

NORTH CAROLINA LOCAL GOVERNMENT  
PERFORMANCE MEASUREMENT PROJECT

# Final Report on City Services for Fiscal Year 2009–2010

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PERFORMANCE AND COST DATA

FEBRUARY 2011

COSPONSORED BY:

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

SCHOOL OF GOVERNMENT

NORTH CAROLINA LOCAL GOVERNMENT  
BUDGET ASSOCIATION

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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, 2010, for the fourteen North Carolina municipalities participating in the benchmarking project—Asheville, Burlington, Cary, Charlotte, Concord, Durham, Greensboro, Greenville, Hickory, High Point, Salisbury, Wilmington, Wilson, and Winston-Salem. Fourteen 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; 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; Bill Parks, budget and evaluation analyst, Toni Gortney, budget and evaluation analyst, and Phyllis Heath, budget and evaluation analyst of Charlotte; Robin Barham, budget and performance manager, and Lesley Reder, management analyst, of Concord; John Allore of Durham; Mary Vigue, budget analyst, and Casey Harris, 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; Bernard McLean, senior financial 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 Nancy Dooly and Dan Soileau in the Publications Division and Annie Francis who worked on this report as a research assistant.

Dale J. Roenigk  
February 2011







## **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 municipalities and counties from medium to smaller 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:

- Asheville
- Burlington
- Cary
- Charlotte
- Concord
- Durham
- 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
- 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 fourteenth publication representing municipal services. The previous fourteen 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)

## **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 seventeen North Carolina municipalities participating in the benchmarking project for the fiscal year ended June 30, 2010. 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.

<b>Final Report</b>	<b>Jurisdictions</b>
<i>Final Report on City Services for Fiscal Year 2005–2006</i>	Asheville, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
<i>Final Report on City Services for Fiscal Year 2006–2007</i>	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
<i>Final Report on City Services for Fiscal Year 2007–2008</i>	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
<i>Final Report on City Services for Fiscal Year 2008–2009</i>	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Greenville, Hickory, High Point, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
<i>Final Report on City Services for Fiscal Year 2009–2010</i>	Asheville, Burlington, Cary, Charlotte, Concord, Durham, 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 ended June 30, 2010. 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 ended June 30, 2006, through

June 30, 2009, 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 ended June 30, 2000. This service was previously reported as Street Pavement Maintenance. Police Services represented a new service area for the fiscal year ended June 30, 200. This service was presented as Police Patrol and Police Investigations in prior reports. Fleet Maintenance represented a new service area for the fiscal year ended June 30, 2002. Human Resources represented a new service area for the fiscal year ended June 30, 2004. Finally, Water Services represented a new service area added in the fiscal year ended 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.

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

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RESIDENTIAL REFUSE COLLECTION

# **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)	FTE Collection Positions	Main Equipment		Landfill/Transfer	
								Packers	Automated	Trips per Day	Distance
Asheville	Curbside	29,150	24,215	33	0%	1 & 3 person	15.5	2	7	2	6 Miles
Burlington	Curbside	16,216	14,093	27	0%	1 & 2 person	8.5	1	5	2	17 Miles
Cary	Curbside	42,719	30,356	48	0%	1 & 4 person	26	2	10	1	20 Miles
Charlotte	Curbside	209,005	190,149	310	22%	1 & 2 person	63	9	42	1.4	14 Miles
Concord	Curbside	27,374	25,791	38	100%	2 person	0	9	0	2	8 Miles
Durham	Curbside	67,500	45,719	74	0%	1 & 3 person	57	6	15	2	11 Miles
Greensboro	Curbside	76,764	55,898	86	0%	1 & 2 person	26.17	3	18	1.75	8 Miles
Greenville	Curbside and Backyard	17,431	29,163	32	0%	3 person	36	8	0	2	6 Miles
Hickory	Curbside	11,600	9,730	15	0%	1 & 2 person	5	1	4	2	5 Miles
High Point	Curbside	35,332	30,587	38	0%	1 & 3 person	35	1	8	2	8 Miles
Salisbury	Curbside	11,300	9,609	15	0%	1 & 2 person	9.5	6	0	1	9 Miles
Wilmington	Curbside	28,453	24,505	44	0%	2 & 3 person	38	15	0	2	10 Miles
Wilson	Curbside	17,900	19,253	17	0%	1 & 3 person	11	2	5	2	10 Miles
Winston-Salem	Curbside and Backyard	73,500	50,608	128	0%	3 person	100.8	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)

# Asheville

# Residential Refuse Collection

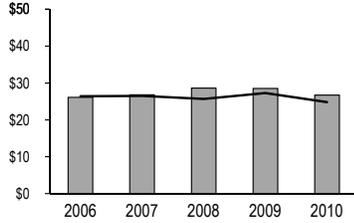
Key: Asheville ■

Benchmarking Average —

Fiscal Years 2006 through 2010

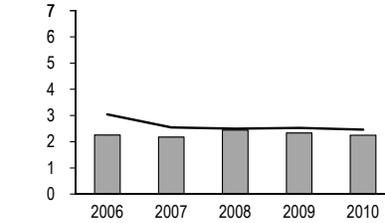
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Year	Asheville	Average
2006	\$26.10	\$26.39
2007	\$26.79	\$26.50
2008	\$28.62	\$25.67
2009	\$28.53	\$27.25
2010	\$26.70	\$24.81

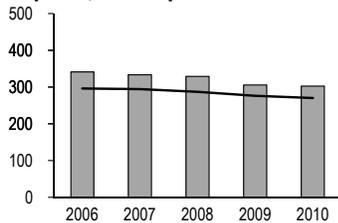
**Residential Refuse Collection FTEs per 10,000 Population**



Year	Asheville	Average
2006	2.25	3.04
2007	2.17	2.55
2008	2.44	2.50
2009	2.33	2.53
2010	2.25	2.46

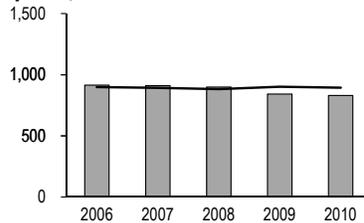
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Year	Asheville	Average
2006	341	296
2007	333	294
2008	329	287
2009	306	276
2010	303	270

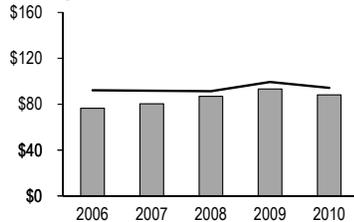
**Residential Refuse Tons per 1,000 Collection Points**



Year	Asheville	Average
2006	914	899
2007	911	893
2008	899	883
2009	842	902
2010	831	894

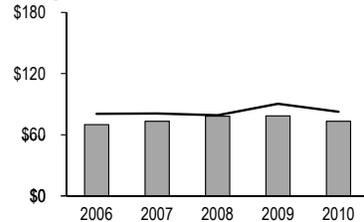
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



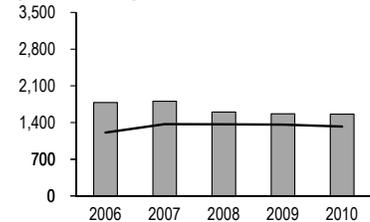
Year	Asheville	Average
2006	\$77	\$92
2007	\$80	\$92
2008	\$87	\$91
2009	\$93	\$99
2010	\$88	\$94

**Residential Refuse Collection Cost per Collection Point**



Year	Asheville	Average
2006	\$70	\$81
2007	\$73	\$81
2008	\$78	\$79
2009	\$79	\$90
2010	\$73	\$83

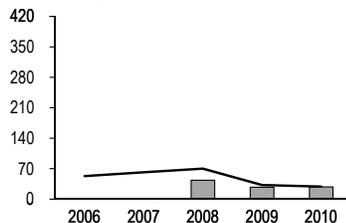
**Refuse Tons Collected per Municipal Collection FTE**



Year	Asheville	Average
2006	1,783	1,210
2007	1,808	1,371
2008	1,601	1,368
2009	1,566	1,362
2010	1,562	1,325

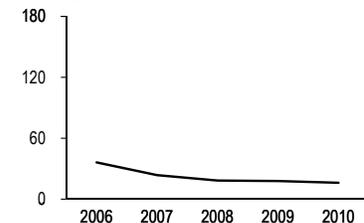
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Year	Asheville	Average
2006	52.8	52.8
2007	61.5	61.5
2008	43.5	70.0
2009	27.3	32.4
2010	28.2	28.9

**Valid Complaints per 1,000 Collection Points**



Year	Asheville	Average
2006	36.1	36.1
2007	23.6	23.6
2008	18.3	18.3
2009	17.8	17.8
2010	16.2	16.2

# Residential Refuse Collection

# Asheville

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	79,973	<p><b>Service Level and Delivery</b> Asheville collects residential refuse once a week at curbside, although backyard collection is provided for disabled customers at no charge or for other customers for a fee.</p> <p>The city uses seven automated trucks with one driver from Monday to Thursday working ten-hour days. Two rear packers with one driver and two collectors for each truck are used from Monday to Friday for the collection of bulky items, clean-ups, and streets not accessible by automated trucks.</p> <p>There are twenty-eight 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.</p> <p>The city collected 24,215 tons of residential refuse during FY 2009–10, at a cost of \$88 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.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Asheville is highly automated in the area of residential refuse collection.</p>
Land Area (Square Miles)	44.99	
Persons per Square Mile	1,778	
Topography	Hills, mountains	
County	Buncombe	
Climate	Moderate; ice and snow	
Median Family Income (US Census 2000)	\$44,029	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	38.0%	
Operating Costs	41.3%	
Capital Costs	20.7%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 811,423	
Operating Costs	\$ 881,424	
Capital Costs	\$ 442,420	
TOTAL	\$ 2,135,267	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	15.5	
FTE Positions—Other	2.5	
Tons Collected	24,215	
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 and 3 person	
Percentage of Service Contracted	0%	
Service Fee	No	
Type of Equipment	7 automated packers 2 packers	

# Burlington

# Residential Refuse Collection

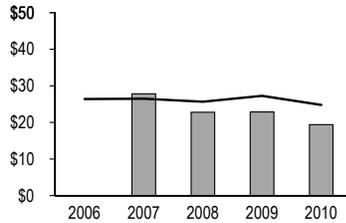
Key: Burlington ■

Benchmarking Average —

Fiscal Years 2006 through 2010

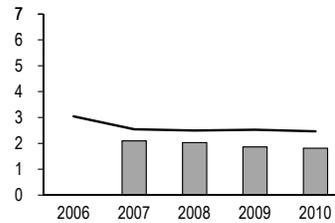
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Burlington	\$27.84	\$22.81	\$22.87	\$19.41	
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

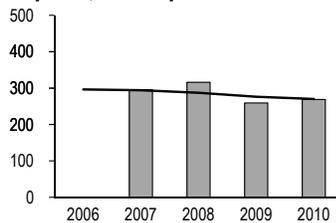
**Residential Refuse Collection FTEs per 10,000 Population**



Burlington	2.10	2.03	1.87	1.81	
Average	3.04	2.55	2.50	2.53	2.46

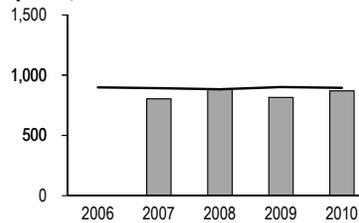
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Burlington	295	316	259	269	
Average	296	294	287	276	270

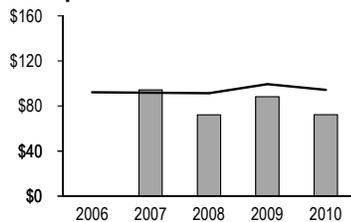
**Residential Refuse Tons per 1,000 Collection Points**



Burlington	803	886	816	869	
Average	899	893	883	902	894

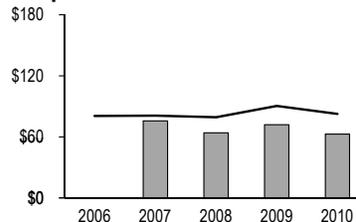
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



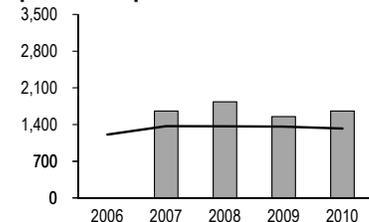
Burlington	\$94	\$72	\$88	\$72	
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost per Collection Point**



Burlington	\$76	\$64	\$72	\$63	
Average	\$81	\$81	\$79	\$90	\$83

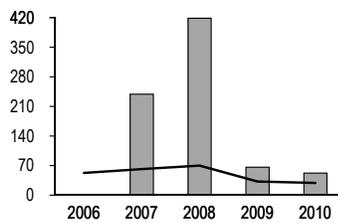
**Refuse Tons Collected per Municipal Collection FTE**



Burlington	1,657	1,834	1,552	1,658	
Average	1,210	1,371	1,368	1,362	1,325

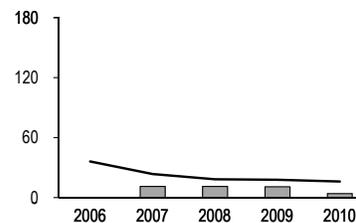
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Burlington	239.1	418.6	66.3	52.2	
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000 Collection Points**



Burlington	11.2	11.1	10.8	4.1	
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Burlington

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	52,457	
Land Area (Square Miles)	25.14	
Persons per Square Mile	2,087	
Topography	Flat; gently rolling	
County	Alamance	
Climate	Temperate; little snow and ice	
Median Family Income (US Census 2000)	\$45,441	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	35.8%	
Operating Costs	39.4%	
Capital Costs	24.8%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 364,255	
Operating Costs	\$ 401,202	
Capital Costs	\$ 252,579	
<b>TOTAL</b>	<b>\$ 1,018,036</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	8.50	
FTE Positions—Other	1.00	
Tons Collected	14,093	
Residential Customers (number represents collection points)	16,216	
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	
		<p><b>Service Level and Delivery</b> Burlington collects residential refuse once a week at curbside, although backyard collection is provided if it is medically necessary.</p> <p>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.</p> <p>The city collected 14,093 tons of residential refuse during FY 2009–10 at a cost of \$72 per ton. The cost per ton does not include the disposal cost per ton of \$38 at the landfill.</p> <p>Residents receiving automated service are provided with one container. Residents pay a monthly fee of \$6.00 for refuse collection.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Complaints for Burlington include calls for service, inquiries, and regular complaints. Complaints are considered valid if verified by a supervisor in the field.</p> <p>The City of Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.</p>

# Cary

# Residential Refuse Collection

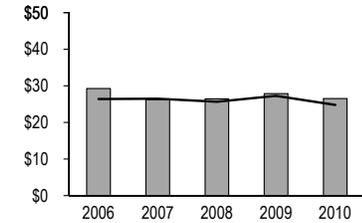
Key: Cary ■

Benchmarking Average —

Fiscal Years 2006 through 2010

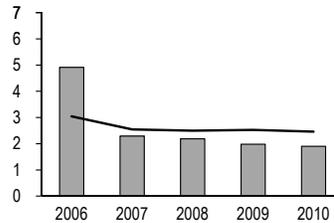
## RESOURCE Measures

**Residential Refuse Collection  
Costs per Capita**



Cary	\$29.29	\$26.23	\$26.46	\$27.88	\$26.54
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

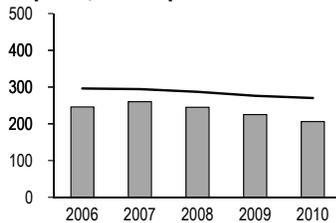
**Residential Refuse Collection FTEs  
per 10,000 Population**



Cary	4.92	2.29	2.19	1.98	1.90
Average	3.04	2.55	2.50	2.53	2.46

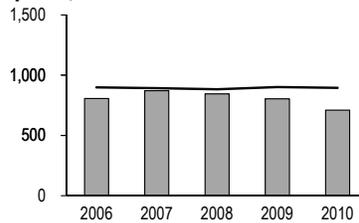
## WORKLOAD Measures

**Residential Refuse Tons  
per 1,000 Population**



Cary	246	260	245	225	206
Average	296	294	287	276	270

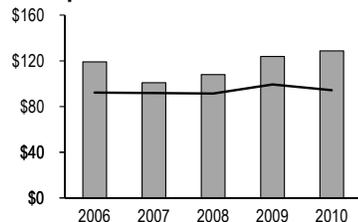
**Residential Refuse Tons  
per 1,000 Collection Points**



Cary	806	871	844	803	711
Average	899	893	883	902	894

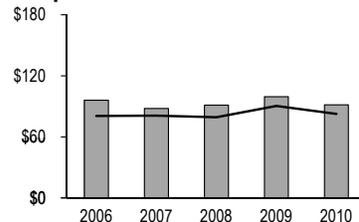
## EFFICIENCY Measures

**Residential Refuse Collection Cost  
per Ton Collected**



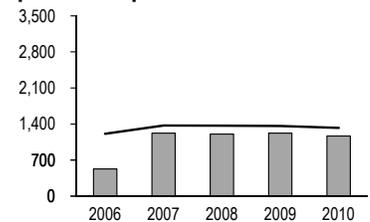
Cary	\$119	\$101	\$108	\$124	\$129
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost  
per Collection Point**



Cary	\$96	\$88	\$91	\$100	\$92
Average	\$81	\$81	\$79	\$90	\$83

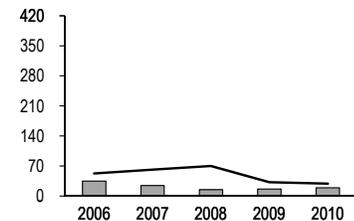
**Refuse Tons Collected  
per Municipal Collection FTE**



Cary	528	1,223	1,203	1,223	1,168
Average	1,210	1,371	1,368	1,362	1,325

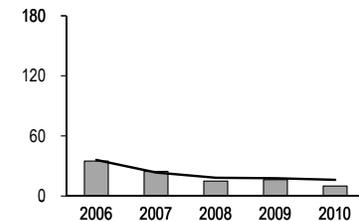
## EFFECTIVENESS Measures

**Complaints per 1,000  
Collection Points**



Cary	35.0	24.7	15.0	16.3	19.3
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000  
Collection Points**



Cary	35.0	24.7	15.0	16.3	10.0
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Cary

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	147,282	
Land Area (Square Miles)	54.01	
Persons per Square Mile	2,727	
Topography	Flat; gently rolling	
County	Wake	
Climate	Temperate; little snow and ice	
Median Family Income (US Census 2000)	\$88,074	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	52.6%	
Operating Costs	32.8%	
Capital Costs	14.5%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 2,057,987	
Operating Costs	\$ 1,283,587	
Capital Costs	\$ 567,810	
TOTAL	\$ 3,909,384	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	26.0	
FTE Positions—Other	2.0	
Tons Collected	30,356	
Residential Customers (number represents collection points)	42,719	
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	
		<p><b>Service Level and Delivery</b> Cary residential refuse collection began major changes during FY 2005–06 moving from backyard collection to curbside and a transition 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.</p> <p>Cary used ten automated trucks with one driver and three rear loaders with one driver and three collectors. A total of forty-eight collection routes were used during FY 2009–10. The average distance to the landfill was twenty miles with each route averaging one trip per day.</p> <p>The town collected 310,356 tons of residential refuse during FY 2009–10 at a cost of \$129 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>

# Charlotte

# Residential Refuse Collection

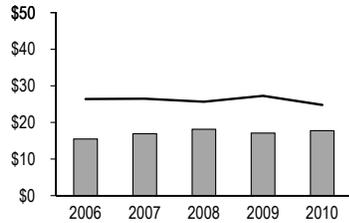
Key: Charlotte ■

Benchmarking Average —

Fiscal Years 2006 through 2010

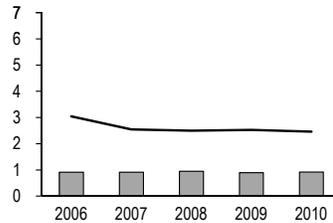
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Charlotte	\$15.47	\$16.91	\$18.13	\$17.11	\$17.76
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

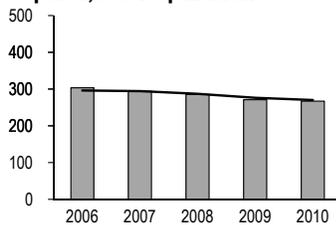
**Residential Refuse Collection FTEs per 10,000 Population**



Charlotte	0.91	0.91	0.95	0.90	0.92
Average	3.04	2.55	2.50	2.53	2.46

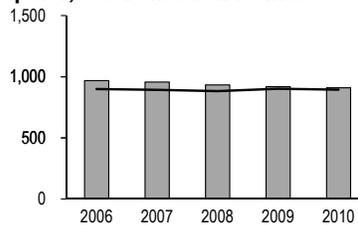
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Charlotte	304	294	285	271	267
Average	296	294	287	276	270

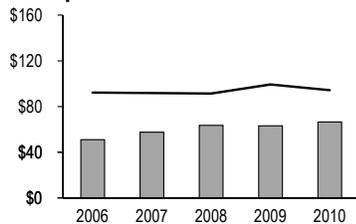
**Residential Refuse Tons per 1,000 Collection Points**



Charlotte	968	956	933	919	910
Average	899	893	883	902	894

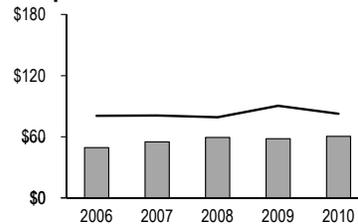
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



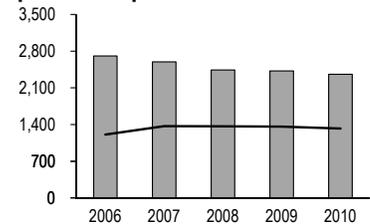
Charlotte	\$51	\$58	\$64	\$63	\$66
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost per Collection Point**



Charlotte	\$49	\$55	\$59	\$58	\$60
Average	\$81	\$81	\$79	\$90	\$83

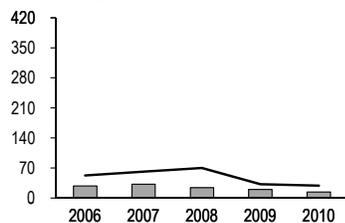
**Refuse Tons Collected per Municipal Collection FTE**



Charlotte	2,709	2,595	2,442	2,423	2,359
Average	1,210	1,371	1,368	1,362	1,325

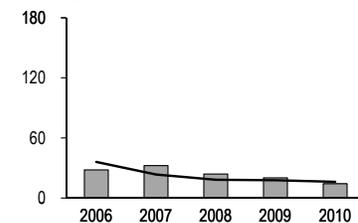
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Charlotte	28.2	32.4	24.0	20.1	14.3
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000 Collection Points**



Charlotte	28.2	32.4	24.0	20.1	14.3
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Charlotte

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">711,349</span>	<p><b>Service Level and Delivery</b> 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 during FY 2009–10.</p> <p>The city's residential refuse collection program is divided into four service zones, and the residential refuse service provided to each zone is subject to bid once every five years. The Solid Waste Services Department bids along with private contractors to be the service provider under a managed competition process. This practice is a unique aspect of Charlotte's residential refuse service among the participating municipalities. For FY 2009–10, the city provided service to three of the four zones. One zone was serviced by the private sector at a cost of \$2,725,039 and covered approximately 22 percent of the collection points.</p> <p>City crews are composed primarily of one driver each, operating an automated packer. There were forty-two of these crews for FY 2009–10. In addition, five 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 contractor used eleven automated crews.</p> <p>The city serviced 310 daily collection routes once each week during FY 2009–10, with an average of 1.4 trips to the landfill per day per route at an average one-way distance of fourteen 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 190,149 tons of residential refuse during the fiscal year at a cost of \$66 per ton. The cost per ton does not include the disposal cost of \$26, representing the landfill tipping fee.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Charlotte is highly automated in the area of residential refuse collection. It also uses managed competition for this service and considers all complaints to be valid complaints.</p> <p>The performance measure "tons collected per collection FTE" represents city crews only.</p>	
Land Area (Square Miles) <span style="float: right;">298.97</span>		
Persons per Square Mile <span style="float: right;">2,379</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Mecklenburg</span>		
Climate <span style="float: right;">Mild; some ice</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$56,517</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">26.7%</span>		
Operating Costs <span style="float: right;">60.1%</span>		
Capital Costs <span style="float: right;">13.2%</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 3,378,667</span>		
Operating Costs <span style="float: right;">\$ 7,590,720</span>		
Capital Costs <span style="float: right;">\$ 1,667,187</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 12,636,574</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Collection <span style="float: right;">63.00</span>		
FTE Positions—Other <span style="float: right;">2.35</span>		
Tons Collected <span style="float: right;">190,149</span>		
Residential Customers <span style="float: right;">209,005</span> (number represents collection points)		
Collection Location <span style="float: right;">Curbside</span> (backyard for disabled)		
Collection Frequency <span style="float: right;">1 x week</span>		
Size of Crews (most commonly used) <span style="float: right;">1 &amp; 2 person</span>		
Percentage of Service Contracted <span style="float: right;">22%</span>		
Service Fee <span style="float: right;">No</span>		
Type of Equipment <span style="float: right;">42 automated packers 9 packers</span>		

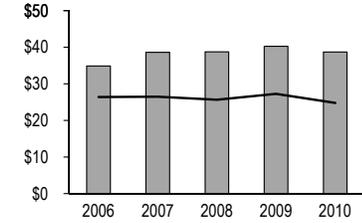
# Concord

# Residential Refuse Collection

Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

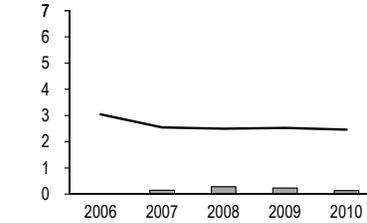
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Concord \$34.89 \$38.60 \$38.75 \$40.28 \$38.69  
Average \$26.39 \$26.50 \$25.67 \$27.25 \$24.81

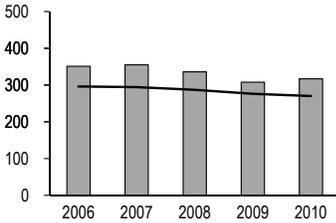
**Residential Refuse Collection FTEs per 10,000 Population**



Concord 0.15 0.28 0.23 0.14  
Average 3.04 2.55 2.50 2.53 2.46

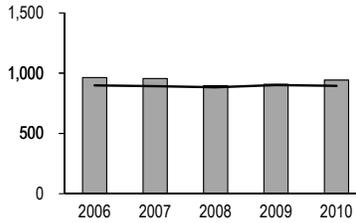
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Concord 351 355 336 308 317  
Average 296 294 287 276 270

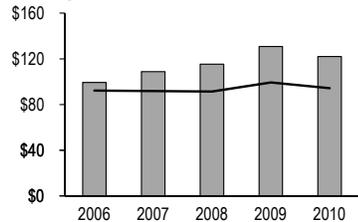
**Residential Refuse Tons per 1,000 Collection Points**



Concord 964 956 896 908 942  
Average 899 893 883 902 894

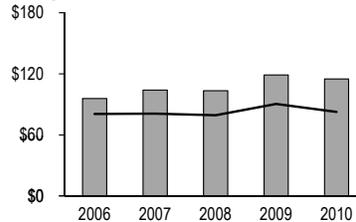
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



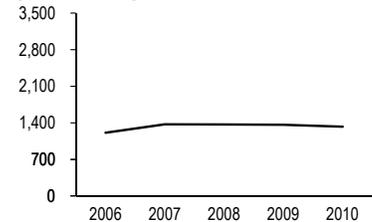
Concord \$99 \$109 \$115 \$131 \$122  
Average \$92 \$92 \$91 \$99 \$94

**Residential Refuse Collection Cost per Collection Point**



Concord \$96 \$104 \$103 \$119 \$115  
Average \$81 \$81 \$79 \$90 \$83

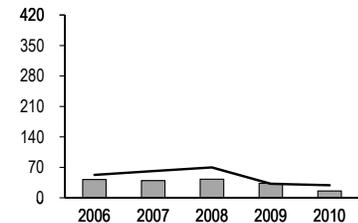
**Refuse Tons Collected per Municipal Collection FTE**



Concord  
Average 1,210 1,371 1,368 1,362 1,325

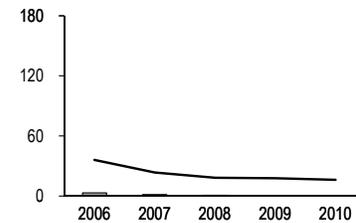
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Concord 42.2 39.6 42.9 33.4 15.9  
Average 52.8 61.5 70.0 32.4 28.9

**Valid Complaints per 1,000 Collection Points**



Concord 3.2 1.4 0.8  
Average 36.1 23.6 18.3 17.8 16.2

# Residential Refuse Collection

# Concord

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	81,370	
Land Area (Square Miles)	59.59	
Persons per Square Mile	1,365	
Topography	Flat; gently rolling	
County	Cabarrus	
Climate	Mild; some ice	
Median Family Income (US Census 2000)	\$53,571	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	2.2%	
Operating Costs	97.6%	
Capital Costs	0.2%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 69,352	
Operating Costs	\$ 3,072,901	
Capital Costs	\$ 6,354	
<b>TOTAL</b>	<b>\$ 3,148,607</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	0.0	
FTE Positions—Other	1.1	
Tons Collected	25,791	
Residential Customers (number represents collection points)	27,374	
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	
		<p><b>Service Level and Delivery</b> 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 2009–10 under contract, with an annual cost of approximately \$2.87 million.</p> <p>The contractor used seven to nine two-person crews on rear loaders and one to three one-person crew on an automated packer. Residents used one ninety-five-gallon cart, with extra carts available for larger families or unusual circumstances.</p> <p>The city serviced thirty-eight collection routes over the week during FY 2009–10, 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.</p> <p>The contractor collected 25,791 tons of residential refuse during the fiscal year at a cost of \$122 per ton.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Concord is the only 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.</p> <p>Concord's "total tons collected" includes bulk trash, which is collected along with residential refuse and cannot be separated for reporting purposes.</p> <p>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.</p>

# Durham

# Residential Refuse Collection

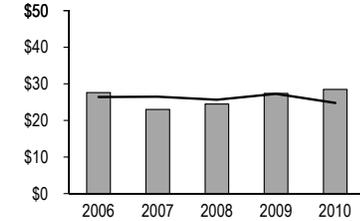
Key: Durham ■

Benchmarking Average —

Fiscal Years 2006 through 2010

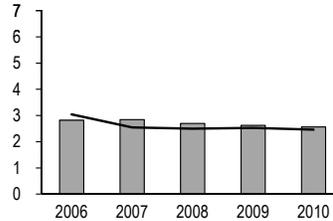
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Year	Durham	Average
2006	\$27.62	\$26.39
2007	\$23.02	\$26.50
2008	\$24.49	\$25.67
2009	\$27.39	\$27.25
2010	\$28.51	\$24.81

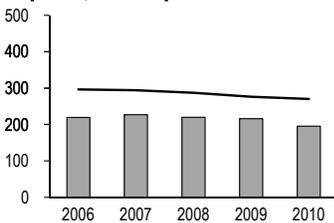
**Residential Refuse Collection FTEs per 10,000 Population**



Year	Durham	Average
2006	2.82	3.04
2007	2.84	2.55
2008	2.70	2.50
2009	2.63	2.53
2010	2.56	2.46

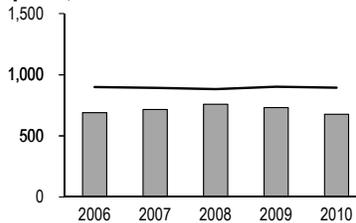
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Year	Durham	Average
2006	220	296
2007	227	294
2008	220	287
2009	216	276
2010	195	270

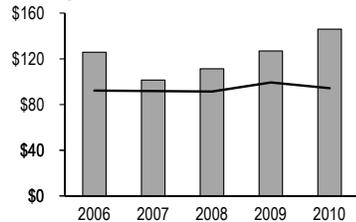
**Residential Refuse Tons per 1,000 Collection Points**



Year	Durham	Average
2006	690	899
2007	716	893
2008	759	883
2009	732	902
2010	677	894

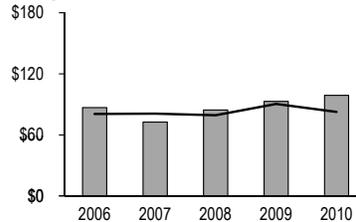
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



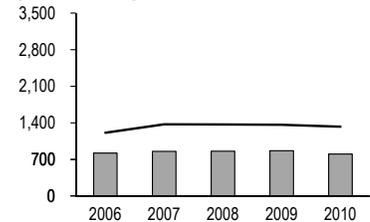
Year	Durham	Average
2006	\$126	\$92
2007	\$101	\$92
2008	\$111	\$91
2009	\$127	\$99
2010	\$146	\$94

**Residential Refuse Collection Cost per Collection Point**



Year	Durham	Average
2006	\$87	\$81
2007	\$73	\$81
2008	\$84	\$79
2009	\$93	\$90
2010	\$99	\$83

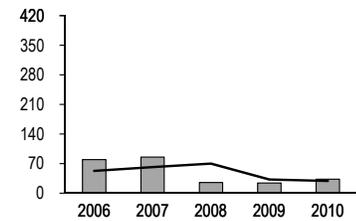
**Refuse Tons Collected per Municipal Collection FTE**



Year	Durham	Average
2006	820	1,210
2007	855	1,371
2008	858	1,368
2009	865	1,362
2010	802	1,325

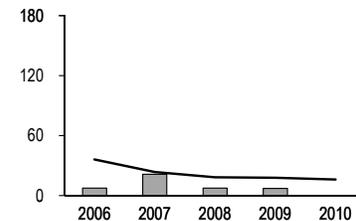
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Year	Durham	Average
2006	79.4	52.8
2007	85.5	61.5
2008	25.2	70.0
2009	24.1	32.4
2010	33.0	28.9

**Valid Complaints per 1,000 Collection Points**



Year	Durham	Average
2006	7.5	36.1
2007	21.4	23.6
2008	7.6	18.3
2009	7.2	17.8
2010		16.2

# Residential Refuse Collection

# Durham

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	234,140	<p><b>Service Level and Delivery</b> Residential refuse collection service is provided once a week at curbside to Durham residents. Senior citizens and disabled persons may apply for and receive backyard pickup. There is currently no fee for residential refuse collection service.</p> <p>The city used twenty-two crews during FY 2009–10. Six crews were composed of one driver and two collectors using rear-loading packers. Fifteen one-person crews operated automated loaders. One two-person crew serviced the downtown route. Residents use one to four ninety-six-gallon capacity containers.</p> <p>The city serviced seventy-four routes in FY 2009–10. The packers made an average of two trips to the disposal facility per day per route. The city used a transfer station during FY 2009–10.</p> <p>Durham collected 44,719 tons of residential refuse during the fiscal year at a cost of \$146 per ton. The cost per ton does not include the disposal cost of \$33.07, representing the transfer fee.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> A valid complaint in Durham is one where the customer followed the city's policies for curbside service (placement at the curb by 7 a.m. on the appropriate collection date) but the crew failed to empty the cart or where the department was unable to provide a citizen a replacement cart within fifteen working days.</p>
Land Area (Square Miles)	105.59	
Persons per Square Mile	2,217	
Topography	Flat; gently rolling	
County	Durham	
Climate	Temperate; little snow and ice	
Median Family Income (US Census 2000)	\$51,162	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	46.4%	
Operating Costs	33.0%	
Capital Costs	20.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 3,098,904	
Operating Costs	\$ 2,201,365	
Capital Costs	\$ 1,374,017	
TOTAL	\$ 6,674,286	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	57.0	
FTE Positions—Other	3.0	
Tons Collected	45,719	
Residential Customers (number represents collection points)	67,500	
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	15 automated packers 6 packers	

# Greensboro

# Residential Refuse Collection

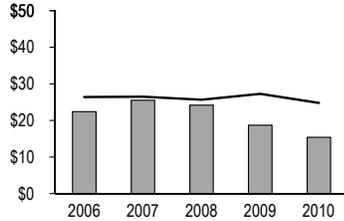
Key: Greensboro ■

Benchmarking Average —

Fiscal Years 2006 through 2010

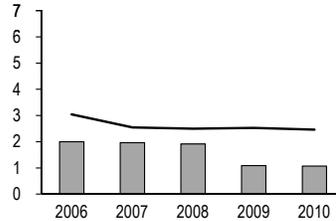
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Greensboro	\$22.40	\$25.55	\$24.19	\$18.70	\$15.39
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

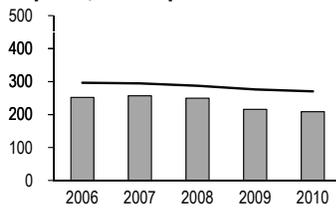
**Residential Refuse Collection FTEs per 10,000 Population**



Greensboro	2.00	1.96	1.91	1.09	1.07
Average	3.04	2.55	2.50	2.53	2.46

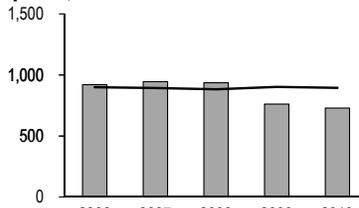
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Greensboro	252	257	250	216	208
Average	296	294	287	276	270

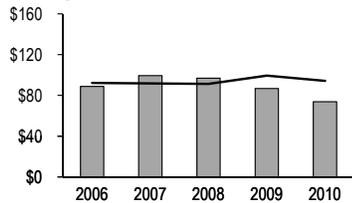
**Residential Refuse Tons per 1,000 Collection Points**



Greensboro	920	944	936	761	728
Average	899	893	883	902	894

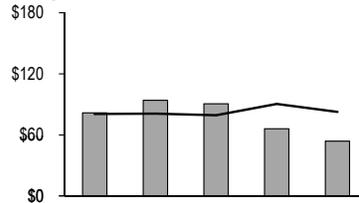
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



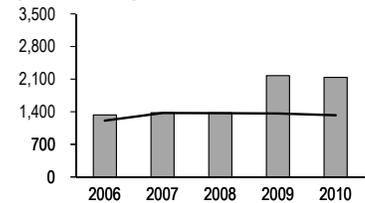
Greensboro	\$89	\$99	\$97	\$87	\$74
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost per Collection Point**



Greensboro	\$82	\$94	\$91	\$66	\$54
Average	\$81	\$81	\$79	\$90	\$83

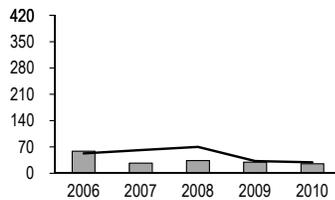
**Refuse Tons Collected per Municipal Collection FTE**



Greensboro	1,330	1,380	1,377	2,175	2,136
Average	1,210	1,371	1,368	1,362	1,325

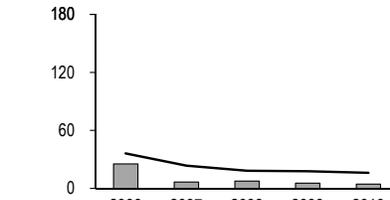
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Greensboro	58.6	26.8	33.9	29.6	25.4
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000 Collection Points**



Greensboro	25.3	6.6	7.6	5.5	4.5
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Greensboro

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">268,283</span>	<p><b>Service Level and Delivery</b> Greensboro provides once-a-week collection of residential refuse at curbside. Each resident is provided up to two ninety-gallon carts.</p> <p>There were twenty-one city crews for FY 2009–10. Eighteen crews have one driver operating an automated packer. Three crews use rear loaders.</p> <p>The city used 86 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.</p> <p>The city collected 55,898 tons of residential refuse during FY 2009–10 at a cost of \$74 per ton.</p> <p>Greensboro defines automated packers as one-armed automated-loading packers that are operated by one person. Rear-loaders are rear-loading packer trucks.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greensboro is highly automated in the area of residential refuse collection.</p> <p>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.</p> <p>Greensboro began utilizing new software in FY 2006–07 which has allowed better tracking of complaints.</p> <p>In FY 2008–09, Greensboro had notable annexation that created some special one time costs.</p>	
Land Area (Square Miles) <span style="float: right;">127.75</span>		
Persons per Square Mile <span style="float: right;">2,100</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Guilford</span>		
Climate <span style="float: right;">Temperate; some snow and ice</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$50,192</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">32.2%</span>		
Operating Costs <span style="float: right;">67.8%</span>		
Capital Costs <span style="float: right;">0.0%</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 1,328,146</span>		
Operating Costs <span style="float: right;">\$ 2,801,195</span>		
Capital Costs <span style="float: right;">\$ -</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 4,129,341</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Collection <span style="float: right;">26.2</span>		
FTE Positions—Other <span style="float: right;">2.5</span>		
Tons Collected <span style="float: right;">55,898</span>		
Residential Customers <span style="float: right;">76,764</span> (number represents collection points)		
Collection Location <span style="float: right;">Curbside</span> (backyard for disabled)		
Collection Frequency <span style="float: right;">1 x week</span>		
Size of Crews (most commonly used) <span style="float: right;">1 &amp; 2 person</span>		
Percentage of Service Contracted <span style="float: right;">0%</span>		
Service Fee <span style="float: right;">No</span>		
Type of Equipment <span style="float: right;">18 automated packers 3 packers</span>		

# Greenville

# Residential Refuse Collection

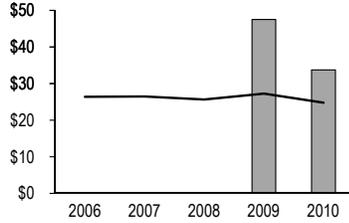
Key: Greenville ■

Benchmarking Average —

Fiscal Years 2006 through 2010

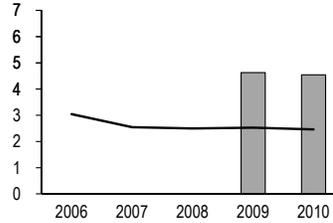
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Greenville \$47.54 \$33.73  
Average \$26.39 \$26.50 \$25.67 \$27.25 \$24.81

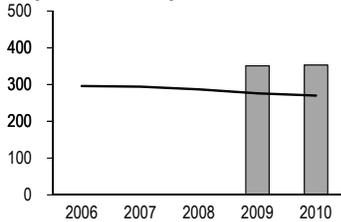
**Residential Refuse Collection FTEs per 10,000 Population**



Greenville 4.62 4.54  
Average 3.04 2.55 2.50 2.53 2.46

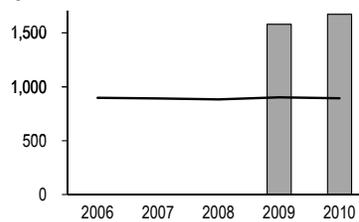
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Greenville 351 353  
Average 296 294 287 276 270

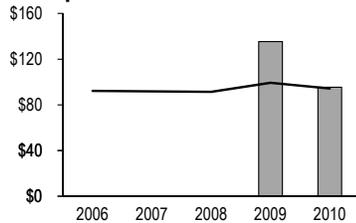
**Residential Refuse Tons per 1,000 Collection Points**



Greenville 1580 1673  
Average 899 893 883 902 894

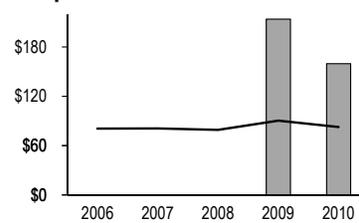
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



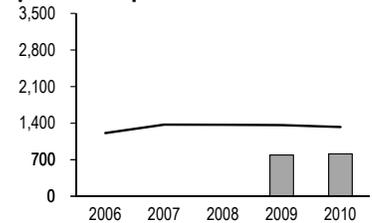
Greenville \$135 \$95  
Average \$92 \$92 \$91 \$99 \$94

**Residential Refuse Collection Cost per Collection Point**



Greenville \$214 \$160  
Average \$81 \$81 \$79 \$90 \$83

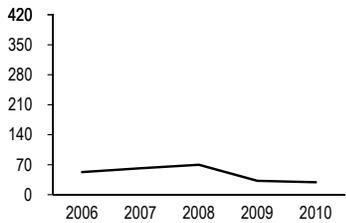
**Refuse Tons Collected per Municipal Collection FTE**



Greenville 791 810  
Average 1,210 1,371 1,368 1,362 1,325

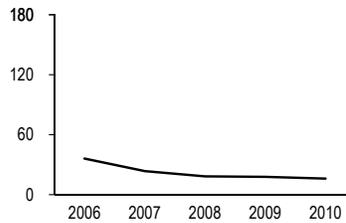
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Greenville 52.8 61.5 70.0 32.4 28.9  
Average 52.8 61.5 70.0 32.4 28.9

**Valid Complaints per 1,000 Collection Points**



Greenville 36.1 23.6 18.3 17.8 16.2  
Average 36.1 23.6 18.3 17.8 16.2

# Greenville

## Residential Refuse Collection

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	82,571	<p><b>Service Level and Delivery</b> 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.</p> <p>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.</p> <p>Thirty-two collection routes were employed during FY 2009–10, 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.</p> <p>Greenville collected 29,163 tons of residential refuse during FY 2009–10 at a cost of \$95 per ton. The cost per ton does not include the disposal cost of \$28, representing the tipping fee at the transfer station.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p> <p>Greenville was one of only two municipalities participating in this project that continued to collect residential refuse from the backyard for many customers. This is a relatively labor intensive process and represents a high level of service.</p>
Land Area (Square Miles)	35.01	
Persons per Square Mile	2,358	
Topography	Flat	
County	Pitt	
Climate	Mild; little snow and ice	
Median Family Income (US Census 2000)	\$44,491	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	61.4%	
Operating Costs	28.9%	
Capital Costs	9.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 1,710,626	
Operating Costs	\$ 805,760	
Capital Costs	\$ 268,380	
TOTAL	\$ 2,784,766	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	36.00	
FTE Positions—Other	1.5	
Tons Collected	29,163	
Residential Customers (number represents collection points)	17,431	
Collection Location	Backyard/Curbside	
Collection Frequency	1 x week	
Size of Crews (most commonly used)	3 persons	
Percentage of Service Contracted	0%	
Service Fee (monthly per cart)	\$9.60 curbside \$26 backyard	
Type of Equipment	8 packers	

# Hickory

# Residential Refuse Collection

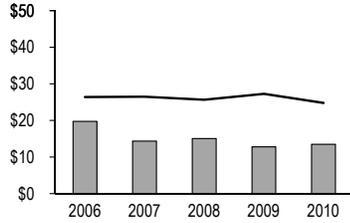
Key: Hickory ■

Benchmarking Average —

Fiscal Years 2006 through 2010

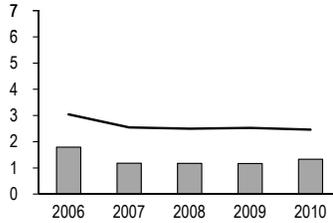
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Hickory \$19.74 \$14.36 \$15.05 \$12.80 \$13.51  
Average \$26.39 \$26.50 \$25.67 \$27.25 \$24.81

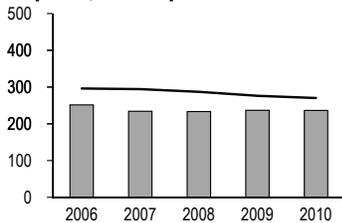
**Residential Refuse Collection FTEs per 10,000 Population**



Hickory 1.79 1.18 1.17 1.17 1.33  
Average 3.04 2.55 2.50 2.53 2.46

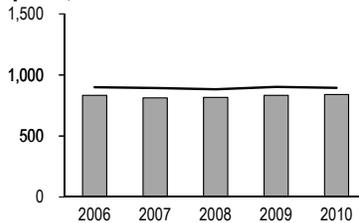
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Hickory 251 234 233 237 236  
Average 296 294 287 276 270

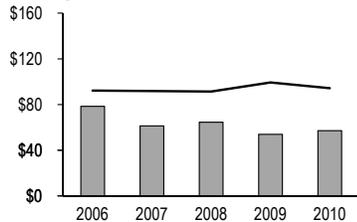
**Residential Refuse Tons per 1,000 Collection Points**



Hickory 832 812 816 833 839  
Average 899 893 883 902 894

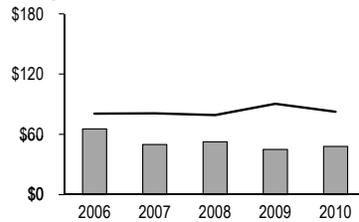
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



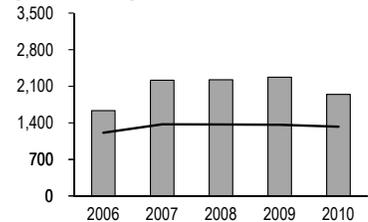
Hickory \$78 \$61 \$64 \$54 \$57  
Average \$92 \$92 \$91 \$99 \$94

**Residential Refuse Collection Cost per Collection Point**



Hickory \$65 \$50 \$53 \$45 \$48  
Average \$81 \$81 \$79 \$90 \$83

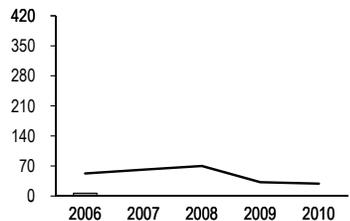
**Refuse Tons Collected per Municipal Collection FTE**



Hickory 1,635 2,217 2,226 2,273 1,946  
Average 1,210 1,371 1,368 1,362 1,325

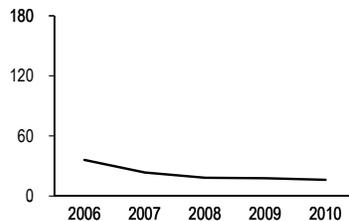
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Hickory 6.9  
Average 52.8 61.5 70.0 32.4 28.9

**Valid Complaints per 1,000 Collection Points**



Hickory 36.1  
Average 36.1 23.6 18.3 17.8 16.2

# Residential Refuse Collection

# Hickory

**Fiscal Year 2009–10**

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	41,151	<p><b>Service Level and Delivery</b>                      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 \$11 per cart was charged for residential refuse collection service during FY 2009–10. 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.</p> <p>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 back yards.</p> <p>Fifteen collection routes were employed during FY 2009–10, 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.</p> <p>Hickory collected 9,730 tons of residential refuse during FY 2009–10 at a cost of \$57 per ton. The cost per ton does not include the disposal cost of \$33, representing the tipping fee at the Catawba County landfill.</p> <p>Hickory defines automated packers as trucks with mechanical arms.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      Hickory is highly automated in the area of residential refuse collection.</p>
Land Area (Square Miles)	29.28	
Persons per Square Mile	1,405	
Topography	Gently rolling	
County	Catawba	
Climate	Moderate; some snow and ice	
Median Family Income (US Census 2000)	\$47,522	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	42.4%	
Operating Costs	41.9%	
Capital Costs	15.7%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 235,765	
Operating Costs	\$ 232,602	
Capital Costs	\$ 87,413	
<b>TOTAL</b>	<b>\$ 555,780</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	5.00	
FTE Positions—Other	0.5	
Tons Collected	9,730	
Residential Customers (number represents collection points)	11,600	
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 per cart)	\$11	
Type of Equipment	4 automated packers 1 packer	

# High Point

# Residential Refuse Collection

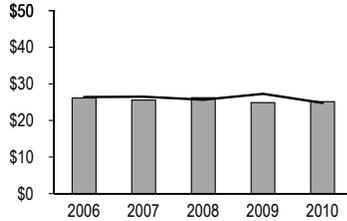
Key: High Point ■

Benchmarking Average —

Fiscal Years 2006 through 2010

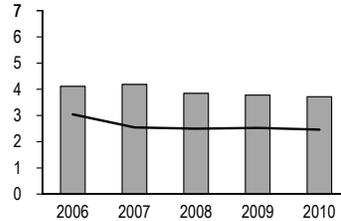
## RESOURCE Measures

**Residential Refuse Collection  
Costs per Capita**



High Point \$26.12 \$25.57 \$26.24 \$24.87 \$25.13  
Average \$26.39 \$26.50 \$25.67 \$27.25 \$24.81

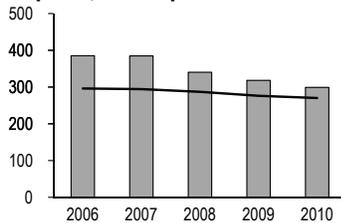
**Residential Refuse Collection FTEs  
per 10,000 Population**



High Point 4.11 4.18 3.85 3.78 3.72  
Average 3.04 2.55 2.50 2.53 2.46

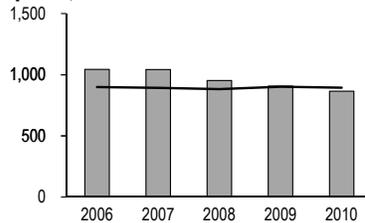
## WORKLOAD Measures

**Residential Refuse Tons  
per 1,000 Population**



High Point 386 385 341 318 299  
Average 296 294 287 276 270

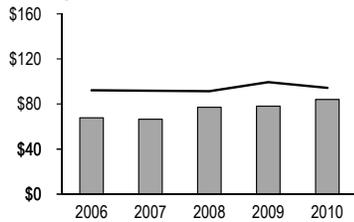
**Residential Refuse Tons  
per 1,000 Collection Points**



High Point 1044 1042 952 907 866  
Average 899 893 883 902 894

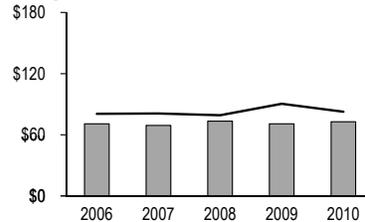
## EFFICIENCY Measures

**Residential Refuse Collection Cost  
per Ton Collected**



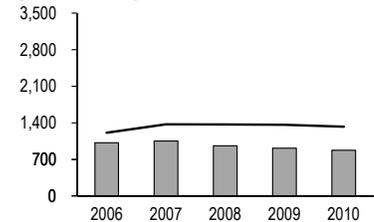
High Point \$68 \$66 \$77 \$78 \$84  
Average \$92 \$92 \$91 \$99 \$94

**Residential Refuse Collection Cost  
per Collection Point**



High Point \$71 \$69 \$73 \$71 \$73  
Average \$81 \$81 \$79 \$90 \$83

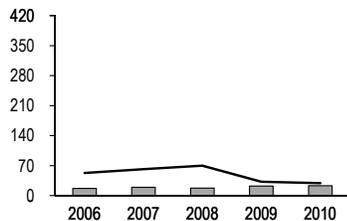
**Refuse Tons Collected  
per Municipal Collection FTE**



High Point 1,019 1,052 961 915 874  
Average 1,210 1,371 1,368 1,362 1,325

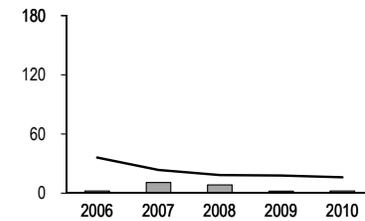
## EFFECTIVENESS Measures

**Complaints per 1,000  
Collection Points**



High Point 16.6 19.4 17.5 22.3 23.1  
Average 52.8 61.5 70.0 32.4 28.9

**Valid Complaints per 1,000  
Collection Points**



High Point 2.3 10.8 8.3 2.1 2.3  
Average 36.1 23.6 18.3 17.8 16.2

# Residential Refuse Collection

# High Point

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">102,216</span>	<p><b>Service Level and Delivery</b> 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.</p> <p>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.</p> <p>The city collected 30,587 tons of residential refuse during FY 2009–10 at a cost of \$84 per ton. The cost per ton does not include the disposal cost of \$26, representing the landfill tipping fee. The city does not use a transfer station.</p> <p>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.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> "Tons collected per collection FTE" includes only the tons collected by city crews.</p> <p>High Point began transitioning from rear packers to automated side loaders in November 2007 for two of the ten residential routes. Six other automated loaders were received from January 2010 to August 2010. By 2011 the transition will be complete to nearly all residential routes being served by automated loaders except for special collections.</p>	
Land Area (Square Miles) <span style="float: right;">54.05</span>		
Persons per Square Mile <span style="float: right;">1,891</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Guilford</span>		
Climate <span style="float: right;">Temperate; some snow and ice</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$48,057</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">58.1%</span>		
Operating Costs <span style="float: right;">29.0%</span>		
Capital Costs <span style="float: right;">12.9%</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 1,492,809</span>		
Operating Costs <span style="float: right;">\$ 743,940</span>		
Capital Costs <span style="float: right;">\$ 332,426</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 2,569,175</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Collection <span style="float: right;">35.0</span>		
FTE Positions—Other <span style="float: right;">3.0</span>		
Tons Collected <span style="float: right;">30,587</span>		
Residential Customers <span style="float: right;">35,332</span> (number represents collection points)		
Collection Location <span style="float: right;">Curbside</span> (backyard for disabled)		
Collection Frequency <span style="float: right;">1 x week</span>		
Size of Crews (most commonly used) <span style="float: right;">1 &amp; 2 person</span>		
Percentage of Service Contracted <span style="float: right;">0%</span>		
Service Fee <span style="float: right;">No</span>		
Type of Equipment <span style="float: right;">8 automated packers 2 packers</span>		

# Salisbury

# Residential Refuse Collection

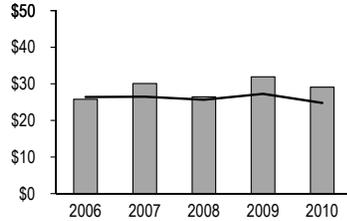
Key: Salisbury ■

Benchmarking Average —

Fiscal Years 2006 through 2010

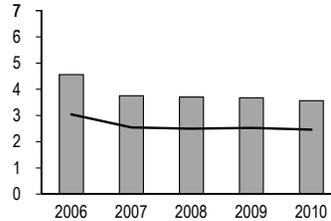
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Salisbury	\$25.78	\$30.10	\$26.46	\$31.91	\$29.08
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

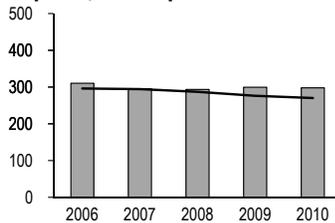
**Residential Refuse Collection FTEs per 10,000 Population**



Salisbury	4.56	3.75	3.71	3.67	3.56
Average	3.04	2.55	2.50	2.53	2.46

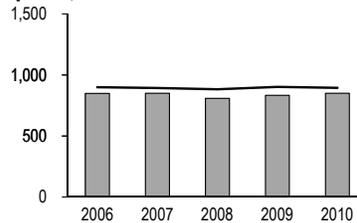
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Salisbury	311	295	293	300	298
Average	296	294	287	276	270

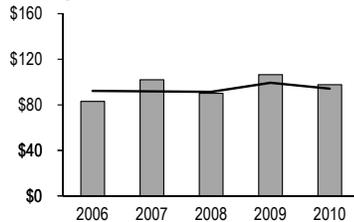
**Residential Refuse Tons per 1,000 Collection Points**



Salisbury	849	850	808	833	850
Average	899	893	883	902	894

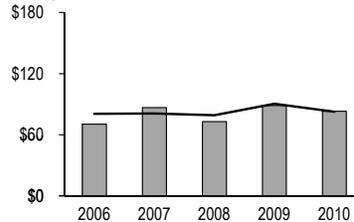
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



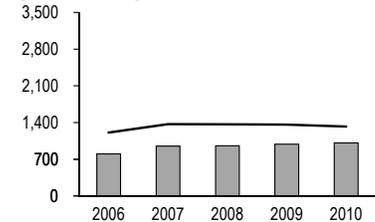
Salisbury	\$83	\$102	\$90	\$107	\$98
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost per Collection Point**



Salisbury	\$70	\$87	\$73	\$89	\$83
Average	\$81	\$81	\$79	\$90	\$83

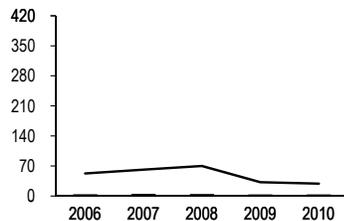
**Refuse Tons Collected per Municipal Collection FTE**



Salisbury	802	952	958	987	1,011
Average	1,210	1,371	1,368	1,362	1,325

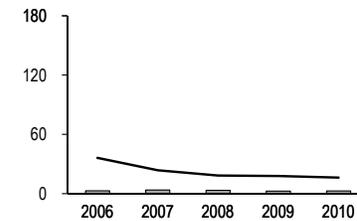
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Salisbury	2.9	3.7	3.5	2.6	2.7
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000 Collection Points**



Salisbury	2.9	3.7	3.4	2.6	2.7
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Salisbury

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	32,263	<p><b>Service Level and Delivery</b> 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.</p> <p>The city employed three crews during FY 2009–10 with two driver-operators. Fifteen collection routes were used with an average of one nineteen-mile trip per route per day to the transfer station.</p> <p>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 9,609 tons of residential refuse during FY 2009–10 at a cost per ton of \$98. Not included in the cost per ton was a \$34 landfill tipping fee.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Salisbury's total tons collected includes bulk trash, which is collected along with residential refuse and cannot be separated for reporting purposes.</p>
Land Area (Square Miles)	21.93	
Persons per Square Mile	1,471	
Topography	Gently rolling	
County	Rowan	
Climate	Moderate; little snow and ice	
Median Family Income (US Census 2000)	\$41,108	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	51.2%	
Operating Costs	31.4%	
Capital Costs	17.4%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 480,292	
Operating Costs	\$ 294,518	
Capital Costs	\$ 163,409	
TOTAL	\$ 938,219	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	9.50	
FTE Positions—Other	2.00	
Tons Collected	9,609	
Residential Customers (number represents collection points)	11,300	
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	3 packers	

# Wilmington

# Residential Refuse Collection

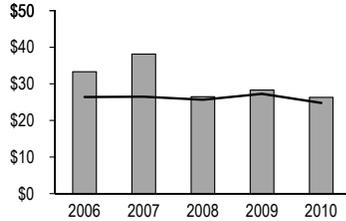
Key: Wilmington ■

Benchmarking Average —

Fiscal Years 2006 through 2010

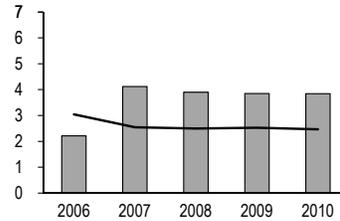
## RESOURCE Measures

**Residential Refuse Collection Costs per Capita**



Wilmington	\$33.30	\$38.16	\$26.50	\$28.30	\$26.30
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

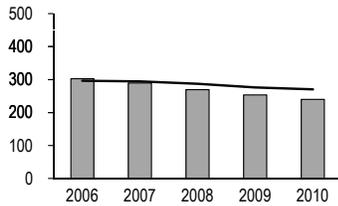
**Residential Refuse Collection FTEs per 10,000 Population**



Wilmington	2.21	4.12	3.90	3.85	3.84
Average	3.04	2.55	2.50	2.53	2.46

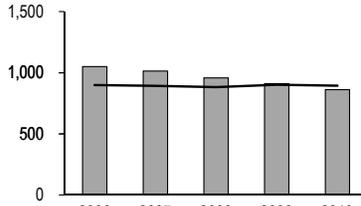
## WORKLOAD Measures

**Residential Refuse Tons per 1,000 Population**



Wilmington	303	290	269	254	240
Average	296	294	287	276	270

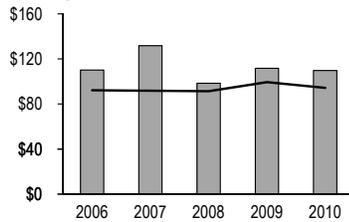
**Residential Refuse Tons per 1,000 Collection Points**



Wilmington	1050	1014	958	911	861
Average	899	893	883	902	894

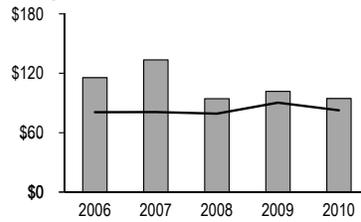
## EFFICIENCY Measures

**Residential Refuse Collection Cost per Ton Collected**



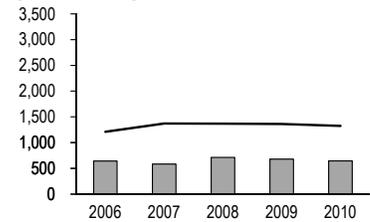
Wilmington	\$110	\$132	\$98	\$112	\$110
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost per Collection Point**



Wilmington	\$116	\$133	\$94	\$102	\$94
Average	\$81	\$81	\$79	\$90	\$83

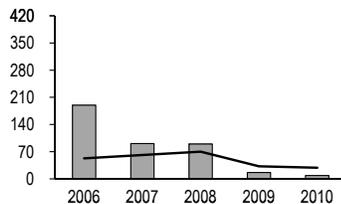
**Refuse Tons Collected per Municipal Collection FTE**



Wilmington	644	584	714	680	645
Average	1,210	1,371	1,368	1,362	1,325

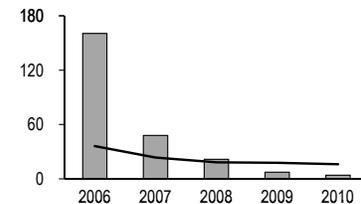
## EFFECTIVENESS Measures

**Complaints per 1,000 Collection Points**



Wilmington	189.6	90.9	89.6	16.6	8.6
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000 Collection Points**



Wilmington	160.5	47.9	21.7	7.5	4.1
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Wilmington

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	102,207	
Land Area (Square Miles)	51.55	
Persons per Square Mile	1,983	
Topography	Flat; coastal plain	
County	New Hanover	
Climate	Mild	
Median Family Income (US Census 2000)	\$41,891	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	46.7%	
Operating Costs	42.7%	
Capital Costs	10.6%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 1,254,331	
Operating Costs	\$ 1,149,064	
Capital Costs	\$ 284,747	
<b>TOTAL</b>	<b>\$ 2,688,142</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	38.0	
FTE Positions—Other	1.3	
Tons Collected	24,505	
Residential Customers (number represents collection points)	28,453	
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	\$23.75 for maxi \$19.50 for mini	
Type of Equipment	15 packers	
		<p><b>Service Level and Delivery</b> 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.</p> <p>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 \$23.75 for ninety-gallon carts and \$19.50 for forty-gallon carts during FY 2009–10.</p> <p>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.</p> <p>During FY 2009–10 Wilmington used eleven crews of one driver and two collectors and four crews with one driver and one collector. All crews use semi-automated packer trucks.</p> <p>Forty-four collection routes were used during FY 2009–10, 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 24,505 tons of residential refuse during FY 2009–10 at a cost of \$110 per ton. The cost per ton does not include the disposal cost of \$55.65 for the landfill tipping fee.</p> <p>Wilmington defines semi-automated packers as packer trucks that have tipper on them to lift the carts.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p>

# Wilson

# Residential Refuse Collection

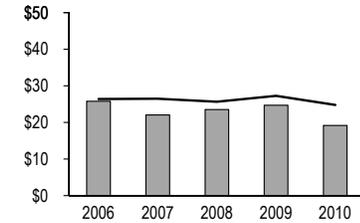
Key: Wilson ■

Benchmarking Average —

Fiscal Years 2006 through 2010

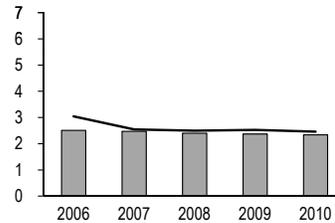
## RESOURCE Measures

**Residential Refuse Collection  
Costs per Capita**



Wilson	\$25.78	\$22.05	\$23.55	\$24.73	\$19.17
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

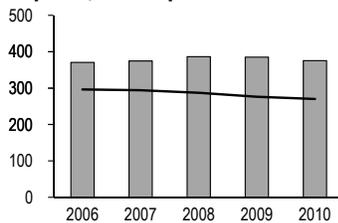
**Residential Refuse Collection FTEs  
per 10,000 Population**



Wilson	2.51	2.47	2.40	2.37	2.34
Average	3.04	2.55	2.50	2.53	2.46

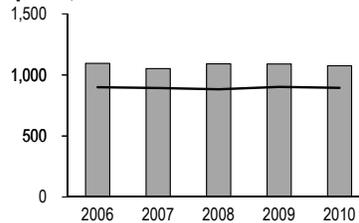
## WORKLOAD Measures

**Residential Refuse Tons  
per 1,000 Population**



Wilson	371	375	386	385	375
Average	296	294	287	276	270

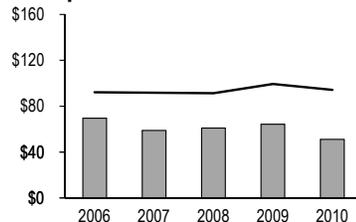
**Residential Refuse Tons  
per 1,000 Collection Points**



Wilson	1095	1052	1091	1089	1076
Average	899	893	883	902	894

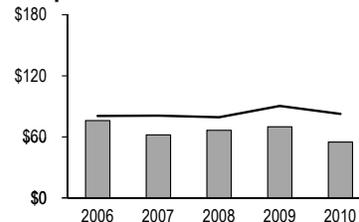
## EFFICIENCY Measures

**Residential Refuse Collection Cost  
per Ton Collected**



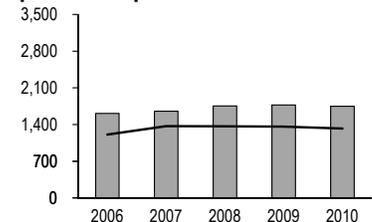
Wilson	\$70	\$59	\$61	\$64	\$51
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost  
per Collection Point**



Wilson	\$76	\$62	\$66	\$70	\$55
Average	\$81	\$81	\$79	\$90	\$83

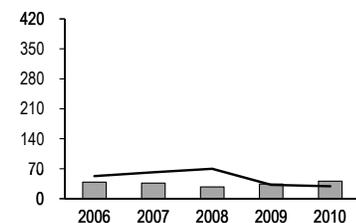
**Refuse Tons Collected  
per Municipal Collection FTE**



Wilson	1,612	1,655	1,755	1,773	1,750
Average	1,210	1,371	1,368	1,362	1,325

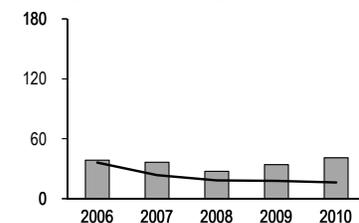
## EFFECTIVENESS Measures

**Complaints per 1,000  
Collection Points**



Wilson	38.6	36.4	27.5	34.0	40.9
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000  
Collection Points**



Wilson	38.6	36.4	27.5	34.0	40.9
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Wilson

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	51,274	<p><b>Service Level and Delivery</b> 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 \$14 fee per household for residential refuse collection service.</p> <p>The city used five one-person crews during FY 2009–10 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.</p> <p>The city serviced seventeen collection routes in a week during FY 2009–10. 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.</p> <p>Wilson collected 19,253 tons of residential refuse during the fiscal year at a cost of \$51 per ton. The cost per ton does not include the disposal cost of \$37.20, representing the tipping fee at the transfer station.</p> <p>Wilson defines automated packers as fully automated trucks requiring one driver. Packers are rear-loading, semi-automated trucks requiring one driver and two collectors.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The city of Wilson considers all complaints to be valid complaints.</p>
Land Area (Square Miles)	29.02	
Persons per Square Mile	1,767	
Topography	Flat	
County	Wilson	
Climate	Mild; little snow and ice	
Median Family Income (US Census 2000)	\$41,041	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	53.2%	
Operating Costs	39.2%	
Capital Costs	7.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 522,606	
Operating Costs	\$ 385,510	
Capital Costs	\$ 74,902	
TOTAL	\$ 983,018	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	11.0	
FTE Positions—Other	1.0	
Tons Collected	19,253	
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)	\$14.00	
Type of Equipment	5 automated packers 2 packers	

# Winston-Salem

# Residential Refuse Collection

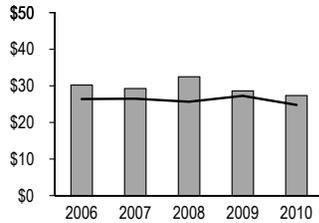
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

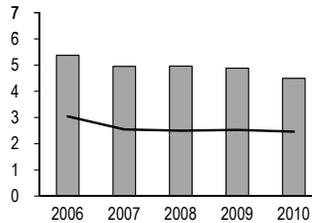
## RESOURCE Measures

**Residential Refuse Collection  
Costs per Capita**



Winston-Salem	\$30.24	\$29.28	\$32.51	\$28.63	\$27.36
Average	\$26.39	\$26.50	\$25.67	\$27.25	\$24.81

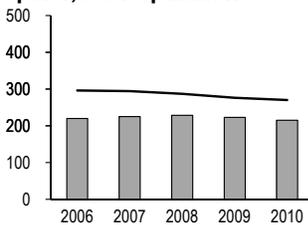
**Residential Refuse Collection FTEs  
per 10,000 Population**



Winston-Salem	5.37	4.95	4.96	4.88	4.49
Average	3.04	2.55	2.50	2.53	2.46

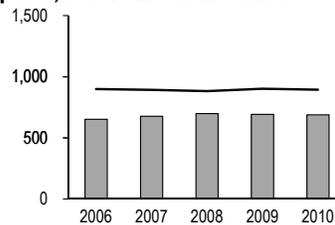
## WORKLOAD Measures

**Residential Refuse Tons  
per 1,000 Population**



Winston-Salem	220	225	229	223	215
Average	296	294	287	276	270

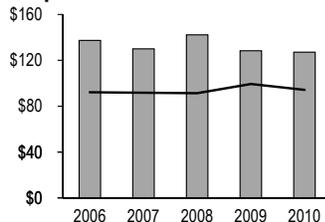
**Residential Refuse Tons  
per 1,000 Collection Points**



Winston-Salem	652	677	699	693	689
Average	899	893	883	902	894

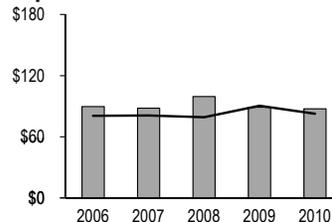
## EFFICIENCY Measures

**Residential Refuse Collection Cost  
per Ton Collected**



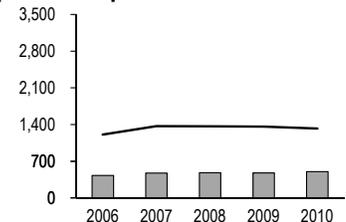
Winston-Salem	\$137	\$130	\$142	\$128	\$127
Average	\$92	\$92	\$91	\$99	\$94

**Residential Refuse Collection Cost  
per Collection Point**



Winston-Salem	\$90	\$88	\$99	\$89	\$88
Average	\$81	\$81	\$79	\$90	\$83

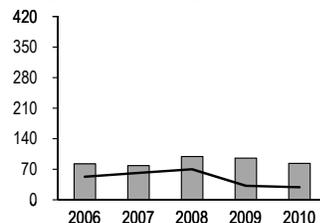
**Refuse Tons Collected  
per Municipal Collection FTE**



Winston-Salem	428	475	481	477	502
Average	1,210	1,371	1,368	1,362	1,325

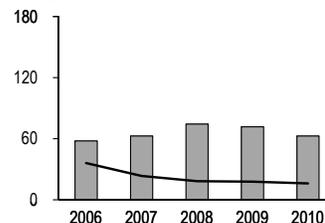
## EFFECTIVENESS Measures

**Complaints per 1,000  
Collection Points**



Winston-Salem	82.6	78.3	99.1	95.7	83.6
Average	52.8	61.5	70.0	32.4	28.9

**Valid Complaints per 1,000  
Collection Points**



Winston-Salem	57.8	62.6	74.4	71.8	62.7
Average	36.1	23.6	18.3	17.8	16.2

# Residential Refuse Collection

# Winston-Salem

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	235,075	
Land Area (Square Miles)	133.19	
Persons per Square Mile	1,765	
Topography	Gently rolling	
County	Forsyth	
Climate	Moderate; some snow and ice	
Median Family Income (US Census 2000)	\$46,595	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	60.9%	
Operating Costs	28.3%	
Capital Costs	10.8%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 3,917,176	
Operating Costs	\$ 1,822,175	
Capital Costs	\$ 692,584	
TOTAL	\$ 6,431,935	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	100.80	
FTE Positions—Other	4.80	
Tons Collected	50,608	
Residential Customers (number represents collection points)	73,500	
Collection Location	Backyard/Curbside	
Collection Frequency	1 x week	
Size of Crews (most commonly used)	3 person	
Percentage of Service Contracted	0%	
Service Fee	No	
Type of Equipment	3 automated packer 29 packers	
		<p><b>Service Level and Delivery</b> Winston-Salem collects residential refuse once a week from backyards and at curbside. The city implemented a voluntary curbside collection program in March 2005. At the end of FY 2009–10, over 70 percent of households participated in the voluntary curbside collection program.</p> <p>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.</p> <p>Residents may use four twenty-gallon containers, three thirty-two-gallon containers, or one ninety-six-gallon roll-out cart. There was no fee for the residential refuse service during FY 2009–10.</p> <p>The city collected 50,608 tons of residential refuse during FY 2009–10 from 73,500 collection points. The cost per ton was \$127, which does not include the tipping fee of \$36 per ton. The city used one hundred and twenty-eight 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.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Winston-Salem was one of only two municipalities participating in this project that continued to collect residential refuse from the backyard for many customers. This is a relatively labor intensive process and represents a high level of service.</p>







# Performance and Cost Data

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## HOUSEHOLD RECYCLING

## **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								
Asheville	1	2	1 x 2 weeks	Yes	27,140	80%	7,482	24%	98%	0
Burlington	0	3	1 x 2 weeks	Yes	16,216	67%	2,450	15%	100%	0
Cary	1	0	1 x 2 weeks	Yes	43,493	80%	11,100	27%	0%	13
Charlotte	0	13	1 x week	Yes	209,005	42%	31,279	14%	15%	38
Concord	0	1	1 x week	No	27,374	68%	3,448	12%	100%	1.2
Durham	1	0	1 x 2 weeks	Yes	67,500	85%	13,388	23%	0%	12
Greensboro	17	0	1 x 2 weeks	No	76,764	53%	17,486	24%	0%	15
Greenville	2	89	1 x week	No	17,431	na	3,599	11%	0%	15
Hickory	2	0	1 x week	Yes	11,600	77%	1,478	13%	85%	0.5
High Point	10	0	1 x 2 weeks	Yes	35,332	70%	7,100	19%	0%	10
Salisbury	0	0	1 x week	Yes	11,967	33%	1,268	12%	100%	0
Wilmington	0	0	1 x week	No	16,422	59%	5,274	18%	0%	10.25
Wilson	0	0	1 x week	No	19,900	40%	1,341	7%	0%	6
Winston-Salem	9	2	1 x week	Yes	73,500	52%	10,806	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

# Asheville

# Household Recycling

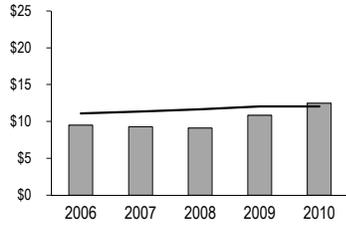
Key: Asheville ■

Benchmarking Average —

Fiscal Years 2006 through 2010

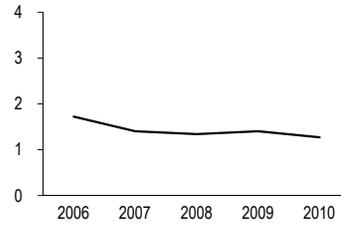
## RESOURCE Measures

**Recycling Services Cost per Capita**



Year	Asheville	Average
2006	\$9.50	\$11.09
2007	\$9.29	\$11.37
2008	\$9.10	\$11.66
2009	\$10.84	\$12.05
2010	\$12.48	\$12.06

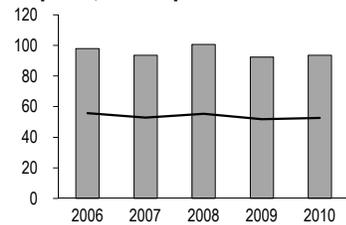
**Recycling Services FTEs per 10,000 Population**



Year	Asheville	Average
2006	1.73	1.73
2007	1.40	1.40
2008	1.34	1.34
2009	1.41	1.41
2010	1.27	1.27

