management department. The HR assistants also handle many payroll tasks which in other organizations might be handled within the finance department.

Charlotte — Central Human Resources

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

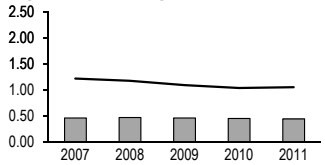
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Charlotte	$5.44	$5.70	$6.09	$5.94	$5.74
Average	$14.09	$14.59	$13.19	$13.21	$12.71

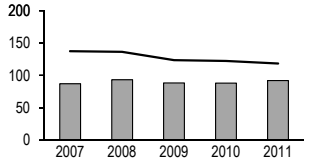
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	0.46	0.47	0.46	0.45	0.44
Average	1.22	1.18	1.09	1.04	1.05

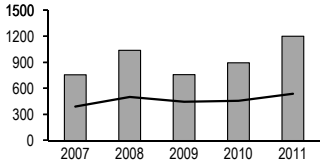
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



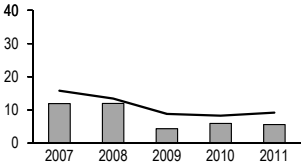
	2007	2008	2009	2010	2011
Charlotte	87	93	88	88	92
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Charlotte	758	1040	760	895	1202
Average	392	501	447	459	539

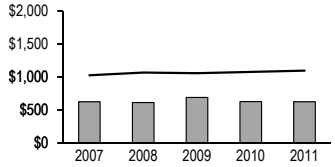
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Charlotte	11.9	12.0	4.4	5.9	5.6
Average	15.8	13.5	8.8	8.3	9.2

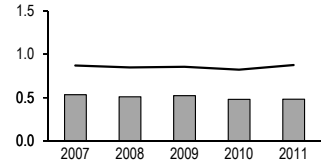
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Charlotte	$623	$611	$688	$627	$623
Average	$1,025	$1,066	$1,056	$1,075	$1,095

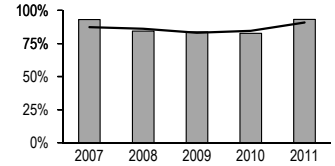
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Charlotte	0.53	0.51	0.52	0.48	0.48
Average	0.87	0.85	0.85	0.82	0.88

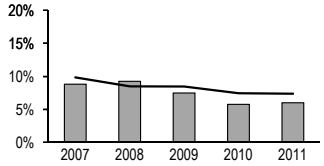
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



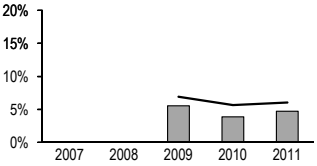
	2007	2008	2009	2010	2011
Charlotte	93%	84%	84%	83%	93%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



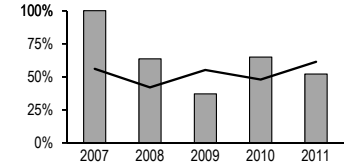
	2007	2008	2009	2010	2011
Charlotte	8.8%	9.3%	7.5%	5.8%	6.0%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



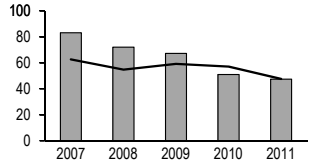
	2007	2008	2009	2010	2011
Charlotte			5.6%	3.9%	4.7%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Charlotte	100%	63%	37%	65%	52%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Charlotte	83	72	67	51	47
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	738,979
Land Area (Square Miles)	297.68
Persons per Square Mile	2,482
Unemployment Rate (ESC-10)	10.9%
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		71.5%
Operating Costs		28.4%
Capital Costs		0.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,033,446
Operating Costs	$	1,203,988
Capital Costs	$	5,329
TOTAL	$	4,242,763

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	27.00
Staff Support (Clerical)	2.75
Total Authorized Workforce FTEs	6,809.25
Number of Position Requisitions	382
Employment Applications Processed	81,821
Employee Turnover	
Voluntary Separations	322
Involuntary Separations	88
TOTAL SEPARATIONS	410
Average Length of Service (Months)	130.0
Formal Grievances Filed by Employees	25
EEOC Complaints Filed	18
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	12
Positions Studied	377

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte's Human Resources Business Unit is organized into five core services: benefits, compensations, business unit services, HRMS/payroll, and organizational development and learning. These functional areas perform a variety of strategic, tactical, and tactical services. Some of the transactional services are outsourced.

During FY 2010–11, twelve compensation studies were conducted covering 377 positions. Surveys were done on the basis of national, regional, and other larger city comparisons. There were 81,821 applications processed electronically or online. All applicants (except sworn Police and Fire positions) must use the PeopleSoft online job application software for each position for which they wish to apply.

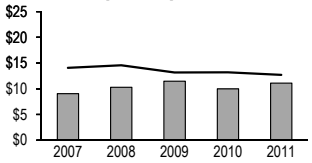
The city is self-insured for medical and dental insurance and third-party administrators are retained to administer the plans. The wellness program, Wellness Works, includes a number of programs such as tobacco cessation, annual flu shots, blood pressure screenings, onsite education prorgrams, and weight loss programs. The city partners with Onlife Health to administer health coaching and health risk assessments. New in 2011, the city offered a premium differential to employees who take a health screening, complete a health assessment, and engage with a health coach on an ongoing basis.

Conditions Affecting Service, Performance, and Costs
Charlotte has a very robust wellness program. Many resources are devoted to the sucess of this program. There are wellness ambassadors in every department in the city.

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

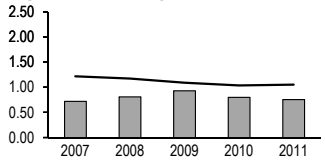
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Concord	$9.07	$10.30	$11.47	$9.98	$11.10
Average	$14.09	$14.59	$13.19	$13.21	$12.71

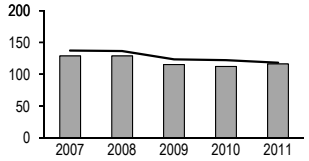
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	0.72	0.81	0.93	0.80	0.75
Average	1.22	1.18	1.09	1.04	1.05

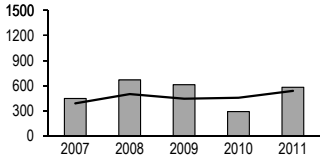
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



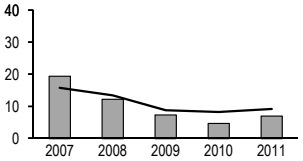
	2007	2008	2009	2010	2011
Concord	129	129	115	112	116
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Concord	450	671	614	293	584
Average	392	501	447	459	539

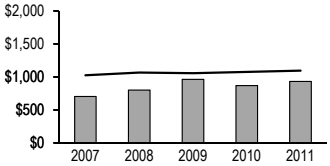
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Concord	19.4	12.2	7.4	4.7	7.0
Average	15.8	13.5	8.8	8.3	9.2

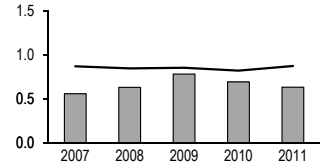
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Concord	$704	$799	$963	$868	$932
Average	$1,025	$1,066	$1,056	$1,075	$1,095

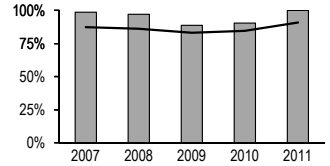
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Concord	0.56	0.63	0.78	0.69	0.63
Average	0.87	0.85	0.85	0.82	0.88

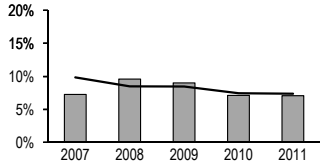
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



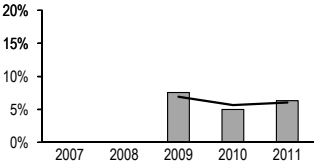
	2007	2008	2009	2010	2011
Concord	99%	97%	89%	90%	100%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



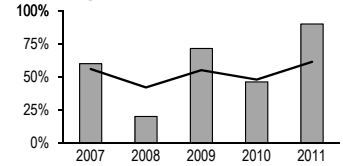
	2007	2008	2009	2010	2011
Concord	7.3%	9.6%	9.0%	7.1%	7.1%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



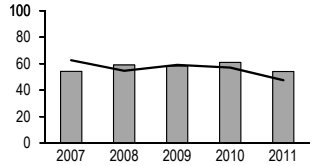
	2007	2008	2009	2010	2011
Concord			7.6%	5.0%	6.3%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Concord	60%	20%	71%	46%	90%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Concord	54	59	58	61	54
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	79,521
Land Area (Square Miles)	60.28
Persons per Square Mile	1,319
Unemployment Rate (ESC-10)	11.3%
County	Cabarrus
Topography	Flat; gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		52.4%
Operating Costs		46.1%
Capital Costs		1.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	462,178
Operating Costs	$	406,737
Capital Costs	$	13,860
TOTAL	$	882,775

SERVICE PROFILE

FTE Positions	
Administration	2.00
Generalist/Specialist	2.00
Staff Support (Clerical)	2.00
Total Authorized Workforce	947
Authorized FTEs	926
Number of Position Requisitions	66
Employment Applications Processed	5,528
Employee Turnover	
Voluntary Separations	60
Involuntary Separations	7
TOTAL SEPARATIONS	67
Average Length of Service (Months)	114.0
Formal Grievances Filed by Employees	10
EEOC Complaints Filed	1
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	1
Positions Studied	113

EXPLANATORY INFORMATION

Service Level and Delivery

The Human Resources Department for the City of Concord is responsible for the following functions: departmental management, policy design and administration, classification and compensation design and administration, benefits plan design and administration, employee relations, grievance and disciplinary actions, and employee rewards.

The Department conducted one compensation study during FY 2010–11 covering 113 positions.

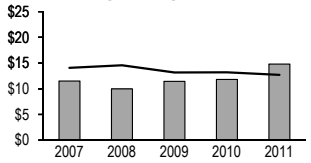
The city's probationary period for new employees is six months for non–public safety employees and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

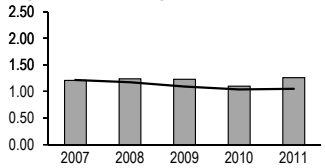
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Greensboro	$11.52	$9.99	$11.44	$11.81	$14.82
Average	$14.09	$14.59	$13.19	$13.21	$12.71

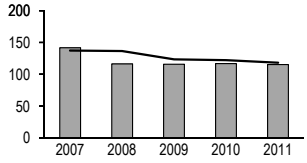
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	1.21	1.24	1.23	1.10	1.26
Average	1.22	1.18	1.09	1.04	1.05

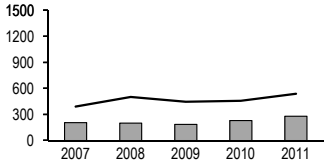
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



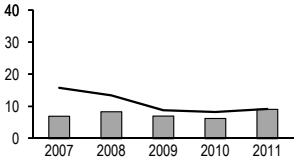
	2007	2008	2009	2010	2011
Greensboro	142	116	116	117	115
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Greensboro	207	201	187	230	280
Average	392	501	447	459	539

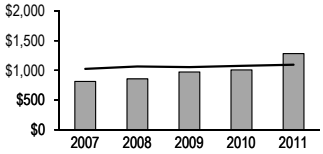
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Greensboro	6.9	8.3	7.0	6.2	9.1
Average	15.8	13.5	8.8	8.3	9.2

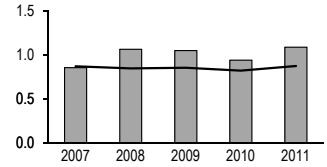
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Greensboro	$814	$858	$972	$1,008	$1,281
Average	$1,025	$1,066	$1,056	$1,075	$1,095

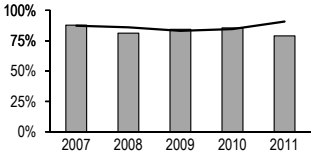
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Greensboro	0.86	1.06	1.05	0.94	1.09
Average	0.87	0.85	0.85	0.82	0.88

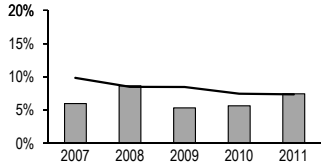
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



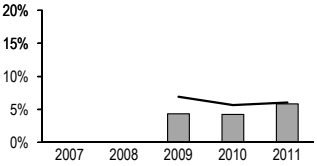
	2007	2008	2009	2010	2011
Greensboro	88%	81%	84%	86%	79%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



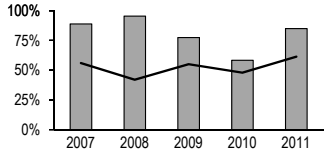
	2007	2008	2009	2010	2011
Greensboro	6.0%	8.7%	5.3%	5.6%	7.5%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



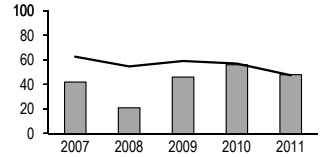
	2007	2008	2009	2010	2011
Greensboro			4.4%	4.2%	5.9%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Greensboro	89%	95%	77%	58%	85%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Greensboro	42	21	46	56	48
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	270,065
Land Area (Square Miles)	126.63
Persons per Square Mile	2,133
Unemployment Rate (ESC-10)	10.9%
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		66.2%
Operating Costs		33.8%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,651,182
Operating Costs	$	1,350,646
Capital Costs	$	-
TOTAL	$	4,001,828

SERVICE PROFILE

FTE Positions	
Administration	7.00
Generalist/Specialist	24.00
Staff Support (Clerical)	3.00
Total Authorized Workforce	3,124
Authorized FTEs	3,117.0
Number of Position Requisitions	284
Employment Applications Processed	8,735
Employee Turnover	
Voluntary Separations	183
Involuntary Separations	50
TOTAL SEPARATIONS	233
Average Length of Service (Months)	141.0
Formal Grievances Filed by Employees	100
EEOC Complaints Filed	17
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	1
Positions Studied	3200

EXPLANATORY INFORMATION

Service Level and Delivery

The Human Resources Department for the City of Greensboro provides comprehensive personnel services, including recruitment and selection, compensation, benefits, employee relations, safety, and occupational health and wellness. The total number of FTE positions includes staff from the Training Division, which is housed in a separate department from Human Resources.

The Department completed one large compensation study during FY 2010–11. Market reviews were done affecting 3,200 positions.