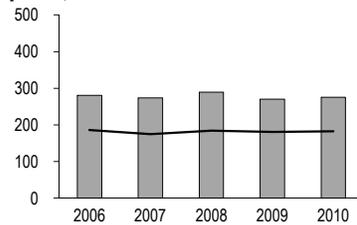
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



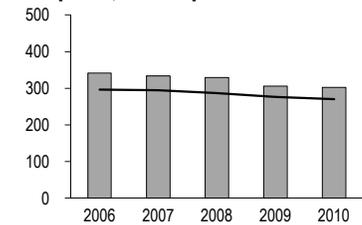
Year	Asheville	Average
2006	98	56
2007	94	53
2008	101	55
2009	92	52
2010	94	53

**Tons Recyclables Collected per 1,000 Collection Points**



Year	Asheville	Average
2006	281	186
2007	273	175
2008	289	184
2009	270	181
2010	276	183

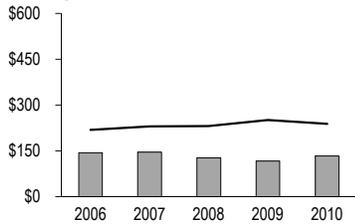
**Tons Solid Waste Landfilled per 1,000 Population**



Year	Asheville	Average
2006	341	296
2007	333	294
2008	329	287
2009	306	276
2010	303	270

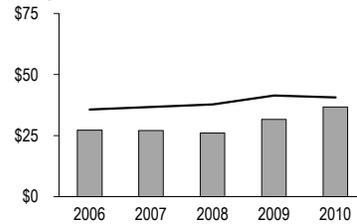
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



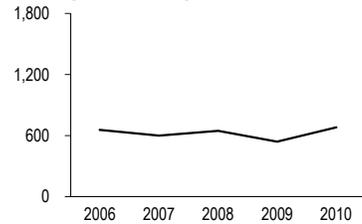
Year	Asheville	Average
2006	\$144	\$219
2007	\$146	\$231
2008	\$128	\$231
2009	\$117	\$252
2010	\$133	\$239

**Recycling Services Cost per Collection Point**



Year	Asheville	Average
2006	\$27.21	\$35.74
2007	\$27.12	\$36.73
2008	\$26.12	\$37.85
2009	\$31.70	\$41.41
2010	\$36.76	\$40.64

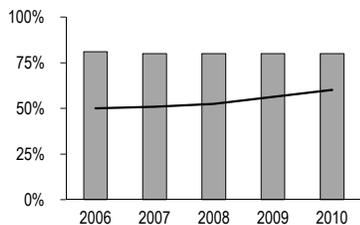
**Tons Collected Curbside per Municipal FTE**



Year	Asheville	Average
2006	657	657
2007	602	602
2008	647	647
2009	541	541
2010	681	681

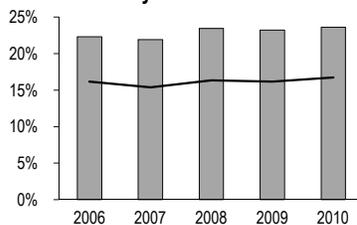
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Year	Asheville	Average
2006	81.0%	50.1%
2007	80.0%	51.0%
2008	80.0%	52.5%
2009	80.0%	56.4%
2010	80.0%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Year	Asheville	Average
2006	22.3%	16.2%
2007	21.9%	15.4%
2008	23.4%	16.4%
2009	23.2%	16.2%
2010	23.6%	16.7%

# Asheville

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	79,973	<p><b>Service Level and Delivery</b> The city offers curbside recycling service to all residential customers. The service was provided by contract during FY 2009–10.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• mixed paper</li> <li>• newspaper</li> <li>• corrugated cardboard</li> <li>• clear, green, and brown glass bottles</li> <li>• all plastic bottles</li> <li>• aluminum and steel cans</li> <li>• telephone books (seasonal)</li> <li>• aerosol cans</li> </ul> <p>Residents living within the city of Asheville are encouraged to participate in the curbside recycling program. The program serves 27,140 residences, with each residence receiving two recycling bins at no charge. One bin is used for mixed paper (i.e., 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.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The set-out rate is based on the contractor's estimate in monthly reports.</p>
Land Area (Square Miles)	44.99	
Persons per Square Mile	1,778	
Topography	Hills, mountains	
County	Buncombe	
Climate	Moderate; ice and snow	
Median Family Income (US Census 2000)	\$44,029	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	0.0%	
Operating Costs	100.0%	
Capital Costs	0.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ -	
Operating Costs	\$ 997,708	
Capital Costs	\$ -	
<b>TOTAL</b>	<b>\$ 997,708</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	0.0	
FTE Positions—Other	0.0	
Tons Collected	7,482	
Collection Points	27,140	
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	

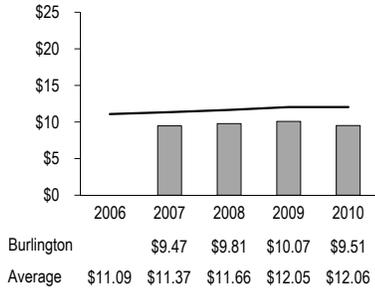
# Burlington

# Household Recycling

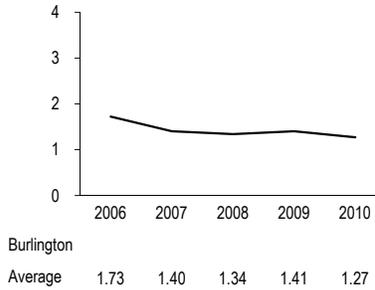
Key: Burlington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

**Recycling Services Cost per Capita**

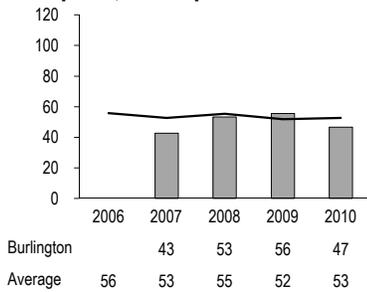


**Recycling Services FTEs per 10,000 Population**

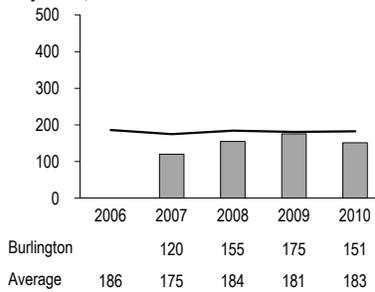


## WORKLOAD Measures

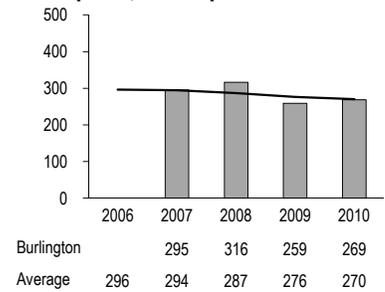
**Tons Recyclables Collected per 1,000 Population**



**Tons Recyclables Collected per 1,000 Collection Points**

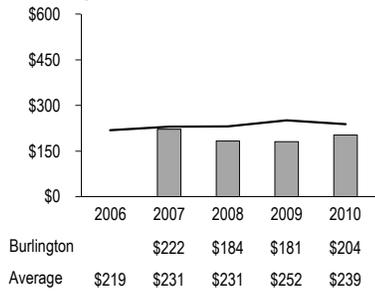


**Tons Solid Waste Landfilled per 1,000 Population**

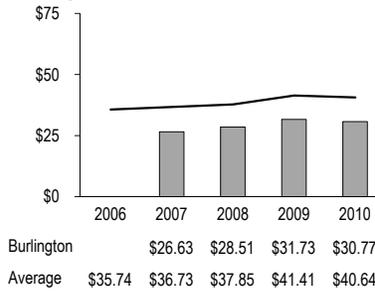


## EFFICIENCY Measures

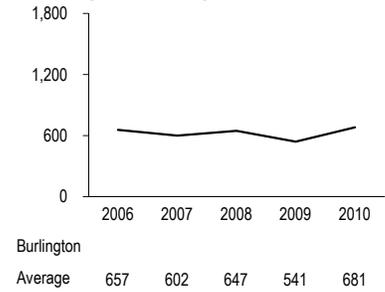
**Recycling Services Cost per Ton Collected**



**Recycling Services Cost per Collection Point**

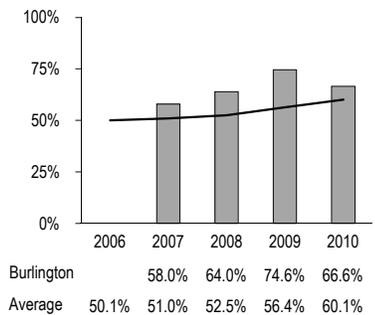


**Tons Collected Curbside per Municipal FTE**

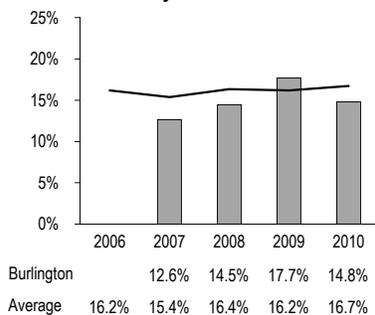


## EFFECTIVENESS Measures

**Community Set-Out Rate**



**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



# Burlington

## Household Recycling

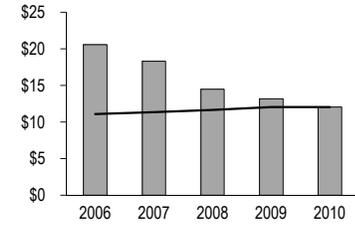
Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	52,457	<p><b>Service Level and Delivery</b> Burlington offers curbside recycling to all city residents. The service was contracted through Tidewater Fibre Corporation in FY 2009–10.</p> <p>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:</p> <ul style="list-style-type: none"> <li>● plastic jugs and bottles, No. 1 and No. 2</li> <li>● aluminum cans</li> <li>● steel cans</li> <li>● corrugated cardboard</li> <li>● chipboard</li> <li>● newspaper and inserts</li> <li>● phone books</li> <li>● mixed paper</li> <li>● magazines</li> <li>● clear, green, amber, and brown glass bottles and jars</li> </ul> <p>Alamance County provides three drop-off recycling sites.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The set-out rate is provided annually by the contractor.</p> <p>The City of Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.</p>
Land Area (Square Miles)	25.14	
Persons per Square Mile	2,087	
Topography	Flat; gently rolling	
County	Alamance	
Climate	Temperate; little snow and ice	
Median Family Income (US Census 2000)	\$45,441	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	0.0%	
Operating Costs	100.0%	
Capital Costs	0.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ -	
Operating Costs	\$ 498,996	
Capital Costs	\$ -	
<b>TOTAL</b>	<b>\$ 498,996</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	0.0	
FTE Positions—Other	0.0	
Tons Collected	2,450	
Collection Points	16,216	
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	

Key: Cary ■ Benchmarking Average — Fiscal Years 2006 through 2010

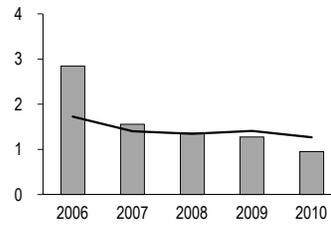
## RESOURCE Measures

**Recycling Services Cost per Capita**



Year	2006	2007	2008	2009	2010
Cary	\$20.58	\$18.32	\$14.48	\$13.20	\$12.06
Average	\$11.09	\$11.37	\$11.66	\$12.05	\$12.06

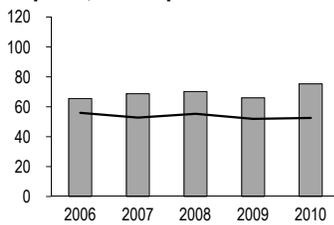
**Recycling Services FTEs per 10,000 Population**



Year	2006	2007	2008	2009	2010
Cary	2.85	1.55	1.36	1.27	0.95
Average	1.73	1.40	1.34	1.41	1.27

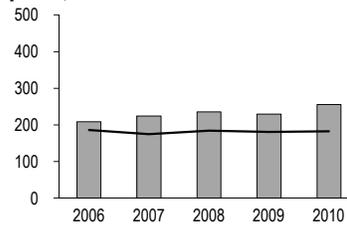
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



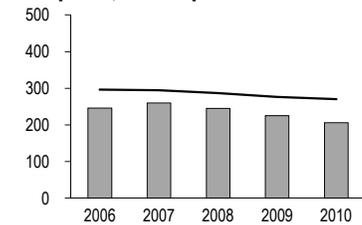
Year	2006	2007	2008	2009	2010
Cary	65	69	70	66	75
Average	56	53	55	52	53

**Tons Recyclables Collected per 1,000 Collection Points**



Year	2006	2007	2008	2009	2010
Cary	209	224	235	230	255
Average	186	175	184	181	183

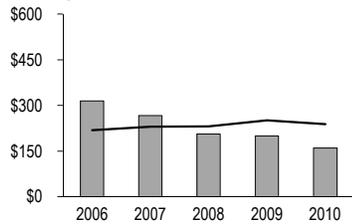
**Tons Solid Waste Landfilled per 1,000 Population**



Year	2006	2007	2008	2009	2010
Cary	246	260	245	225	206
Average	296	294	287	276	270

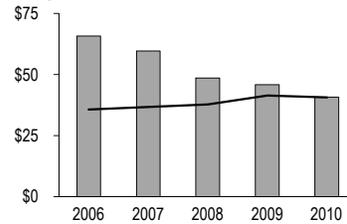
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



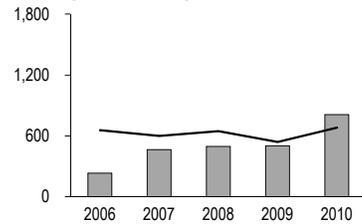
Year	2006	2007	2008	2009	2010
Cary	\$315	\$267	\$206	\$200	\$160
Average	\$219	\$231	\$231	\$252	\$239

**Recycling Services Cost per Collection Point**



Year	2006	2007	2008	2009	2010
Cary	\$65.79	\$59.74	\$48.57	\$45.91	\$40.83
Average	\$35.74	\$36.73	\$37.85	\$41.41	\$40.64

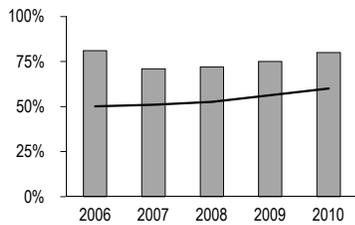
**Tons Collected Curbside per Municipal FTE**



Year	2006	2007	2008	2009	2010
Cary	234	465	498	504	810
Average	657	602	647	541	681

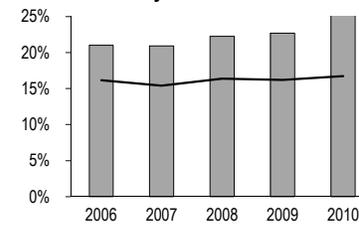
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Year	2006	2007	2008	2009	2010
Cary	81.0%	71.0%	72.0%	75.0%	80.0%
Average	50.1%	51.0%	52.5%	56.4%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Year	2006	2007	2008	2009	2010
Cary	21.0%	20.9%	22.3%	22.7%	26.8%
Average	16.2%	15.4%	16.4%	16.2%	16.7%

# Cary

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	147,282	<p><b>Service Level and Delivery</b></p> <p>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.</p> <p>Materials collected in the curbside program and at the drop-off recycling center include the following:</p> <ul style="list-style-type: none"> <li>• newspaper</li> <li>• chipboard</li> <li>• phone books</li> <li>• junk mail</li> <li>• glossy white paper</li> <li>• glossy magazines and catalogs</li> <li>• corrugated cardboard</li> <li>• milk/juice gable-top cartons</li> <li>• aluminum cans and foil</li> <li>• steel and tin food cans</li> <li>• clear, green, and brown glass bottles and jars</li> <li>• plastic materials, such as No. 1, No. 2, No. 5, and No. 7 bottles</li> <li>• used motor oil, electronics, and appliances on request</li> </ul> <p>The town collected 10,528 tons from the curbside collection and gathered 572 tons at its drop-off site. The town changed to comingled recycling at the curb during FY 2006–07 eliminating curbside sorting. Cary received \$174,243 in revenue from the sale of recyclables during FY 2009–10.</p> <p>Cary defines a valid complaint as a complaint that has been verified in the field by a supervisor.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p> <p>The set-out rate is calculated annually.</p>
Land Area (Square Miles)	54.01	
Persons per Square Mile	2,727	
Topography	Flat; gently rolling	
County	Wake	
Climate	Temperate; little snow and ice	
Median Family Income (US Census 2000)	\$88,074	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	43.4%	
Operating Costs	34.0%	
Capital Costs	22.7%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 770,577	
Operating Costs	\$ 602,942	
Capital Costs	\$ 402,370	
<b>TOTAL</b>	<b>\$ 1,775,889</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	13.0	
FTE Positions—Other	1.0	
Tons Collected	11,100	
Collection Points	43,493	
Collection Location	Curbside	
Collection Frequency	1 x 2 weeks	
Number of City Drop-Off Centers	1	
Percentage of Service Contracted	0%	
Revenue from Recycling	\$174,243	
Revenue as Percentage of Cost	9.8%	

# Charlotte

# Household Recycling

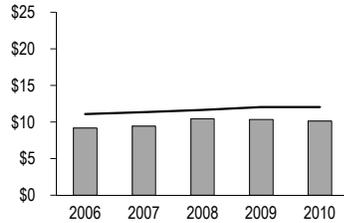
Key: Charlotte ■

Benchmarking Average —

Fiscal Years 2006 through 2010

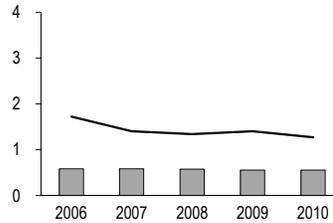
## RESOURCE Measures

**Recycling Services Cost per Capita**



Charlotte	\$9.16	\$9.43	\$10.46	\$10.37	\$10.13
Average	\$11.09	\$11.37	\$11.66	\$12.05	\$12.06

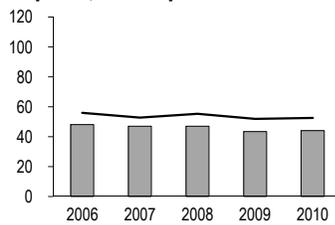
**Recycling Services FTEs per 10,000 Population**



Charlotte	0.59	0.59	0.58	0.56	0.56
Average	1.73	1.40	1.34	1.41	1.27

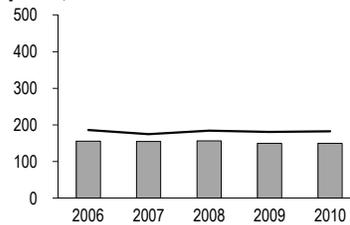
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



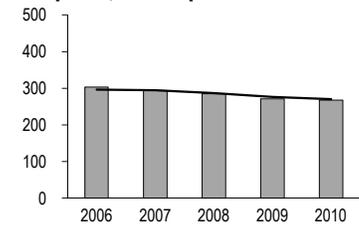
Charlotte	48	47	47	43	44
Average	56	53	55	52	53

**Tons Recyclables Collected per 1,000 Collection Points**



Charlotte	156	155	156	150	150
Average	186	175	184	181	183

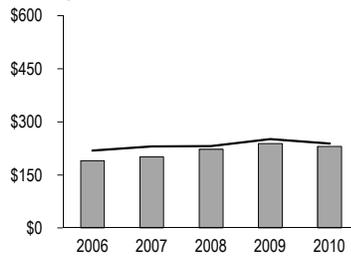
**Tons Solid Waste Landfilled per 1,000 Population**



Charlotte	304	294	285	271	267
Average	296	294	287	276	270

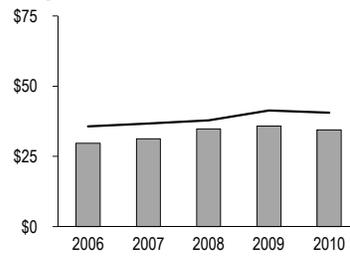
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



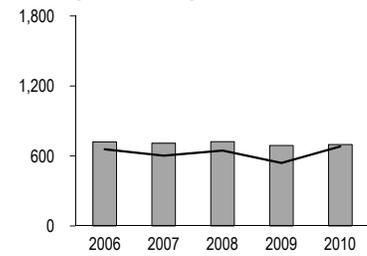
Charlotte	\$191	\$201	\$222	\$239	\$230
Average	\$219	\$231	\$231	\$252	\$239

**Recycling Services Cost per Collection Point**



Charlotte	\$29.74	\$31.24	\$34.80	\$35.81	\$34.48
Average	\$35.74	\$36.73	\$37.85	\$41.41	\$40.64

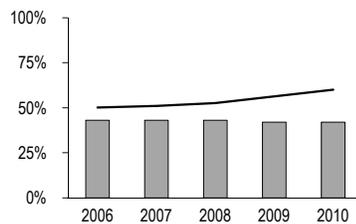
**Tons Collected Curbside per Municipal FTE**



Charlotte	720	710	722	689	699
Average	657	602	647	541	681

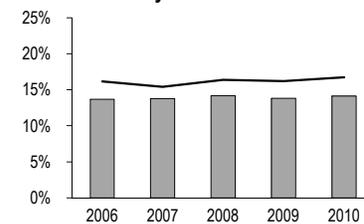
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Charlotte	43.0%	43.0%	43.0%	42.0%	42.0%
Average	50.1%	51.0%	52.5%	56.4%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Charlotte	13.7%	13.7%	14.2%	13.8%	14.1%
Average	16.2%	15.4%	16.4%	16.2%	16.7%

# Charlotte

## Household Recycling

### Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	711,349	<p><b>Service Level and Delivery</b></p> <p>Charlotte provides weekly curbside recycling collection to single-family residential customers. Recycling was provided by thirty-five one-person crews in FY 2009–10. Materials collected in the recycling program include the following:</p> <ul style="list-style-type: none"> <li>• glass</li> <li>• plastic</li> <li>• aluminum</li> <li>• newspaper</li> <li>• magazines</li> <li>• catalogs</li> <li>• phone books</li> <li>• cardboard</li> </ul> <p>The city's recycling program is divided into four zones, and each area is subject to bid every five years. The Solid Waste Services Department bids on these service areas just like private contractors. For FY 2009–10 the city of Charlotte provided service to three of the four zones. One zone was serviced by the private sector at a cost of \$1,465,659.</p> <p>Service is provided by a one-person crew using a compartmentalized truck. The driver sorts the recyclables into fiber and non-fiber items at the curb (the citizen is not required to sort). One recycle bin is provided by the city to each household. Bins range in size from fourteen to eighteen gallons. Additional bins are available to the citizen at no charge and may be picked up at designated locations throughout the city. The city disposes of recyclables at the materials recovery facility (MRF), which is county owned and privately operated. The city pays no tipping fee for recyclables. There is a revenue sharing agreement between the city and county for OCC (cardboard) only. This revenue is minimal.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p> <p>Charlotte uses managed competition to provide this service. Therefore, the performance measure "tons collected per collection FTE" represents city crews only.</p> <p>The set-out rate is calculated bi-annually.</p>
Land Area (Square Miles)	298.97	
Persons per Square Mile	2,379	
Topography	Flat; gently rolling	
County	Mecklenburg	
Climate	Mild; some ice	
Median Family Income (US Census 2000)	\$56,517	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	23.4%	
Operating Costs	63.8%	
Capital Costs	12.8%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 1,689,786	
Operating Costs	\$ 4,597,058	
Capital Costs	\$ 919,309	
<b>TOTAL</b>	<b>\$ 7,206,153</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	38.00	
FTE Positions—Other	1.75	
Tons Collected	31,279	
Collection Points	209,005	
Collection Location	Curbside	
Collection Frequency	1 x week	
Number of City Drop-Off Centers	0	
Percentage of Service Contracted	15.0%	
Revenue from Recycling	\$103,846	
Revenue as Percentage of Cost	1.4%	

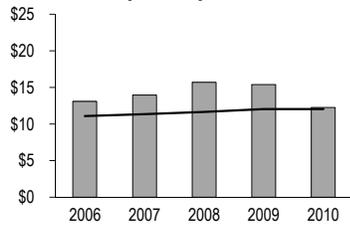
Key: Concord ■

Benchmarking Average —

Fiscal Years 2006 through 2010

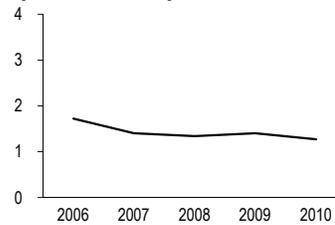
## RESOURCE Measures

**Recycling Services Cost per Capita**



Concord \$13.10 \$13.97 \$15.71 \$15.40 \$12.28  
Average \$11.09 \$11.37 \$11.66 \$12.05 \$12.06

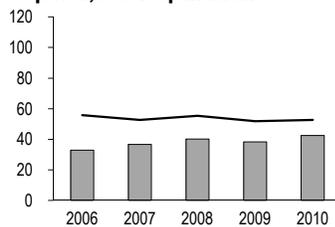
**Recycling Services FTEs per 10,000 Population**



Concord 1.73 1.40 1.34 1.41 1.27  
Average 1.73 1.40 1.34 1.41 1.27

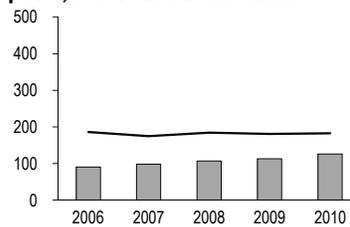
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



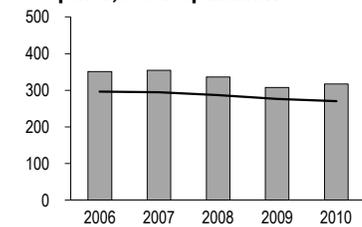
Concord 33 37 40 38 42  
Average 56 53 55 52 53

**Tons Recyclables Collected per 1,000 Collection Points**



Concord 91 99 107 113 126  
Average 186 175 184 181 183

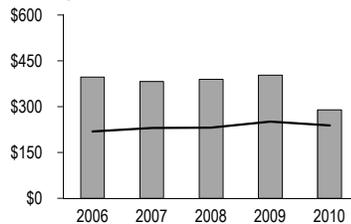
**Tons Solid Waste Landfilled per 1,000 Population**



Concord 351 355 336 308 317  
Average 296 294 287 276 270

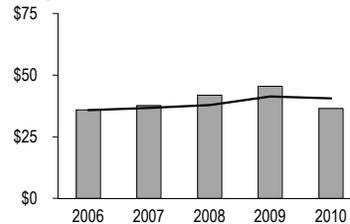
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



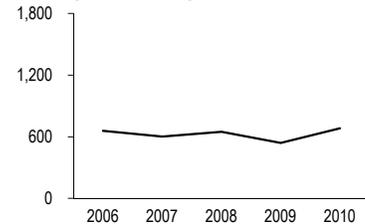
Concord \$397 \$382 \$390 \$403 \$290  
Average \$219 \$231 \$231 \$252 \$239

**Recycling Services Cost per Collection Point**



Concord \$35.95 \$37.64 \$41.90 \$45.43 \$36.50  
Average \$35.74 \$36.73 \$37.85 \$41.41 \$40.64

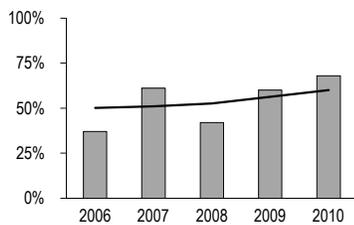
**Tons Collected Curbside per Municipal FTE**



Concord 657 602 647 541 681  
Average 657 602 647 541 681

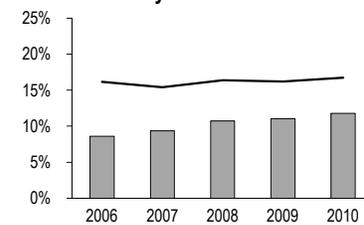
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Concord 37.0% 61.0% 42.0% 60.0% 68.0%  
Average 50.1% 51.0% 52.5% 56.4% 60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Concord 8.6% 9.3% 10.7% 11.0% 11.8%  
Average 16.2% 15.4% 16.4% 16.2% 16.7%

# Concord

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	81,370	<p><b>Service Level and Delivery</b>                      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:</p> <ul style="list-style-type: none"> <li>• glass</li> <li>• newspaper</li> <li>• magazines</li> <li>• mixed paper and mail</li> <li>• No. 1 and No. 2 plastics</li> <li>• metal and aluminum food and beverage containers</li> </ul> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The city did not report on how the set-out rate was calculated.</p> <p>The city collects a small amount of recyclables in the form of tires and millennium metals totaling sixty-two tons in FY 2009–2010.</p>
Land Area (Square Miles)	59.59	
Persons per Square Mile	1,365	
Topography	Flat	
County	Cabarrus	
Climate	Mild; some snow and ice	
Median Family Income (US Census 2000)	\$53,571	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	12.1%	
Operating Costs	87.0%	
Capital Costs	1.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 120,419	
Operating Costs	\$ 869,102	
Capital Costs	\$ 9,498	
<b>TOTAL</b>	<b>\$ 999,019</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	1.2	
FTE Positions—Other	1.0	
Tons Collected	3,448	
Collection Points	27,374	
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	

# Durham

# Household Recycling

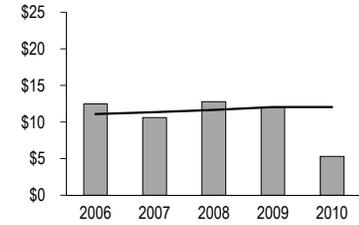
Key: Durham ■

Benchmarking Average —

Fiscal Years 2006 through 2010

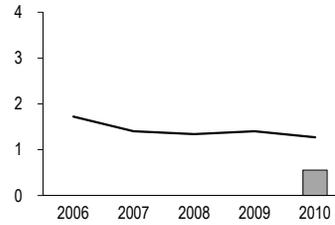
## RESOURCE Measures

**Recycling Services Cost per Capita**



Durham	\$12.47	\$10.60	\$12.77	\$12.06	\$5.32
Average	\$11.09	\$11.37	\$11.66	\$12.05	\$12.06

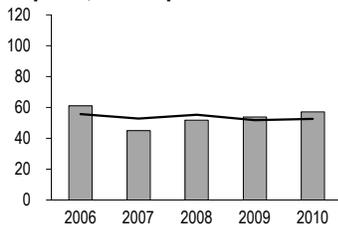
**Recycling Services FTEs per 10,000 Population**



Durham	1.73	1.40	1.34	1.41	0.56
Average	1.73	1.40	1.34	1.41	1.27

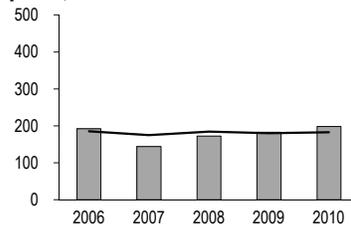
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



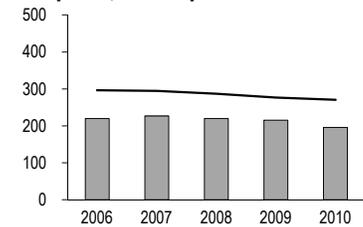
Durham	61	45	52	54	57
Average	56	53	55	52	53

**Tons Recyclables Collected per 1,000 Collection Points**



Durham	192	144	172	182	198
Average	186	175	184	181	183

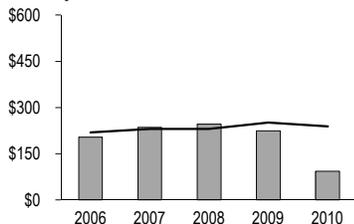
**Tons Solid Waste Landfilled per 1,000 Population**



Durham	220	227	220	216	195
Average	296	294	287	276	270

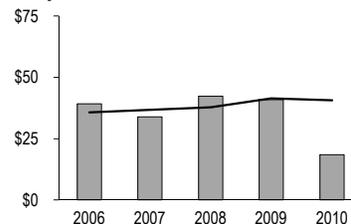
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



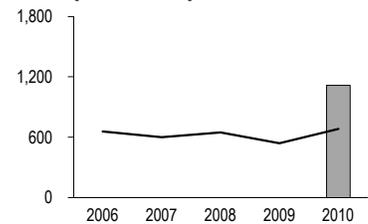
Durham	\$204	\$236	\$246	\$224	\$93
Average	\$219	\$231	\$231	\$252	\$239

**Recycling Services Cost per Collection Point**



Durham	\$39.20	\$33.95	\$42.42	\$40.87	\$18.44
Average	\$35.74	\$36.73	\$37.85	\$41.41	\$40.64

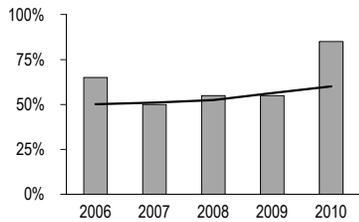
**Tons Collected Curbside per Municipal FTE**



Durham	657	602	647	541	1116
Average	657	602	647	541	681

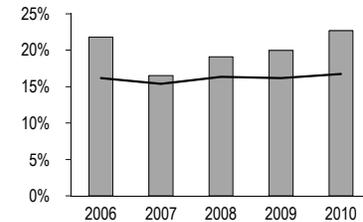
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Durham	65.0%	50.0%	55.0%	55.0%	85.0%
Average	50.1%	51.0%	52.5%	56.4%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Durham	21.8%	16.5%	19.1%	20.0%	22.7%
Average	16.2%	15.4%	16.4%	16.2%	16.7%

# Durham

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	234,140	<p><b>Service Level and Delivery</b> The city provides curbside collection service every other week to all participating city residents. Durham made a major shift in its collection changing from a contracted service to a city run service during FY 2009–10. Residents were provided a much larger ninety-six gallon container to enable collection once every two weeks. There is no collection fee for collecting curbside recycling.</p> <p>Materials collected in Durham's recycling program include:</p> <ul style="list-style-type: none"> <li>• aluminum cans, foil, and pie tins</li> <li>• steel cans</li> <li>• glass bottles and jars</li> <li>• plastic bottles</li> <li>• gable-top beverage and aseptic containers</li> <li>• plastic six-pack rings</li> <li>• newspaper</li> <li>• cardboard</li> <li>• glossary magazines and catalogs</li> <li>• white and colored office paper</li> </ul> <p><b>Conditions Affecting Service, Performance, and Costs</b> Under city ordinance, citizens are required to recycle aluminum and steel cans, glass bottles or jars, newspaper, and corrugated cardboard. This requirement applies to all materials going to the city's transfer station. Individuals and business owners who fail to comply with this ordinance are subject to penalties and fines.</p> <p>The set-out rate for the city of Durham is an estimate done annually by city staff.</p> <p>The shift from a weekly contracted service to a city run collection every two weeks has substantially lowered costs in FY 2009–10. The city also shifted staff around from existing employees to support this work and shifted some vehicles from other solid waste functions.</p>
Land Area (Square Miles)	105.59	
Persons per Square Mile	2,217	
Topography	Flat; gently rolling	
County	Durham	
Climate	Temperate; little snow and ice	
Median Family Income (US Census 2000)	\$51,162	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	39.9%	
Operating Costs	17.3%	
Capital Costs	42.9%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 496,410	
Operating Costs	\$ 214,682	
Capital Costs	\$ 533,415	
<b>TOTAL</b>	<b>\$ 1,244,507</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	12.0	
FTE Positions—Other	1.0	
Tons Collected	13,388	
Collection Points	67,500	
Collection Location	Curbside	
Collection Frequency	1 x 2 weeks	
Number of City Drop-Off Centers	1	
Percentage of Service Contracted	0%	
Revenue from Recycling	\$0	
Revenue as Percentage of Cost	NA	

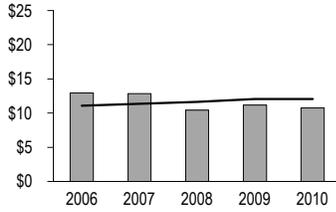
Key: Greensboro ■

Benchmarking Average —

Fiscal Years 2006 through 2010

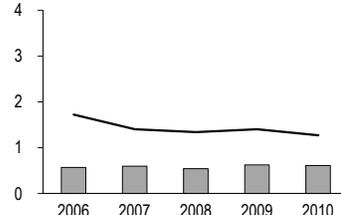
## RESOURCE Measures

**Recycling Services Cost per Capita**



Year	2006	2007	2008	2009	2010
Greensboro	\$12.96	\$12.84	\$10.45	\$11.17	\$10.77
Average	\$11.09	\$11.37	\$11.66	\$12.05	\$12.06

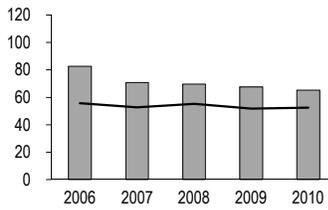
**Recycling Services FTEs per 10,000 Population**



Year	2006	2007	2008	2009	2010
Greensboro	0.57	0.60	0.54	0.63	0.62
Average	1.73	1.40	1.34	1.41	1.27

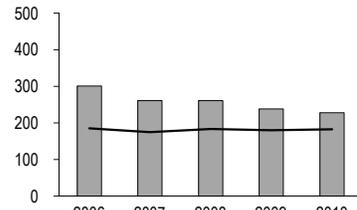
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



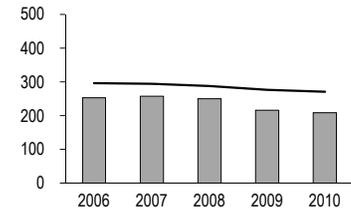
Year	2006	2007	2008	2009	2010
Greensboro	83	71	70	68	65
Average	56	53	55	52	53

**Tons Recyclables Collected per 1,000 Collection Points**



Year	2006	2007	2008	2009	2010
Greensboro	301	261	261	238	228
Average	186	175	184	181	183

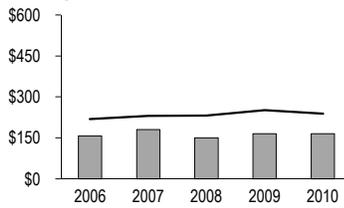
**Tons Solid Waste Landfilled per 1,000 Population**



Year	2006	2007	2008	2009	2010
Greensboro	252	257	250	216	208
Average	296	294	287	276	270

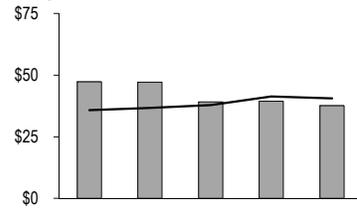
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



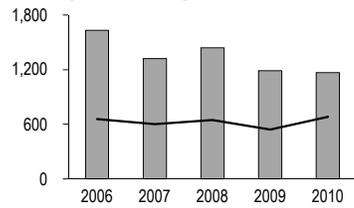
Year	2006	2007	2008	2009	2010
Greensboro	\$157	\$181	\$150	\$165	\$165
Average	\$219	\$231	\$231	\$252	\$239

**Recycling Services Cost per Collection Point**



Year	2006	2007	2008	2009	2010
Greensboro	\$47.26	\$47.23	\$39.15	\$39.43	\$37.62
Average	\$35.74	\$36.73	\$37.85	\$41.41	\$40.64

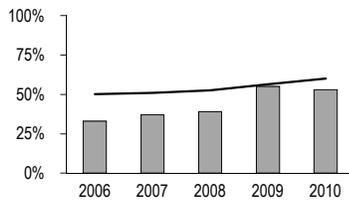
**Tons Collected Curbside per Municipal FTE**



Year	2006	2007	2008	2009	2010
Greensboro	1633	1319	1439	1189	1166
Average	657	602	647	541	681

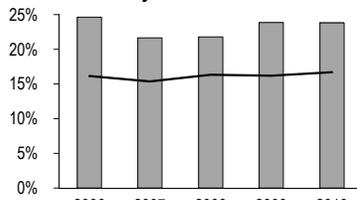
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Year	2006	2007	2008	2009	2010
Greensboro	33.0%	37.0%	39.0%	55.0%	53.0%
Average	50.1%	51.0%	52.5%	56.4%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Year	2006	2007	2008	2009	2010
Greensboro	24.7%	21.6%	21.8%	23.9%	23.8%
Average	16.2%	15.4%	16.4%	16.2%	16.7%

# Greensboro

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	268,283	<p><b>Service Level and Delivery</b></p> <p>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.</p> <p>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.</p> <p>Materials collected by Greensboro's household recycling program include:</p> <ul style="list-style-type: none"> <li>• No. 1 and No. 2 plastics</li> <li>• newspaper</li> <li>• magazines</li> <li>• telephone books</li> <li>• cardboard</li> <li>• aluminum and steel cans</li> <li>• chipboard (cereal boxes)</li> <li>• glass jars and bottles</li> <li>• plastic soda bottles and milk jugs</li> <li>• office paper</li> <li>• empty aerosol cans</li> </ul> <p>Greensboro contracts with a private firm for separation, packaging, and sale of recyclable materials. City payments to the contractor for FY 2009–10 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 city reported total revenue of \$150,753 from the sale of recyclables from residential collection for FY 2009–10.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p> <p>Greensboro is highly automated in gathering materials from its recycling program.</p> <p>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.</p>
Land Area (Square Miles)	127.75	
Persons per Square Mile	2,100	
Topography	Flat; gently rolling	
County	Guilford	
Climate	Temperate; some snow and ice	
Median Family Income (US Census 2000)	\$50,192	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	27.4%	
Operating Costs	72.6%	
Capital Costs	0.0%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 791,000	
Operating Costs	\$ 2,097,213	
Capital Costs	\$ -	
TOTAL	\$ 2,888,213	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	15.0	
FTE Positions—Other	1.5	
Tons Collected	17,486	
Collection Points	76,764	
Collection Location	Curbside	
Collection Frequency	1 x 2 weeks	
Number of City Drop-Off Centers	17	
Percentage of Service Contracted	0%	
Revenue from Recycling	\$150,753	
Revenue as Percentage of Cost	5.2%	

# Greenville

# Household Recycling

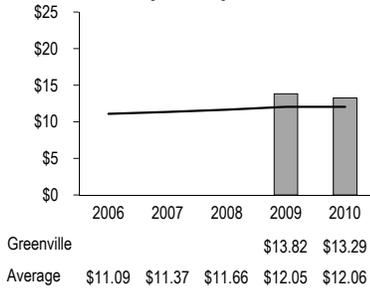
Key: Greenville ■

Benchmarking Average —

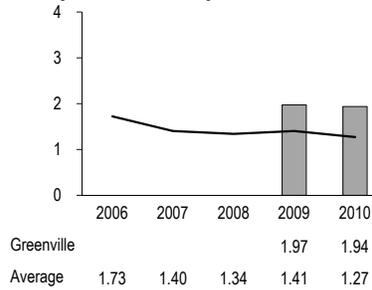
Fiscal Years 2006 through 2010

## RESOURCE Measures

**Recycling Services Cost per Capita**

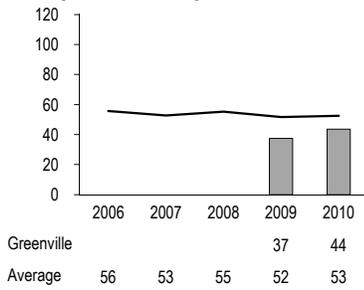


**Recycling Services FTEs per 10,000 Population**

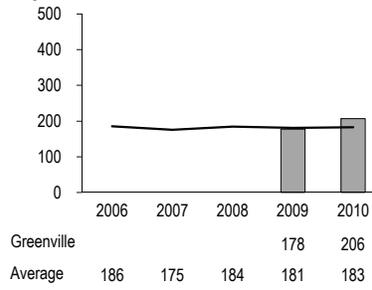


## WORKLOAD Measures

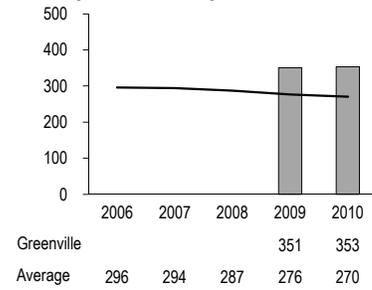
**Tons Recyclables Collected per 1,000 Population**



**Tons Recyclables Collected per 1,000 Collection Points**

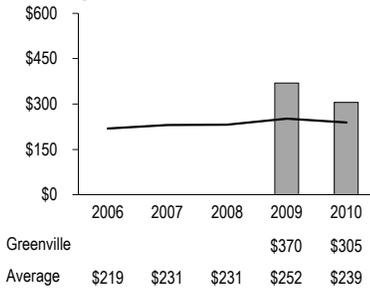


**Tons Solid Waste Landfilled per 1,000 Population**

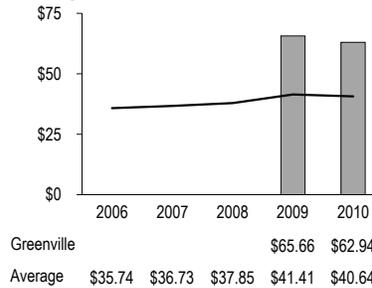


## EFFICIENCY Measures

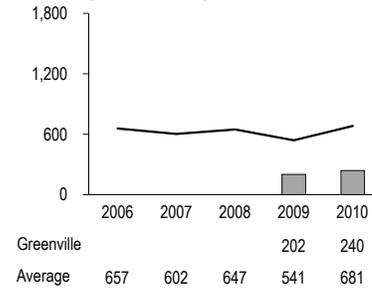
**Recycling Services Cost per Ton Collected**



**Recycling Services Cost per Collection Point**

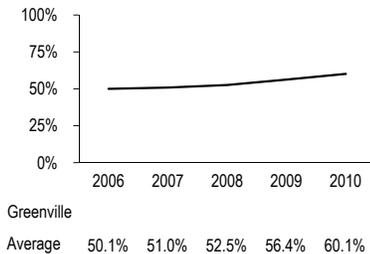


**Tons Collected Curbside per Municipal FTE**

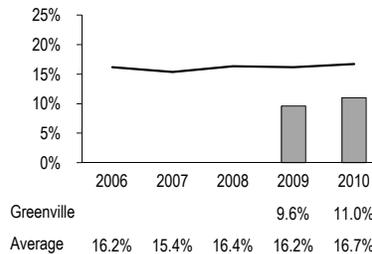


## EFFECTIVENESS Measures

**Community Set-Out Rate**



**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



# Greenville

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	82,571	<p><b>Service Level and Delivery</b> 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:</p> <ul style="list-style-type: none"> <li>● newspaper and magazines</li> <li>● cardboard</li> <li>● aluminum and steel cans</li> <li>● No. 1 and No. 2 plastics</li> <li>● glass of all colors</li> <li>● white goods</li> </ul> <p>Greenville's household recycling program also uses two city-owned drop-off recycling center 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p> <p>Greenville does not track the number of households which set out recyclables on a weekly basis.</p>
Land Area (Square Miles)	35.01	
Persons per Square Mile	2,358	
Topography	Flat	
County	Pitt	
Climate	Mild; little snow and ice	
Median Family Income (US Census 2000)	\$44,491	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	63.6%	
Operating Costs	29.6%	
Capital Costs	6.8%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 698,228	
Operating Costs	\$ 324,204	
Capital Costs	\$ 74,671	
<b>TOTAL</b>	<b>\$ 1,097,103</b>	
<b>SERVICE PROFILE</b>		
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	

# Hickory

# Household Recycling

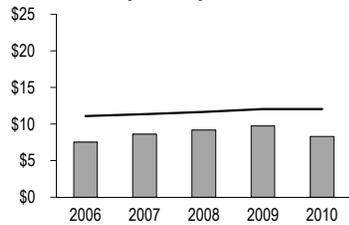
Key: Hickory ■

Benchmarking Average —

Fiscal Years 2006 through 2010

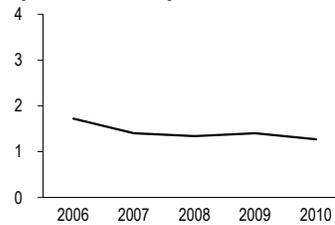
## RESOURCE Measures

**Recycling Services Cost per Capita**



Hickory \$7.53 \$8.59 \$9.17 \$9.74 \$8.33  
Average \$11.09 \$11.37 \$11.66 \$12.05 \$12.06

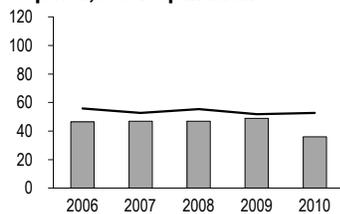
**Recycling Services FTEs per 10,000 Population**



Hickory  
Average 1.73 1.40 1.34 1.41 1.27

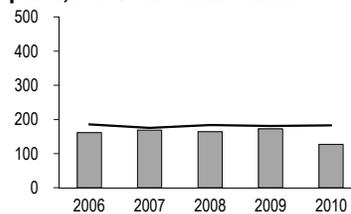
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



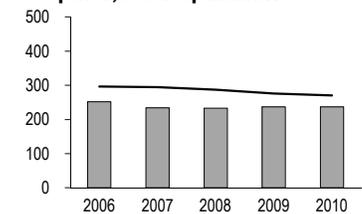
Hickory 46 47 47 49 36  
Average 56 53 55 52 53

**Tons Recyclables Collected per 1,000 Collection Points**



Hickory 162 168 164 172 127  
Average 186 175 184 181 183

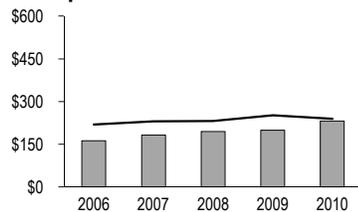
**Tons Solid Waste Landfilled per 1,000 Population**



Hickory 251 234 233 237 236  
Average 296 294 287 276 270

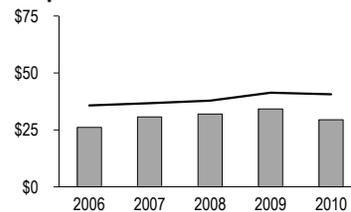
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



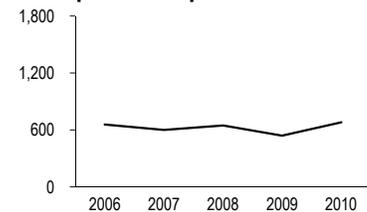
Hickory \$162 \$183 \$195 \$199 \$232  
Average \$219 \$231 \$231 \$252 \$239

**Recycling Services Cost per Collection Point**



Hickory \$26.23 \$30.84 \$32.03 \$34.22 \$29.53  
Average \$35.74 \$36.73 \$37.85 \$41.41 \$40.64

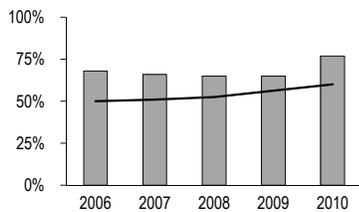
**Tons Collected Curbside per Municipal FTE**



Hickory  
Average 657 602 647 541 681

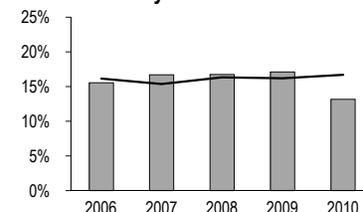
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Hickory 68.0% 66.0% 65.0% 65.0% 76.9%  
Average 50.1% 51.0% 52.5% 56.4% 60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Hickory 15.6% 16.7% 16.8% 17.1% 13.2%  
Average 16.2% 15.4% 16.4% 16.2% 16.7%

# Hickory

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	41,151	<p><b>Service Level and Delivery</b> Hickory offers once-a-week curbside collection of recyclable materials to its residents through a contractual agreement. The recycling materials collected include:</p> <ul style="list-style-type: none"> <li>• newspaper and magazines</li> <li>• aluminum and steel cans</li> <li>• No. 1 and No. 2 plastics</li> <li>• glass—all colors</li> <li>• phone books and junk mail</li> </ul> <p>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.</p> <p>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.</p> <p>The city charges residents a monthly fee for recycling, which is included in the monthly solid waste fee. In FY 2009–10 the city collected \$50,071 in revenue from the sale of recyclables.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The set-out rate is calculated on a monthly basis by the contractor.</p>
Land Area (Square Miles)	29.28	
Persons per Square Mile	1,405	
Topography	Gently rolling	
County	Catawba	
Climate	Moderate; some snow and ice	
Median Family Income (US Census 2000)	\$47,522	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	6.0%	
Operating Costs	94.0%	
Capital Costs	0.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 20,414	
Operating Costs	\$ 322,170	
Capital Costs	\$ -	
<b>TOTAL</b>	<b>\$ 342,584</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	0.5	
FTE Positions—Other	0.01	
Tons Collected	1,478	
Collection Points	11,600	
Collection Location	Curbside	
Collection Frequency	1 x week	
Number of City Drop-Off Centers	2	
Percentage of Service Contracted	85%	
Revenue from Recycling	\$50,071	
Revenue as Percentage of Cost	14.6%	

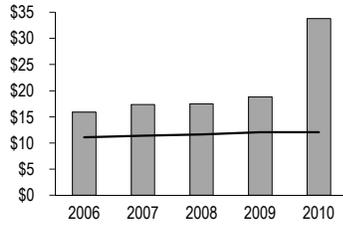
Key: High Point ■

Benchmarking Average —

Fiscal Years 2006 through 2010

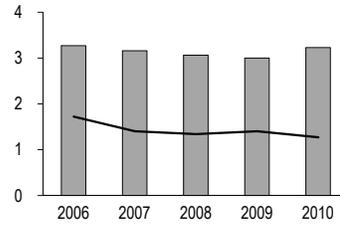
## RESOURCE Measures

**Recycling Services Cost per Capita**



High Point \$15.87 \$17.34 \$17.47 \$18.82 \$33.81  
Average \$11.09 \$11.37 \$11.66 \$12.05 \$12.06

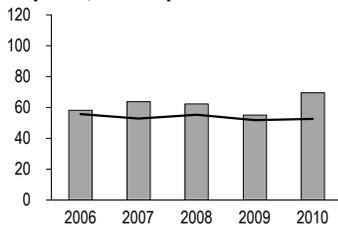
**Recycling Services FTEs per 10,000 Population**



High Point 3.27 3.16 3.06 3.01 3.23  
Average 1.73 1.40 1.34 1.41 1.27

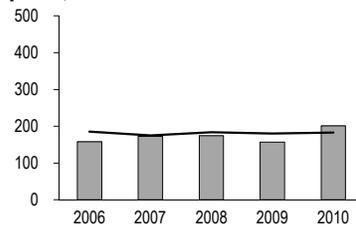
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



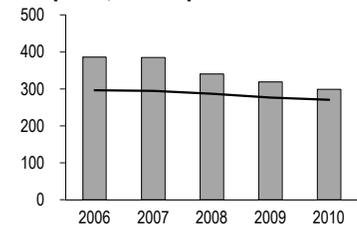
High Point 58 64 62 55 69  
Average 56 53 55 52 53

**Tons Recyclables Collected per 1,000 Collection Points**



High Point 157 172 174 157 201  
Average 186 175 184 181 183

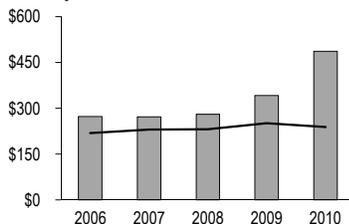
**Tons Solid Waste Landfilled per 1,000 Population**



High Point 386 385 341 318 299  
Average 296 294 287 276 270

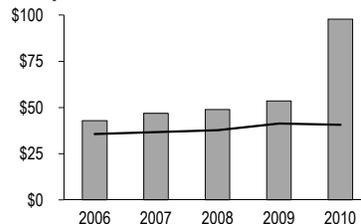
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



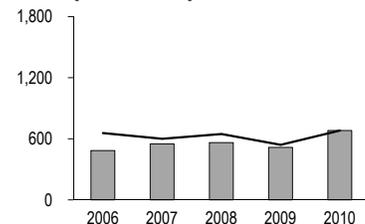
High Point \$273 \$272 \$281 \$342 \$487  
Average \$219 \$231 \$231 \$252 \$239

**Recycling Services Cost per Collection Point**



High Point \$42.95 \$46.93 \$48.87 \$53.62 \$97.83  
Average \$35.74 \$36.73 \$37.85 \$41.41 \$40.64

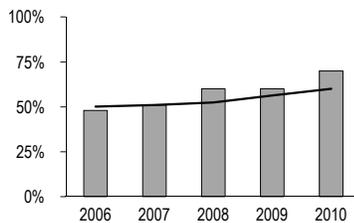
**Tons Collected Curbside per Municipal FTE**



High Point 485 552 563 517 683  
Average 657 602 647 541 681

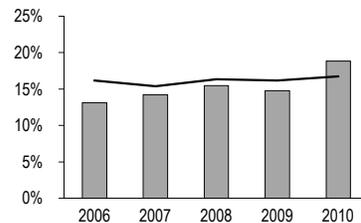
## EFFECTIVENESS Measures

**Community Set-Out Rate**



High Point 48.0% 51.0% 60.0% 60.0% 70.0%  
Average 50.1% 51.0% 52.5% 56.4% 60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



High Point 13.1% 14.2% 15.5% 14.7% 18.8%  
Average 16.2% 15.4% 16.4% 16.2% 16.7%

# High Point

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	102,216	<p><b>Service Level and Delivery</b> 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.</p> <p>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:</p> <ul style="list-style-type: none"> <li>• plastic</li> <li>• glass</li> <li>• metal and aluminum cans</li> <li>• magazines</li> <li>• newspaper</li> <li>• phone books</li> <li>• cardboard</li> <li>• mixed paper</li> </ul> <p>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 twelve recycling dumpsters.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The city used a random sample to determine the set-out rate.</p> <p>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 by over fifty percent.</p> <p>High Point made a transition 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.</p>
Land Area (Square Miles)	54.05	
Persons per Square Mile	1,891	
Topography	Flat; gently rolling	
County	Guilford	
Climate	Temperate; some snow and ice	
Median Family Income (US Census 2000)	\$48,057	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	13.6%	
Operating Costs	83.8%	
Capital Costs	2.6%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 470,112	
Operating Costs	\$ 2,897,266	
Capital Costs	\$ 89,020	
<b>TOTAL</b>	<b>\$ 3,456,398</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	10.00	
FTE Positions—Other	23.00	
Tons Collected	7,100	
Collection Points	35,332	
Collection Location	Curbside	
Collection Frequency	1 x 2 weeks	
Number of City Drop-Off Centers	10	
Percentage of Service Contracted	0%	
Revenue from Recycling	\$793,237	
Revenue as Percentage of Cost	22.9%	

# Salisbury

# Household Recycling

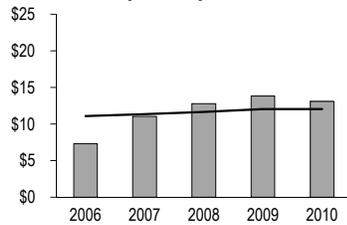
Key: Salisbury ■

Benchmarking Average —

Fiscal Years 2006 through 2010

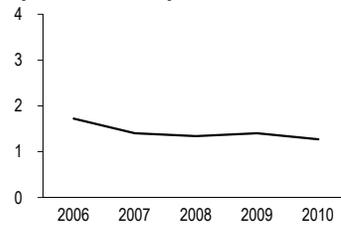
## RESOURCE Measures

**Recycling Services Cost per Capita**



Year	Salisbury	Average
2006	\$7.29	\$11.09
2007	\$11.03	\$11.37
2008	\$12.79	\$11.66
2009	\$13.85	\$12.05
2010	\$13.09	\$12.06

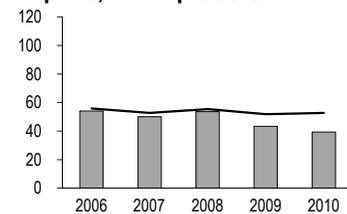
**Recycling Services FTEs per 10,000 Population**



Year	Salisbury	Average
2006	1.73	1.73
2007	1.40	1.40
2008	1.34	1.34
2009	1.41	1.41
2010	1.27	1.27

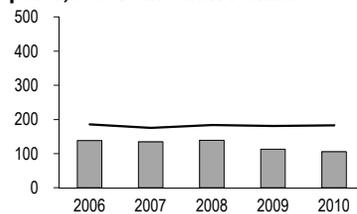
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



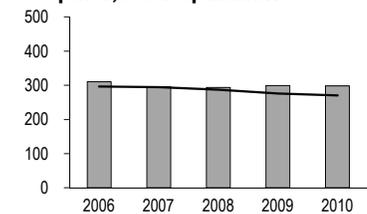
Year	Salisbury	Average
2006	54	56
2007	50	53
2008	54	55
2009	43	52
2010	39	53

**Tons Recyclables Collected per 1,000 Collection Points**



Year	Salisbury	Average
2006	138	186
2007	134	175
2008	139	184
2009	113	181
2010	106	183

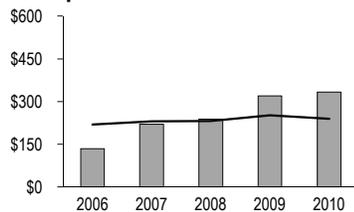
**Tons Solid Waste Landfilled per 1,000 Population**



Year	Salisbury	Average
2006	311	296
2007	295	294
2008	293	287
2009	300	276
2010	298	270

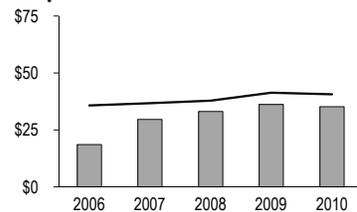
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



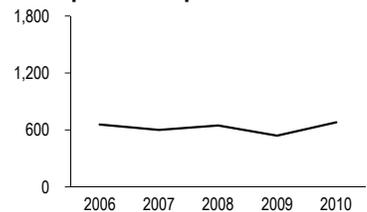
Year	Salisbury	Average
2006	\$135	\$219
2007	\$221	\$231
2008	\$238	\$231
2009	\$320	\$252
2010	\$333	\$239

**Recycling Services Cost per Collection Point**



Year	Salisbury	Average
2006	\$18.59	\$35.74
2007	\$29.65	\$36.73
2008	\$33.17	\$37.85
2009	\$36.25	\$41.41
2010	\$35.28	\$40.64

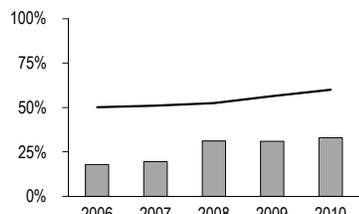
**Tons Collected Curbside per Municipal FTE**



Year	Salisbury	Average
2006	657	657
2007	602	602
2008	647	647
2009	541	541
2010	681	681

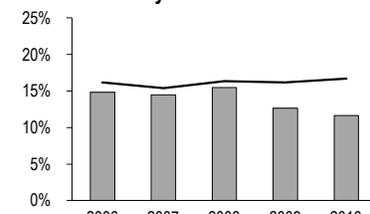
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Year	Salisbury	Average
2006	18.0%	50.1%
2007	19.5%	51.0%
2008	31.1%	52.5%
2009	31.0%	56.4%
2010	33.0%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Year	Salisbury	Average
2006	14.8%	16.2%
2007	14.5%	15.4%
2008	15.5%	16.4%
2009	12.6%	16.2%
2010	11.7%	16.7%

# Salisbury

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	32,263	<p><b>Service Level and Delivery</b> Salisbury provides once-a-week curbside collection of recyclable materials from households. The city charged a monthly recycling fee of \$3.14 in FY 2009–10. 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.</p> <p>The recyclable materials collected include:</p> <ul style="list-style-type: none"> <li>• glass (all colors)</li> <li>• newspaper</li> <li>• magazines and catalogs</li> <li>• mixed paper and mail</li> <li>• telephone books</li> <li>• cardboard—broken down and cereal boxes</li> <li>• plastics—No. 1 and No. 2</li> <li>• aluminum cans</li> <li>• steel cans</li> </ul> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p>
Land Area (Square Miles)	21.93	
Persons per Square Mile	1,471	
Topography	Gently rolling	
County	Rowan	
Climate	Moderate; Some snow and ice	
Median Family Income (US Census 2000)	\$41,108	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	0.0%	
Operating Costs	100.0%	
Capital Costs	0.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ -	
Operating Costs	\$ 422,185	
Capital Costs	\$ -	
<b>TOTAL</b>	<b>\$ 422,185</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	0.0	
FTE Positions—Other	0.0	
Tons Collected	1,268	
Collection Points	11,967	
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	

# Wilmington

# Household Recycling

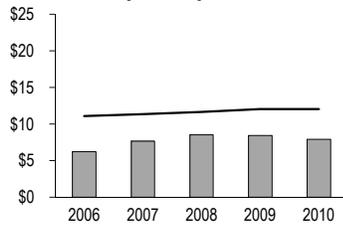
Key: Wilmington ■

Benchmarking Average —

Fiscal Years 2006 through 2010

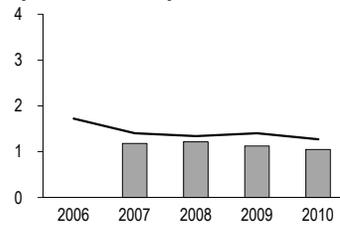
## RESOURCE Measures

**Recycling Services Cost per Capita**



Year	Wilmington	Average
2006	\$6.20	\$11.09
2007	\$7.65	\$11.37
2008	\$8.54	\$11.66
2009	\$8.44	\$12.05
2010	\$7.92	\$12.06

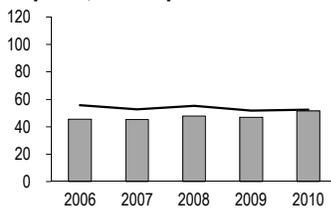
**Recycling Services FTEs per 10,000 Population**



Year	Wilmington	Average
2006	1.18	1.73
2007	1.22	1.40
2008	1.13	1.34
2009	1.05	1.41
2010	1.05	1.27

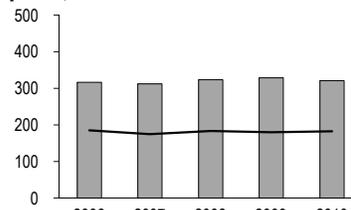
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



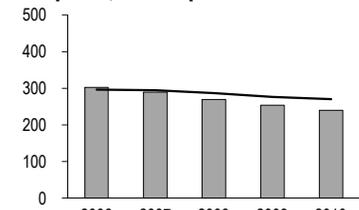
Year	Wilmington	Average
2006	46	56
2007	45	53
2008	48	55
2009	47	52
2010	52	53

**Tons Recyclables Collected per 1,000 Collection Points**



Year	Wilmington	Average
2006	317	186
2007	312	175
2008	324	184
2009	329	181
2010	321	183

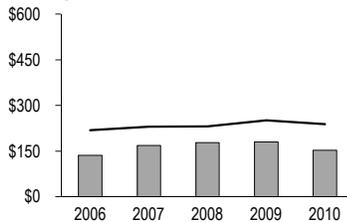
**Tons Solid Waste Landfilled per 1,000 Population**



Year	Wilmington	Average
2006	303	296
2007	290	294
2008	269	287
2009	254	276
2010	240	270

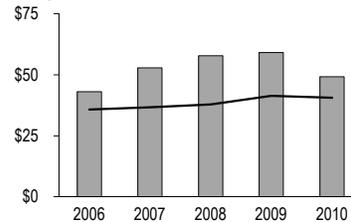
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



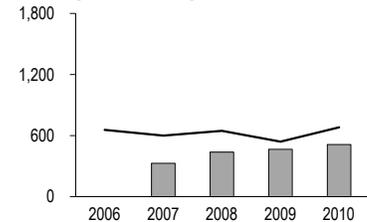
Year	Wilmington	Average
2006	\$136	\$219
2007	\$169	\$231
2008	\$179	\$231
2009	\$180	\$252
2010	\$153	\$239

**Recycling Services Cost per Collection Point**



Year	Wilmington	Average
2006	\$43.03	\$35.74
2007	\$52.85	\$36.73
2008	\$57.83	\$37.85
2009	\$59.14	\$41.41
2010	\$49.27	\$40.64

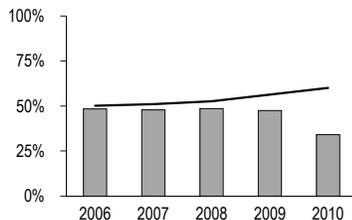
**Tons Collected Curbside per Municipal FTE**



Year	Wilmington	Average
2006	328	657
2007	438	602
2008	467	647
2009	515	541
2010	515	681

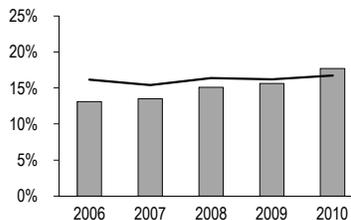
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Year	Wilmington	Average
2006	48.4%	50.1%
2007	47.8%	51.0%
2008	48.6%	52.5%
2009	47.5%	56.4%
2010	34.1%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Year	Wilmington	Average
2006	13.1%	16.2%
2007	13.5%	15.4%
2008	15.1%	16.4%
2009	15.6%	16.2%
2010	17.7%	16.7%

# Wilmington

## Household Recycling

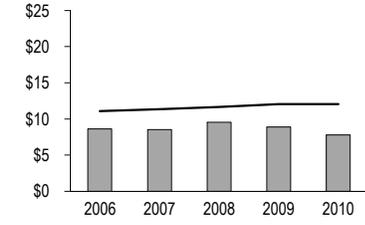
Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	102,207	<p><b>Service Level and Delivery</b></p> <p>Wilmington's household recycling program provides curbside pickup of materials once each week to residences, small businesses, and small apartment complexes who 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 2009–10, city crews gathered 5,247 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.</p> <p>Materials collected by Wilmington's recycling program include:</p> <ul style="list-style-type: none"> <li>● green, brown, and clear glass</li> <li>● aluminum beverage cans and steel cans</li> <li>● newspaper</li> <li>● certain plastics (No. 1 and No. 2)</li> <li>● all paper products</li> <li>● cardboard (downtown only)</li> </ul> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p> <p>Of the potential eligible households who could join in the voluntary program, 57.7 percent or 16,422 households chose to participate. Of these participating households, 59 percent set out their recycling on average. Thus, approximately 34 percent of the households that could join were actually setting out recyclables during a regular collection week.</p>
Land Area (Square Miles)	51.55	
Persons per Square Mile	1,983	
Topography	Flat; gently rolling	
County	New Hanover	
Climate	Mild	
Median Family Income (US Census 2000)	\$41,891	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	58.8%	
Operating Costs	24.6%	
Capital Costs	16.7%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 475,555	
Operating Costs	\$ 198,750	
Capital Costs	\$ 134,742	
<b>TOTAL</b>	<b>\$ 809,047</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	10.25	
FTE Positions—Other	0.50	
Tons Collected	5,274	
Collection Points	16,422	
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	

Key: Wilson ■ Benchmarking Average — Fiscal Years 2006 through 2010

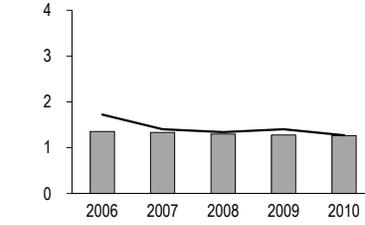
## RESOURCE Measures

**Recycling Services Cost per Capita**



Wilson	\$8.62	\$8.53	\$9.53	\$8.88	\$7.80
Average	\$11.09	\$11.37	\$11.66	\$12.05	\$12.06

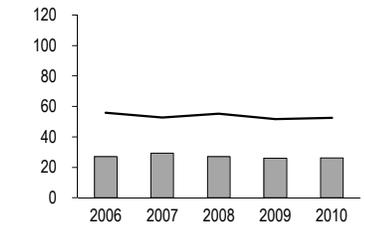
**Recycling Services FTEs per 10,000 Population**



Wilson	1.36	1.34	1.30	1.28	1.27
Average	1.73	1.40	1.34	1.41	1.27

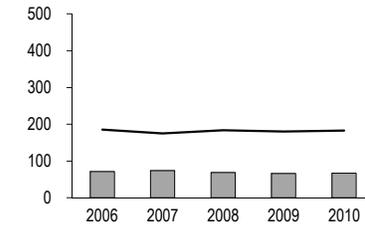
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



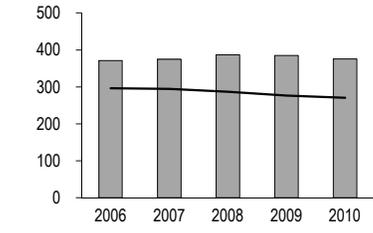
Wilson	27	29	27	26	26
Average	56	53	55	52	53

**Tons Recyclables Collected per 1,000 Collection Points**



Wilson	71	74	69	66	67
Average	186	175	184	181	183

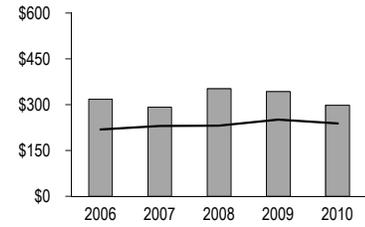
**Tons Solid Waste Landfilled per 1,000 Population**



Wilson	371	375	386	385	375
Average	296	294	287	276	270

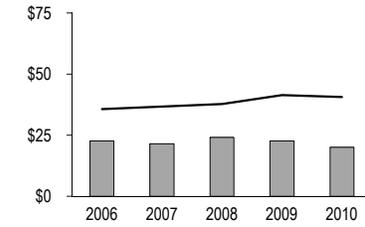
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



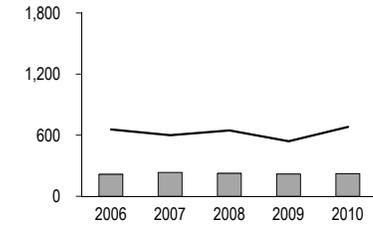
Wilson	\$318	\$292	\$353	\$343	\$298
Average	\$219	\$231	\$231	\$252	\$239

**Recycling Services Cost per Collection Point**



Wilson	\$22.65	\$21.47	\$24.17	\$22.71	\$20.10
Average	\$35.74	\$36.73	\$37.85	\$41.41	\$40.64

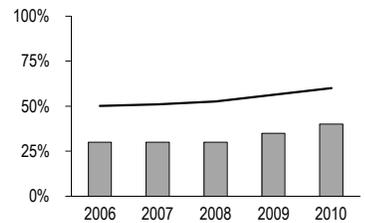
**Tons Collected Curbside per Municipal FTE**



Wilson	216	237	225	219	224
Average	657	602	647	541	681

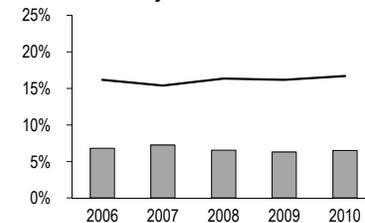
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Wilson	30.0%	30.0%	30.0%	35.0%	40.0%
Average	50.1%	51.0%	52.5%	56.4%	60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Wilson	6.8%	7.2%	6.5%	6.3%	6.5%
Average	16.2%	15.4%	16.4%	16.2%	16.7%

# Wilson

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	51,274	<p><b>Service Level and Delivery</b> Wilson's household recycling program provides curbside pickup of materials once each week to residents on the same day as residential refuse collection. The recycling program is part of the Division of Environmental Services.</p> <p>The following materials are collected:</p> <ul style="list-style-type: none"> <li>● aluminum and steel cans</li> <li>● No. 1 and No. 2 plastic containers</li> <li>● newsprint</li> <li>● clear, green, and brown glass</li> <li>● waste oil on a call-in basis</li> </ul> <p>Wilson used two three-person crews in FY 2009–10 consisting of one driver and two collectors each.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The set-out rate was calculated on a monthly basis with drivers on the recycling trucks using counters.</p>
Land Area (Square Miles)	29.02	
Persons per Square Mile	1,767	
Topography	Flat	
County	Wilson	
Climate	Mild; little snow and ice	
Median Family Income (US Census 2000)	\$41,041	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	51.9%	
Operating Costs	29.4%	
Capital Costs	18.7%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 207,659	
Operating Costs	\$ 117,500	
Capital Costs	\$ 74,902	
TOTAL	\$ 400,061	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	6.0	
FTE Positions—Other	0.5	
Tons Collected	1,341	
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	

# Winston-Salem

# Household Recycling

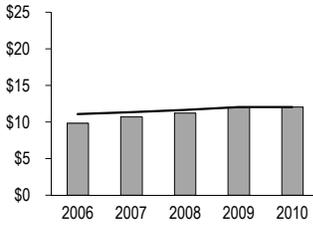
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

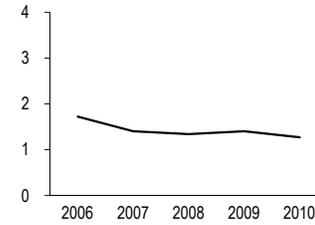
## RESOURCE Measures

**Recycling Services Cost per Capita**



Winston-Salem \$9.81 \$10.70 \$11.24 \$12.00 \$12.06  
Average \$11.09 \$11.37 \$11.66 \$12.05 \$12.06

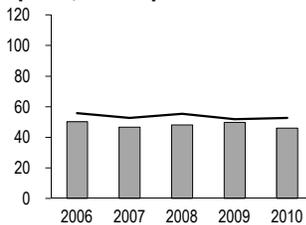
**Recycling Services FTEs per 10,000 Population**



Winston-Salem 1.73 1.40 1.34 1.41 1.27  
Average 1.73 1.40 1.34 1.41 1.27

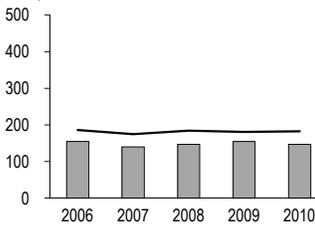
## WORKLOAD Measures

**Tons Recyclables Collected per 1,000 Population**



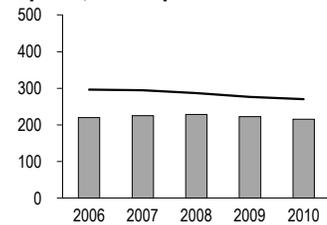
Winston-Salem 50 47 48 50 46  
Average 56 53 55 52 53

**Tons Recyclables Collected per 1,000 Collection Points**



Winston-Salem 155 140 147 155 147  
Average 186 175 184 181 183

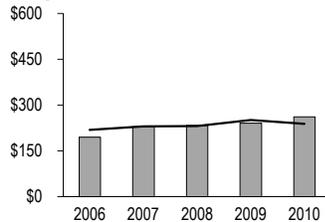
**Tons Solid Waste Landfilled per 1,000 Population**



Winston-Salem 220 225 229 223 215  
Average 296 294 287 276 270

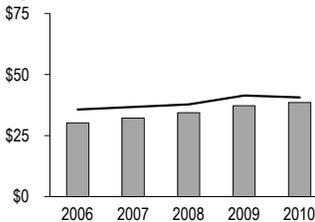
## EFFICIENCY Measures

**Recycling Services Cost per Ton Collected**



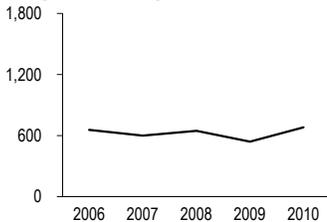
Winston-Salem \$195 \$229 \$234 \$241 \$262  
Average \$219 \$231 \$231 \$252 \$239

**Recycling Services Cost per Collection Point**



Winston-Salem \$30.32 \$32.17 \$34.44 \$37.29 \$38.56  
Average \$35.74 \$36.73 \$37.85 \$41.41 \$40.64

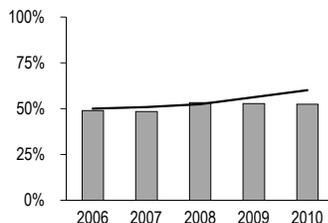
**Tons Collected Curbside per Municipal FTE**



Winston-Salem 657 602 647 541 681  
Average 657 602 647 541 681

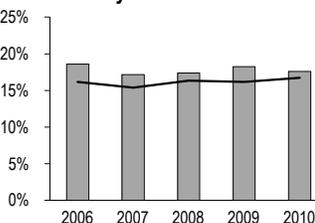
## EFFECTIVENESS Measures

**Community Set-Out Rate**



Winston-Salem 49.0% 48.4% 53.3% 52.8% 52.5%  
Average 50.1% 51.0% 52.5% 56.4% 60.1%

**Tons Recycled as Percentage of Tons Refuse and Recyclables Collected**



Winston-Salem 18.6% 17.2% 17.4% 18.2% 17.6%  
Average 16.2% 15.4% 16.4% 16.2% 16.7%

# Winston-Salem

## Household Recycling

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	235,075	<p><b>Service Level and Delivery</b> 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:</p> <ul style="list-style-type: none"> <li>● aluminum and steel cans</li> <li>● all plastic bottles</li> <li>● green, amber, and clear glass</li> <li>● newspaper</li> <li>● magazines, telephone books, and junk mail</li> <li>● chipboard</li> <li>● corrugated cardboard (no bundling requirement)</li> <li>● office paper</li> <li>● aerosol cans</li> </ul> <p>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 \$275,732 during FY 2009–10.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Winston-Salem's recycling program is funded entirely by landfill tipping fees.</p>
Land Area (Square Miles)	133.19	
Persons per Square Mile	1,765	
Topography	Gently rolling	
County	Forsyth	
Climate	Moderate; some snow and ice	
Median Family Income (US Census 2000)	\$46,595	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	3.7%	
Operating Costs	96.3%	
Capital Costs	0.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 103,690	
Operating Costs	\$ 2,729,716	
Capital Costs	\$ 894	
<b>TOTAL</b>	<b>\$ 2,834,300</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	0.0	
FTE Positions—Other	1.0	
Tons Collected	10,806	
Collection Points	73,500	
Collection Location	Curbside	
Collection Frequency	1 x week	
Number of City Drop-Off Centers	9	
Percentage of Service Contracted	100%	
Revenue from Recycling	\$275,732	
Revenue as Percentage of Cost	9.7%	







# Performance and Cost Data

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YARD WASTE/LEAF COLLECTION

## **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	
Asheville	Curbside	2 x month	2 sweeps	29,150	10,012	3,060	20.8
Burlington	Curbside	1 x week	4 sweeps	16,216	3,453	2,965	14.07
Cary	Curbside	1 x week	2 sweeps	42,719	14,201	6,195	26.9
Charlotte	Curbside	1 x week	NA	209,005	47,538	NA	61.75
Concord	Curbside	1 x week	3 sweeps	27,374	5,900	2,106	25.86
Durham	Curbside	1 x week	NA	17,866	8,657	NA	13
Greensboro	Curbside	1 x week	2 sweeps	76,764	14,864	14,476	41.2
Greenville	Curbside	1 x week	1 x week	20,000	NA	NA	23
Hickory	Curbside	1 x week	2 sweeps	11,600	3,298	2,925	12.25
High Point	Curbside	1 x week	2 sweeps	35,332	6,558	2,424	13.5
Salisbury	Curbside	1 x week	1 x 3 weeks	12,000	4,759	2,911	12
Wilmington	Curbside	1 x week	NA	27,665	11,822	NA	21.6
Wilson	Curbside	1 x week	1 x 3 weeks	19,900	4,650	2,150	15.5
Winston-Salem	Curbside	Yard Waste Cart 1 x week Brush every 10 days	2 to 3 sweeps	73,500	23,621	15,188	83.23

### 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

# Asheville

# Yard Waste/Leaf Collection

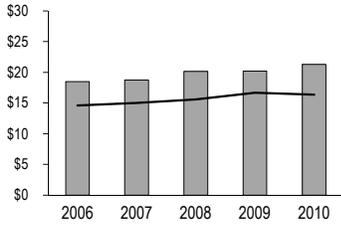
Key: Asheville ■

Benchmarking Average —

Fiscal Years 2006 through 2010

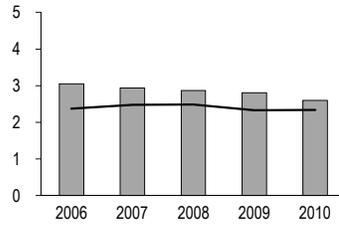
## RESOURCE Measures

**Yard Waste and Leaf Collection Costs per Capita**



Year	Asheville	Average
2006	\$18.50	\$14.62
2007	\$18.74	\$14.99
2008	\$20.13	\$15.57
2009	\$20.18	\$16.66
2010	\$21.30	\$16.35

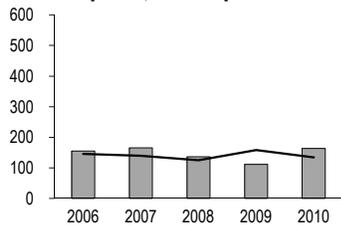
**Yard Waste and Leaf Collection FTEs per 10,000 Population**



Year	Asheville	Average
2006	3.0	2.4
2007	2.9	2.5
2008	2.9	2.5
2009	2.8	2.3
2010	2.6	2.3

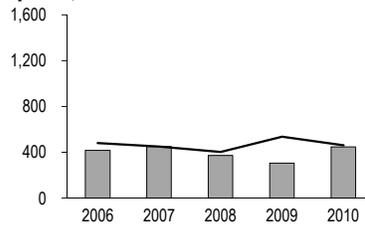
## WORKLOAD Measures

**Yard Waste and Leaf Tons Collected per 1,000 Population**



Year	Asheville	Average
2006	156	145
2007	165	139
2008	137	125
2009	111	159
2010	163	134

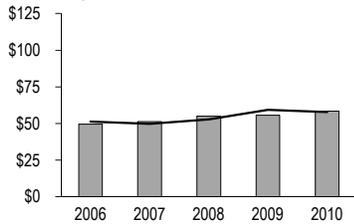
**Yard Waste and Leaf Tons Collected per 1,000 Collection Points**



Year	Asheville	Average
2006	417	482
2007	452	451
2008	373	404
2009	307	536
2010	448	463

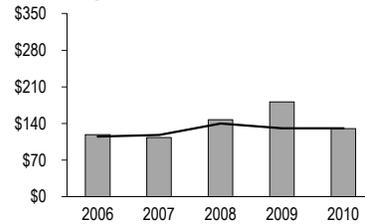
## EFFICIENCY Measures

**Yard Waste and Leaf Collection Cost per Collection Point**



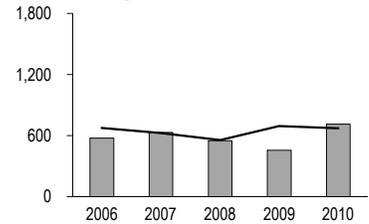
Year	Asheville	Average
2006	\$50	\$51
2007	\$51	\$50
2008	\$55	\$53
2009	\$56	\$59
2010	\$58	\$58

**Yard Waste and Leaf Collection Cost per Ton Collected**



Year	Asheville	Average
2006	\$119	\$115
2007	\$113	\$118
2008	\$147	\$140
2009	\$181	\$131
2010	\$130	\$131

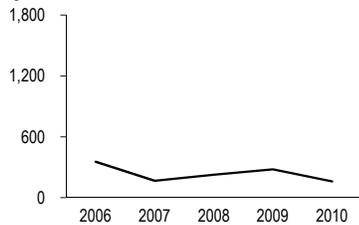
**Yard Waste and Leaf Tons Collected per Collection FTE**



Year	Asheville	Average
2006	575	675
2007	634	625
2008	551	556
2009	458	694
2010	714	674

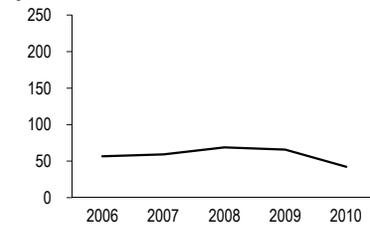
## EFFECTIVENESS Measures

**Collection Complaints per 10,000 Collection Points**



Year	Asheville	Average
2006	354	354
2007	167	167
2008	225	225
2009	279	279
2010	160	160

**Valid Complaints per 10,000 Collection Points**



Year	Asheville	Average
2006	57	57
2007	59	59
2008	69	69
2009	66	66
2010	42	42

# Asheville

## Yard Waste/Leaf Collection

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	79,973	<p><b>Service Level and Delivery</b> Asheville collects yard waste at 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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Asheville had several major winter storms during the year which damaged trees and led to an increase in the tons of yard waste.</p>
Land Area (Square Miles)	44.99	
Persons per Square Mile	1,778	
Topography	Hills, mountains	
County	Buncombe	
Climate	Moderate; ice and snow	
Median Family Income (US Census 2000)	\$44,029	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	44.3%	
Operating Costs	48.7%	
Capital Costs	7.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 754,639	
Operating Costs	\$ 829,328	
Capital Costs	\$ 119,774	
<b>TOTAL</b>	<b>\$ 1,703,741</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	18.3	
FTE Positions—Other	2.5	
Collection Points		
Yard Waste	29,150	
Leaves	29,150	
Tons Collected		
Yard Waste	10,012	
Leaves	3,060	
<b>TOTAL</b>	<b>13,072</b>	
Collection Frequency		
Yard Waste	2 x month	
Bagged Leaves	2 x month	
Loose Leaves (Seasonal Collection)	2 sweeps	
Service Fee	No	

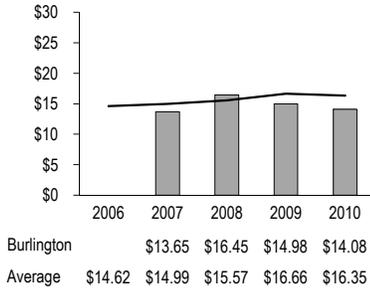
# Burlington

# Yard Waste/Leaf Collection

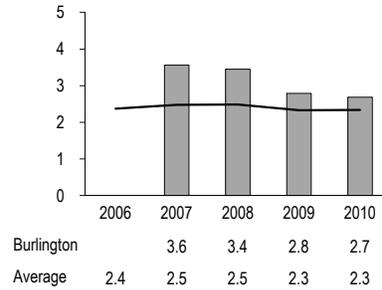
Key: Burlington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

**Yard Waste and Leaf Collection Costs per Capita**

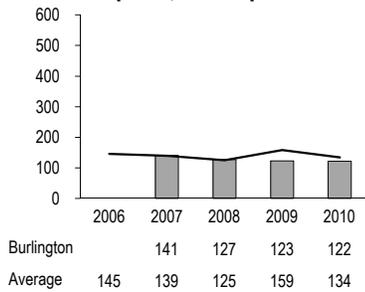


**Yard Waste and Leaf Collection FTEs per 10,000 Population**

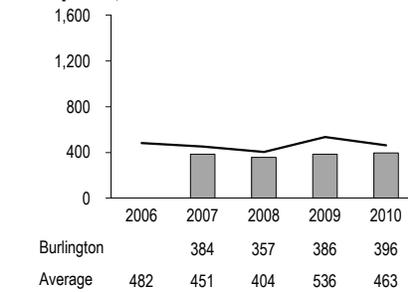


## WORKLOAD Measures

**Yard Waste and Leaf Tons Collected per 1,000 Population**

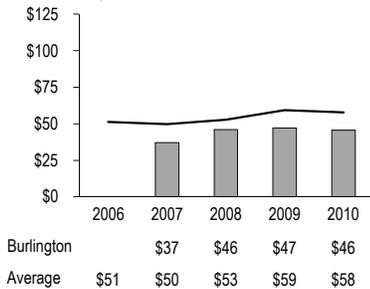


**Yard Waste and Leaf Tons Collected per 1,000 Collection Points**

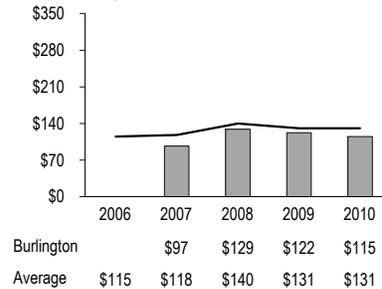


## EFFICIENCY Measures

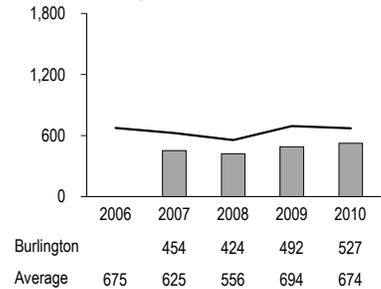
**Yard Waste and Leaf Collection Cost per Collection Point**



**Yard Waste and Leaf Collection Cost per Ton Collected**

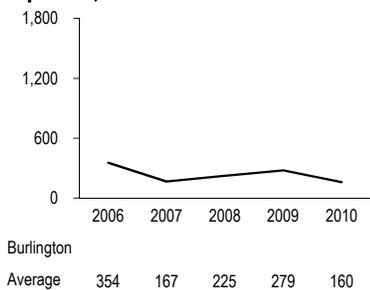


**Yard Waste and Leaf Tons Collected per Collection FTE**

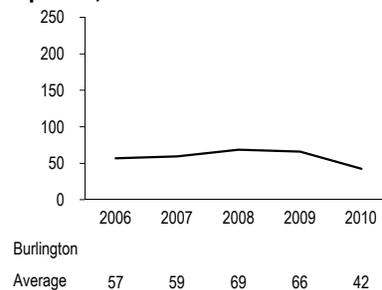


## EFFECTIVENESS Measures

**Collection Complaints per 10,000 Collection Points**



**Valid Complaints per 10,000 Collection Points**



# Yard Waste/Leaf Collection

# Burlington

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">52,457</span>	<p><b>Service Level and Delivery</b>                      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 with the first three cubic yards free.</p> <p>The city uses two three-person crews four days per week. Each crew has one driver and two collectors and uses a rear loader.</p> <p>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.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The city does not track complaints or valid complaints.</p> <p>Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.</p>
Land Area (Square Miles) <span style="float: right;">25.14</span>	
Persons per Square Mile <span style="float: right;">2,087</span>	
Topography <span style="float: right;">Flat; gently rolling</span>	
County <span style="float: right;">Orange</span>	
Climate <span style="float: right;">Temperate; little snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$45,441</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services <span style="float: right;">55.6%</span>	
Operating Costs <span style="float: right;">16.6%</span>	
Capital Costs <span style="float: right;">27.9%</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 410,592</span>	
Operating Costs <span style="float: right;">\$ 122,457</span>	
Capital Costs <span style="float: right;">\$ 205,796</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 738,845</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">12.17</span>	
FTE Positions—Other <span style="float: right;">1.90</span>	
Collection Points	
Yard Waste <span style="float: right;">16,216</span>	
Leaves <span style="float: right;">16,216</span>	
Tons Collected	
Yard Waste <span style="float: right;">3,453</span>	
Leaves <span style="float: right;">2,965</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">6,418</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">4 sweeps</span>	
Service Fee <span style="float: right;">No</span>	

# Cary

# Yard Waste/Leaf Collection

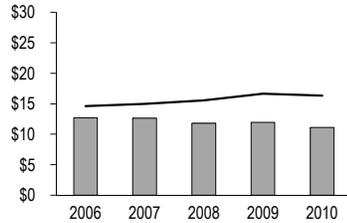
Key: Cary ■

Benchmarking Average —

Fiscal Years 2006 through 2010

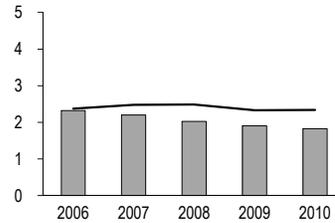
## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**



Cary	\$12.68	\$12.63	\$11.79	\$11.94	\$11.14
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

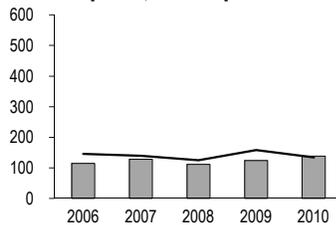
**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**



Cary	2.3	2.2	2.0	1.9	1.8
Average	2.4	2.5	2.5	2.3	2.3

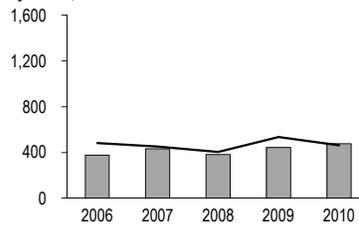
## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**



Cary	115	129	111	124	138
Average	145	139	125	159	134

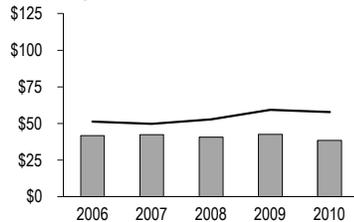
**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**



Cary	377	431	383	444	477
Average	482	451	404	536	463

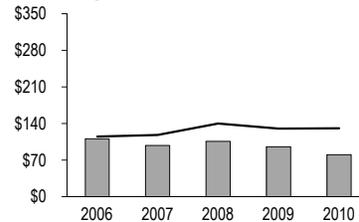
## EFFICIENCY Measures

**Yard Waste and Leaf Collection  
Cost per Collection Point**



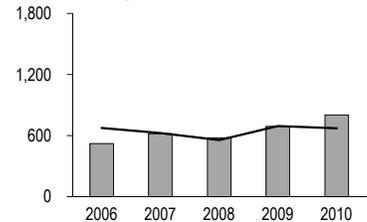
Cary	\$42	\$42	\$41	\$43	\$38
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection  
Cost per Ton Collected**



Cary	\$111	\$98	\$106	\$96	\$80
Average	\$115	\$118	\$140	\$131	\$131

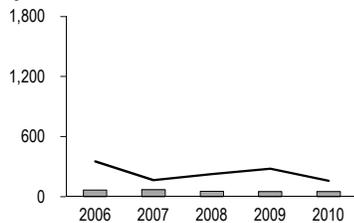
**Yard Waste and Leaf Tons  
Collected per Collection FTE**



Cary	523	620	580	692	803
Average	675	625	556	694	674

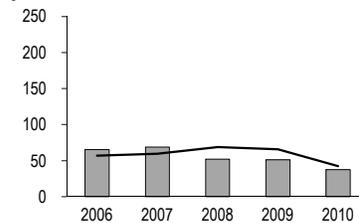
## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



Cary	65	69	55	51	51
Average	354	167	225	279	160

**Valid Complaints  
per 10,000 Collection Points**



Cary	65	69	52	51	37
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# Cary

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">147,282</span>	<p><b>Service Level and Delivery</b>                      Cary's yard waste collects at curbside weekly on the same day as 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.</p> <p>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.</p> <p>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.</p> <p>Cary defines valid complaints as those that have been verified in the field by a supervisor.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles) <span style="float: right;">54.01</span>	
Persons per Square Mile <span style="float: right;">2,727</span>	
Topography <span style="float: right;">Flat; gently rolling</span>	
County <span style="float: right;">Wake</span>	
Climate <span style="float: right;">Temperate; little snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$88,074</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services <span style="float: right;">54.7%</span>	
Operating Costs <span style="float: right;">35.4%</span>	
Capital Costs <span style="float: right;">9.8%</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 898,170</span>	
Operating Costs <span style="float: right;">\$ 581,399</span>	
Capital Costs <span style="float: right;">\$ 161,147</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 1,640,716</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">25.4</span>	
FTE Positions—Other <span style="float: right;">1.5</span>	
Collection Points	
Yard Waste <span style="float: right;">42,719</span>	
Leaves <span style="float: right;">42,719</span>	
Tons Collected	
Yard Waste <span style="float: right;">14,201</span>	
Leaves <span style="float: right;">6,195</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">20,396</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">2 sweeps</span>	
Service Fee <span style="float: right;">No</span>	

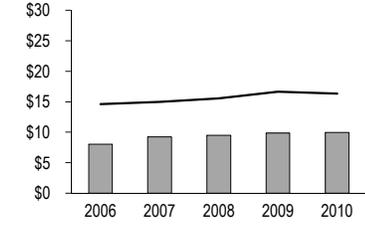
# Charlotte

# Yard Waste/Leaf Collection

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2006 through 2010

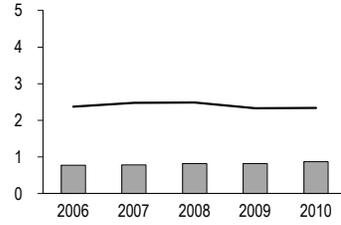
## RESOURCE Measures

**Yard Waste and Leaf Collection Costs per Capita**



Charlotte	\$8.04	\$9.26	\$9.48	\$9.86	\$9.95
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

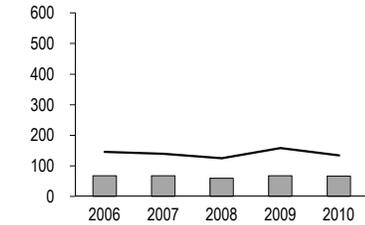
**Yard Waste and Leaf Collection FTEs per 10,000 Population**



Charlotte	0.8	0.8	0.8	0.8	0.9
Average	2.4	2.5	2.5	2.3	2.3

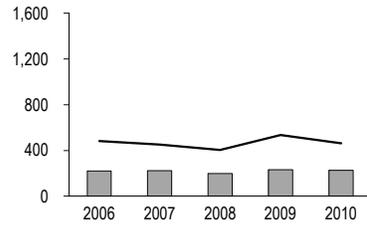
## WORKLOAD Measures

**Yard Waste and Leaf Tons Collected per 1,000 Population**



Charlotte	68	68	60	68	67
Average	145	139	125	159	134

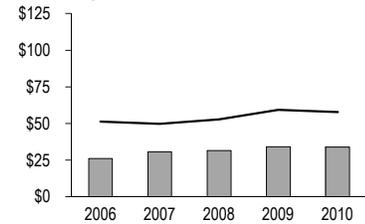
**Yard Waste and Leaf Tons Collected per 1,000 Collection Points**



Charlotte	221	225	198	233	227
Average	482	451	404	536	463

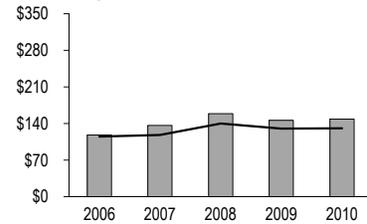
## EFFICIENCY Measures

**Yard Waste and Leaf Collection Cost per Collection Point**



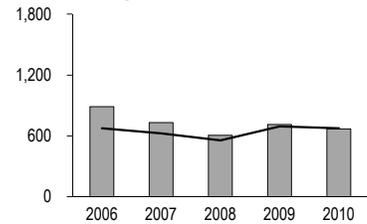
Charlotte	\$26	\$31	\$32	\$34	\$34
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection Cost per Ton Collected**



Charlotte	\$118	\$137	\$159	\$146	\$149
Average	\$115	\$118	\$140	\$131	\$131

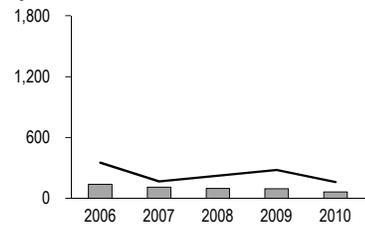
**Yard Waste and Leaf Tons Collected per Collection FTE**



Charlotte	890	732	606	712	668
Average	675	625	556	694	674

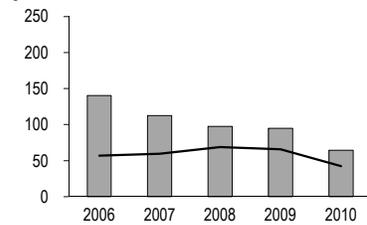
## EFFECTIVENESS Measures

**Collection Complaints per 10,000 Collection Points**



Charlotte	140	112	98	95	65
Average	354	167	225	279	160

**Valid Complaints per 10,000 Collection Points**



Charlotte	140	112	98	95	65
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# Charlotte

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">711,349</span>	<p><b>Service Level and Delivery</b> Charlotte collects yard waste once per week at curbside. There is no fee for yard waste or leaf collection. The city's yard waste program is divided into four zones, and each area is subject to bid every five years. The Solid Waste Services Department bids on these service areas just like private contractors. For FY 2009–10, the city of Charlotte provided service to three of the four zones. One zone was serviced by the private sector at a cost of \$978,99. The contractor collected approximately 15 percent of the total tonnage reported.</p> <p>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 twenty-four two-person crews working from rear loaders to service the three zones.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Charlotte used managed competition to provide this service. Therefore, the performance measure "Tons Collected per Collection FTE" represents city crews only.</p>
Land Area (Square Miles) <span style="float: right;">298.97</span>	
Persons per Square Mile <span style="float: right;">2,379</span>	
Topography <span style="float: right;">Flat; gently rolling</span>	
County <span style="float: right;">Mecklenburg</span>	
Climate <span style="float: right;">Mild; some ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$56,517</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services <span style="float: right;">27.0%</span>	
Operating Costs <span style="float: right;">61.5%</span>	
Capital Costs <span style="float: right;">11.5%</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 1,910,890</span>	
Operating Costs <span style="float: right;">\$ 4,350,291</span>	
Capital Costs <span style="float: right;">\$ 813,604</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 7,074,785</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">60.00</span>	
FTE Positions—Other <span style="float: right;">1.75</span>	
Collection Points	
Yard Waste <span style="float: right;">209,005</span>	
Tons Collected	
Yard Waste <span style="float: right;">47,538</span>	
Leaves <span style="float: right;">included above</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">47,538</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">NA</span>	
Service Fee <span style="float: right;">No</span>	

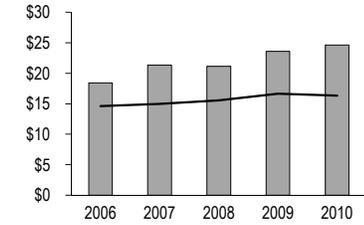
# Concord

# Yard Waste/Leaf Collection

Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

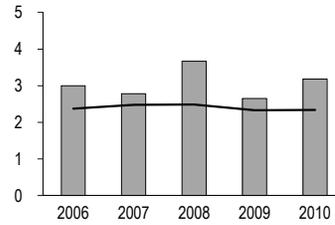
## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**



Year	Concord	Average
2006	\$18.41	\$14.62
2007	\$21.35	\$14.99
2008	\$21.15	\$15.57
2009	\$23.61	\$16.66
2010	\$24.65	\$16.35

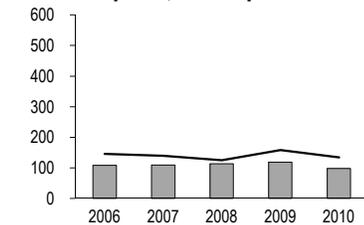
**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**



Year	Concord	Average
2006	3.0	2.4
2007	2.8	2.5
2008	3.7	2.5
2009	2.7	2.3
2010	3.2	2.3

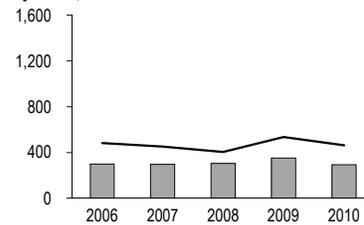
## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**



Year	Concord	Average
2006	108	145
2007	109	139
2008	114	125
2009	119	159
2010	98	134

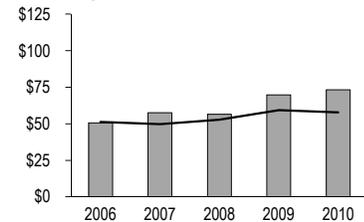
**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**



Year	Concord	Average
2006	298	482
2007	295	451
2008	303	404
2009	350	536
2010	292	463

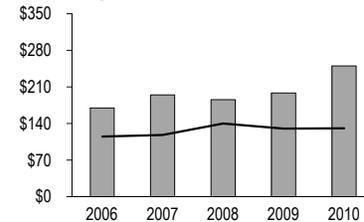
## EFFICIENCY Measures

**Yard Waste and Leaf Collection  
Cost per Collection Point**



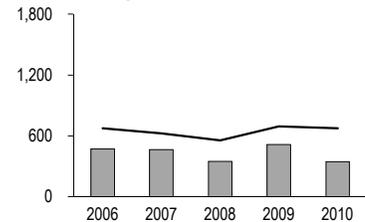
Year	Concord	Average
2006	\$51	\$51
2007	\$58	\$50
2008	\$56	\$53
2009	\$70	\$59
2010	\$73	\$58

**Yard Waste and Leaf Collection  
Cost per Ton Collected**



Year	Concord	Average
2006	\$170	\$115
2007	\$195	\$118
2008	\$186	\$140
2009	\$199	\$131
2010	\$251	\$131

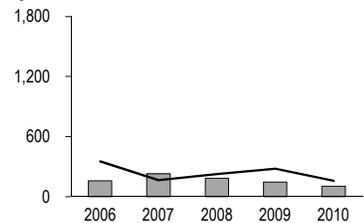
**Yard Waste and Leaf Tons  
Collected per Collection FTE**



Year	Concord	Average
2006	470	675
2007	467	625
2008	349	556
2009	516	694
2010	347	674

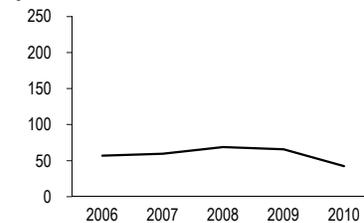
## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



Year	Concord	Average
2006	158	354
2007	228	167
2008	185	225
2009	145	279
2010	105	160

**Valid Complaints  
per 10,000 Collection Points**



Year	Concord	Average
2006	57	57
2007	59	59
2008	69	69
2009	66	66
2010	42	42

# Yard Waste/Leaf Collection

# Concord

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">81,370</span>	<p><b>Service Level and Delivery</b>                      Concord collects all yard waste once per week. Yard waste includes limbs, logs, grass clippings, shrubbery clippings, and leaves.</p> <p>Concord used five two-person crews with garbage trucks and dump trucks to collect yard waste during FY 2009–10. Four two-person crews also were used to collect limbs and brush with knuckle boom trucks on a weekly basis.</p> <p>Concord's seasonal loose leaf collection runs from mid-October and continues 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      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.</p>
Land Area (Square Miles) <span style="float: right;">59.59</span>	
Persons per Square Mile <span style="float: right;">1,365</span>	
Topography <span style="float: right;">Flat</span>	
County <span style="float: right;">Cabarrus</span>	
Climate <span style="float: right;">Mild; some snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$53,571</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services <span style="float: right;">57.0%</span>	
Operating Costs <span style="float: right;">30.2%</span>	
Capital Costs <span style="float: right;">12.8%</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 1,144,023</span>	
Operating Costs <span style="float: right;">\$ 605,214</span>	
Capital Costs <span style="float: right;">\$ 256,648</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 2,005,885</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">23.06</span>	
FTE Positions—Other <span style="float: right;">2.80</span>	
Collection Points	
Yard Waste <span style="float: right;">27,374</span>	
Leaves <span style="float: right;">27,374</span>	
Tons Collected	
Yard Waste <span style="float: right;">5,900</span>	
Leaves <span style="float: right;">2,106</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">8,006</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">3 sweeps</span>	
Service Fee <span style="float: right;">No</span>	

# Durham

# Yard Waste/Leaf Collection

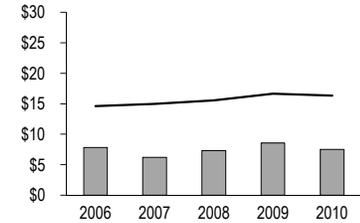
Key: Durham ■

Benchmarking Average —

Fiscal Years 2006 through 2010

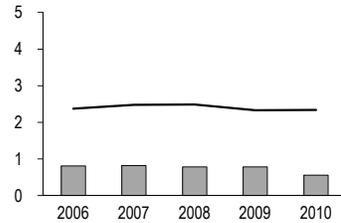
## RESOURCE Measures

**Yard Waste and Leaf Collection Costs per Capita**



Durham	\$7.83	\$6.22	\$7.29	\$8.56	\$7.53
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

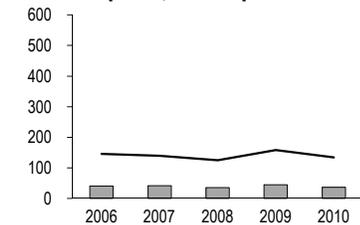
**Yard Waste and Leaf Collection FTEs per 10,000 Population**



Durham	0.8	0.8	0.8	0.8	0.6
Average	2.4	2.5	2.5	2.3	2.3

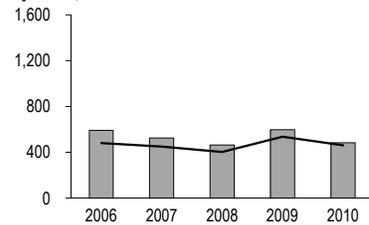
## WORKLOAD Measures

**Yard Waste and Leaf Tons Collected per 1,000 Population**



Durham	41	42	36	45	37
Average	145	139	125	159	134

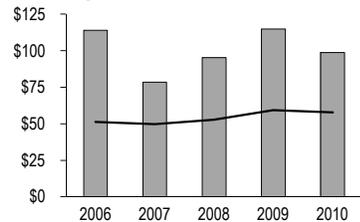
**Yard Waste and Leaf Tons Collected per 1,000 Collection Points**



Durham	593	526	464	598	485
Average	482	451	404	536	463

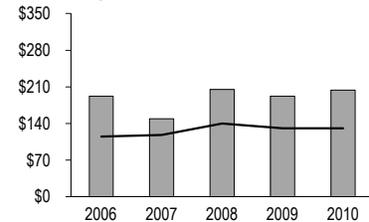
## EFFICIENCY Measures

**Yard Waste and Leaf Collection Cost per Collection Point**



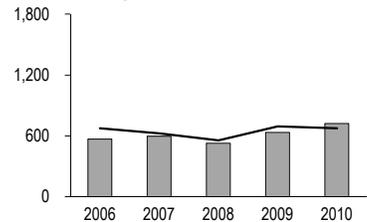
Durham	\$114	\$78	\$95	\$115	\$99
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection Cost per Ton Collected**



Durham	\$192	\$149	\$205	\$192	\$204
Average	\$115	\$118	\$140	\$131	\$131

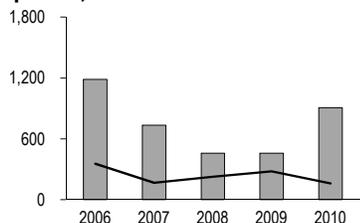
**Yard Waste and Leaf Tons Collected per Collection FTE**



Durham	569	597	527	636	721
Average	675	625	556	694	674

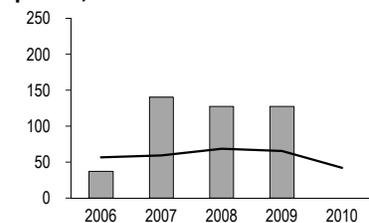
## EFFECTIVENESS Measures

**Collection Complaints per 10,000 Collection Points**



Durham	1185	734	458	458	908
Average	354	167	225	279	160

**Valid Complaints per 10,000 Collection Points**



Durham	38	140	127	127	
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# Durham

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">234,140</span>	<p><b>Service Level and Delivery</b>                      Durham collects yard waste once per week at curbside from customers that pay an annual fee of \$60 plus \$18 rental for a special required yard waste cart. Yard waste includes grass, weeds, tree trimmings, plants, shrubbery trimmings, and other materials generated from yards. The city offers yard waste pickup service to all single-family residences inside the city limits. Yard waste may be collected from carts, biodegradable bags, or bundles. Customers may purchase up to three carts and may put out up to twenty-five bags per week and an unlimited number of tied bundles.</p> <p>The city uses six two-person crews to collect yard waste during normal months. These crews cover four quadrants on a ten-hour-a-day, four-day-a-week work schedule. The city also has two one-person crews who work five days per week on a staggered schedule collecting bulky items such as brush.</p> <p>Durham has no separate seasonal leaf collection service. Leaves are collected in carts or when placed at the curb in biodegradable brown bags during the regular pickup of yard waste.</p>
Land Area (Square Miles) <span style="float: right;">105.59</span>	
Persons per Square Mile <span style="float: right;">2,217</span>	
Topography <span style="float: right;">Flat; gently rolling</span>	
County <span style="float: right;">Durham</span>	
Climate <span style="float: right;">Temperate; little snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$51,162</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	<p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Personal Services <span style="float: right;">54.1%</span>	
Operating Costs <span style="float: right;">18.2%</span>	
Capital Costs <span style="float: right;">27.7%</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 954,459</span>	
Operating Costs <span style="float: right;">\$ 320,353</span>	
Capital Costs <span style="float: right;">\$ 488,372</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 1,763,184</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">12.0</span>	
FTE Positions—Other <span style="float: right;">1.0</span>	
Collection Points	
Yard Waste <span style="float: right;">17,866</span>	
Tons Collected	
Yard Waste <span style="float: right;">8,657</span>	
Leaves <span style="float: right;">included above</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">8,657</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">NA</span>	
Service Fee (annual) <span style="float: right;">\$60</span>	

# Greensboro

# Yard Waste/Leaf Collection

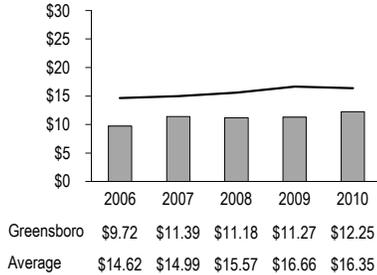
Key: Greensboro ■

Benchmarking Average —

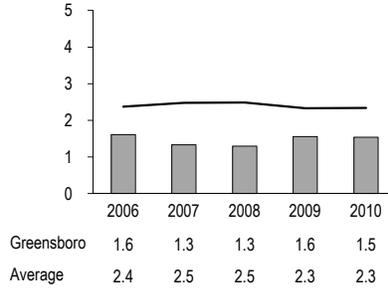
Fiscal Years 2006 through 2010

## RESOURCE Measures

**Yard Waste and Leaf Collection Costs per Capita**

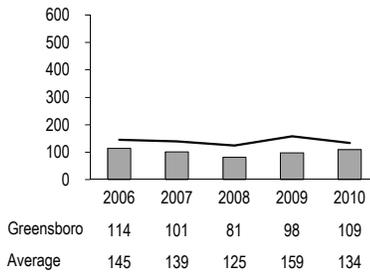


**Yard Waste and Leaf Collection FTEs per 10,000 Population**

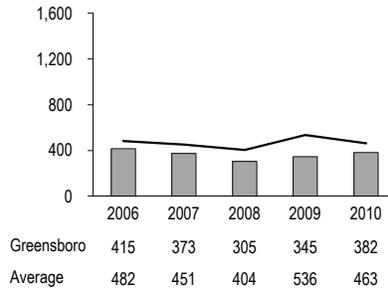


## WORKLOAD Measures

**Yard Waste and Leaf Tons Collected per 1,000 Population**

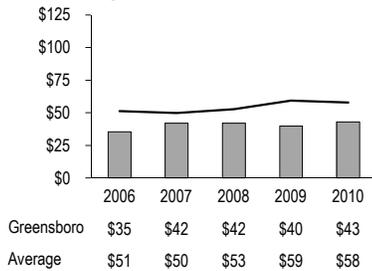


**Yard Waste and Leaf Tons Collected per 1,000 Collection Points**

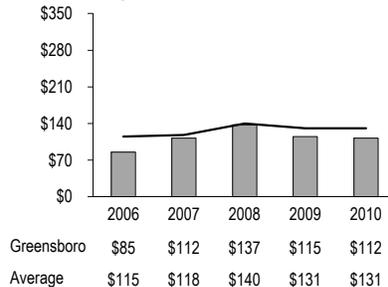


## EFFICIENCY Measures

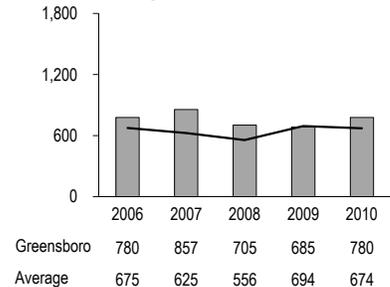
**Yard Waste and Leaf Collection Cost per Collection Point**



**Yard Waste and Leaf Collection Cost per Ton Collected**

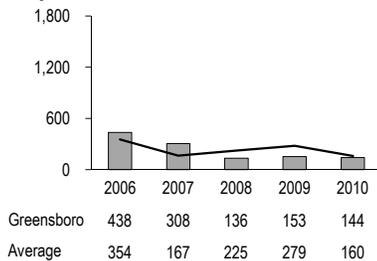


**Yard Waste and Leaf Tons Collected per Collection FTE**

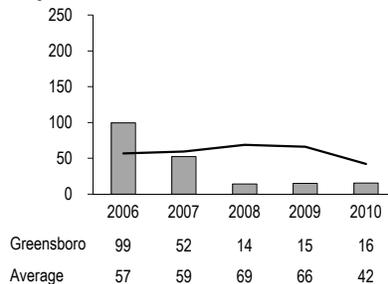


## EFFECTIVENESS Measures

**Collection Complaints per 10,000 Collection Points**



**Valid Complaints per 10,000 Collection Points**



# Yard Waste/Leaf Collection

# Greensboro

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">268,283</span>	<p><b>Service Level and Delivery</b>  Greensboro collects yard waste once per week at curbside, either in clear plastic bags, thirty-five gallon containers, or tied in bundles not to exceed fifty pounds and less than 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.</p> <p>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.</p> <p>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.</p>
Land Area (Square Miles) <span style="float: right;">127.75</span>	
Persons per Square Mile <span style="float: right;">2,100</span>	
Topography <span style="float: right;">Flat; gently rolling</span>	
County <span style="float: right;">Guilford</span>	
Climate <span style="float: right;">Temperate; some snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$50,192</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	<p><b>Conditions Affecting Service, Performance, and Costs</b>  Greensboro began utilizing new software in FY 2006–07 which has allowed better tracking of complaints.</p>
Personal Services <span style="float: right;">42.5%</span>	
Operating Costs <span style="float: right;">57.5%</span>	
Capital Costs <span style="float: right;">0.0%</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 1,397,122</span>	
Operating Costs <span style="float: right;">\$ 1,890,309</span>	
Capital Costs <span style="float: right;">\$ -</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 3,287,431</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">37.62</span>	
FTE Positions—Other <span style="float: right;">3.58</span>	
Collection Points	
Yard Waste <span style="float: right;">76,764</span>	
Leaves <span style="float: right;">76,764</span>	
Tons Collected	
Yard Waste <span style="float: right;">14,864</span>	
Leaves <span style="float: right;">14,476</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">29,340</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">2 sweeps</span>	
Service Fee <span style="float: right;">No</span>	

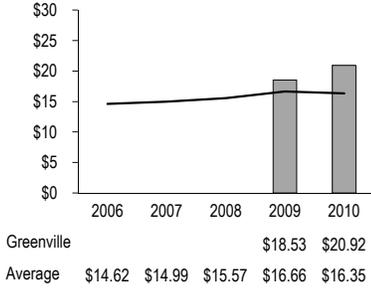
# Greenville

# Yard Waste/Leaf Collection

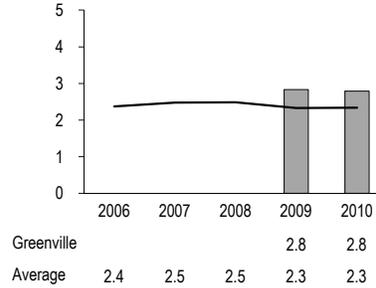
Key: Greenville ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**

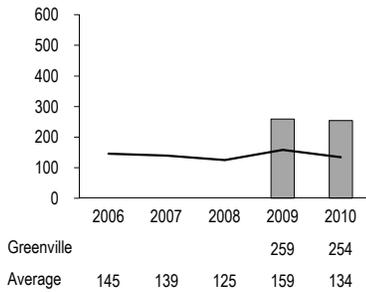


**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**

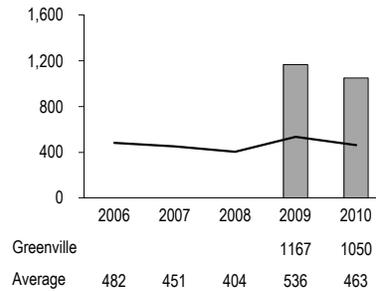


## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**

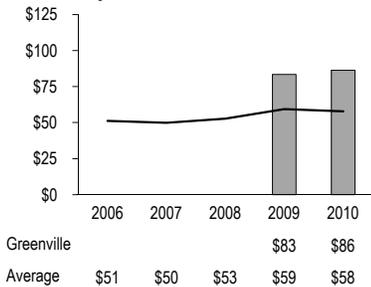


**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**

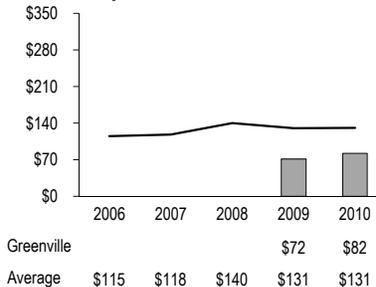


## EFFICIENCY Measures

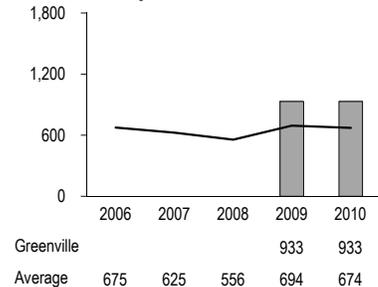
**Yard Waste and Leaf Collection  
Cost per Collection Point**



**Yard Waste and Leaf Collection  
Cost per Ton Collected**

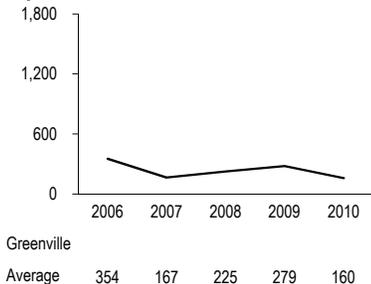


**Yard Waste and Leaf Tons  
Collected per Collection FTE**

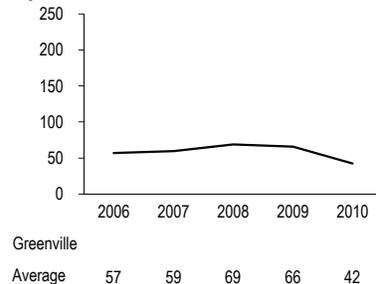


## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



**Valid Complaints  
per 10,000 Collection Points**



# Yard Waste/Leaf Collection

# Greenville

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">82,571</span>	<p><b>Service Level and Delivery</b> Greenville collects yard waste once per week at 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.</p> <p>Greenville uses seven two-person crews to collect yard waste. Crew include a driver and a collection worker. Each crew has an assigned route for each day.</p> <p>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 with each having a driver and two collection workers. The leaf collection crews are all seasonal employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p> <p>Greenville does not collect data on complaints for yard waste services.</p>
Land Area (Square Miles) <span style="float: right;">35.01</span>	
Persons per Square Mile <span style="float: right;">2,358</span>	
Topography <span style="float: right;">Flat</span>	
County <span style="float: right;">Pitt</span>	
Climate <span style="float: right;">Mild; little snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$44,491</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services <span style="float: right;">65.5%</span>	
Operating Costs <span style="float: right;">27.4%</span>	
Capital Costs <span style="float: right;">7.0%</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 1,131,939</span>	
Operating Costs <span style="float: right;">\$ 473,925</span>	
Capital Costs <span style="float: right;">\$ 121,195</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 1,727,059</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">22.5</span>	
FTE Positions—Other <span style="float: right;">0.50</span>	
Collection Points	
Yard Waste <span style="float: right;">20,000</span>	
Leaves <span style="float: right;">20,000</span>	
Tons Collected	
Yard Waste <span style="float: right;">NA</span>	
Leaves <span style="float: right;">NA</span>	
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">21,000</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">1 x week</span>	
Service Fee <span style="float: right;">No</span>	

# Hickory

# Yard Waste/Leaf Collection

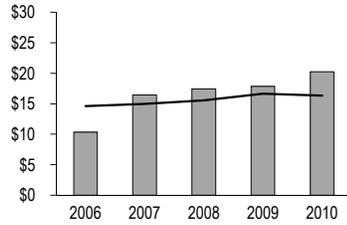
Key: Hickory ■

Benchmarking Average —

Fiscal Years 2006 through 2010

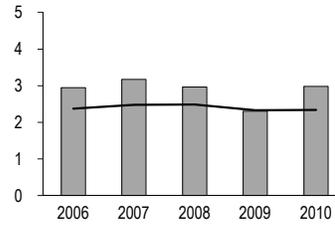
## RESOURCE Measures

**Yard Waste and Leaf Collection Costs per Capita**



Hickory	\$10.34	\$16.42	\$17.43	\$17.85	\$20.23
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

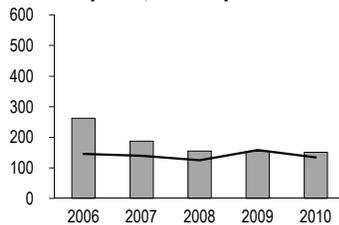
**Yard Waste and Leaf Collection FTEs per 10,000 Population**



Hickory	2.9	3.2	3.0	2.3	3.0
Average	2.4	2.5	2.5	2.3	2.3

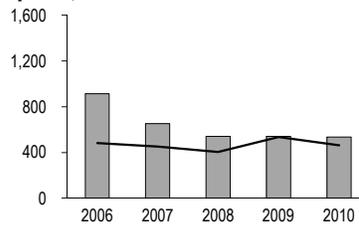
## WORKLOAD Measures

**Yard Waste and Leaf Tons Collected per 1,000 Population**



Hickory	262	188	155	154	151
Average	145	139	125	159	134

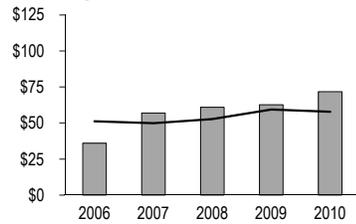
**Yard Waste and Leaf Tons Collected per 1,000 Collection Points**



Hickory	913	651	541	541	536
Average	482	451	404	536	463

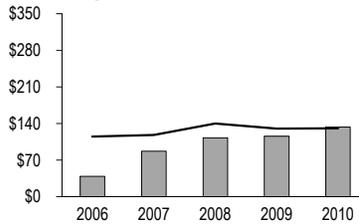
## EFFICIENCY Measures

**Yard Waste and Leaf Collection Cost per Collection Point**



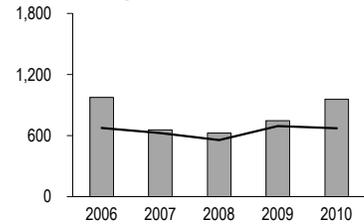
Hickory	\$36	\$57	\$61	\$63	\$72
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection Cost per Ton Collected**



Hickory	\$39	\$87	\$113	\$116	\$134
Average	\$115	\$118	\$140	\$131	\$131

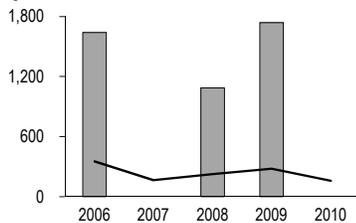
**Yard Waste and Leaf Tons Collected per Collection FTE**



Hickory	975	656	628	749	957
Average	675	625	556	694	674

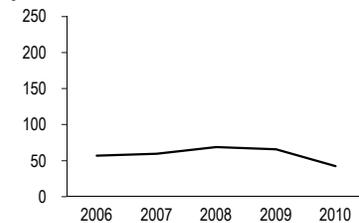
## EFFECTIVENESS Measures

**Collection Complaints per 10,000 Collection Points**



Hickory	1641		1086	1737	
Average	354	167	225	279	160

**Valid Complaints per 10,000 Collection Points**



Hickory	57	59	69	66	42
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# Hickory

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">41,151</span>	<p><b>Service Level and Delivery</b> Hickory collects yard waste once per week at 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.</p> <p>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 knuckle-boom loader with one driver on a scheduled basis working about half-time.</p> <p>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.</p> <p>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 collection. These seasonal employees are counted in the total employee count but only for the one-fourth of the year they work.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> On December 15, 2005, Hickory experienced a major ice storm which significantly increased the yard waste tonnage collected for FY 2005–06. With 4,000 tons of limbs to remove from the streets, it took six weeks for the city to clear the backlog. As a consequence, the number of calls for service increased, which is reflected in the complaint section.</p> <p>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 actual complaints. The high rate of "collection complaints per 10,000 collection points" is driven by this reporting structure rather than 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 and FY 2009–10 were not available.</p>
Land Area (Square Miles) <span style="float: right;">29.28</span>	
Persons per Square Mile <span style="float: right;">1,405</span>	
Topography <span style="float: right;">Gently rolling</span>	
County <span style="float: right;">Catawba</span>	
Climate <span style="float: right;">Moderate; some snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$47,522</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	<p><b>Costs Affecting Service, Performance, and Costs</b> 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 collection. These seasonal employees are counted in the total employee count but only for the one-fourth of the year they work.</p>
Personal Services <span style="float: right;">45.2%</span>	
Operating Costs <span style="float: right;">41.0%</span>	
Capital Costs <span style="float: right;">13.8%</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 376,607</span>	
Operating Costs <span style="float: right;">\$ 340,985</span>	
Capital Costs <span style="float: right;">\$ 114,890</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 832,482</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">6.5</span>	
FTE Positions—Other <span style="float: right;">5.75</span>	
Collection Points	
Yard Waste <span style="float: right;">11,600</span>	
Leaves <span style="float: right;">11,600</span>	
Tons Collected	
Yard Waste <span style="float: right;">3,298</span>	
Leaves <span style="float: right;">2,925</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">6,223</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">2 sweeps</span>	
Service Fee <span style="float: right;">No</span>	

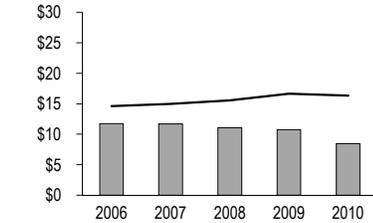
# High Point

# Yard Waste/Leaf Collection

Key: High Point ■ Benchmarking Average — Fiscal Years 2006 through 2010

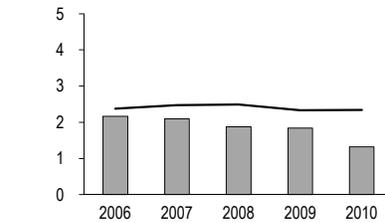
## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**



Year	2006	2007	2008	2009	2010
High Point	\$11.74	\$11.69	\$11.07	\$10.76	\$8.46
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

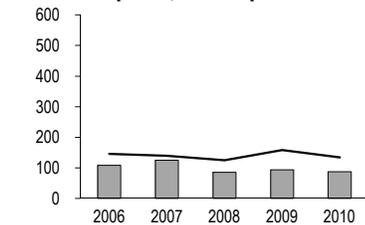
**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**



Year	2006	2007	2008	2009	2010
High Point	2.2	2.1	1.9	1.8	1.3
Average	2.4	2.5	2.5	2.3	2.3

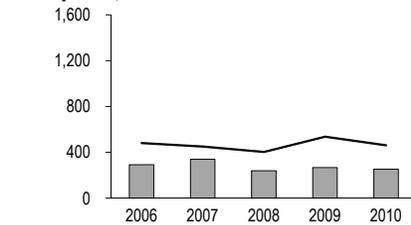
## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**



Year	2006	2007	2008	2009	2010
High Point	108	125	85	94	88
Average	145	139	125	159	134

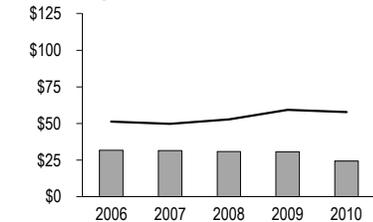
**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**



Year	2006	2007	2008	2009	2010
High Point	293	339	239	268	254
Average	482	451	404	536	463

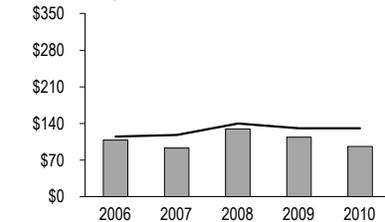
## EFFICIENCY Measures

**Yard Waste and Leaf Collection  
Cost per Collection Point**



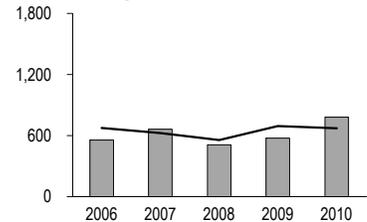
Year	2006	2007	2008	2009	2010
High Point	\$32	\$32	\$31	\$31	\$24
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection  
Cost per Ton Collected**



Year	2006	2007	2008	2009	2010
High Point	\$108	\$93	\$130	\$114	\$96
Average	\$115	\$118	\$140	\$131	\$131

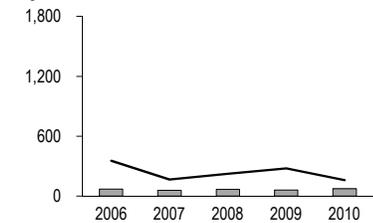
**Yard Waste and Leaf Tons  
Collected per Collection FTE**



Year	2006	2007	2008	2009	2010
High Point	556	665	512	575	781
Average	675	625	556	694	674

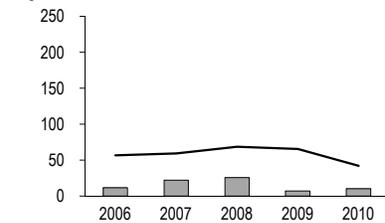
## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



Year	2006	2007	2008	2009	2010
High Point	72	60	70	63	76
Average	354	167	225	279	160

**Valid Complaints  
per 10,000 Collection Points**



Year	2006	2007	2008	2009	2010
High Point	12	22	26	7	10
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# High Point

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">102,216</span>	<p><b>Service Level and Delivery</b> 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.</p> <p>Yard waste is collected once each week from the 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.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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 collection. Stopping collection of the bulk limbs led to a small increase in citizen complaints.</p>	
Land Area (Square Miles) <span style="float: right;">54.05</span>		
Persons per Square Mile <span style="float: right;">1,891</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Guilford</span>		
Climate <span style="float: right;">Temperate; some snow and ice</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$48,057</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">62.4%</span>		
Operating Costs <span style="float: right;">26.3%</span>		
Capital Costs <span style="float: right;">11.3%</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;"><b>100.0%</b></span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 539,480</span>		
Operating Costs <span style="float: right;">\$ 227,356</span>		
Capital Costs <span style="float: right;">\$ 98,171</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;"><b>\$ 865,007</b></span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Collection <span style="float: right;">11.5</span>		
FTE Positions—Other <span style="float: right;">2.0</span>		
Collection Points		
Yard Waste <span style="float: right;">35,332</span>		
Leaves <span style="float: right;">35,332</span>		
Tons Collected		
Yard Waste <span style="float: right;">6,558</span>		
Leaves <span style="float: right;">2,424</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;"><b>8,982</b></span>		
Collection Frequency		
Yard Waste <span style="float: right;">1 x week</span>		
Bagged Leaves <span style="float: right;">1 x week</span>		
Loose Leaves (Seasonal Collection) <span style="float: right;">2 sweeps</span>		
Service Fee <span style="float: right;">No</span>		

# Salisbury

# Yard Waste/Leaf Collection

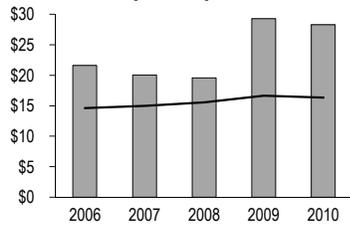
Key: Salisbury ■

Benchmarking Average —

Fiscal Years 2006 through 2010

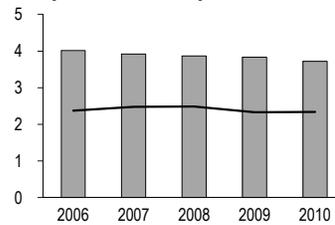
## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**



Salisbury	\$21.60	\$20.07	\$19.60	\$29.29	\$28.30
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

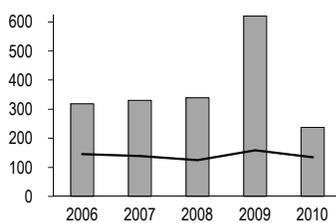
**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**



Salisbury	4.0	3.9	3.9	3.8	3.7
Average	2.4	2.5	2.5	2.3	2.3

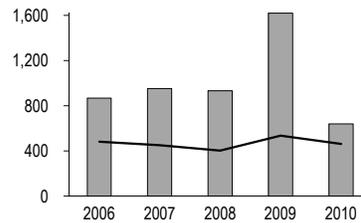
## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**



Salisbury	318	331	339	621	238
Average	145	139	125	159	134

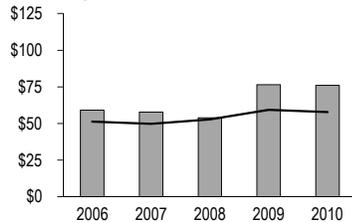
**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**



Salisbury	869	953	934	1619	639
Average	482	451	404	536	463

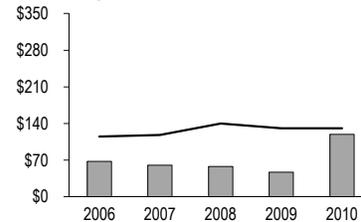
## EFFICIENCY Measures

**Yard Waste and Leaf Collection  
Cost per Collection Point**



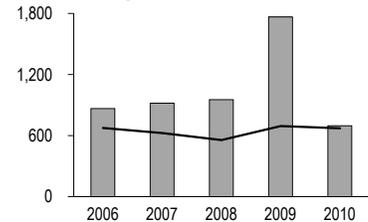
Salisbury	\$59	\$58	\$54	\$76	\$76
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection  
Cost per Ton Collected**



Salisbury	\$68	\$61	\$58	\$47	\$119
Average	\$115	\$118	\$140	\$131	\$131

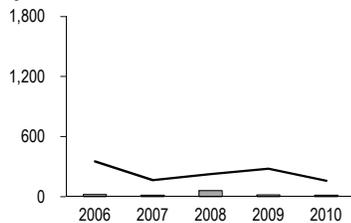
**Yard Waste and Leaf Tons  
Collected per Collection FTE**



Salisbury	868	921	956	1767	697
Average	675	625	556	694	674

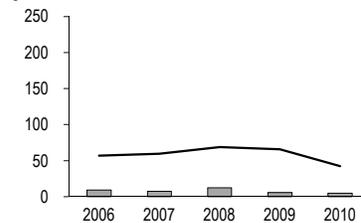
## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



Salisbury	23	17	60	18	17
Average	354	167	225	279	160

**Valid Complaints  
per 10,000 Collection Points**



Salisbury	9	8	12	6	5
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# Salisbury

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	32,263	<p><b>Service Level and Delivery</b> 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.</p> <p>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.</p> <p>Loose leaves are collected from 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.</p> <p>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.</p> <p>The city did not charge a fee for its yard waste collection program during FY 2009–10.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	21.93	
Persons per Square Mile	1,471	
Topography	Gently Rolling	
County	Rowan	
Climate	Moderate; some snow and ice	
Median Family Income (US Census 2000)	\$41,108	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	54.2%	
Operating Costs	28.3%	
Capital Costs	17.4%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 495,201	
Operating Costs	\$ 258,776	
Capital Costs	\$ 159,122	
TOTAL	\$ 913,099	
<b>SERVICE PROFILE</b>		
FTE Positions—Collection	11.00	
FTE Positions—Other	1.00	
Collection Points		
Yard Waste	12,000	
Leaves	12,000	
Tons Collected		
Yard Waste	4,759	
Leaves	2,911	
TOTAL	7,670	
Collection Frequency		
Yard Waste	1 x week	
Bagged Leaves	1 x week	
Loose Leaves (Seasonal Collection)	1 x 3 weeks	
Service Fee	No	

# Wilmington

# Yard Waste/Leaf Collection

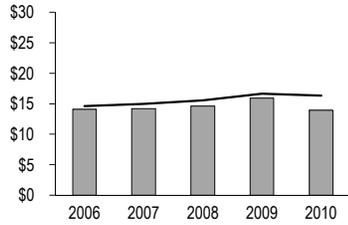
Key: Wilmington ■

Benchmarking Average —

Fiscal Years 2006 through 2010

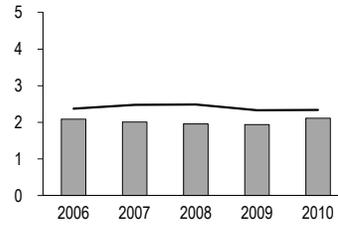
## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**



Year	Wilmington	Average
2006	\$14.08	\$14.62
2007	\$14.19	\$14.99
2008	\$14.62	\$15.57
2009	\$15.92	\$16.66
2010	\$13.94	\$16.35

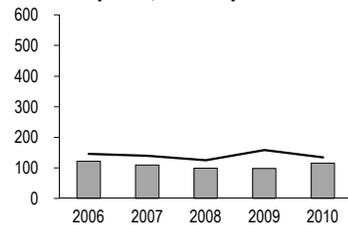
**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**



Year	Wilmington	Average
2006	2.1	2.4
2007	2.0	2.5
2008	2.0	2.5
2009	1.9	2.3
2010	2.1	2.3

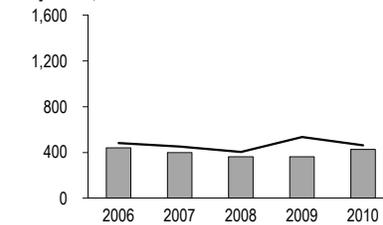
## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**



Year	Wilmington	Average
2006	122	145
2007	110	139
2008	99	125
2009	98	159
2010	116	134

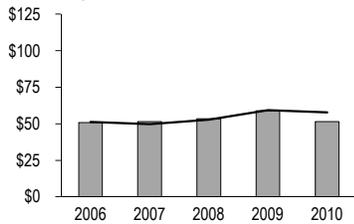
**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**



Year	Wilmington	Average
2006	441	482
2007	398	451
2008	363	404
2009	363	536
2010	427	463

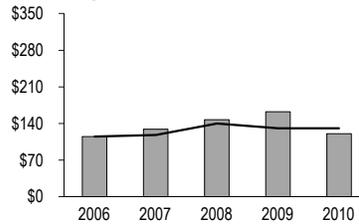
## EFFICIENCY Measures

**Yard Waste and Leaf Collection  
Cost per Collection Point**



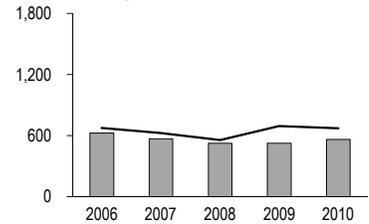
Year	Wilmington	Average
2006	\$51	\$51
2007	\$51	\$50
2008	\$53	\$53
2009	\$59	\$59
2010	\$52	\$58

**Yard Waste and Leaf Collection  
Cost per Ton Collected**



Year	Wilmington	Average
2006	\$115	\$115
2007	\$129	\$118
2008	\$147	\$140
2009	\$162	\$131
2010	\$121	\$131

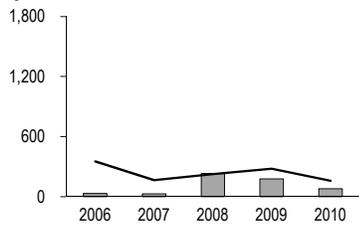
**Yard Waste and Leaf Tons  
Collected per Collection FTE**



Year	Wilmington	Average
2006	625	675
2007	570	625
2008	527	556
2009	527	694
2010	563	674

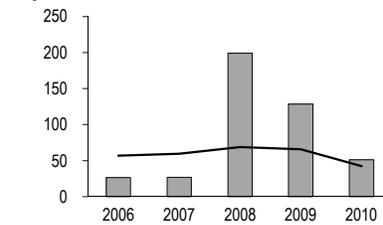
## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



Year	Wilmington	Average
2006	32	354
2007	29	167
2008	233	225
2009	179	279
2010	79	160

**Valid Complaints  
per 10,000 Collection Points**



Year	Wilmington	Average
2006	26	57
2007	27	59
2008	199	69
2009	128	66
2010	51	42

# Yard Waste/Leaf Collection

# Wilmington

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">102,207</span>	<p><b>Service Level and Delivery</b>                      The city collects yard waste from 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.</p> <p>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.</p> <p>There was no separate fee for yard waste collection including bulky items. However, the cost is included in the fee for solid waste collection.</p> <p>Leaf collection is not a separate function for the city of Wilmington. Leaves are collected throughout the year with the regular yard waste program.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>	
Land Area (Square Miles) <span style="float: right;">51.55</span>		
Persons per Square Mile <span style="float: right;">1,983</span>		
Topography <span style="float: right;">Flat; coastal plain</span>		
County <span style="float: right;">New Hanover</span>		
Climate <span style="float: right;">Mild</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$41,891</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">53.4%</span>		
Operating Costs <span style="float: right;">33.7%</span>		
Capital Costs <span style="float: right;">12.8%</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 761,320</span>		
Operating Costs <span style="float: right;">\$ 480,692</span>		
Capital Costs <span style="float: right;">\$ 183,079</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 1,425,091</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Collection <span style="float: right;">21.00</span>		
FTE Positions—Other <span style="float: right;">0.60</span>		
Collection Points		
Yard Waste <span style="float: right;">27,665</span>		
Tons Collected		
Yard Waste <span style="float: right;">11,822</span>		
Leaves <span style="float: right;">included above</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">11,822</span>		
Collection Frequency		
Yard Waste <span style="float: right;">1 x week</span>		
Bagged Leaves <span style="float: right;">1 x week</span>		
Loose Leaves (Seasonal Collection) <span style="float: right;">NA</span>		
Service Fee <span style="float: right;">Included in solid waste fee</span>		

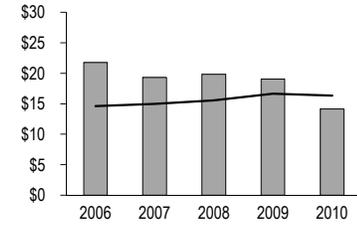
# Wilson

# Yard Waste/Leaf Collection

Key: Wilson ■ Benchmarking Average — Fiscal Years 2006 through 2010

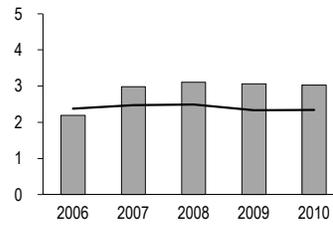
## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**



Wilson	\$21.77	\$19.33	\$19.83	\$19.07	\$14.12
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

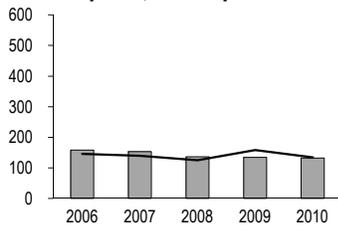
**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**



Wilson	2.2	3.0	3.1	3.1	3.0
Average	2.4	2.5	2.5	2.3	2.3

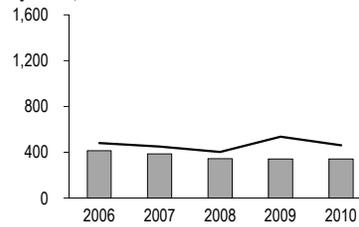
## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**



Wilson	158	154	136	134	133
Average	145	139	125	159	134

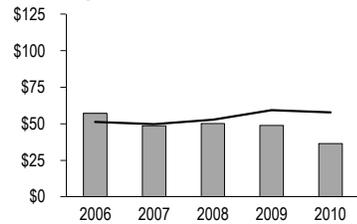
**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**



Wilson	416	386	345	343	342
Average	482	451	404	536	463

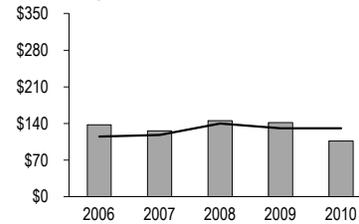
## EFFICIENCY Measures

**Yard Waste and Leaf Collection  
Cost per Collection Point**



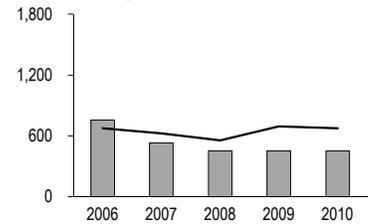
Wilson	\$57	\$49	\$50	\$49	\$36
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection  
Cost per Ton Collected**



Wilson	\$138	\$126	\$146	\$142	\$106
Average	\$115	\$118	\$140	\$131	\$131

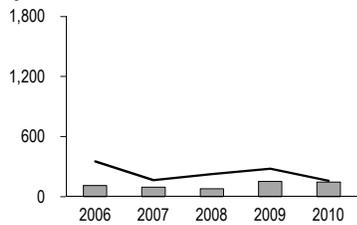
**Yard Waste and Leaf Tons  
Collected per Collection FTE**



Wilson	757	533	453	453	453
Average	675	625	556	694	674

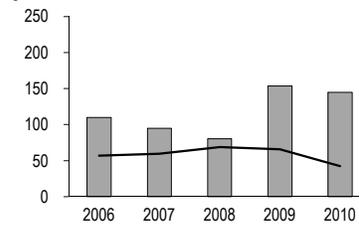
## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



Wilson	110	95	80	154	145
Average	354	167	225	279	160

**Valid Complaints  
per 10,000 Collection Points**



Wilson	110	95	80	154	145
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# Wilson

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">51,274</span>	<p><b>Service Level and Delivery</b> Yard waste is containerized in bags, sheets, rollout 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.</p> <p>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.</p> <p>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.</p> <p>Six to eight three-person crews are used to collect loose leaves. The drivers are permanent employees. Collectors are seasonal employees.</p>
Land Area (Square Miles) <span style="float: right;">29.02</span>	
Persons per Square Mile <span style="float: right;">1,767</span>	
Topography <span style="float: right;">Flat</span>	
County <span style="float: right;">Wilson</span>	
Climate <span style="float: right;">Mild; little snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$41,041</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	<p><b>Conditions Affecting Service, Performance, and Costs</b></p>
-Personal Services <span style="float: right;">50.6%</span>	
-Operating Costs <span style="float: right;">39.1%</span>	
-Capital Costs <span style="float: right;">10.3%</span>	
TOTAL <span style="float: right;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 366,264</span>	
Operating Costs <span style="float: right;">\$ 282,903</span>	
Capital Costs <span style="float: right;">\$ 74,902</span>	
TOTAL <span style="float: right;">\$ 724,069</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">15.0</span>	
FTE Positions—Other <span style="float: right;">0.5</span>	
Collection Points	
Yard Waste <span style="float: right;">19,900</span>	
Leaves <span style="float: right;">19,900</span>	
Tons Collected	
Yard Waste <span style="float: right;">4,650</span>	
Leaves <span style="float: right;">2,150</span>	
TOTAL <span style="float: right;">6,800</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Bagged Leaves <span style="float: right;">1 x week</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">1 x 3 weeks</span>	
Service Fee <span style="float: right;">Included in solid waste fee</span>	

# Winston-Salem

# Yard Waste/Leaf Collection

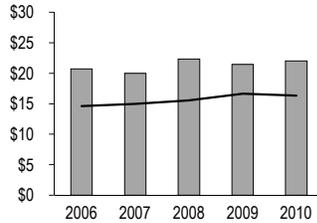
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

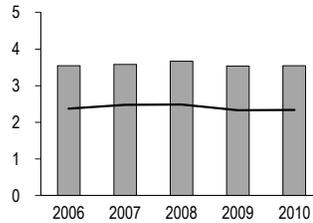
## RESOURCE Measures

**Yard Waste and Leaf Collection  
Costs per Capita**



Winston-Salem	\$20.72	\$19.97	\$22.34	\$21.47	\$22.03
Average	\$14.62	\$14.99	\$15.57	\$16.66	\$16.35

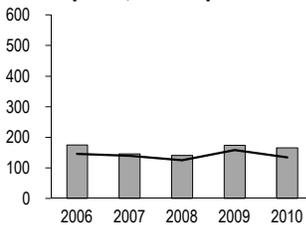
**Yard Waste and Leaf Collection  
FTEs per 10,000 Population**



Winston-Salem	3.5	3.6	3.7	3.5	3.5
Average	2.4	2.5	2.5	2.3	2.3

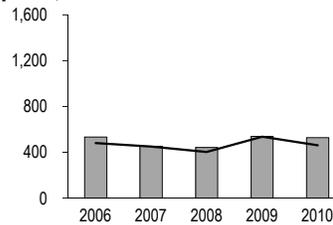
## WORKLOAD Measures

**Yard Waste and Leaf Tons  
Collected per 1,000 Population**



Winston-Salem	175	146	141	174	165
Average	145	139	125	159	134

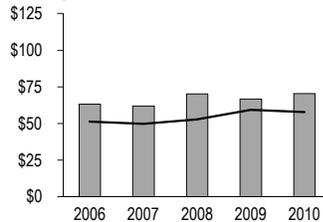
**Yard Waste and Leaf Tons Collected  
per 1,000 Collection Points**



Winston-Salem	534	453	442	540	528
Average	482	451	404	536	463

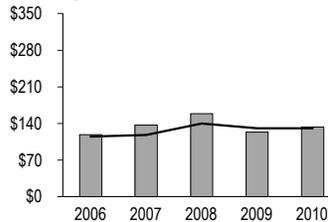
## EFFICIENCY Measures

**Yard Waste and Leaf Collection  
Cost per Collection Point**



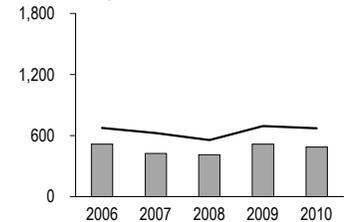
Winston-Salem	\$63	\$62	\$70	\$67	\$70
Average	\$51	\$50	\$53	\$59	\$58

**Yard Waste and Leaf Collection  
Cost per Ton Collected**



Winston-Salem	\$118	\$137	\$159	\$123	\$133
Average	\$115	\$118	\$140	\$131	\$131

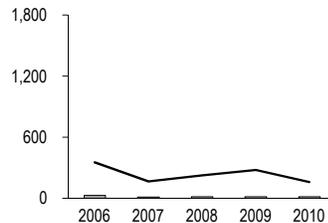
**Yard Waste and Leaf Tons  
Collected per Collection FTE**



Winston-Salem	517	425	414	517	490
Average	675	625	556	694	674

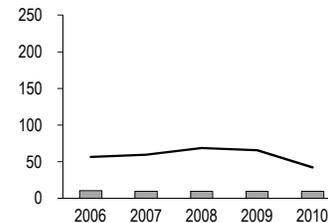
## EFFECTIVENESS Measures

**Collection Complaints  
per 10,000 Collection Points**



Winston-Salem	30	15	17	16	16
Average	354	167	225	279	160

**Valid Complaints  
per 10,000 Collection Points**



Winston-Salem	11	10	10	10	10
Average	57	59	69	66	42

# Yard Waste/Leaf Collection

# Winston-Salem

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">235,075</span>	<p><b>Service Level and Delivery</b>                      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 and 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.</p> <p>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 15,015 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.</p> <p>Residents who participate in the yard waste cart program pay an annual \$55 fee. Residents also pay for the ninety-six-gallon carts. The charge is \$55 if the cart is picked up or \$60 if the cart is delivered. A household can have up to three carts.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The performance measure "cost per collection point" is based on 73,500 collection points.</p>
Land Area (Square Miles) <span style="float: right;">133.19</span>	
Persons per Square Mile <span style="float: right;">1,765</span>	
Topography <span style="float: right;">Gently rolling</span>	
County <span style="float: right;">Forsyth</span>	
Climate <span style="float: right;">Moderate; some snow and ice</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$46,595</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services <span style="float: right;">51.5%</span>	
Operating Costs <span style="float: right;">32.3%</span>	
Capital Costs <span style="float: right;">16.1%</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 2,669,079</span>	
Operating Costs <span style="float: right;">\$ 1,674,195</span>	
Capital Costs <span style="float: right;">\$ 835,306</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 5,178,580</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Collection <span style="float: right;">79.22</span>	
FTE Positions—Other <span style="float: right;">4.01</span>	
Collection Points	
Brush Collection <span style="float: right;">73,500</span>	
Yard Waste <span style="float: right;">15,015</span>	
Leaves <span style="float: right;">73,500</span>	
Tons Collected	
Yard and Brush Waste <span style="float: right;">23,621</span>	
Leaves <span style="float: right;">15,188</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">38,809</span>	
Collection Frequency	
Yard Waste <span style="float: right;">1 x week</span>	
Brush collection <span style="float: right;">1 x 10 work days</span>	
Loose Leaves (Seasonal Collection) <span style="float: right;">1 x 3 weeks</span>	
Service Fee <span style="float: right;">See explanatory information</span>	







# Performance and Cost Data

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POLICE SERVICES

## **PERFORMANCE MEASURES FOR POLICE SERVICES**

### **SERVICE DEFINITION**

Police Services consists 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 includes 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			
Asheville	Yes	207	9.2	206	IBR	400	3,880	4,280	3,720	110,353	3,321
Burlington	Yes	118	11.0	143	IBR	434	4,283	4,717	5,577	66,996	1,829
Cary	Yes	168	8.8	118	IBR	136	2,193	2,329	2,349	120,709	3,602
Concord	No	158	8.2	185	IBR	176	3,202	3,378	1,919	95,703	3,004
Durham	Yes	512	9.6	348	IBR	1,729	12,345	14,074	7,525	273,399	9,911
Greensboro	Yes	642	10.0	217	IBR	1,482	14,658	16,140	14,344	282,289	8,454
Greenville	Yes	188	9.5	183	IBR	623	5,094	5,717	4,903	86,862	5,466
Hickory	No	118	8.6	165	IBR	272	2,925	3,197	3,937	72,099	1,939
High Point	No	227	10.3	227	IBR	547	5,216	5,763	2,772	125,482	2,516
Salisbury	Yes	88	9.8	100	IBR	243	1,646	1,889	2,392	35,447	1,797
Wilmington	No	267	10.3	270	UCR	817	6,075	6,892	5,079	170,552	3,481
Wilson	Yes	116	8.5	135	UCR	259	2,440	2,699	3,856	88,015	2,383
Winston-Salem	Yes	530.5	10.8	438	IBR	1,738	14,022	15,760	31,674	236,373	8,546

### 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

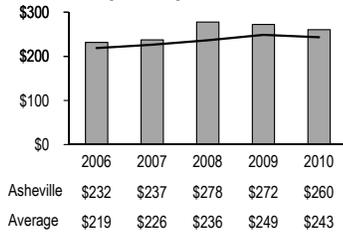
# Asheville

# Police Services

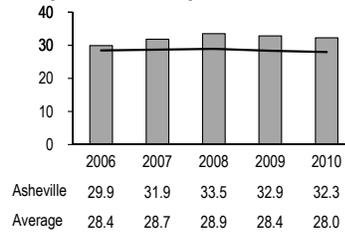
Key: Asheville ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

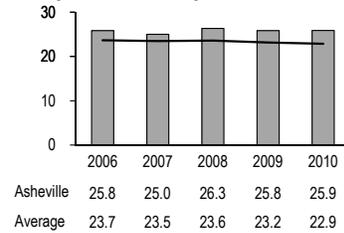
**Police Services Costs per Capita**



**Total Police Services Personnel per 10,000 Population**

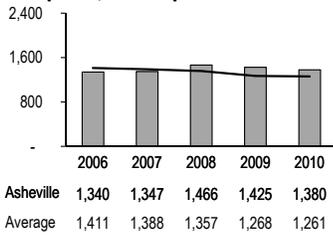


**Sworn Police Officers per 10,000 Population**

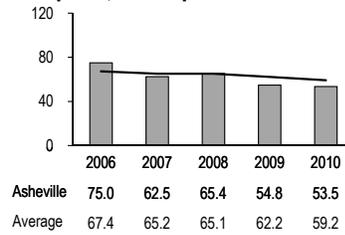


## WORKLOAD Measures

**Calls Dispatched per 1,000 Population**

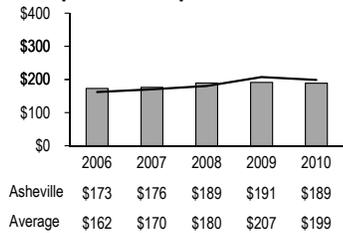


**Part I Crimes per 1,000 Population**

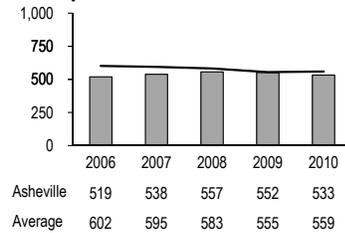


## EFFICIENCY Measures

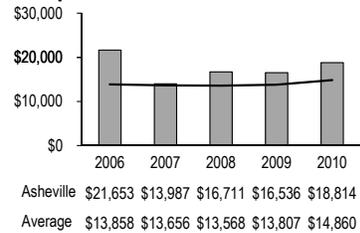
**Police Services Cost per Call Dispatched**



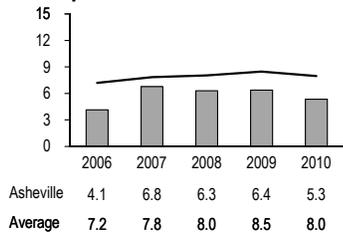
**Calls Dispatched per Sworn Officer**



**Police Services Cost per Part I Case Cleared**

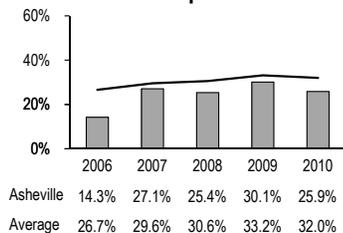


**Part I Cases Cleared per Sworn Officer**

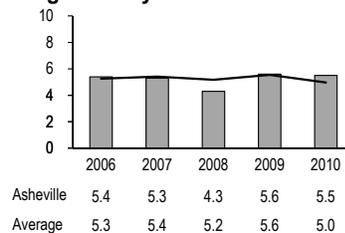


## EFFECTIVENESS Measures

**Percentage of Part I Cases Cleared of Those Reported**



**Response Time to High Priority Calls in Minutes**



# Asheville

## Police Services Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	79,973	<p><b>Service Level and Delivery</b> 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.</p> <p>The city had 207 sworn officer positions authorized for FY 2009–10, 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.</p> <p>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.</p> <p>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.</p> <p>The police department was successful in clearing a total of 1,107 Part I cases in FY 2009–10.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Asheville switched over its crime reporting format from UCR to IBR in June 2009.</p> <p>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.</p> <p>Asheville's costs for police services were up in FY 2007–08 due to the addition of 15 sworn officers during the year and the final stages of implementation of a market based pay plan for police officers.</p> <p>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.</p>
Land Area (Square Miles)	44.99	
Persons per Square Mile	1,778	
County	Buncombe	
Median Family Income (US Census 2000)	\$44,029	
Unemployment Rate (ESC-09)	8.6%	
Part I Crimes Reported		
Homicide	3	
Rape	26	
Robbery	173	
Assault	198	
Burglary	819	
Larceny	2,653	
Auto Theft	325	
Arson	83	
TOTAL	4,280	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	70.9%	
Operating Costs	20.7%	
Capital Costs	8.4%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 14,774,328	
Operating Costs	\$ 4,309,335	
Capital Costs	\$ 1,743,269	
TOTAL	\$ 20,826,932	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	207.0	
FTE Positions—Other	51.0	
Part I Crimes Cleared		
Persons	241	
Property	866	
TOTAL	1,107	
Reporting Format	IBR	
Part II Crimes Reported	3,720	
Number of Calls Dispatched	110,353	
Traffic Accidents	3,321	
Property Damage	\$11,391,406	

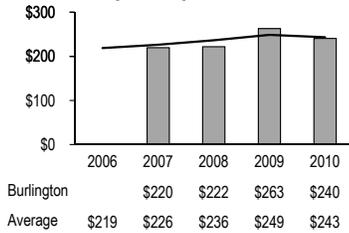
# Burlington

# Police Services

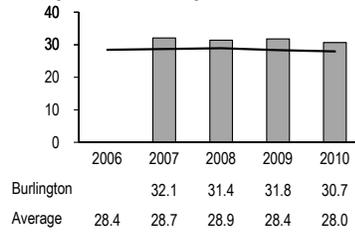
Key: Burlington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

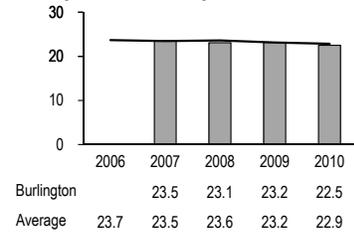
**Police Services Costs per Capita**



**Total Police Services Personnel per 10,000 Population**

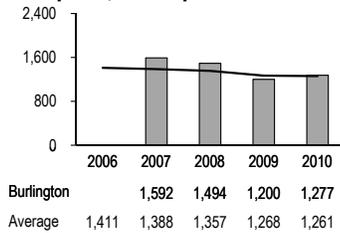


**Sworn Police Officers per 10,000 Population**

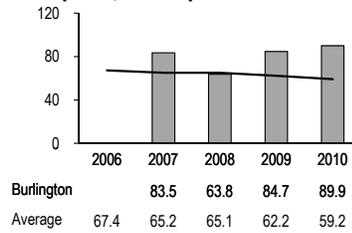


## WORKLOAD Measures

**Calls Dispatched per 1,000 Population**

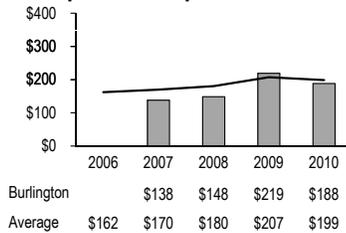


**Part I Crimes per 1,000 Population**

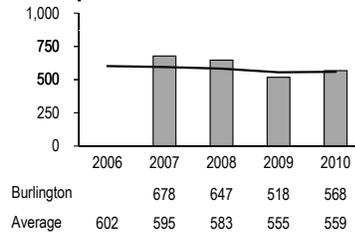


## EFFICIENCY Measures

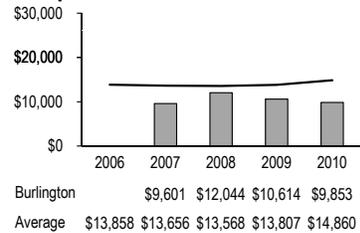
**Police Services Cost per Call Dispatched**



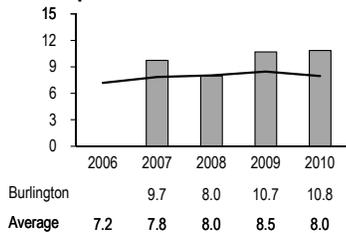
**Calls Dispatched per Sworn Officer**



**Police Services Cost per Part I Case Cleared**

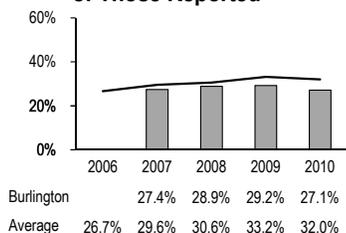


**Part I Cases Cleared per Sworn Officer**

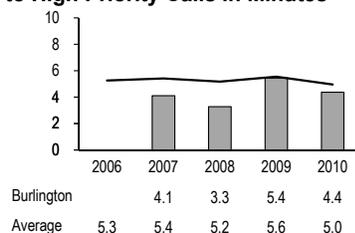


## EFFECTIVENESS Measures

**Percentage of Part I Cases Cleared of Those Reported**



**Response Time to High Priority Calls in Minutes**



# Burlington

## Police Services

### Fiscal Year 2009–10

#### MUNICIPAL PROFILE

Population (OSBM 2009)	52,457
Land Area (Square Miles)	25.14
Persons per Square Mile	2,087
County	Alamance
Median Family Income (US Census 2000)	\$45,441
Unemployment Rate (ESC-09)	12.0%
Part I Crimes Reported	
Homicide	2
Rape	20
Robbery	116
Assault	296
Burglary	872
Larceny	3,243
Auto Theft	160
Arson	8
TOTAL	<u>4,717</u>

#### FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	78.0%
Operating Costs	13.3%
Capital Costs	<u>8.8%</u>
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	\$ 9,831,438
Operating Costs	\$ 1,671,467
Capital Costs	<u>\$ 1,109,435</u>
TOTAL	\$ 12,612,340

#### SERVICE PROFILE

FTE Positions—Sworn	118.0
FTE Positions—Other	43.0
Part I Crimes Cleared	
Persons	248
Property	<u>1,032</u>
TOTAL	1,280
Reporting Format	IBR
Part II Crimes Reported	5,577
Number of Calls Dispatched	66,996
Traffic Accidents	1,829
Property Damage	\$7,204,909

#### 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 118 sworn officer positions authorized for FY 2009–10, with an average length of service of eleven 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 1,032 Part I cases in FY 2009–10.