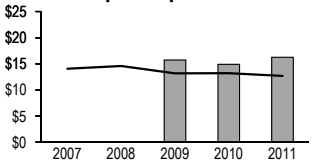
The city's probationary period for new employees is six months for non–public safety employees and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Greenville ■ Benchmarking Average — Fiscal Years 2007 through 2011

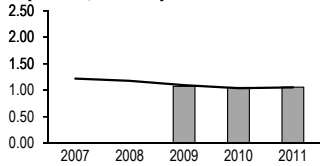
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Greenville			$15.75	$14.92	$16.27
Average	$14.09	$14.59	$13.19	$13.21	$12.71

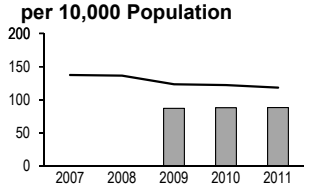
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			1.07	1.05	1.06
Average	1.22	1.18	1.09	1.04	1.05

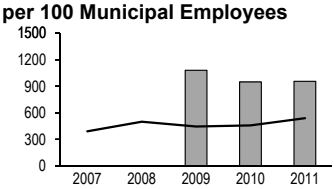
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greenville			87	88	88
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Greenville			1080	950	957
Average	392	501	447	459	539

Position Requisitions per 100 Municipal Employees

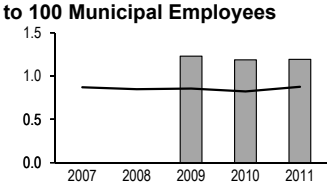
	2007	2008	2009	2010	2011
Greenville			6.6	8.2	6.9
Average	15.8	13.5	8.8	8.3	9.2

EFFICIENCY Measures

Human Resources Cost per Municipal Employee

	2007	2008	2009	2010	2011
Greenville			$1,802	$1,685	$1,835
Average	$1,025	$1,066	$1,056	$1,075	$1,095

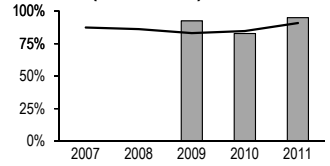
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Greenville			1.23	1.19	1.19
Average	0.87	0.85	0.85	0.82	0.88

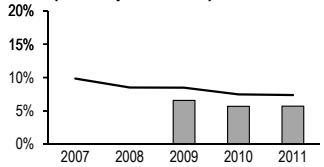
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



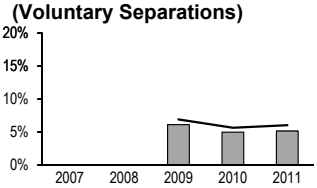
	2007	2008	2009	2010	2011
Greenville			93%	83%	95%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



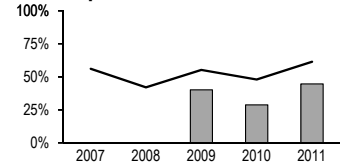
	2007	2008	2009	2010	2011
Greenville			6.6%	5.7%	5.7%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



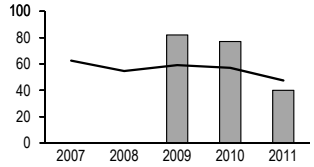
	2007	2008	2009	2010	2011
Greenville			6.1%	5.0%	5.2%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Greenville			40%	29%	44%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Greenville			82	77	40
Average	63	55	59	57	47

Greenville

MUNICIPAL PROFILE

Population (OSBM 2010)	85,152
Land Area (Square Miles)	34.63
Persons per Square Mile	2,459
Unemployment Rate (ESC-10)	10.1%
County	Pitt
Topography	Flat
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		56.5%
Operating Costs		43.3%
Capital Costs		0.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	782,126
Operating Costs	$	599,405
Capital Costs	$	3,876
TOTAL	$	1,385,407

SERVICE PROFILE

FTE Positions	
Administration	4.00
Generalist/Specialist	2.00
Staff Support (Clerical)	3.00
Total Authorized Workforce	755
Authorized FTEs	753.0
Number of Position Requisitions	52
Employment Applications Processed	7,226
Employee Turnover	
Voluntary Separations	39
Involuntary Separations	4
TOTAL SEPARATIONS	43
Average Length of Service (Months)	120.0
Formal Grievances Filed by Employees	9
EEOC Complaints Filed	1
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	1
Positions Studied	180

EXPLANATORY INFORMATION

Service Level and Delivery
The Human Resources Department for the City of Greenville is responsible for recruitment and selection, salary and benefits administration, position classification, employee relations, affirmative action and equal employment opportunity, training and development, risk administration, and safety.

The city's probationary period is twelve months for all law enforcement personnel and employees in a trainee status such as Fire/Rescue trainees. All other employees serve a six-month probationary period.

Nearly all employment applications are done on-line. The Human Resources Department screens applications to ensure that applicants meet the position minimum qualifications. Applications are only accepted for positions that are open for recruitment.

Greenville has a voluntary wellness program focusing on education, fitness, mental health, nutrition, weight management, personal health, and personal safety. A safety specialist provides technical safety and occupational illness and injury prevention training.

A formal grievance in Greenville requires a written notice given to a supervisor appealing a disciplinary action. The grievance process is an internal one, moving up the chain of command with specific timeframes for responses and appeals to the next level.

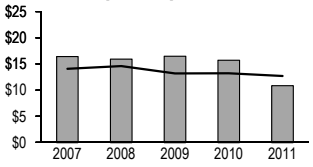
One compensation study was completed during the fiscal year covering 180 positions in the city.

Conditions Affecting Service, Performance, and Costs
Greenville joined the project in 2009, with the first year of reporting being for FY 2008–09.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

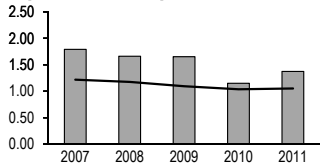
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Hickory	$16.41	$15.93	$16.48	$15.71	$10.86
Average	$14.09	$14.59	$13.19	$13.21	$12.71

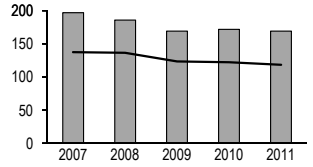
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	1.79	1.66	1.65	1.15	1.37
Average	1.22	1.18	1.09	1.04	1.05

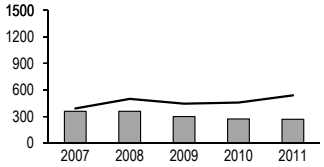
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



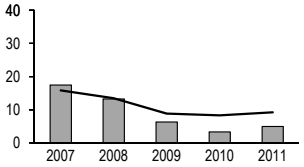
	2007	2008	2009	2010	2011
Hickory	197	186	169	172	169
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Hickory	361	360	301	274	271
Average	392	501	447	459	539

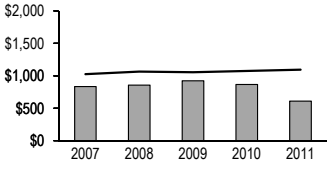
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Hickory	17.4	13.3	6.3	3.3	4.9
Average	15.8	13.5	8.8	8.3	9.2

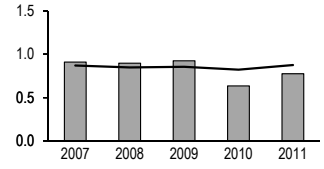
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Hickory	$834	$858	$922	$867	$611
Average	$1,025	$1,066	$1,056	$1,075	$1,095

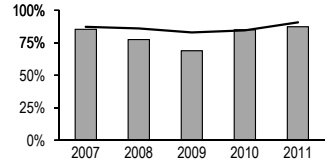
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Hickory	0.91	0.90	0.92	0.63	0.77
Average	0.87	0.85	0.85	0.82	0.88

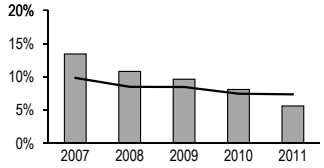
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



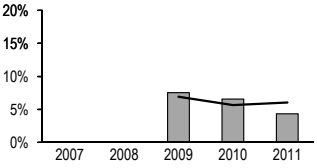
	2007	2008	2009	2010	2011
Hickory	85%	78%	69%	85%	88%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



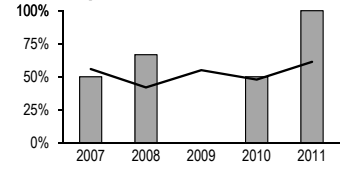
	2007	2008	2009	2010	2011
Hickory	13.5%	10.8%	9.6%	8.1%	5.6%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



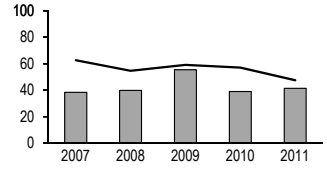
	2007	2008	2009	2010	2011
Hickory			7.5%	6.6%	4.4%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Hickory	50%	67%	0%	50%	100%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Hickory	38	40	55	39	41
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	40,084
Land Area (Square Miles)	29.72
Persons per Square Mile	1,349
Unemployment Rate (ESC-10)	13.1%
County	Catawba
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.9%
Operating Costs		28.9%
Capital Costs		1.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	304,341
Operating Costs	$	125,666
Capital Costs	$	5,207
TOTAL	$	435,214

SERVICE PROFILE

FTE Positions	
Administration	0.31
Generalist/Specialist	3.76
Staff Support (Clerical)	1.44
Total Authorized Workforce	712
Authorized FTEs	678
Number of Position Requisitions	35
Employment Applications Processed	1,928
Employee Turnover	
Voluntary Separations	63
Involuntary Separations	21
TOTAL SEPARATIONS	84
Average Length of Service (Months)	123.0
Formal Grievances Filed by Employees	4
EEOC Complaints Filed	0
Length of Probationary Employment Period	12 months
Compensation Studies Completed	5
Positions Studied	5

EXPLANATORY INFORMATION

Service Level and Delivery

The human resources function for the City of Hickory contains a director, an organizational development coordinator, a city nurse, two human resources analysts (one oversees benefits administration and the other oversees general employment), and one clerical position. Risk management is a division of the human resources function, which includes a risk manager and a clerical support position.

The city's probationary period is twelve months for all new city employees. The city conducted compensation studies covering five positions during the year.

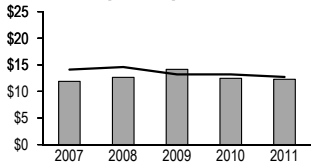
Conditions Affecting Service, Performance, and Costs

High Point — Central Human Resources

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

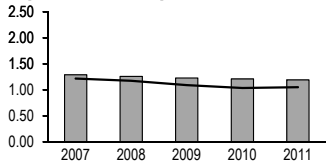
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
High Point	$11.88	$12.64	$14.14	$12.45	$12.27
Average	$14.09	$14.59	$13.19	$13.21	$12.71

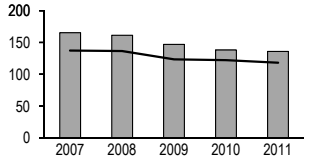
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	1.29	1.26	1.23	1.21	1.19
Average	1.22	1.18	1.09	1.04	1.05

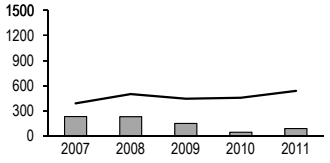
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



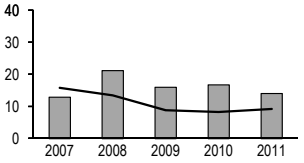
	2007	2008	2009	2010	2011
High Point	165	161	147	138	136
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
High Point	234	231	153	47	91
Average	392	501	447	459	539

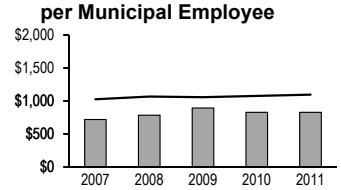
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
High Point	12.9	21.2	16.0	16.7	14.0
Average	15.8	13.5	8.8	8.3	9.2

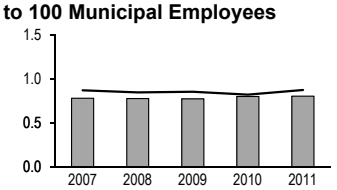
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
High Point	$719	$784	$891	$827	$828
Average	$1,025	$1,066	$1,056	$1,075	$1,095

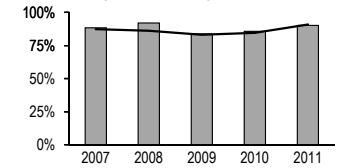
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
High Point	0.78	0.78	0.77	0.80	0.80
Average	0.87	0.85	0.85	0.82	0.88

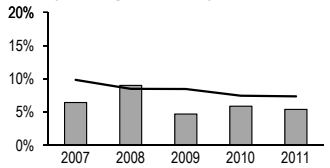
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



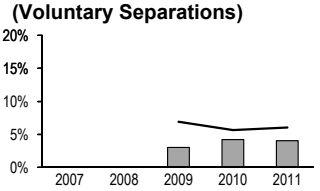
	2007	2008	2009	2010	2011
High Point	88%	92%	84%	86%	90%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



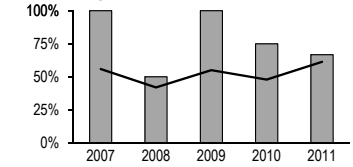
	2007	2008	2009	2010	2011
High Point	6.4%	9.0%	4.7%	5.9%	5.4%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



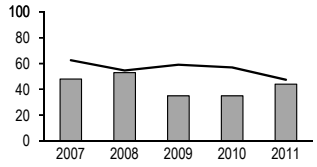
	2007	2008	2009	2010	2011
High Point			3.0%	4.2%	4.1%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
High Point	100%	50%	100%	75%	67%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
High Point	48	53	35	35	44
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	104,788
Land Area (Square Miles)	53.81
Persons per Square Mile	1,948
Unemployment Rate (ESC-10)	10.9%
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.9%
Operating Costs		22.0%
Capital Costs		1.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	989,564
Operating Costs	$	282,696
Capital Costs	$	13,805
TOTAL	$	1,286,065

SERVICE PROFILE

FTE Positions	
Administration	5.00
Generalist/Specialist	6.50
Staff Support (Clerical)	1.00
Total Authorized Workforce	1,554
Authorized FTEs	1,425
Number of Position Requisitions	218
Employment Applications Processed	1,420
Employee Turnover	
Voluntary Separations	63
Involuntary Separations	21
TOTAL SEPARATIONS	84
Average Length of Service (Months)	129.0
Formal Grievances Filed by Employees	3
EEOC Complaints Filed	4
Length of Probationary Employment Period	12 months
Compensation Studies Completed	0
Positions Studied	0

EXPLANATORY INFORMATION

Service Level and Delivery

The City of High Point Human Resources Department is organized into two divisions. The Administrative Division's organizational objectives consist of personnel and fringe benefits budgeting; workforce planning; recruitment, selection, EEO, ADA, FMLA, FLSA, and HIPPA compliance; fringe benefit competitiveness and cost containment; employee benefits education and awareness; maintaining a competitive and equitable salary and classification plan; offering professional training opportunities for employees; development of intervention strategies to address workplace problems; and facilitation services to employee groups. The director of human resources reports directly to the city manager.

The Safety and Health Division's organizational objectives consist of assisting city departments in providing a safe work environment; promoting a healthier workforce through job fitness assessments and wellness programs; coordination of the city's substance abuse program, workers' compensation cost containment and compliance with OSHA, HIPPA, EPA, DOT; and North Carolina workers' compensation regulations.

No compensation studies were conducted in FY 2010–11.

The city's probationary period is twelve months for new employees. Department directors may extend probationary periods for up to ninety additional days if approved by the Human Resources director.

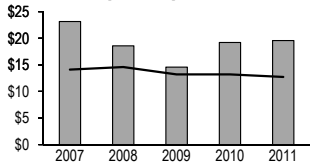
Conditions Affecting Service, Performance, and Costs

Salisbury — Central Human Resources

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

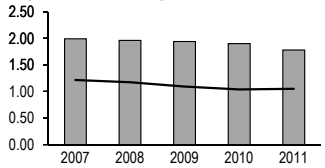
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Salisbury	$23.14	$18.57	$14.56	$19.22	$19.58
Average	$14.09	$14.59	$13.19	$13.21	$12.71

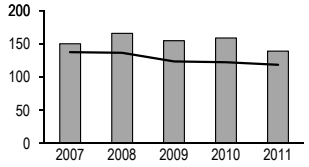
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	1.99	1.96	1.94	1.90	1.78
Average	1.22	1.18	1.09	1.04	1.05

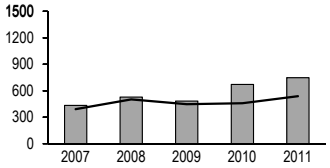
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



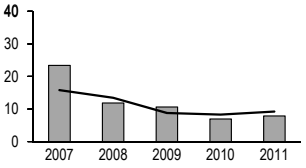
	2007	2008	2009	2010	2011
Salisbury	150	166	155	159	139
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Salisbury	435	529	483	671	747
Average	392	501	447	459	539

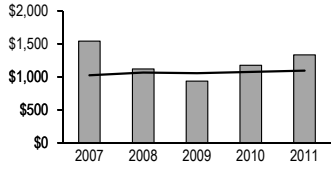
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Salisbury	23.4	11.9	10.6	7.0	7.9
Average	15.8	13.5	8.8	8.3	9.2

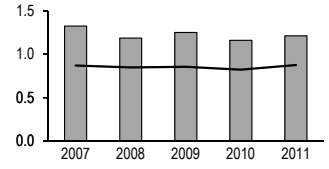
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Salisbury	$1,541	$1,121	$937	$1,176	$1,334
Average	$1,025	$1,066	$1,056	$1,075	$1,095

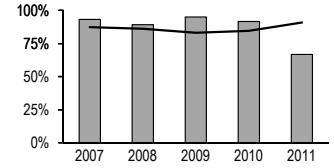
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Salisbury	1.32	1.19	1.25	1.16	1.21
Average	0.87	0.85	0.85	0.82	0.88

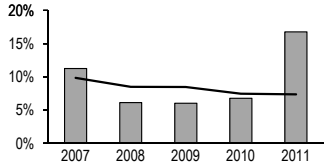
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



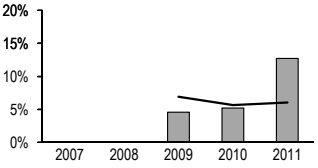
	2007	2008	2009	2010	2011
Salisbury	93%	89%	95%	92%	67%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



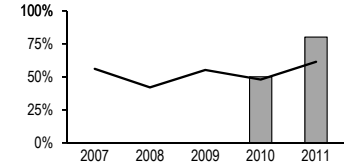
	2007	2008	2009	2010	2011
Salisbury	11.3%	6.1%	6.0%	6.8%	16.8%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



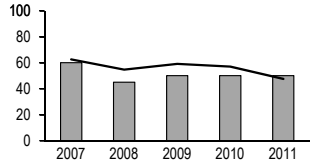
	2007	2008	2009	2010	2011
Salisbury			4.6%	5.2%	12.7%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Salisbury			0%	50%	80%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Salisbury	60	45	50	50	50
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	33,722
Land Area (Square Miles)	22.18
Persons per Square Mile	1,520
Unemployment Rate (ESC-10)	12.8%
County	Rowan
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		77.3%
Operating Costs		21.6%
Capital Costs		1.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	510,366
Operating Costs	$	142,558
Capital Costs	$	7,293
TOTAL	$	660,217

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	3.00
Staff Support (Clerical)	2.00
Total Authorized Workforce	495
Authorized FTEs	469.0
Number of Position Requisitions	39
Employment Applications Processed	3,698
Employee Turnover	
Voluntary Separations	63
Involuntary Separations	20
TOTAL SEPARATIONS	83
Average Length of Service (Months)	NA
Formal Grievances Filed by Employees	5
EEOC Complaints Filed	1
Length of Probationary Employment Period	6 months
Compensation Studies Completed	1
Positions Studied	8

EXPLANATORY INFORMATION

Service Level and Delivery

The human resources function in Salisbury is a centralized unit that provides internal support and assistance with six staff members: the director (administration, equal employment opportunity and grievance, and special investigations), an analyst II (benefits administration, HRIS, policy interpretation, and wellness), an analyst II (training and development), an analyst I (recruitment, compensation, classification, and position control), an analyst I (multiculturalism program), and a technician (applicant flow, administrative support, budget preparation, and corporate giving).

The Human Resources Department has been the lead agency in the development of customer service provisions identified by the City Council as the top priority goal for the city.

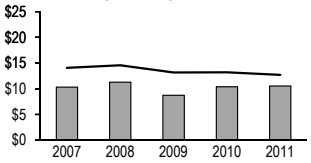
The city's probationary period for new employees is six months.

Conditions Affecting Service, Performance, and Costs

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2007 through 2011

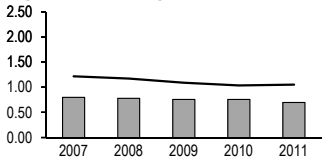
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Wilmington	$10.32	$11.31	$8.75	$10.39	$10.56
Average	$14.09	$14.59	$13.19	$13.21	$12.71

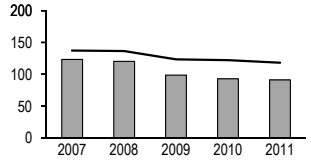
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilmington	0.80	0.78	0.76	0.76	0.70
Average	1.22	1.18	1.09	1.04	1.05

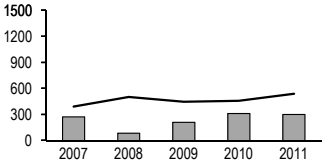
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



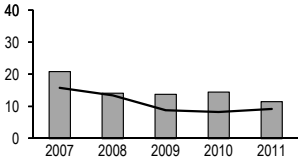
	2007	2008	2009	2010	2011
Wilmington	123	120	99	93	91
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilmington	273	84	210	311	301
Average	392	501	447	459	539

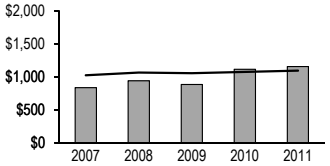
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilmington	20.9	14.1	13.8	14.5	11.5
Average	15.8	13.5	8.8	8.3	9.2

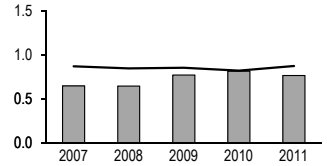
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Wilmington	$837	$941	$885	$1,116	$1,157
Average	$1,025	$1,066	$1,056	$1,075	$1,095

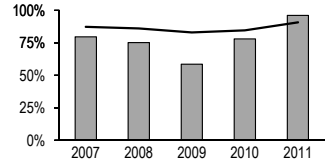
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilmington	0.65	0.65	0.77	0.81	0.77
Average	0.87	0.85	0.85	0.82	0.88

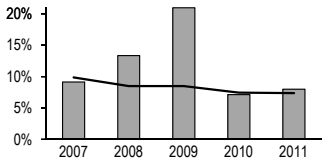
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



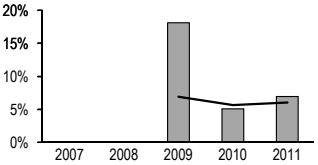
	2007	2008	2009	2010	2011
Wilmington	80%	75%	59%	78%	96%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



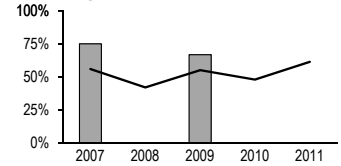
	2007	2008	2009	2010	2011
Wilmington	9.1%	13.3%	20.9%	7.1%	8.0%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



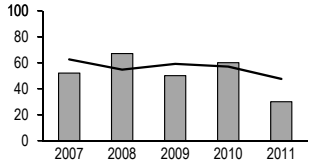
	2007	2008	2009	2010	2011
Wilmington			18.1%	5.1%	7.0%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Wilmington	75%	0%	67%		
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Wilmington	52	67	50	60	30
Average	63	55	59	57	47

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2010)	106,882
Land Area (Square Miles)	51.49
Persons per Square Mile	2,076
Unemployment Rate (ESC-10)	9.7%
County	New Hanover
Topography	Flat; coastal plain
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		47.4%
Operating Costs		52.0%
Capital Costs		0.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	535,034
Operating Costs	$	587,525
Capital Costs	$	6,461
TOTAL	$	1,129,020

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	3.00
Staff Support (Clerical)	3.48
Total Authorized Workforce	976
Authorized FTEs	974.5
Number of Position Requisitions	112
Employment Applications Processed	2,933
Employee Turnover	
Voluntary Separations	68
Involuntary Separations	10
TOTAL SEPARATIONS	78
Average Length of Service (Months)	121.0
Formal Grievances Filed by Employees	1
EEOC Complaints Filed	2
Length of Probationary Employment Period	12 or 18 months
Compensation Studies Completed	0
Positions Studied	0

EXPLANATORY INFORMATION

Service Level and Delivery

Wilmington had eight employees during FY 2009–10 performing human resource functions. The director had administrative oversight responsibilities and was responsible for policy and compliance matters. In early 2007, Human Resources implemented a Business Partner concept to provide human resource services to city departments. Service delivery is centralized, with business partners serving as content experts on issues like benefits, recruiting, policies, compensation, learning and development, and safety management.

Wilmington is undergoing a change in its management model, moving to more employee engagement and a results-oriented approach. This culture change seeks to empower employees and improve accountability and performance for citizens.

Wilimington conducted no compensation studies during the fiscal year.

The city's probationary period for new employees is twelve months for non–public safety employees and eighteen months for public safety employees.

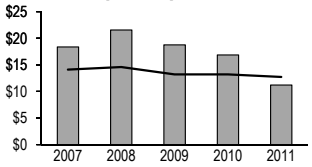
Conditions Affecting Service, Performance, and Costs

Wilson — Central Human Resources

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

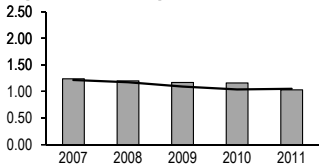
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Wilson	$18.36	$21.54	$18.74	$16.85	$11.22
Average	$14.09	$14.59	$13.19	$13.21	$12.71

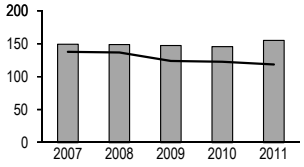
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	1.24	1.20	1.17	1.16	1.03
Average	1.22	1.18	1.09	1.04	1.05

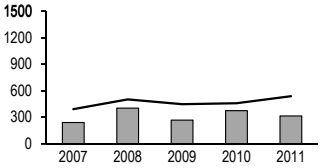
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



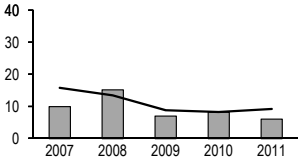
	2007	2008	2009	2010	2011
Wilson	149	148	147	145	155
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilson	240	403	267	374	315
Average	392	501	447	459	539

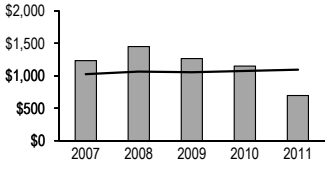
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilson	10.0	15.2	7.0	8.2	6.0
Average	15.8	13.5	8.8	8.3	9.2

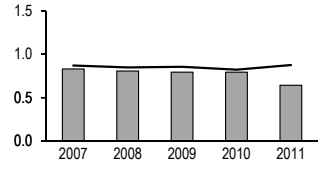
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Wilson	$1,233	$1,451	$1,265	$1,151	$696
Average	$1,025	$1,066	$1,056	$1,075	$1,095

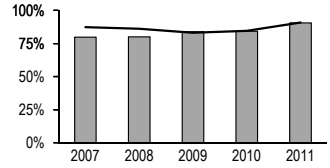
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Wilson	0.83	0.81	0.79	0.79	0.64
Average	0.87	0.85	0.85	0.82	0.88

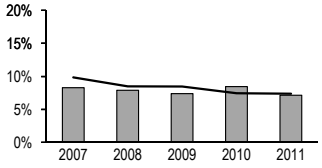
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



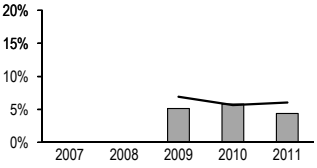
	2007	2008	2009	2010	2011
Wilson	80%	80%	84%	84%	91%
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



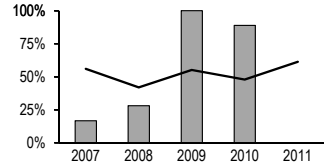
	2007	2008	2009	2010	2011
Wilson	8.3%	7.9%	7.4%	8.5%	7.2%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



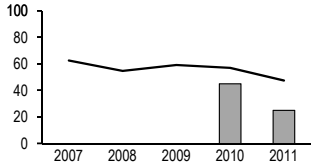
	2007	2008	2009	2010	2011
Wilson			5.2%	5.8%	4.4%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Wilson	17%	28%	100%	89%	
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Wilson				45	25
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	49,421
Land Area (Square Miles)	28.76
Persons per Square Mile	1,718
Unemployment Rate (ESC-10)	12.7%
County	Wilson
Topography	Flat
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		81.0%
Operating Costs		17.3%
Capital Costs		1.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	449,092
Operating Costs	$	95,892
Capital Costs	$	9,311
TOTAL	$	554,295

SERVICE PROFILE

FTE Positions	
Administration	1.60
Generalist/Specialist	2.50
Staff Support (Clerical)	1.00
Total Authorized Workforce	796
Authorized FTEs	765
Number of Position Requisitions	48
Employment Applications Processed	2,509
Employee Turnover	
Voluntary Separations	35
Involuntary Separations	22
TOTAL SEPARATIONS	57
Average Length of Service (Months)	119.0
Formal Grievances Filed by Employees	0
EEOC Complaints Filed	3
Length of Probationary Employment Period	12 months
Compensation Studies Completed	0
Positions Studied	0

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Wilson has a centralized Human Resources Department comprised of policy development and implementation, classification and pay administration, recruitment and selection, benefits administration, and employee relations. The safety and health program is a function of the Risk Management Division under another department. Occupational health needs are met through a contract with the Wilson Medical Center.

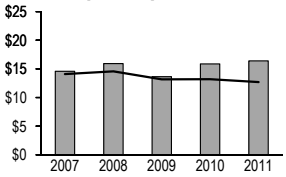
The city conducted no compensation studies during FY 2010–11.

The city's probationary period is twelve months for new city employees.

Conditions Affecting Service, Performance, and Costs

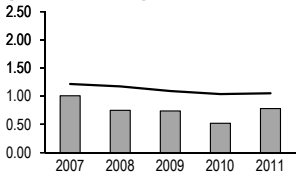
RESOURCE Measures

Human Resources Services Cost per Capita



	2007	2008	2009	2010	2011
Winston-Salem	$14.58	$15.94	$13.65	$15.87	$16.42
Average	$14.09	$14.59	$13.19	$13.21	$12.71

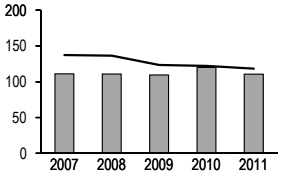
Human Resources FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	1.01	0.75	0.74	0.52	0.78
Average	1.22	1.18	1.09	1.04	1.05

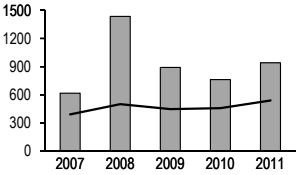
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



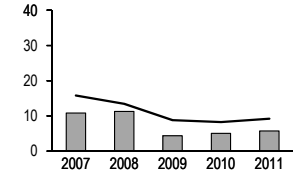
	2007	2008	2009	2010	2011
Winston-Salem	111	111	110	120	111
Average	137	136	123	122	118

Applications Processed per 100 Municipal Employees



	2007	2008	2009	2010	2011
Winston-Salem	618	1435	891	762	941
Average	392	501	447	459	539

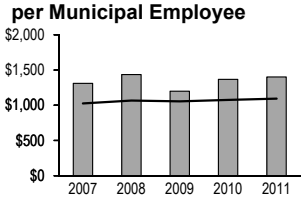
Position Requisitions per 100 Municipal Employees



	2007	2008	2009	2010	2011
Winston-Salem	10.8	11.3	4.4	5.1	5.7
Average	15.8	13.5	8.8	8.3	9.2

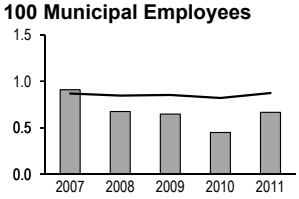
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2007	2008	2009	2010	2011
Winston-Salem	$1,312	$1,436	$1,201	$1,367	$1,402
Average	$1,025	$1,066	$1,056	$1,075	$1,095

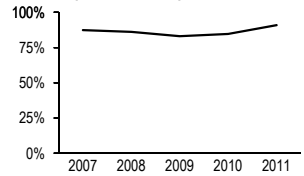
Ratio of Human Resources Staff to 100 Municipal Employees



	2007	2008	2009	2010	2011
Winston-Salem	0.91	0.68	0.65	0.45	0.67
Average	0.87	0.85	0.85	0.82	0.88

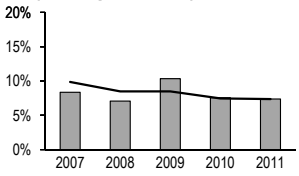
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



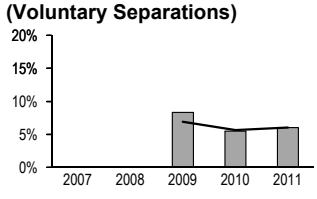
	2007	2008	2009	2010	2011
Winston-Salem					
Average	87%	86%	83%	85%	91%

Employee Turnover Rate (All Separations)



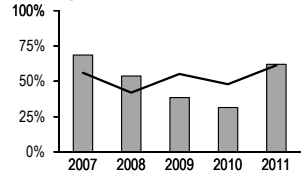
	2007	2008	2009	2010	2011
Winston-Salem	8.4%	7.1%	10.3%	7.6%	7.4%
Average	9.9%	8.5%	8.5%	7.5%	7.4%

Employee Turnover Rate (Voluntary Separations)



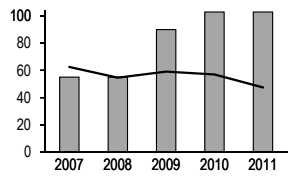
	2007	2008	2009	2010	2011
Winston-Salem			8.3%	5.5%	6.0%
Average			6.9%	5.7%	6.1%

Percentage of Grievances Resolved at Department Level



	2007	2008	2009	2010	2011
Winston-Salem	69%	54%	38%	31%	62%
Average	56%	42%	55%	48%	61%

Average Days from Post Date to Hire Date (First Day of Employment)



	2007	2008	2009	2010	2011
Winston-Salem	55	55	90	103	103
Average	63	55	59	57	47

MUNICIPAL PROFILE

Population (OSBM 2010)	230,345
Land Area (Square Miles)	132.45
Persons per Square Mile	1,739
Unemployment Rate (ESC-10)	9.9%
County	Forsyth
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		32.2%
Operating Costs		63.4%
Capital Costs		4.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,218,666
Operating Costs	$	2,398,182
Capital Costs	$	165,770
TOTAL	$	3,782,618

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	10.00
Staff Support (Clerical)	5.00
Total Authorized Workforce	2,875
Authorized FTEs	2,669.5
Number of Position Requisitions	155
Employment Applications Processed	25,396
Employee Turnover	
Voluntary Separations	163
Involuntary Separations	36
TOTAL SEPARATIONS	199
Average Length of Service (Months)	134.0
Formal Grievances Filed by Employees	71
EEOC Complaints Filed	1
Length of Probationary Employment Period	No Probationary Period
Compensation Studies Completed	14
Positions Studied	14

EXPLANATORY INFORMATION

Service Level and Delivery
The human resources function is housed under three separate departments: finance, employee health and safety, and human resources and employee training. The portion included in the Finance Department is responsible for benefits administration. The Human Resources Department has two separate sections: one for general human resources management and another for employee training.