##### 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.

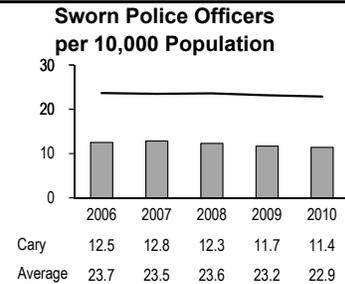
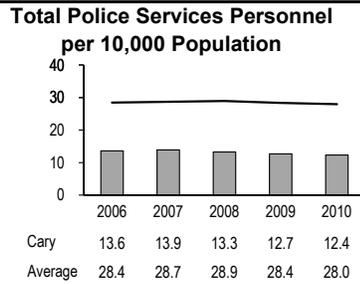
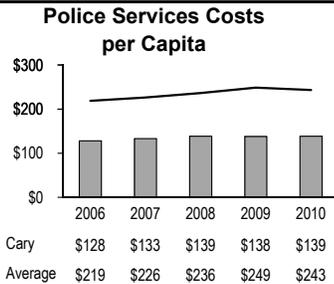
Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.

# Cary

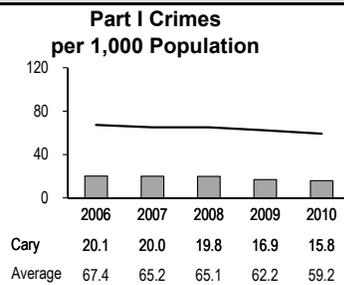
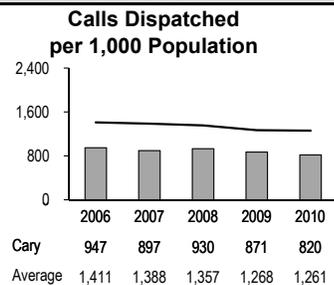
# Police Services

Key: Cary ■ Benchmarking Average — Fiscal Years 2006 through 2010

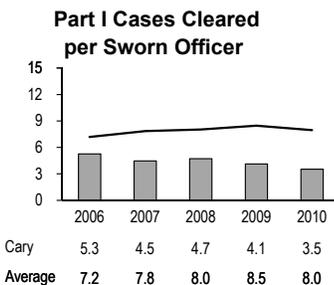
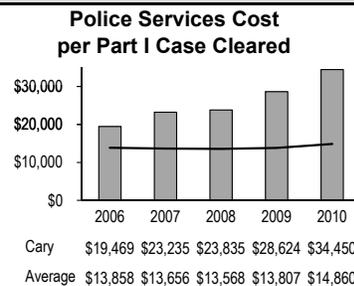
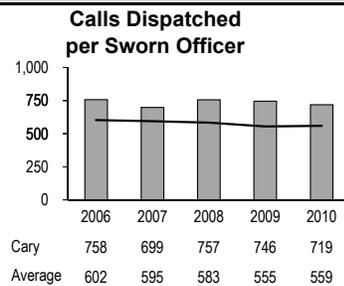
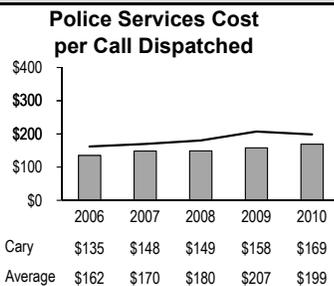
## RESOURCE Measures



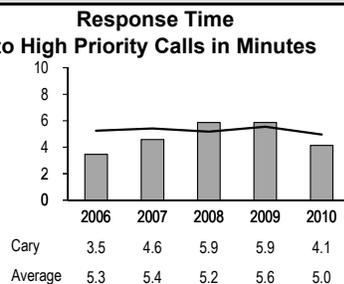
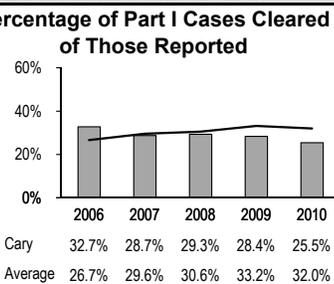
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Cary

## Police Services

### Fiscal Year 2009–10

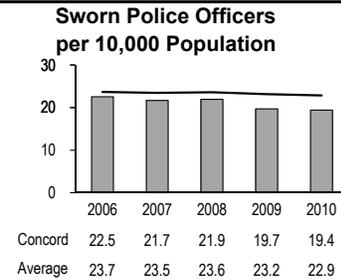
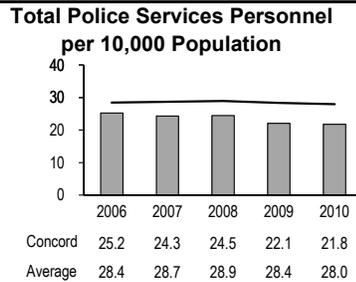
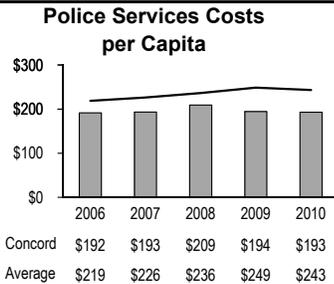
MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	147,282	<b>Service Level and Delivery</b> The Cary Police Department provides an array of police services, including patrol, investigations, a motorcycle unit, a special response unit, bicycle patrol, animal control, drug enforcement, a youth services program for public schools, and a canine unit.
Land Area (Square Miles)	54.01	
Persons per Square Mile	2,727	
County	Wake	
Median Family Income (US Census 2000)	\$88,074	The town had 168 sworn officer positions authorized for FY 2009–10, with an average length of service of 8.8 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.
Unemployment Rate (ESC-09)	8.4%	
Part I Crimes Reported		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.
Homicide	1	
Rape	22	
Robbery	40	
Assault	73	
Burglary	488	
Larceny	1,607	
Auto Theft	78	
Arson	20	
TOTAL	2,329	
<b>FULL COST PROFILE</b>		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.
Cost Breakdown by Percentage		
Personal Services	72.3%	
Operating Costs	21.2%	The town defines a high priority call as one which is life threatening in nature.
Capital Costs	6.5%	
TOTAL	100.0%	The police department was successful in clearing a total of 593 Part I cases in FY 2009–10.
Cost Breakdown in Dollars		
Personal Services	\$ 14,766,923	
Operating Costs	\$ 4,337,901	<b>Conditions Affecting Service, Performance, and Costs</b> 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.
Capital Costs	\$ 1,324,215	
TOTAL	\$ 20,429,039	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	168.0	
FTE Positions—Other	14.0	
Part I Crimes Cleared		
Persons	92	
Property	501	
TOTAL	593	
Reporting Format	IBR	
Part II Crimes Reported	2,349	
Number of Calls Dispatched	120,709	
Traffic Accidents	3,602	
Property Damage	\$12,639,210	

# Concord

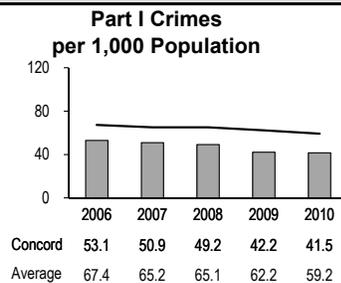
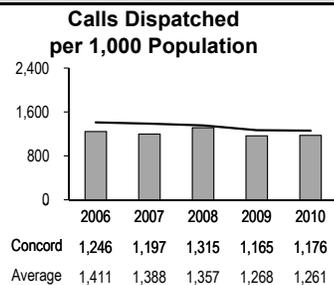
# Police Services

Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

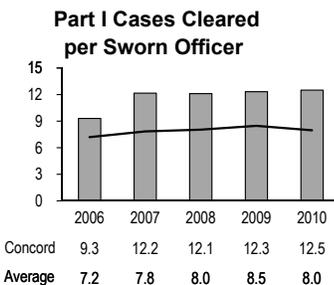
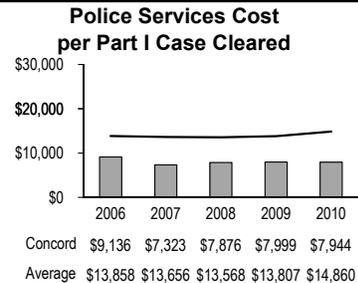
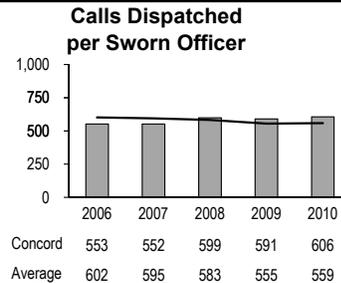
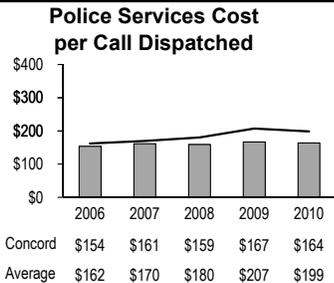
## RESOURCE Measures



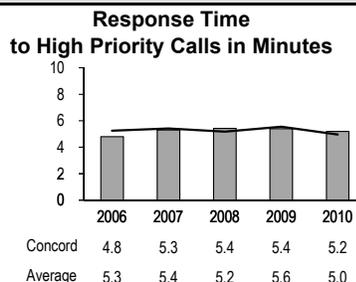
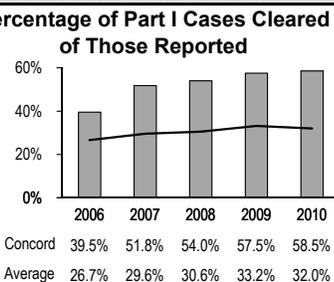
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Concord

## Police Services

### Fiscal Year 2009–10

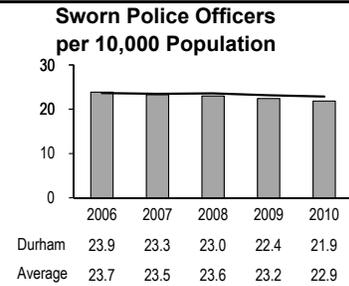
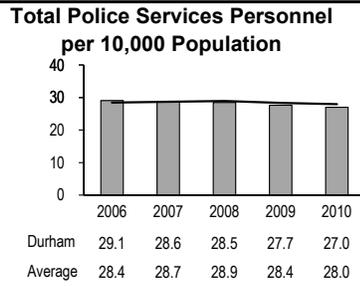
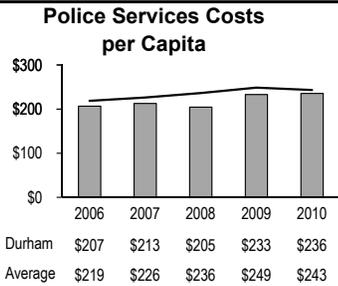
MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	81,370	<b>Service Level and Delivery</b> Concord's police department provides an array of police services, including patrol, investigations, a traffic unit, a telephone response unit, a canine unit, a special response unit, a bicycle patrol unit, a drug enforcement unit, and other programs such as school resource officers.
Land Area (Square Miles)	59.59	
Persons per Square Mile	1,365	
County	Cabarrus	
Median Family Income (US Census 2000)	\$53,571	The city had 158 sworn officer positions authorized for FY 2009–10, with an average length of service of 8.2 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.
Unemployment Rate (ESC-09)	11.2%	
Part I Crimes Reported		<b>Uniformed patrol officers work twelve-hour rotating shifts. Investigators work five eight-hour days on first and second shift. District Commanders had the authority to change individual schedules to meet peak demands.</b>  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 1,977 Part I cases in FY 2009–10.
Homicide	7	
Rape	21	
Robbery	71	
Assault	77	
Burglary	502	
Larceny	2,451	
Auto Theft	238	
Arson	11	
<b>TOTAL</b>	<b>3,378</b>	
<b>FULL COST PROFILE</b>		<b>Conditions Affecting Service, Performance, and Costs</b> The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included.
Cost Breakdown by Percentage		
Personal Services	67.9%	
Operating Costs	20.9%	
Capital Costs	11.2%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 10,664,421	
Operating Costs	\$ 3,283,184	
Capital Costs	\$ 1,758,007	
<b>TOTAL</b>	<b>\$ 15,705,612</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	158.0	
FTE Positions—Other	19.0	
Part I Crimes Cleared		
Persons	123	
Property	1,854	
<b>TOTAL</b>	<b>1,977</b>	
Reporting Format	IBR	
Part II Crimes Reported	1,919	
Number of Calls Dispatched	95,703	
Traffic Accidents	3,004	
Property Damage	\$9,965,641	

# Durham

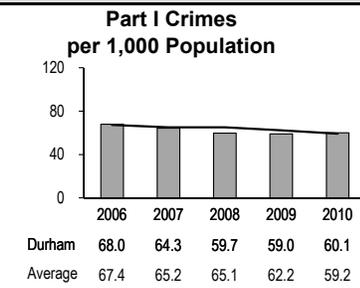
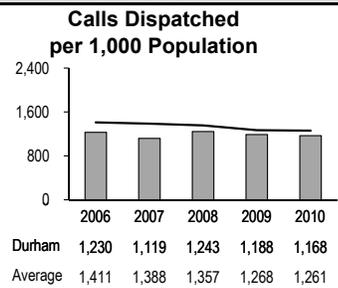
# Police Services

Key: Durham ■ Benchmarking Average — Fiscal Years 2006 through 2010

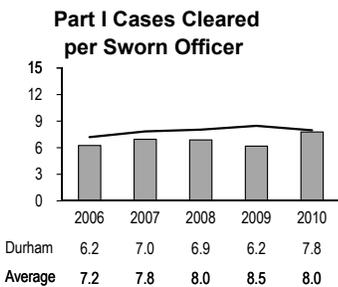
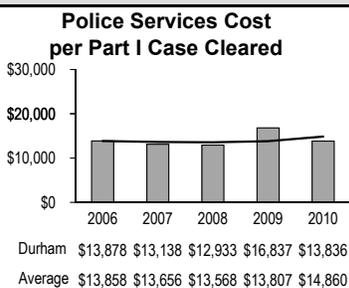
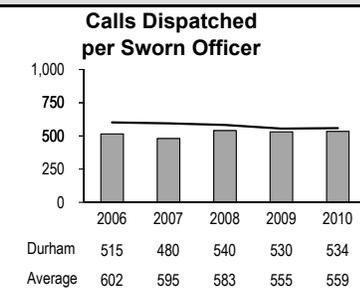
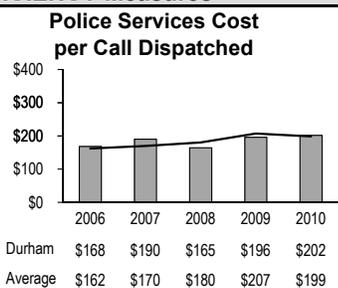
## RESOURCE Measures



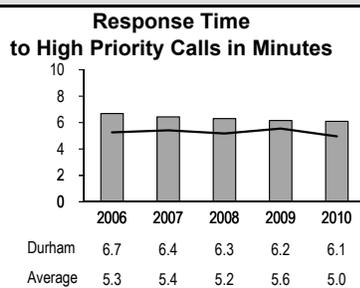
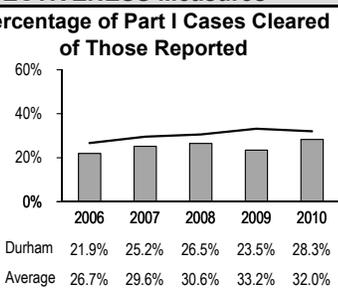
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Durham

## Police Services

### Fiscal Year 2009–10

#### MUNICIPAL PROFILE

Population (OSBM 2009)	234,140
Land Area (Square Miles)	105.59
Persons per Square Mile	2,217
County	Durham
Median Family Income (US Census 2000)	\$51,162
Unemployment Rate (ESC-09)	7.9%
Part I Crimes Reported	
Homicide	27
Rape	90
Robbery	726
Assault	886
Burglary	3,815
Larceny	7,625
Auto Theft	875
Arson	30
TOTAL	<u>14,074</u>

#### FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	77.2%
Operating Costs	14.6%
Capital Costs	<u>8.2%</u>
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	\$ 42,571,887
Operating Costs	\$ 8,048,922
Capital Costs	<u>\$ 4,541,509</u>
TOTAL	\$ 55,162,318

#### SERVICE PROFILE

FTE Positions—Sworn	512.0
FTE Positions—Other	120.0
Part I Crimes Cleared	
Persons	875
Property	<u>3,112</u>
TOTAL	3,987
Reporting Format	IBR
Part II Crimes Reported	7,525
Number of Calls Dispatched	273,399
Traffic Accidents	9,911
Property Damage	\$38,834,228

#### EXPLANATORY INFORMATION

##### Service Level and Delivery

Durham provides an array of 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, drug enforcement, and other selected programs.

The city had 512 sworn officer positions authorized for FY 2009–10, with an average length of service of 9.6 years. Police headquarters is in a five-story building located in the downtown area that houses administrative offices, training and recruitment, personnel services, crime analysis, fiscal services, information and technology, special operations, criminal investigations, records, community services, telephone response, and warrants. The city also maintains five substations, each staffed with a captain, a lieutenant, sergeants, corporals, master patrol officers, investigators, and a secretary.

The uniform patrol schedule includes four platoons, each working twelve-hour rotating shifts that total 168 hours in a twenty-eight-day period. Some officers work staggered hours to accommodate peak times.

Most investigators work Monday through Friday from 8:00 a.m. to 4:30 p.m. Adjustments can be made by bureau commanders, with some positions working four ten-hour days with varying reporting times.

Durham defines a high priority emergency call as a life-threatening or property-threatening situation in progress or an officer needing assistance.

Vehicles are assigned as pool patrol vehicles by district and personally to most detectives, command officers, and sworn administrative officers. Some specialized units and support and administrative positions have assigned vehicles.

The police department was successful in clearing a total of 3,987 Part I cases in FY 2009–10.

##### 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.

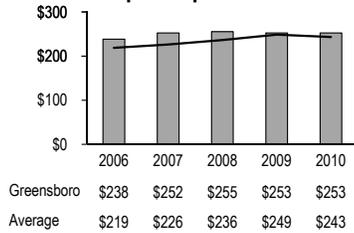
# Greensboro

# Police Services

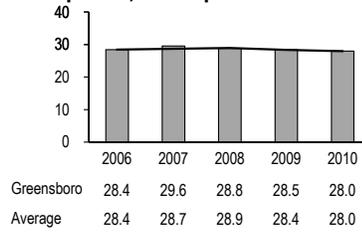
Key: Greensboro ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

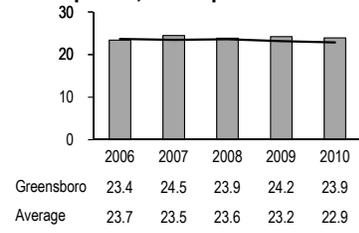
**Police Services Costs per Capita**



**Total Police Services Personnel per 10,000 Population**

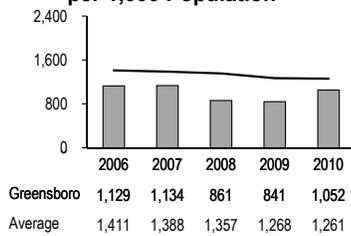


**Sworn Police Officers per 10,000 Population**

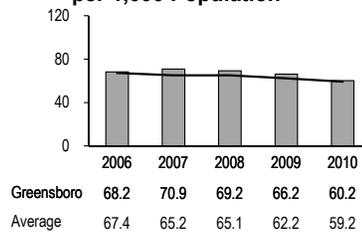


## WORKLOAD Measures

**Calls Dispatched per 1,000 Population**

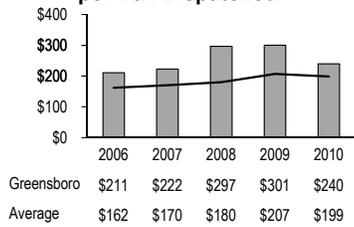


**Part I Crimes per 1,000 Population**

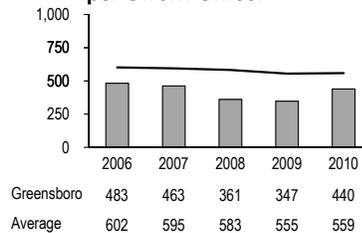


## EFFICIENCY Measures

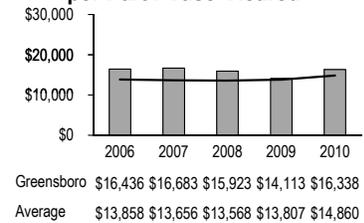
**Police Services Cost per Call Dispatched**



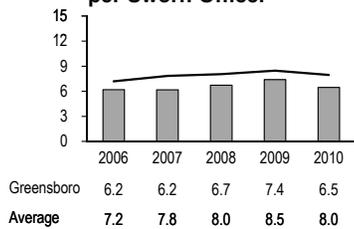
**Calls Dispatched per Sworn Officer**



**Police Services Cost per Part I Case Cleared**

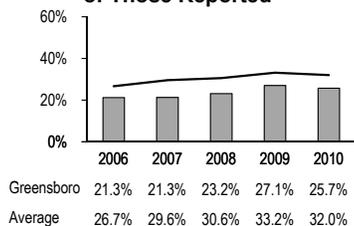


**Part I Cases Cleared per Sworn Officer**

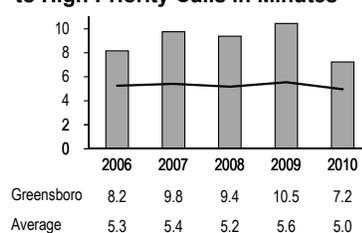


## EFFECTIVENESS Measures

**Percentage of Part I Cases Cleared of Those Reported**



**Response Time to High Priority Calls in Minutes**



# Greensboro

## Police Services

### Fiscal Year 2009–10

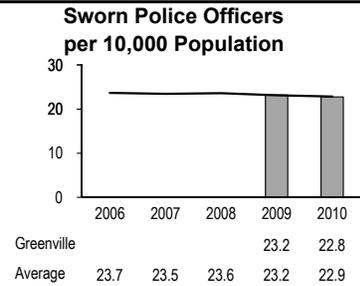
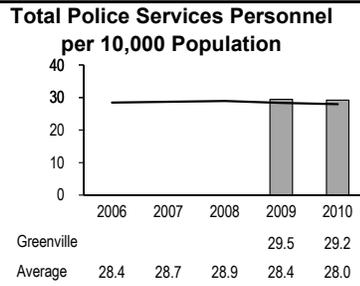
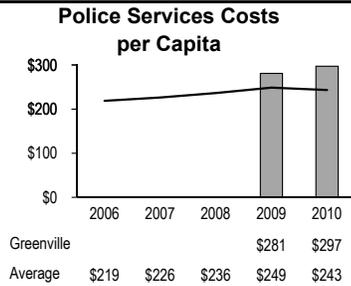
MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	268,283	<p><b>Service Level and Delivery</b> Greensboro provides comprehensive police services, including patrol, investigations, a traffic unit, a telephone response unit, a forensics laboratory, a canine unit, a motorcycle unit, a special response unit, a bicycle patrol unit, a drug enforcement unit, and a student outreach and recruiting program.</p> <p>The city had 642 sworn officer positions authorized for FY 2009–10, 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.</p> <p>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 11 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.</p> <p>Line patrol officers do not take vehicles home. Patrol supervisors, division commanders, and some investigators take vehicles home depending on their assignment.</p> <p>Greensboro defines a high priority emergency call as one where there is a potential for imminent serious injury or death.</p> <p>The police department was successful in clearing a total of 4,147 cases in FY 2009–10.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p> <p>A new dispatch system in Greensboro beginning use 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.</p> <p>Beginning in FY 2009–10 Greensboro refined its reporting of response time and now only includes patrol calls which the majority of calls. Calls to special units are no longer included. A change was also made in the prioritization of calls to which improved response time for those most urgent calls.</p> <p>Dispatched calls rose noticeably over earlier years due to significant annexations to the city.</p>
Land Area (Square Miles)	127.75	
Persons per Square Mile	2,100	
County	Guilford	
Median Family Income (US Census 2000)	\$50,192	
Unemployment Rate (ESC-09)	11.0%	
Part I Crimes Reported		
Homicide	16	
Rape	63	
Robbery	772	
Assault	631	
Burglary	4,476	
Larceny	9,291	
Auto Theft	788	
Arson	103	
TOTAL	16,140	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	75.6%	
Operating Costs	24.4%	
Capital Costs	0.0%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 51,201,392	
Operating Costs	\$ 16,551,683	
Capital Costs	\$ -	
TOTAL	\$ 67,753,075	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	642.0	
FTE Positions—Other	109.0	
Part I Crimes Cleared		
Persons	579	
Property	3,568	
Total	4,147	
Reporting Format	IBR	
Part II Crimes Reported	14,344	
Number of Calls Dispatched	282,289	
Traffic Accidents	8,454	
Property Damage	\$30,833,186	

# Greenville

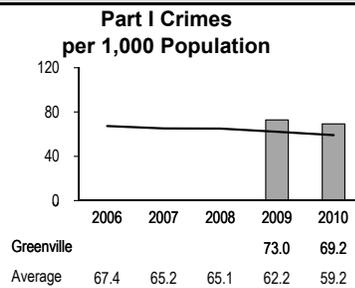
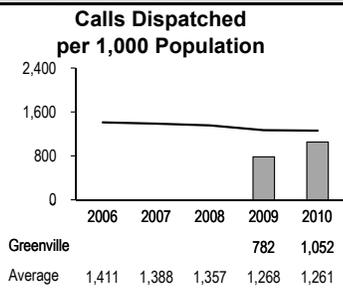
# Police Services

Key: Greenville ■ Benchmarking Average — Fiscal Years 2006 through 2010

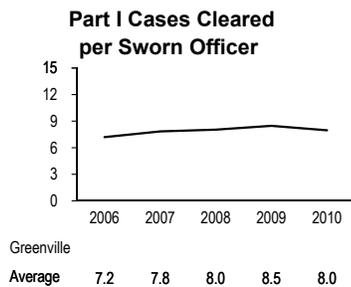
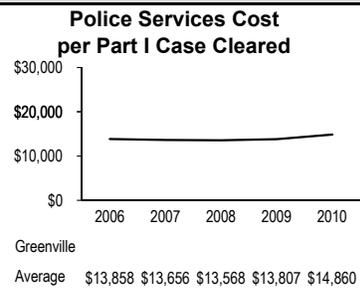
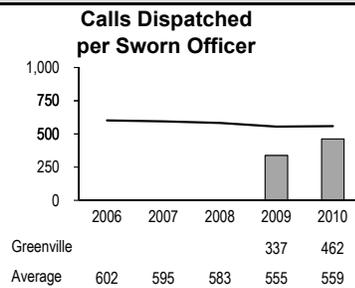
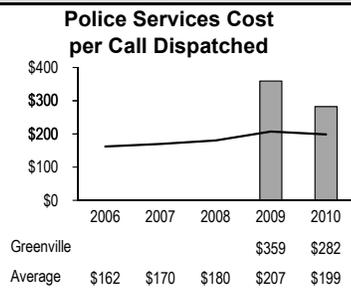
## RESOURCE Measures



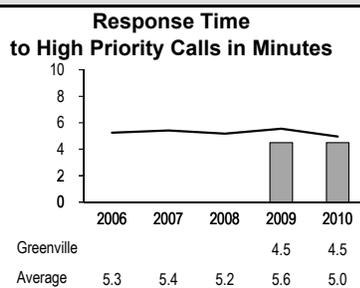
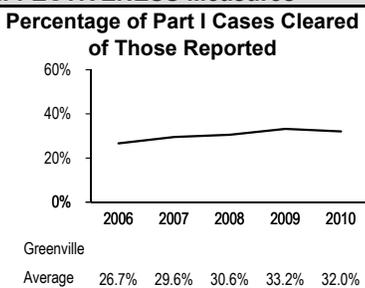
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Greenville

## Police Services

### Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	82,571	<p><b>Service Level and Delivery</b> Greenville provides a full array of police services, including patrol, investigations, a canine unit, a special response unit, bicycle patrol, and drug enforcement.</p> <p>The city had 188 sworn officer positions authorized for FY 2009–10, with an average length of service of 9.5 years. The police department occupies space in the city government building.</p> <p>Patrol officers work a four day on four day off rotation with fixed shifts. 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.</p> <p>Patrol officers do not have take-home vehicles. Each bureau is assigned a fleet of cars for use within their assigned section. Some individuals such as investigators have take-home cars available to them, but the officer must pay mileage if he exercises this option.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p> <p>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.</p> <p>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.</p>
Land Area (Square Miles)	35.01	
Persons per Square Mile	2,358	
County	Pitt	
Median Family Income (US Census 2000)	\$44,491	
Unemployment Rate (ESC-09)	10.3%	
Part I Crimes Reported		
Homicide	3	
Rape	19	
Robbery	203	
Assault	398	
Burglary	1,867	
Larceny	3,037	
Auto Theft	168	
Arson	22	
TOTAL	5,717	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	68.8%	
Operating Costs	26.2%	
Capital Costs	5.0%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 16,876,456	
Operating Costs	\$ 6,427,868	
Capital Costs	\$ 1,225,538	
TOTAL	\$ 24,529,862	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	188.0	
FTE Positions—Other	53.0	
Part I Crimes Cleared		
Persons	150	
Property	1,086	
TOTAL	1,236	
Reporting Format	IBR	
Part II Crimes Reported	4,903	
Number of Calls Dispatched	86,862	
Traffic Accidents	5,466	
Property Damage	NA	

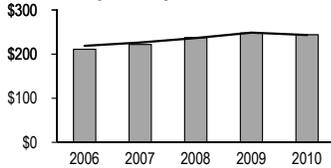
# Hickory

# Police Services

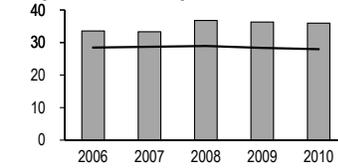
Key: Hickory ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

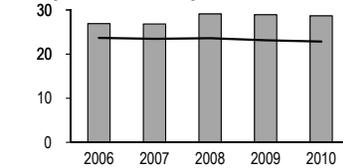
**Police Services Costs per Capita**



**Total Police Services Personnel per 10,000 Population**

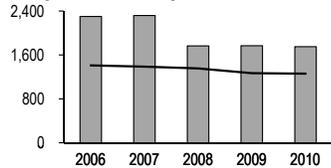


**Sworn Police Officers per 10,000 Population**

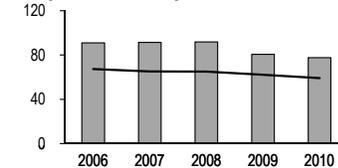


## WORKLOAD Measures

**Calls Dispatched per 1,000 Population**

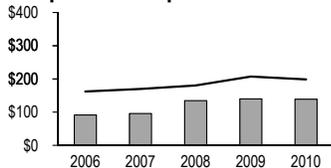


**Part I Crimes per 1,000 Population**

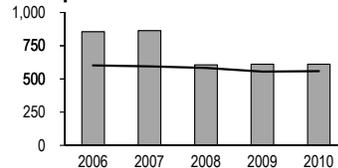


## EFFICIENCY Measures

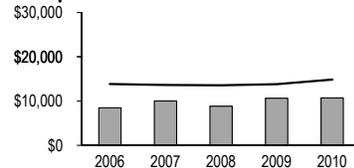
**Police Services Cost per Call Dispatched**



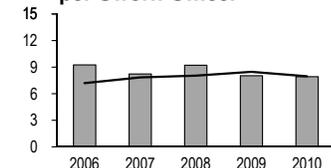
**Calls Dispatched per Sworn Officer**



**Police Services Cost per Part I Case Cleared**

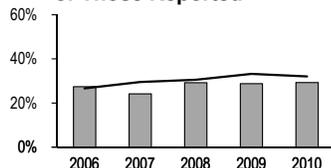


**Part I Cases Cleared per Sworn Officer**

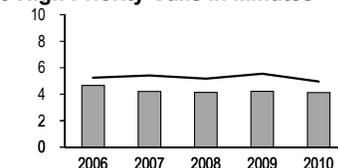


## EFFECTIVENESS Measures

**Percentage of Part I Cases Cleared of Those Reported**



**Response Time to High Priority Calls in Minutes**



# Hickory

## Police Services

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	41,151	<p><b>Service Level and Delivery</b> 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.</p> <p>The city had 118 sworn officer positions authorized for FY 2009–10, with an average length of service of 8.6 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 their respective communities. These offices are not staffed. They are used for interviews, to obtain information, to store supplies, and to make phone calls.</p> <p>Patrol officers work a 14-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.</p> <p>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.</p> <p>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 criminal investigations may also take their vehicles home.</p> <p>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 response and may exceed posted speed limits by up to twenty miles per hour.</p> <p>The police department was successful in clearing a total of 935 Part I cases in FY 2009–10.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p> <p>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.</p>
Land Area (Square Miles)	29.28	
Persons per Square Mile	1,405	
County	Catawba	
Median Family Income (US Census 2000)	\$47,522	
Unemployment Rate (ESC-09)	14.4%	
Part I Crimes Reported		
Homicide	3	
Rape	23	
Robbery	99	
Assault	147	
Burglary	675	
Larceny	2,065	
Auto Theft	159	
Arson	26	
TOTAL	3,197	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	74.1%	
Operating Costs	18.6%	
Capital Costs	7.3%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 7,432,175	
Operating Costs	\$ 1,864,810	
Capital Costs	\$ 737,324	
TOTAL	\$ 10,034,309	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	118.0	
FTE Positions—Other	30.0	
Part I Crimes Cleared		
Persons	139	
Property	796	
TOTAL	935	
Reporting Format	IBR	
Part II Crimes Reported	3,937	
Number of Calls Dispatched	72,099	
Traffic Accidents	1,939	
Property Damage	\$6,995,669	

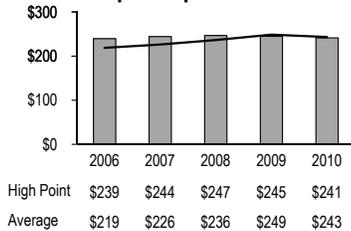
# High Point

# Police Services

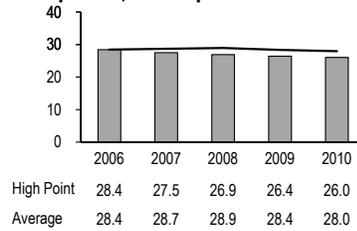
Key: High Point ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

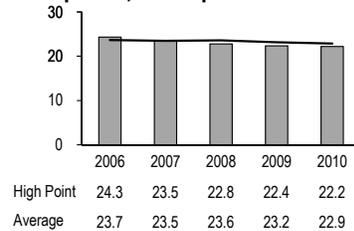
**Police Services Costs per Capita**



**Total Police Services Personnel per 10,000 Population**

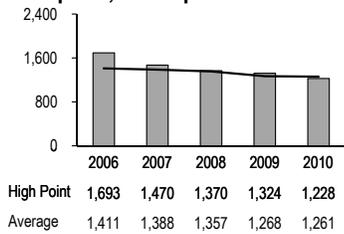


**Sworn Police Officers per 10,000 Population**

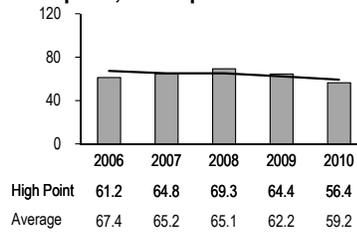


## WORKLOAD Measures

**Calls Dispatched per 1,000 Population**

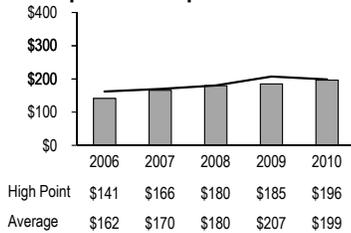


**Part I Crimes per 1,000 Population**

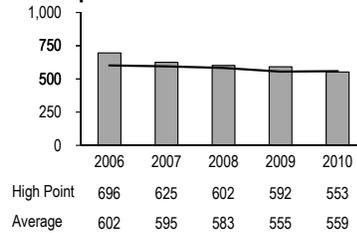


## EFFICIENCY Measures

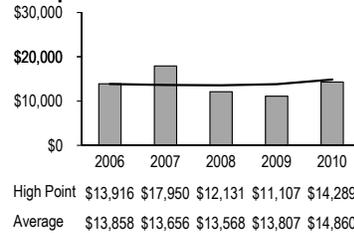
**Police Services Cost per Call Dispatched**



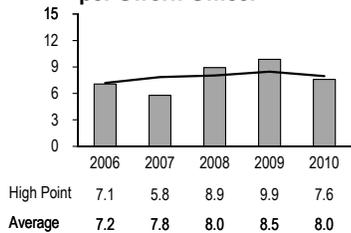
**Calls Dispatched per Sworn Officer**



**Police Services Cost per Part I Case Cleared**

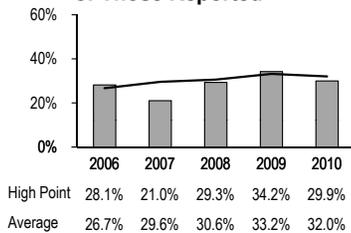


**Part I Cases Cleared per Sworn Officer**

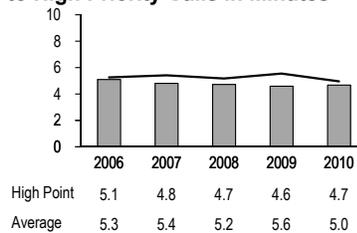


## EFFECTIVENESS Measures

**Percentage of Part I Cases Cleared of Those Reported**



**Response Time to High Priority Calls in Minutes**



# High Point

## Police Services

Fiscal Year 2009–10

### MUNICIPAL PROFILE

Population (OSBM 2009)	102,216
Land Area (Square Miles)	54.05
Persons per Square Mile	1,891
County	Guilford
Median Family Income (US Census 2000)	\$48,057
Unemployment Rate (ESC-09)	11.0%
Part I Crimes Reported	
Homicide	2
Rape	28
Robbery	220
Assault	297
Burglary	1,365
Larceny	3,556
Auto Theft	252
Arson	43
TOTAL	5,763

### FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	75.4%
Operating Costs	19.3%
Capital Costs	5.3%
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	\$ 18,580,956
Operating Costs	\$ 4,751,112
Capital Costs	\$ 1,315,668
TOTAL	\$ 24,647,736

### SERVICE PROFILE

FTE Positions—Sworn	227.0
FTE Positions—Other	39.0
Part I Crimes Cleared	
Persons	258
Property	1,467
TOTAL	1,725
Reporting Format	IBR
Part II Crimes Reported	2,772
Number of Calls Dispatched	125,482
Traffic Accidents	2,516
Property Damage	\$10,391,804

### 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 2009–10, with an average length of service of 10.25 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, half the team reports early and the other half reports late. This applies to both daytime and night coverage.

Detectives work 28 cycles 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 1,725 Part I cases in FY 2009–10.

#### Conditions Affecting Service, Performance, and Costs

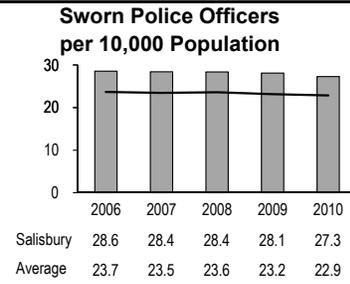
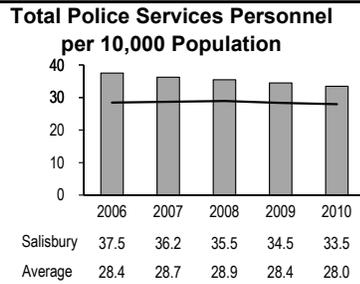
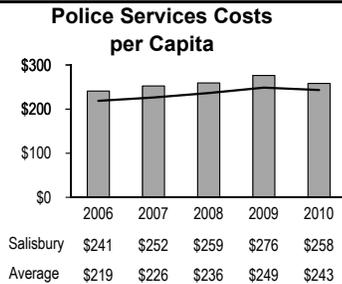
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

# Salisbury

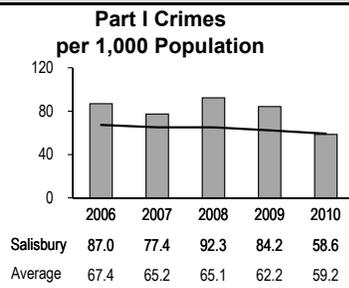
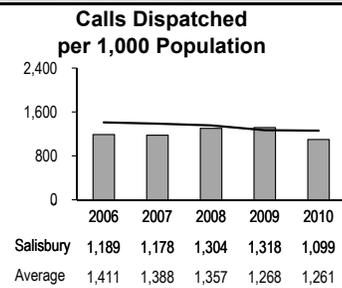
# Police Services

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2006 through 2010

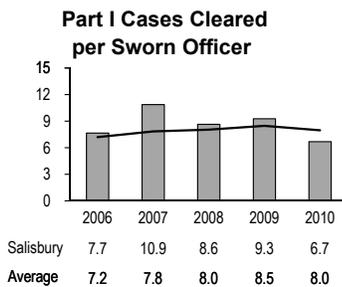
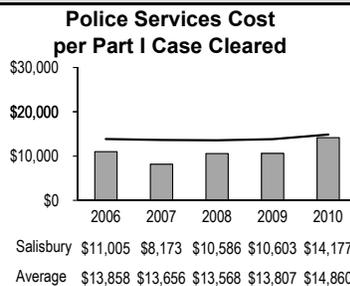
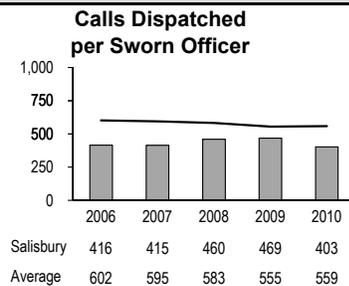
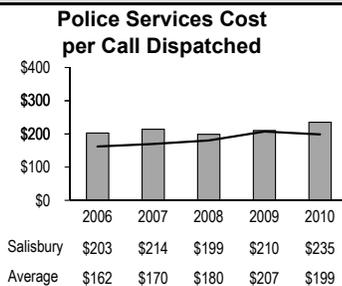
## RESOURCE Measures



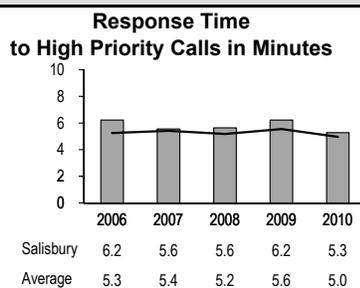
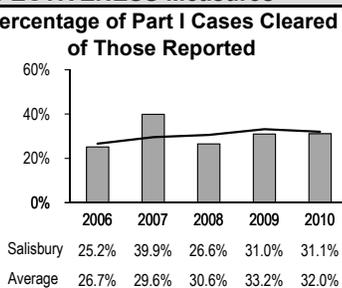
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Salisbury

## Police Services

### Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	32,263	<p><b>Service Level and Delivery</b> 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.</p>
Land Area (Square Miles)	21.93	
Persons per Square Mile	1,471	
County	Rowan	
Median Family Income (US Census 2000)	\$41,108	<p>The city had eighty-eight sworn officer positions authorized for FY 2009–10, with an average length of service of 9.8 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 office space located at Rowan Regional Medical Center.</p> <p>Uniformed officers work a variety of shift schedules. The most common schedule is one 12-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.</p> <p>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.</p> <p>The police department was successful in clearing a total of 588 Part I cases in FY 2009–10.</p> <p>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 circumstances.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p> <p>Salisbury has increased special initiatives to reduce crime such as projects aimed at "hot spots" and aggressive prosecutions such as Project Safe.</p>
Unemployment Rate (ESC-09)	12.2%	
Part I Crimes Reported		
Homicide	5	
Rape	15	
Robbery	96	
Assault	127	
Burglary	350	
Larceny	1,193	
Auto Theft	94	
Arson	9	
TOTAL	1,889	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	65.1%	
Operating Costs	24.9%	
Capital Costs	10.0%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 5,427,917	
Operating Costs	\$ 2,073,592	
Capital Costs	\$ 834,698	
TOTAL	\$ 8,336,207	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	88.0	
FTE Positions—Other	20.0	
Part I Crimes Cleared		
Persons	115	
Property	473	
TOTAL	588	
Reporting Format	IBR	
Part II Crimes Reported	2,392	
Number of Calls Dispatched	35,447	
Traffic Accidents	1,797	
Property Damage	NA	

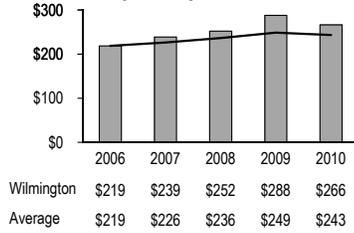
# Wilmington

# Police Services

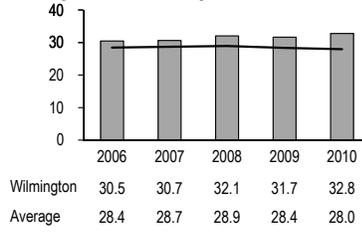
Key: Wilmington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

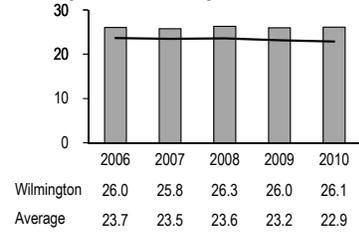
**Police Services Costs per Capita**



**Total Police Services Personnel per 10,000 Population**

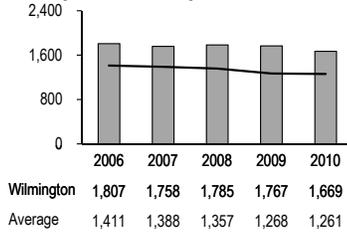


**Sworn Police Officers per 10,000 Population**

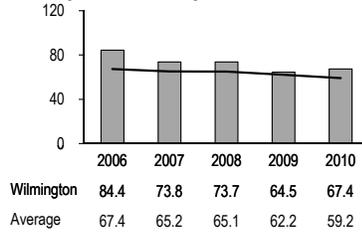


## WORKLOAD Measures

**Calls Dispatched per 1,000 Population**

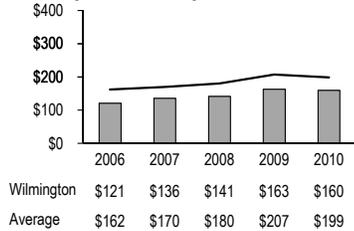


**Part I Crimes per 1,000 Population**

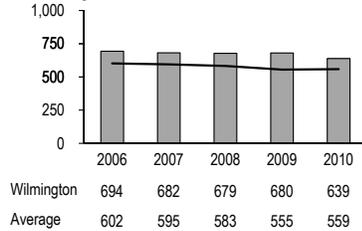


## EFFICIENCY Measures

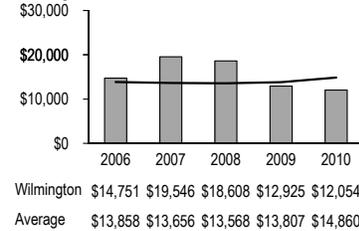
**Police Services Cost per Call Dispatched**



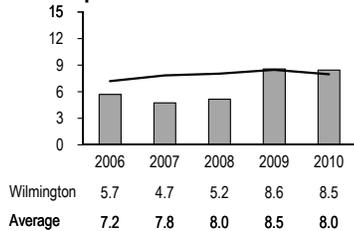
**Calls Dispatched per Sworn Officer**



**Police Services Cost per Part I Case Cleared**

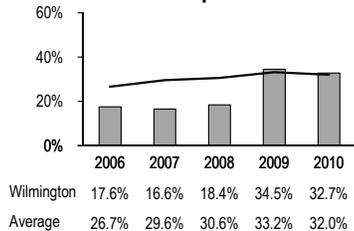


**Part I Cases Cleared per Sworn Officer**

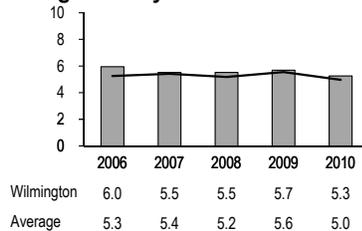


## EFFECTIVENESS Measures

**Percentage of Part I Cases Cleared of Those Reported**



**Response Time to High Priority Calls in Minutes**



# Wilmington

## Police Services

### Fiscal Year 2009–10

#### MUNICIPAL PROFILE

Population (OSBM 2009)	102,207
Land Area (Square Miles)	51.55
Persons per Square Mile	1,983
County	New Hanover
Median Family Income (US Census 2000)	\$41,891
Unemployment Rate (ESC-09)	9.4%
Part I Crimes Reported	
Homicide	4
Rape	48
Robbery	321
Assault	444
Burglary	1,574
Larceny	4,011
Auto Theft	477
Arson	13
TOTAL	<u>6,892</u>

#### FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	68.9%
Operating Costs	22.1%
Capital Costs	<u>9.0%</u>
TOTAL	100.0%

Cost Breakdown in Dollars	
Personal Services	\$ 18,733,698
Operating Costs	\$ 6,025,351
Capital Costs	<u>\$ 2,446,361</u>
TOTAL	\$ 27,205,410

#### SERVICE PROFILE

FTE Positions—Sworn	267.0
FTE Positions—Other	68.0
Part I Crimes Cleared	
Persons	467
Property	<u>1,790</u>
TOTAL	2,257
Reporting Format	UCR
Part II Crimes Reported	5,079
Number of Calls Dispatched	170,552
Traffic Accidents	3,481
Property Damage	\$14,801,455

#### 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 2009–10, with an average length of service of 10.25 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 ERT 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 2,257 Part I cases in FY 2009–10.

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

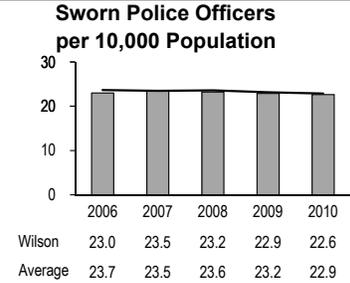
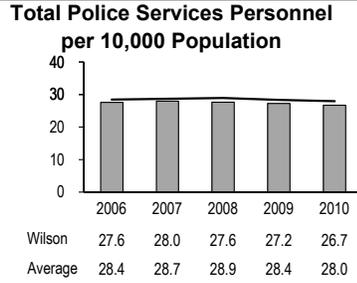
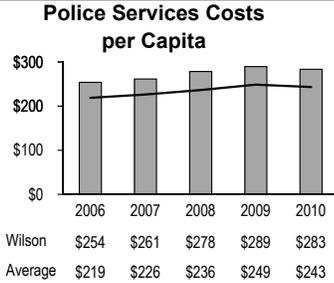
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

# Wilson

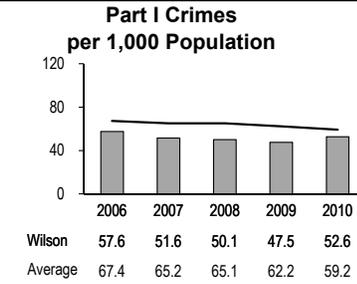
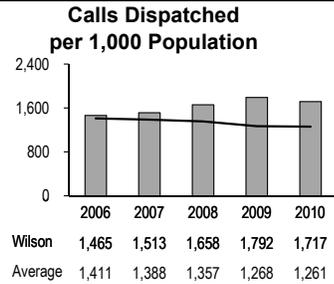
# Police Services

Key: Wilson ■ Benchmarking Average — Fiscal Years 2006 through 2010

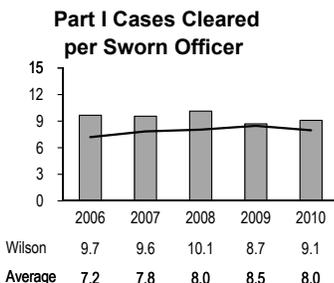
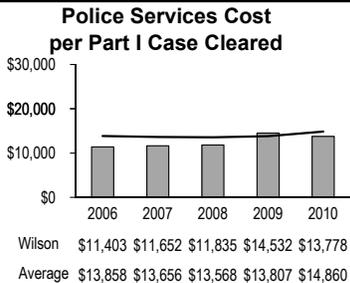
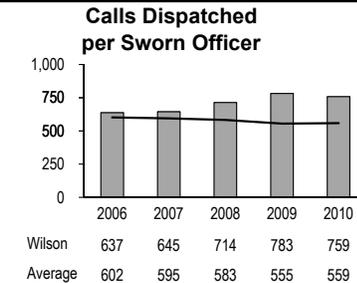
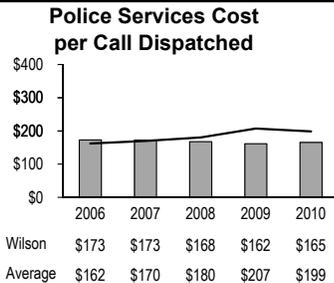
## RESOURCE Measures



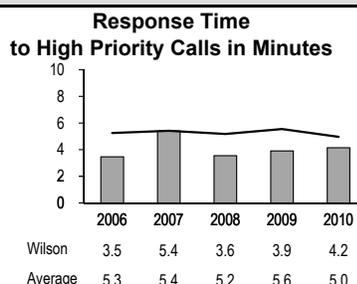
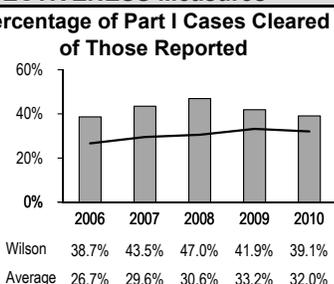
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Wilson

## Police Services

### Fiscal Year 2009–10

#### MUNICIPAL PROFILE

Population (OSBM 2009)	51,274
Land Area (Square Miles)	29.02
Persons per Square Mile	1,767
County	Wilson
Median Family Income (US Census 2000)	\$41,041
Unemployment Rate (ESC-09)	12.1%
Part I Crimes Reported	
Homicide	2
Rape	13
Robbery	70
Assault	174
Burglary	760
Larceny	1,570
Auto Theft	104
Arson	6
TOTAL	<u>2,699</u>

#### FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	64.1%
Operating Costs	28.9%
Capital Costs	7.0%
TOTAL	<u>100.0%</u>

Cost Breakdown in Dollars	
Personal Services	\$ 9,321,081
Operating Costs	\$ 4,203,119
Capital Costs	\$ 1,011,435
TOTAL	<u>\$ 14,535,635</u>

#### SERVICE PROFILE

FTE Positions—Sworn	116.0
FTE Positions—Other	21.0
Part I Crimes Cleared	
Persons	164
Property	891
TOTAL	<u>1,055</u>
Reporting Format	UCR
Part II Crimes Reported	3,856
Number of Calls Dispatched	88,015
Traffic Accidents	2,383
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 116 sworn officer positions authorized for FY 2009–10, with an average length of service of 8.5 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 1,055 Part I cases in FY 2009–10.

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.

# Winston-Salem

# Police Services

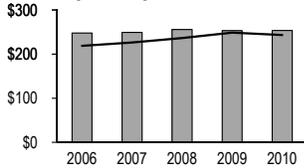
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

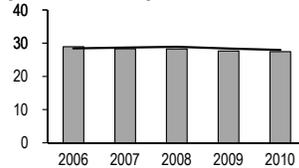
## RESOURCE Measures

**Police Services Costs per Capita**



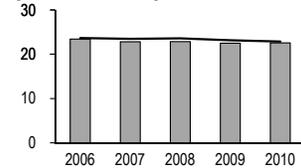
Year	Winston-Salem	Average
2006	\$248	\$219
2007	\$249	\$226
2008	\$256	\$236
2009	\$253	\$249
2010	\$253	\$243

**Total Police Services Personnel per 10,000 Population**



Year	Winston-Salem	Average
2006	29.0	28.4
2007	28.3	28.7
2008	28.3	28.9
2009	27.7	28.4
2010	27.5	28.0

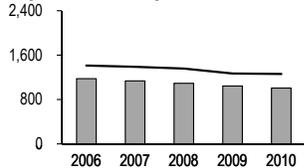
**Sworn Police Officers per 10,000 Population**



Year	Winston-Salem	Average
2006	23.4	23.7
2007	22.8	23.5
2008	22.9	23.6
2009	22.5	23.2
2010	22.6	22.9

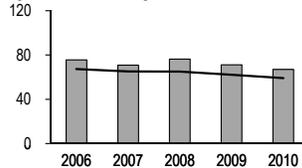
## WORKLOAD Measures

**Calls Dispatched per 1,000 Population**



Year	Winston-Salem	Average
2006	1,174	1,411
2007	1,135	1,388
2008	1,094	1,357
2009	1,044	1,268
2010	1,006	1,261

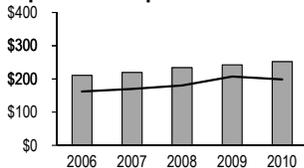
**Part I Crimes per 1,000 Population**



Year	Winston-Salem	Average
2006	75.6	67.4
2007	70.9	65.2
2008	76.3	65.1
2009	71.2	62.2
2010	67.0	59.2

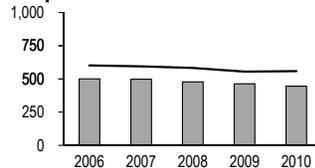
## EFFICIENCY Measures

**Police Services Cost per Call Dispatched**



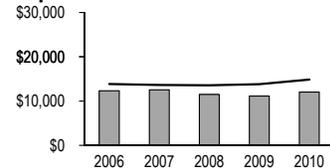
Year	Winston-Salem	Average
2006	\$211	\$162
2007	\$219	\$170
2008	\$234	\$180
2009	\$242	\$207
2010	\$252	\$199

**Calls Dispatched per Sworn Officer**



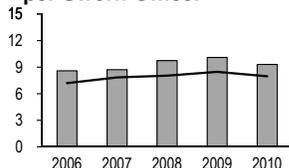
Year	Winston-Salem	Average
2006	501	602
2007	498	595
2008	478	583
2009	464	555
2010	446	559

**Police Services Cost per Part I Case Cleared**



Year	Winston-Salem	Average
2006	\$12,313	\$13,858
2007	\$12,538	\$13,656
2008	\$11,488	\$13,568
2009	\$11,138	\$13,807
2010	\$12,055	\$14,860

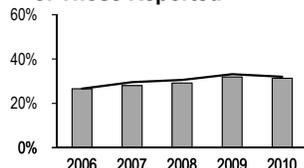
**Part I Cases Cleared per Sworn Officer**



Year	Winston-Salem	Average
2006	8.6	7.2
2007	8.7	7.8
2008	9.7	8.0
2009	10.1	8.5
2010	9.3	8.0

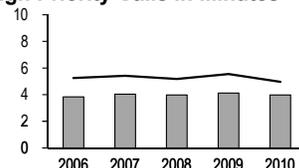
## EFFECTIVENESS Measures

**Percentage of Part I Cases Cleared of Those Reported**



Year	Winston-Salem	Average
2006	26.6%	26.7%
2007	28.0%	29.6%
2008	29.2%	30.6%
2009	31.9%	33.2%
2010	31.4%	32.0%

**Response Time to High Priority Calls in Minutes**



Year	Winston-Salem	Average
2006	3.8	5.3
2007	4.0	5.4
2008	4.0	5.2
2009	4.1	5.6
2010	4.0	5.0

# Winston-Salem

## Police Services

### Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	235,075	<p><b>Service Level and Delivery</b> 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.</p> <p>The city had 530.5 sworn officer positions authorized for FY 2009–10, with an average length of service of 10.8 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.</p> <p>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.</p> <p>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.</p> <p>The police department was successful in clearing a total of 4,942 Part I crimes in FY 2009–10 in 4,864 distinct cases.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p> <p>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.</p> <p>During FY 2009–10, the Police Department received a federal stimulus grant that funded twenty-five additional police officers. Because these positions were not authorized until December, the number of sworn FTE positions only includes 12.5 FTEs to represent these grant funded positions. In addition, the Police Department received a federal grant that funded four non-sworn positions in the Crime Analysis Unit but this was just for half the year so it only counted as two FTE positions.</p>
Land Area (Square Miles)	133.19	
Persons per Square Mile	1,765	
County	Forsyth	
Median Family Income (US Census 2000)	\$46,595	
Unemployment Rate (ESC-09)	9.7%	
Part I Crimes Reported		
Homicide	11	
Rape	132	
Robbery	539	
Assault	1,056	
Burglary	4,617	
Larceny	8,611	
Auto Theft	794	
Arson	NA	
TOTAL	15,760	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	76.0%	
Operating Costs	15.3%	
Capital Costs	8.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 45,295,678	
Operating Costs	\$ 9,137,517	
Capital Costs	\$ 5,141,845	
TOTAL	\$ 59,575,040	
<b>SERVICE PROFILE</b>		
FTE Positions—Sworn	530.5	
FTE Positions—Other	115.0	
Part I Crimes Cleared		
Persons	925	
Property	4,017	
TOTAL	4,942	
Reporting Format	IBR	
Part II Crimes Reported	31,674	
Number of Calls Dispatched	236,373	
Traffic Accidents	8,546	
Property Damage	\$25,076,180	







# Performance and Cost Data

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EMERGENCY COMMUNICATIONS

## 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 CAD entry begins. This measure is often referred to as “talk time.”

#### 5. For Calls Dispatched, Average Number of Seconds from CAD (Computer-Aided Dispatch) 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 E911 Calls Handled	Total Dispatches	Outgoing Calls Other Than Dispatches
Asheville	79,973	25	6.8	225,083	31,369	110,353	NA
Burlington	52,457	14	6.3	140,422	21,779	81,631	35,602
Cary	147,282	22	6.2	164,908	55,091	132,889	37,179
Charlotte	711,349	130	6.5	966,877	746,292	1,434,251	206,960
Concord	81,370	23	5.6	131,639	28,825	107,585	44,095
Durham	266,132	81	6.6	365,730	269,158	412,794	174,789
Greensboro	475,953	91	8.5	578,090	344,528	424,124	182,414
Greenville	82,571	16	10.0	NA	NA	92,053	NA
Hickory	41,151	13	10.2	109,853	13,182	72,099	NA
High Point	102,216	27	9.6	299,026	48,477	144,639	86,019
Salisbury	32,263	10	6.8	68,383	12,205	35,447	NA
Winston-Salem	235,075	50	7.3	523,155	219,433	260,366	99,661

### 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

# Asheville

# Emergency Communications

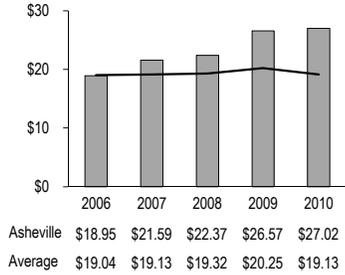
Key: Asheville ■

Benchmarking Average —

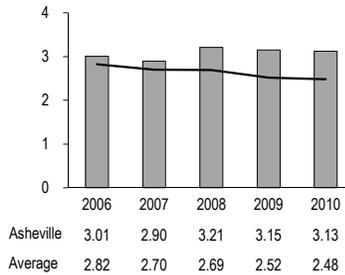
Fiscal Years 2006 through 2010

## RESOURCE Measures

**Emergency Communications Services Costs per Capita**

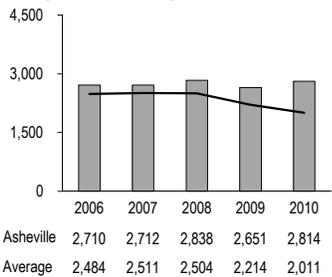


**Emergency Communications FTEs per 10,000 Population**

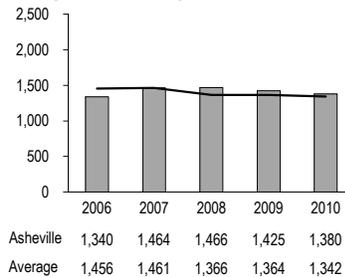


## WORKLOAD Measures

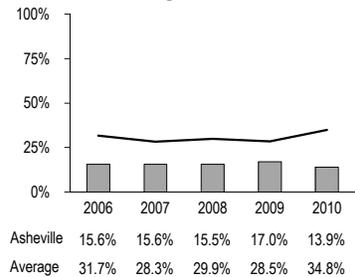
**Total Calls Answered per 1,000 Population**



**Calls Dispatched per 1,000 Population**

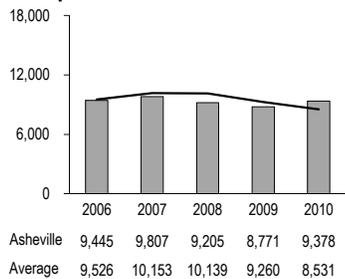


**E911 Calls as a Percentage of All Incoming Calls**

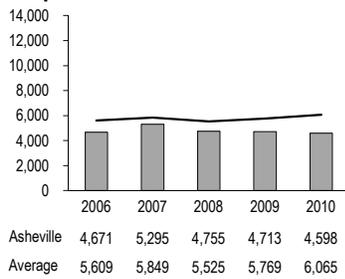


## EFFICIENCY Measures

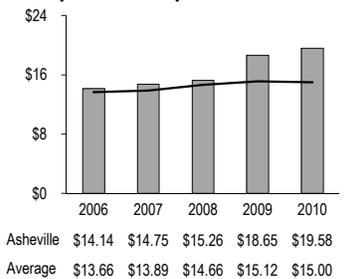
**Calls Answered per Telecommunicator**



**Calls Dispatched per Telecommunicator**

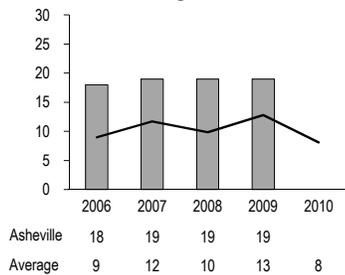


**Emergency Communications Cost per Call Dispatched**

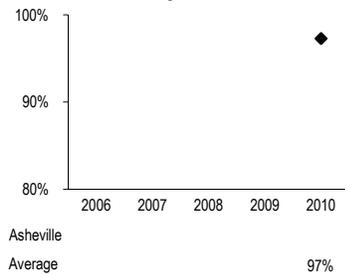


## EFFECTIVENESS Measures

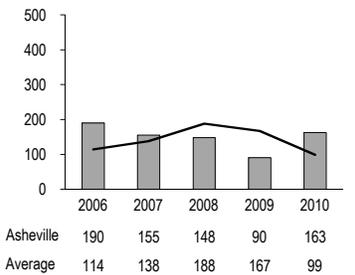
**Number of Seconds from Initial Ring to Answer**



**Percent of E911 Calls Answered within Twenty Seconds**



**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



# Emergency Communications

Fiscal Year 2009–10

# Asheville

<b>MUNICIPAL PROFILE</b>	
Population (OSBM 2009)	79,973
Land Area (Square Miles)	44.99
Persons per Square Mile	1,778
County	Buncombe
Median Family Income (US Census 2000)	\$44,029
Unemployment Rate (ESC-09)	8.6%
Population Growth (OMB 2000–2009)	16.1%
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	57.3%
Operating Costs	41.0%
Capital Costs	1.7%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 1,237,951
Operating Costs	\$ 884,889
Capital Costs	\$ 37,690
<b>TOTAL</b>	<b>\$ 2,160,530</b>
<b>SERVICE PROFILE</b>	
FTE Positions	
Telecommunicators/Call-Takers	24.0
Other	1.0
Total Incoming Calls	225,083
Total 911 Calls	31,369
Total Calls Dispatched	110,353
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 administrative calls, requests for police response, and 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. Nonemergency 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 225,083 incoming calls in FY 2009–10 and dispatched 110,353 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 E911 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

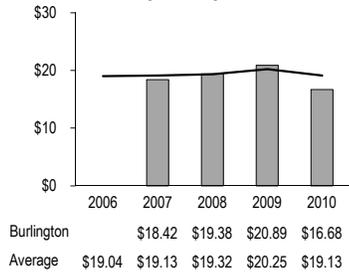
Key: Burlington ■

Benchmarking Average —

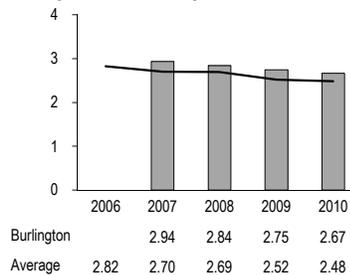
Fiscal Years 2006 through 2010

## RESOURCE Measures

**Emergency Communications Services Costs per Capita**

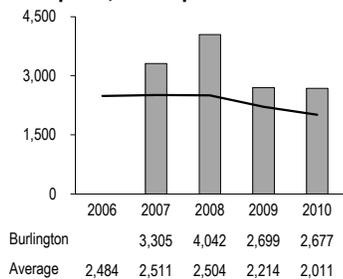


**Emergency Communications FTEs per 10,000 Population**

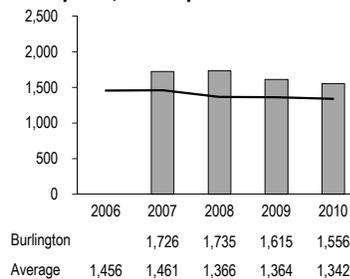


## WORKLOAD Measures

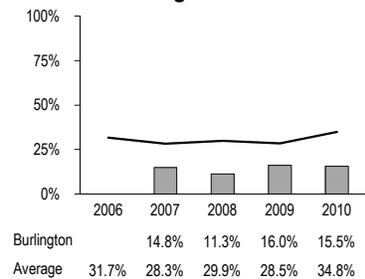
**Total Calls Answered per 1,000 Population**



**Calls Dispatched per 1,000 Population**

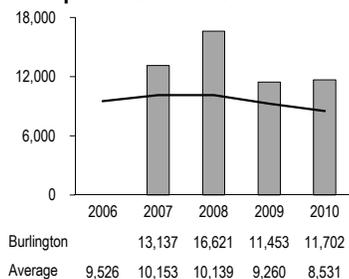


**E911 Calls as a Percentage of All Incoming Calls**

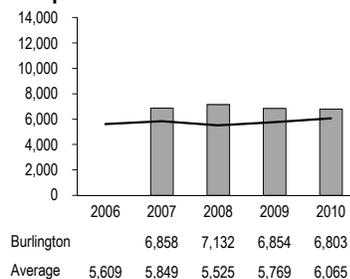


## EFFICIENCY Measures

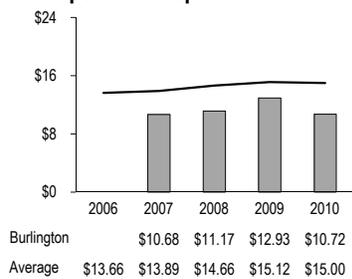
**Calls Answered per Telecommunicator**



**Calls Dispatched per Telecommunicator**

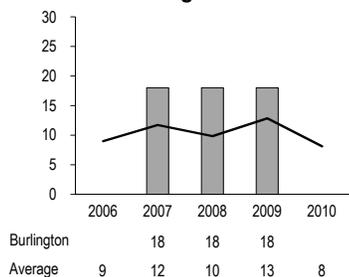


**Emergency Communications Cost per Call Dispatched**

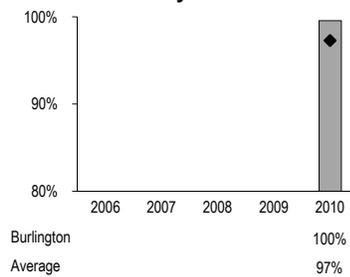


## EFFECTIVENESS Measures

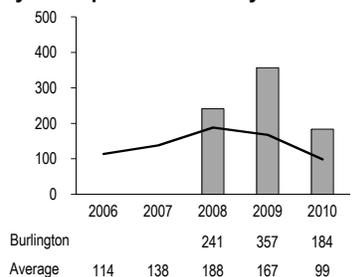
**Number of Seconds from Initial Ring to Answer**



**Percent of E911 Calls Answered within Twenty Seconds**



**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



# Emergency Communications

# Burlington

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009)	52,457
Land Area (Square Miles)	25.14
Persons per Square Mile	2,087
County	Alamance
Median Family Income (US Census 2000)	\$45,441
Unemployment Rate (ESC-09)	12.0%
Population Growth (OMB 2000–2009)	16.8%
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	78.2%
Operating Costs	20.1%
Capital Costs	1.7%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 684,481
Operating Costs	\$ 175,949
Capital Costs	\$ 14,580
<b>TOTAL</b>	<b>\$ 875,010</b>
<b>SERVICE PROFILE</b>	
FTE Positions	
Telecommunicators/Call-Takers	12.0
Other	2.0
Total Incoming Calls	140,422
Total 911 Calls	21,779
Total Calls Dispatched	81,631
Revenue from E-911 Fees	None
<p><b>Service Level and Delivery</b> The emergency communications center is a division within the Burlington police department. The unit is responsible for dispatching police and fire personnel for the city.</p> <p>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.</p> <p>Burlington's communication center handled a total of 140,422 incoming calls in FY 2009–10, dispatching 81,631 of them. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.</p> <p>CAD entry is an immediate action with a new call or command line keystroke initiation.</p> <p>Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.</p>	

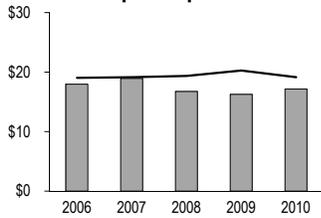
# Cary

# Emergency Communications

Key: Cary ■ Benchmarking Average — Fiscal Years 2006 through 2010

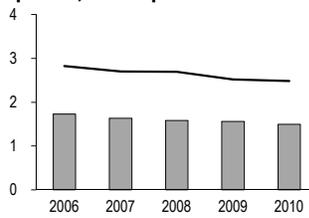
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



Year	Cary	Average
2006	\$17.95	\$19.04
2007	\$18.91	\$19.13
2008	\$16.74	\$19.32
2009	\$16.26	\$20.25
2010	\$17.17	\$19.13

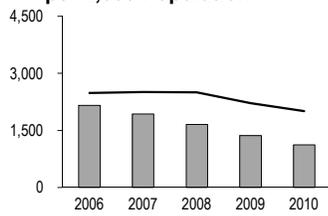
**Emergency Communications FTEs per 10,000 Population**



Year	Cary	Average
2006	1.72	2.82
2007	1.63	2.70
2008	1.58	2.69
2009	1.56	2.52
2010	1.49	2.48

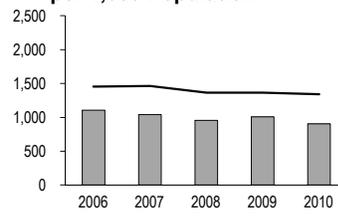
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



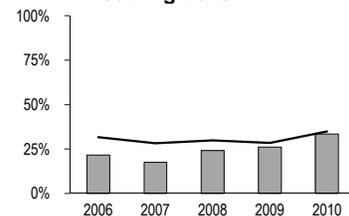
Year	Cary	Average
2006	2,160	2,484
2007	1,928	2,511
2008	1,660	2,504
2009	1,366	2,214
2010	1,120	2,011

**Calls Dispatched per 1,000 Population**



Year	Cary	Average
2006	1,104	1,456
2007	1,041	1,461
2008	956	1,366
2009	1,005	1,364
2010	902	1,342

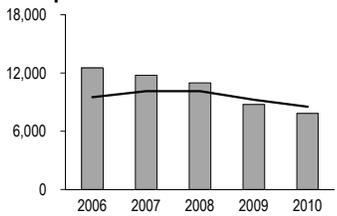
**E911 Calls as a Percentage of All Incoming Calls**



Year	Cary	Average
2006	21.6%	31.7%
2007	17.6%	28.3%
2008	24.2%	29.9%
2009	26.1%	28.5%
2010	33.4%	34.8%

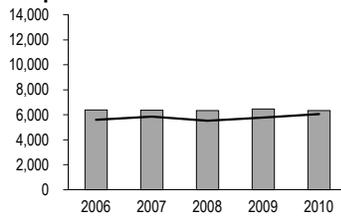
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



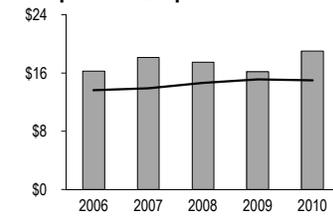
Year	Cary	Average
2006	12,522	9,526
2007	11,792	10,153
2008	11,003	10,139
2009	8,773	9,260
2010	7,853	8,531

**Calls Dispatched per Telecommunicator**



Year	Cary	Average
2006	6,401	5,609
2007	6,370	5,849
2008	6,338	5,525
2009	6,455	5,769
2010	6,328	6,065

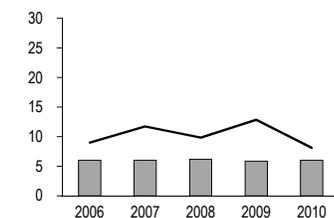
**Emergency Communications Cost per Call Dispatched**



Year	Cary	Average
2006	\$16.26	\$13.66
2007	\$18.16	\$13.89
2008	\$17.52	\$14.66
2009	\$16.17	\$15.12
2010	\$19.03	\$15.00

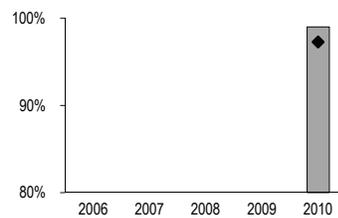
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



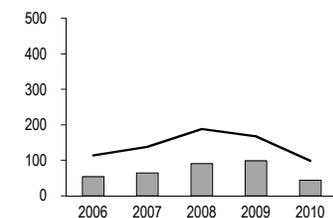
Year	Cary	Average
2006	6	9
2007	6	12
2008	6	10
2009	6	13
2010	6	8

**Percent of E911 Calls Answered within Twenty Seconds**



Year	Cary	Average
2006	99%	97%
2007	99%	97%
2008	99%	97%
2009	99%	97%
2010	99%	97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Year	Cary	Average
2006	54	114
2007	64	138
2008	90	188
2009	98	167
2010	44	99

# Emergency Communications

# Cary

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009)	147,282
Land Area (Square Miles)	54.01
Persons per Square Mile	2,727
County	Wake
Median Family Income (US Census 2000)	\$88,074
Unemployment Rate (ESC-09)	8.4%
Population Growth (OMB 2000–2009)	55.8%
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	68.0%
Operating Costs	25.5%
Capital Costs	6.6%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 1,718,701
Operating Costs	\$ 643,839
Capital Costs	\$ 165,791
<b>TOTAL</b>	<b>\$ 2,528,331</b>
<b>SERVICE PROFILE</b>	
FTE Positions	
Telecommunicators/Call-Takers	21.0
Other	1.0
Total Incoming Calls	164,908
Total 911 Calls	55,091
Total Calls Dispatched	132,889
Revenue from E-911 Fees	\$ 434,032

**Service Level and Delivery**  
The Cary Police Department handles all emergency and nonemergency 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 nonemergency 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 164,908 calls in FY 2009–10, dispatching 132,889 of them. 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 E911 revenues to support the system operations.

**Conditions Affecting Service, Performance, and Costs**  
The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009-10.

CAD entry time begins once a call is generated in the system by the telecommunicator. The time from call answer to CAD entry is not tracked.

# Charlotte

# Emergency Communications

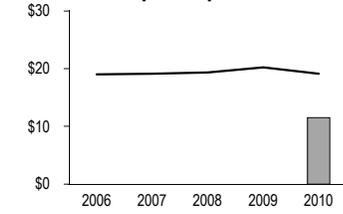
Key: Charlotte ■

Benchmarking Average —

Fiscal Years 2006 through 2010

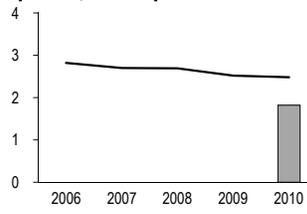
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



Charlotte \$11.53  
Average \$19.04 \$19.13 \$19.32 \$20.25 \$19.13

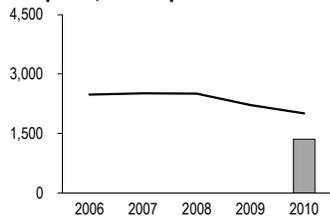
**Emergency Communications FTEs per 10,000 Population**



Charlotte 1.82  
Average 2.82 2.70 2.69 2.52 2.48

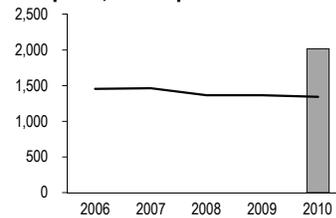
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



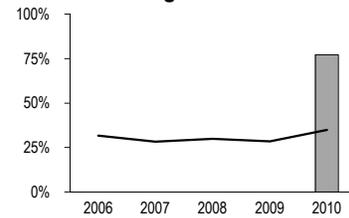
Charlotte 1,359  
Average 2,484 2,511 2,504 2,214 2,011

**Calls Dispatched per 1,000 Population**



Charlotte 2,016  
Average 1,456 1,461 1,366 1,364 1,342

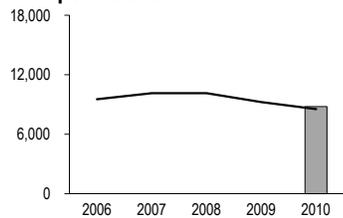
**E911 Calls as a Percentage of All Incoming Calls**



Charlotte 77.2%  
Average 31.7% 28.3% 29.9% 28.5% 34.8%

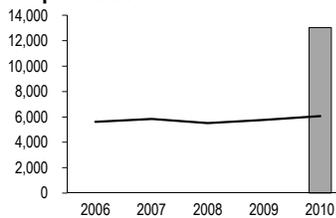
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



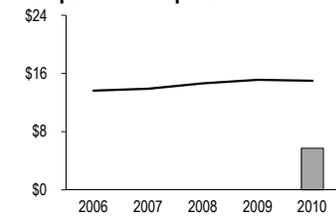
Charlotte 8,790  
Average 9,526 10,153 10,139 9,260 8,531

**Calls Dispatched per Telecommunicator**



Charlotte 13,039  
Average 5,609 5,849 5,525 5,769 6,065

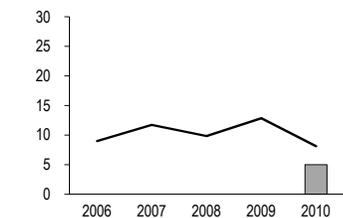
**Emergency Communications Cost per Call Dispatched**



Charlotte \$5.72  
Average \$13.66 \$13.89 \$14.66 \$15.12 \$15.00

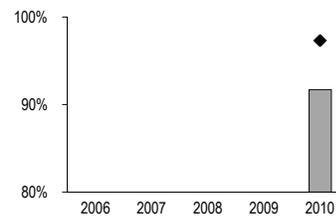
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



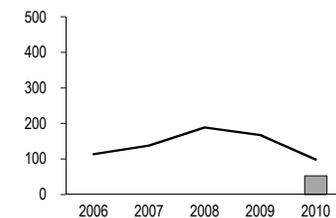
Charlotte 5  
Average 9 12 10 13 8

**Percent of E911 Calls Answered within Twenty Seconds**



Charlotte 92%  
Average 97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Charlotte 53  
Average 114 138 188 167 99

# Emergency Communications

# Charlotte

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION																						
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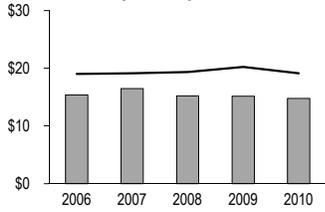
# Concord

# Emergency Communications

Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

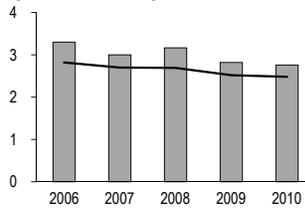
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



Concord \$15.38 \$16.45 \$15.18 \$15.13 \$14.78  
Average \$19.04 \$19.13 \$19.32 \$20.25 \$19.13

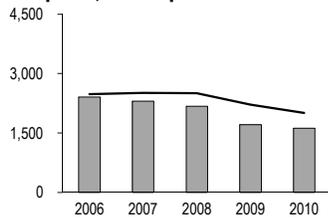
**Emergency Communications FTEs per 10,000 Population**



Concord 3.30 3.00 3.17 2.82 2.77  
Average 2.82 2.70 2.69 2.52 2.48

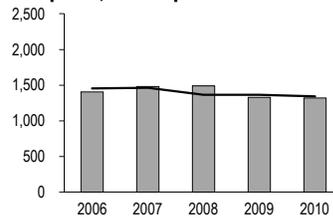
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



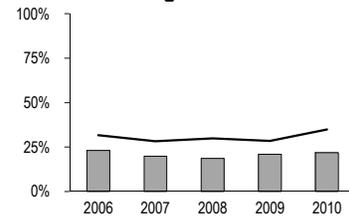
Concord 2,412 2,301 2,175 1,710 1,618  
Average 2,484 2,511 2,504 2,214 2,011

**Calls Dispatched per 1,000 Population**



Concord 1,406 1,482 1,489 1,329 1,322  
Average 1,456 1,461 1,366 1,364 1,342

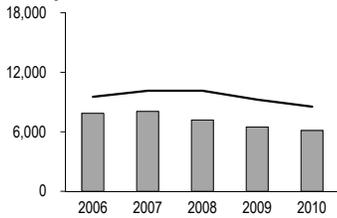
**E911 Calls as a Percentage of All Incoming Calls**



Concord 23.1% 19.8% 18.6% 20.9% 21.9%  
Average 31.7% 28.3% 29.9% 28.5% 34.8%

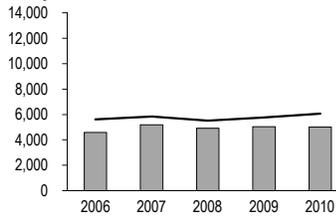
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



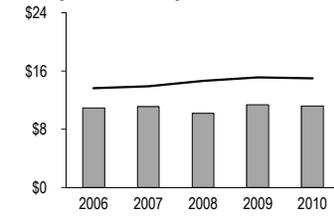
Concord 7,870 8,052 7,188 6,487 6,123  
Average 9,526 10,153 10,139 9,260 8,531

**Calls Dispatched per Telecommunicator**



Concord 4,587 5,186 4,921 5,043 5,004  
Average 5,609 5,849 5,525 5,769 6,065

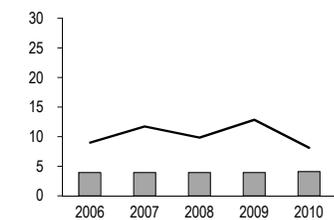
**Emergency Communications Cost per Call Dispatched**



Concord \$10.94 \$11.10 \$10.20 \$11.38 \$11.18  
Average \$13.66 \$13.89 \$14.66 \$15.12 \$15.00

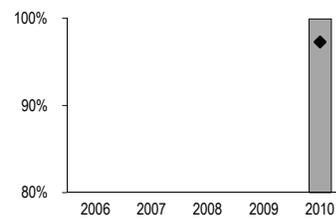
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



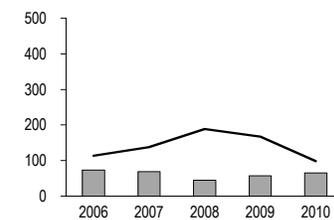
Concord 4 4 4 4 4  
Average 9 12 10 13 8

**Percent of E911 Calls Answered within Twenty Seconds**



Concord 100%  
Average 97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Concord 73 69 44 57 65  
Average 114 138 188 167 99

# Emergency Communications

# Concord

**Fiscal Year 2009–10**

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) 81,370	<p><b>Service Level and Delivery</b>                      Concord's emergency communications center handles E-911 and nonemergency 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.</p> <p>The city uses an 800 MHz system, which is a twelve-channel, five-site system shared with Cabarrus County and the City of Kannapolis.</p> <p>Concord's center handled a total of 131,639 calls in FY 2009–10, dispatching 107,585 of them.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.</p>	
Land Area (Square Miles) 59.59		
Persons per Square Mile 1,365		
County Cabarrus		
Median Family Income (US Census 2000) \$53,571		
Unemployment Rate (ESC-09) 11.2%		
Population Growth (OMB 2000–2009) 45.4%		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services 84.7%		
Operating Costs 13.3%		
Capital Costs 2.0%		
<b>TOTAL</b> 100.0%		
Cost Breakdown in Dollars		
Personal Services \$ 1,018,227		
Operating Costs \$ 160,157		
Capital Costs \$ 24,104		
<b>TOTAL</b> \$ 1,202,488		
<b>SERVICE PROFILE</b>		
FTE Positions		
Telecommunicators/Call-Takers 21.50		
Other 1.00		
Total Incoming Calls 131,639		
Total 911 Calls 28,825		
Total Calls Dispatched 107,585		
Revenue from E-911 Fees None		

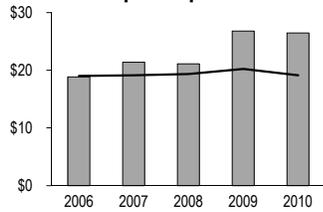
# Durham

# Emergency Communications

Key: Durham ■ Benchmarking Average — Fiscal Years 2006 through 2010

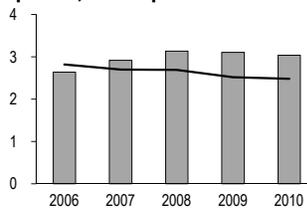
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



Year	Durham	Average
2006	\$18.84	\$19.04
2007	\$21.39	\$19.13
2008	\$21.10	\$19.32
2009	\$26.79	\$20.25
2010	\$26.48	\$19.13

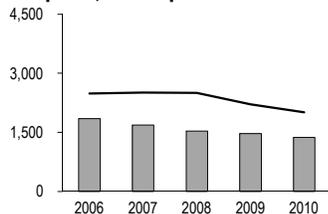
**Emergency Communications FTEs per 10,000 Population**



Year	Durham	Average
2006	2.64	2.82
2007	2.92	2.70
2008	3.14	2.69
2009	3.11	2.52
2010	3.04	2.48

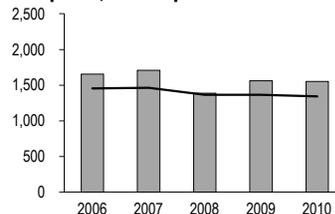
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



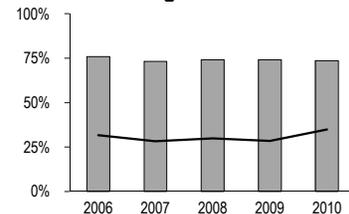
Year	Durham	Average
2006	1,851	2,484
2007	1,688	2,511
2008	1,534	2,504
2009	1,467	2,214
2010	1,374	2,011

**Calls Dispatched per 1,000 Population**



Year	Durham	Average
2006	1,656	1,456
2007	1,706	1,461
2008	1,389	1,366
2009	1,560	1,364
2010	1,551	1,342

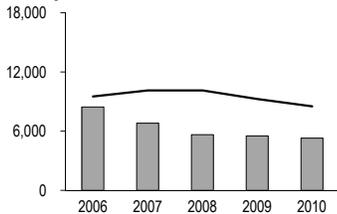
**E911 Calls as a Percentage of All Incoming Calls**



Year	Durham	Average
2006	76.0%	31.7%
2007	73.2%	28.3%
2008	74.2%	29.9%
2009	74.1%	28.5%
2010	73.6%	34.8%

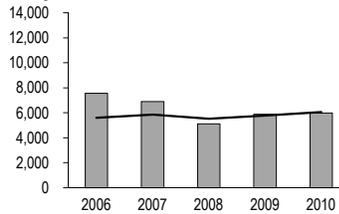
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



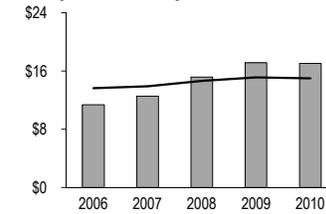
Year	Durham	Average
2006	8,457	9,526
2007	6,829	10,153
2008	5,663	10,139
2009	5,538	9,260
2010	5,300	8,531

**Calls Dispatched per Telecommunicator**



Year	Durham	Average
2006	7,569	5,609
2007	6,905	5,849
2008	5,127	5,525
2009	5,889	5,769
2010	5,983	6,065

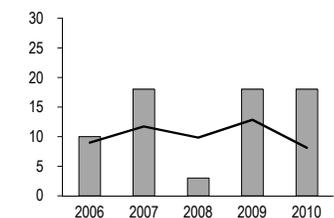
**Emergency Communications Cost per Call Dispatched**



Year	Durham	Average
2006	\$11.37	\$13.66
2007	\$12.53	\$13.89
2008	\$15.19	\$14.66
2009	\$17.17	\$15.12
2010	\$17.07	\$15.00

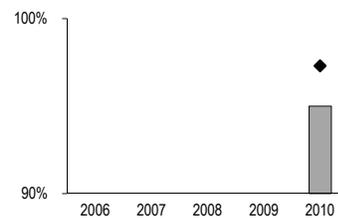
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



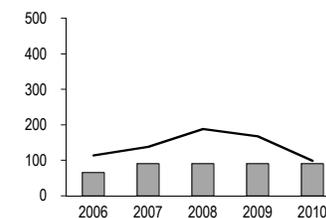
Year	Durham	Average
2006	10	9
2007	18	12
2008	3	10
2009	18	13
2010	18	8

**Percent of E911 Calls Answered within Twenty Seconds**



Year	Durham	Average
2006	95%	97%
2007	95%	97%
2008	95%	97%
2009	95%	97%
2010	95%	97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Year	Durham	Average
2006	65	114
2007	90	138
2008	90	188
2009	90	167
2010	90	99

# Emergency Communications

# Durham

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009)	266,132
Land Area (Square Miles)	290.32
Persons per Square Mile	917
County	Durham
Median Family Income (US Census 2000)	\$51,162
Unemployment Rate (ESC-09)	7.9%
Population Growth (OMB 2000–2009)	25.2%
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	58.6%
Operating Costs	30.0%
Capital Costs	11.4%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 4,126,726
Operating Costs	\$ 2,114,357
Capital Costs	\$ 804,954
<b>TOTAL</b>	<b>\$ 7,046,037</b>
<b>SERVICE PROFILE</b>	
FTE Positions	
Telecommunicators/Call-Takers	69.0
Other	12.0
Total Incoming Calls	365,730
Total 911 Calls	269,158
Total Calls Dispatched	412,794
Revenue from E-911 Fees	\$ 1,517,187

**Service Level and Delivery**  
 The Durham Emergency Communications Center operates under an interlocal agreement between the City of Durham and Durham County, managing public safety calls for law enforcement, emergency medical services, and fire services. The Durham Emergency Communications Center is a public safety answering point (PSAP). Only the Durham County Sheriff's Department is not dispatched from the 911 communications center.

The center is a separate agency within city government that is funded by both the city and the county. All 911 calls for the city and county are received in the communications center and answered by telecommunicators. The center is not part of the police department.

Durham owns and maintains three towers of its own plus renting space for one tower. The city uses a twenty-channel trunked 800 MHz Motorola system.

Durham's communication center handled a total of 365,730 incoming calls in FY 2009–10, dispatching 412,794 calls. The city defines highest priority emergency calls as life threatening or property threatening situations in progress or an officer needing assistance.

Durham received \$1,517,187 in E911 revenues to support the system operations.

**Conditions Affecting Service, Performance, and Costs**  
 The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.

# Greensboro

# Emergency Communications

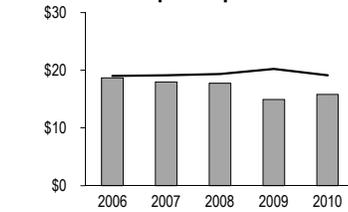
Key: Greensboro ■

Benchmarking Average —

Fiscal Years 2006 through 2010

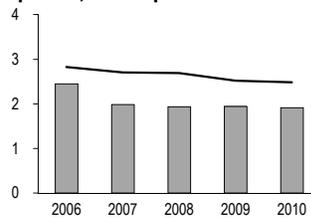
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



Greensboro	\$18.66	\$17.97	\$17.73	\$14.94	\$15.84
Average	\$19.04	\$19.13	\$19.32	\$20.25	\$19.13

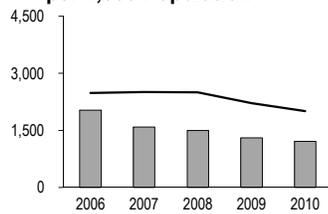
**Emergency Communications FTEs per 10,000 Population**



Greensboro	2.44	1.98	1.93	1.94	1.91
Average	2.82	2.70	2.69	2.52	2.48

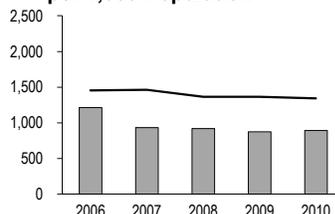
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



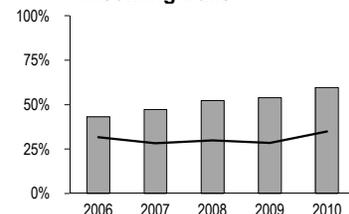
Greensboro	2,028	1,587	1,497	1,304	1,215
Average	2,484	2,511	2,504	2,214	2,011

**Calls Dispatched per 1,000 Population**



Greensboro	1,214	930	917	873	891
Average	1,456	1,461	1,366	1,364	1,342

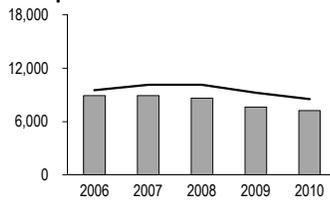
**E911 Calls as a Percentage of All Incoming Calls**



Greensboro	43.1%	47.3%	52.3%	53.9%	59.6%
Average	31.7%	28.3%	29.9%	28.5%	34.8%

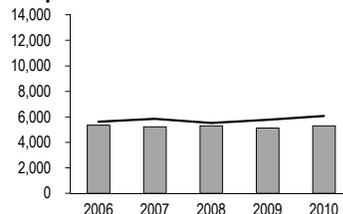
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



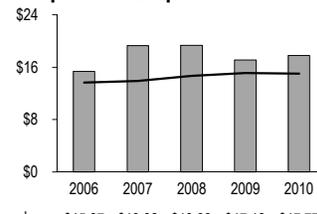
Greensboro	8,913	8,910	8,622	7,632	7,226
Average	9,526	10,153	10,139	9,260	8,531

**Calls Dispatched per Telecommunicator**



Greensboro	5,335	5,222	5,284	5,108	5,302
Average	5,609	5,849	5,525	5,769	6,065

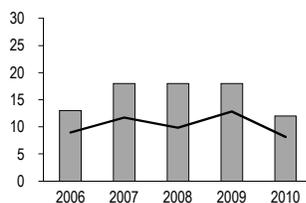
**Emergency Communications Cost per Call Dispatched**



Greensboro	\$15.37	\$19.32	\$19.33	\$17.12	\$17.77
Average	\$13.66	\$13.89	\$14.66	\$15.12	\$15.00

## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



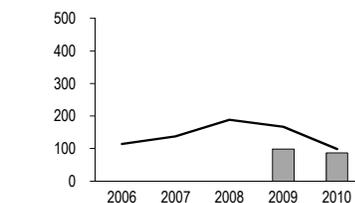
Greensboro	13	18	18	18	12
Average	9	12	10	13	8

**Percent of E911 Calls Answered within Twenty Seconds**



Greensboro	96%	96%	96%	96%	96%
Average	97%	97%	97%	97%	97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Greensboro	98	86	98	86	86
Average	114	138	188	167	99

# Emergency Communications

# Greensboro

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) 475,953	<p><b>Service Level and Delivery</b>                      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 911 center to improve disaster preparedness. These changes contributed to slightly higher operational costs.</p> <p>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.</p> <p>Greensboro's communication center handled a total of 578,090 incoming calls in FY 2009–10, dispatching 424,124 of them. The city defines highest priority emergency calls as call types that require the fastest response, such as shootings, robberies, and domestic violence.</p> <p>Greensboro received \$1,400,000 in E911 revenues to support the system operations.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.</p>	
Land Area (Square Miles) 649.42		
Persons per Square Mile 733		
County Guilford		
Median Family Income (US Census 2000) \$50,192		
Unemployment Rate (ESC-09) 11.0%		
Population Growth (OMB 2000–2009) 19.8%		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services 64.2%		
Operating Costs 35.8%		
Capital Costs 0.0%		
TOTAL 100.0%		
Cost Breakdown in Dollars		
Personal Services \$ 4,842,059		
Operating Costs \$ 2,696,141		
Capital Costs \$ -		
TOTAL \$ 7,538,200		
<b>SERVICE PROFILE</b>		
FTE Positions		
Telecommunicators/Call-Takers 80.0		
Other 11.0		
Total Incoming Calls 578,090		
Total 911 Calls 344,528		
Total Calls Dispatched 424,124		
Revenue from E-911 Fees \$ 1,400,000		

# Greenville

# Emergency Communications

Key: Greenville ■

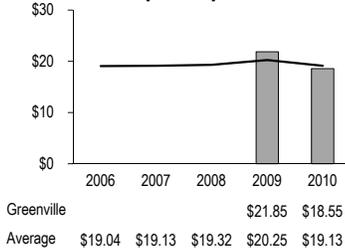
Benchmarking Average —

Fiscal Years 2006 through 2010

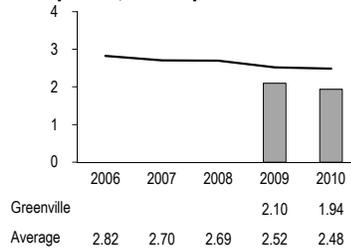
## RESOURCE Measures

### Emergency Communications Services

#### Costs per Capita

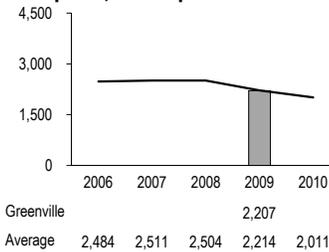


### Emergency Communications FTEs per 10,000 Population

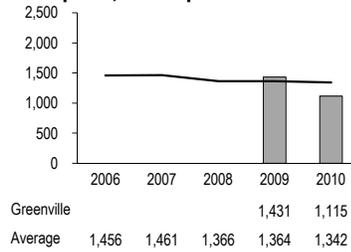


## WORKLOAD Measures

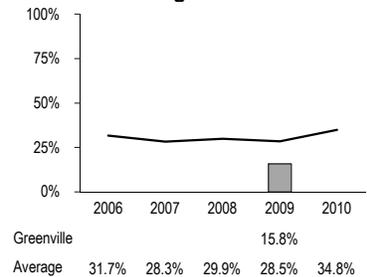
### Total Calls Answered per 1,000 Population



### Calls Dispatched per 1,000 Population

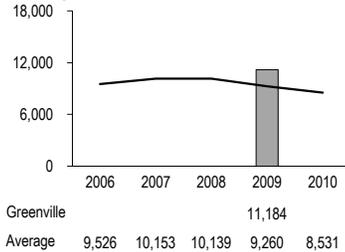


### E911 Calls as a Percentage of All Incoming Calls

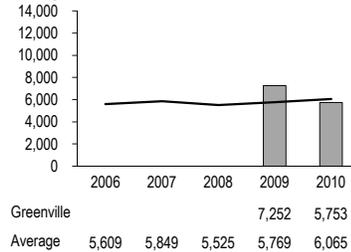


## EFFICIENCY Measures

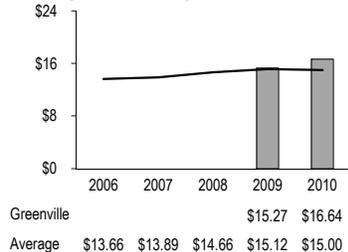
### Calls Answered per Telecommunicator



### Calls Dispatched per Telecommunicator

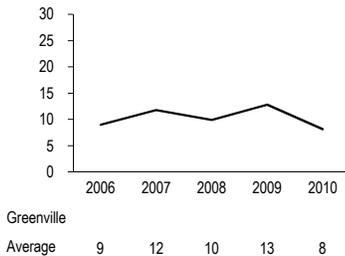


### Emergency Communications Cost per Call Dispatched

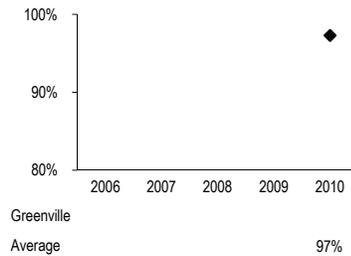


## EFFECTIVENESS Measures

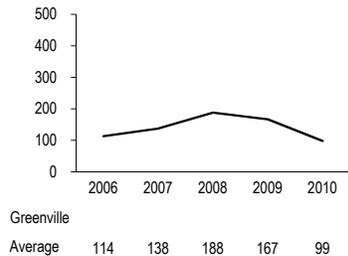
### Number of Seconds from Initial Ring to Answer



### Percent of E911 Calls Answered within Twenty Seconds



### Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls



# Emergency Communications

# Greenville

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009)	82,571
Land Area (Square Miles)	35.01
Persons per Square Mile	2,358
County	Pitt
Median Family Income (US Census 2000)	\$44,491
Unemployment Rate (ESC-09)	10.3%
Population Growth (OMB 2000–2009)	34.9%
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	72.7%
Operating Costs	21.9%
Capital Costs	5.5%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 1,112,823
Operating Costs	\$ 334,913
Capital Costs	\$ 83,984
<b>TOTAL</b>	<b>\$ 1,531,720</b>
<b>SERVICE PROFILE</b>	
FTE Positions	
Telecommunicators/Call-Takers	16.0
Other	0.0
Total Incoming Calls	NA
Total 911 Calls	NA
Total Calls Dispatched	92,053
Revenue from E-911 Fees	None
<p><b>Service Level and Delivery</b> 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.</p> <p>The city does not own its own communications system and infrastructure. Greenville operate on the VIPER system maintained by the NC 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.</p> <p>Greenville's center dispatched a total of 92,053 calls in FY 2009–10. Incoming call counts were not available.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p> <p>The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.</p> <p>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 "New Call" icon.</p>	

# Hickory

# Emergency Communications

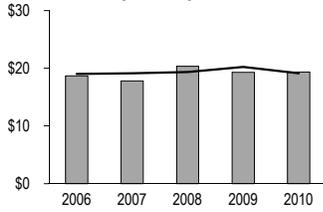
Key: Hickory ■

Benchmarking Average —

Fiscal Years 2006 through 2010

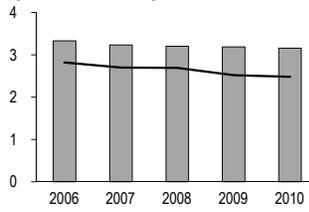
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**

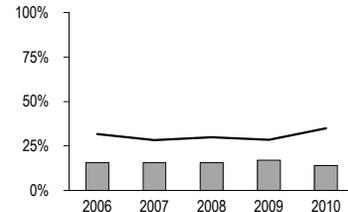


Year	Hickory	Average
2006	\$18.68	\$19.04
2007	\$17.82	\$19.13
2008	\$20.36	\$19.32
2009	\$19.26	\$20.25
2010	\$19.33	\$19.13

**Emergency Communications FTEs per 10,000 Population**



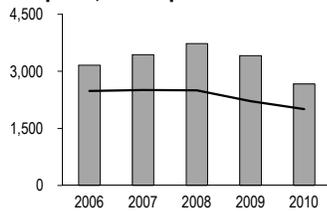
Year	Hickory	Average
2006	3.33	2.82
2007	3.23	2.70
2008	3.21	2.69
2009	3.19	2.52
2010	3.16	2.48



Year	Asheville	Average
2006	15.6%	31.7%
2007	15.6%	28.3%
2008	15.5%	29.9%
2009	17.0%	28.5%
2010	13.9%	34.8%

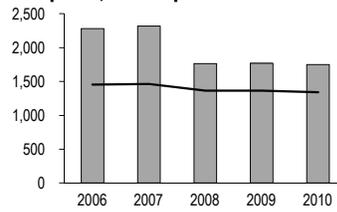
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



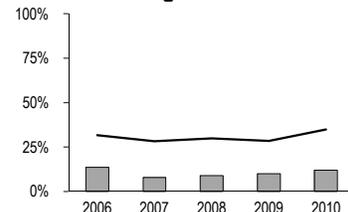
Year	Hickory	Average
2006	3,162	2,484
2007	3,436	2,511
2008	3,726	2,504
2009	3,411	2,214
2010	2,670	2,011

**Calls Dispatched per 1,000 Population**



Year	Hickory	Average
2006	2,283	1,456
2007	2,319	1,461
2008	1,765	1,366
2009	1,768	1,364
2010	1,752	1,342

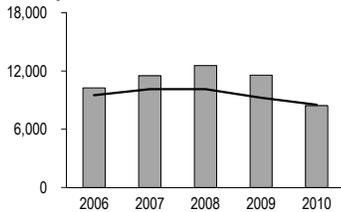
**E911 Calls as a Percentage of All Incoming Calls**



Year	Hickory	Average
2006	13.6%	31.7%
2007	7.8%	28.3%
2008	9.0%	29.9%
2009	10.0%	28.5%
2010	12.0%	34.8%

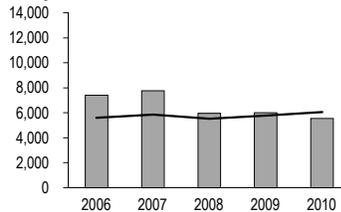
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



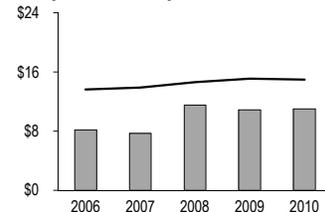
Year	Hickory	Average
2006	10,280	9,526
2007	11,515	10,153
2008	12,583	10,139
2009	11,587	9,260
2010	8,450	8,531

**Calls Dispatched per Telecommunicator**



Year	Hickory	Average
2006	7,422	5,609
2007	7,771	5,849
2008	5,959	5,525
2009	6,007	5,769
2010	5,546	6,065

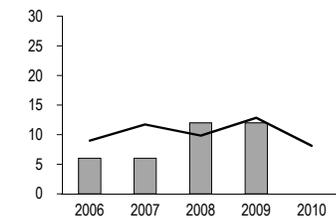
**Emergency Communications Cost per Call Dispatched**



Year	Hickory	Average
2006	\$8.18	\$13.66
2007	\$7.68	\$13.89
2008	\$11.54	\$14.66
2009	\$10.90	\$15.12
2010	\$11.03	\$15.00

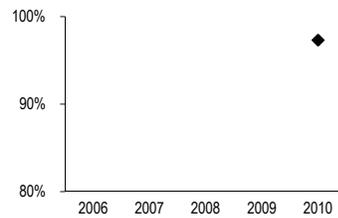
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



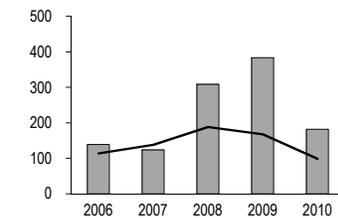
Year	Hickory	Average
2006	6	9
2007	6	12
2008	12	10
2009	12	13
2010	8	8

**Percent of E911 Calls Answered within Twenty Seconds**



Year	Hickory	Average
2006	97%	97%
2007	97%	97%
2008	97%	97%
2009	97%	97%
2010	97%	97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Year	Hickory	Average
2006	139	114
2007	124	138
2008	308	188
2009	384	167
2010	182	99

# Emergency Communications

# Hickory

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) 41,151	<p><b>Service Level and Delivery</b> Hickory's emergency communications center is a secondary public safety answering point, with Catawba County being the primary answering point. Catawba 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.</p> <p>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.</p> <p>Hickory's center handled a total of 109,853 calls in FY 2009–10, dispatching 72,099 of them.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.</p> <p>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.</p>	
Land Area (Square Miles) 29.28		
Persons per Square Mile 1,405		
County Catawba		
Median Family Income (US Census 2000) \$47,522		
Unemployment Rate (ESC-09) 14.4%		
Population Growth (OMB 2000–2009) 10.6%		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services 84.7%		
Operating Costs 13.5%		
Capital Costs 1.8%		
TOTAL 100.0%		
Cost Breakdown in Dollars		
Personal Services \$ 673,319		
Operating Costs \$ 107,425		
Capital Costs \$ 14,527		
TOTAL \$ 795,271		
<b>SERVICE PROFILE</b>		
FTE Positions		
Telecommunicators/Call-Takers 13.0		
Other 0.0		
Total Incoming Calls 109,853		
Total 911 Calls 13,182		
Total Calls Dispatched 72,099		
Revenue from E-911 Fees None		

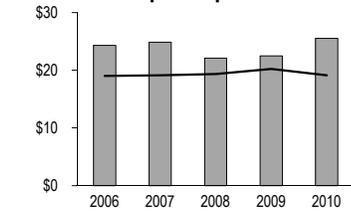
# High Point

# Emergency Communications

Key: High Point ■ Benchmarking Average — Fiscal Years 2006 through 2010

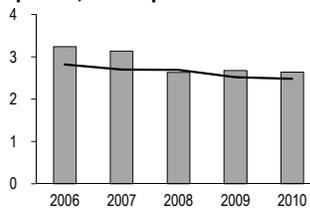
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



High Point \$24.32 \$24.86 \$22.08 \$22.51 \$25.53  
Average \$19.04 \$19.13 \$19.32 \$20.25 \$19.13

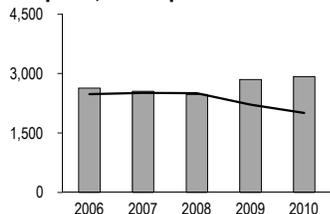
**Emergency Communications FTEs per 10,000 Population**



High Point 3.24 3.14 2.63 2.68 2.64  
Average 2.82 2.70 2.69 2.52 2.48

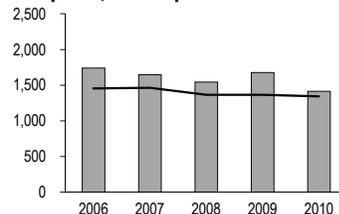
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



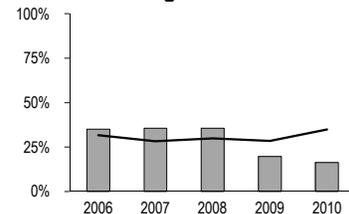
High Point 2,636 2,552 2,471 2,847 2,925  
Average 2,484 2,511 2,504 2,214 2,011

**Calls Dispatched per 1,000 Population**



High Point 1,737 1,647 1,543 1,677 1,415  
Average 1,456 1,461 1,366 1,364 1,342

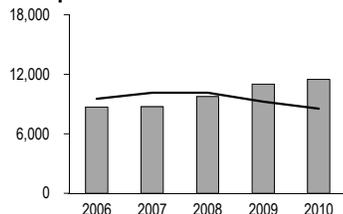
**E911 Calls as a Percentage of All Incoming Calls**



High Point 35.2% 35.6% 35.6% 19.6% 16.2%  
Average 31.7% 28.3% 29.9% 28.5% 34.8%

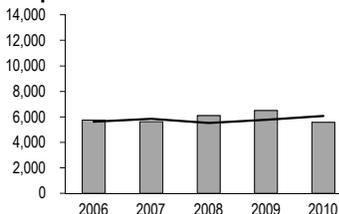
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



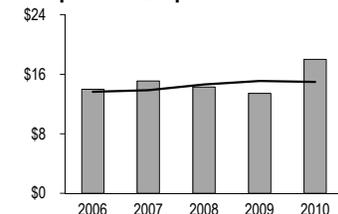
High Point 8,707 8,718 9,764 11,020 11,501  
Average 9,526 10,153 10,139 9,260 8,531

**Calls Dispatched per Telecommunicator**



High Point 5,739 5,624 6,099 6,491 5,563  
Average 5,609 5,849 5,525 5,769 6,065

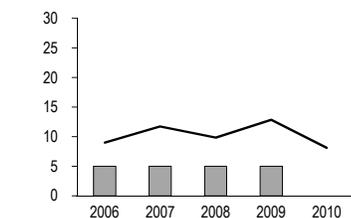
**Emergency Communications Cost per Call Dispatched**



High Point \$14.00 \$15.10 \$14.31 \$13.42 \$18.04  
Average \$13.66 \$13.89 \$14.66 \$15.12 \$15.00

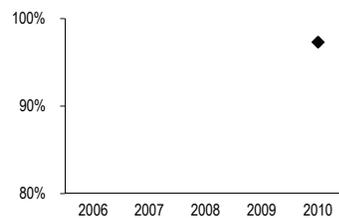
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



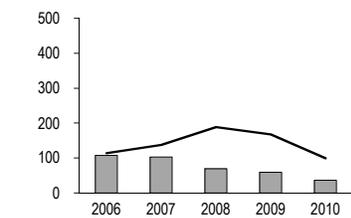
High Point 5 5 5 5 8  
Average 9 12 10 13 8

**Percent of E911 Calls Answered within Twenty Seconds**



High Point 97%  
Average 97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



High Point 107 103 69 59 36  
Average 114 138 188 167 99

# Emergency Communications

# High Point

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) 102,216	<p><b>Service Level and Delivery</b>                      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.</p> <p>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.</p> <p>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.</p> <p>High Point's center handled a total of 299,026 calls in FY 2009–10, dispatching 144,639 of them. The city defines highest priority emergency calls as situations likely to result in loss of life, injury, or property damage and crimes in progress.</p> <p>High Point received \$394,569 in E911 revenues to support the system operations.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.</p> <p>High Point was unable to provide data on certain measures given a change in technology.</p> <p>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.</p>	
Land Area (Square Miles) 54.05		
Persons per Square Mile 1,891		
County Guilford		
Median Family Income (US Census 2000) \$48,057		
Unemployment Rate (ESC-09) 11.0%		
Population Growth (OMB 2000–2009) 19.1%		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services 76.7%		
Operating Costs 23.0%		
Capital Costs 0.3%		
TOTAL 100.0%		
Cost Breakdown in Dollars		
Personal Services \$ 2,000,879		
Operating Costs \$ 600,160		
Capital Costs \$ 8,263		
TOTAL \$ 2,609,302		
<b>SERVICE PROFILE</b>		
FTE Positions		
Telecommunicators/Call-Takers 26.0		
Other 1.0		
Total Incoming Calls 299,026		
Total 911 Calls 48,477		
Total Calls Dispatched 144,639		
Revenue from E-911 Fees \$ 394,569		

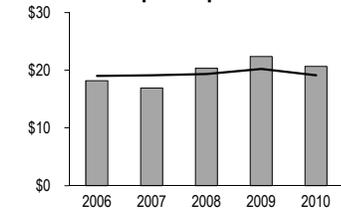
# Salisbury

# Emergency Communications

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2006 through 2010

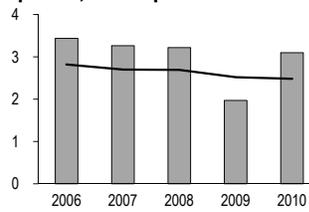
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



Year	Salisbury	Average
2006	\$18.20	\$19.04
2007	\$16.89	\$19.13
2008	\$20.33	\$19.32
2009	\$22.40	\$20.25
2010	\$20.69	\$19.13

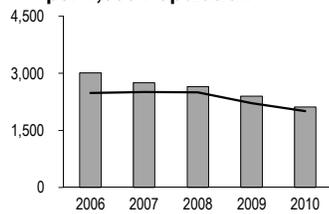
**Emergency Communications FTEs per 10,000 Population**



Year	Salisbury	Average
2006	3.44	2.82
2007	3.26	2.70
2008	3.22	2.69
2009	1.97	2.52
2010	3.10	2.48

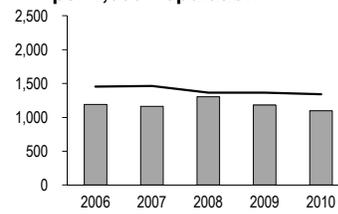
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



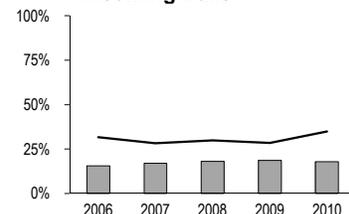
Year	Salisbury	Average
2006	3,011	2,484
2007	2,747	2,511
2008	2,649	2,504
2009	2,396	2,214
2010	2,120	2,011

**Calls Dispatched per 1,000 Population**



Year	Salisbury	Average
2006	1,189	1,456
2007	1,162	1,461
2008	1,303	1,366
2009	1,179	1,364
2010	1,099	1,342

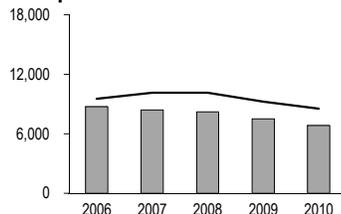
**E911 Calls as a Percentage of All Incoming Calls**



Year	Salisbury	Average
2006	15.6%	31.7%
2007	17.0%	28.3%
2008	18.1%	29.9%
2009	18.6%	28.5%
2010	17.8%	34.8%

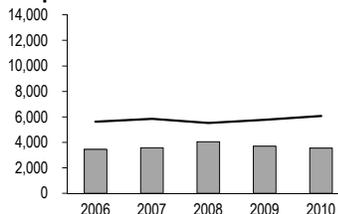
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



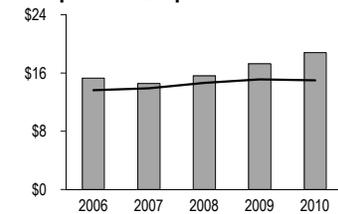
Year	Salisbury	Average
2006	8,748	9,526
2007	8,414	10,153
2008	8,219	10,139
2009	7,502	9,260
2010	6,838	8,531

**Calls Dispatched per Telecommunicator**



Year	Salisbury	Average
2006	3,456	5,609
2007	3,559	5,849
2008	4,042	5,525
2009	3,693	5,769
2010	3,545	6,065

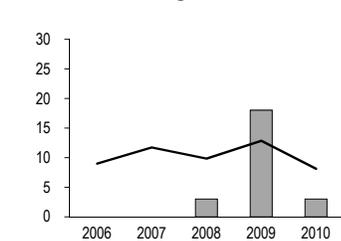
**Emergency Communications Cost per Call Dispatched**



Year	Salisbury	Average
2006	\$15.31	\$13.66
2007	\$14.54	\$13.89
2008	\$15.61	\$14.66
2009	\$17.29	\$15.12
2010	\$18.83	\$15.00

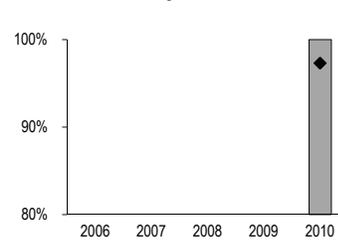
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



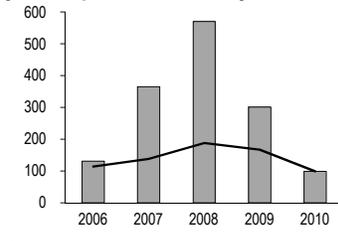
Year	Salisbury	Average
2006	3	9
2007	18	12
2008	3	10
2009	18	13
2010	3	8

**Percent of E911 Calls Answered within Twenty Seconds**



Year	Salisbury	Average
2006	100%	97%
2007	100%	97%
2008	100%	97%
2009	100%	97%
2010	100%	97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Year	Salisbury	Average
2006	131	114
2007	365	138
2008	570	188
2009	301	167
2010	99	99

# Emergency Communications

# Salisbury

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009)	32,263
Land Area (Square Miles)	21.93
Persons per Square Mile	1,471
County	Rowan
Median Family Income (US Census 2000)	\$41,108
Unemployment Rate (ESC-09)	12.2%
Population Growth (OMB 2000–2009)	21.9%
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	68.4%
Operating Costs	25.3%
Capital Costs	6.4%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 456,207
Operating Costs	\$ 168,577
Capital Costs	\$ 42,637
<b>TOTAL</b>	<b>\$ 667,421</b>
<b>SERVICE PROFILE</b>	
FTE Positions	
Telecommunicators/Call-Takers	10.0
Other	0.0
Total Incoming Calls	68,383
Total 911 Calls	12,205
Total Calls Dispatched	35,447
Revenue from E-911 Fees	None

**Service Level and Delivery**

The emergency communications center is located in the police department and processes 911 emergency and nonemergency 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 68,383 for FY 2009–10, dispatching 35,447 of them. 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 E911 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

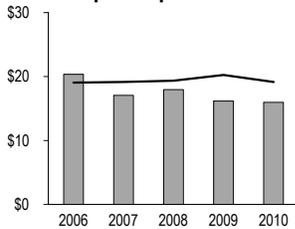
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

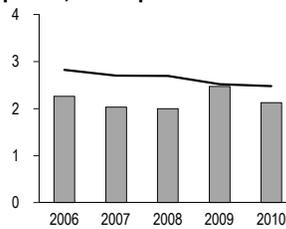
## RESOURCE Measures

**Emergency Communications Services Costs per Capita**



Winston-Salem	\$20.36	\$17.03	\$17.97	\$16.16	\$15.93
Average	\$19.04	\$19.13	\$19.32	\$20.25	\$19.13

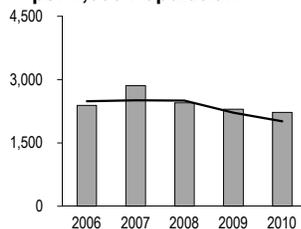
**Emergency Communications FTEs per 10,000 Population**



Winston-Salem	2.27	2.04	2.00	2.47	2.13
Average	2.82	2.70	2.69	2.52	2.48

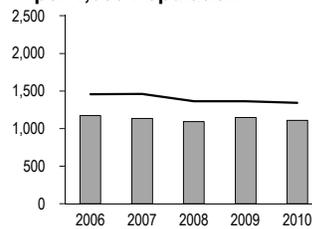
## WORKLOAD Measures

**Total Calls Answered per 1,000 Population**



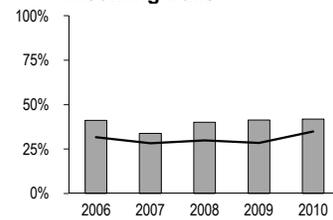
Winston-Salem	2,390	2,858	2,450	2,295	2,225
Average	2,484	2,511	2,504	2,214	2,011

**Calls Dispatched per 1,000 Population**



Winston-Salem	1,174	1,135	1,094	1,147	1,108
Average	1,456	1,461	1,366	1,364	1,342

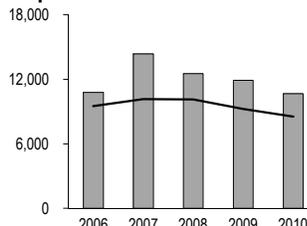
**E911 Calls as a Percentage of All Incoming Calls**



Winston-Salem	41.1%	33.9%	40.1%	41.3%	41.9%
Average	31.7%	28.3%	29.9%	28.5%	34.8%

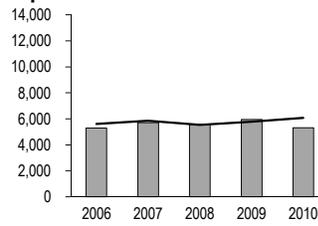
## EFFICIENCY Measures

**Calls Answered per Telecommunicator**



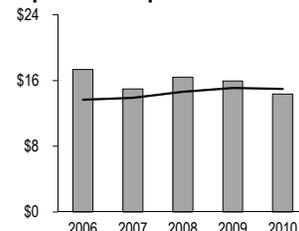
Winston-Salem	10,789	14,357	12,523	11,915	10,677
Average	9,526	10,153	10,139	9,260	8,531

**Calls Dispatched per Telecommunicator**



Winston-Salem	5,299	5,703	5,590	5,956	5,314
Average	5,609	5,849	5,525	5,769	6,065

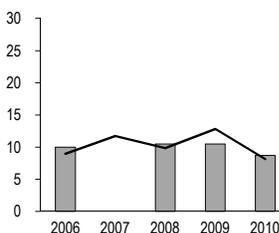
**Emergency Communications Cost per Call Dispatched**



Winston-Salem	\$17.34	\$15.00	\$16.43	\$15.97	\$14.38
Average	\$13.66	\$13.89	\$14.66	\$15.12	\$15.00

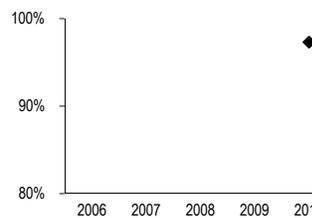
## EFFECTIVENESS Measures

**Number of Seconds from Initial Ring to Answer**



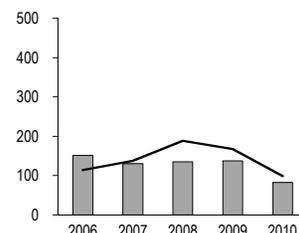
Winston-Salem	10	11	11	11	9
Average	9	12	10	13	8

**Percent of E911 Calls Answered within Twenty Seconds**



Winston-Salem	97%	97%	97%	97%	97%
Average	97%	97%	97%	97%	97%

**Average Time in Seconds from CAD Entry to Dispatch for Priority One Calls**



Winston-Salem	151	130	135	137	82
Average	114	138	188	167	99

# Emergency Communications

# Winston-Salem

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009)	235,075
Land Area (Square Miles)	133.19
Persons per Square Mile	1,765
County	Forsyth
Median Family Income (US Census 2000)	\$46,595
Unemployment Rate (ESC-09)	9.7%
Population Growth (OMB 2000–2009)	26.5%
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	70.9%
Operating Costs	25.6%
Capital Costs	3.5%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 2,655,148
Operating Costs	\$ 959,810
Capital Costs	\$ 129,759
<b>TOTAL</b>	<b>\$ 3,744,717</b>
<b>SERVICE PROFILE</b>	
FTE Positions	
Telecommunicators/Call-Takers	49.0
Other	1.0
Total Incoming Calls	523,155
Total E-911 Calls	219,433
Total Calls Dispatched	260,366
Revenue from E-911 Fees	\$ 1,085,907
<p><b>Service Level and Delivery</b>                      Winston-Salem's emergency communications center is part of the police department and handles 911 and nonemergency 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.</p> <p>The city owns the infrastructure but contracts with local vendors to provide telecommunications service. The City of Winston-Salem and Forsyth County implemented a voice radio system in October 2004. The Motorola 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.</p> <p>Winston-Salem's center handled a total of 523,155 calls in FY 2009–10, dispatching 260,366 of them. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The measure "percent of E911 calls answered within twenty seconds" is a new measure added for FY 2009–10.</p>	







# Performance and Cost Data

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ASPHALT MAINTENANCE AND REPAIR

## **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. Tons of Asphalt Applied**

This is the number of tons of asphalt used by contractors and by municipal crews for the purpose of resurfacing streets. Jurisdictions will not report tons of asphalt applied by municipal crews if all street resurfacing is under contract.

#### **3. Full-Time Equivalent (FTE) Positions**

Full-time equivalent (FTE) positions for asphalt maintenance and repair are calculated in the same way as those for the solid waste services studied in the project.

#### **4. Percentage of Street Segments Rated 85 Percent or Better**

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. The measure provides the proportion of street segments that are rated 85 percent or better on the most recent street pavement assessment.

#### **5. 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 repaving—contract” represents the annual cost of the contract plus any indirect costs associated with contract administration. “Cost of repaving—city crews” represents direct, indirect, and capital costs associated with an in-house repaving function. “Cost of maintenance” represents total cost from the accounting form minus cost of repaving by contract and municipal crews.

# Asphalt Maintenance and Repair

## Summary of Key Dimensions of Service

City or Town	Lane Miles Maintained	Number of Registered Motor Vehicles	Total Lane Miles Resurfaced	Total Asphalt Tonnage for Resurfacing	Depth of Resurfacing (in Inches)	Resurfacing Cycle	FTE Positions for City Staff
Asheville	702.2	65,737	8.8	7,550	2.5	79	17.4
Burlington	534.0	54,837	36.1	21,270	1.5	15	16.0
Cary	929.9	104,596	23.0	15,000	1.25	15	13.0
Charlotte	5140.0	526,314	414.7	221,815	2.0 (City) 1.0 (Contractor)	12	123.0
Concord	662.8	63,052	19.7	11,322	1.5	30	11.0
Durham	1808.5	174,045	38.3	23,960	1.5	33	63.3
Greensboro	3624.0	196,249	16.5	8,100	1.25	35	51.0
Greenville	535.3	56,051	0.0	0	1.00	45	6.0
Hickory	719.2	30,352	8.5	4,938	1.5	67	6.1
High Point	1471.0	59,548	11.0	6,352	1.50	133	16.3
Salisbury	343.9	24,354	4.8	3,399	1.5	20	10.0
Wilmington	789.3	116,069	4.5	2,670	1.5 to 2.0	20	17.0
Wilson	682.0	39,560	7.8	3,275	1.5	35	5.5
Winston-Salem	2190.9	172,563	66.0	42,356	1.5	34	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

# Asheville

# Asphalt Maintenance and Repair

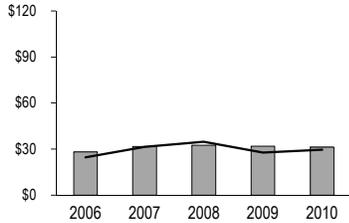
Key: Asheville ■

Benchmarking Average —

Fiscal Years 2006 through 2010

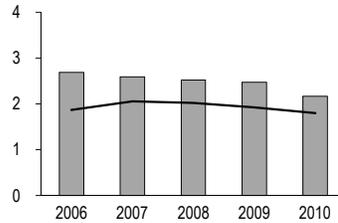
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



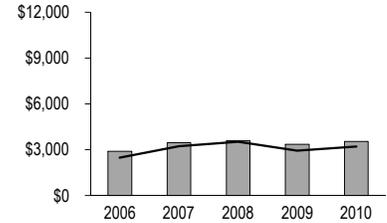
Asheville \$28.18 \$31.68 \$32.48 \$31.82 \$31.22  
Average \$24.70 \$31.53 \$34.75 \$27.82 \$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Asheville 2.69 2.59 2.53 2.48 2.17  
Average 1.87 2.06 2.03 1.92 1.80

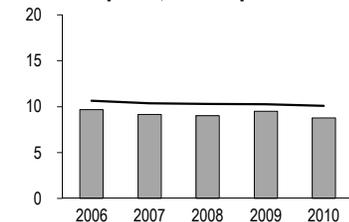
**Service Costs per Lane Mile of Road Maintained**



Asheville \$2,910 \$3,465 \$3,600 \$3,354 \$3,556  
Average \$2,478 \$3,243 \$3,536 \$2,941 \$3,208

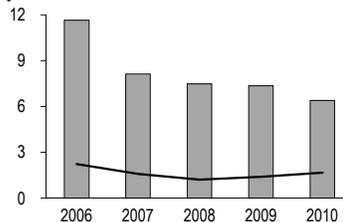
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Asheville 9.7 9.1 9.0 9.5 8.8  
Average 10.7 10.3 10.3 10.3 10.1

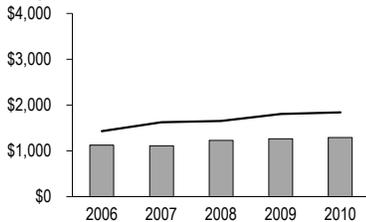
**Reported Potholes per Lane Mile Maintained**



Asheville 11.66 8.12 7.48 7.36 6.41  
Average 2.23 1.58 1.21 1.41 1.67

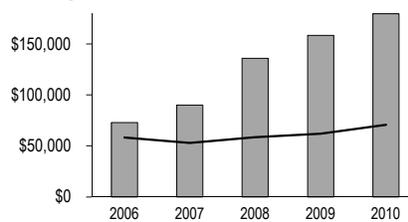
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



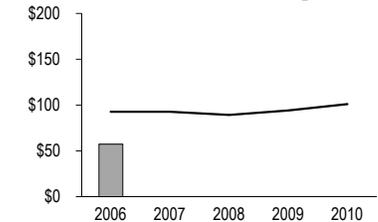
Asheville \$1,130 \$1,112 \$1,235 \$1,268 \$1,295  
Average \$1,433 \$1,628 \$1,652 \$1,807 \$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Asheville \$72,848 \$90,259 \$136,074 \$158,504 \$179,738  
Average \$58,305 \$53,074 \$58,636 \$62,174 \$70,623

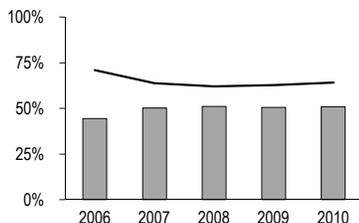
**Cost per Ton for Contract Resurfacing**



Asheville \$57  
Average \$93 \$93 \$89 \$94 \$101

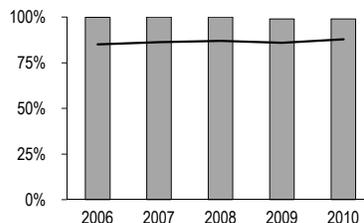
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Asheville 44% 50% 51% 51% 51%  
Average 71% 64% 62% 63% 64%

**Percentage of Potholes Repaired within 24 hours**



Asheville 100% 100% 100% 99% 99%  
Average 85% 86% 87% 86% 88%

# Asheville

## Asphalt Maintenance and Repair

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	79,973	<p><b>Service Level and Delivery</b> The City of Asheville was responsible for maintaining 702 lane miles during FY 2009–10. The city resurfaced 8.83 lane miles, equating to approximately 1.3 percent of total lane miles. This resurfacing work was done by city crews.</p> <p>A total of 7,550 tons of asphalt was used. The average resurfacing depth used was 2.5 inches by city crews.</p> <p>The city reported that 51 percent of its street segments rated 85 percent or above on its most recent rating. The most recent study was conducted by in-house staff using ITRE in 2009.</p> <p>The number of potholes reported for FY 2009–10 was 4,500. The percentage of potholes repaired within twenty-four hours was approximately 99 percent. The city reported a resurfacing cycle of approximately seventy-nine years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p>
Land Area (Square Miles)	44.99	
Persons per Square Mile	1,778	
Topography	Hills, mountains	
County	Buncombe	
Climate	Moderate; ice and snow	
Median Family Income (US Census 2000)	\$44,029	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	33.4%	
Operating Costs	54.1%	
Capital Costs	12.5%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 833,660	
Operating Costs	\$ 1,350,342	
Capital Costs	\$ 312,733	
<b>TOTAL</b>	<b>\$ 2,496,735</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Crews	16.28	
FTE Positions—Other	1.09	
Lane Miles Maintained	702.2	
Lane Miles Resurfaced—Contract	0.00	
Lane Miles Resurfaced—City	8.83	
<b>TOTAL</b>	<b>8.83</b>	
Tons of Asphalt Used—Resurfacing		
Contractor	0	
City Crews	7,550	
Cost of Repaving—Contract	\$0	
Cost of Repaving—City Crews	\$1,587,090	
Cost of Maintenance	\$909,645	
Registered Vehicles	65,737	
Registered Vehicles/Square Mile	1,461	

# Burlington

# Asphalt Maintenance and Repair

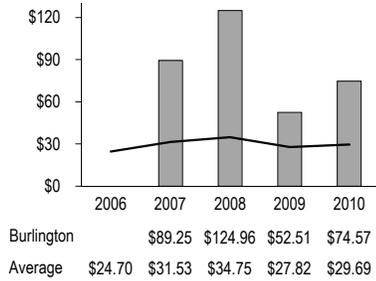
Key: Burlington ■

Benchmarking Average —

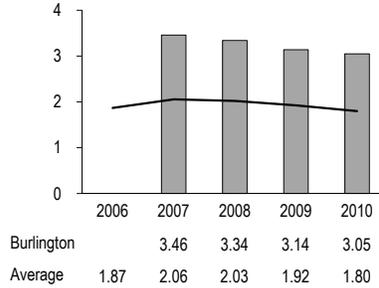
Fiscal Years 2006 through 2010

## RESOURCE Measures

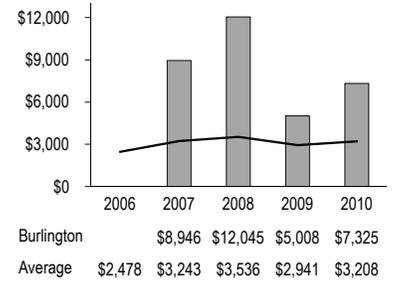
**Asphalt Maintenance and Repair Services Costs per Capita**



**Asphalt Maintenance and Repair FTEs per 10,000 Population**

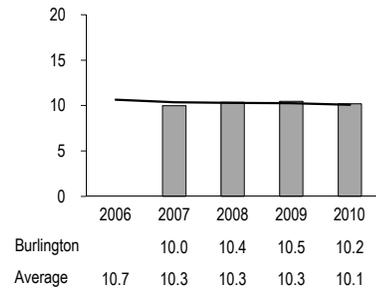


**Service Costs per Lane Mile of Road Maintained**

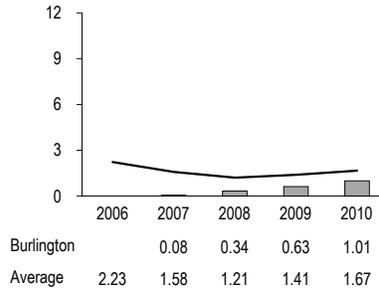


## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**

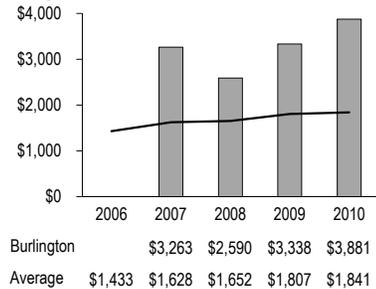


**Reported Potholes per Lane Mile Maintained**

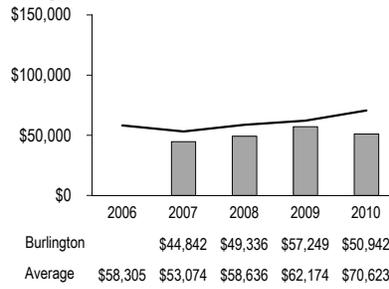


## EFFICIENCY Measures

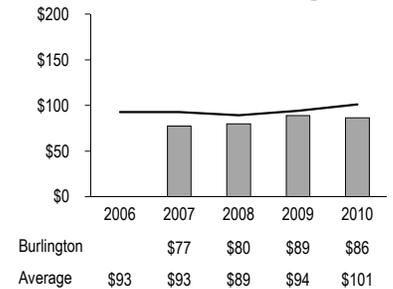
**Cost of Maintenance per Lane Mile Maintained**



**Resurfacing Cost per Lane Mile Resurfaced**

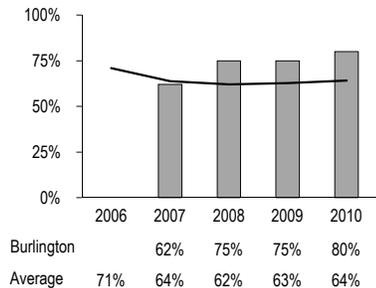


**Cost per Ton for Contract Resurfacing**

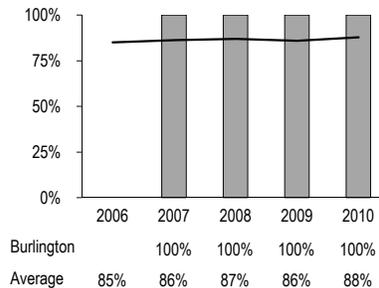


## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



**Percentage of Potholes Repaired within 24 hours**



# Asphalt Maintenance and Repair

# Burlington

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">52,457</span>	<p><b>Service Level and Delivery</b>                      The City of Burlington was responsible for maintaining 534 lane miles during FY 2009–10. The city resurfaced a total of 36.1 lanes miles, equating to approximately 6.8 percent of total lane miles.</p> <p>All of the lane miles resurfaced were done by contractors. A total of 15,000 tons of asphalt was used during the fiscal year for resurfacing projects. The average resurfacing depth used by contractors was 1.50 inches.</p> <p>The city reported that 80 percent of its street segments rated 85 percent or above on its most recent rating. The most recent study relied on USI-ITRE and was conducted in 2009.</p> <p>The city reported a resurfacing cycle of fifteen years.</p> <p>The city reported a total of 542 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The City of Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.</p>	
Land Area (Square Miles) <span style="float: right;">25.14</span>		
Persons per Square Mile <span style="float: right;">2,087</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Alamance</span>		
Climate <span style="float: right;">Mild; little ice and snow</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$45,441</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">18.3%</span>		
Operating Costs <span style="float: right;">70.2%</span>		
Capital Costs <span style="float: right;">11.5%</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 717,164</span>		
Operating Costs <span style="float: right;">\$ 2,745,433</span>		
Capital Costs <span style="float: right;">\$ 448,990</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 3,911,587</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">14.00</span>		
FTE Positions—Other <span style="float: right;">2.00</span>		
Lane Miles Maintained <span style="float: right;">534.0</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">36.11</span>		
Lane Miles Resurfaced—City <span style="float: right;">0.00</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">36.11</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">21,270</span>		
City Crews <span style="float: right;">0</span>		
Cost of Repaving—Contract <span style="float: right;">\$1,839,397</span>		
Cost of Repaving—City Crews <span style="float: right;">\$0</span>		
Cost of Maintenance <span style="float: right;">\$2,072,190</span>		
Registered Vehicles <span style="float: right;">54,837</span>		
Registered Vehicles/Square Mile <span style="float: right;">2,181</span>		

# Cary

# Asphalt Maintenance and Repair

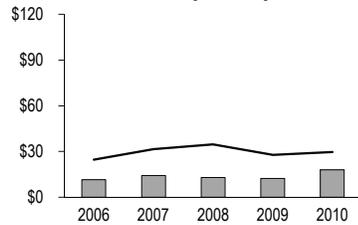
Key: Cary ■

Benchmarking Average —

Fiscal Years 2006 through 2010

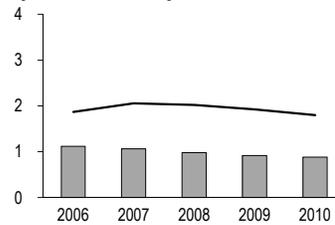
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



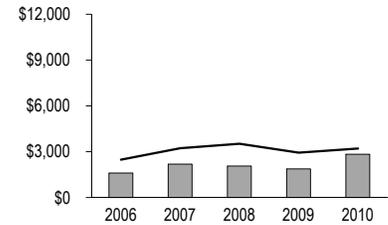
Year	Cary	Average
2006	\$11.37	\$24.70
2007	\$14.15	\$31.53
2008	\$12.88	\$34.75
2009	\$12.24	\$27.82
2010	\$17.99	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Year	Cary	Average
2006	1.12	1.87
2007	1.06	2.06
2008	0.98	2.03
2009	0.92	1.92
2010	0.88	1.80

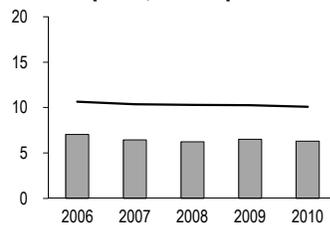
**Service Costs per Lane Mile of Road Maintained**



Year	Cary	Average
2006	\$1,618	\$2,478
2007	\$2,192	\$3,243
2008	\$2,065	\$3,536
2009	\$1,875	\$2,941
2010	\$2,848	\$3,208

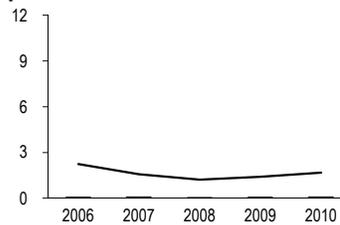
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Year	Cary	Average
2006	7.0	10.7
2007	6.5	10.3
2008	6.2	10.3
2009	6.5	10.3
2010	6.3	10.1

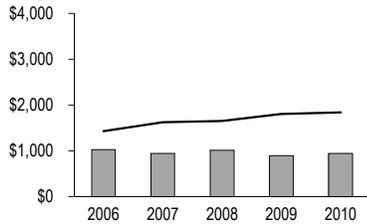
**Reported Potholes per Lane Mile Maintained**



Year	Cary	Average
2006	0.08	2.23
2007	0.08	1.58
2008	0.06	1.21
2009	0.07	1.41
2010	0.09	1.67

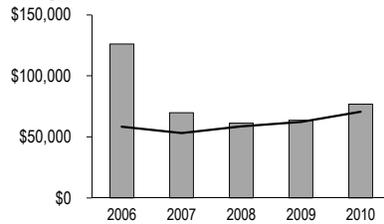
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



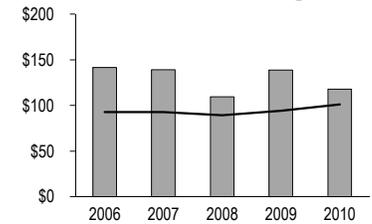
Year	Cary	Average
2006	\$1,029	\$1,433
2007	\$945	\$1,628
2008	\$1,013	\$1,652
2009	\$897	\$1,807
2010	\$947	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Year	Cary	Average
2006	\$126,200	\$58,305
2007	\$69,819	\$53,074
2008	\$61,268	\$58,636
2009	\$63,530	\$62,174
2010	\$76,887	\$70,623