The city conducted compensation studies covering fourteen positions during FY 2010–11.

Winston-Salem did not use a probationary period. As a result, no data are available for the measure "probationary period completion rate (new hires)."

Conditions Affecting Service, Performance, and Costs
Winston-Salem has added the alternative of submitting applications on-line rather than on paper. This process has made it substantially easier to apply for jobs, pushing up the number of applications. Roughly seventy-two percent of applications to the city were done on-line. The slump in the economy and layoffs have also generated more applications for city jobs.

The city has two health insurance plans: a basic plan and the Basic Plus Plan which has richer benefits and more expensive premiums for employees.

The City Attorney's Office handles all Equal Employment Opportunity Commission (EEOC) charges.

UNC
SCHOOL OF
GOVERNMENT

Performance and Cost Data

WATER SERVICES

UNC
SCHOOL OF
GOVERNMENT

PERFORMANCE MEASURES FOR WATER SERVICES

SERVICE DEFINITION

This includes the collection, treatment, distribution, and billing related to drinking water services. This service area includes reservoirs where appropriate, pumping stations, pipes to and from treatment plants, storage tanks, and treatment plants. Activities and costs include the operation, maintenance, and installation of infrastructure. Also included are costs and activities associated with the installation, upkeep, and reading of meters; billing and collection costs for drinking water services; and administrative activities such as planning, engineering, and testing. Excluded are reclaimed water, sewer collection, and wastewater treatment services.

NOTES ON PERFORMANCE MEASURES

1. Thousands of Gallons Billed Water per Meter

This workload measure captures the amount of water provided per meter in the system. Water that does not make it to customer taps is not included.

2. Miles of Main Line Pipe per Square Mile of Service Area

The amount of pipe per square mile shows the density of the pipe infrastructure to be maintained relative to the geographic size of the area served.

3. Total Cost per Thousand Gallons of Billed Water

This efficiency measure shows the total system costs per thousand gallons of water that is actually billed to customers.

4. Million Gallons of Billed Water per All Staff FTEs

Large numbers of staff are required to bring drinking water to customer taps, including treatment staff, line maintenance staff, meter readers, billing staff, and others. Based on all staff who help support the delivery of drinking water to customers, this efficiency measure shows how much billable water is produced per full-time equivalent staff member.

5. Billed Water as a Percentage of Finished Water

Not all water produced at treatment plants makes it to customer meters. Some water is lost through leaks or breaks in the system. Other water is unbilled but authorized for uses such as fighting fires or flushing lines. This efficiency measure shows the percentage of water produced that makes it to customer taps.

6. Percentage of Existing Pipeline Renewed

Replacement or rehabilitation of existing pipeline is needed to ensure that the distribution infrastructure can continue to function. This effectiveness measure shows the percentage of existing water lines that are renewed each year.

7. Percentage of Bills Not Collected
Collection of water bills sent to customers is necessary to ensure revenues for system operation. Adjustments to bills reflecting water loss adjustments are not included in the amount of billings.

8. Peak Daily Demand as a Percentage of Treatment Capacity
A water system needs sufficient capacity to meet average demands but also peak demands. This measure looks at peak historical demand relative to the water system treatment capacity in a day.

9. Breaks and Leaks per Mile of Main Line Pipe
Breaks or leaks in water distribution lines mean the loss of treated water.

10. Customer Complaints about Water Quality per 1,000 Meters
Concerns for the adequacy of water are matched with the quality of the water delivered to customers. This effectiveness measure assesses customers' perceptions about their water quality.

Water Services

Summary of Key Dimensions of Service

City or Town	Estimated Residential Population in Service Area	Service Area (in Square Miles)	Average Daily Demand for Water in MGD	Operating Treatment Plants	Total Treatment Capacity for Finished Water in MGD	Miles of Water Main Lines	Number of Water Meters	Water System FTE Positions
Apex	38,293	15.6	2.9	shared with Cary	NA	171.5	13,366	25.0
Asheville	124,000	183.0	20.6	3	43.5	1,660.0	55,921	146.0
Burlington	49,963	41.1	10.5	2	34.0	414.8	20,389	46.0
Cary	159,900	94.0	14.4	1	40.0	982.3	60,374	76.1
Charlotte	919,628	546.0	110.0	3	242.0	4,094.0	263,805	462.0
Concord	84,425	173.4	9.0	2	24.0	680.0	36,045	75.0
Greensboro	262,000	145.4	33.8	2	54.0	1,479.2	101,544	163.0
Hickory	95,046	326.0	13.5	1	32.0	906.2	27,975	60.5
High Point	106,000	64.0	12.1	1	24.0	679.8	42,874	56.5
Salisbury	52,700	45.2	8.4	1	25.0	390.9	17,187	43.0
Wilson	51,167	99.0	9.1	2	22.0	412.1	22,072	42.0
Winston-Salem	312,773	325.0	36.7	3	73.0	2,222.0	121,969	176.0

NOTES

MGD stands for millions of gallons per day.

EXPLANATORY FACTORS

These are factors that the project found to affect water services performance and cost in one or more of the municipalities:

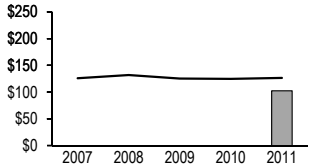
Topography
Water quality of source water
Size of service area
Population density
Age of infrastructure
Growth of population and businesses

Apex Water Services

Key: Apex ■ Benchmarking Average — Fiscal Years 2007 through 2011

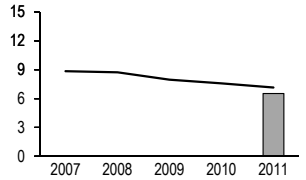
RESOURCE Measures

Water Services Cost per Capita



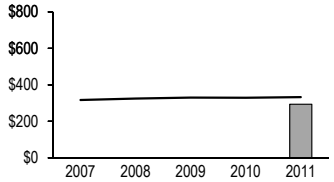
	2007	2008	2009	2010	2011
Apex					$102
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Apex					6.5
Average	8.9	8.7	8.0	7.6	7.2

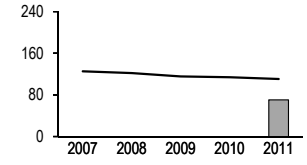
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Apex					$294
Average	$318	$325	$331	$330	$333

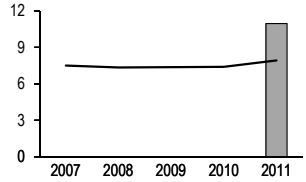
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Apex					70.7
Average	125.3	122.0	115.6	114.2	110.6

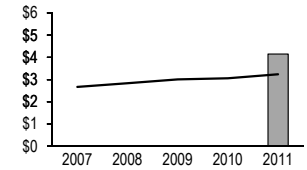
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Apex					11.0
Average	7.5	7.4	7.4	7.4	7.9

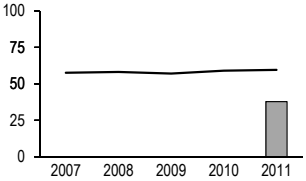
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



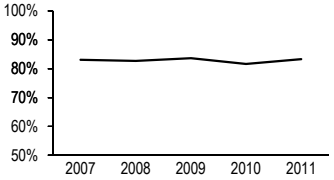
	2007	2008	2009	2010	2011
Apex					$4.15
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Apex					37.8
Average	57.7	58.2	57.1	59.1	59.6

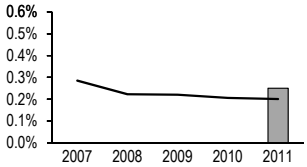
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Apex					
Average	83%	83%	84%	82%	83%

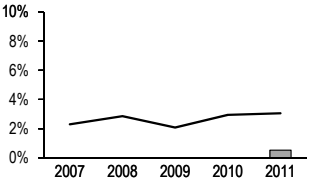
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



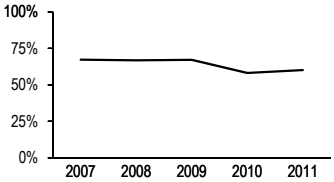
	2007	2008	2009	2010	2011
Apex					0.25%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



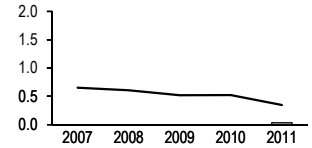
	2007	2008	2009	2010	2011
Apex					0.53%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



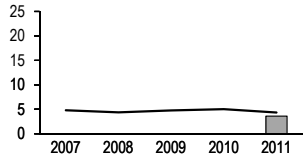
	2007	2008	2009	2010	2011
Apex					
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Apex					0.03
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Apex					3.59
Average	4.79	4.38	4.76	5.03	4.34

Apex

MUNICIPAL PROFILE

Estimated Service Population	38,293
Service Land Area (Square Miles)	15.6
Persons per Square Mile	2,455
County	Wake
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$97,201

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		25.4%
Operating Costs		43.8%
Capital Costs		30.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	996,323
Operating Costs	$	1,717,658
Capital Costs	$	1,209,467
TOTAL	$	3,923,448

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	0.0
Line Crews	10.0
Meter Readers	5.0
Billing/Collection	8.0
Other	2.0
Number of Treatment Plants	See Note
Total Treatment Capacity	See Note
Average Daily Demand	2.9 MG
Miles of Main Line Pipe	172
Average Age of Main Line Pipe	35 years
Number of Breaks/Leaks	6
Number of Water Meters	13,366
Percent of Meters Read Automatically	10.5%
Total Revenues Collected	$5,773,673

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Apex Water Distribution Division is housed within the Department of Public Works. It consists of repairs, preventive maintenance, meter installation and replacement, and testing. The Town of Apex is co-owner of the Cary/Apex water treatment facility, which draws raw water from Jordan Lake. The Town of Cary provides the operational staff for the treatment plant but Apex shares in the costs of operation and capital.

Apex bases replacement of water lines on customer complaints, frequency of repairs, street rehabilitation needs, age and material of pipes, and flow concerns.

Currently, about 10.5 percent of water meters are read by varying automatic means. Replacement of meters is based on a combination of factors as with water line replacement.

Conditions Affecting Service, Performance, and Costs
Apex began participation in the benchmarking project in July 2011, with FY 2010–11 being the first reporting year.

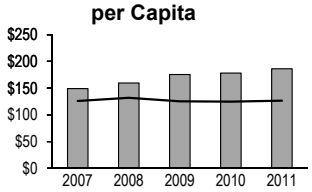
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07. The costs of water service as captured here do not include debt service but do capture depreciation.

Asheville Water Services

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2011

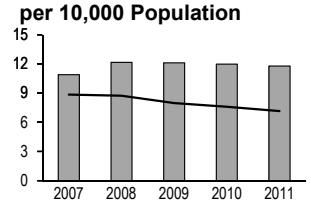
RESOURCE Measures

Water Services Cost per Capita



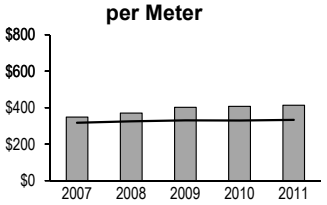
	2007	2008	2009	2010	2011
Asheville	$149	$160	$176	$178	$186
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Asheville	10.9	12.2	12.1	12.0	11.8
Average	8.9	8.7	8.0	7.6	7.2

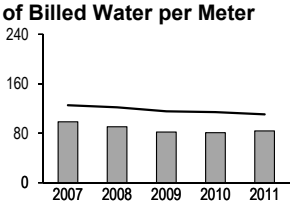
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Asheville	$348	$370	$402	$407	$413
Average	$318	$325	$331	$330	$333

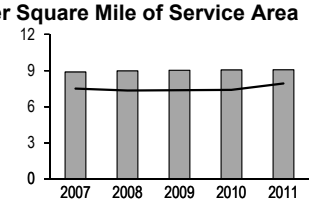
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Asheville	98.4	90.4	82.0	80.9	83.7
Average	125.3	122.0	115.6	114.2	110.6

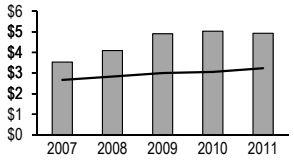
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Asheville	8.9	9.0	9.0	9.1	9.1
Average	7.5	7.4	7.4	7.4	7.9

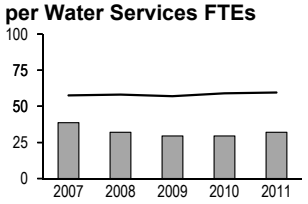
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



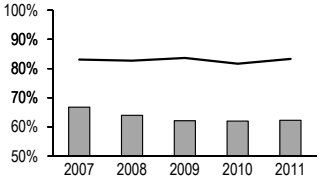
	2007	2008	2009	2010	2011
Asheville	$3.54	$4.10	$4.91	$5.03	$4.93
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Asheville	38.7	32.1	29.6	29.6	32.1
Average	57.7	58.2	57.1	59.1	59.6

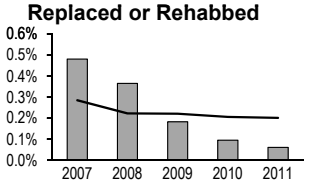
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Asheville	67%	64%	62%	62%	62%
Average	83%	83%	84%	82%	83%

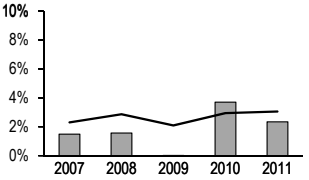
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



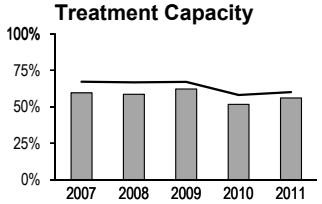
	2007	2008	2009	2010	2011
Asheville	0.48%	0.36%	0.18%	0.09%	0.06%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



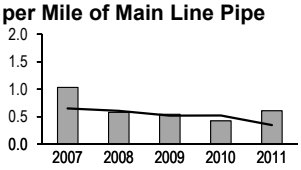
	2007	2008	2009	2010	2011
Asheville	1.49%	1.56%	0.02%	3.70%	2.34%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



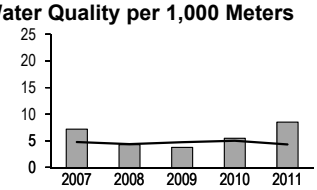
	2007	2008	2009	2010	2011
Asheville	60%	59%	62%	52%	56%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Asheville	1.03	0.58	0.54	0.42	0.61
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Asheville	7.21	4.29	3.79	5.49	8.53
Average	4.79	4.38	4.76	5.03	4.34

Asheville

MUNICIPAL PROFILE

Estimated Service Population	124,000
Service Land Area (Square Miles)	183.0
Persons per Square Mile	678
County	Buncombe
Topography	Hills, mountains
Climate	Moderate; ice and snow
Median Family Income (US Census 2010)	$53,350

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		36.1%
Operating Costs		34.7%
Capital Costs		29.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	8,336,698
Operating Costs	$	8,016,048
Capital Costs	$	6,734,422
TOTAL	$	23,087,168

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	41.0
Line Crews	50.0
Meter Readers	9.0
Billing/Collection	22.0
Other	24.0
Number of Treatment Plants	3
Total Treatment Capacity	43.5 MG
Average Daily Demand	20.6 MG
Miles of Main Line Pipe	1,660
Average Age of Main Line Pipe	52 years
Number of Breaks/Leaks	1,010
Number of Water Meters	55,921
Percent of Meters Read Automatically	37.9%
Total Revenues Collected	$33,110,712

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Asheville Water Resources Department is a publicly owned water utility that produces and supplies water for residential, business, industrial, and wholesale bulk customers. The utility serves the city of Asheville, approximately 27 percent of Buncombe County, and approximately 2 percent of Henderson County. Approximately 124,000 people are served over a 183-square-mile area.