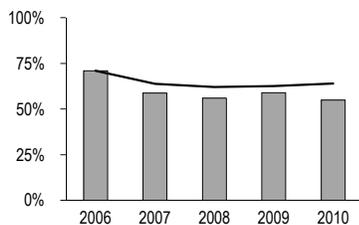
**Cost per Ton for Contract Resurfacing**



Year	Cary	Average
2006	\$142	\$93
2007	\$139	\$93
2008	\$109	\$89
2009	\$139	\$94
2010	\$118	\$101

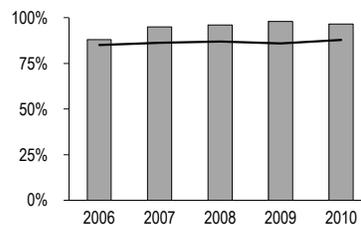
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Year	Cary	Average
2006	71%	71%
2007	59%	64%
2008	56%	62%
2009	59%	63%
2010	55%	64%

**Percentage of Potholes Repaired within 24 hours**



Year	Cary	Average
2006	88%	85%
2007	95%	86%
2008	96%	87%
2009	98%	86%
2010	97%	88%

# Asphalt Maintenance and Repair

# Cary

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">147,282</span>	<p><b>Service Level and Delivery</b> The Town of Cary was responsible for maintaining 929.94 lane miles during FY 2009–10. Contractors resurfaced 23.0 lane miles, equating to approximately 2.5 percent of total lane miles.</p> <p>A total of 15,000 tons of asphalt was used during the fiscal year by contractors for resurfacing projects. The average resurfacing depth used was 1.25 inches by contractor crews.</p> <p>The town reported that 55 percent of its street segments rated 85 or above on its most recent rating. The most recent study relied on ITRE and was conducted in March 2009.</p> <p>The number of potholes reported for FY 2009–10 was eighty-eight. The percentage of potholes repaired within twenty-four hours was 97 percent.</p> <p>The town reported a resurfacing cycle of fifteen years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Due to the economy, the bidding competition was very aggressive for asphalt repaving during the fiscal year. This aggressive competition allowed the Town to resurface 123 street blocks with the available budget.</p>	
Land Area (Square Miles) <span style="float: right;">54.01</span>		
Persons per Square Mile <span style="float: right;">2,727</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Wake</span>		
Climate <span style="float: right;">Mild; little ice and snow</span>		
Median Family Income <span style="float: right;">\$88,074</span> (US Census 2000)		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">10.2%</span>		
Operating Costs <span style="float: right;">84.3%</span>		
Capital Costs <span style="float: right;">5.5%</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 269,151</span>		
Operating Costs <span style="float: right;">\$ 2,232,966</span>		
Capital Costs <span style="float: right;">\$ 146,803</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 2,648,920</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">10.25</span>		
FTE Positions—Other <span style="float: right;">2.75</span>		
Lane Miles Maintained <span style="float: right;">929.9</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">23.00</span>		
Lane Miles Resurfaced—City <span style="float: right;">0.00</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">23.00</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">15,000</span>		
City Crews <span style="float: right;">0</span>		
Cost of Repaving—Contract <span style="float: right;">\$1,768,397</span>		
Cost of Repaving—City Crews <span style="float: right;">\$0</span>		
Cost of Maintenance <span style="float: right;">\$880,523</span>		
Registered Vehicles <span style="float: right;">104,596</span>		
Registered Vehicles/Square Mile <span style="float: right;">1,937</span>		

# Charlotte

# Asphalt Maintenance and Repair

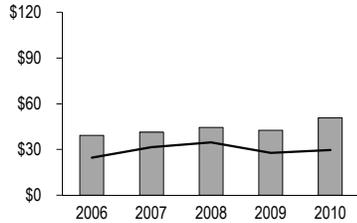
Key: Charlotte ■

Benchmarking Average —

Fiscal Years 2006 through 2010

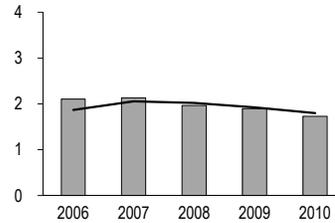
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



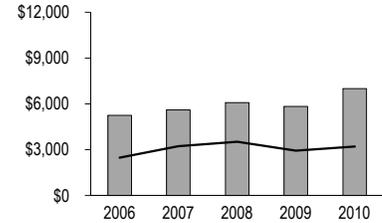
Charlotte	\$39.17	\$41.38	\$44.37	\$42.51	\$50.63
Average	\$24.70	\$31.53	\$34.75	\$27.82	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Charlotte	2.11	2.13	1.97	1.90	1.73
Average	1.87	2.06	2.03	1.92	1.80

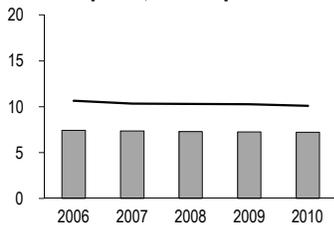
**Service Costs per Lane Mile of Road Maintained**



Charlotte	\$5,262	\$5,618	\$6,097	\$5,848	\$7,007
Average	\$2,478	\$3,243	\$3,536	\$2,941	\$3,208

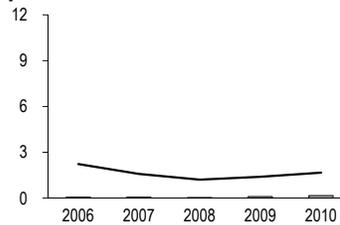
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Charlotte	7.4	7.4	7.3	7.3	7.2
Average	10.7	10.3	10.3	10.3	10.1

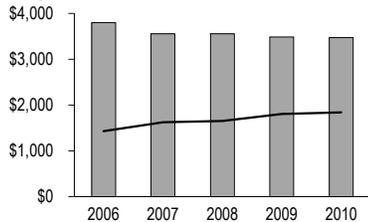
**Reported Potholes per Lane Mile Maintained**



Charlotte	0.08	0.07	0.06	0.11	0.17
Average	2.23	1.58	1.21	1.41	1.67

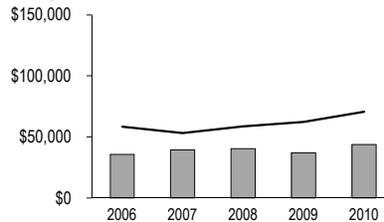
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



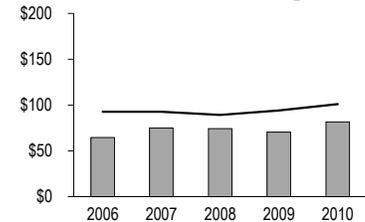
Charlotte	\$3,803	\$3,560	\$3,555	\$3,492	\$3,477
Average	\$1,433	\$1,628	\$1,652	\$1,807	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Charlotte	\$35,722	\$39,401	\$40,495	\$37,031	\$43,756
Average	\$58,305	\$53,074	\$58,636	\$62,174	\$70,623

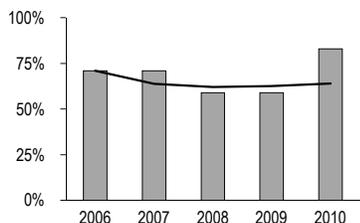
**Cost per Ton for Contract Resurfacing**



Charlotte	\$65	\$75	\$74	\$71	\$82
Average	\$93	\$93	\$89	\$94	\$101

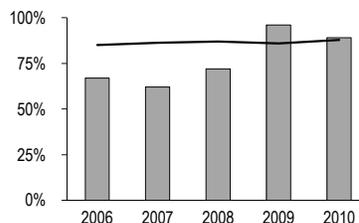
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Charlotte	71%	71%	59%	59%	83%
Average	71%	64%	62%	63%	64%

**Percentage of Potholes Repaired within 24 hours**



Charlotte	67%	62%	72%	96%	89%
Average	85%	86%	87%	86%	88%

# Asphalt Maintenance and Repair

# Charlotte

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">711,349</span>	<p><b>Service Level and Delivery</b>                      The City of Charlotte was responsible for maintaining 5,140 lane miles during FY 2009–10. The city resurfaced 414.7 lane miles, equating to approximately 8.1 percent of total lane miles.</p> <p>A total of 221,815 tons of asphalt was used during the fiscal year for resurfacing by contractors. The average resurfacing depth used was one inch by contractors.</p> <p>The city reported that 83 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2008. The roads were independently rated by U.S. Infrastructure of Carolina.</p> <p>The number of potholes reported for FY 2009–10 was 895. The percentage of potholes repaired within twenty-four hours was 89 percent. The city reported a resurfacing cycle of twelve years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>	
Land Area (Square Miles) <span style="float: right;">298.97</span>		
Persons per Square Mile <span style="float: right;">2,379</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Mecklenburg</span>		
Climate <span style="float: right;">Mild; some ice</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$56,517</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">16.5%</span>		
Operating Costs <span style="float: right;">73.6%</span>		
Capital Costs <span style="float: right;">9.9%</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 5,950,277</span>		
Operating Costs <span style="float: right;">\$ 26,510,670</span>		
Capital Costs <span style="float: right;">\$ 3,554,842</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 36,015,789</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">105.0</span>		
FTE Positions—Other <span style="float: right;">18.0</span>		
Lane Miles Maintained <span style="float: right;">5,140.0</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">414.7</span>		
Lane Miles Resurfaced—City <span style="float: right;">0.0</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">414.7</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">221,815</span>		
City Crews <span style="float: right;">0</span>		
Cost of Repaving—Contract <span style="float: right;">\$18,145,761</span>		
Cost of Repaving—City Crews <span style="float: right;">\$0</span>		
Cost of Maintenance <span style="float: right;">\$17,870,028</span>		
Registered Vehicles <span style="float: right;">526,314</span>		
Registered Vehicles/Square Mile <span style="float: right;">1,760</span>		

# Concord

# Asphalt Maintenance and Repair

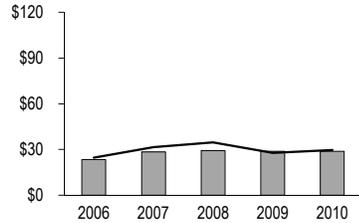
Key: Concord ■

Benchmarking Average —

Fiscal Years 2006 through 2010

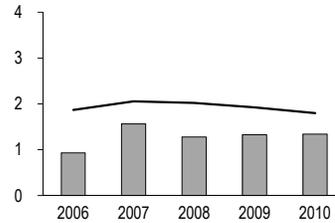
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



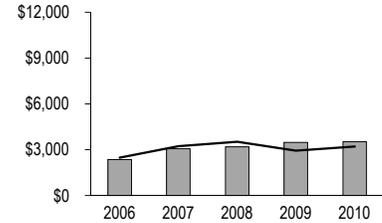
Concord \$23.39 \$28.48 \$29.21 \$28.83 \$28.75  
Average \$24.70 \$31.53 \$34.75 \$27.82 \$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Concord 0.93 1.57 1.28 1.33 1.35  
Average 1.87 2.06 2.03 1.92 1.80

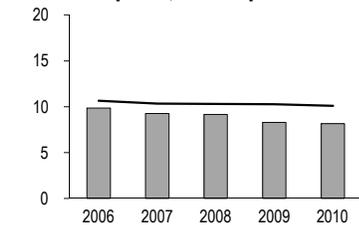
**Service Costs per Lane Mile of Road Maintained**



Concord \$2,370 \$3,073 \$3,188 \$3,478 \$3,529  
Average \$2,478 \$3,243 \$3,536 \$2,941 \$3,208

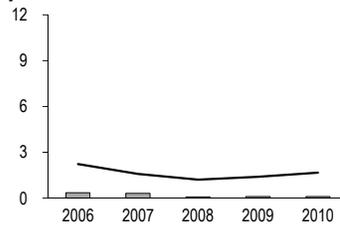
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Concord 9.9 9.3 9.2 8.3 8.1  
Average 10.7 10.3 10.3 10.3 10.1

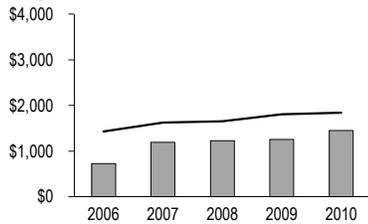
**Reported Potholes per Lane Mile Maintained**



Concord 0.36 0.31 0.09 0.12 0.11  
Average 2.23 1.58 1.21 1.41 1.67

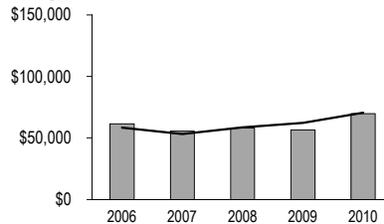
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



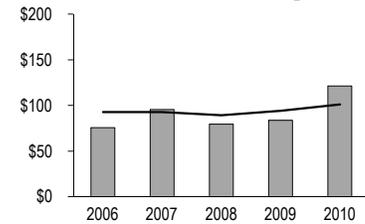
Concord \$725 \$1,195 \$1,226 \$1,259 \$1,453  
Average \$1,433 \$1,628 \$1,652 \$1,807 \$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Concord \$61,428 \$55,550 \$58,029 \$56,636 \$69,801  
Average \$58,305 \$53,074 \$58,636 \$62,174 \$70,623

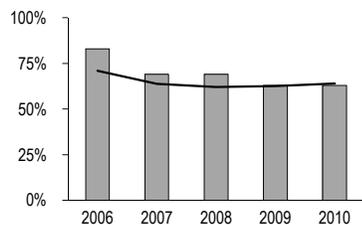
**Cost per Ton for Contract Resurfacing**



Concord \$76 \$96 \$80 \$84 \$122  
Average \$93 \$93 \$89 \$94 \$101

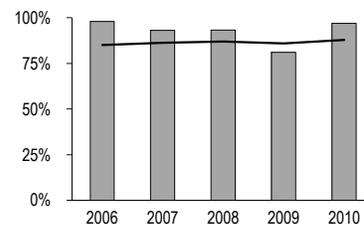
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Concord 83% 69% 69% 63% 63%  
Average 71% 64% 62% 63% 64%

**Percentage of Potholes Repaired within 24 hours**



Concord 98% 93% 93% 81% 97%  
Average 85% 86% 87% 86% 88%

# Asphalt Maintenance and Repair

# Concord

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">81,370</span>	<p><b>Service Level and Delivery</b> The City of Concord was responsible for maintaining 662.83 lane miles during FY 2009–10. The city resurfaced 19.71 lane miles, equating to 3.0 percent of total lane miles.</p> <p>A total of 11,322 tons of asphalt was used during the fiscal year for resurfacing projects completed by contractors. The average resurfacing depth used was 1.5 inches. In addition, city crews did some of the repaving work by performing the "out ahead" work for the resurfacing operations. In the past, this was included as an item in the city repaving contract and performed by the contractor as part of the contract. Concord has found recently that it can perform this operation cheaper and faster with city crews than contracting it.</p> <p>The city reported that 63 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2008. The street rating was conducted in-house using the Cartagraph Pavement View software system. This ranking system uses a 0 to 100 point (at 10-point intervals) scale based on a number of physical factors including ride, geometrics, rutting, and distress. Once the physical factors are entered for each street segment, the software automatically ranks all street segments according to pavement quality.</p> <p>The number of potholes reported for FY 2009–10 was seventy-two, including those reported by citizens and the city. The percentage of potholes repaired within twenty-four hours was 97 percent. The city reported a resurfacing cycle of approximately thirty years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The costs associated with the maintenance and resurfacing are influenced by competition due to the location of three asphalt plants within the city limits.</p>	
Land Area (Square Miles) <span style="float: right;">59.59</span>		
Persons per Square Mile <span style="float: right;">1,365</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Cabarrus</span>		
Climate <span style="float: right;">Mild; some ice</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$53,571</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">23.0%</span>		
Operating Costs <span style="float: right;">71.2%</span>		
Capital Costs <span style="float: right;">5.8%</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 538,994</span>		
Operating Costs <span style="float: right;">\$ 1,665,163</span>		
Capital Costs <span style="float: right;">\$ 134,950</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 2,339,107</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">8.00</span>		
FTE Positions—Other <span style="float: right;">2.95</span>		
Lane Miles Maintained <span style="float: right;">662.8</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">19.71</span>		
Lane Miles Resurfaced—City <span style="float: right;">0.00</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">19.71</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">11,322</span>		
City Crews <span style="float: right;">0</span>		
Cost of Repaving—Contract <span style="float: right;">\$1,375,782</span>		
Cost of Repaving—City Crews <span style="float: right;">\$0</span>		
Cost of Maintenance <span style="float: right;">\$963,325</span>		
Registered Vehicles <span style="float: right;">63,052</span>		
Registered Vehicles/Square Mile <span style="float: right;">1,058</span>		

# Durham

# Asphalt Maintenance and Repair

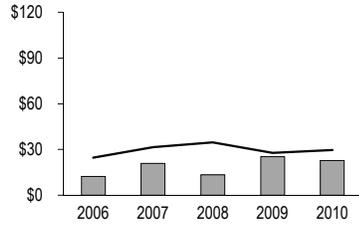
Key: Durham ■

Benchmarking Average —

Fiscal Years 2006 through 2010

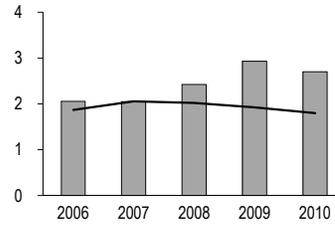
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



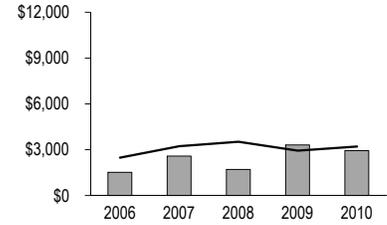
Durham	\$12.20	\$20.86	\$13.44	\$25.28	\$22.79
Average	\$24.70	\$31.53	\$34.75	\$27.82	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Durham	2.06	2.05	2.43	2.93	2.70
Average	1.87	2.06	2.03	1.92	1.80

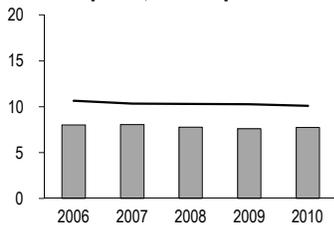
**Service Costs per Lane Mile of Road Maintained**



Durham	\$1,523	\$2,590	\$1,726	\$3,327	\$2,951
Average	\$2,478	\$3,243	\$3,536	\$2,941	\$3,208

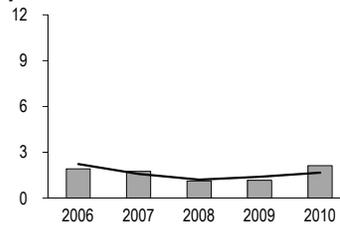
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Durham	8.0	8.1	7.8	7.6	7.7
Average	10.7	10.3	10.3	10.3	10.1

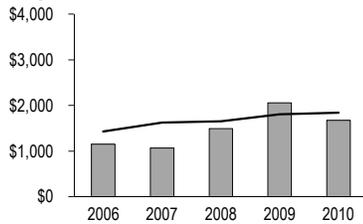
**Reported Potholes per Lane Mile Maintained**



Durham	1.91	1.75	1.14	1.17	2.14
Average	2.23	1.58	1.21	1.41	1.67

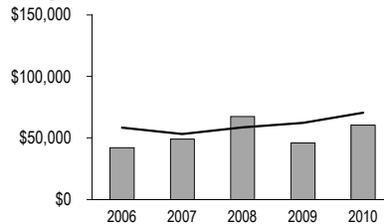
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



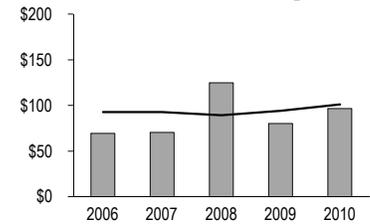
Durham	\$1,154	\$1,070	\$1,497	\$2,055	\$1,672
Average	\$1,433	\$1,628	\$1,652	\$1,807	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Durham	\$42,125	\$49,085	\$67,376	\$45,813	\$60,375
Average	\$58,305	\$53,074	\$58,636	\$62,174	\$70,623

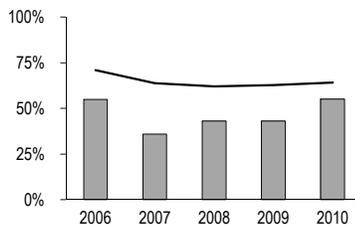
**Cost per Ton for Contract Resurfacing**



Durham	\$70	\$71	\$125	\$80	\$97
Average	\$93	\$93	\$89	\$94	\$101

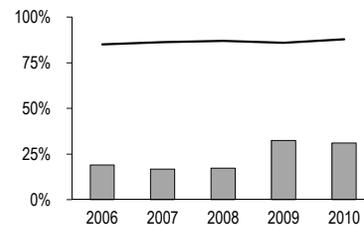
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Durham	55%	36%	43%	43%	55%
Average	71%	64%	62%	63%	64%

**Percentage of Potholes Repaired within 24 hours**



Durham	19%	17%	17%	33%	31%
Average	85%	86%	87%	86%	88%

# Asphalt Maintenance and Repair

# Durham

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">234,140</span>	<p><b>Service Level and Delivery</b>                      The City of Durham was responsible for maintaining 1,808.47 lane miles during FY 2009–10, including 401.57 lane miles of state roads.</p> <p>The city obtained authority through a bond authorization for a significant increase in street repaving. This project will spend these additional funds over several years. The city resurfaced 38.3 miles, equating to 2.1 percent of total lane miles. A total of 23,960 tons of asphalt was used during the fiscal year for resurfacing projects completed by contractors. The average resurfacing depth in the city was 1.5 inches.</p> <p>The city reported that 55 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2007. The city used ITRE as its rating system.</p> <p>The number of potholes reported for FY 2009–10 was 3,870 including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 31.0 percent. Durham reported a resurfacing cycle of thirty-three years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      Ten new personnel were hired during FY 2008–09 to expand the work the city was able to do.</p>	
Land Area (Square Miles) <span style="float: right;">105.59</span>		
Persons per Square Mile <span style="float: right;">2,217</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Durham</span>		
Climate <span style="float: right;">Temperate; little ice and snow</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$51,162</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">16.6%</span>		
Operating Costs <span style="float: right;">70.9%</span>		
Capital Costs <span style="float: right;">12.6%</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 884,814</span>		
Operating Costs <span style="float: right;">\$ 3,781,110</span>		
Capital Costs <span style="float: right;">\$ 670,714</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 5,336,638</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">59.0</span>		
FTE Positions—Other <span style="float: right;">4.3</span>		
Lane Miles Maintained <span style="float: right;">1,808.5</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">38.30</span>		
Lane Miles Resurfaced—City <span style="float: right;">0.00</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">38.30</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">23,960</span>		
City Crews <span style="float: right;">0</span>		
Cost of Repaving—Contract <span style="float: right;">\$2,312,363</span>		
Cost of Repaving—City Crews <span style="float: right;">\$0</span>		
Cost of Maintenance <span style="float: right;">\$3,024,275</span>		
Registered Vehicles <span style="float: right;">174,045</span>		
Registered Vehicles/Square Mile <span style="float: right;">1,648</span>		

# Greensboro

# Asphalt Maintenance and Repair

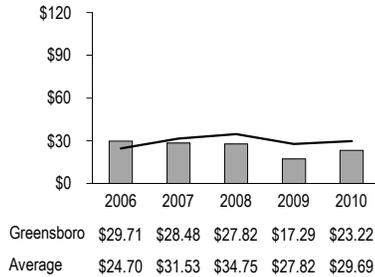
Key: Greensboro ■

Benchmarking Average —

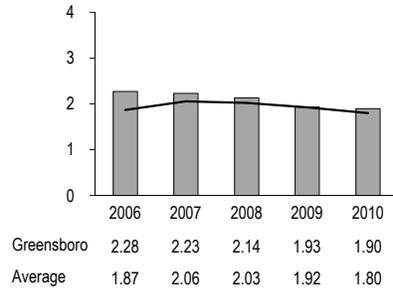
Fiscal Years 2006 through 2010

## RESOURCE Measures

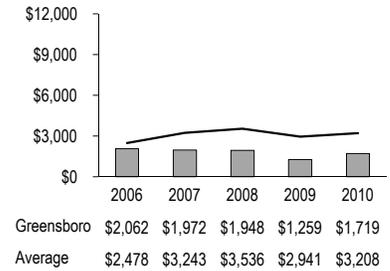
**Asphalt Maintenance and Repair Services Costs per Capita**



**Asphalt Maintenance and Repair FTEs per 10,000 Population**

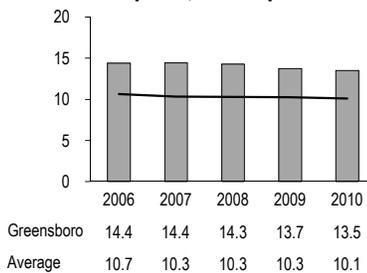


**Service Costs per Lane Mile of Road Maintained**

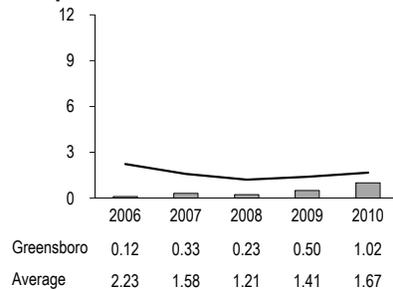


## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**

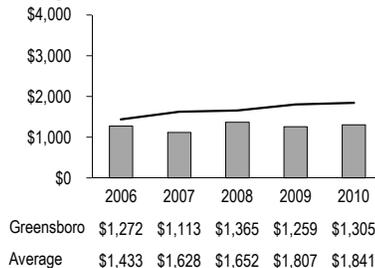


**Reported Potholes per Lane Mile Maintained**

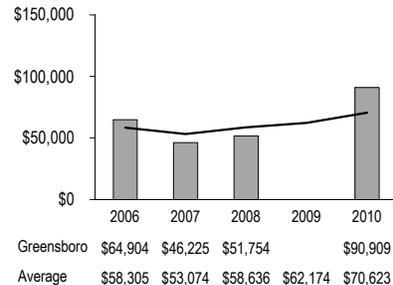


## EFFICIENCY Measures

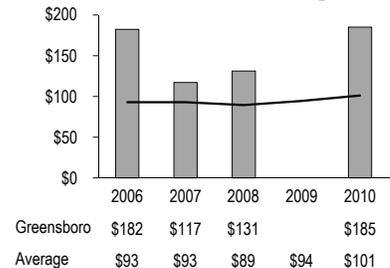
**Cost of Maintenance per Lane Mile Maintained**



**Resurfacing Cost per Lane Mile Resurfaced**

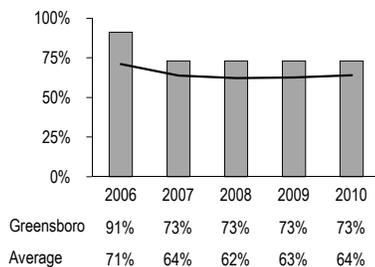


**Cost per Ton for Contract Resurfacing**

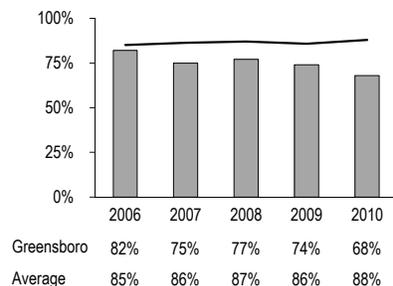


## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



**Percentage of Potholes Repaired within 24 hours**



# Asphalt Maintenance and Repair

# Greensboro

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">268,283</span>	<p><b>Service Level and Delivery</b>                      The city of Greensboro was responsible for maintaining 3,624 lane miles during FY 2009–10. This includes 925 lane miles of state roads.</p> <p>Greensbor resurfaced 16.5 lane miles during FY 2009–10, equal to about 0.5 percent of total lane miles.</p> <p>The city reported that 73 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2007. The pavement rating was done by a contractor.</p> <p>The number of potholes reported for FY 2009–10 was 3,685. The percentage of potholes repaired within twenty-four hours was 68 percent. The city reported a resurfacing cycle of thirty-five years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      Changes in tracking software have improved the accuracy of potholes reported and asphalt used.</p>	
Land Area (Square Miles) <span style="float: right;">127.75</span>		
Persons per Square Mile <span style="float: right;">2,100</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Guilford</span>		
Climate <span style="float: right;">Temperate; some ice and snow</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$50,192</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">32.1%</span>		
Operating Costs <span style="float: right;">67.9%</span>		
Capital Costs <span style="float: right;">0.0%</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 1,999,179</span>		
Operating Costs <span style="float: right;">\$ 4,229,300</span>		
Capital Costs <span style="float: right;">\$ -</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">\$ 6,228,479</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">45.0</span>		
FTE Positions—Other <span style="float: right;">6.0</span>		
Lane Miles Maintained <span style="float: right;">3,624.0</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">16.50</span>		
Lane Miles Resurfaced—City <span style="float: right;">0.00</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">16.50</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">8,100</span>		
City Crews <span style="float: right;">0</span>		
Cost of Repaving—Contract <span style="float: right;">\$1,500,000</span>		
Cost of Repaving—City Crews <span style="float: right;">\$0</span>		
Cost of Maintenance <span style="float: right;">\$4,728,479</span>		
Registered Vehicles <span style="float: right;">196,249</span>		
Registered Vehicles/Square Mile <span style="float: right;">1,536</span>		

# Greenville

# Asphalt Maintenance and Repair

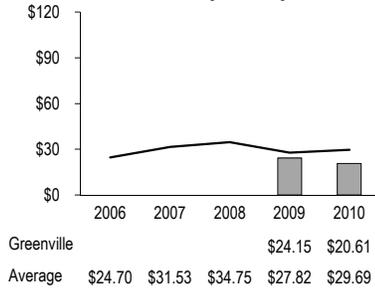
Key: Greenville ■

Benchmarking Average —

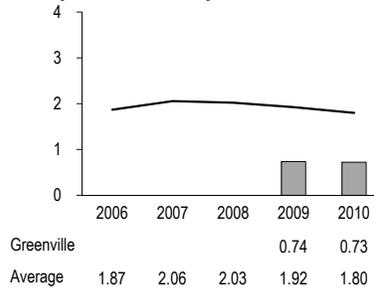
Fiscal Years 2006 through 2010

## RESOURCE Measures

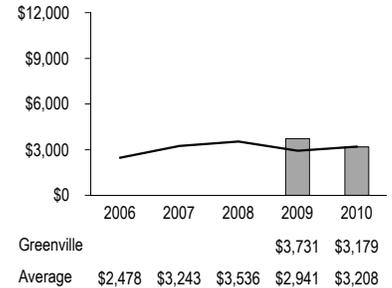
**Asphalt Maintenance and Repair Services Costs per Capita**



**Asphalt Maintenance and Repair FTEs per 10,000 Population**

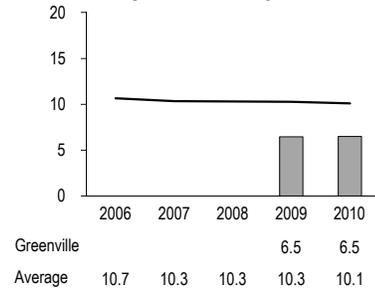


**Service Costs per Lane Mile of Road Maintained**

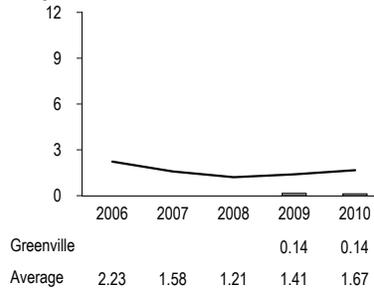


## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**

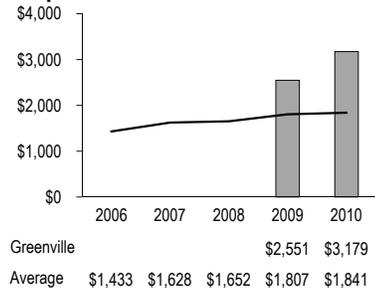


**Reported Potholes per Lane Mile Maintained**

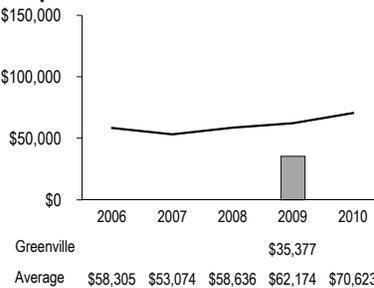


## EFFICIENCY Measures

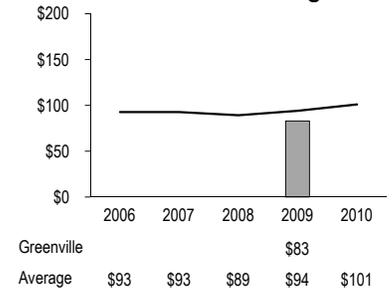
**Cost of Maintenance per Lane Mile Maintained**



**Resurfacing Cost per Lane Mile Resurfaced**

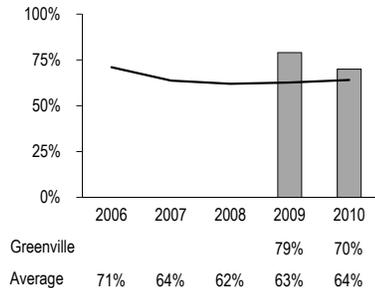


**Cost per Ton for Contract Resurfacing**

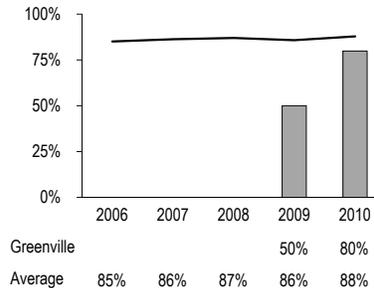


## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



**Percentage of Potholes Repaired within 24 hours**



# Asphalt Maintenance and Repair

# Greenville

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) 82,571	<p><b>Service Level and Delivery</b> The City of Greenville was responsible for maintaining 535.34 lane miles during FY 2009–10, all city streets.</p> <p>the city did no resurfacing projects during the fiscal year.</p> <p>The city reported that 70 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2007. The city used USI to conduct its rating system.</p> <p>The number of potholes reported for FY 2009–10 was 75, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 80 percent. The city reported a resurfacing cycle of forty-five years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p>	
Land Area (Square Miles) 35.01		
Persons per Square Mile 2,358		
Topography Flat		
County Pitt		
Climate Mild; little ice and snow		
Median Family Income (US Census 2000) \$44,491		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services 36.8%		
Operating Costs 47.0%		
Capital Costs 16.3%		
<b>TOTAL</b> 100.0%		
Cost Breakdown in Dollars		
Personal Services \$ 625,561		
Operating Costs \$ 799,153		
Capital Costs \$ 277,099		
<b>TOTAL</b> \$ 1,701,813		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews 5.0		
FTE Positions—Other 1.0		
Lane Miles Maintained 535.3		
Lane Miles Resurfaced—Contract 0.00		
Lane Miles Resurfaced—City 0.00		
<b>TOTAL</b> 0.00		
Tons of Asphalt Used—Resurfacing		
Contractor 0		
City Crews 0		
Cost of Repaving—Contract \$0		
Cost of Repaving—City Crews \$0		
Cost of Maintenance \$1,701,813		
Registered Vehicles 56,051		
Registered Vehicles/Square Mile 1,601		

# Hickory

# Asphalt Maintenance and Repair

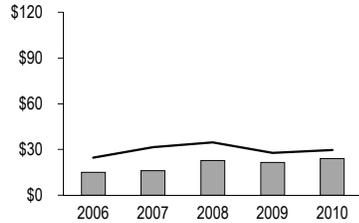
Key: Hickory ■

Benchmarking Average —

Fiscal Years 2006 through 2010

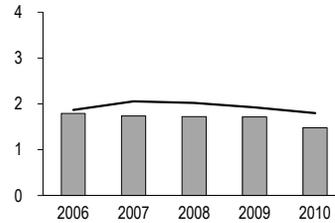
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



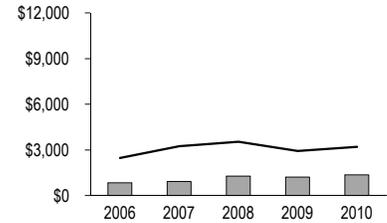
Year	Hickory	Average
2006	\$15.05	\$24.70
2007	\$16.16	\$31.53
2008	\$22.71	\$34.75
2009	\$21.47	\$27.82
2010	\$24.03	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Year	Hickory	Average
2006	1.79	1.87
2007	1.74	2.06
2008	1.73	2.03
2009	1.72	1.92
2010	1.48	1.80

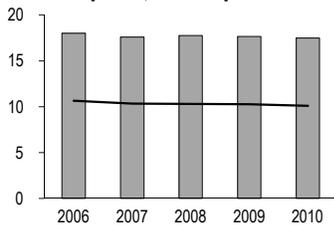
**Service Costs per Lane Mile of Road Maintained**



Year	Hickory	Average
2006	\$836	\$2,478
2007	\$919	\$3,243
2008	\$1,280	\$3,536
2009	\$1,217	\$2,941
2010	\$1,375	\$3,208

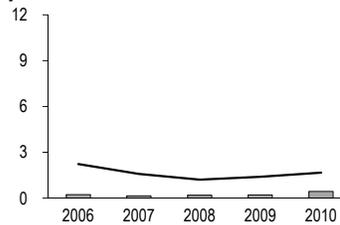
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Year	Hickory	Average
2006	18.0	10.7
2007	17.6	10.3
2008	17.7	10.3
2009	17.6	10.3
2010	17.5	10.1

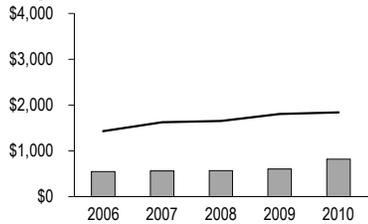
**Reported Potholes per Lane Mile Maintained**



Year	Hickory	Average
2006	0.24	2.23
2007	0.15	1.58
2008	0.19	1.21
2009	0.23	1.41
2010	0.44	1.67

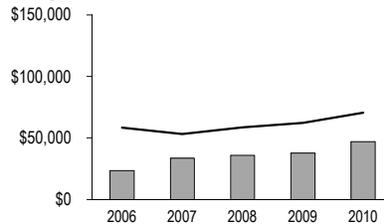
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



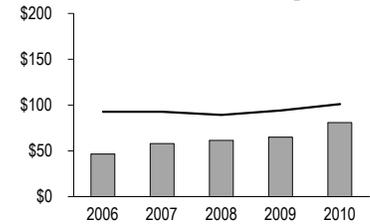
Year	Hickory	Average
2006	\$551	\$1,433
2007	\$565	\$1,628
2008	\$575	\$1,652
2009	\$610	\$1,807
2010	\$819	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Year	Hickory	Average
2006	\$23,529	\$58,305
2007	\$33,647	\$53,074
2008	\$35,948	\$58,636
2009	\$37,699	\$62,174
2010	\$46,948	\$70,623

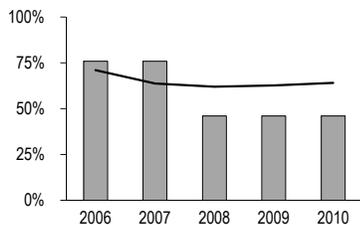
**Cost per Ton for Contract Resurfacing**



Year	Hickory	Average
2006	\$47	\$93
2007	\$58	\$93
2008	\$62	\$89
2009	\$65	\$94
2010	\$81	\$101

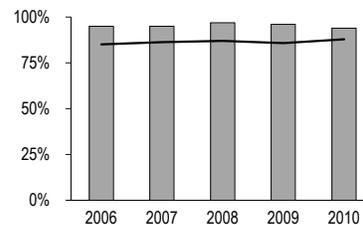
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Year	Hickory	Average
2006	76%	71%
2007	76%	64%
2008	46%	62%
2009	46%	63%
2010	46%	64%

**Percentage of Potholes Repaired within 24 hours**



Year	Hickory	Average
2006	95%	85%
2007	95%	86%
2008	97%	87%
2009	96%	86%
2010	94%	88%

# Asphalt Maintenance and Repair

# Hickory

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) 41,151	<p><b>Service Level and Delivery</b>                      The City of Hickory was responsible for maintaining 719.2 lane miles during FY 2009–10 including 238.8 lane miles of state roads.</p> <p>The city resurfaced 8.52 lane miles under contract, equating to 1.2 percent of total lane miles. A total of 4,938 tons of asphalt was used by the contractor during the fiscal year for resurfacing projects. The average resurfacing depth used by the city was 1.5 inches.</p> <p>The city reported that 48 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2007. The city used ITRE to conduct its rating system.</p> <p>The number of potholes reported for FY 2009–10 was 315, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 94 percent. The city reported a resurfacing cycle of sixty-seven years.</p>
Land Area (Square Miles) 29.28	
Persons per Square Mile 1,405	
Topography Gently rolling	
County Catawba	
Climate Moderate; some ice and snow	
Median Family Income (US Census 2000) \$47,522	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	<p><b>Conditions Affecting Service, Performance, and Costs</b>                      Hickory experienced one of its hardest winters in the last two decades. This combination of cold and wet weather led to increases in potholes and reduced ability to seal cracks.</p>
Personal Services 28.1%	
Operating Costs 55.0%	
Capital Costs 16.9%	
<b>TOTAL 100.0%</b>	
Cost Breakdown in Dollars	
Personal Services \$ 277,926	
Operating Costs \$ 543,512	
Capital Costs \$ 167,528	
<b>TOTAL \$ 988,966</b>	
<b>SERVICE PROFILE</b>	
FTE Positions—Crews 6.0	
FTE Positions—Other 0.1	
Lane Miles Maintained 719.2	
Lane Miles Resurfaced—Contract 8.52	
Lane Miles Resurfaced—City 0.00	
<b>TOTAL 8.52</b>	
Tons of Asphalt Used—Resurfacing	
Contractor 4,938	
City Crews 0	
Cost of Repaving—Contract \$400,000	
Cost of Repaving—City Crews \$0	
Cost of Maintenance \$588,966	
Registered Vehicles 30,352	
Registered Vehicles/Square Mile 1,037	

# High Point

# Asphalt Maintenance and Repair

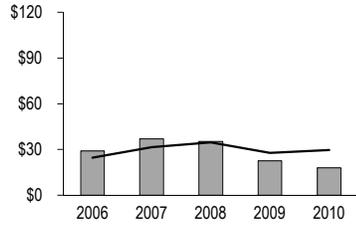
Key: High Point ■

Benchmarking Average —

Fiscal Years 2006 through 2010

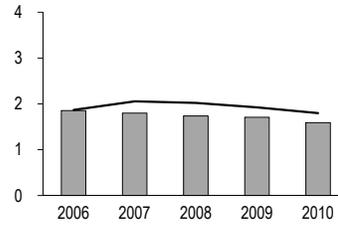
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



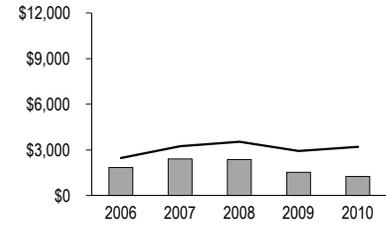
High Point \$28.91 \$36.86 \$35.32 \$22.47 \$18.03  
Average \$24.70 \$31.53 \$34.75 \$27.82 \$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



High Point 1.86 1.80 1.74 1.71 1.59  
Average 1.87 2.06 2.03 1.92 1.80

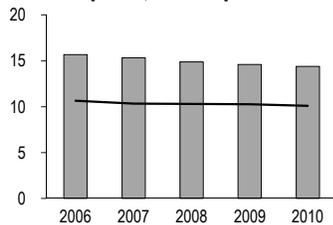
**Service Costs per Lane Mile of Road Maintained**



High Point \$1,845 \$2,403 \$2,372 \$1,537 \$1,253  
Average \$2,478 \$3,243 \$3,536 \$2,941 \$3,208

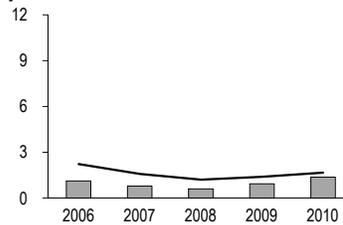
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



High Point 15.7 15.3 14.9 14.6 14.4  
Average 10.7 10.3 10.3 10.3 10.1

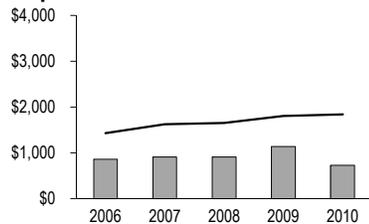
**Reported Potholes per Lane Mile Maintained**



High Point 1.13 0.81 0.62 0.95 1.38  
Average 2.23 1.58 1.21 1.41 1.67

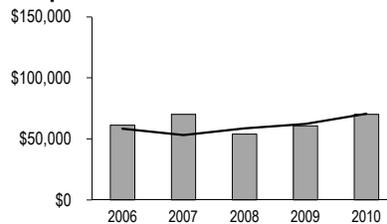
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



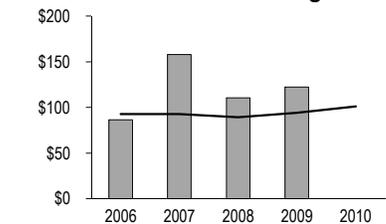
High Point \$867 \$910 \$911 \$1,140 \$729  
Average \$1,433 \$1,628 \$1,652 \$1,807 \$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



High Point \$61,127 \$70,174 \$53,872 \$60,711 \$70,189  
Average \$58,305 \$53,074 \$58,636 \$62,174 \$70,623

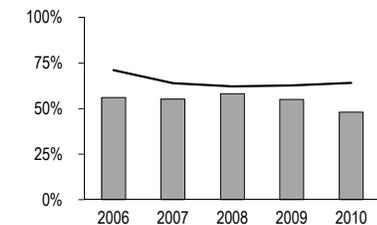
**Cost per Ton for Contract Resurfacing**



High Point \$87 \$158 \$110 \$122  
Average \$93 \$93 \$89 \$94 \$101

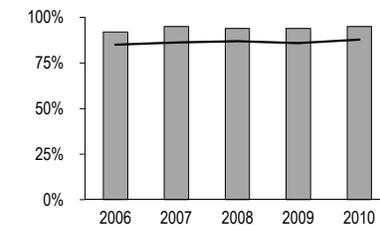
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



High Point 56% 55% 58% 55% 48%  
Average 71% 64% 62% 63% 64%

**Percentage of Potholes Repaired within 24 hours**



High Point 92% 95% 94% 94% 95%  
Average 85% 86% 87% 86% 88%

# Asphalt Maintenance and Repair

# High Point

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">102,216</span>	<p><b>Service Level and Delivery</b>                      The City of High Point was responsible for maintaining 1,471 lane miles during FY 2009–10. This includes 340 lane miles of state roads.</p> <p>The city resurfaced a total of 10.98 lane miles with city crews during FY 2009–10, equal to approximately 0.7 percent of total lane miles. A total of 6,352 tons of asphalt was used for resurfacing projects. The average resurfacing depth was 1.50 inches by city crews.</p> <p>The city reported that 48 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2007. The city used the ITRE rating system.</p> <p>The number of potholes reported for FY 2009–10 was 2,028, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 95 percent.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      Because of a reduction in funds for resurfacing projects, no contract resurfacing was done during the year. High Point did more work on patching and pothole repair to address some of the problems not fixed by the cut in contract resurfacing.</p>	
Land Area (Square Miles) <span style="float: right;">54.05</span>		
Persons per Square Mile <span style="float: right;">1,891</span>		
Topography <span style="float: right;">Flat; gently rolling</span>		
County <span style="float: right;">Guilford</span>		
Climate <span style="float: right;">Temperate; some ice and snow</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$48,057</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">37.0%</span>		
Operating Costs <span style="float: right;">53.0%</span>		
Capital Costs <span style="float: right;">10.0%</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 682,353</span>		
Operating Costs <span style="float: right;">\$ 975,854</span>		
Capital Costs <span style="float: right;">\$ 184,722</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">1,842,929</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">15.0</span>		
FTE Positions—Other <span style="float: right;">1.3</span>		
Lane Miles Maintained <span style="float: right;">1,471.0</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">0.00</span>		
Lane Miles Resurfaced—City <span style="float: right;">10.98</span>		
<b>TOTAL</b> <span style="float: right; border-top: 1px solid black;">10.98</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">0</span>		
City Crews <span style="float: right;">6,352</span>		
Cost of Repaving—Contract <span style="float: right;">\$0</span>		
Cost of Repaving—City Crews <span style="float: right;">\$770,676</span>		
Cost of Maintenance <span style="float: right;">\$1,072,253</span>		
Registered Vehicles <span style="float: right;">59,548</span>		
Registered Vehicles/Square Mile <span style="float: right;">1,102</span>		

# Salisbury

# Asphalt Maintenance and Repair

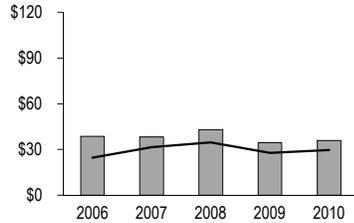
Key: Salisbury ■

Benchmarking Average —

Fiscal Years 2006 through 2010

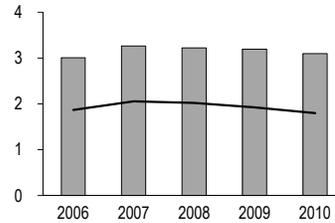
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



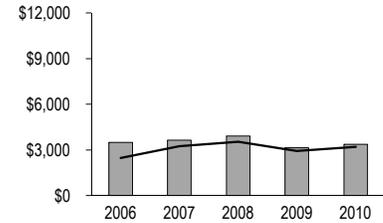
Salisbury	\$38.71	\$38.23	\$42.94	\$34.45	\$36.00
Average	\$24.70	\$31.53	\$34.75	\$27.82	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Salisbury	3.01	3.26	3.22	3.19	3.10
Average	1.87	2.06	2.03	1.92	1.80

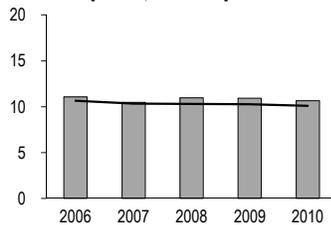
**Service Costs per Lane Mile of Road Maintained**



Salisbury	\$3,502	\$3,646	\$3,922	\$3,154	\$3,378
Average	\$2,478	\$3,243	\$3,536	\$2,941	\$3,208

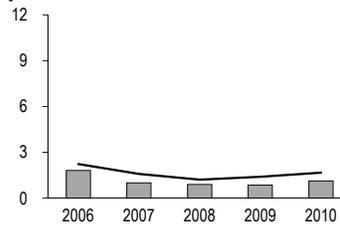
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Salisbury	11.1	10.5	10.9	10.9	10.7
Average	10.7	10.3	10.3	10.3	10.1

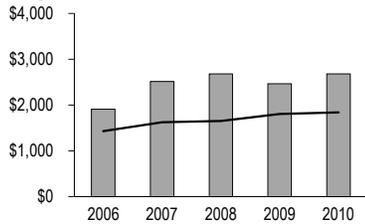
**Reported Potholes per Lane Mile Maintained**



Salisbury	1.83	1.00	0.91	0.87	1.14
Average	2.23	1.58	1.21	1.41	1.67

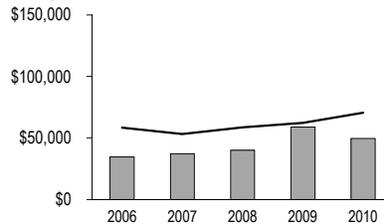
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



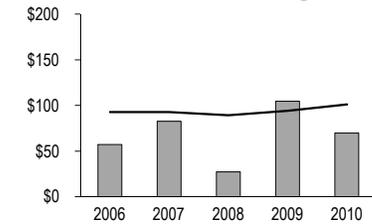
Salisbury	\$1,913	\$2,514	\$2,685	\$2,466	\$2,686
Average	\$1,433	\$1,628	\$1,652	\$1,807	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Salisbury	\$34,511	\$37,107	\$40,002	\$58,837	\$49,559
Average	\$58,305	\$53,074	\$58,636	\$62,174	\$70,623

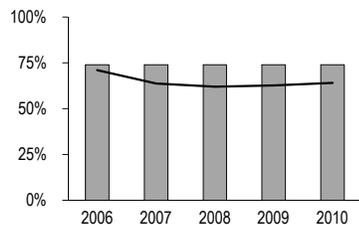
**Cost per Ton for Contract Resurfacing**



Salisbury	\$57	\$83	\$27	\$105	\$70
Average	\$93	\$93	\$89	\$94	\$101

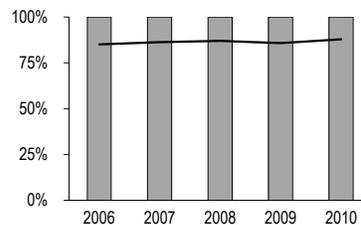
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Salisbury	74%	74%	74%	74%	74%
Average	71%	64%	62%	63%	64%

**Percentage of Potholes Repaired within 24 hours**



Salisbury	100%	100%	100%	100%	100%
Average	85%	86%	87%	86%	88%

# Asphalt Maintenance and Repair

# Salisbury

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) 32,263	<p><b>Service Level and Delivery</b> The City of Salisbury was responsible for maintaining 343.86 lane miles during FY 2009–10.</p> <p>The city resurfaced 4.8 lane miles, equating to approximately 1.4 percent of total lane miles. A total of 3,339 tons of asphalt was used during the fiscal year by contractors for resurfacing projects. The average resurfacing depth used by the contractor was 1.5 inches.</p> <p>The city reported that 74 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2005. The city used ITRE as its rating system.</p> <p>The number of potholes reported for FY 2009–10 was 392. The percentage of potholes repaired within twenty-four hours was 100 percent. The city reported a resurfacing cycle of twenty years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.</p>	
Land Area (Square Miles) 21.93		
Persons per Square Mile 1,471		
Topography Gently rolling		
County Rowan		
Climate Moderate; some ice and snow		
Median Family Income (US Census 2000) \$41,108		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services 30.4%		
Operating Costs 46.7%		
Capital Costs 22.9%		
<b>TOTAL 100.0%</b>		
Cost Breakdown in Dollars		
Personal Services \$ 352,771		
Operating Costs \$ 542,830		
Capital Costs \$ 265,880		
<b>TOTAL \$ 1,161,481</b>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews 9.00		
FTE Positions—Other 1.00		
Lane Miles Maintained 343.9		
Lane Miles Resurfaced—Contract 4.80		
Lane Miles Resurfaced—City 0.00		
<b>TOTAL 4.80</b>		
Tons of Asphalt Used—Resurfacing		
Contractor 3,399		
City Crews 0		
Cost of Repaving—Contract \$237,885		
Cost of Repaving—City Crews \$0		
Cost of Maintenance \$923,596		
Registered Vehicles 24,354		
Registered Vehicles/Square Mile 1,111		

# Wilmington

# Asphalt Maintenance and Repair

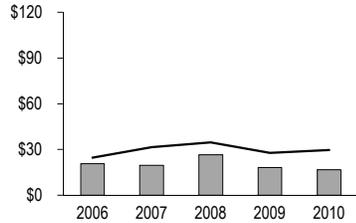
Key: Wilmington ■

Benchmarking Average —

Fiscal Years 2006 through 2010

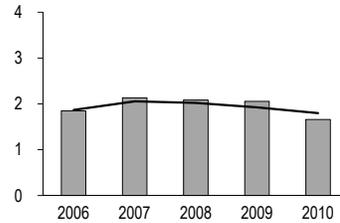
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



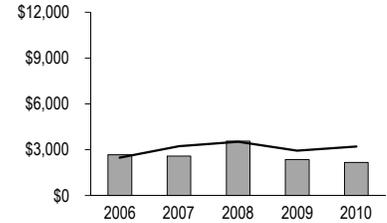
Year	Wilmington	Average
2006	\$20.59	\$24.70
2007	\$19.60	\$31.53
2008	\$26.43	\$34.75
2009	\$18.07	\$27.82
2010	\$16.72	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Year	Wilmington	Average
2006	1.85	1.87
2007	2.13	2.06
2008	2.08	2.03
2009	2.06	1.92
2010	1.66	1.80

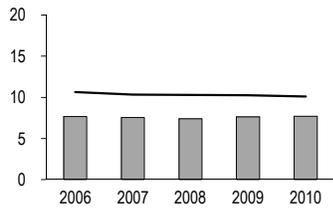
**Service Costs per Lane Mile of Road Maintained**



Year	Wilmington	Average
2006	\$2,681	\$2,478
2007	\$2,589	\$3,243
2008	\$3,569	\$3,536
2009	\$2,369	\$2,941
2010	\$2,165	\$3,208

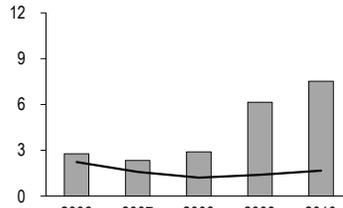
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Year	Wilmington	Average
2006	7.7	10.7
2007	7.6	10.3
2008	7.4	10.3
2009	7.6	10.3
2010	7.7	10.1

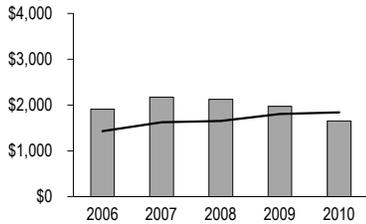
**Reported Potholes per Lane Mile Maintained**



Year	Wilmington	Average
2006	2.77	2.23
2007	2.34	1.58
2008	2.91	1.21
2009	6.16	1.41
2010	7.53	1.67

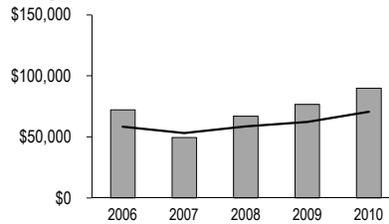
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



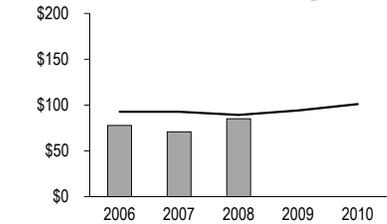
Year	Wilmington	Average
2006	\$1,912	\$1,433
2007	\$2,174	\$1,628
2008	\$2,128	\$1,652
2009	\$1,977	\$1,807
2010	\$1,653	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Year	Wilmington	Average
2006	\$72,292	\$58,305
2007	\$49,479	\$53,074
2008	\$66,908	\$58,636
2009	\$76,727	\$62,174
2010	\$90,023	\$70,623

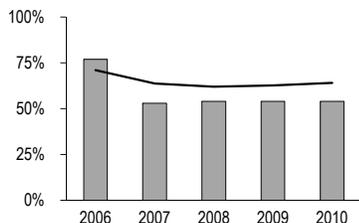
**Cost per Ton for Contract Resurfacing**



Year	Wilmington	Average
2006	\$78	\$93
2007	\$71	\$93
2008	\$85	\$89
2009		\$94
2010		\$101

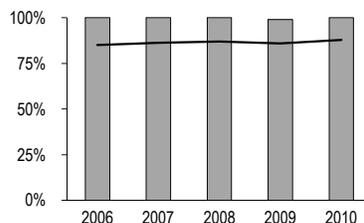
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Year	Wilmington	Average
2006	77%	71%
2007	53%	64%
2008	54%	62%
2009	54%	63%
2010	54%	64%

**Percentage of Potholes Repaired within 24 hours**



Year	Wilmington	Average
2006	100%	85%
2007	100%	86%
2008	100%	87%
2009	99%	86%
2010	100%	88%

# Asphalt Maintenance and Repair

# Wilmington

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION	
Population (OSBM 2009) <span style="float: right;">102,207</span>	<p><b>Service Level and Delivery</b> The City of Wilmington was responsible for maintaining 789.26 lane miles during FY 2009–10.</p> <p>The city resurfaced 4.49 lane miles, equating to approximately 0.6 percent of total lane miles. A total of 2,670 tons of asphalt was used for resurfacing projects done by city crews during the fiscal year. The average resurfacing depth used was 1.5 to 2.0 inches.</p> <p>The city reported that 54 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2006. The street rating was conducted using MicroPaver.</p> <p>The number of potholes reported for FY 2009–10 was 5,941. The percentage of potholes repaired within twenty-four hours was one hundred percent. The city reported a resurfacing cycle of twenty years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.</p> <p>Maintenance costs for FY 2006–07 included money for repair work in preparation for pavement rehabilitation activities for the next year.</p>	
Land Area (Square Miles) <span style="float: right;">51.55</span>		
Persons per Square Mile <span style="float: right;">1,983</span>		
Topography <span style="float: right;">Flat; coastal plain</span>		
County <span style="float: right;">New Hanover</span>		
Climate <span style="float: right;">Mild</span>		
Median Family Income (US Census 2000) <span style="float: right;">\$41,891</span>		
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services <span style="float: right;">46.2%</span>		
Operating Costs <span style="float: right;">35.5%</span>		
Capital Costs <span style="float: right;">18.2%</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>		
Cost Breakdown in Dollars		
Personal Services <span style="float: right;">\$ 790,395</span>		
Operating Costs <span style="float: right;">\$ 607,453</span>		
Capital Costs <span style="float: right;">\$ 311,176</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 1,709,024</span>		
<b>SERVICE PROFILE</b>		
FTE Positions—Crews <span style="float: right;">15.0</span>		
FTE Positions—Other <span style="float: right;">2.0</span>		
Lane Miles Maintained <span style="float: right;">789.3</span>		
Lane Miles Resurfaced—Contract <span style="float: right;">0.00</span>		
Lane Miles Resurfaced—City <span style="float: right;">4.49</span>		
TOTAL <span style="float: right; border-top: 1px solid black;">4.49</span>		
Tons of Asphalt Used—Resurfacing		
Contractor <span style="float: right;">0</span>		
City Crews <span style="float: right;">2,670</span>		
Cost of Repaving—Contract <span style="float: right;">\$0</span>		
Cost of Repaving—City Crews <span style="float: right;">\$404,205</span>		
Cost of Maintenance <span style="float: right;">\$1,304,819</span>		
Registered Vehicles <span style="float: right;">116,069</span>		
Registered Vehicles/Square Mile <span style="float: right;">2,252</span>		

# Wilson

# Asphalt Maintenance and Repair

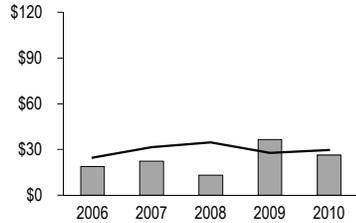
Key: Wilson ■

Benchmarking Average —

Fiscal Years 2006 through 2010

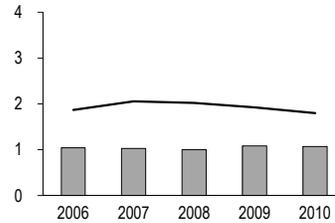
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



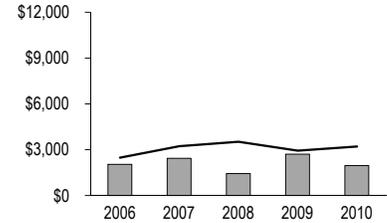
Wilson	\$18.81	\$22.25	\$13.10	\$36.44	\$26.28
Average	\$24.70	\$31.53	\$34.75	\$27.82	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Wilson	1.05	1.03	1.00	1.09	1.07
Average	1.87	2.06	2.03	1.92	1.80

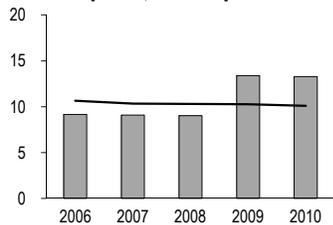
**Service Costs per Lane Mile of Road Maintained**



Wilson	\$2,054	\$2,445	\$1,455	\$2,721	\$1,976
Average	\$2,478	\$3,243	\$3,536	\$2,941	\$3,208

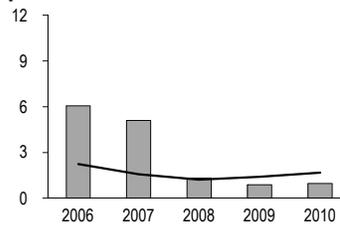
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Wilson	9.2	9.1	9.0	13.4	13.3
Average	10.7	10.3	10.3	10.3	10.1

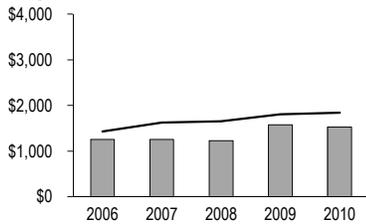
**Reported Potholes per Lane Mile Maintained**



Wilson	6.05	5.09	1.33	0.88	0.96
Average	2.23	1.58	1.21	1.41	1.67

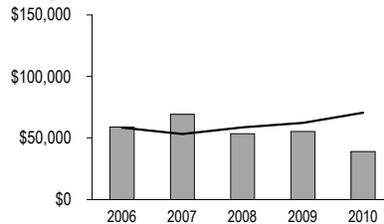
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



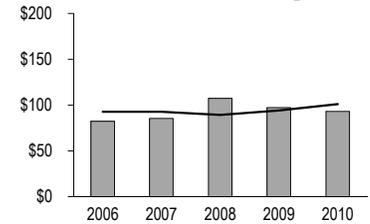
Wilson	\$1,255	\$1,255	\$1,230	\$1,576	\$1,529
Average	\$1,433	\$1,628	\$1,652	\$1,807	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Wilson	\$58,923	\$69,215	\$53,330	\$55,346	\$38,943
Average	\$58,305	\$53,074	\$58,636	\$62,174	\$70,623

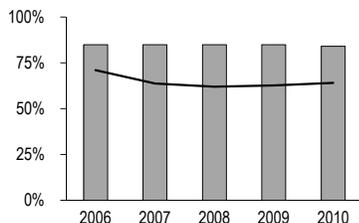
**Cost per Ton for Contract Resurfacing**



Wilson	\$82	\$85	\$107	\$97	\$93
Average	\$93	\$93	\$89	\$94	\$101

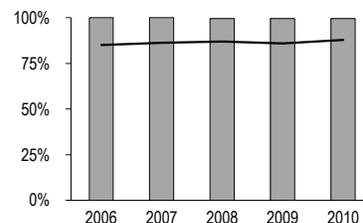
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Wilson	85%	85%	85%	85%	84%
Average	71%	64%	62%	63%	64%

**Percentage of Potholes Repaired within 24 hours**



Wilson	100%	100%	100%	100%	100%
Average	85%	86%	87%	86%	88%

# Asphalt Maintenance and Repair

# Wilson

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	51,274	
Land Area (Square Miles)	29.02	
Persons per Square Mile	1,767	
Topography	Flat	
County	Wilson	
Climate	Mild; little ice and snow	
Median Family Income (US Census 2000)	\$41,041	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	24.1%	
Operating Costs	69.8%	
Capital Costs	6.1%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 325,262	
Operating Costs	\$ 940,107	
Capital Costs	\$ 82,017	
<b>TOTAL</b>	<b>\$ 1,347,386</b>	
<b>SERVICE PROFILE</b>		
FTE Positions—Crews	5.0	
FTE Positions—Other	0.5	
Lane Miles Maintained	682.0	
Lane Miles Resurfaced—Contract	7.83	
Lane Miles Resurfaced—City	0.00	
<b>TOTAL</b>	<b>7.83</b>	
Tons of Asphalt Used—Resurfacing		
Contractor	3,275	
City Crews	0	
Cost of Repaving—Contract	\$304,920	
Cost of Repaving—City Crews	\$0	
Cost of Maintenance	\$1,042,466	
Registered Vehicles	39,560	
Registered Vehicles/Square Mile	1,363	
		<p><b>Service Level and Delivery</b> The City of Wilson was responsible for maintaining 681.96 lane miles of city streets during FY 2009–10.</p> <p>The city resurfaced 7.83 lane miles, equating to approximately 1.1 percent of total lane miles. A total of 3,275 tons of asphalt was used during the fiscal year for resurfacing projects by the contractor. The average resurfacing depth used by the contractor was 1.5 inch.</p> <p>The city reported that 84 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2009. The city used a customized rating based on ITRE as its rating system.</p> <p>The number of potholes reported for FY 2009–10 was 658. The percentage of potholes repaired within twenty-four hours was 99.5 percent. The city reported a resurfacing cycle of thirty-five years.</p> <p><b>Conditions Affecting Service, Performance and Costs</b> The cost of asphalt and maintenance materials is directly related to fluctuations in the price of petroleum prices.</p>

# Winston-Salem

# Asphalt Maintenance and Repair

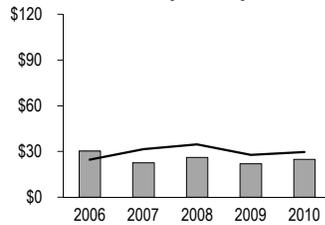
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

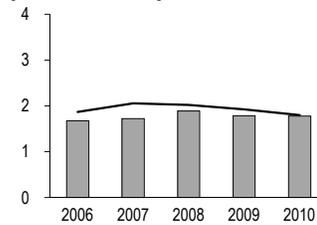
## RESOURCE Measures

**Asphalt Maintenance and Repair Services Costs per Capita**



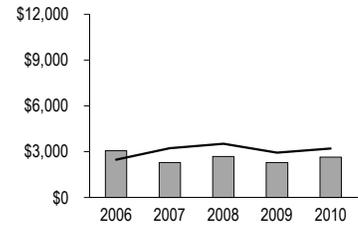
Year	Winston-Salem	Average
2006	\$30.30	\$24.70
2007	\$22.47	\$31.53
2008	\$26.10	\$34.75
2009	\$22.00	\$27.82
2010	\$24.76	\$29.69

**Asphalt Maintenance and Repair FTEs per 10,000 Population**



Year	Winston-Salem	Average
2006	1.67	1.87
2007	1.72	2.06
2008	1.89	2.03
2009	1.79	1.92
2010	1.78	1.80

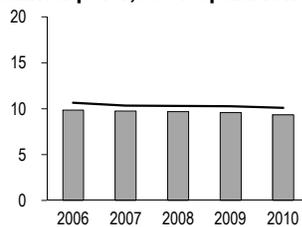
**Service Costs per Lane Mile of Road Maintained**



Year	Winston-Salem	Average
2006	\$3,072	\$2,478
2007	\$2,301	\$3,243
2008	\$2,695	\$3,536
2009	\$2,295	\$2,941
2010	\$2,657	\$3,208

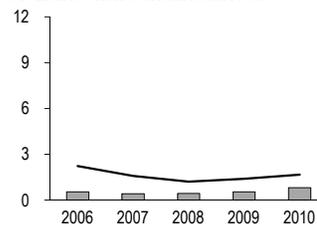
## WORKLOAD Measures

**Number of Lane Miles Maintained per 1,000 Population**



Year	Winston-Salem	Average
2006	9.9	10.7
2007	9.8	10.3
2008	9.7	10.3
2009	9.6	10.3
2010	9.3	10.1

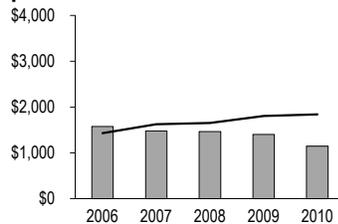
**Reported Potholes per Lane Mile Maintained**



Year	Winston-Salem	Average
2006	0.55	2.23
2007	0.43	1.58
2008	0.44	1.21
2009	0.54	1.41
2010	0.82	1.67

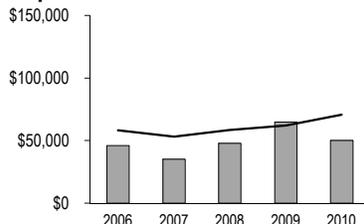
## EFFICIENCY Measures

**Cost of Maintenance per Lane Mile Maintained**



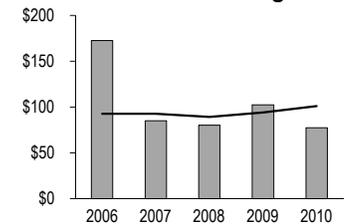
Year	Winston-Salem	Average
2006	\$1,581	\$1,433
2007	\$1,480	\$1,628
2008	\$1,468	\$1,652
2009	\$1,403	\$1,807
2010	\$1,150	\$1,841

**Resurfacing Cost per Lane Mile Resurfaced**



Year	Winston-Salem	Average
2006	\$46,049	\$58,305
2007	\$35,164	\$53,074
2008	\$47,873	\$58,636
2009	\$64,808	\$62,174
2010	\$50,030	\$70,623

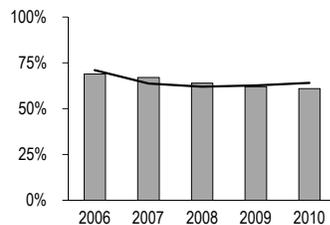
**Cost per Ton for Contract Resurfacing**



Year	Winston-Salem	Average
2006	\$173	\$93
2007	\$85	\$93
2008	\$80	\$89
2009	\$103	\$94
2010	\$78	\$101

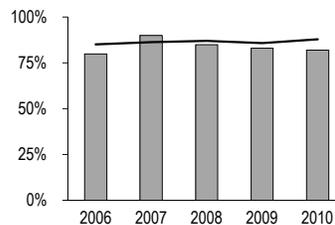
## EFFECTIVENESS Measures

**Street Segments Rated 85 Percent or Better**



Year	Winston-Salem	Average
2006	69%	71%
2007	67%	64%
2008	64%	62%
2009	62%	63%
2010	61%	64%

**Percentage of Potholes Repaired within 24 hours**



Year	Winston-Salem	Average
2006	80%	85%
2007	90%	86%
2008	85%	87%
2009	83%	86%
2010	82%	88%

# Asphalt Maintenance and Repair

# Winston-Salem

## Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population (OSBM 2009) <span style="float: right;">235,075</span>	
Land Area (Square Miles) <span style="float: right;">133.2</span>	
Persons per Square Mile <span style="float: right;">1,765</span>	
Topography <span style="float: right;">Gently rolling</span>	
County <span style="float: right;">Forsyth</span>	
Climate <span style="float: right;">Moderate; some ice and snow</span>	
Median Family Income (US Census 2000) <span style="float: right;">\$46,595</span>	
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services <span style="float: right;">20.2%</span>	
Operating Costs <span style="float: right;">74.4%</span>	
Capital Costs <span style="float: right;">5.4%</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">100.0%</span>	
Cost Breakdown in Dollars	
Personal Services <span style="float: right;">\$ 1,173,434</span>	
Operating Costs <span style="float: right;">\$ 4,333,074</span>	
Capital Costs <span style="float: right;">\$ 314,289</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">\$ 5,820,797</span>	
<b>SERVICE PROFILE</b>	
FTE Positions—Crews <span style="float: right;">38.0</span>	
FTE Positions—Other <span style="float: right;">3.8</span>	
Lane Miles Maintained <span style="float: right;">2,190.9</span>	
Lane Miles Resurfaced—Contract <span style="float: right;">64.30</span>	
Lane Miles Resurfaced—City <span style="float: right;">1.67</span>	
TOTAL <span style="float: right; border-top: 1px solid black;">65.97</span>	
Tons of Asphalt Used—Resurfacing	
Contractor <span style="float: right;">40,514</span>	
City Crews <span style="float: right;">1,842</span>	
Cost of Repaving—Contract <span style="float: right;">\$3,141,211</span>	
Cost of Repaving—City Crews <span style="float: right;">\$159,251</span>	
Cost of Maintenance <span style="float: right;">\$2,520,335</span>	
Registered Vehicles <span style="float: right;">172,563</span>	
Registered Vehicles/Square Mile <span style="float: right;">1,296</span>	
	<p><b>Service Level and Delivery</b></p> <p>The City of Winston-Salem was responsible for maintaining 2,190.89 lane miles of city streets during FY 2009–10.</p> <p>The city resurfaced 65.97 lane miles, equating to approximately 3.0 percent of total lane miles. A total of 42,356 tons of asphalt was used during the fiscal year for resurfacing projects including 1,842 tons used by city crews and 40,514 tons used by contractors. The average resurfacing depth used by city and contract crews was 1.5 inches.</p> <p>The city reported that 61 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2010. The city used Pavement Tracking System (PTS) as its rating system.</p> <p>The city reported 1,786 potholes in FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p> <p>The hard winter conditions lead 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.</p>







# Performance and Cost Data

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## FIRE SERVICES

## 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 for the first unit arriving and also for 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 but 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
Asheville	84,947	59.1	\$11.4	13,585	5,645	12	239	3
Burlington	52,457	25.1	\$4.1	7,117	2,406	5	92	3
Cary	148,698	55.3	\$20.6	6,887	4,305	7	211	3
Charlotte	711,349	299.0	\$77.1	93,139	27,916	40	1,144	3
Concord	81,848	60.6	\$10.8	7,286	1,656	9	180	3
Durham	234,140	105.6	\$22.3	18,512	2,849	16	300	3
Greensboro	279,753	143.4	\$25.3	29,225	40,183	23	502	1
Greenville	82,571	35.0	\$5.8	na	882	6	157	3
Hickory	46,509	42.9	\$5.2	6,081	4,268	6	137	3
High Point	111,744	67.0	\$10.1	11,029	2,799	14	224	2
Salisbury	32,263	21.9	\$2.9	4,097	2,002	4	77	2
Wilmington	102,207	51.5	\$14.1	9,401	2,804	11	220	2
Wilson	51,274	29.0	\$3.9	3,855	6,363	5	93	2
Winston-Salem	235,075	133.2	\$21.5	23,983	10,143	18	343	3

### EXPLANATORY FACTORS

*These are factors that the project found to affect fire services performance and cost in one or more of the municipalities:*

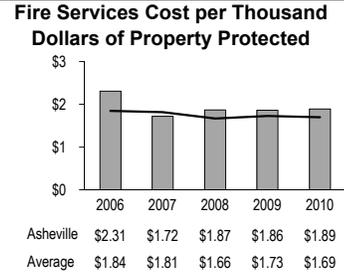
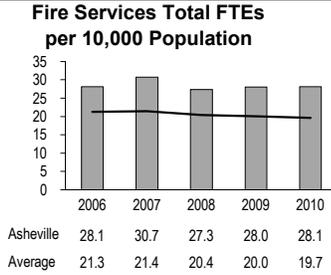
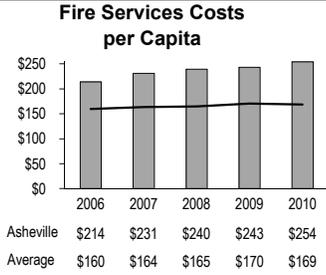
- Population and area served
- Value of property area protected in service area
- Number of engine companies
- Number of fire department responses
- Fire code violations
- ISO rating
- Age of housing stock

# Asheville

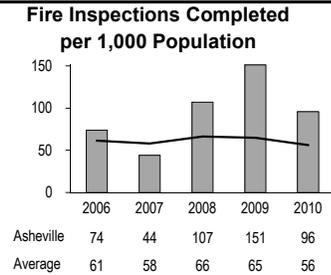
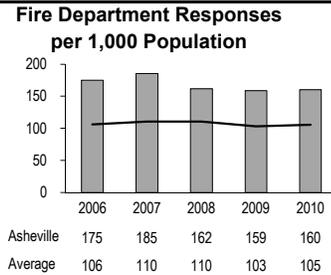
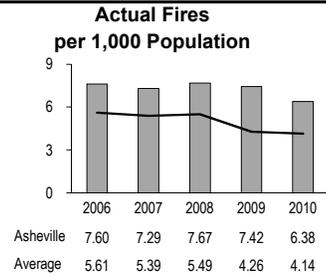
# Fire Services

Key: Asheville ■ Benchmarking Average — Fiscal Years 2006 through 2010

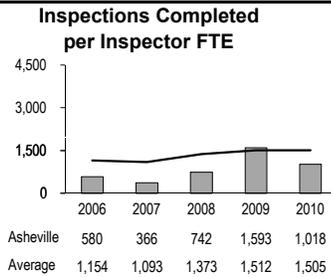
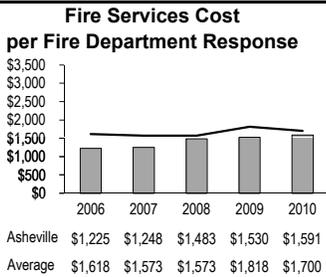
## RESOURCE Measures



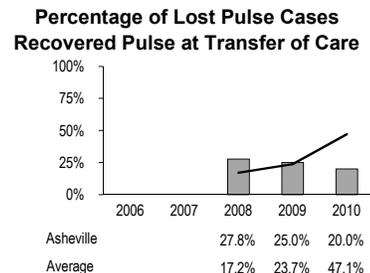
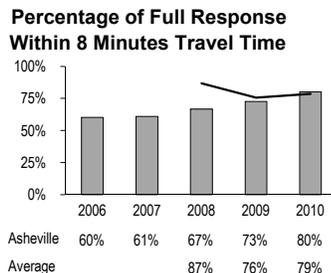
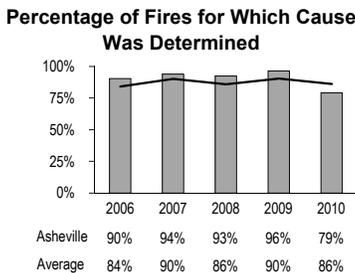
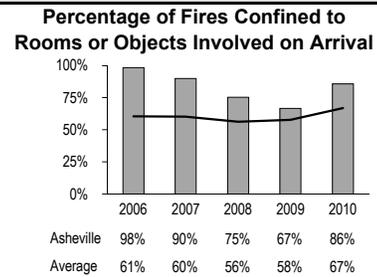
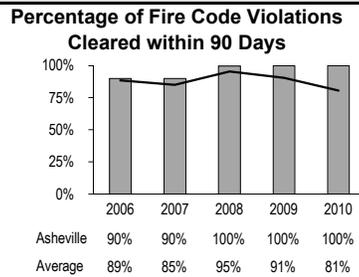
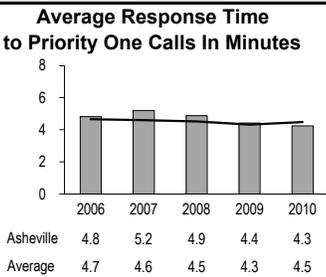
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Asheville

## Fire Services

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	84,947	<p><b>Service Level and Delivery</b> 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.</p> <p>The fire department contained the following divisions: administration, emergency response, fire marshal's office, and professional standards.</p> <p>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.</p> <p>The city has an ISO rating of 3.</p> <p>The Asheville Fire Department conducted 8,147 fire maintenance, construction, and reinspections during FY 2009–10. The fire marshal 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 established 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.</p> <p>Fire inspections in Asheville were down in FY 2009–10 due to the drop in new construction.</p>
Land Area Served (Square Miles)	59.1	
Persons Served per Square Mile	1,436	
Topography	Hills, mountains	
County	Buncombe	
Climate	Moderate; ice and snow	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	73.5%	
Operating Costs	15.5%	
Capital Costs	10.9%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 15,889,533	
Operating Costs	\$ 3,356,431	
Capital Costs	\$ 2,363,759	
TOTAL	\$ 21,609,723	
<b>SERVICE PROFILE</b>		
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	13,585	
All Fire Responses	542	
Structural Fires Reported	120	
Estimated Fire Loss	\$3,446,255	
Amount of Property Protected	\$11,423,336,660	
Number of Fire Education Programs or Events	186	

# Burlington

# Fire Services

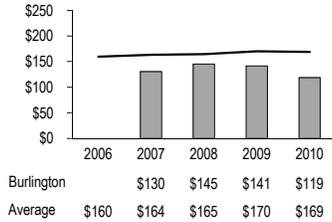
Key: Burlington ■

Benchmarking Average —

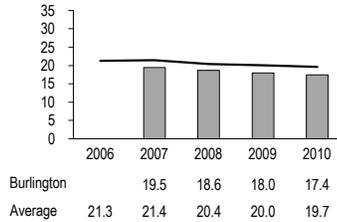
Fiscal Years 2006 through 2010

## RESOURCE Measures

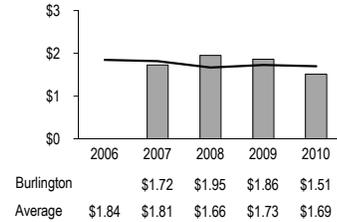
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

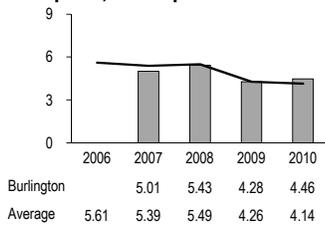


**Fire Services Cost per Thousand Dollars of Property Protected**

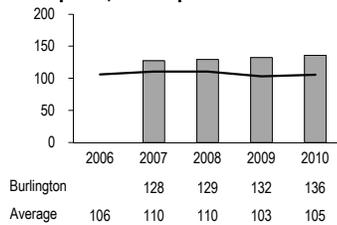


## WORKLOAD Measures

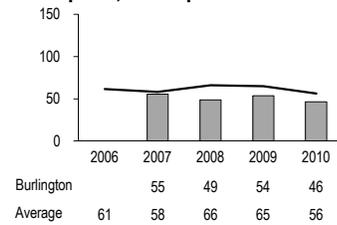
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

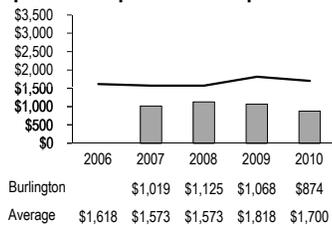


**Fire Inspections Completed per 1,000 Population**

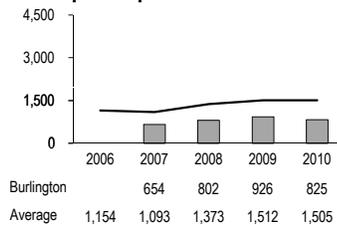


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

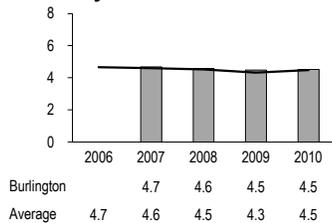


**Inspections Completed per Inspector FTE**

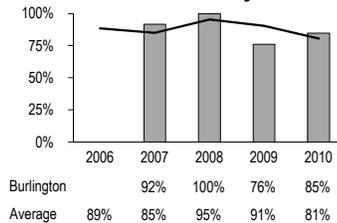


## EFFECTIVENESS Measures

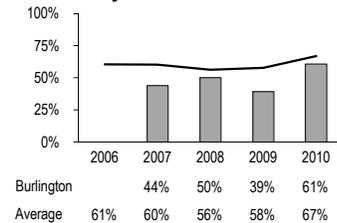
**Average Response Time to Priority One Calls In Minutes**



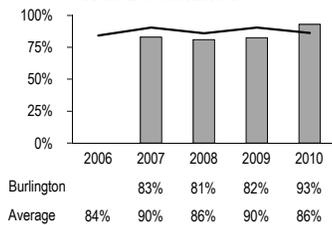
**Percentage of Fire Code Violations Cleared within 90 Days**



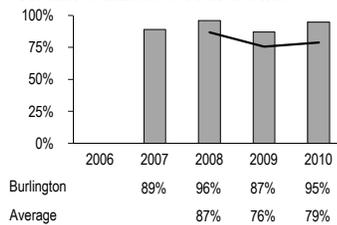
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



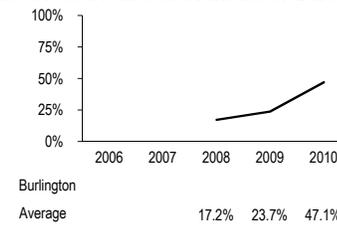
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Burlington

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	52,457
Land Area Served (Square Miles)	25.1
Persons Served per Square Mile	2,087
Topography	Flat; gently rolling
County	Alamance
Climate	Mild; little ice or snow
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	76.2%
Operating Costs	12.8%
Capital Costs	10.9%
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	\$ 4,740,782
Operating Costs	\$ 797,785
Capital Costs	\$ 679,066
TOTAL	\$ 6,217,633
<b>SERVICE PROFILE</b>	
FTE Positions—Firefighters	81.0
FTE Positions—Other	10.5
Fire Stations	5
First-Line Fire Apparatus	
Pumpers	5
Aerial Trucks	1
Quints	0
Squads	1
Rescue	1
Other	1
Fire Department Responses	7,117
All Fire Responses	234
Structural Fires Reported	51
Estimated Fire Loss	\$1,921,750
Amount of Property Protected	\$4,127,151,835
Number of Fire Education Programs or Events	375

**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, including 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.

The fire department conducted 2,434 fire maintenance, construction, and reinspections during FY 2009–10. The 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**

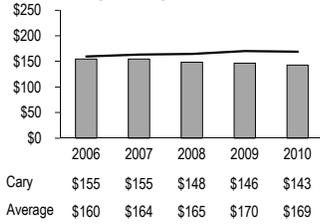
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

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

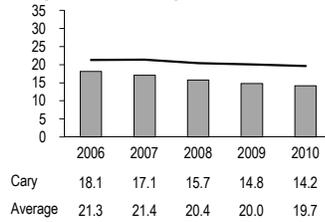
Key: Cary ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

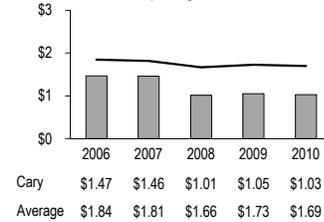
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

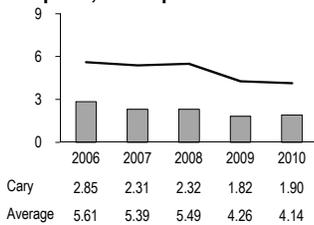


**Fire Services Cost per Thousand Dollars of Property Protected**

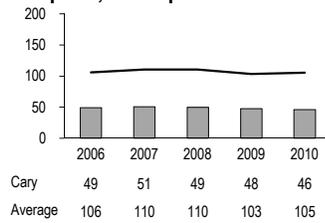


## WORKLOAD Measures

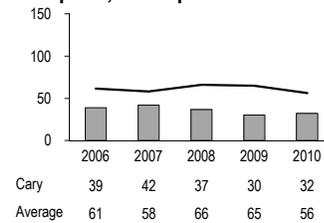
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

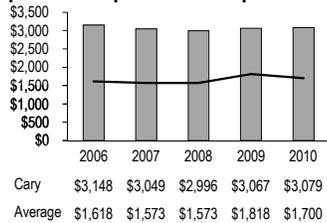


**Fire Inspections Completed per 1,000 Population**

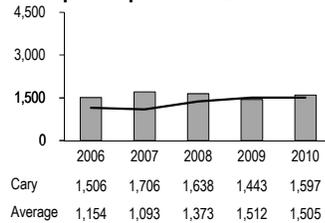


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

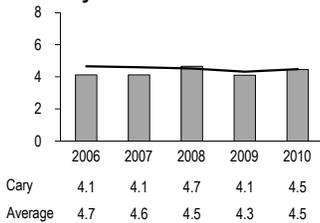


**Inspections Completed per Inspector FTE**

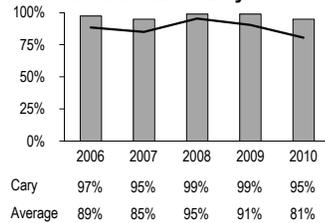


## EFFECTIVENESS Measures

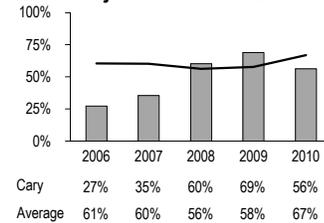
**Average Response Time to Priority One Calls In Minutes**



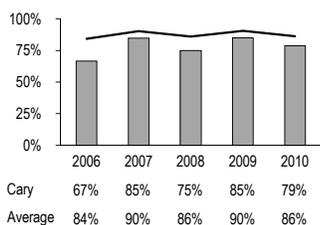
**Percentage of Fire Code Violations Cleared within 90 Days**



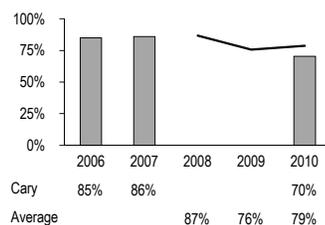
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



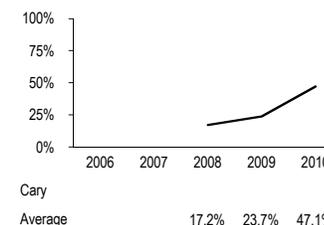
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Cary

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	148,698	<p><b>Service Level and Delivery</b> 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.</p> <p>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.</p> <p>The town has an ISO rating of 3.</p> <p>The town conducted 4,791 fire maintenance, construction, and reinspections during FY 2009–10. 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 a follow-up inspection 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. During the year, one full-time fire inspector from the Town Inspections and Permits department was temporarily reassigned to assist with fire investigations.</p> <p>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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.</p>
Land Area Served (Square Miles)	55.3	
Persons Served per Square Mile	2,687	
Topography	Flat; gently rolling	
County	Wake	
Climate	Mild; some ice	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	72.4%	
Operating Costs	19.8%	
Capital Costs	7.8%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 15,347,977	
Operating Costs	\$ 4,207,952	
Capital Costs	\$ 1,646,768	
TOTAL	\$ 21,202,697	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	189.0	
FTE Positions—Other	21.8	
Fire Stations	7	
First-Line Fire Apparatus		
Pumpers	7	
Aerial Trucks	4	
Quints	0	
Squads	0	
Rescue	3	
Other	9	
Fire Department Responses	6,887	
All Fire Responses	283	
Structural Fires Reported	55	
Estimated Fire Loss	\$1,901,248	
Amount of Property Protected	\$20,625,225,953	
Number of Fire Education Programs or Events	221	

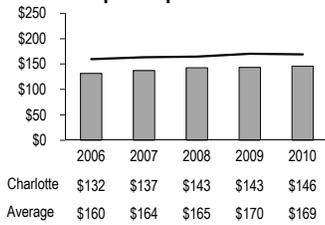
# Charlotte

# Fire Services

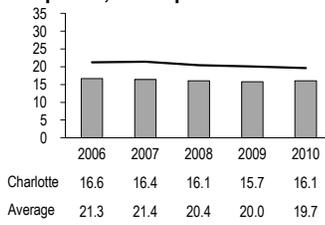
Key: Charlotte ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

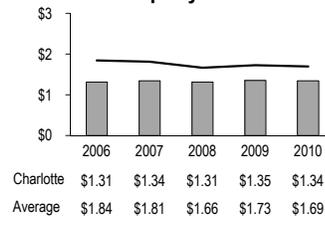
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

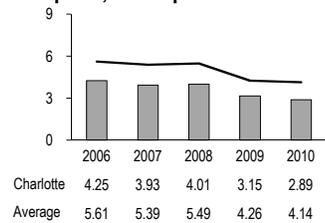


**Fire Services Cost per Thousand Dollars of Property Protected**

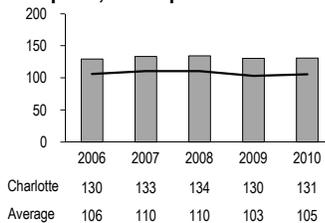


## WORKLOAD Measures

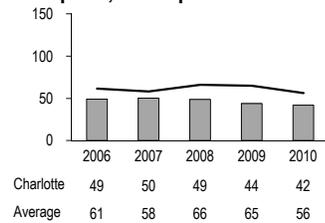
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

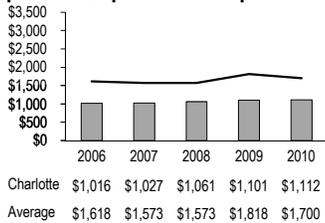


**Fire Inspections Completed per 1,000 Population**

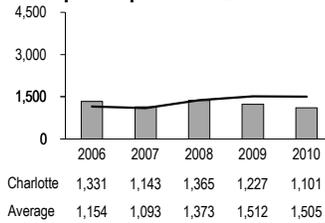


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

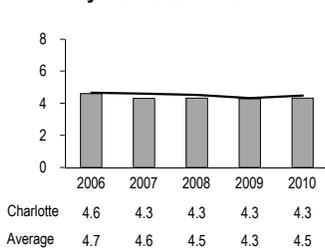


**Inspections Completed per Inspector FTE**

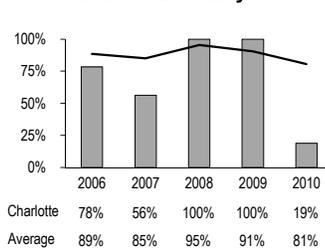


## EFFECTIVENESS Measures

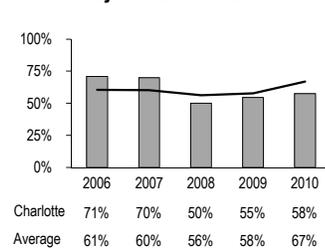
**Average Response Time to Priority One Calls In Minutes**



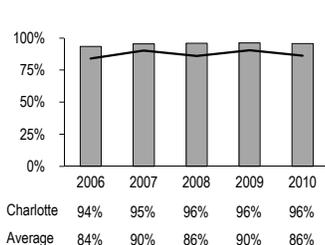
**Percentage of Fire Code Violations Cleared within 90 Days**



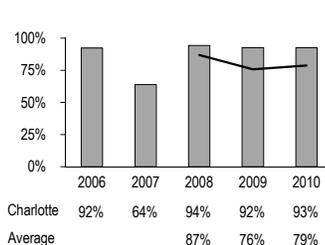
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



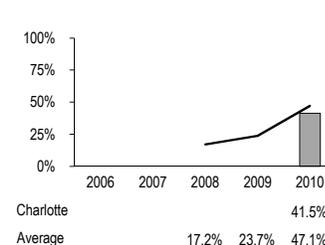
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Charlotte

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	711,349
Land Area Served (Square Miles)	299.0
Persons Served per Square Mile	2,379
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	81.1%
Operating Costs	15.7%
Capital Costs	3.2%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 84,033,398
Operating Costs	\$ 16,226,976
Capital Costs	\$ 3,354,983
<b>TOTAL</b>	<b>\$ 103,615,357</b>
<b>SERVICE PROFILE</b>	
FTE Positions—Firefighters	1014.0
FTE Positions—Other	130.0
Fire Stations	41
First-Line Fire Apparatus	
Pumpers	41
Aerial Trucks	0
Quints	15
Squads	0
Rescue	2
Other	48
Fire Department Responses	93,139
All Fire Responses	2,054
Structural Fires Reported	499
Estimated Fire Loss	\$17,909,160
Amount of Property Protected	\$77,104,395,292
Number of Fire Education Programs or Events	2650

**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 29,727 fire maintenance, construction, and reinspections during FY 2009–10. 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 permit issuance, 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 full response within 8 minutes" was new as of FY 2005–06. 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.

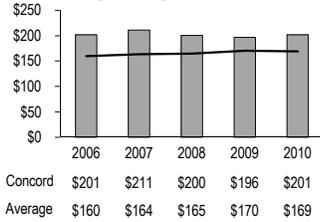
# Concord

# Fire Services

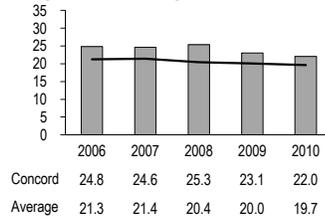
Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

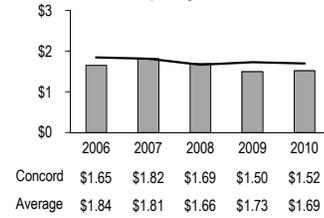
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

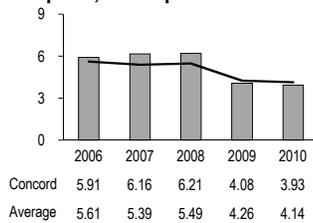


**Fire Services Cost per Thousand Dollars of Property Protected**

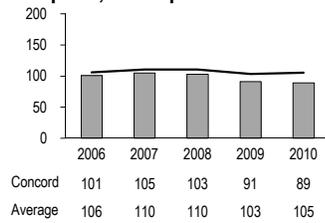


## WORKLOAD Measures

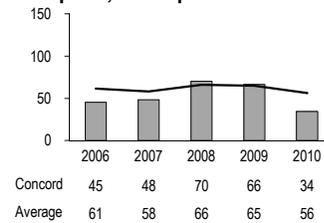
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

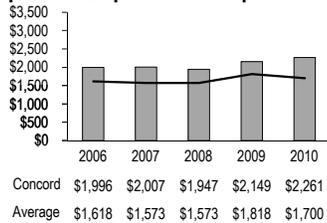


**Fire Inspections Completed per 1,000 Population**

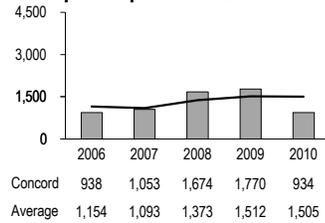


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

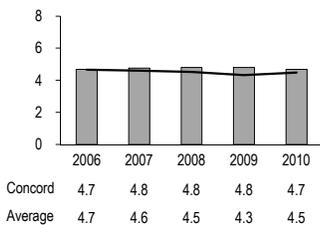


**Inspections Completed per Inspector FTE**

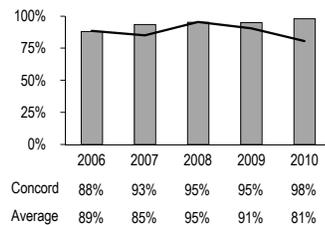


## EFFECTIVENESS Measures

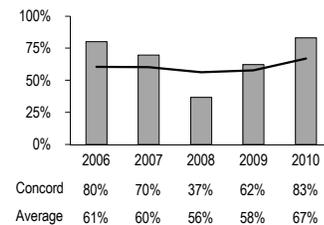
**Average Response Time to Priority One Calls In Minutes**



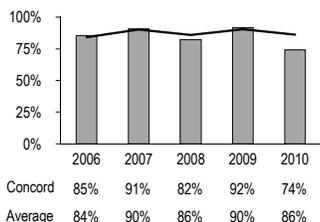
**Percentage of Fire Code Violations Cleared within 90 Days**



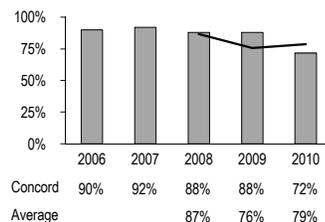
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



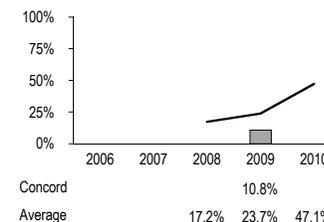
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Concord

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	81,848	<p><b>Service Level and Delivery</b> 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.</p> <p>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 excepting and planning for change to develop and prepare the department to always strive for excellence.</p> <p>The fire department in Concord contained the following divisions: administration, suppression, operations, training and career development, fire-risk management, and emergency management.</p> <p>The fire department utilizes a shift schedule that includes twenty-four hours on and forty-eight hours off.</p> <p>The city has an ISO rating of 3.</p> <p>The fire department conducted 2,803 fire maintenance, construction, and reinspections during FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance and Costs</b> The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.</p> <p>One of the fire stations for Concord is at the airport.</p>
Land Area Served (Square Miles)	50.6	
Persons Served per Square Mile	1,618	
Topography	Flat; gently rolling	
County	Cabarrus	
Climate	Mild; some ice	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	68.7%	
Operating Costs	17.6%	
Capital Costs	13.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 11,327,856	
Operating Costs	\$ 2,904,397	
Capital Costs	\$ 2,244,761	
TOTAL	\$ 16,477,014	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	156.0	
FTE Positions—Other	24.0	
Fire Stations	10	
First-Line Fire Apparatus		
Pumpers	7	
Aerial Trucks	3	
Quints	2	
Squads	0	
Rescue	1	
Other	9	
Fire Department Responses	7,286	
All Fire Responses	322	
Structural Fires Reported	77	
Estimated Fire Loss	\$3,602,545	
Amount of Property Protected	\$10,837,985,324	
Number of Fire Education Programs or Events	668	

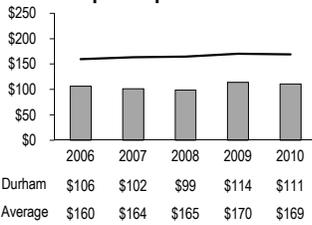
# Durham

# Fire Services

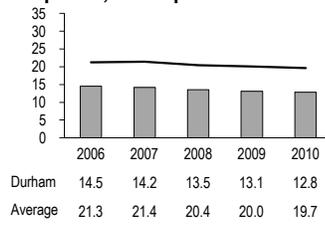
Key: Durham ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

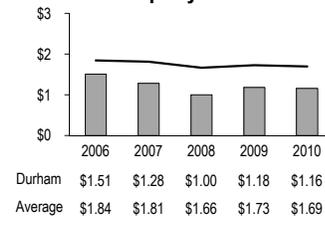
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

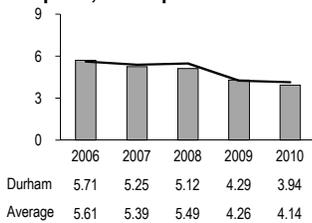


**Fire Services Cost per Thousand Dollars of Property Protected**

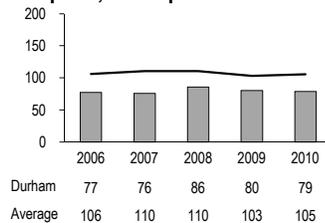


## WORKLOAD Measures

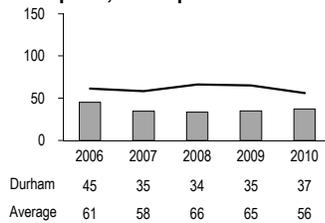
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

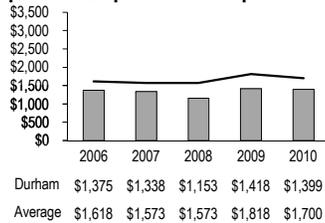


**Fire Inspections Completed per 1,000 Population**

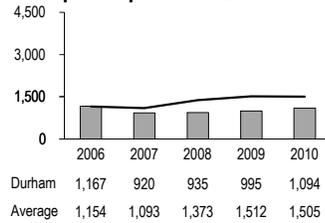


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

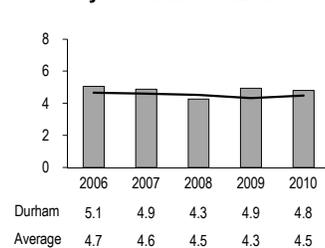


**Inspections Completed per Inspector FTE**

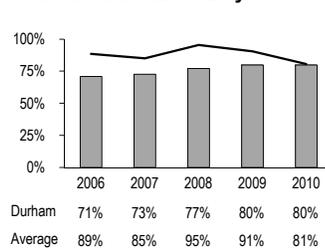


## EFFECTIVENESS Measures

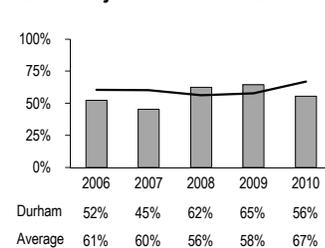
**Average Response Time to Priority One Calls In Minutes**



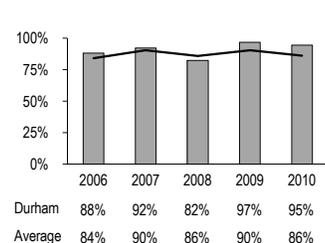
**Percentage of Fire Code Violations Cleared within 90 Days**



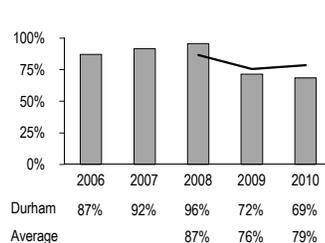
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



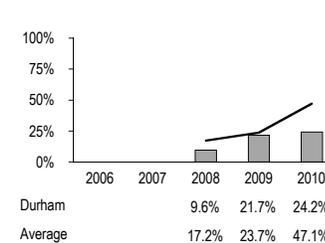
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Durham

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	234,140	<p><b>Service Level and Delivery</b> The mission of the Durham Fire Department is to prevent harm, stay safe, and seek opportunities to provide quality service.</p> <p>The fire department contains units for fire protection, emergency medical services, hazardous materials, technical rescue, code enforcement and fire investigation, and public fire safety education.</p> <p>The city uses twenty-four-hour shifts that alternate days until five shifts have been completed. Six days off are then granted following the last day worked of the alternating five cycles. Then the cycle repeats itself so that over a fifteen-day period a firefighter completes 120 hours of work.</p>
Land Area Served (Square Miles)	105.6	
Persons Served per Square Mile	2,217	
Topography	Flat; gently rolling	
County	Durham	
Climate	Temperate; little ice and snow	
<b>FULL COST PROFILE</b>		<p>The city has an ISO rating of 3.</p> <p>The fire department conducted 9,517 fire maintenance inspections and reinspections during FY 2009–10. The fire prevention division handles fire inspections. Fire inspections are conducted on an annual basis, and each business is notified at least ten days prior to a fire inspection. A fee is assessed to each business for a permit. Each apartment complex is assigned one file number.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.</p>
Cost Breakdown by Percentage		
Personal Services	78.5%	
Operating Costs	11.2%	
Capital Costs	10.3%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 20,337,075	
Operating Costs	\$ 2,890,951	
Capital Costs	\$ 2,676,164	
TOTAL	\$ 25,904,190	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	275.0	
FTE Positions—Other	25.0	
Fire Stations	16	
First-Line Fire Apparatus		
Pumpers	16	
Aerial Trucks	4	
Quints	0	
Squads	3	
Rescue	1	
Other	4	
Fire Department Responses	18,512	
All Fire Responses	923	
Structural Fires Reported	203	
Estimated Fire Loss	\$9,139,898	
Amount of Property Protected	\$22,336,156,191	
Number of Fire Education Programs or Events	381	

# Greensboro

# Fire Services

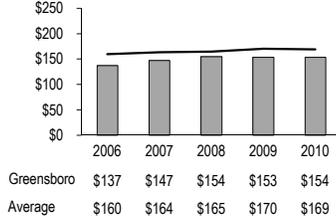
Key: Greensboro ■

Benchmarking Average —

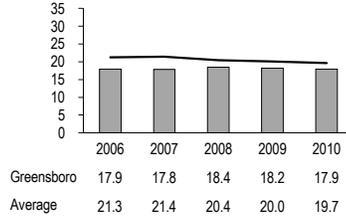
Fiscal Years 2006 through 2010

## RESOURCE Measures

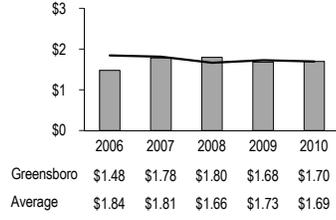
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

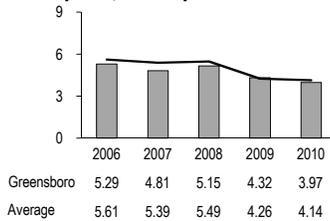


**Fire Services Cost per Thousand Dollars of Property Protected**

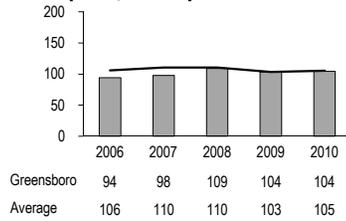


## WORKLOAD Measures

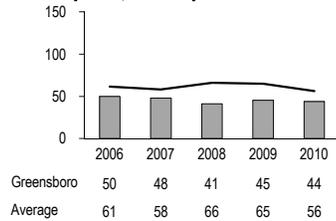
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

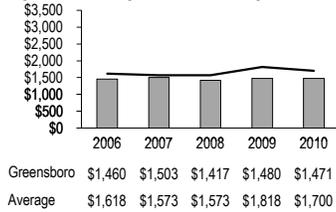


**Fire Inspections Completed per 1,000 Population**

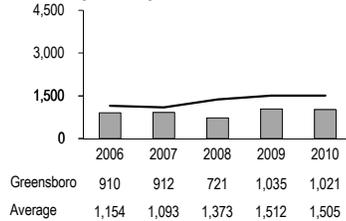


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

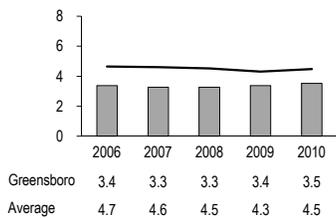


**Inspections Completed per Inspector FTE**

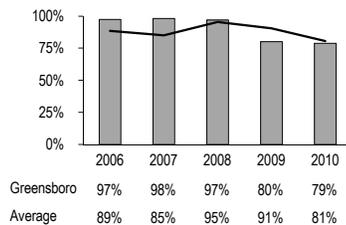


## EFFECTIVENESS Measures

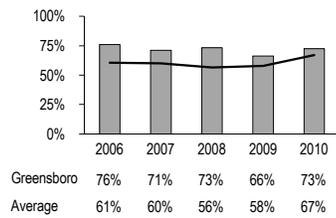
**Average Response Time to Priority One Calls In Minutes**



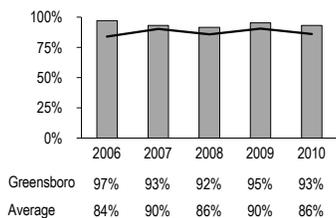
**Percentage of Fire Code Violations Cleared within 90 Days**



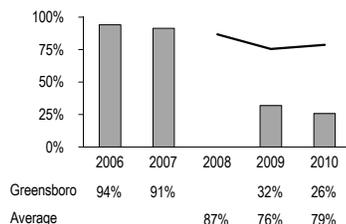
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



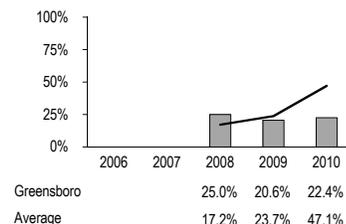
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Greensboro

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	279,753
Land Area Served (Square Miles)	143.4
Persons Served per Square Mile	1,951
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	75.9%
Operating Costs	24.1%
Capital Costs	0.0%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 32,617,865
Operating Costs	\$ 10,371,039
Capital Costs	\$ 6,931
<b>TOTAL</b>	<b>\$ 42,995,835</b>
<b>SERVICE PROFILE</b>	
FTE Positions—Firefighters	448.0
FTE Positions—Other	53.8
Fire Stations	23
First-Line Fire Apparatus	
Pumpers	22
Aerial Trucks	0
Quints	9
Squads	0
Rescue	1
Other	10
Fire Department Responses	29,225
All Fire Responses	1,112
Structural Fires Reported	255
Estimated Fire Loss	\$6,196,445
Amount of Property Protected	\$25,344,107,087
Number of Fire Education Programs or Events	1,186

**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 FLSA purposes, the department utilizes a twenty-seven-day cycle.

The city has an ISO rating of 1, the highest rating possible to receive.

The fire department in Greensboro conducted 12,257 fire maintenance, construction, and reinspections during FY 2009–10. 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 full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

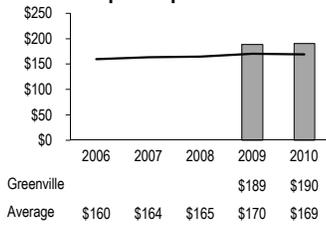
# Greenville

# Fire Services

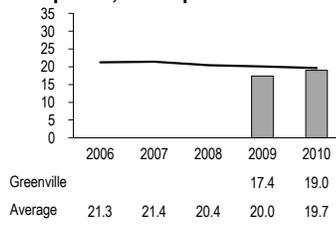
Key: Greenville ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

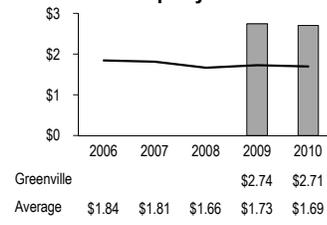
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

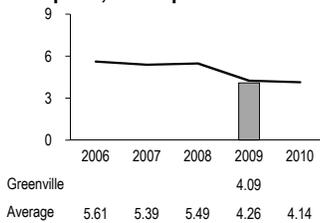


**Fire Services Cost per Thousand Dollars of Property Protected**

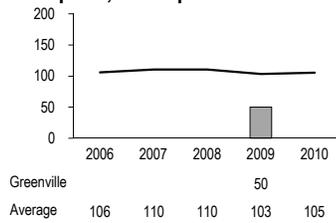


## WORKLOAD Measures

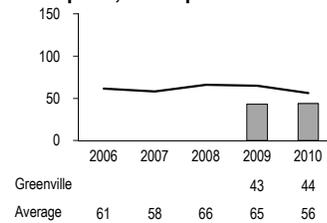
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

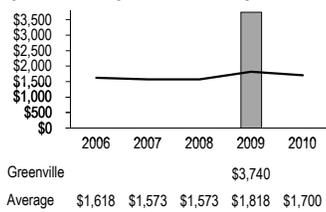


**Fire Inspections Completed per 1,000 Population**

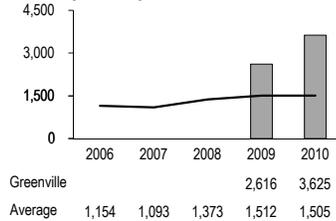


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

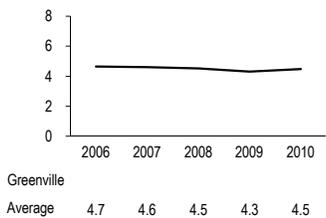


**Inspections Completed per Inspector FTE**

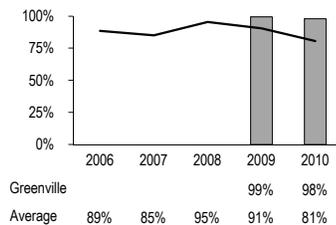


## EFFECTIVENESS Measures

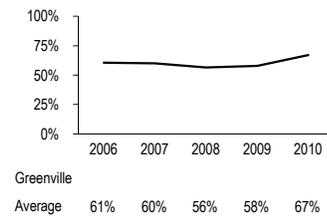
**Average Response Time to Priority One Calls In Minutes**



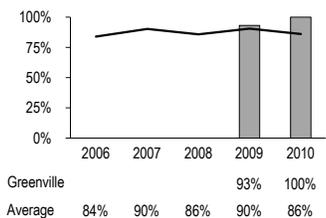
**Percentage of Fire Code Violations Cleared within 90 Days**



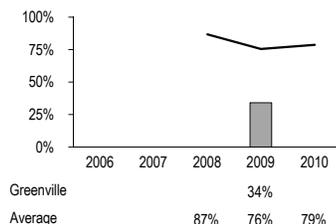
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



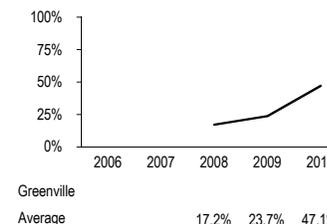
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Greenville

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	82,571	<p><b>Service Level and Delivery</b> 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.</p> <p>Emergency personnel work a 24.25-hour shift followed by 47.75 hours off.</p> <p>The city has an ISO rating of 3.</p> <p>The fire department in Greenville conducted 3,625 fire maintenance, construction, and reinspections during FY 2009–10. The Life Safety Services Division handles all inspection related matters following the International Fire Code.</p>
Land Area Served (Square Miles)	35.0	
Persons Served per Square Mile	2,359	
Topography	flat	
County	Pitt	
Climate	Mild; little ice and snow	
<b>FULL COST PROFILE</b>		<p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project in 2009 with the first year of reporting for FY 2008–09.</p> <p>The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.</p> <p>Greenville is the only city 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.</p> <p>Complications with the data tracking prevented Greenville from being able to submit numbers on fire incidents and several other measures for the fiscal year.</p>
Cost Breakdown by Percentage		
Personal Services	69.2%	
Operating Costs	19.2%	
Capital Costs	11.7%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 10,870,524	
Operating Costs	\$ 3,009,234	
Capital Costs	\$ 1,832,234	
TOTAL	\$ 15,711,992	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	75.0	
FTE Positions—Other	82.0	
Fire Stations	6	
First-Line Fire Apparatus		
Pumpers	1	
Aerial Trucks	1	
Quints	5	
Squads	0	
Rescue	1	
Other	7	
Fire Department Responses	NA	
All Fire Responses	NA	
Structural Fires Reported	NA	
Estimated Fire Loss	\$3,067,962	
Amount of Property Protected	\$5,804,247,374	
Number of Fire Education Programs or Events	74	

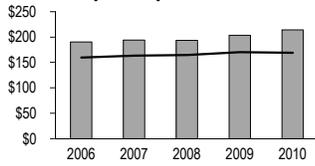
# Hickory

# Fire Services

Key: Hickory ■ Benchmarking Average — Fiscal Years 2006 through 2010

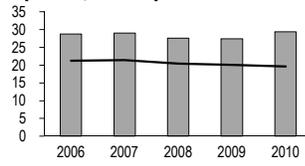
## RESOURCE Measures

**Fire Services Costs per Capita**



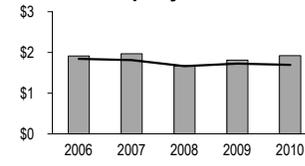
Year	Hickory	Average
2006	\$190	\$160
2007	\$194	\$164
2008	\$193	\$165
2009	\$203	\$170
2010	\$214	\$169

**Fire Services Total FTEs per 10,000 Population**



Year	Hickory	Average
2006	28.8	21.3
2007	29.0	21.4
2008	27.6	20.4
2009	27.4	20.0
2010	29.3	19.7

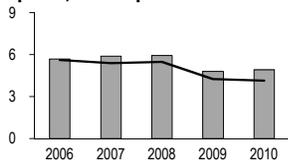
**Fire Services Cost per Thousand Dollars of Property Protected**



Year	Hickory	Average
2006	\$1.91	\$1.84
2007	\$1.97	\$1.81
2008	\$1.68	\$1.66
2009	\$1.81	\$1.73
2010	\$1.92	\$1.69

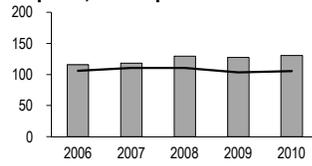
## WORKLOAD Measures

**Actual Fires per 1,000 Population**



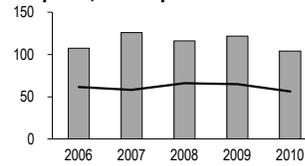
Year	Hickory	Average
2006	5.68	5.61
2007	5.90	5.39
2008	5.93	5.49
2009	4.80	4.26
2010	4.90	4.14

**Fire Department Responses per 1,000 Population**



Year	Hickory	Average
2006	116	106
2007	118	110
2008	130	110
2009	127	103
2010	131	105

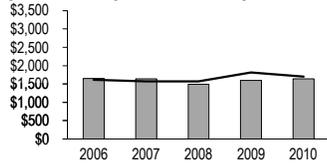
**Fire Inspections Completed per 1,000 Population**



Year	Hickory	Average
2006	107	61
2007	126	58
2008	116	66
2009	122	65
2010	104	56

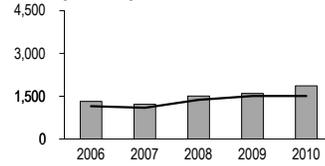
## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**



Year	Hickory	Average
2006	\$1,645	\$1,618
2007	\$1,642	\$1,573
2008	\$1,491	\$1,573
2009	\$1,597	\$1,818
2010	\$1,639	\$1,700

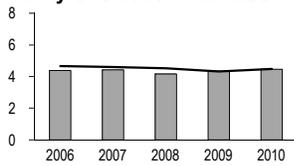
**Inspections Completed per Inspector FTE**



Year	Hickory	Average
2006	1,322	1,154
2007	1,215	1,093
2008	1,512	1,373
2009	1,593	1,512
2010	1,863	1,505

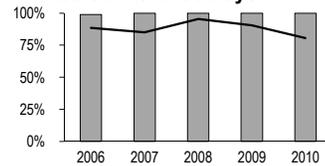
## EFFECTIVENESS Measures

**Average Response Time to Priority One Calls In Minutes**



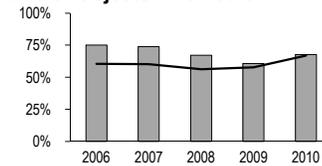
Year	Hickory	Average
2006	4.4	4.7
2007	4.4	4.6
2008	4.2	4.5
2009	4.4	4.3
2010	4.5	4.5

**Percentage of Fire Code Violations Cleared within 90 Days**



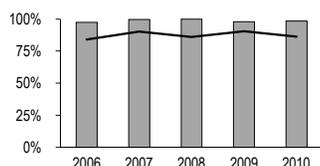
Year	Hickory	Average
2006	99%	89%
2007	100%	85%
2008	100%	95%
2009	100%	91%
2010	100%	81%

**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



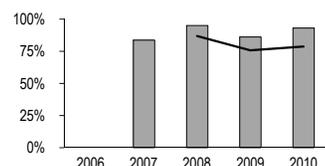
Year	Hickory	Average
2006	75%	61%
2007	74%	60%
2008	67%	56%
2009	61%	58%
2010	68%	67%

**Percentage of Fires for Which Cause Was Determined**



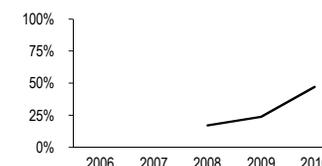
Year	Hickory	Average
2006	98%	84%
2007	100%	90%
2008	100%	86%
2009	98%	90%
2010	98%	86%

**Percentage of Full Response Within 8 Minutes Travel Time**



Year	Hickory	Average
2006	84%	87%
2007	95%	76%
2008	86%	79%
2009	93%	
2010		

**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



Year	Hickory	Average
2006	17.2%	17.2%
2007	23.7%	23.7%
2008	47.1%	47.1%
2009		
2010		

# Hickory

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	46,509	<p><b>Service Level and Delivery</b> 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.</p> <p>The fire department contained the following divisions: administration, fire prevention, public education, training, maintenance, and fire suppression.</p> <p>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.</p> <p>The city has an ISO rating of 3.</p> <p>The fire department in Hickory conducted 4,845 fire maintenance, construction, and reinspections during FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.</p> <p>One of the fire stations staffed by Hickory is at the regional airport.</p>
Land Area Served (Square Miles)	42.9	
Persons Served per Square Mile	1,083	
Topography	gently rolling	
County	Catawba	
Climate	Moderate; some ice and snow	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	78.2%	
Operating Costs	17.0%	
Capital Costs	4.8%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 7,792,812	
Operating Costs	\$ 1,695,502	
Capital Costs	\$ 478,835	
TOTAL	\$ 9,967,149	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	117.0	
FTE Positions—Other	19.5	
Fire Stations	7	
First-Line Fire Apparatus		
Pumpers	6	
Aerial Trucks	2	
Quints	0	
Squads	0	
Rescue	1	
Other	3	
Fire Department Responses	6,081	
All Fire Responses	228	
Structural Fires Reported	65	
Estimated Fire Loss	\$732,870	
Amount of Property Protected	\$5,187,181,225	
Number of Fire Education Programs or Events	430	

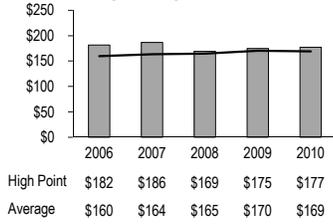
# High Point

# Fire Services

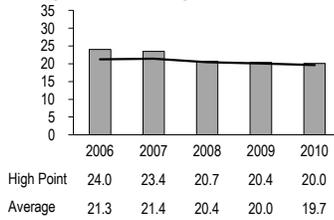
Key: High Point ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

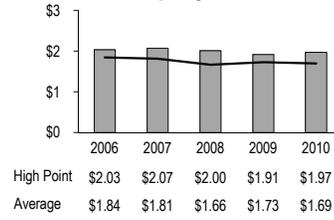
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

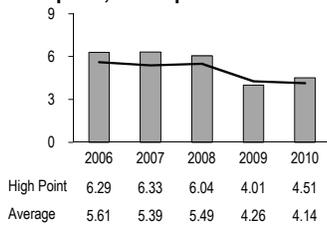


**Fire Services Cost per Thousand Dollars of Property Protected**

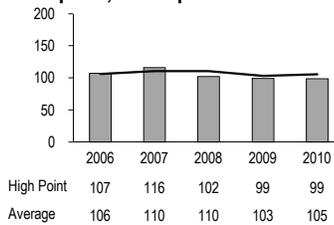


## WORKLOAD Measures

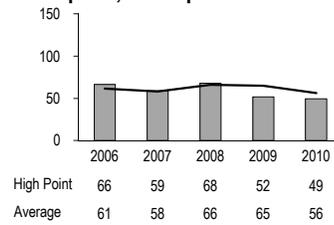
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

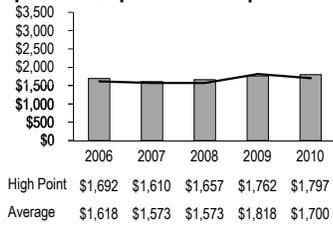


**Fire Inspections Completed per 1,000 Population**

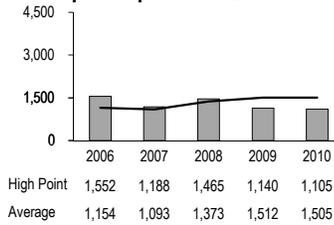


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

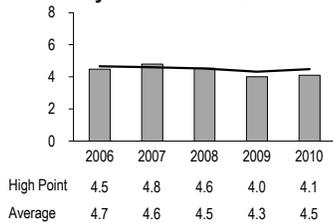


**Inspections Completed per Inspector FTE**

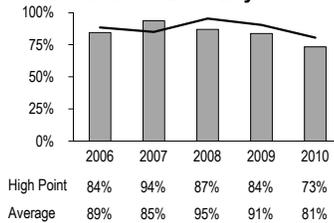


## EFFECTIVENESS Measures

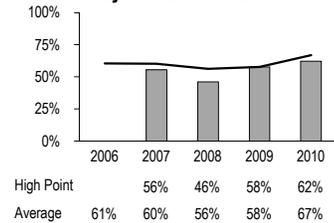
**Average Response Time to Priority One Calls In Minutes**



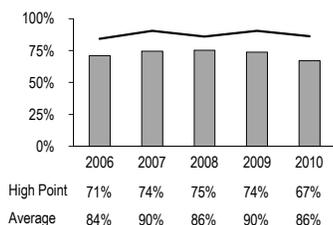
**Percentage of Fire Code Violations Cleared within 90 Days**



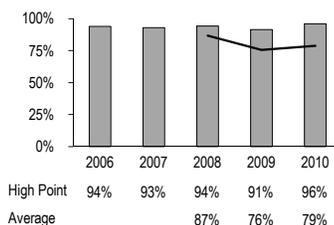
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



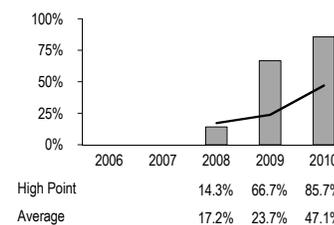
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# High Point

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	111,744
Land Area Served (Square Miles)	67.0
Persons Served per Square Mile	1,667
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	74.3%
Operating Costs	15.8%
Capital Costs	9.9%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 14,734,035
Operating Costs	\$ 3,131,350
Capital Costs	\$ 1,952,173
<b>TOTAL</b>	<b>\$ 19,817,558</b>
<b>SERVICE PROFILE</b>	
FTE Positions—Firefighters	201.0
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	11,029
All Fire Responses	504
Structural Fires Reported	143
Estimated Fire Loss	\$3,134,015
Amount of Property Protected	\$10,070,766,928
Number of Fire Education Programs or Events	442

**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 contained 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.

The fire department in High Point conducted 5,525 fire maintenance, construction, and reinspections during FY 2009–10. 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 full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08

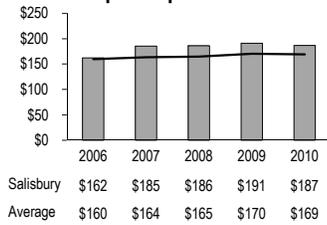
# Salisbury

# Fire Services

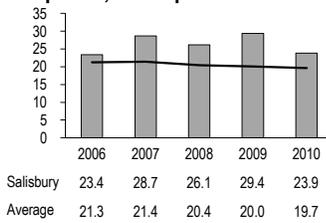
Key: Salisbury ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

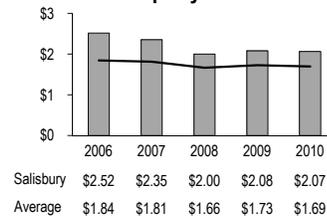
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

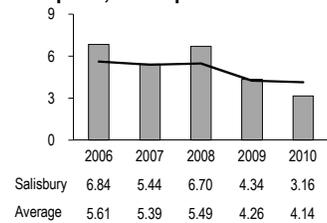


**Fire Services Cost per Thousand Dollars of Property Protected**

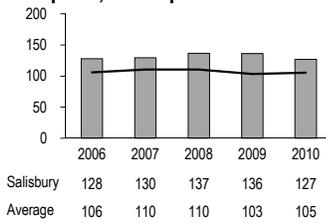


## WORKLOAD Measures

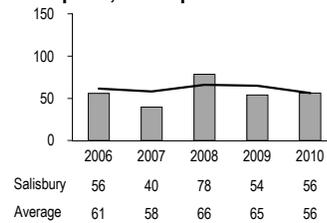
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

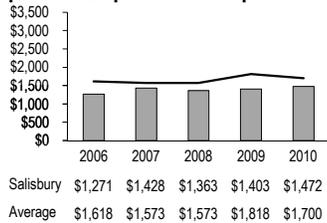


**Fire Inspections Completed per 1,000 Population**

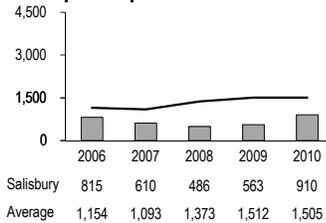


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

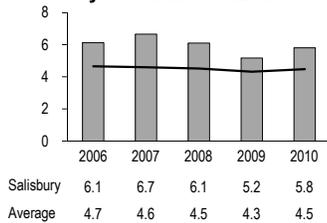


**Inspections Completed per Inspector FTE**

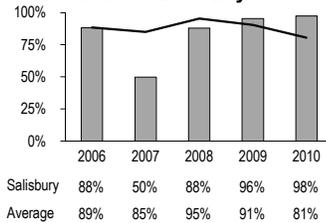


## EFFECTIVENESS Measures

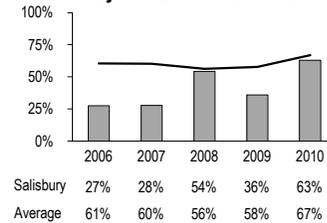
**Average Response Time to Priority One Calls In Minutes**



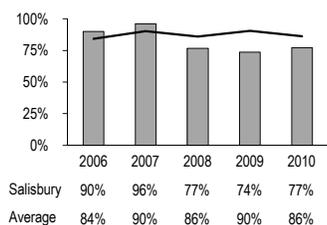
**Percentage of Fire Code Violations Cleared within 90 Days**



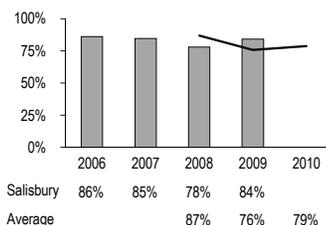
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



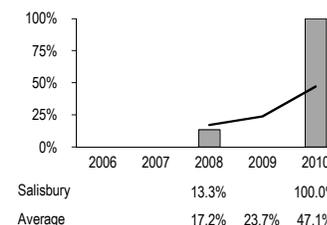
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Salisbury

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	32,263	<p><b>Service Level and Delivery</b>                      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.</p> <p>The fire department contained the following divisions: fire control, loss prevention, training, and logistics.</p> <p>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.</p> <p>The city has an ISO rating of 2.</p> <p>The fire department in Salisbury reported 1,819 fire maintenance, construction, and reinspections conducted in FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08</p>
Land Area Served (Square Miles)	21.9	
Persons Served per Square Mile	1,471	
Topography	Gently rolling	
County	Rowan	
Climate	Moderate; some ice and snow	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	65.0%	
Operating Costs	22.6%	
Capital Costs	12.4%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 3,919,026	
Operating Costs	\$ 1,363,448	
Capital Costs	\$ 746,670	
TOTAL	\$ 6,029,144	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	69.0	
FTE Positions—Other	8.0	
Fire Stations	4	
First-Line Fire Apparatus		
Pumpers	0	
Aerial Trucks	0	
Quints	4	
Squads	1	
Rescue	1	
Other	2	
Fire Department Responses	4,097	
All Fire Responses	102	
Structural Fires Reported	32	
Estimated Fire Loss	\$521,600	
Amount of Property Protected	\$2,918,549,619	
Number of Fire Education Programs or Events	24	

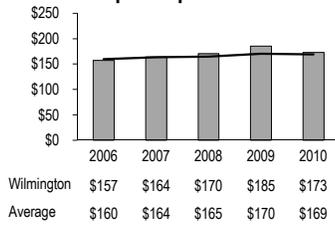
# Wilmington

# Fire Services

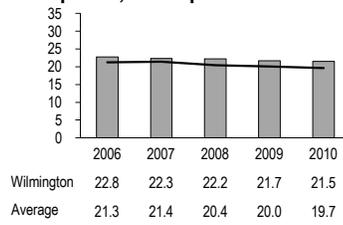
Key: Wilmington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

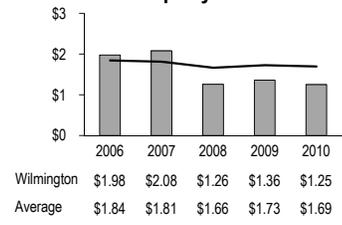
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

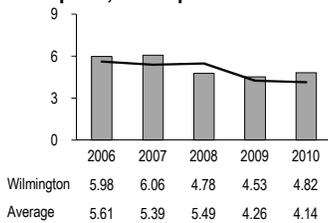


**Fire Services Cost per Thousand Dollars of Property Protected**

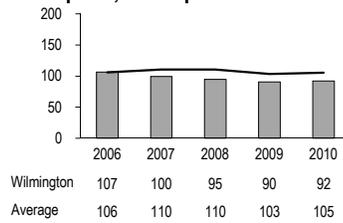


## WORKLOAD Measures

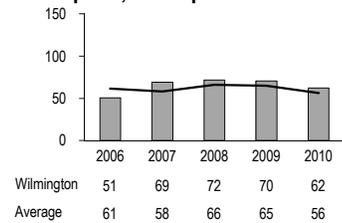
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

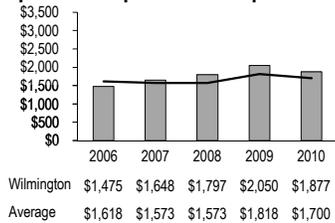


**Fire Inspections Completed per 1,000 Population**

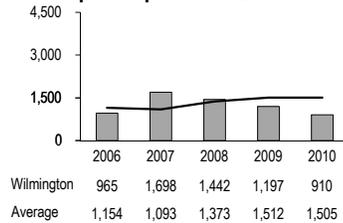


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

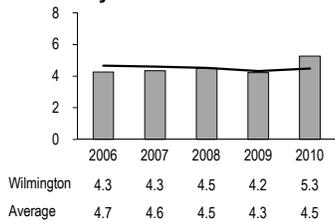


**Inspections Completed per Inspector FTE**

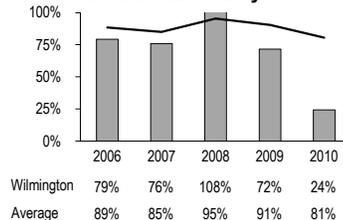


## EFFECTIVENESS Measures

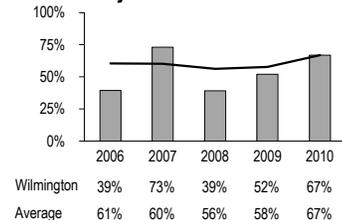
**Average Response Time to Priority One Calls In Minutes**



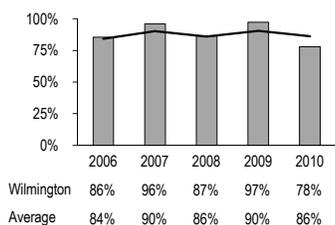
**Percentage of Fire Code Violations Cleared within 90 Days**



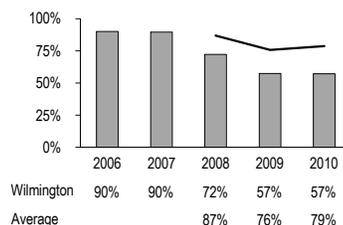
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



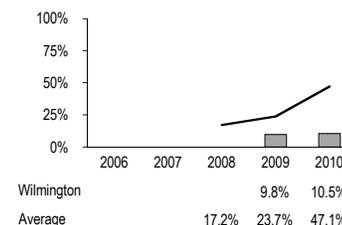
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Wilmington

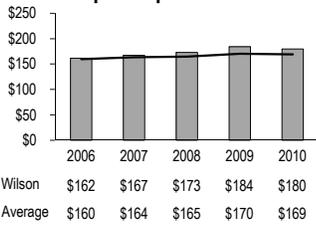
Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	102,207	<p><b>Service Level and Delivery</b>                      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.</p> <p>The fire department contained the following divisions: fire suppression, fire prevention, and support services.</p> <p>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.</p> <p>The city has an ISO rating of 2.</p> <p>The fire department in Wilmington conducted 6,369 fire maintenance, construction, and reinspections during FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08</p>
Land Area Served (Square Miles)	51.5	
Persons Served per Square Mile	1,983	
Topography	Flat; coastal plain	
County	New Hanover	
Climate	Mild	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	71.2%	
Operating Costs	18.0%	
Capital Costs	10.8%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 12,561,919	
Operating Costs	\$ 3,182,551	
Capital Costs	\$ 1,901,163	
TOTAL	\$ 17,645,633	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	189.0	
FTE Positions—Other	31.0	
Fire Stations	11	
First-Line Fire Apparatus		
Pumpers	11	
Aerial Trucks	2	
Quints	0	
Squads	0	
Rescue	3	
Other	12	
Fire Department Responses	9,401	
All Fire Responses	493	
Structural Fires Reported	104	
Estimated Fire Loss	\$8,712,063	
Amount of Property Protected	\$14,132,537,493	
Number of Fire Education Programs or Events	422	

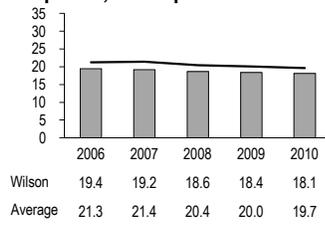
Key: Wilson ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

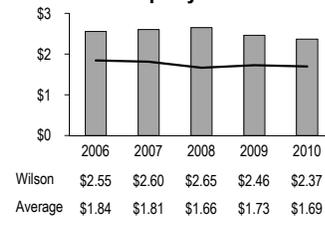
**Fire Services Costs per Capita**



**Fire Services Total FTEs per 10,000 Population**

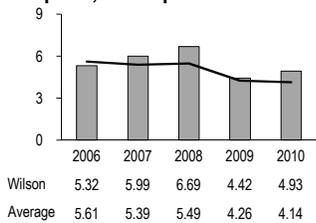


**Fire Services Cost per Thousand Dollars of Property Protected**

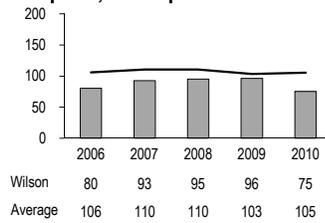


## WORKLOAD Measures

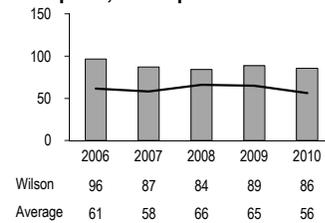
**Actual Fires per 1,000 Population**



**Fire Department Responses per 1,000 Population**

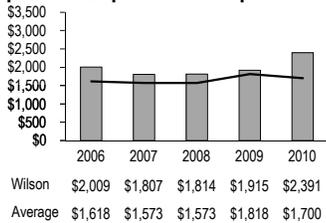


**Fire Inspections Completed per 1,000 Population**

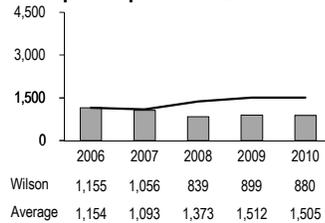


## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**

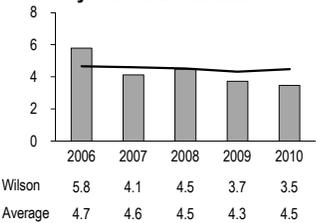


**Inspections Completed per Inspector FTE**

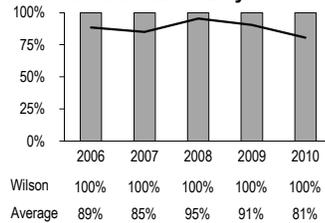


## EFFECTIVENESS Measures

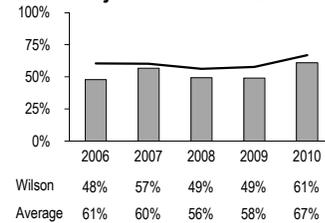
**Average Response Time to Priority One Calls In Minutes**



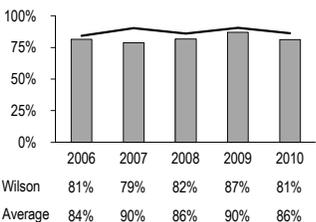
**Percentage of Fire Code Violations Cleared within 90 Days**



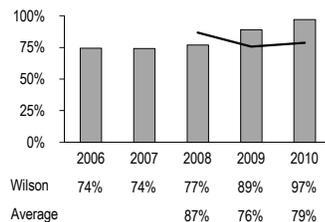
**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



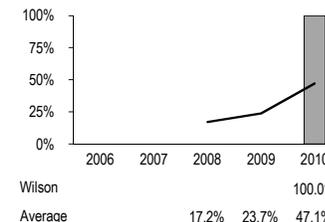
**Percentage of Fires for Which Cause Was Determined**



**Percentage of Full Response Within 8 Minutes Travel Time**



**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



# Wilson

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	51,274	<p><b>Service Level and Delivery</b> 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.</p> <p>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.</p> <p>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.</p> <p>The city has an ISO rating of 2.</p> <p>The fire department in Wilson conducted 4,398 fire maintenance, construction, and reinspections during FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08</p>
Land Area Served (Square Miles)	29.0	
Persons Served per Square Mile	1,767	
Topography	Flat	
County	Wilson	
Climate	Mild; little ice and snow	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	69.6%	
Operating Costs	22.6%	
Capital Costs	7.9%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 6,413,884	
Operating Costs	\$ 2,078,535	
Capital Costs	\$ 724,566	
TOTAL	\$ 9,216,985	
<b>SERVICE PROFILE</b>		
FTE Positions—Firefighters	79.0	
FTE Positions—Other	14.0	
Fire Stations	5	
First-Line Fire Apparatus		
Pumpers	3	
Aerial Trucks	1	
Quints	2	
Squads	3	
Rescue	0	
Other	0	
Fire Department Responses	3,855	
All Fire Responses	253	
Structural Fires Reported	59	
Estimated Fire Loss	\$1,549,546	
Amount of Property Protected	\$3,888,698,042	
Number of Fire Education Programs or Events	355	

# Winston-Salem

# Fire Services

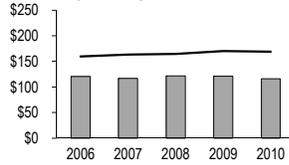
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

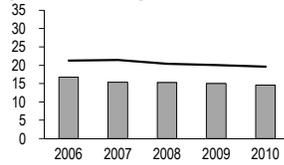
## RESOURCE Measures

**Fire Services Costs per Capita**



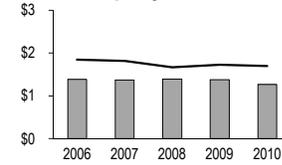
Year	2006	2007	2008	2009	2010
Winston-Salem	\$120	\$117	\$122	\$121	\$116
Average	\$160	\$164	\$165	\$170	\$169

**Fire Services Total FTEs per 10,000 Population**



Year	2006	2007	2008	2009	2010
Winston-Salem	16.8	15.4	15.3	15.0	14.6
Average	21.3	21.4	20.4	20.0	19.7

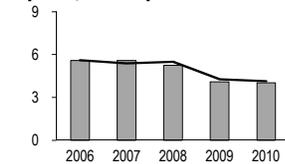
**Fire Services Cost per Thousand Dollars of Property Protected**



Year	2006	2007	2008	2009	2010
Winston-Salem	\$1.38	\$1.37	\$1.39	\$1.38	\$1.27
Average	\$1.84	\$1.81	\$1.66	\$1.73	\$1.69

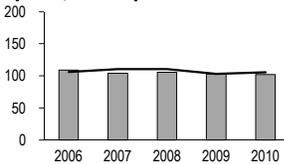
## WORKLOAD Measures

**Actual Fires per 1,000 Population**



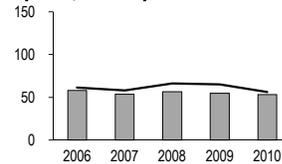
Year	2006	2007	2008	2009	2010
Winston-Salem	5.60	5.58	5.25	4.09	4.02
Average	5.61	5.39	5.49	4.26	4.14

**Fire Department Responses per 1,000 Population**



Year	2006	2007	2008	2009	2010
Winston-Salem	109	104	106	103	102
Average	106	110	110	103	105

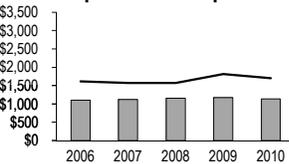
**Fire Inspections Completed per 1,000 Population**



Year	2006	2007	2008	2009	2010
Winston-Salem	58	53	56	55	53
Average	61	58	66	65	56

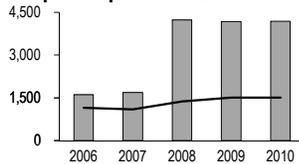
## EFFICIENCY Measures

**Fire Services Cost per Fire Department Response**



Year	2006	2007	2008	2009	2010
Winston-Salem	\$1,102	\$1,118	\$1,151	\$1,172	\$1,135
Average	\$1,618	\$1,573	\$1,573	\$1,818	\$1,700

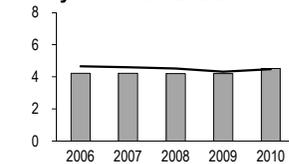
**Inspections Completed per Inspector FTE**



Year	2006	2007	2008	2009	2010
Winston-Salem	1,610	1,688	4,230	4,175	4,180
Average	1,154	1,093	1,373	1,512	1,505

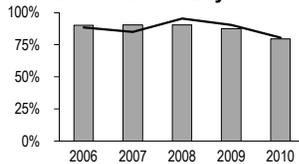
## EFFECTIVENESS Measures

**Average Response Time to Priority One Calls In Minutes**



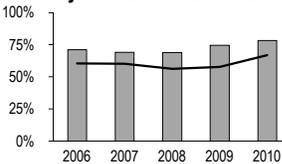
Year	2006	2007	2008	2009	2010
Winston-Salem	4.2	4.2	4.2	4.2	4.5
Average	4.7	4.6	4.5	4.3	4.5

**Percentage of Fire Code Violations Cleared within 90 Days**



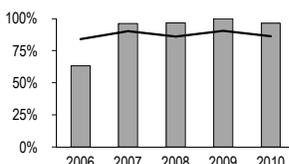
Year	2006	2007	2008	2009	2010
Winston-Salem	90%	90%	90%	88%	80%
Average	89%	85%	95%	91%	81%

**Percentage of Fires Confined to Rooms or Objects Involved on Arrival**



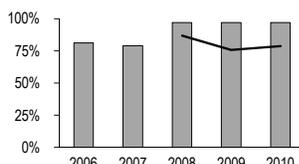
Year	2006	2007	2008	2009	2010
Winston-Salem	71%	69%	69%	75%	78%
Average	61%	60%	56%	58%	67%

**Percentage of Fires for Which Cause Was Determined**



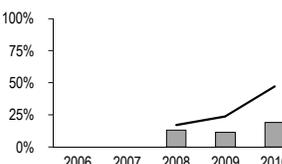
Year	2006	2007	2008	2009	2010
Winston-Salem	63%	96%	97%	100%	97%
Average	84%	90%	86%	90%	86%

**Percentage of Full Response Within 8 Minutes Travel Time**



Year	2006	2007	2008	2009	2010
Winston-Salem	81%	79%	97%	97%	97%
Average	87%	76%	87%	76%	79%

**Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care**



Year	2006	2007	2008	2009	2010
Winston-Salem	0%	0%	13.1%	11.3%	19.2%
Average	17.2%	23.7%	17.2%	23.7%	47.1%

# Winston-Salem

Fiscal Year 2009–10

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	235,075
Land Area Served (Square Miles)	133.2
Persons Served per Square Mile	1,765
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some ice and snow
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	78.8%
Operating Costs	14.7%
Capital Costs	6.6%
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	\$ 21,446,741
Operating Costs	\$ 3,995,385
Capital Costs	\$ 1,790,373
TOTAL	\$ 27,232,499
<b>SERVICE PROFILE</b>	
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	23,983
All Fire Responses	944
Structural Fires Reported	322
Estimated Fire Loss	\$10,498,765
Amount of Property Protected	\$21,496,313,797
Number of Fire Education Programs or Events	1302

**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 contained 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.

The fire department in Winston-Salem conducted 12,541 fire maintenance, construction, and reinspections during FY 2009–10. 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 full response within 8 minutes" was new as of FY 2005–06. 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.