Asheville has three water treatment plants drawing from a city reservoir, the Mills River, and may also take water from the French Broad River as needed. The estimated safe yield for water is thirty-five million gallons per day. The utilility has three treatment plants.

Asheville has an asset management program in place to assist with identifying replacement and refurbishment needs. The goal is for water main lines to be replaced every eighty years.

Currently about 37.9 percent of water meters are read by varying automatic systems, including radio-read and touch-read meters. The goal is to replace all meters in the upcoming five fiscal years with radio-read installation at 100 percent.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07. The costs of water service as captured here do not include debt service but do capture depreciation.

The topography and climate in Asheville creates a number of problems for water systems operation. The mountainous terrain makes it difficult to install water lines. The utility has thirty-eight pressure zones, ranging from 20 to 643 psi, with an average from 180 to 200 psi. Colder temperatures can also make maintenance harder to complete and lead to breaks due to freezing.

The number of breaks and leaks in the system has been declining. The Water Resources Department has worked actively to better identify situations with repeated leaks in time and, when identified, to replace pipe for a more permanent solution.

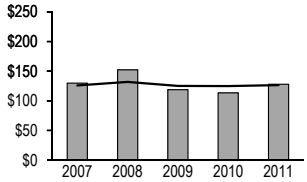
In February 2011, there was a major break on a large transmission line which affected water quality for a period. Additionally, there was a water quality problem near downtown. Complaints about water qualtiy were much higher due to these two problems.

Burlington Water Services

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2011

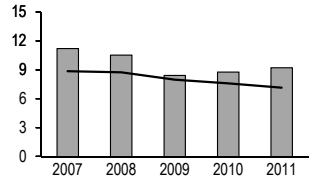
RESOURCE Measures

Water Services Cost per Capita



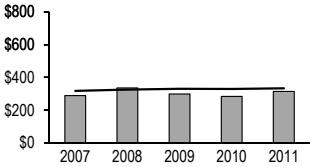
	2007	2008	2009	2010	2011
Burlington	$130	$152	$119	$114	$128
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Burlington	11.2	10.5	8.4	8.8	9.2
Average	8.9	8.7	8.0	7.6	7.2

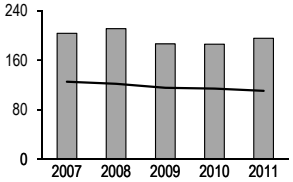
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Burlington	$288	$336	$298	$284	$314
Average	$318	$325	$331	$330	$333

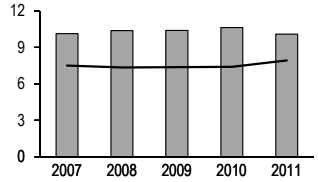
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Burlington	203.8	211.1	186.7	186.0	195.7
Average	125.3	122.0	115.6	114.2	110.6

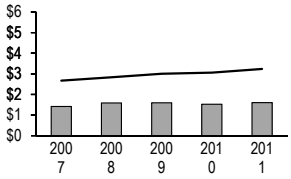
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Burlington	10.1	10.4	10.4	10.6	10.1
Average	7.5	7.4	7.4	7.4	7.9

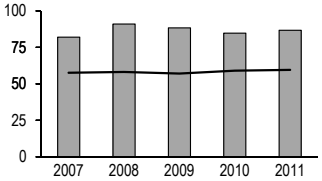
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



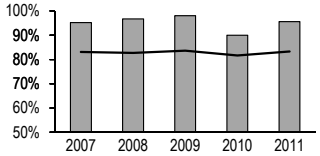
	2007	2008	2009	2010	2011
Burlington	$1.42	$1.59	$1.60	$1.53	$1.60
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Burlington	82.0	91.1	88.4	84.8	86.7
Average	57.7	58.2	57.1	59.1	59.6

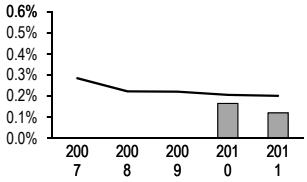
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Burlington	95%	97%	98%	90%	96%
Average	83%	83%	84%	82%	83%

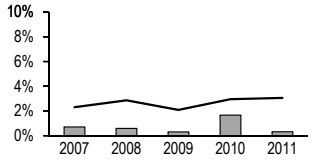
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



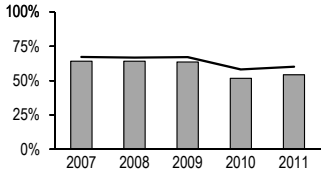
	2007	2008	2009	2010	2011
Burlington	0.00%	0.00%	0.00%	0.16%	0.12%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



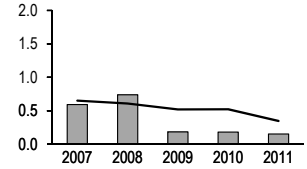
	2007	2008	2009	2010	2011
Burlington	0.70%	0.59%	0.31%	1.67%	0.31%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



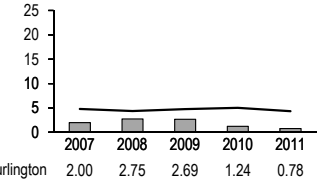
	2007	2008	2009	2010	2011
Burlington	64%	64%	64%	52%	54%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Burlington	0.59	0.74	0.18	0.18	0.15
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Burlington	2.00	2.75	2.69	1.24	0.78
Average	4.79	4.38	4.76	5.03	4.34

Burlington

MUNICIPAL PROFILE

Estimated Service Population	49,963
Service Land Area (Square Miles)	41.1
Persons per Square Mile	1,216
County	Alamance
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$46,461

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		21.0%
Operating Costs		42.3%
Capital Costs		36.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,346,192
Operating Costs	$	2,707,392
Capital Costs	$	2,349,683
TOTAL	$	6,403,267

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	17.0
Line Crews	10.0
Meter Readers	4.0
Billing/Collection	7.0
Other	8.0
Number of Treatment Plants	2
Total Treatment Capacity	34.0 MG
Average Daily Demand	10.5 MG
Miles of Main Line Pipe	415
Average Age of Main Line Pipe	47 years
Number of Breaks/Leaks	63
Number of Water Meters	20,389
Percent of Meters Read Automatically	9.2%
Total Revenues Collected	$10,233,849

EXPLANATORY INFORMATION

Service Level and Delivery
Water services are housed in the Water Resources Department within the City of Burlington. Meter reading, revenue collection, IT, and engineering are housed in other departments receiving fund transfers from the Water and Sewer Enterprise Fund. Approximately 50,000 people are served by the system over a 41-square-mile area.

The City of Burlington gets its water from two city-owned reservoirs in the upper Cape Fear River basin. The city also owns a third water storage reservoir. The estimated safe yield of the system is forty-eight million gallons per day.

The city has two treatment plants with a total treatment capacity of thirty-four million gallons per day. The plants use conventional treatment with alum coagulation, dual media filtration, and chlorine disinfection.

The city sells water to several other systems, including Greensboro, Gibsonville, Elon, the Village of Alamance, and Haw River. Three of Burlington's top five water users are now other cities. The city has emergency connections with Greensboro and Graham.

The city reads meters on a monthly basis, with currently about 9.2 percent meters being read by automatic means. Meters are replaced approximately every twelve to fifteen years.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

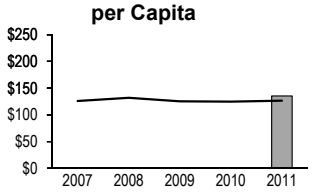
The costs of water service as captured here do not include debt service but do capture depreciation.

Burlington's water system planning in the 1970's was developed to support a growing industrial base, particularly textiles. As the textile industry declined, Burlington has been left with a large supply infrastructure. Burlington has extended water lines to Greensboro to offset the industrial base decline and to assist Greensboro. Greensboro is now Burlington's largest water customer.

Key: Cary ■ Benchmarking Average — Fiscal Years 2007 through 2011

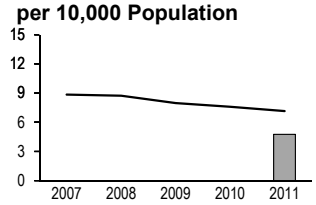
RESOURCE Measures

Water Services Cost per Capita



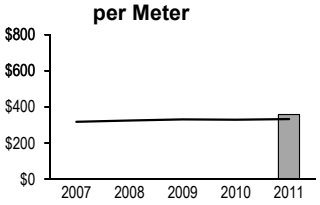
	2007	2008	2009	2010	2011
Cary					$135
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Cary					4.8
Average	8.9	8.7	8.0	7.6	7.2

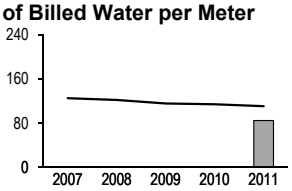
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Cary					$358
Average	$318	$325	$331	$330	$333

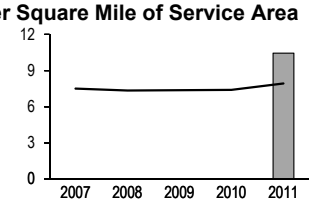
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Cary					84.6
Average	125.3	122.0	115.6	114.2	110.6

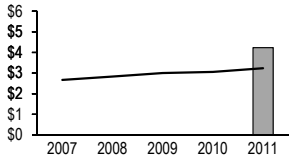
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Cary					10.5
Average	7.5	7.4	7.4	7.4	7.9

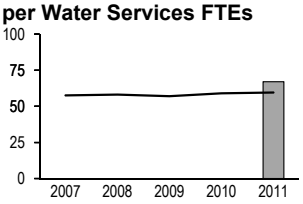
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



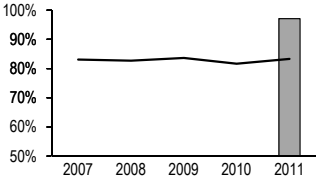
	2007	2008	2009	2010	2011
Cary					$4.23
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Cary					67.1
Average	57.7	58.2	57.1	59.1	59.6

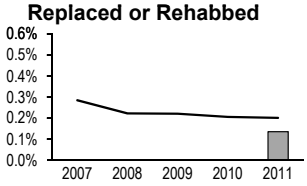
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Cary					97%
Average	83%	83%	84%	82%	83%

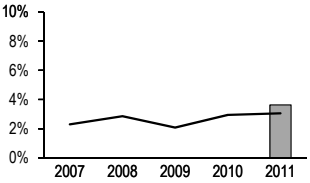
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



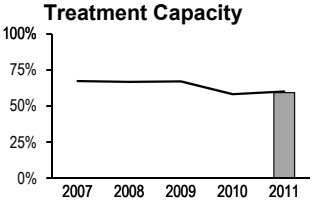
	2007	2008	2009	2010	2011
Cary					0.14%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



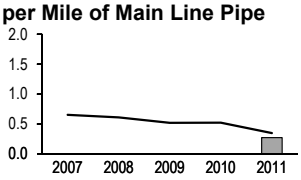
	2007	2008	2009	2010	2011
Cary					3.63%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



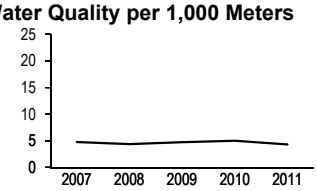
	2007	2008	2009	2010	2011
Cary					59%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Cary					0.27
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Cary					
Average	4.79	4.38	4.76	5.03	4.34

Cary

MUNICIPAL PROFILE

Estimated Service Population	159,900
Service Land Area (Square Miles)	94.0
Persons per Square Mile	1,701
County	Wake
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$108,956

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		41.9%
Operating Costs		32.9%
Capital Costs		25.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	9,061,982
Operating Costs	$	7,123,595
Capital Costs	$	5,449,807
TOTAL	$	21,635,384

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	23.0
Line Crews	23.8
Meter Readers	11.0
Billing/Collection	17.3
Other	1.0
Number of Treatment Plants	1
Total Treatment Capacity	40.0 MG
Average Daily Demand	14.4 MG
Miles of Main Line Pipe	982
Average Age of Main Line Pipe	NA
Number of Breaks/Leaks	266
Number of Water Meters	60,374
Percent of Meters Read Automatically	29.8%
Total Revenues Collected	$31,056,459

EXPLANATORY INFORMATION

Service Level and Delivery
Water services in Cary are provided by the Utilities Division of the Department of Public Works and Utilities. The Utilities Division includes pre-treatment, water treatment, wastewater treatment, and various distribution system operations. Only those operations connected to supplying water are captured in the data. Approximately 160,000 people are served by the system, covering an area of ninety-four square miles.

Cary gets its water from Jordan Lake in the Haw River subbasin. The estimated 50-year safe yield is 30.5 million gallons per day.

Cary's single water treatment plant is jointly owned with the Town of Apex. Apex pays 23 percent of the operating and capital costs and Cary staffs the plant. Cary also provides water to residents of the Town of Morrisville (as customers of the Cary water system but with a different operating and capital fee schedule). Cary further provides water to the Raleigh Durham Airport Authority.

The city reads meters on a monthly basis, with approximately 30 percent of meters being read automatically with a Sensus Flexnet system. Meters are replaced approximately every seventeen years.

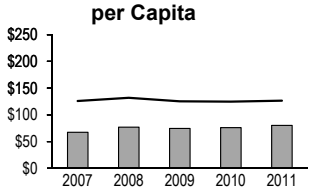
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07. Cary began participating in water services benchmarking with the FY 2010–2011 report.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2011

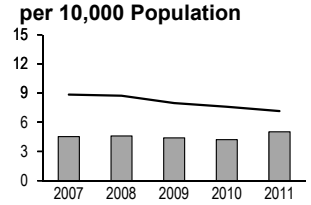
RESOURCE Measures

Water Services Cost per Capita



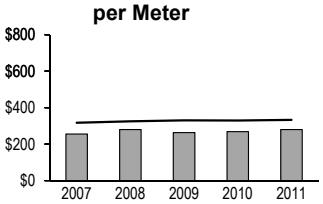
	2007	2008	2009	2010	2011
Charlotte	$67	$77	$75	$76	$80
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Charlotte	4.5	4.6	4.4	4.2	5.0
Average	8.9	8.7	8.0	7.6	7.2

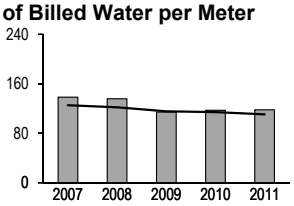
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Charlotte	$255	$280	$263	$269	$280
Average	$318	$325	$331	$330	$333

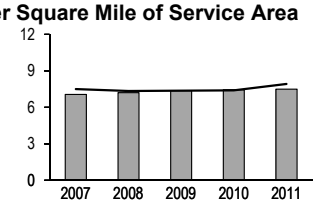
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Charlotte	138.3	135.7	114.3	117.3	117.9
Average	125.3	122.0	115.6	114.2	110.6

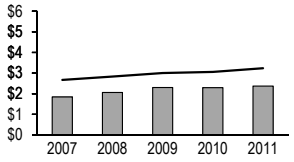
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Charlotte	7.1	7.2	7.4	7.4	7.5
Average	7.5	7.4	7.4	7.4	7.9

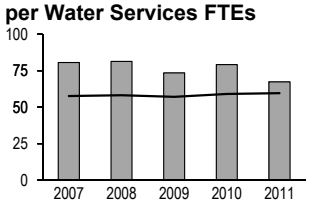
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



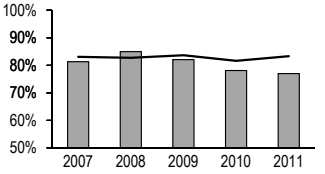
	2007	2008	2009	2010	2011
Charlotte	$1.85	$2.06	$2.30	$2.29	$2.37
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Charlotte	80.6	81.4	73.5	79.1	67.3
Average	57.7	58.2	57.1	59.1	59.6

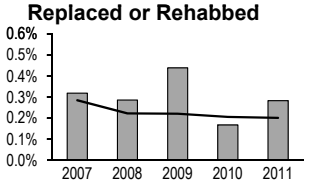
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Charlotte	81%	85%	82%	78%	77%
Average	83%	83%	84%	82%	83%

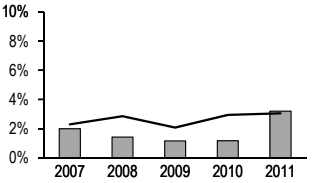
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



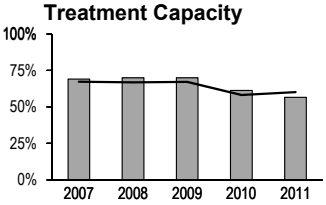
	2007	2008	2009	2010	2011
Charlotte	0.32%	0.29%	0.44%	0.17%	0.28%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



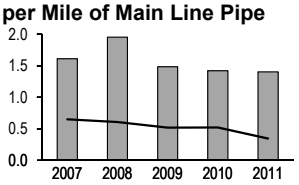
	2007	2008	2009	2010	2011
Charlotte	2.00%	1.42%	1.16%	1.17%	3.20%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



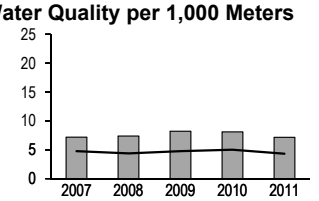
	2007	2008	2009	2010	2011
Charlotte	69%	70%	70%	61%	57%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Charlotte	1.61	1.95	1.49	1.42	1.40
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Charlotte	7.19	7.40	8.22	8.12	7.17
Average	4.79	4.38	4.76	5.03	4.34

Charlotte

MUNICIPAL PROFILE

Estimated Service Population	919,628
Service Land Area (Square Miles)	546.0
Persons per Square Mile	1,684
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$61,405

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		20.2%
Operating Costs		35.5%
Capital Costs		44.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	14,877,422
Operating Costs	$	26,234,117
Capital Costs	$	32,688,411
TOTAL	$	73,799,950

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	79.0
Line Crews	164.0
Meter Readers	3.0
Billing/Collection	12.0
Other	204.0
Number of Treatment Plants	3
Total Treatment Capacity	242.0 MG
Average Daily Demand	110.0 MG
Miles of Main Line Pipe	4,094
Average Age of Main Line Pipe	21 years
Number of Breaks/Leaks	5,752
Number of Water Meters	263,805
Percent of Meters Read Automatically	100.0%
Total Revenues Collected	$102,574,417

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte-Mecklenburg Utilities (CMU) is a combined water and sewer operation. The utility is a consolidated business unit of Mecklenburg County and the City of Charlotte. The utility is an official City of Charlotte Key Business Unit, Charlotte's term for city department.

The area served is generally considered to be Mecklenburg County but also includes a small number of metered drinking water interconnections with the City of Concord and the counties of Union in North Carolina and Lancaster and York in South Carolina. The service area covers approximately 546 square miles and serves over 900,000 people.

Source water from the system is from two impounded lakes on the Catawba River, Lake Norman and Mountain Island Lake, which are operated by Duke Energy. The combined estimated safe yield is between 376 and 503 million gallons per day. The system operates three treatment plants with a combined treatment capacity of 242 million gallons per day. The treatment plants are conventional facilities using pre-treatment PAC, coagulation, flocculation, sedimentation, dual-media filtration, chlorination, fluoridation, and pH adjustment.

The estimated average age of main line pipes in the system is twenty years. CMU's replacement policy for pipe is based on flow and quality standards.

Only a very small number of meters are not read automatically. CMU uses a system that allows vans traveling the city to read meters as they drive by. The replacement standard is every fifteen years for water meters.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

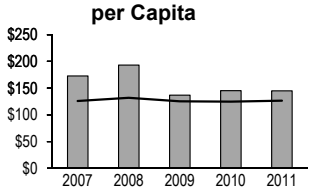
The reduction in reported leaks and breaks is in large part due to improvements in tracking and data reporting. CMU staff worked on improving how the work order system is used to determine the number of leaks or breaks in the water system.

Concord — Water Services

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2011

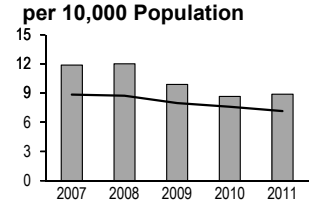
RESOURCE Measures

Water Services Cost per Capita



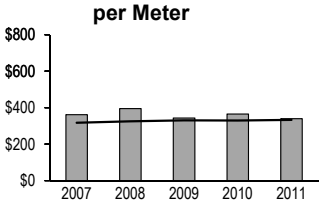
	2007	2008	2009	2010	2011
Concord	$173	$193	$137	$145	$145
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Concord	11.9	12.0	9.9	8.7	8.9
Average	8.9	8.7	8.0	7.6	7.2

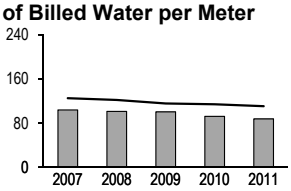
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Concord	$362	$395	$343	$365	$340
Average	$318	$325	$331	$330	$333

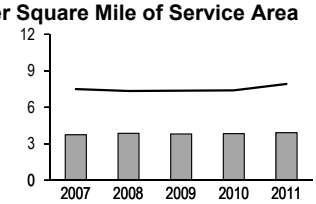
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Concord	104.0	101.1	100.3	92.3	87.6
Average	125.3	122.0	115.6	114.2	110.6

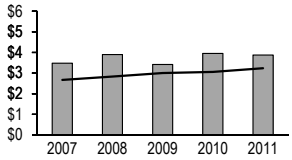
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Concord	3.8	3.9	3.8	3.8	3.9
Average	7.5	7.4	7.4	7.4	7.9

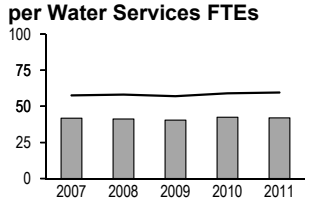
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



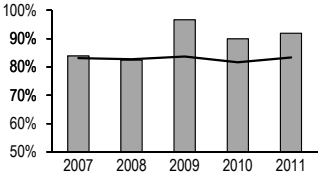
	2007	2008	2009	2010	2011
Concord	$3.48	$3.90	$3.42	$3.95	$3.88
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Concord	41.9	41.3	40.5	42.5	42.1
Average	57.7	58.2	57.1	59.1	59.6

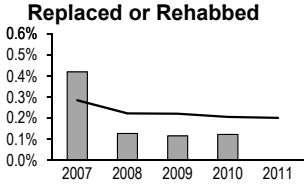
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Concord	84%	82%	97%	90%	92%
Average	83%	83%	84%	82%	83%

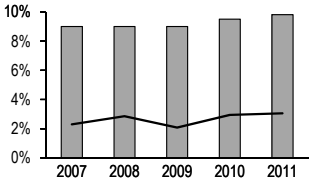
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



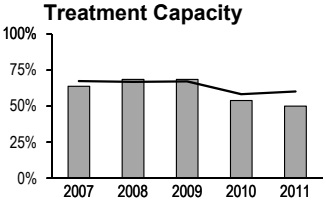
	2007	2008	2009	2010	2011
Concord	0.42%	0.13%	0.12%	0.12%	0.00%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



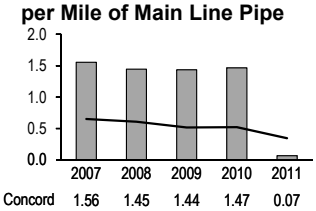
	2007	2008	2009	2010	2011
Concord	9.00%	9.00%	9.00%	9.51%	9.81%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



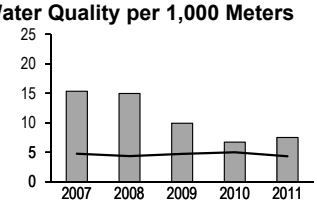
	2007	2008	2009	2010	2011
Concord	64%	69%	69%	54%	50%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Concord	1.56	1.45	1.44	1.47	0.07
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Concord	15.35	14.97	9.93	6.75	7.52
Average	4.79	4.38	4.76	5.03	4.34

Concord

MUNICIPAL PROFILE

Estimated Service Population	84,425
Service Land Area (Square Miles)	173.0
Persons per Square Mile	488
County	Cabarrus
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$63,643

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		31.8%
Operating Costs		43.8%
Capital Costs		24.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,896,959
Operating Costs	$	5,361,703
Capital Costs	$	2,979,700
TOTAL	$	12,238,362

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	29.0
Line Crews	30.0
Meter Readers	3.0
Billing/Collection	7.0
Other	6.0
Number of Treatment Plants	2
Total Treatment Capacity	24.0 MG
Average Daily Demand	9.0 MG
Miles of Main Line Pipe	680
Average Age of Main Line Pipe	NA
Number of Breaks/Leaks	46
Number of Water Meters	36,045
Percent of Meters Read Automatically	90.1%
Total Revenues Collected	$19,646,833

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Concord Water Resources Department is a water-only utility. The department has three divisions, one for operations and maintenance, and one for each of the two treatment plants. Meter reading, billing, and collections are handled by the city Finance Department.

Concord's system serves approximately 84,000 people and covers the City of Concord, the Town of Midland, and approximately one-fourth of Cabarrus County. Water sources for the system are Lake Fisher, owned by the city, and Lakes Howell and Concord, reservoirs owned by the Water and Sewer Authority of Cabarrus County. The combined estimated safe yield is twenty-four million gallons per day.

The city operates two treatment plants with a combined treatment capacity of twenty-four million gallons per day. Concord has emergency connections with the City of Charlotte and the City of Kannapolis and sells small amounts of water to the Town of Harrisburg and the Town of Midland.

The estimated average age of main line pipes in the system is thirty-five years. Water meters are read monthly and nearly all meters are read using automatic means. The replacement standard for water meters is fifteen years.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

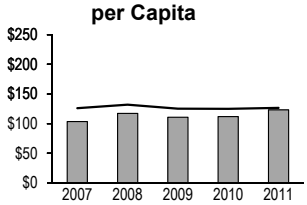
The difficult weather, including drought conditions in FY 2009–10, produced more breaks in main lines. The improvement in the weather helped to lower the measure.

Greensboro — Water Services

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2011

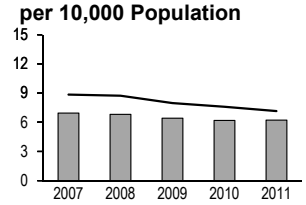
RESOURCE Measures

Water Services Cost per Capita



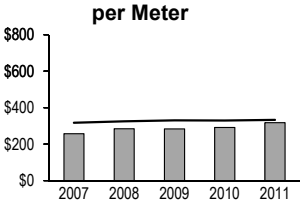
	2007	2008	2009	2010	2011
Greensboro	$104	$117	$111	$112	$123
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Greensboro	7.0	6.8	6.4	6.2	6.2
Average	8.9	8.7	8.0	7.6	7.2

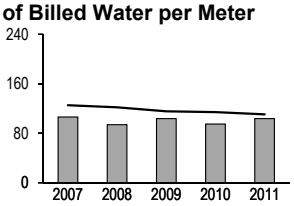
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Greensboro	$257	$285	$284	$291	$318
Average	$318	$325	$331	$330	$333

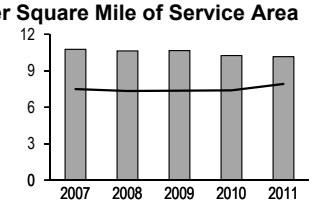
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Greensboro	106.3	93.8	103.6	94.9	103.8
Average	125.3	122.0	115.6	114.2	110.6

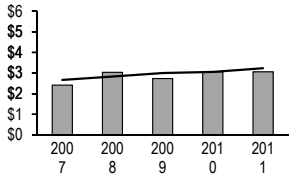
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Greensboro	10.8	10.6	10.7	10.3	10.2
Average	7.5	7.4	7.4	7.4	7.9

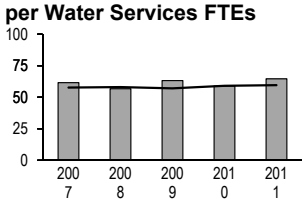
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



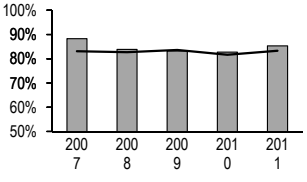
	2007	2008	2009	2010	2011
Greensboro	$2.42	$3.04	$2.74	$3.06	$3.06
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Greensboro	61.6	56.7	63.2	59.0	64.7
Average	57.7	58.2	57.1	59.1	59.6

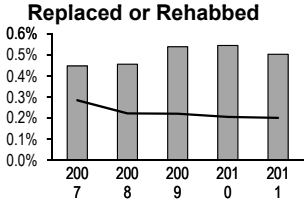
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Greensboro	88%	84%	83%	83%	85%
Average	83%	83%	84%	82%	83%

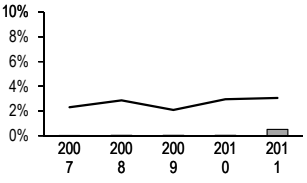
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



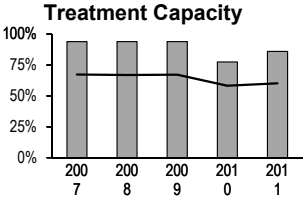
	2007	2008	2009	2010	2011
Greensboro	0.45%	0.46%	0.54%	0.55%	0.50%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



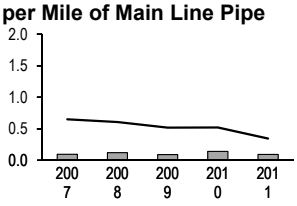
	2007	2008	2009	2010	2011
Greensboro	0.02%	0.03%	0.03%	0.03%	0.51%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



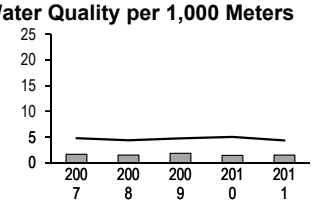
	2007	2008	2009	2010	2011
Greensboro	94%	94%	94%	77%	86%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Greensboro	0.10	0.12	0.09	0.14	0.09
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Greensboro	1.66	1.50	1.86	1.43	1.50
Average	4.79	4.38	4.76	5.03	4.34

MUNICIPAL PROFILE

Estimated Service Population	262,000
Service Land Area (Square Miles)	145.0
Persons per Square Mile	1,807
County	Guilford
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2010)	$52,752

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		21.4%
Operating Costs		63.2%
Capital Costs		15.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,915,238
Operating Costs	$	20,392,986
Capital Costs	$	4,950,868
TOTAL	$	32,259,092

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	45.0
Line Crews	57.0
Meter Readers	6.0
Billing/Collection	30.0
Other	25.0
Number of Treatment Plants	2
Total Treatment Capacity	54.0 MG
Average Daily Demand	33.8 MG
Miles of Main Line Pipe	1,479
Average Age of Main Line Pipe	36 years
Number of Breaks/Leaks	140
Number of Water Meters	101,544
Percent of Meters Read Automatically	100.0%
Total Revenues Collected	$44,038,188

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro's drinking water is provided by the Water Supply Division, which is part of the Water Resources Department, which also includes wastewater and stormwater services. The water system serves approximately 262,000 people in an area covering about 145 square miles. In addition to City of Greensboro residents, the system serves many addresses in Guilford County in areas adjacent to the city limits.

Water sources for the system are three city-owned reservoirs in the Haw River basin, which is part of the Upper Cape Fear River basin. The estimated safe yield of the system is thirty-six million gallons per day, based on a fifty-year esimate as certified by engineers. The system has emergency connections with High Point, Burlington, Reidsville, and Winston-Salem.

The city runs two treatment plants with a combined capacity of fifty-four million gallons. Both plants use conventional surface water treatment.

The estimated average age of main line pipes in the system is thirty-seven years. Greensboro has begun a spending program on water line rehabilitation and plans to increase funding for this activity for the next several years. Approximately $1.75 million was spent on rehabilitation of exisiting lines, with another $0.7 million spent on replacement in FY 2010–11.

Water meters are read and billed monthly. Nearly all meters are read automatically using a radio system. Greensboro started the conversion to radio-read meters in 2006 and completed this conversion in the spring of 2009.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

Greensboro has a very high collection rate for water bills. The city has a lien law so that very little of billed amounts goes unpaid. The lien law was changed during FY 2010–11 so that it now only includes owners and not tenants.

Greensboro has a $300,000-per-year public education program to encourage water conservation.

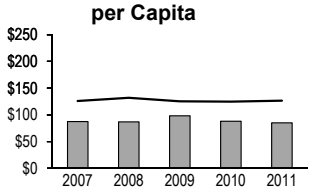
The costs of water service as captured here do not include debt service but do capture depreciation.

Hickory — Water Services

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2011

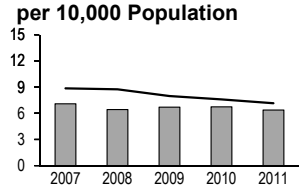
RESOURCE Measures

Water Services Cost per Capita



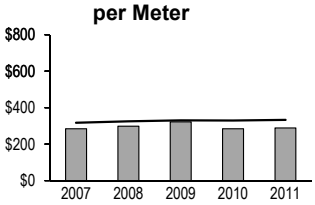
	2007	2008	2009	2010	2011
Hickory	$87	$87	$98	$88	$85
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Hickory	7.1	6.4	6.7	6.7	6.4
Average	8.9	8.7	8.0	7.6	7.2

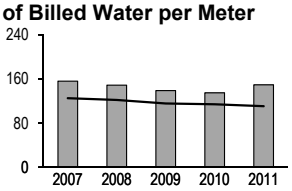
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Hickory	$284	$298	$322	$285	$289
Average	$318	$325	$331	$330	$333

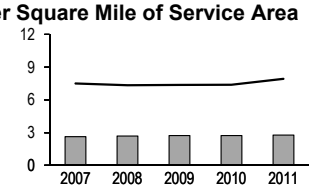
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Hickory	156.1	148.7	138.9	134.8	149.2
Average	125.3	122.0	115.6	114.2	110.6

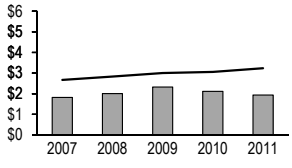
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Hickory	2.6	2.7	2.7	2.7	2.8
Average	7.5	7.4	7.4	7.4	7.9

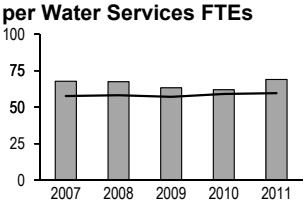
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



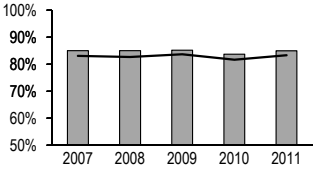
	2007	2008	2009	2010	2011
Hickory	$1.82	$2.01	$2.32	$2.11	$1.94
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Hickory	67.8	67.5	63.3	62.0	69.0
Average	57.7	58.2	57.1	59.1	59.6

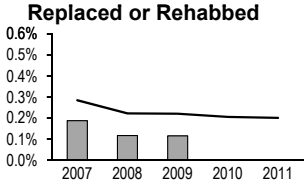
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Hickory	85%	85%	85%	84%	85%
Average	83%	83%	84%	82%	83%

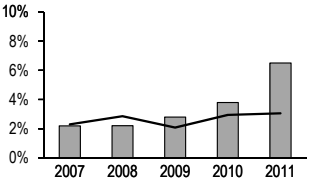
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



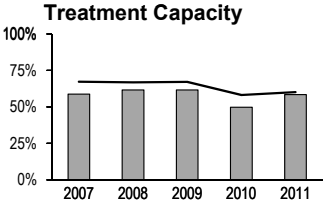
	2007	2008	2009	2010	2011
Hickory	0.19%	0.12%	0.12%	0.00%	0.00%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



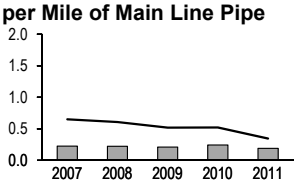
	2007	2008	2009	2010	2011
Hickory	2.19%	2.20%	2.80%	3.80%	6.50%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



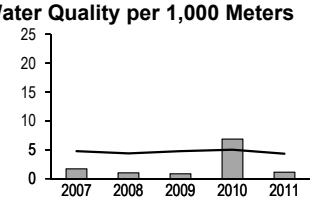
	2007	2008	2009	2010	2011
Hickory	59%	62%	62%	50%	58%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Hickory	0.23	0.22	0.21	0.24	0.19
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Hickory	1.73	1.03	0.87	6.87	1.14
Average	4.79	4.38	4.76	5.03	4.34

Hickory

MUNICIPAL PROFILE

Estimated Service Population	95,046
Service Land Area (Square Miles)	326.0
Persons per Square Mile	292
County	Catawba
Topography	Gently rolling
Climate	Moderate; Some ice and snow
Median Family Income (US Census 2010)	$54,093

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		32.8%
Operating Costs		53.8%
Capital Costs		13.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,651,152
Operating Costs	$	4,347,105
Capital Costs	$	1,087,344
TOTAL	$	8,085,601

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	12.0
Line Crews	35.0
Meter Readers	6.0
Billing/Collection	5.0
Other	2.5
Number of Treatment Plants	1
Total Treatment Capacity	32.0 MG
Average Daily Demand	13.5 MG
Miles of Main Line Pipe	906
Average Age of Main Line Pipe	40 years
Number of Breaks/Leaks	173
Number of Water Meters	27,975
Percent of Meters Read Automatically	4.6%
Total Revenues Collected	$12,532,068

EXPLANATORY INFORMATION

Service Level and Delivery
Water services in Hickory are provided by a combined water distribution division under the Public Services Department. The water system services an area covering roughly 326 square miles and serves approximately 95,000 people. Water is provided for the city of Hickory and also for the towns of Hildenbran, Brookford, and Catawba; the Sherrill's Ford, Mountain View, and Cooksville communities of Catawba County; and the Bethlehem, Sugarloaf, and Highway 16 communities of Alexander County.

Source water is from the Catawba River basin, with an estimated safe yield of fifty-four million gallons per day. Hickory sells water to the systems in Conover, Claremont, and Icard Township. The system has one treatment plant with a capacity of thirty-two million gallons per day.

Water meters are read monthly. Hickory's replacement standard for water meters is twenty years. About 5 percent of water meters in the system are read by automatic means.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

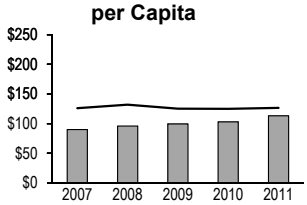
The costs of water service as captured here do not include debt service but do capture depreciation.

High Point — Water Services

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2011

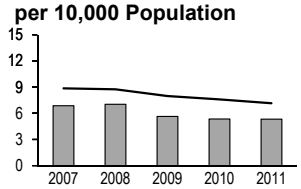
RESOURCE Measures

Water Services Cost per Capita



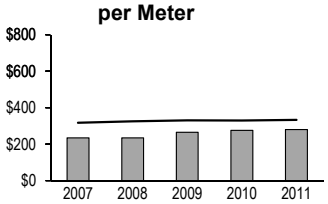
	2007	2008	2009	2010	2011
High Point	$90	$96	$99	$103	$113
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
High Point	6.9	7.0	5.6	5.4	5.3
Average	8.9	8.7	8.0	7.6	7.2

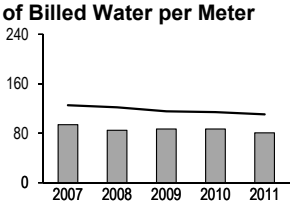
Water Services Cost per Meter



	2007	2008	2009	2010	2011
High Point	$235	$234	$265	$276	$280
Average	$318	$325	$331	$330	$333

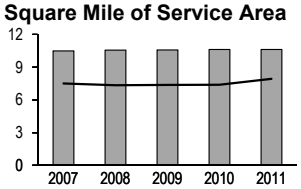
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
High Point	93.8	84.8	86.9	87.0	80.6
Average	125.3	122.0	115.6	114.2	110.6

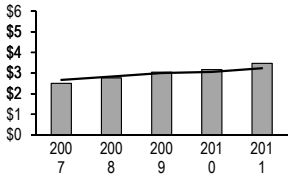
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
High Point	10.5	10.6	10.6	10.6	10.6
Average	7.5	7.4	7.4	7.4	7.9

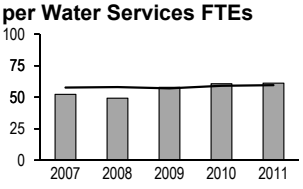
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



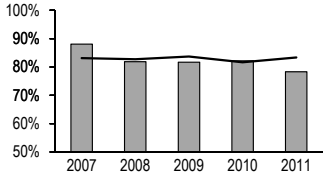
	2007	2008	2009	2010	2011
High Point	$2.50	$2.76	$3.04	$3.17	$3.47
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
High Point	52.4	49.3	57.9	60.7	61.2
Average	57.7	58.2	57.1	59.1	59.6

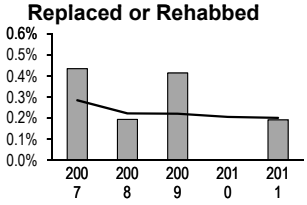
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
High Point	88%	82%	82%	82%	78%
Average	83%	83%	84%	82%	83%

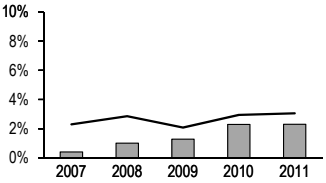
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



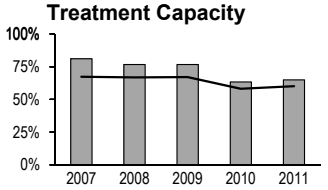
	2007	2008	2009	2010	2011
High Point	0.43%	0.19%	0.41%	0.00%	0.19%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



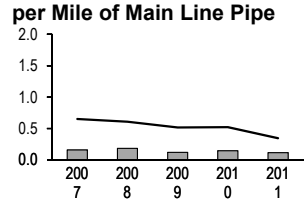
	2007	2008	2009	2010	2011
High Point	0.41%	1.01%	1.29%	2.30%	2.30%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



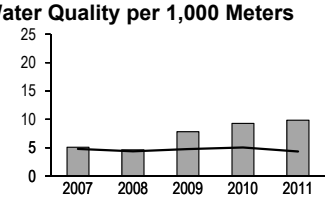
	2007	2008	2009	2010	2011
High Point	81%	77%	77%	63%	65%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
High Point	0.16	0.18	0.12	0.15	0.12
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
High Point	5.07	4.59	7.81	9.27	9.87
Average	4.79	4.38	4.76	5.03	4.34

MUNICIPAL PROFILE

Estimated Service Population	106,000
Service Land Area (Square Miles)	64.0
Persons per Square Mile	1,656
County	Guilford
Topography	Flat, gently rolling
Climate	Temperate; some ice and snow
Median Family Income (US Census 2010)	$49,720

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		27.7%
Operating Costs		33.7%
Capital Costs		38.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,319,570
Operating Costs	$	4,046,442
Capital Costs	$	4,631,568
TOTAL	$	11,997,580

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	12.0
Line Crews	19.0
Meter Readers	5.0
Billing/Collection	6.0
Other	14.5
Number of Treatment Plants	1
Total Treatment Capacity	24.0 MG
Average Daily Demand	12.1 MG
Miles of Main Line Pipe	680
Average Age of Main Line Pipe	50 years
Number of Breaks/Leaks	79
Number of Water Meters	42,874
Percent of Meters Read Automatically	11.9%
Total Revenues Collected	$17,136,631

EXPLANATORY INFORMATION

Service Level and Delivery
The City of High Point's drinking water services are part of a combined Water/Sewer Division under the Public Services Department. The system covers sixty-four square miles and serves approximately 106,000 people.

Water sources for the system are two city-owned reservoirs located in the Deep River basin. The estimated safe yield of the system is twenty-two million gallons per day. The system has one treatment plant and uses an upflow clarification process and a super "U" pulsator with a treatment capacity of twenty-four million gallons per day.

Water meters are read monthly. Approximately 12 percent of meters are read by automatic means. The city has a standard to replace water meters every ten years on average.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

High Point has a very high collection rate for water bills. The city participates in the State of North Carolina's debt set-off program. The program is in place to garnish a person's state tax return if they do not pay their bill. In addition, High Point performs a credit check based on the customer's payment history with Equifax.

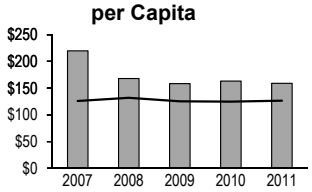
The costs of water service as captured here do not include debt service but do capture depreciation.

Salisbury — Water Services

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2011

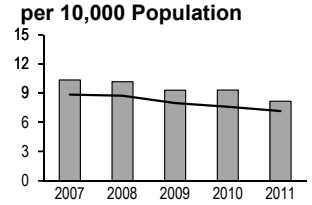
RESOURCE Measures

Water Services Cost per Capita



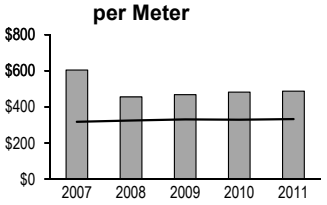
	2007	2008	2009	2010	2011
Salisbury	$220	$168	$158	$163	$159
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Salisbury	10.4	10.2	9.3	9.3	8.2
Average	8.9	8.7	8.0	7.6	7.2

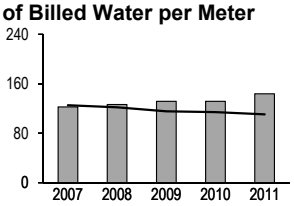
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Salisbury	$605	$455	$468	$482	$488
Average	$318	$325	$331	$330	$333

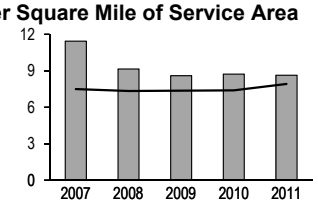
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Salisbury	122.6	126.5	131.6	131.7	144.0
Average	125.3	122.0	115.6	114.2	110.6

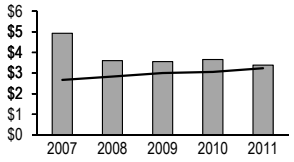
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Salisbury	11.4	9.2	8.6	8.7	8.6
Average	7.5	7.4	7.4	7.4	7.9

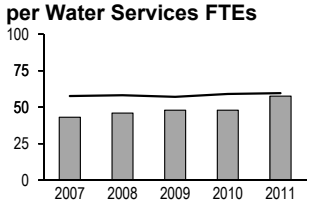
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



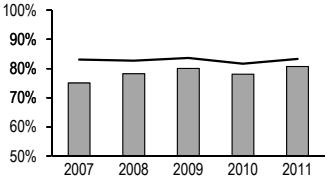
	2007	2008	2009	2010	2011
Salisbury	$4.93	$3.60	$3.56	$3.66	$3.39
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Salisbury	43.1	46.0	47.9	47.9	57.6
Average	57.7	58.2	57.1	59.1	59.6

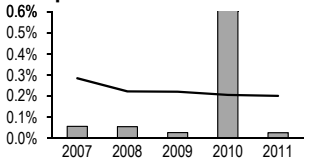
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Salisbury	75%	78%	80%	78%	81%
Average	83%	83%	84%	82%	83%

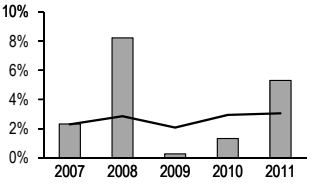
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



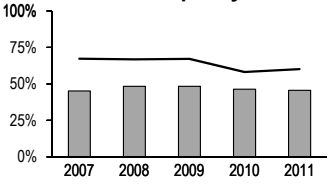
	2007	2008	2009	2010	2011
Salisbury	0.06%	0.05%	0.03%	0.63%	0.03%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



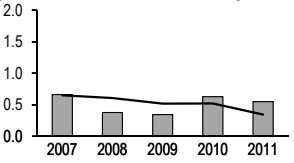
	2007	2008	2009	2010	2011
Salisbury	2.32%	8.22%	0.28%	1.33%	5.31%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



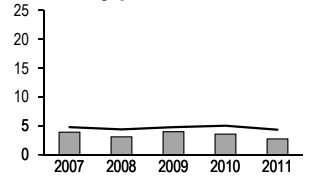
	2007	2008	2009	2010	2011
Salisbury	45%	48%	48%	46%	46%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Salisbury	0.66	0.38	0.35	0.63	0.55
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Salisbury	3.89	3.10	3.98	3.57	2.73
Average	4.79	4.38	4.76	5.03	4.34

Salisbury

MUNICIPAL PROFILE

Estimated Service Population	52,700
Service Land Area (Square Miles)	45.2
Persons per Square Mile	1,166
County	Rowan
Topography	Gently rolling
Climate	Temperate; some ice and snow
Median Family Income (US Census 2010)	$40,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		29.4%
Operating Costs		44.2%
Capital Costs		26.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,466,266
Operating Costs	$	3,705,017
Capital Costs	$	2,208,194
TOTAL	$	8,379,477

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	8.0
Line Crews	12.5
Meter Readers	11.0
Billing/Collection	4.0
Other	7.5
Number of Treatment Plants	1
Total Treatment Capacity	25.0 MG
Average Daily Demand	8.4 MG
Miles of Main Line Pipe	391
Average Age of Main Line Pipe	44 years
Number of Breaks/Leaks	216
Number of Water Meters	17,187
Percent of Meters Read Automatically	0.0%
Total Revenues Collected	$11,674,556

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Salisbury provides water service through an enterprise fund department. This department is known as Salisbury-Rowan Utilities. The system covers 45.2 square miles and covers much of Rowan County. Approximately 53,000 people are served. The system was assembled during the late 1990s and early 2000s as the City of Salisbury assumed ownership of the water and sewer systems of the towns of Spencer, Granite Quarry, and Rockwell. Rowan County turned over its water assets to Salisbury in 2004. Salisbury also sells bulk water to the towns of East Spencer, China Grove, Landis, and the City of Kannapolis.

The water source for the system is the Yadkin River. The estimated safe yield for the system is 108 million gallons per day. The system has one treatment plant with a capacity of twenty-five million gallons per day. The plant uses an Actiflo pre-treatment process followed by a conventional sedimentation and filtration treatment process.

Water meters are read once per month. The system currently does not have any automatic remote-read meters. The standard for meter replacement is fifteen years.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

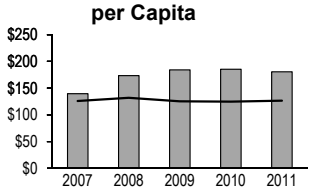
Due to extreme cold coupled with wet ground causing a freeze/thaw cycle, Salisbury experienced a jump in pipe breaks during FY 2009–10.

Wilson — Water Services

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2011

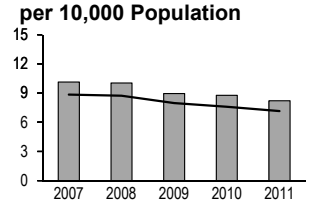
RESOURCE Measures

Water Services Cost per Capita



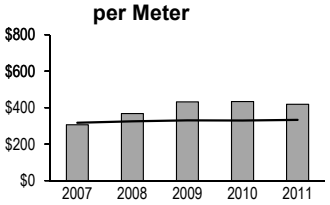
	2007	2008	2009	2010	2011
Wilson	$140	$173	$184	$185	$180
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Wilson	10.1	10.0	9.0	8.8	8.2
Average	8.9	8.7	8.0	7.6	7.2

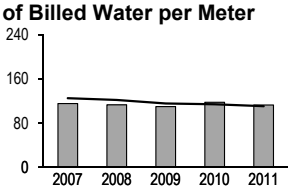
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Wilson	$306	$368	$432	$434	$418
Average	$318	$325	$331	$330	$333

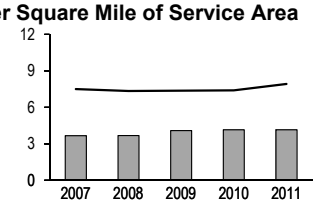
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Wilson	115.6	113.0	109.8	117.9	112.9
Average	125.3	122.0	115.6	114.2	110.6

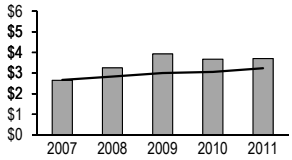
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Wilson	3.7	3.7	4.1	4.2	4.2
Average	7.5	7.4	7.4	7.4	7.9

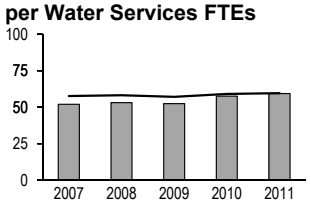
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



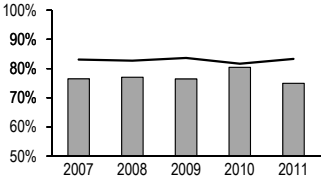
	2007	2008	2009	2010	2011
Wilson	$2.65	$3.25	$3.93	$3.68	$3.70
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Wilson	52.0	53.1	52.4	57.6	59.4
Average	57.7	58.2	57.1	59.1	59.6

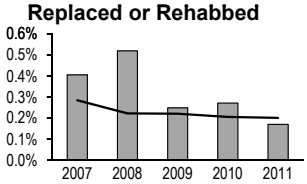
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Wilson	76%	77%	76%	80%	75%
Average	83%	83%	84%	82%	83%

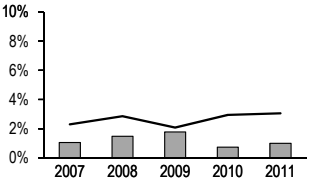
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



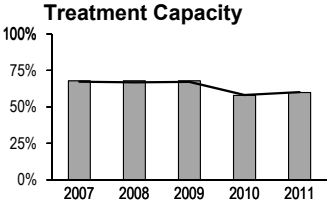
	2007	2008	2009	2010	2011
Wilson	0.41%	0.52%	0.25%	0.27%	0.17%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



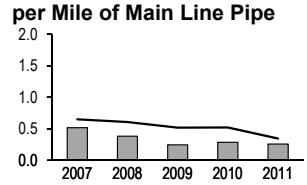
	2007	2008	2009	2010	2011
Wilson	1.05%	1.48%	1.77%	0.73%	1.00%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



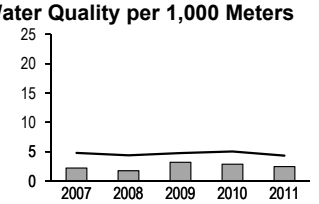
	2007	2008	2009	2010	2011
Wilson	68%	68%	68%	58%	60%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Wilson	0.52	0.38	0.25	0.29	0.26
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Wilson	2.22	1.74	3.19	2.87	2.45
Average	4.79	4.38	4.76	5.03	4.34

Wilson

MUNICIPAL PROFILE

Estimated Service Population	51,167
Service Land Area (Square Miles)	99.0
Persons per Square Mile	517
County	Wilson
Topography	Flat
Climate	Mild; little ice and snow
Median Family Income (US Census 2010)	$43,442

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		32.4%
Operating Costs		58.0%
Capital Costs		9.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,994,602
Operating Costs	$	5,357,168
Capital Costs	$	883,276
TOTAL	$	9,235,046

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	18.0
Line Crews	18.0
Meter Readers	2.0
Billing/Collection	2.0
Other	2.0
Number of Treatment Plants	2
Total Treatment Capacity	22.0 MG
Average Daily Demand	9.1 MG
Miles of Main Line Pipe	412
Average Age of Main Line Pipe	60 years
Number of Breaks/Leaks	107
Number of Water Meters	22,072
Percent of Meters Read Automatically	11.8%
Total Revenues Collected	$10,499,152

EXPLANATORY INFORMATION

Service Level and Delivery
Water services are handled by a combined water/sewer division under the Department of Public Works. Billing services are handled by the Wilson Finance Department. The water system serves approximately 51,000 people over ninety-nine square miles.

Source water for the system comes from four city-owned reservoirs. Water is also pumped from two different reservoirs in the Neuse River basin. The estimated safe yield for the system is twenty-nine million gallons per day.

The system has two treatment plants with a combined treatment capacity of twenty-two million gallons per day. The plants use conventional surface water treatment with flocculation, sedimentation, and filtration.

Water meters are read once per month in Wilson. Approximately 12 percent of the water meters in the system are read by automatic remote means using a radio system by Itron.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

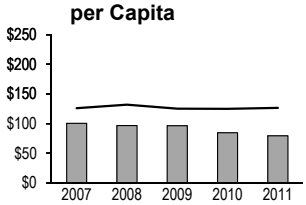
The costs of water service as captured here do not include debt service but do capture depreciation.

Winston-Salem Water Services

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2011

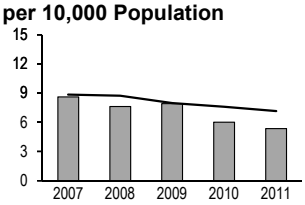
RESOURCE Measures

Water Services Cost per Capita



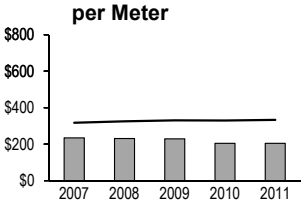
	2007	2008	2009	2010	2011
Winston-Salem	$101	$97	$96	$85	$80
Average	$126	$132	$125	$125	$126

Water Services FTEs per 10,000 Population



	2007	2008	2009	2010	2011
Winston-Salem	8.6	7.6	7.9	6.0	5.3
Average	8.9	8.7	8.0	7.6	7.2

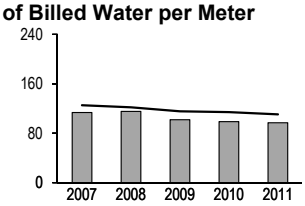
Water Services Cost per Meter



	2007	2008	2009	2010	2011
Winston-Salem	$235	$231	$229	$205	$204
Average	$318	$325	$331	$330	$333

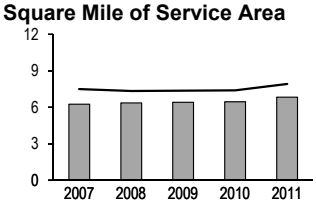
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008	2009	2010	2011
Winston-Salem	113.7	115.4	102.0	98.7	97.0
Average	125.3	122.0	115.6	114.2	110.6

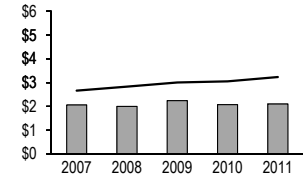
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008	2009	2010	2011
Winston-Salem	6.3	6.4	6.4	6.5	6.8
Average	7.5	7.4	7.4	7.4	7.9

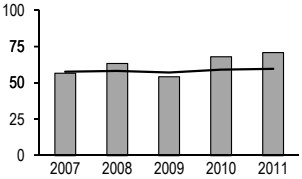
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



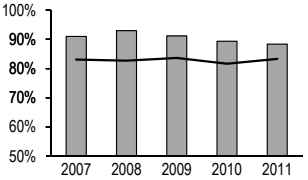
	2007	2008	2009	2010	2011
Winston-Salem	$2.06	$2.00	$2.24	$2.07	$2.10
Average	$2.67	$2.83	$3.01	$3.06	$3.24

Million Gallons of Billed Water per Water Services FTEs



	2007	2008	2009	2010	2011
Winston-Salem	56.6	63.4	54.2	67.9	70.8
Average	57.7	58.2	57.1	59.1	59.6

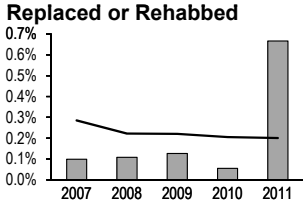
Billed Water as a Percentage of Finished Water



	2007	2008	2009	2010	2011
Winston-Salem	91%	93%	91%	89%	88%
Average	83%	83%	84%	82%	83%

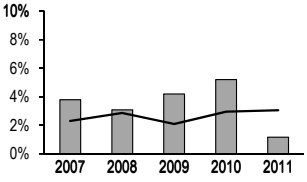
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



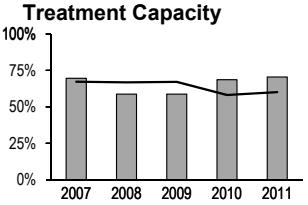
	2007	2008	2009	2010	2011
Winston-Salem	0.10%	0.11%	0.13%	0.06%	0.67%
Average	0.29%	0.22%	0.22%	0.21%	0.20%

Percentage of Water Bills Not Collected



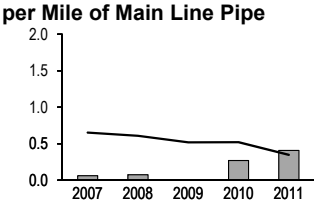
	2007	2008	2009	2010	2011
Winston-Salem	3.79%	3.08%	4.19%	5.20%	1.16%
Average	2.30%	2.86%	2.08%	2.94%	3.05%

Peak Daily Demand as a Percentage of Treatment Capacity



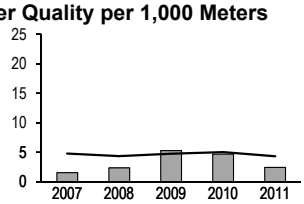
	2007	2008	2009	2010	2011
Winston-Salem	70%	59%	59%	69%	71%
Average	67%	67%	67%	58%	60%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008	2009	2010	2011
Winston-Salem	0.06	0.07		0.27	0.41
Average	0.65	0.61	0.52	0.52	0.35

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008	2009	2010	2011
Winston-Salem	1.56	2.38	5.29	4.71	2.45
Average	4.79	4.38	4.76	5.03	4.34

Winston-Salem

MUNICIPAL PROFILE

Estimated Service Population	312,773
Service Land Area (Square Miles)	325.0
Persons per Square Mile	962
County	Forsyth
Topography	Gently rolling
Climate	Moderate; some ice and snow
Median Family Income (US Census 2010)	$51,491

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		23.8%
Operating Costs		41.9%
Capital Costs		34.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,921,790
Operating Costs	$	10,432,957
Capital Costs	$	8,531,123
TOTAL	$	24,885,870

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	55.0
Line Crews	70.0
Meter Readers	13.0
Billing/Collection	20.0
Other	18.0
Number of Treatment Plants	3
Total Treatment Capacity	73.0 MG
Average Daily Demand	36.7 MG
Miles of Main Line Pipe	2,222
Average Age of Main Line Pipe	75 years
Number of Breaks/Leaks	907
Number of Water Meters	121,969
Percent of Meters Read Automatically	0.2%
Total Revenues Collected	$44,219,733

EXPLANATORY INFORMATION

Service Level and Delivery
The Winston-Salem Department of Public Works operates a combined water and sewer division. The system covers the city and most of the remaining population of Forsyth County. Approximately 313,000 people are served in an area covering roughly 325 square miles.

The system has an eleven-member utility commission that was created by an interlocal agreement between the City of Winston-Salem and Forsyth County. The commission sets policy for publicly owned water, wastewater, and solid waste disposal facilities. The commission is also charged with the responsibility for long-range planning, authorizing funding for projects, operation and maintenance of facilities, and setting policies and rate structures. The commission is not authorized to issue bonds to finance capital improvements.

Water sources for the system are at two separate points on the Yadkin River. The city also uses Salem Lake as a water source. The estimated safe yield for the system is 100 million gallons per day.

The city uses three treatment plants. During FY 2010–11, the R.A. Thomas Water Treatment Plant construction was completed, beginning operations in the Spring of 2011 and replacing a previous plant built in the 1930s. With the two plants, treatment capacity is seventy-three million gallons; it increased to ninety-one million gallons when the third plant came online. The plants all use conventional treatment employing coagulation, flocculation, and sedimentation followed by rapid sand filtration and then chlorine treatment for disinfection.

The system has 2,222 miles of pipeline with an estimated average age of 75 years. The replacement goal for pipes is 75 years.

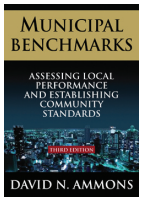
Water meters are read both monthly and bi-monthly depending on the account type. Currently the system has a small number of meters read by automatic means. The replacement standard for water meters is approximately every ten years. The goal is to have completely switched to automatically read meters within ten years.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

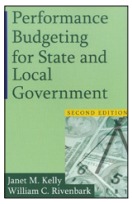
The costs of water service as captured here do not include debt service but do capture depreciation.

Related Publications . . .

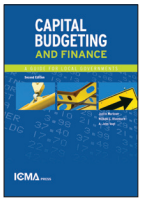
For more information on the North Carolina Local Government Performance Measurement Project, please see www.sog.unc.edu/node/173.



Municipal Benchmarks: Assessing Local Performance and Establishing Community Standards
Third Edition, 2012, published by M.E. Sharpe, Inc.
David N. Ammons

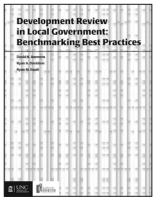


Performance Budgeting for State and Local Government
Second Edition, 2010, published by M.E. Sharpe, Inc.
Janet M. Kelly and William C. Rivenbark

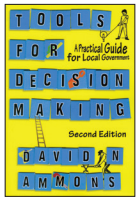


Capital Budgeting and Finance: A Guide for Local Governments
Second Edition, 2009, a joint venture of the School of Government and International City/County Management Association (ICMA)
Justin Marlowe, William C. Rivenbark, and A. John Vogt

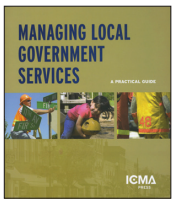
Leading Performance Management in Local Government
2008, published by the International City/County Management Association (ICMA)
Edited by David N. Ammons



Development Review in Local Government: Benchmarking Best Practices
2008, published as a joint venture of the School of Government and the Alliance for Innovation
David N. Ammons, Ryan A. Davidson, and Ryan M. Ewalt



Tools for Decision Making: A Practical Guide for Local Government
Second Edition, 2008, published by Congressional Quarterly Press
David N. Ammons



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