# Performance and Cost Data

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BUILDING INSPECTIONS

# PERFORMANCE MEASURES FOR BUILDING INSPECTIONS

## SERVICE DEFINITION

Building inspections 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 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	Plan Reviewer FTEs
			Building	Electrical	Mechanical	Plumbing	Total			
Asheville	62.7	16.1%	13,258	5,929	5,602	5,423	30,212	2,998	14.0	6.0
Burlington	39.6	16.8%	1,599	2,555	1,916	1,337	7,407	126	6.50	0.50
Cary	66.0	55.8%	28,474	14,442	16,029	12,366	71,311	4,682	19.0	5.0
Durham	297.8	25.2%	28,813	20,133	11,205	14,469	74,620	3,218	23.0	4.0
Greensboro	131.8	19.8%	23,213	14,460	11,028	9,413	58,114	977	18.0	5.0
Greenville	66.6	34.9%	4,987	3,849	4,047	2,923	15,806	526	6.0	1.0
High Point	59.3	19.1%	8,308	5,358	4,872	3,021	21,559	823	11.5	1.5
Wilson	57.7	15.5%	2,026	1,532	1,721	1,089	6,368	208	3.2	0.8
Winston-Salem	396.5	26.5%	15,956	12,736	12,152	8,887	49,731	1,047	21.0	3.0

### 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

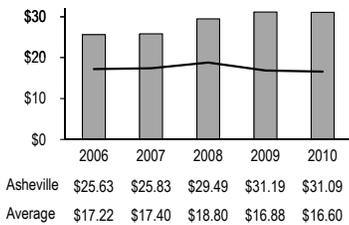
# Asheville

# Building Inspections

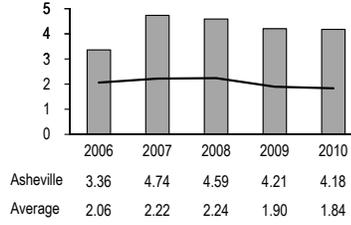
Key: Asheville ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

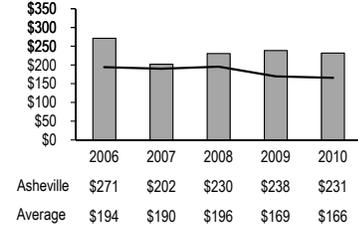
**Building Inspections Services  
Costs per Capita**



**Building Inspections Services  
FTEs per 10,000 Population**

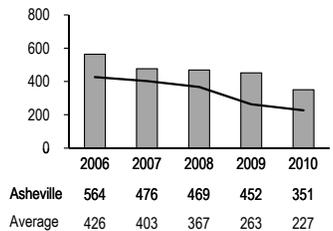


**Building Inspections Services  
Cost per Million Dollars of Tax Base**

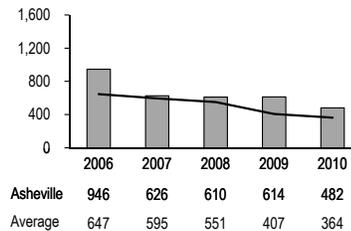


## WORKLOAD Measures

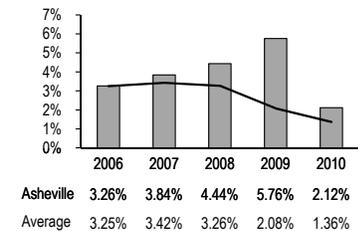
**Inspections per 1,000 Population  
in Service Area**



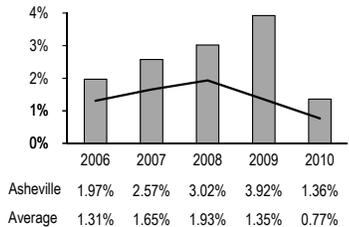
**Inspections per Square Mile  
in Service Area**



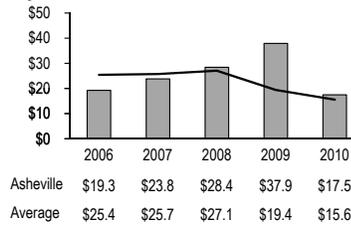
**Value of Building Permits as Percentage of Tax  
Base of Area Served**



**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**

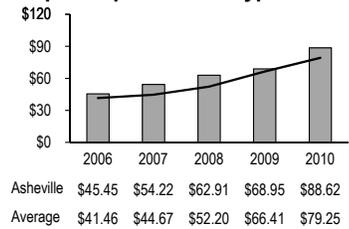


**Value of Building Permits Per  
Inspector FTE In Millions of Dollars**

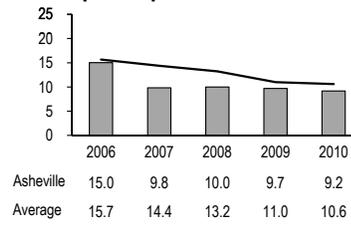


## EFFICIENCY Measures

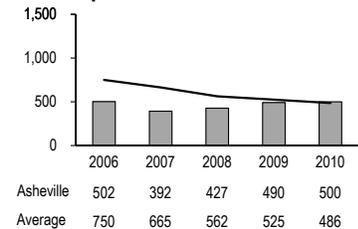
**Building Services Cost  
per Inspection—All Types**



**Inspections per Day  
per Inspector FTE**

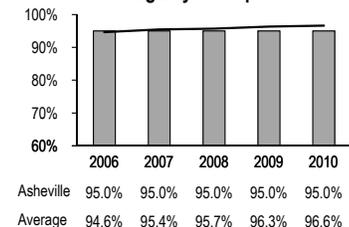


**Plan Reviews per Year  
per Reviewer FTE**

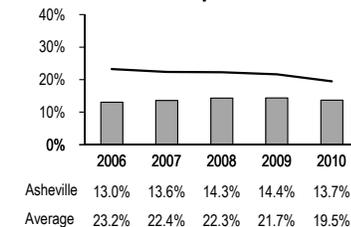


## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



**Percentage of Inspections  
That Are Reinspections**



# Asheville

## Building Inspections

Fiscal Year 2009–10

MUNICIPAL PROFILE	
Population Served	86,109
Land Area Served (Square Miles)	62.72
Persons Served per Square Mile	1,373
Topography	Hills, mountains
Tax Base Served (Assessed Value)	\$11,569,227,893
County	Buncombe
FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	75.2%
Operating Costs	20.4%
Capital Costs	4.4%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 2,013,591
Operating Costs	\$ 545,853
Capital Costs	\$ 117,820
<b>TOTAL</b>	<b>\$ 2,677,264</b>
SERVICE PROFILE	
Number of Inspections by Type	
Building	13,258
Electrical	5,929
Mechanical	5,602
Plumbing	5,423
<b>TOTAL</b>	<b>30,212</b>
Building Permit Values	
Residential	\$62,446,645
Multi-Family	\$25,183,222
Commercial	\$157,333,392
<b>TOTAL</b>	<b>\$244,963,259</b>
FTE Inspectors	
Building	2.0
Electrical	2.0
Mechanical	1.0
Plumbing	1.0
All Trades	8.0
<b>TOTAL INSPECTORS</b>	<b>14.0</b>
FTE Plan Reviewers	6.0
Other FTE Positions	16
Inspection Fee Revenue	\$2,602,929

### 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 commercial 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 \$2,602,929 for FY 2009–10. 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

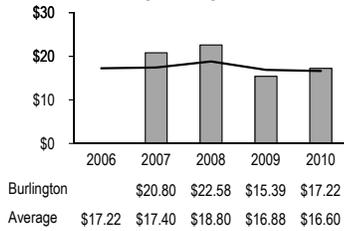
Key: Burlington ■

Benchmarking Average —

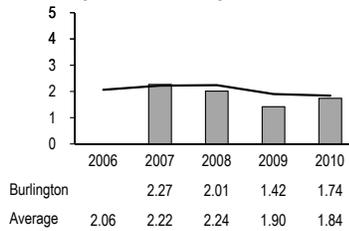
Fiscal Years 2006 through 2010

## RESOURCE Measures

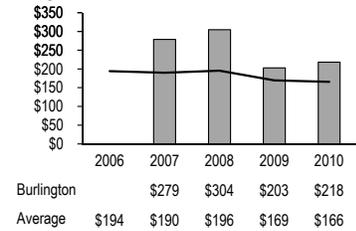
**Building Inspections Services  
Costs per Capita**



**Building Inspections Services  
FTEs per 10,000 Population**

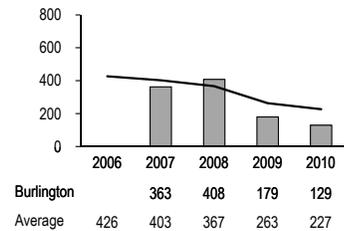


**Building Inspections Services  
Cost per Million Dollars of Tax Base**

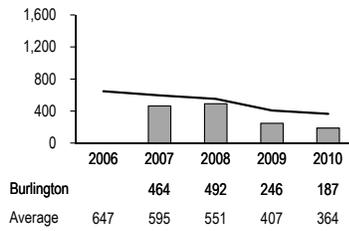


## WORKLOAD Measures

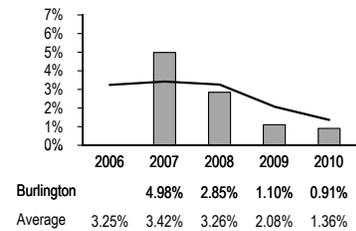
**Inspections per 1,000 Population  
in Service Area**



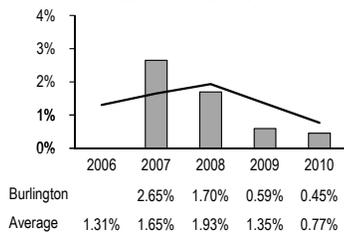
**Inspections per Square Mile  
in Service Area**



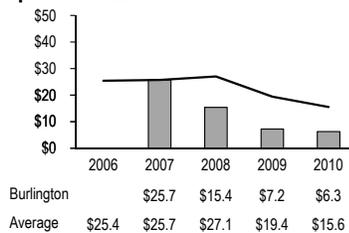
**Value of Building Permits as Percentage of Tax  
Base of Area Served**



**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**

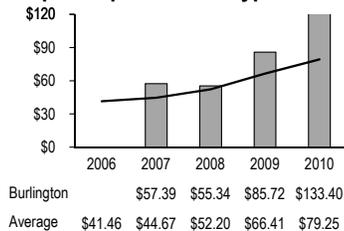


**Value of Building Permits Per  
Inspector FTE In Millions of Dollars**

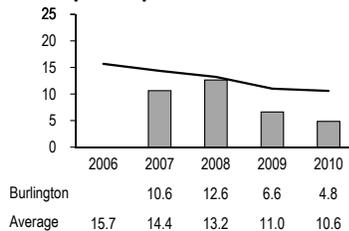


## EFFICIENCY Measures

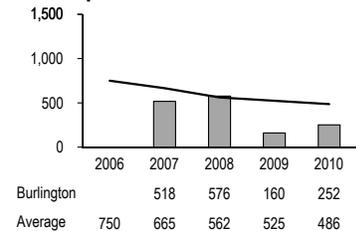
**Building Services Cost  
per Inspection—All Types**



**Inspections per Day  
per Inspector FTE**

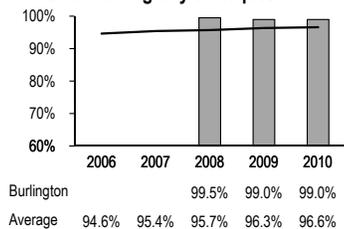


**Plan Reviews per Year  
per Reviewer FTE**

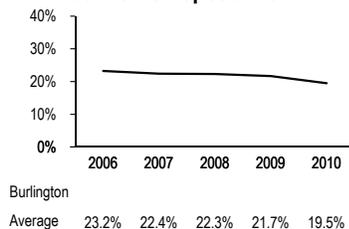


## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



**Percentage of Inspections  
That Are Reinspections**



# Burlington

## Building Inspections

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	57,390	<p><b>Service Level and Delivery</b> The City of Burlington Building Inspections Division is under the the Public Works Department. The Division provides commercial and residential inspections with the city limits and the extraterritorial zoning district properties covering about sixteen square miles outside the city boundaries.</p> <p>The inspections department uses inspectors certified in individual building trades. Training meets the state requirement of six hours a year for each trade.</p> <p>Burlington does not currently have any standards for the length of time between a request for an inspection and the actual inspection.</p> <p>Total revenue received from inspection fees amounted to \$345,920 for FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> 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.</p> <p>The City of Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.</p> <p>The City of Burlington started residential plan reviews on June 1, 2009.</p> <p>The broad downturn in the economy has reduced building activity and the number of requests for inspections.</p>
Land Area Served (Square Miles)	39.60	
Persons Served per Square Mile	1,449	
Topography	Flat; gently rolling	
Tax Base Served (Assessed Value)	\$4,528,010,019	
County	Alamance	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	61.5%	
Operating Costs	33.0%	
Capital Costs	5.4%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 608,095	
Operating Costs	\$ 326,319	
Capital Costs	\$ 53,699	
TOTAL	\$ 988,113	
<b>SERVICE PROFILE</b>		
Number of Inspections by Type		
Building	1,599	
Electrical	2,555	
Mechanical	1,916	
Plumbing	1,337	
TOTAL	7,407	
Building Permit Values		
Residential	\$17,254,964	
Multi-Family	\$3,330,000	
Commercial	\$20,545,220	
TOTAL	\$41,130,184	
FTE Inspectors		
Building	1.5	
Electrical	1.0	
Mechanical	1.0	
Plumbing	1.0	
All Trades	2.0	
TOTAL INSPECTORS	6.5	
FTE Plan Reviewers	0.5	
Other FTE Positions	3.0	
Inspection Fee Revenue	\$345,920	

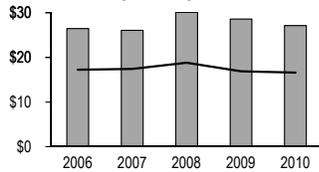
Key: Cary ■

Benchmarking Average —

Fiscal Years 2006 through 2010

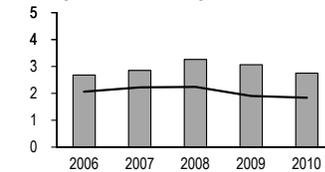
## RESOURCE Measures

**Building Inspections Services  
Costs per Capita**



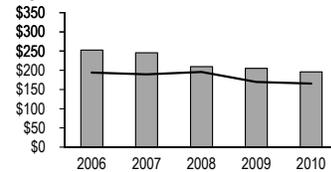
Cary \$26.44 \$26.03 \$30.06 \$28.55 \$27.11  
Average \$17.22 \$17.40 \$18.80 \$16.88 \$16.60

**Building Inspections Services  
FTEs per 10,000 Population**



Cary 2.68 2.85 3.26 3.06 2.75  
Average 2.06 2.22 2.24 1.90 1.84

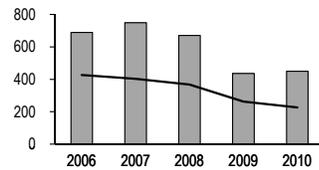
**Building Inspections Services  
Cost per Million Dollars of Tax Base**



Cary \$253 \$246 \$209 \$205 \$196  
Average \$194 \$190 \$196 \$169 \$166

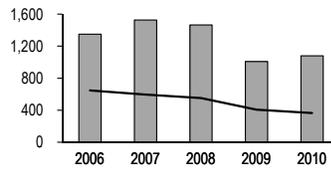
## WORKLOAD Measures

**Inspections per 1,000 Population  
in Service Area**



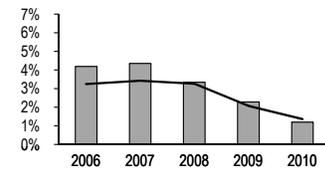
Cary 690 749 671 436 450  
Average 426 403 367 263 227

**Inspections per Square Mile  
in Service Area**



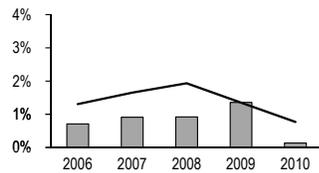
Cary 1,350 1,527 1,466 1,007 1,080  
Average 647 595 551 407 364

**Value of Building Permits as Percentage of Tax  
Base of Area Served**



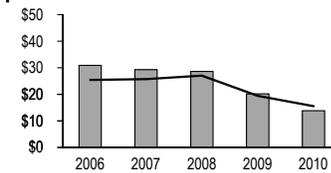
Cary 4.19% 4.35% 3.34% 2.29% 1.20%  
Average 3.25% 3.42% 3.26% 2.08% 1.36%

**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**



Cary 0.71% 0.91% 0.92% 1.36% 0.14%  
Average 1.31% 1.65% 1.93% 1.35% 0.77%

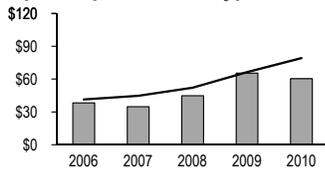
**Value of Building Permits Per  
Inspector FTE In Millions of Dollars**



Cary \$30.9 \$29.3 \$28.6 \$20.2 \$13.9  
Average \$25.4 \$25.7 \$27.1 \$19.4 \$15.6

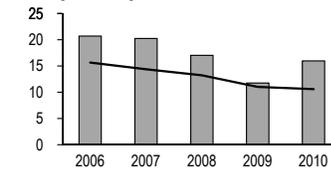
## EFFICIENCY Measures

**Building Services Cost  
per Inspection—All Types**



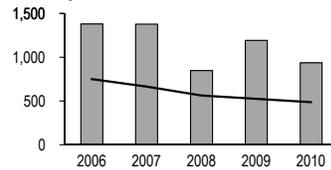
Cary \$38.34 \$34.76 \$44.80 \$65.50 \$60.30  
Average \$41.46 \$44.67 \$52.20 \$66.41 \$79.25

**Inspections per Day  
per Inspector FTE**



Cary 20.7 20.2 17.0 11.8 16.0  
Average 15.7 14.4 13.2 11.0 10.6

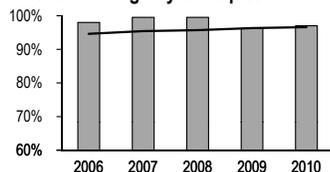
**Plan Reviews per Year  
per Reviewer FTE**



Cary 1,380 1,379 848 1,192 936  
Average 750 665 562 525 486

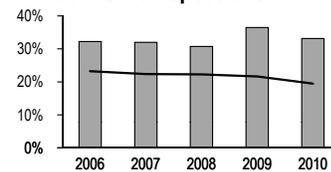
## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



Cary 98.0% 99.5% 99.5% 96.2% 97.0%  
Average 94.6% 95.4% 95.7% 96.3% 96.6%

**Percentage of Inspections  
That Are Reinspections**



Cary 32.2% 32.0% 30.8% 36.5% 33.2%  
Average 23.2% 22.4% 22.3% 21.7% 19.5%

# Building Inspections

## Fiscal Year 2009–10

# Cary

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	158,578
Land Area Served (Square Miles)	66.01
Persons Served per Square Mile	2,402
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	\$21,942,643,559
County	Wake
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	73.8%
Operating Costs	21.4%
Capital Costs	4.8%
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	\$ 3,174,185
Operating Costs	\$ 920,686
Capital Costs	\$ 204,850
TOTAL	\$ 4,299,721
<b>SERVICE PROFILE</b>	
Number of Inspections by Type	
Building	28,474
Electrical	14,442
Mechanical	16,029
Plumbing	12,366
TOTAL	71,311
Building Permit Values	
Residential	\$218,384,592
Multi-Family	\$14,877,440
Commercial	\$29,952,600
TOTAL	\$263,214,632
FTE Inspectors	
Building	6.0
Electrical	4.0
Mechanical	2.0
Plumbing	3.0
All Trades	4.0
TOTAL INSPECTORS	19.0
FTE Plan Reviewers	5.0
Other FTE Positions	19.6
Inspection Fee Revenue	\$2,219,244

### 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 central permitting office processes all construction-related permits and related fees. Associated functions include plans review, assigning property addresses, and zoning checks. 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 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 Technical 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 \$2,219,244 for FY 2009–10. 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.

# Durham

# Building Inspections

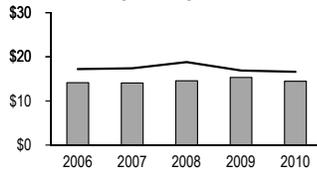
Key: Durham ■

Benchmarking Average —

Fiscal Years 2006 through 2010

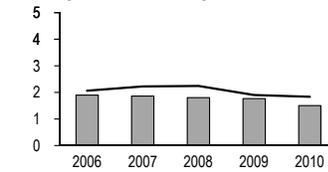
## RESOURCE Measures

**Building Inspections Services  
Costs per Capita**



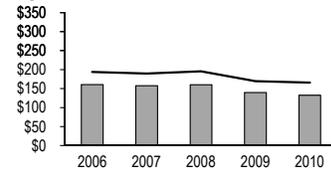
Year	Durham	Average
2006	\$14.14	\$17.22
2007	\$14.08	\$17.40
2008	\$14.56	\$18.80
2009	\$15.35	\$16.88
2010	\$14.48	\$16.60

**Building Inspections Services  
FTEs per 10,000 Population**



Year	Durham	Average
2006	1.90	2.06
2007	1.86	2.22
2008	1.81	2.24
2009	1.77	1.90
2010	1.50	1.84

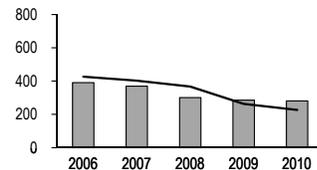
**Building Inspections Services  
Cost per Million Dollars of Tax Base**



Year	Durham	Average
2006	\$161	\$194
2007	\$158	\$190
2008	\$160	\$196
2009	\$140	\$169
2010	\$132	\$166

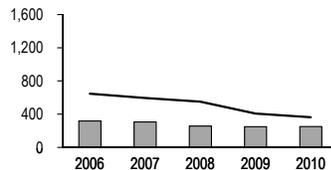
## WORKLOAD Measures

**Inspections per 1,000 Population  
in Service Area**



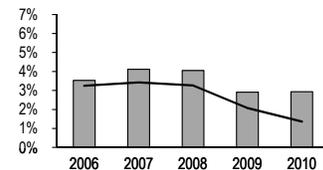
Year	Durham	Average
2006	390	426
2007	369	403
2008	301	367
2009	286	263
2010	280	227

**Inspections per Square Mile  
in Service Area**



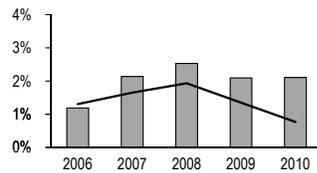
Year	Durham	Average
2006	319	647
2007	307	595
2008	257	551
2009	250	407
2010	251	364

**Value of Building Permits as Percentage of Tax  
Base of Area Served**



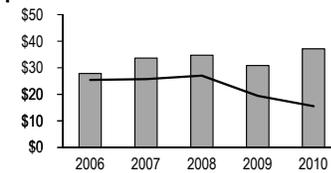
Year	Durham	Average
2006	3.53%	3.25%
2007	4.12%	3.42%
2008	4.05%	3.26%
2009	2.91%	2.08%
2010	2.94%	1.36%

**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**



Year	Durham	Average
2006	1.19%	1.31%
2007	2.14%	1.65%
2008	2.53%	1.93%
2009	2.09%	1.35%
2010	2.11%	0.77%

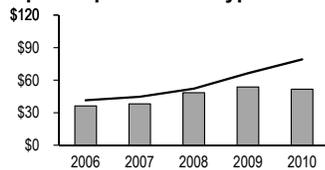
**Value of Building Permits Per  
Inspector FTE In Millions of Dollars**



Year	Durham	Average
2006	\$27.8	\$25.4
2007	\$33.6	\$25.7
2008	\$34.7	\$27.1
2009	\$30.8	\$19.4
2010	\$37.1	\$15.6

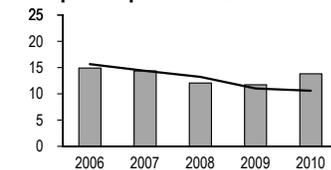
## EFFICIENCY Measures

**Building Services Cost  
per Inspection--All Types**



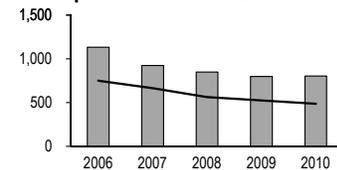
Year	Durham	Average
2006	\$36.20	\$41.46
2007	\$38.14	\$44.67
2008	\$48.42	\$52.20
2009	\$53.67	\$66.41
2010	\$51.63	\$79.25

**Inspections per Day  
per Inspector FTE**



Year	Durham	Average
2006	14.9	15.7
2007	14.4	14.4
2008	12.1	13.2
2009	11.7	11.0
2010	13.8	10.6

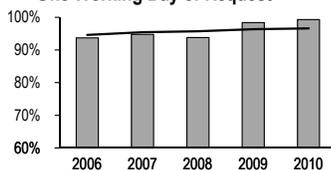
**Plan Reviews per Year  
per Reviewer FTE**



Year	Durham	Average
2006	1,132	750
2007	924	665
2008	848	562
2009	799	525
2010	805	486

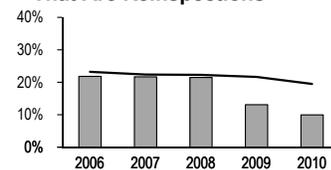
## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



Year	Durham	Average
2006	93.7%	94.6%
2007	94.8%	95.4%
2008	93.8%	95.7%
2009	98.4%	96.3%
2010	99.3%	96.6%

**Percentage of Inspections  
That Are Reinspections**



Year	Durham	Average
2006	21.8%	23.2%
2007	21.7%	22.4%
2008	21.5%	22.3%
2009	13.1%	21.7%
2010	10.0%	19.5%

# Building Inspections

## Fiscal Year 2009–10

# Durham

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	266,132
Land Area Served (Square Miles)	297.84
Persons Served per Square Mile	894
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	\$29,080,078,128
County	Durham
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	79.0%
Operating Costs	16.4%
Capital Costs	4.6%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 3,044,076
Operating Costs	\$ 631,905
Capital Costs	\$ 176,323
<b>TOTAL</b>	<b>\$ 3,852,304</b>
<b>SERVICE PROFILE</b>	
Number of Inspections by Type	
Building	28,813
Electrical	20,133
Mechanical	11,205
Plumbing	14,469
<b>TOTAL</b>	<b>74,620</b>
Building Permit Values	
Residential	\$241,624,338
Multi-Family	included above
Commercial	\$612,561,255
<b>TOTAL</b>	<b>\$854,185,593</b>
FTE Inspectors	
Building	7.0
Electrical	8.0
Mechanical	5.0
Plumbing	3.0
All Trades	0.0
<b>TOTAL INSPECTORS</b>	<b>23.0</b>
FTE Plan Reviewers	4.0
Other FTE Positions	13.0
Inspection Fee Revenue	\$3,251,660
<p><b>Service Level and Delivery</b></p> <p>The Durham City/County Inspections Department provides building inspection services throughout the county, including the city of Durham. Although the department's director reports to both the city and county managers, the department follows the personnel policies of the city. The county funds a percentage of the department's budget based on the percentage of permits issued in the county.</p> <p>Inspectors are certified in one of the following four trades and are required to have Level III certification: building, electrical, mechanical, or plumbing. Inspectors drive to and from inspection sites in city-owned vehicles. The department enforces the merged city/county zoning ordinance as well as the North Carolina State Building Code, although the costs and the positions associated with enforcing the zoning ordinance are excluded from the project's performance and cost data.</p> <p>Durham's policy is that 90 percent of inspections are to be conducted within one working day of request.</p> <p>Total revenue received from inspection fees amounted to \$3,251,660 for FY 2009–10. The fee schedule separates fees for each type of permit, with specific fees depending on type of facility of work, cost, square footage, and other factors. If an inspection has been disapproved and the contractor calls for a reinspection and the corrections have not been made, \$100 is charged. If the second reinspection is called and the problem still has not been corrected, \$200 is charged. If the third reinspection is called for and the corrections have still not been made, \$300 is charged.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>	

# Greensboro

# Building Inspections

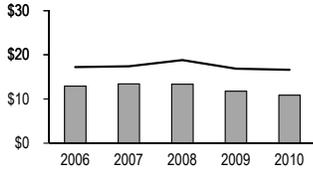
Key: Greensboro ■

Benchmarking Average —

Fiscal Years 2006 through 2010

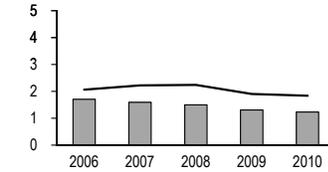
## RESOURCE Measures

**Building Inspections Services  
Costs per Capita**



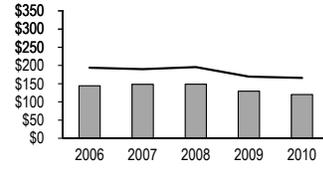
Year	2006	2007	2008	2009	2010
Greensboro	\$12.93	\$13.44	\$13.34	\$11.78	\$10.87
Average	\$17.22	\$17.40	\$18.80	\$16.88	\$16.60

**Building Inspections Services  
FTEs per 10,000 Population**



Year	2006	2007	2008	2009	2010
Greensboro	1.71	1.59	1.50	1.31	1.23
Average	2.06	2.22	2.24	1.90	1.84

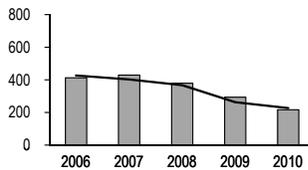
**Building Inspections Services  
Cost per Million Dollars of Tax Base**



Year	2006	2007	2008	2009	2010
Greensboro	\$144	\$148	\$148	\$129	\$120
Average	\$194	\$190	\$196	\$169	\$166

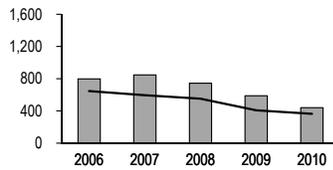
## WORKLOAD Measures

**Inspections per 1,000 Population  
in Service Area**



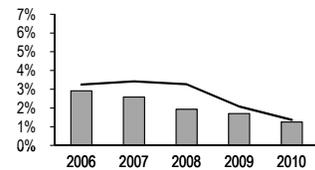
Year	2006	2007	2008	2009	2010
Greensboro	412	429	380	294	217
Average	426	403	367	263	227

**Inspections per Square Mile  
in Service Area**



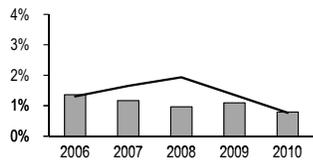
Year	2006	2007	2008	2009	2010
Greensboro	798	847	743	588	441
Average	647	595	551	407	364

**Value of Building Permits as Percentage of Tax  
Base of Area Served**



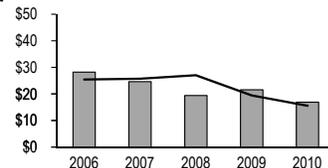
Year	2006	2007	2008	2009	2010
Greensboro	2.92%	2.58%	1.93%	1.70%	1.25%
Average	3.25%	3.42%	3.26%	2.08%	1.36%

**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**



Year	2006	2007	2008	2009	2010
Greensboro	1.36%	1.17%	0.97%	1.10%	0.79%
Average	1.31%	1.65%	1.93%	1.35%	0.77%

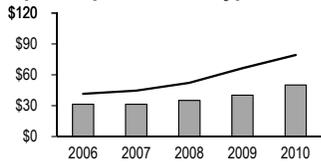
**Value of Building Permits Per  
Inspector FTE In Millions of Dollars**



Year	2006	2007	2008	2009	2010
Greensboro	\$28.2	\$24.6	\$19.4	\$21.6	\$16.9
Average	\$25.4	\$25.7	\$27.1	\$19.4	\$15.6

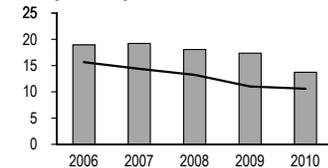
## EFFICIENCY Measures

**Building Services Cost  
per Inspection--All Types**



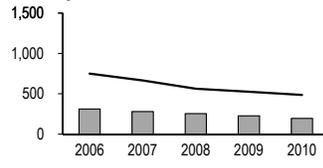
Year	2006	2007	2008	2009	2010
Greensboro	\$31.33	\$31.31	\$35.14	\$40.13	\$50.16
Average	\$41.46	\$44.67	\$52.20	\$66.41	\$79.25

**Inspections per Day  
per Inspector FTE**



Year	2006	2007	2008	2009	2010
Greensboro	18.9	19.2	18.1	17.4	13.7
Average	15.7	14.4	13.2	11.0	10.6

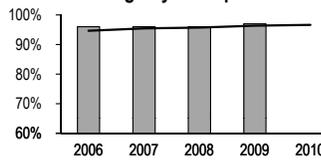
**Plan Reviews per Year  
per Reviewer FTE**



Year	2006	2007	2008	2009	2010
Greensboro	312	280	254	226	195
Average	750	665	562	525	486

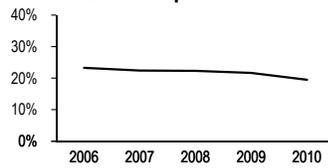
## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



Year	2006	2007	2008	2009	2010
Greensboro	96.0%	96.0%	96.0%	97.0%	96.6%
Average	94.6%	95.4%	95.7%	96.3%	96.6%

**Percentage of Inspections  
That Are Reinspections**



Year	2006	2007	2008	2009	2010
Greensboro	23.2%	22.4%	22.3%	21.7%	19.5%
Average	23.2%	22.4%	22.3%	21.7%	19.5%

# Greensboro

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	268,283	<p><b>Service Level and Delivery</b>                      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.</p> <p>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.</p> <p>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.</p> <p>Total revenue received from inspection fees amounted to \$1,623,176 for FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      The broad downturn in the economy has reduced building activity and the number of requests for inspections.</p>
Land Area Served (Square Miles)	131.75	
Persons Served per Square Mile	2,036	
Topography	Flat; gently rolling	
Tax Base Served (Assessed Value)	\$24,265,551,114	
County	Guilford	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	76.3%	
Operating Costs	23.7%	
Capital Costs	0.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 2,224,589	
Operating Costs	\$ 690,309	
Capital Costs	\$ -	
<b>TOTAL</b>	<b>\$ 2,914,898</b>	
<b>SERVICE PROFILE</b>		
Number of Inspections by Type		
Building	23,213	
Electrical	14,460	
Mechanical	11,028	
Plumbing	9,413	
<b>TOTAL</b>	<b>58,114</b>	
Building Permit Values		
Residential	\$98,229,956	
Multi-Family	\$13,356,432	
Commercial	\$192,022,384	
<b>TOTAL</b>	<b>\$303,608,772</b>	
FTE Inspectors		
Building	7.0	
Electrical	5.0	
Mechanical	3.0	
Plumbing	3.0	
All Trades	0.0	
<b>TOTAL INSPECTORS</b>	<b>18.0</b>	
FTE Plan Reviewers	5	
Other FTE Positions	10.0	
Inspection Fee Revenue	\$1,623,176	

# Greenville

# Building Inspections

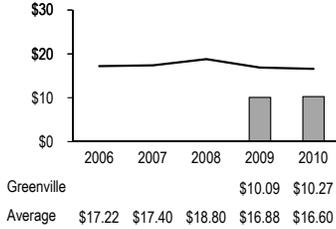
Key: Greenville ■

Benchmarking Average —

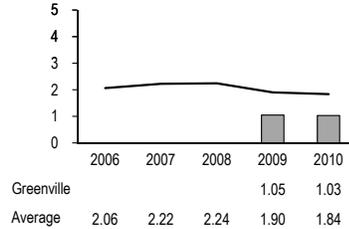
Fiscal Years 2006 through 2010

## RESOURCE Measures

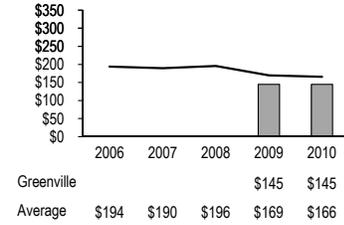
**Building Inspections Services  
Costs per Capita**



**Building Inspections Services  
FTEs per 10,000 Population**

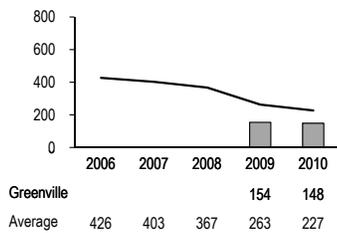


**Building Inspections Services  
Cost per Million Dollars of Tax Base**

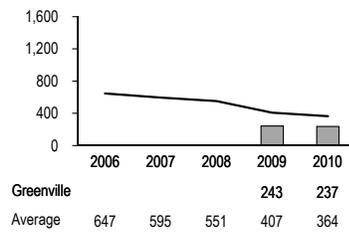


## WORKLOAD Measures

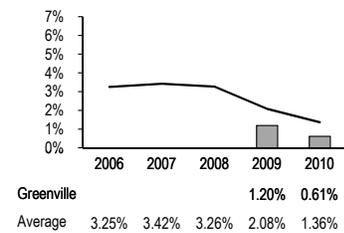
**Inspections per 1,000 Population  
in Service Area**



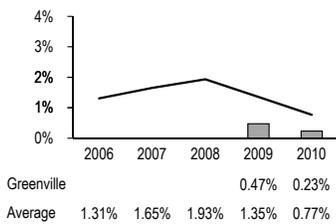
**Inspections per Square Mile  
in Service Area**



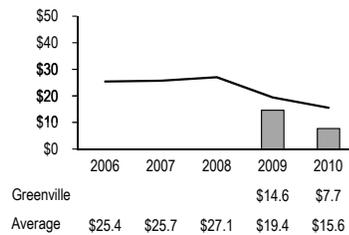
**Value of Building Permits as Percentage of Tax  
Base of Area Served**



**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**

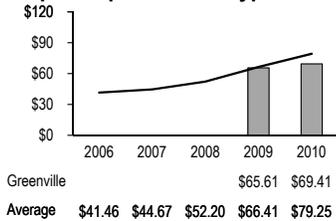


**Value of Building Permits Per  
Inspector FTE In Millions of Dollars**

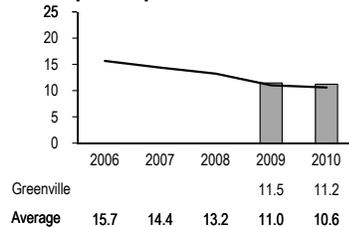


## EFFICIENCY Measures

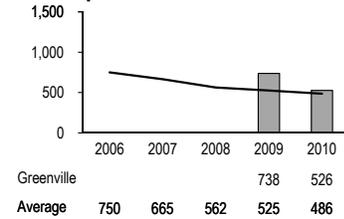
**Building Services Cost  
per Inspection—All Types**



**Inspections per Day  
per Inspector FTE**

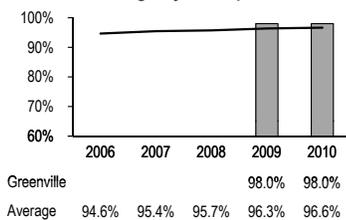


**Plan Reviews per Year  
per Reviewer FTE**

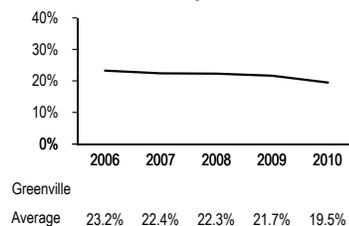


## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



**Percentage of Inspections  
That Are Reinspections**



# Greenville

## Building Inspections

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	106,876	<p><b>Service Level and Delivery</b> 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.</p> <p>Total revenue received from inspection fees amounted to \$722,657 for FY 2009–10. Inspection and permit fees depend on the type of construction or work, value of construction, and other factors.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p> <p>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.</p> <p>The downturn in the economy has decreased the demand for inspections services from earlier years.</p>
Land Area Served (Square Miles)	66.64	
Persons Served per Square Mile	1,604	
Topography	Flat	
Tax Base Served (Assessed Value)	\$7,575,668,244	
County	Pitt	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	70.3%	
Operating Costs	25.1%	
Capital Costs	4.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 771,311	
Operating Costs	\$ 275,057	
Capital Costs	\$ 50,741	
TOTAL	\$ 1,097,109	
<b>SERVICE PROFILE</b>		
Number of Inspections by Type		
Building	4,987	
Electrical	3,849	
Mechanical	4,047	
Plumbing	2,923	
TOTAL	15,806	
Building Permit Values		
Residential	\$23,652,841	
Multi-Family	\$5,095,738	
Commercial	\$17,718,106	
TOTAL	\$46,466,685	
FTE Inspectors		
Building	0.0	
Electrical	0.0	
Mechanical	0.0	
Plumbing	0.0	
All Trades	6.0	
TOTAL INSPECTORS	6.0	
FTE Plan Reviewers	1.0	
Other FTE Positions	4.0	
Inspection Fee Revenue	\$722,657	

# High Point

# Building Inspections

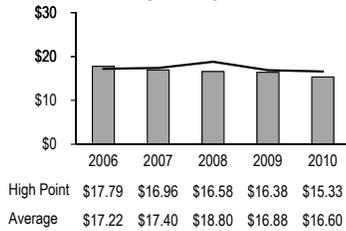
Key: High Point ■

Benchmarking Average —

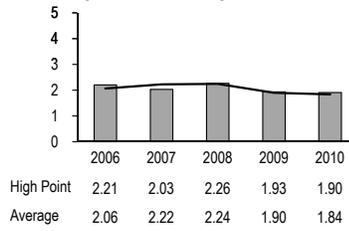
Fiscal Years 2006 through 2010

## RESOURCE Measures

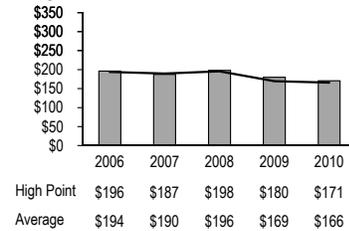
**Building Inspections Services  
Costs per Capita**



**Building Inspections Services  
FTEs per 10,000 Population**

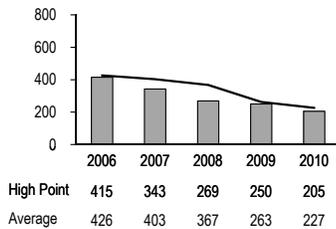


**Building Inspections Services  
Cost per Million Dollars of Tax Base**

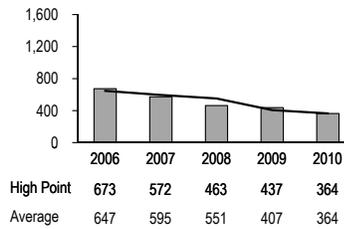


## WORKLOAD Measures

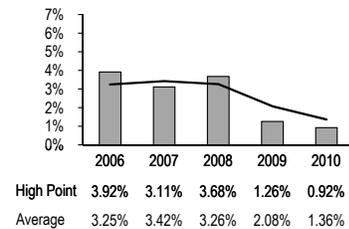
**Inspections per 1,000 Population  
in Service Area**



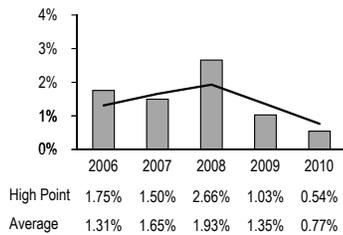
**Inspections per Square Mile  
in Service Area**



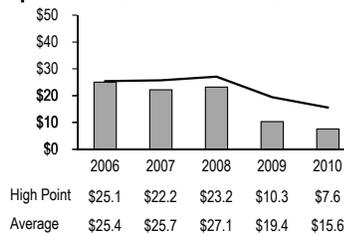
**Value of Building Permits as Percentage of Tax  
Base of Area Served**



**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**

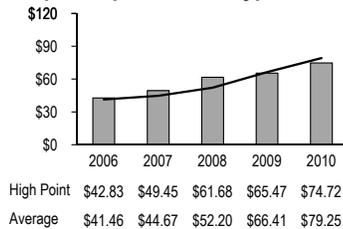


**Value of Building Permits Per  
Inspector FTE in Millions of Dollars**

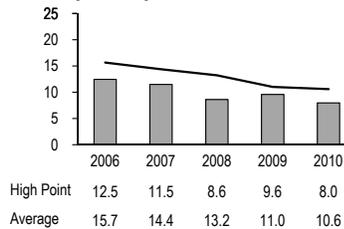


## EFFICIENCY Measures

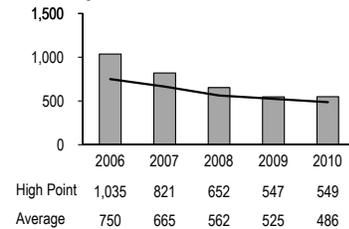
**Building Services Cost  
per Inspection—All Types**



**Inspections per Day  
per Inspector FTE**

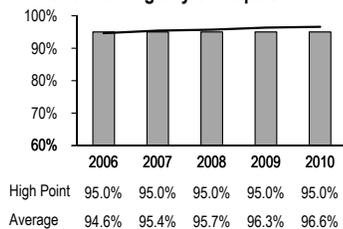


**Plan Reviews per Year  
per Reviewer FTE**

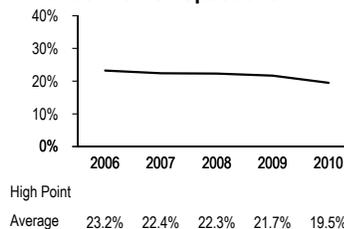


## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



**Percentage of Inspections  
That Are Reinspections**



# Building Inspections

Fiscal Year 2009–10

# High Point

MUNICIPAL PROFILE	EXPLANATORY INFORMATION
Population Served	105,074
Land Area Served (Square Miles)	59.28
Persons Served per Square Mile	1,773
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	\$9,443,619,366
County	Guilford
<b>FULL COST PROFILE</b>	
Cost Breakdown by Percentage	
Personal Services	72.8%
Operating Costs	21.0%
Capital Costs	6.1%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 1,172,749
Operating Costs	\$ 339,025
Capital Costs	\$ 99,046
<b>TOTAL</b>	<b>\$ 1,610,820</b>
<b>SERVICE PROFILE</b>	
Number of Inspections by Type	
Building	8,308
Electrical	5,358
Mechanical	4,872
Plumbing	3,021
<b>TOTAL</b>	<b>21,559</b>
Building Permit Values	
Residential	\$35,939,597
Multi-Family	NA
Commercial	\$51,274,968
<b>TOTAL</b>	<b>\$87,214,565</b>
FTE Inspectors	
Building	4.0
Electrical	2.5
Mechanical	2.5
Plumbing	2.5
All Trades	0.0
<b>TOTAL INSPECTORS</b>	<b>11.5</b>
FTE Plan Reviewers	1.5
Other FTE Positions	7.0
Inspection Fee Revenue	\$572,217

**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 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 \$572,217 for FY 2009–10. 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

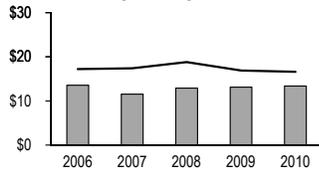
Key: Wilson ■

Benchmarking Average —

Fiscal Years 2006 through 2010

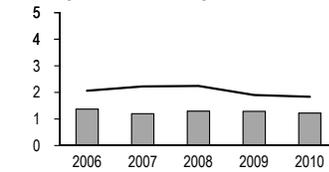
## RESOURCE Measures

**Building Inspections Services  
Costs per Capita**



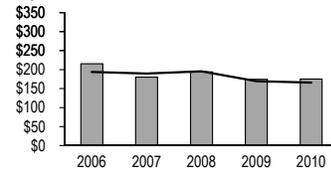
Wilson	\$13.55	\$11.55	\$12.93	\$13.13	\$13.37
Average	\$17.22	\$17.40	\$18.80	\$16.88	\$16.60

**Building Inspections Services  
FTEs per 10,000 Population**



Wilson	1.37	1.20	1.30	1.29	1.22
Average	2.06	2.22	2.24	1.90	1.84

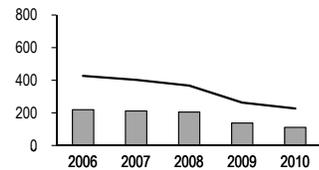
**Building Inspections Services  
Cost per Million Dollars of Tax Base**



Wilson	\$215	\$180	\$194	\$174	\$175
Average	\$194	\$190	\$196	\$169	\$166

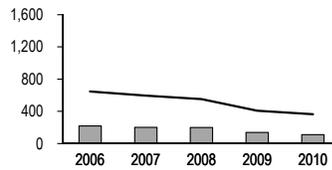
## WORKLOAD Measures

**Inspections per 1,000 Population  
in Service Area**



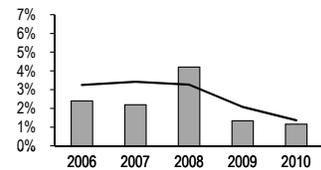
Wilson	219	212	205	137	111
Average	426	403	367	263	227

**Inspections per Square Mile  
in Service Area**



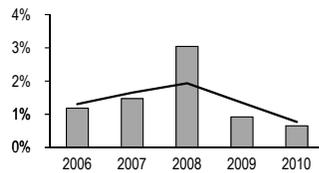
Wilson	219	202	199	138	110
Average	647	595	551	407	364

**Value of Building Permits as Percentage of Tax  
Base of Area Served**



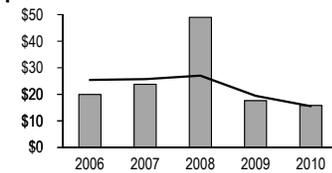
Wilson	2.39%	2.19%	4.21%	1.33%	1.16%
Average	3.25%	3.42%	3.26%	2.08%	1.36%

**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**



Wilson	1.19%	1.47%	3.04%	0.92%	0.65%
Average	1.31%	1.65%	1.93%	1.35%	0.77%

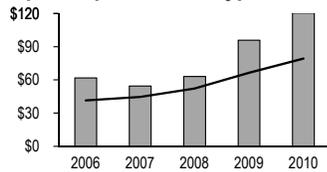
**Value of Building Permits Per  
Inspector FTE In Millions of Dollars**



Wilson	\$19.9	\$23.8	\$49.0	\$17.6	\$15.8
Average	\$25.4	\$25.7	\$27.1	\$19.4	\$15.6

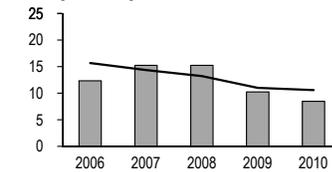
## EFFICIENCY Measures

**Building Services Cost  
per Inspection—All Types**



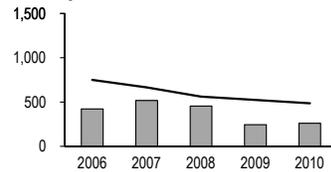
Wilson	\$61.75	\$54.51	\$63.13	\$95.78	\$120.39
Average	\$41.46	\$44.67	\$52.20	\$66.41	\$79.25

**Inspections per Day  
per Inspector FTE**



Wilson	12.3	15.2	15.2	10.3	8.5
Average	15.7	14.4	13.2	11.0	10.6

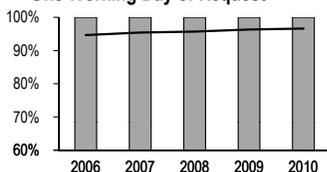
**Plan Reviews per Year  
per Reviewer FTE**



Wilson	423	518	455	245	260
Average	750	665	562	525	486

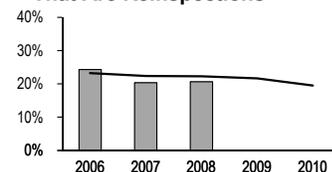
## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



Wilson	100.0%	100.0%	100.0%	100.0%	100.0%
Average	94.6%	95.4%	95.7%	96.3%	96.6%

**Percentage of Inspections  
That Are Reinspections**



Wilson	24.3%	20.3%	20.6%		
Average	23.2%	22.4%	22.3%	21.7%	19.5%

# Wilson

## Building Inspections

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	57,354	<p><b>Service Level and Delivery</b></p> <p>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.</p> <p>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.</p> <p>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.</p> <p>Total revenue received from inspection fees amounted to \$301,568 for FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p> <p>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.</p> <p>The broad downturn in the economy has reduced building activity and the number of requests for inspections.</p>
Land Area Served (Square Miles)	57.70	
Persons Served per Square Mile	994	
Topography	Flat	
Tax Base Served (Assessed Value)	\$4,371,362,379	
County	Wilson	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	71.3%	
Operating Costs	22.6%	
Capital Costs	6.0%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 546,920	
Operating Costs	\$ 173,433	
Capital Costs	\$ 46,296	
TOTAL	\$ 766,649	
<b>SERVICE PROFILE</b>		
Number of Inspections by Type		
Building	2,026	
Electrical	1,532	
Mechanical	1,721	
Plumbing	1,089	
TOTAL	6,368	
Building Permit Values		
Residential	\$21,930,643	
Multi-Family	\$0	
Commercial	\$28,579,947	
TOTAL	\$50,510,590	
FTE Inspectors		
Building	0.0	
Electrical	0.0	
Mechanical	0.0	
Plumbing	0.0	
All Trades	3.2	
TOTAL INSPECTORS	3.2	
FTE Plan Reviewers	0.8	
Other FTE Positions	3.00	
Inspection Fee Revenue	\$301,568	

# Winston-Salem

# Building Inspections

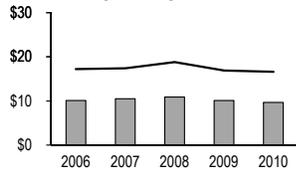
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

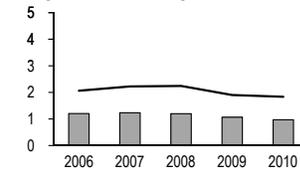
## RESOURCE Measures

**Building Inspections Services  
Costs per Capita**



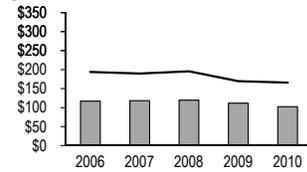
Year	Winston-Salem	Average
2006	\$10.10	\$17.22
2007	\$10.49	\$17.40
2008	\$10.89	\$18.80
2009	\$10.10	\$16.88
2010	\$9.67	\$16.60

**Building Inspections Services  
FTEs per 10,000 Population**



Year	Winston-Salem	Average
2006	1.21	2.06
2007	1.23	2.22
2008	1.20	2.24
2009	1.07	1.90
2010	0.97	1.84

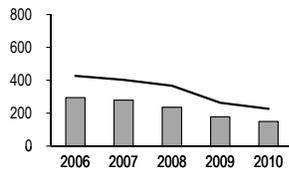
**Building Inspections Services  
Cost per Million Dollars of Tax Base**



Year	Winston-Salem	Average
2006	\$117	\$194
2007	\$118	\$190
2008	\$120	\$196
2009	\$111	\$169
2010	\$102	\$166

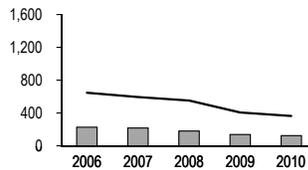
## WORKLOAD Measures

**Inspections per 1,000 Population  
in Service Area**



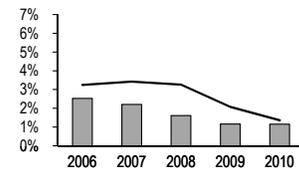
Year	Winston-Salem	Average
2006	294	426
2007	279	403
2008	236	367
2009	178	263
2010	150	227

**Inspections per Square Mile  
in Service Area**



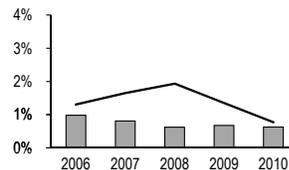
Year	Winston-Salem	Average
2006	226	647
2007	218	595
2008	181	551
2009	138	407
2010	125	364

**Value of Building Permits as Percentage of Tax  
Base of Area Served**



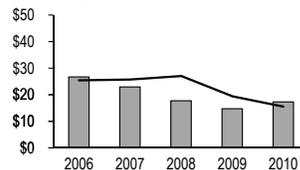
Year	Winston-Salem	Average
2006	2.53%	3.25%
2007	2.21%	3.42%
2008	1.61%	3.26%
2009	1.16%	2.08%
2010	1.16%	1.36%

**Value of Commercial Permits as Percentage of  
Tax Base of Area Served**



Year	Winston-Salem	Average
2006	0.98%	1.31%
2007	0.81%	1.65%
2008	0.62%	1.93%
2009	0.68%	1.35%
2010	0.63%	0.77%

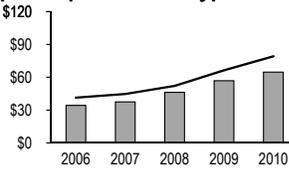
**Value of Building Permits Per  
Inspector FTE in Millions of Dollars**



Year	Winston-Salem	Average
2006	\$26.7	\$25.4
2007	\$22.9	\$25.7
2008	\$17.8	\$27.1
2009	\$14.7	\$19.4
2010	\$17.3	\$15.6

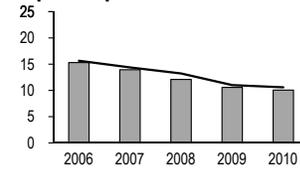
## EFFICIENCY Measures

**Building Services Cost  
per Inspection—All Types**



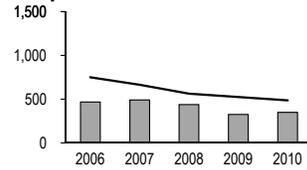
Year	Winston-Salem	Average
2006	\$34.31	\$41.46
2007	\$37.59	\$44.67
2008	\$46.21	\$52.20
2009	\$56.82	\$66.41
2010	\$64.66	\$79.25

**Inspections per Day  
per Inspector FTE**



Year	Winston-Salem	Average
2006	15.3	15.7
2007	13.9	14.4
2008	12.1	13.2
2009	10.6	11.0
2010	10.1	10.6

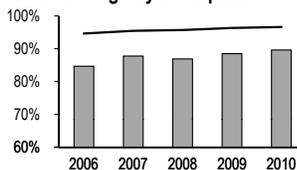
**Plan Reviews per Year  
per Reviewer FTE**



Year	Winston-Salem	Average
2006	468	750
2007	491	665
2008	438	562
2009	325	525
2010	349	486

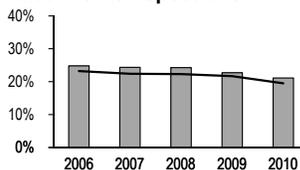
## EFFECTIVENESS Measures

**Percentage of Inspection Responses within  
One Working Day of Request**



Year	Winston-Salem	Average
2006	84.7%	94.6%
2007	87.8%	95.4%
2008	86.9%	95.7%
2009	88.5%	96.3%
2010	89.6%	96.6%

**Percentage of Inspections  
That Are Reinspections**



Year	Winston-Salem	Average
2006	24.8%	23.2%
2007	24.4%	22.4%
2008	24.3%	22.3%
2009	22.7%	21.7%
2010	21.1%	19.5%

# Winston-Salem

## Building Inspections

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population Served	332,619	<p><b>Service Level and Delivery</b> The Inspections Division of the Winston-Salem Public Works Department 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.</p> <p>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.</p> <p>It is the policy of the Inspections Division to respond to inspection requests within one working day 90 percent of the time.</p> <p>Total revenue received from inspection fees amounted to \$2,091,561 for FY 2009–10. 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> The broad downturn in the economy has reduced building activity and the number of requests for inspections.</p>
Land Area Served (Square Miles)	396.45	
Persons Served per Square Mile	839	
Topography	Gently rolling	
Tax Base Served (Assessed Value)	\$31,486,936,153	
County	Forsyth	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	61.1%	
Operating Costs	30.1%	
Capital Costs	8.8%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 1,966,108	
Operating Costs	\$ 967,678	
Capital Costs	\$ 282,016	
TOTAL	\$ 3,215,802	
<b>SERVICE PROFILE</b>		
Number of Inspections by Type		
Building	15,956	
Electrical	12,736	
Mechanical	12,152	
Plumbing	8,887	
TOTAL	49,731	
Building Permit Values		
Residential	\$166,668,356	
Multi-Family	included above	
Commercial	\$197,292,016	
TOTAL	\$363,960,372	
FTE Inspectors		
Building	6.0	
Electrical	6.0	
Mechanical	5.0	
Plumbing	4.0	
All Trades	0.0	
TOTAL INSPECTORS	21.0	
FTE Plan Reviewers	3.0	
Other FTE Positions	8.4	
Inspection Fee Revenue	\$2,091,561	







# Performance and Cost Data

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## FLEET MAINTENANCE

## 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 1 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 ended June 30, which 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 ended 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 ended 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 work 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
Asheville	783	9.0	4,998	1,529	16	9.0	\$50—Cars and Small Trucks \$60—Large Truck and Off-Road	1.8	General Fund
Burlington	467	10.0	3,945	2,571	19	10.0	\$55—Heavy Equipment \$45—Auto/Light Truck \$35—Small Engine/Mowers	0.8	General Fund
Cary	827	6.0	5,199	1,875	7	8.0	\$60.00	NA	Internal Service
Charlotte	4,664	6.3	42,876	19,069	111	73.8	\$50.55	4.2	General Fund
Concord	808	7.0	4,154	1,788	8	8.0	\$22.00	5.5	Internal Service
Durham	1,476	6.2	12,632	5,457	33	24.0	\$59—Heavy Equip \$47—Others	3.6	General Fund
Greensboro	1,961	5.6	12,823	6,242	33	31.0	\$52.00	3.6	Internal Service
Greenville	525	NA	5,002	2,245	13	12.0	\$42.83	6.8	General Fund
Hickory	527	9.8	6,331	1,329	14	6.5	\$44.50	4.0	Internal Service
High Point	931	8.4	5,220	2,109	18	13.0	\$60.00	4.0	Internal Service
Salisbury	533	8.9	4,500	1,247	14	9.0	NA	2.0	General Fund
Wilmington	730	6.5	4,249	1,533	20	9.0	\$68.00	4.8	Internal Service
Wilson	752	7.6	5,695	1,152	15	11.0	\$44.00	2.7	General Fund
Winston-Salem	1,778	7.9	10,633	5,042	31	18.0	\$50.00	3.0	General Fund

### 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

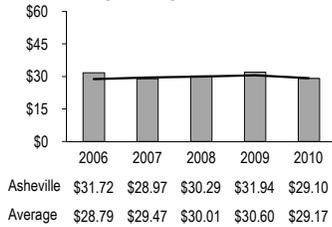
# Asheville

# Fleet Maintenance

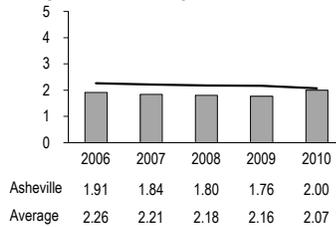
Key: Asheville ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

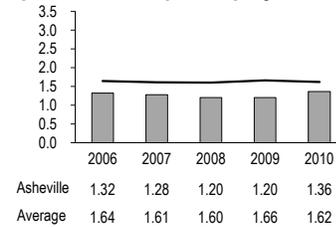
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

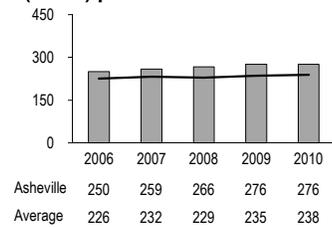


**Fleet Maintenance FTEs per 100 Municipal Employees**

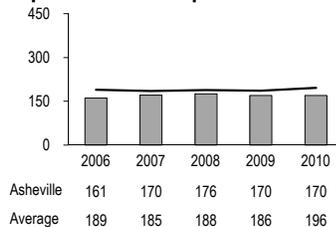


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

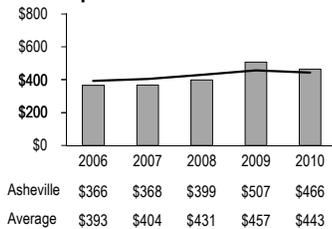


**Preventive Maintenances (PMs) Completed In-House per Tech FTE**

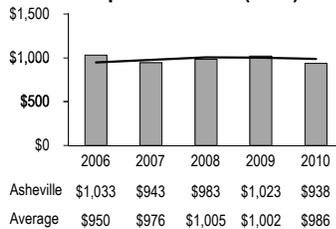


## EFFICIENCY Measures

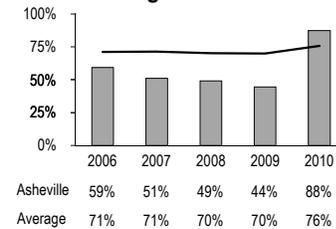
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

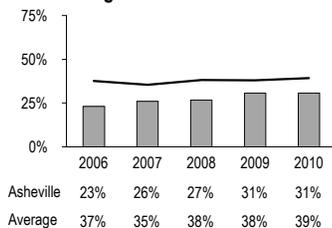


**Hours Billed as a Percentage of Total Hours**

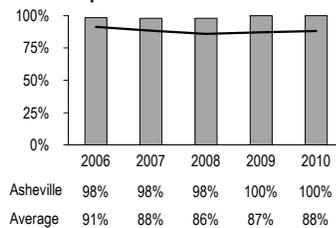


## EFFECTIVENESS Measures

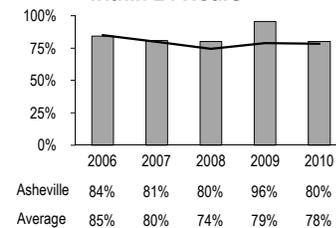
**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



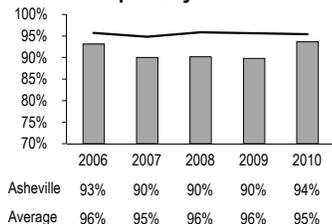
**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



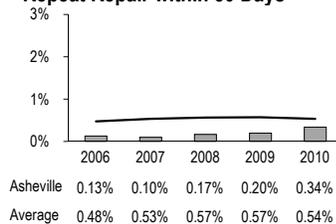
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# Asheville

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE	
Population (OSBM 2009)	79,973
Land Area (Square Miles)	44.99
Persons per Square Mile	1,778
County	Buncombe
Topography	Hills, mountains
Climate	Moderate; ice and snow
Rolling Stock Maintained	No.      Average Age
Cars—Normal Usage	73      7.5 Years
Cars—Severe Usage	129     5.1 Years
Light Vehicles	276     9.2 Years
Medium Vehicles	18      16.5 Years
Heavy—Sanitation	16      6.1 Years
Heavy—Sewer	2       3.0 Years
Heavy—Fire Apparatus	31      11.8 Years
Heavy—Other	43      7.5 Years
Trailed Equipment	106     12.1 Years
Off-Road/Construction/Tractors	85      10.2 Years
Buses	4       23.1 Years
TOTAL	783
Vehicle Equivalent Units (VEUs)	2,480
FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	31.9%
Operating Costs	65.2%
Capital Costs	2.9%
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	\$ 741,562
Operating Costs	\$ 1,516,783
Capital Costs	\$ 68,471
TOTAL	\$ 2,326,816
SERVICE PROFILE	
FTE Positions—Technician	9.0
FTE Positions—Other	7.0
Work Bays	16
Average Rolling Stock Units Available per Day	733
Hours Billed	14,560
Work Orders	4,998
Repeat Repairs within 30 Days	17
Work Orders Completed within 24 hours	3,998
Preventive Maintenance (PMs)	1,529
PMs Completed as Scheduled	1,529

### 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 were 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 1.75 times during the fiscal year.

The following services were contracted out during FY 2009–10:

- 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

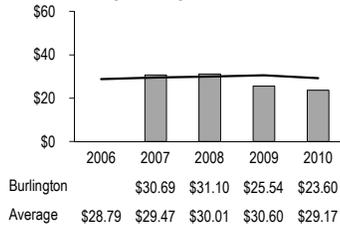
Key: Burlington ■

Benchmarking Average —

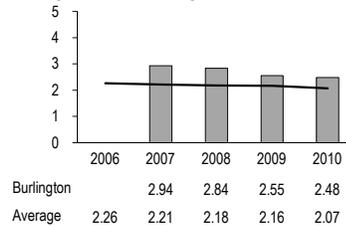
Fiscal Years 2006 through 2010

## RESOURCE Measures

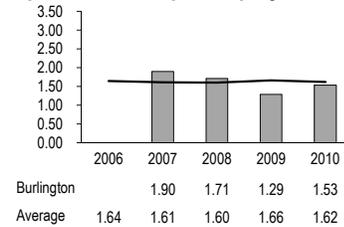
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

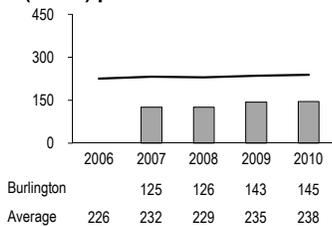


**Fleet Maintenance FTEs per 100 Municipal Employees**

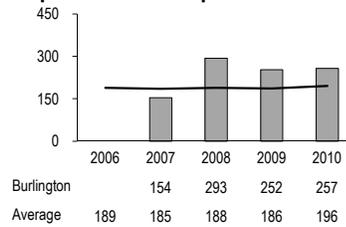


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

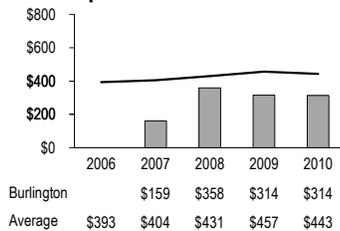


**Preventive Maintenances (PMs) Completed In-House per Tech FTE**

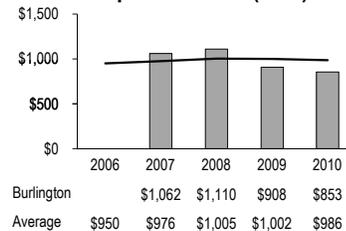


## EFFICIENCY Measures

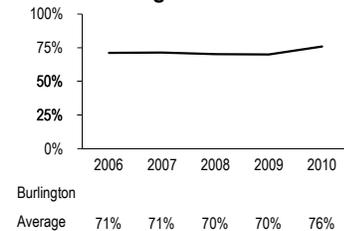
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

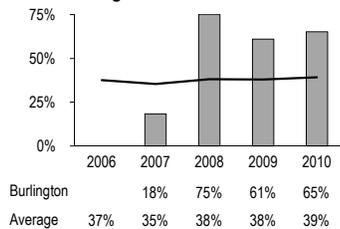


**Hours Billed as a Percentage of Total Hours**

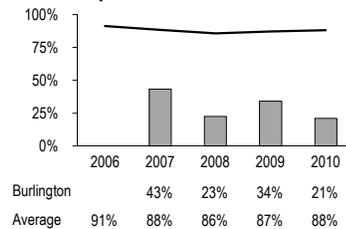


## EFFECTIVENESS Measures

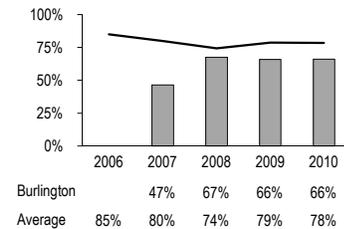
**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



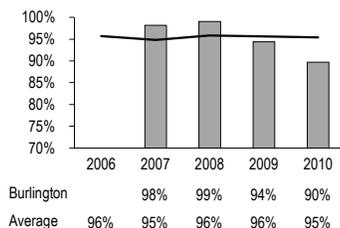
**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



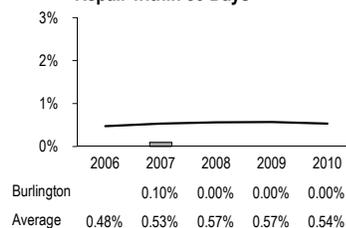
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# Burlington

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		52,457
Land Area (Square Miles)		25.14
Persons per Square Mile		2,087
County	Alamance	
Topography	Flat; gently rolling	
Climate	Temperate	
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	46	5.4 Years
Cars—Severe Usage	91	4.9 Years
Light Vehicles	120	9.4 Years
Medium Vehicles	40	12.7 Years
Heavy—Sanitation	20	7.4 Years
Heavy—Sewer	3	20.9 Years
Heavy—Fire Apparatus	10	10.4 Years
Heavy—Other	3	10.0 Years
Trailed Equipment	86	15.6 Years
Off-Road/Construction/Tractors	46	13.6 Years
Buses	2	9.5 Years
TOTAL	467	
Vehicle Equivalent Units (VEUs)		1,451

FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		46.1%
Operating Costs		51.4%
Capital Costs		2.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	\$	570,433
Operating Costs	\$	636,003
Capital Costs	\$	31,429
TOTAL	\$	1,237,865

SERVICE PROFILE	
FTE Positions—Technician	10.0
FTE Positions—Other	3.0
Work Bays	19
Average Rolling Stock Units Available per Day	419
Hours Billed	9,391
Work Orders	3,945
Repeat Repairs within 30 Days	0
Work Orders Completed within 24 hours	2,613
Preventive Maintenance (PMs)	2,571
PMs Completed as Scheduled	540

### EXPLANATORY INFORMATION

#### Service Level and Delivery

Burlington's fleet maintenance 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 five percent markup on parts but no markup on sublet work.

The following services were contracted out during FY 2009–10:

- Bodywork
- Alignments
- Major transmission repairs
- Machine work
- Windshield replacement
- Upholster 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 machine, spreaders, aerator, directional sign, 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.

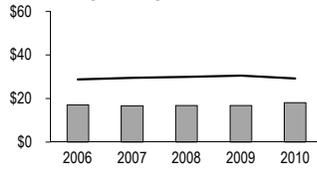
In Burlington the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is based on mileage parameters. While most PMs are done within 24 hours of arrival at the fleet shop, not all vehicles are brought in by departments on time to allow completion on schedule.

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

Key: Cary ■ Benchmarking Average — Fiscal Years 2006 through 2010

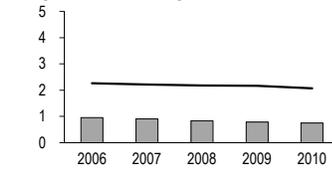
## RESOURCE Measures

**Fleet Maintenance Services Cost per Capita**



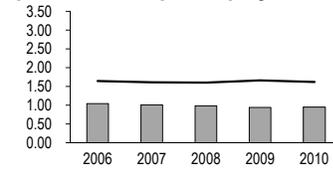
Year	2006	2007	2008	2009	2010
Cary	\$17.05	\$16.64	\$16.78	\$16.79	\$18.11
Average	\$28.79	\$29.47	\$30.01	\$30.60	\$29.17

**Fleet Maintenance FTEs per 10,000 Population**



Year	2006	2007	2008	2009	2010
Cary	0.95	0.90	0.83	0.78	0.75
Average	2.26	2.21	2.18	2.16	2.07

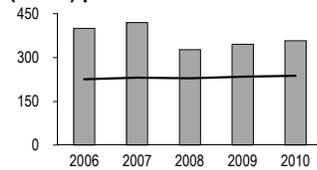
**Fleet Maintenance FTEs per 100 Municipal Employees**



Year	2006	2007	2008	2009	2010
Cary	1.04	1.01	0.98	0.94	0.95
Average	1.64	1.61	1.60	1.66	1.62

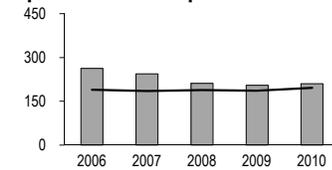
## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**



Year	2006	2007	2008	2009	2010
Cary	400	420	327	346	357
Average	226	232	229	235	238

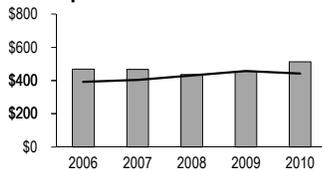
**Preventive Maintenances (PMs) Completed In-House per Tech FTE**



Year	2006	2007	2008	2009	2010
Cary	263	244	211	204	210
Average	189	185	188	186	196

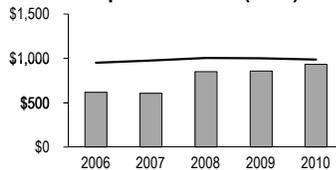
## EFFICIENCY Measures

**Fleet Maintenance Cost per Work Order**



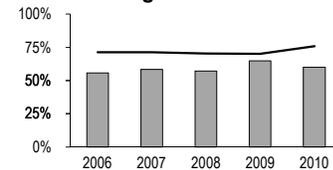
Year	2006	2007	2008	2009	2010
Cary	\$469	\$468	\$436	\$456	\$513
Average	\$393	\$404	\$431	\$457	\$443

**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**



Year	2006	2007	2008	2009	2010
Cary	\$617	\$606	\$850	\$857	\$933
Average	\$950	\$976	\$1,005	\$1,002	\$986

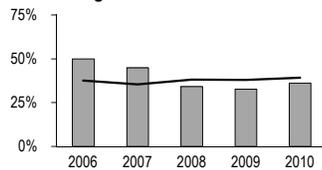
**Hours Billed as a Percentage of Total Hours**



Year	2006	2007	2008	2009	2010
Cary	56%	58%	57%	65%	60%
Average	71%	71%	70%	70%	76%

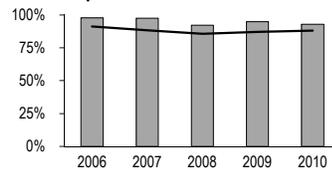
## EFFECTIVENESS Measures

**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



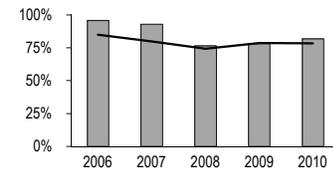
Year	2006	2007	2008	2009	2010
Cary	50%	45%	34%	33%	36%
Average	37%	35%	38%	38%	39%

**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



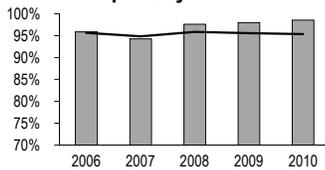
Year	2006	2007	2008	2009	2010
Cary	98%	98%	92%	95%	93%
Average	91%	88%	86%	87%	88%

**Percentage of Work Orders Completed within 24 Hours**



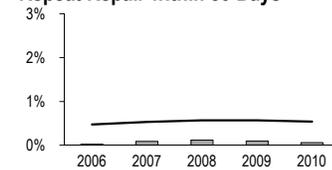
Year	2006	2007	2008	2009	2010
Cary	96%	93%	77%	78%	82%
Average	85%	80%	74%	79%	78%

**Percentage of Rolling Stock Available per Day**



Year	2006	2007	2008	2009	2010
Cary	96%	94%	98%	98%	99%
Average	96%	95%	96%	96%	95%

**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



Year	2006	2007	2008	2009	2010
Cary	0.02%	0.09%	0.12%	0.10%	0.06%
Average	0.48%	0.53%	0.57%	0.57%	0.54%

# Cary

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		147,282
Land Area (Square Miles)		54.01
Persons per Square Mile		2,727
County		Wake
Topography		Flat; gently rolling
Climate		Temperate
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	31	9.6 Years
Cars—Severe Usage	118	4.4 Years
Light Vehicles	279	5.7 Years
Medium Vehicles	61	6.0 Years
Heavy—Sanitation	31	3.5 Years
Heavy—Sewer	4	5.7 Years
Heavy—Fire Apparatus	19	7.8 Years
Heavy—Other	13	6.3 Years
Trailed Equipment	65	6.7 Years
Off-Road/Construction/Tractors	206	6.8 Years
Buses	0	NA
<b>TOTAL</b>	<b>827</b>	
Vehicle Equivalent Units (VEUs)		2,860
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		24.3%
Operating Costs		70.7%
Capital Costs		4.9%
<b>TOTAL</b>		<b>100.0%</b>
Cost Breakdown in Dollars		
Personal Services	\$	648,647
Operating Costs	\$	1,887,073
Capital Costs	\$	131,681
<b>TOTAL</b>	<b>\$</b>	<b>2,667,401</b>
SERVICE PROFILE		
FTE Positions—Technician		8.0
FTE Positions—Other		3.0
Work Bays		7
Average Rolling Stock Units Available per Day		815
Hours Billed		9,993
Work Orders		5,199
Repeat Repairs within 30 Days		3
Work Orders Completed within 24 hours		4,253
Preventive Maintenance (PMs)		1,875
PMs Completed as Scheduled		1,744

### 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 2009–10:

- body work
- tire replacement (tires over 16 inches)
- some major transmission work
- some engine overhaul
- striping/decals 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, weed wackers, 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.

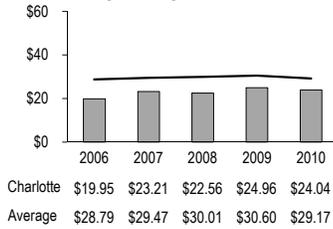
# Charlotte

# Fleet Maintenance

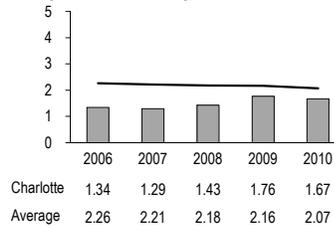
Key: Charlotte ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

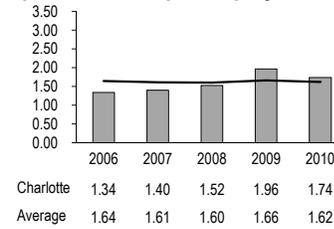
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

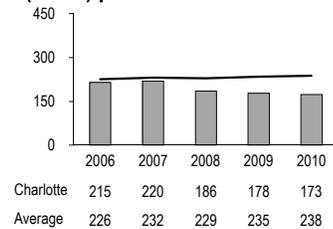


**Fleet Maintenance FTEs per 100 Municipal Employees**

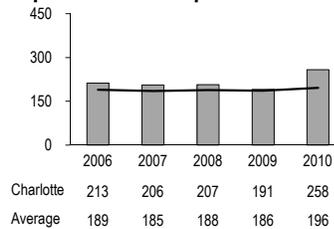


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

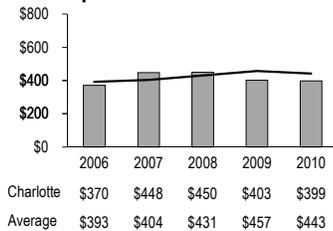


**Preventive Maintenances (PMs) Completed In-House per Tech FTE**

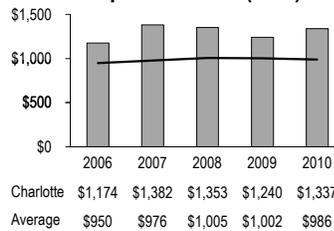


## EFFICIENCY Measures

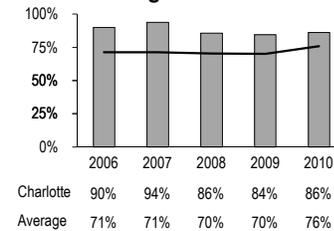
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

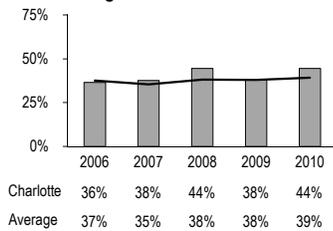


**Hours Billed as a Percentage of Total Hours**

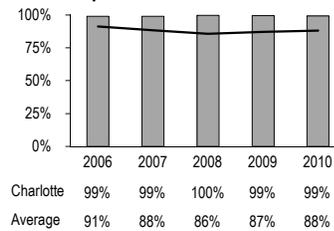


## EFFECTIVENESS Measures

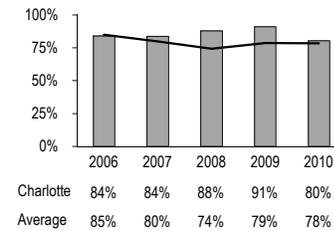
**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



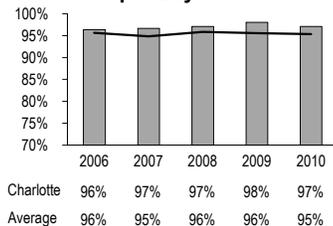
**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



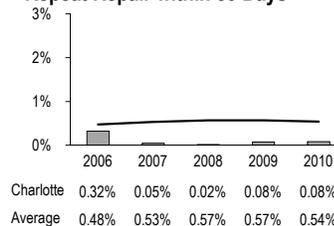
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# Charlotte

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		711,349
Land Area (Square Miles)		299.0
Persons per Square Mile		2,379
County		Mecklenburg
Topography		Flat, gently rolling
Climate		Mild; some ice
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	1146	4.4 Years
Cars—Severe Usage	640	5.3 Years
Light Vehicles	1495	5.7 Years
Medium Vehicles	169	8.5 Years
Heavy—Sanitation	144	3.6 Years
Heavy—Sewer	27	5.0 Years
Heavy—Fire Apparatus	91	8.7 Years
Heavy—Other	142	7.6 Years
Trailed Equipment	527	10.2 Years
Off-Road/Construction/Tractors	261	11.0 Years
Buses	22	3.0 Years
TOTAL	4,664	
Vehicle Equivalent Units (VEUs)		12,794
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		40.8%
Operating Costs		57.8%
Capital Costs		1.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	\$	6,976,507
Operating Costs	\$	9,888,228
Capital Costs	\$	237,919
TOTAL	\$	17,102,654
SERVICE PROFILE		
FTE Positions—Technician		73.8
FTE Positions—Other		45.1
Work Bays		111
Average Rolling Stock Units Available per Day		4,529
Hours Billed		115,931
Work Orders		42,876
Repeat Repairs within 30 Days		35
Work Orders Completed within 24 hours		34,515
Preventive Maintenance (PMs)		19,069
PMs Completed as Scheduled		18,951

### 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.

Charlotte's Equipment Management Division is part of Business Support Services, which provides internal services to other city departments. Fleet maintenance is one of four sections within the Equipment Management Division. All activities for this operation were accounted for in the general fund.

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 2009–10: 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 64.73 technician FTEs were actually available for work during FY 2009–10 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, weed wackers, compressors, saws, blowers, fans, asphalt-tar/kettles, edgers, snow plows, spreaders, tamps, mixers, chippers, posthole diggers, grinders, pressure washers, and other city equipment.

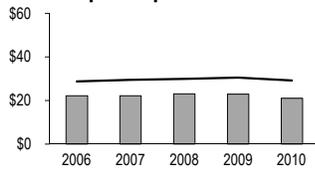
# Concord

# Fleet Maintenance

Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

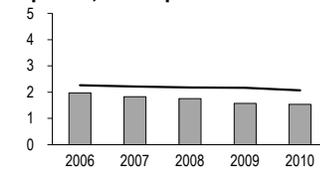
## RESOURCE Measures

**Fleet Maintenance Services Cost per Capita**



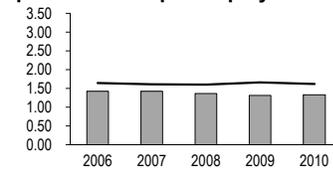
Year	2006	2007	2008	2009	2010
Concord	\$22.29	\$22.20	\$23.09	\$23.00	\$21.03
Average	\$28.79	\$29.47	\$30.01	\$30.60	\$29.17

**Fleet Maintenance FTEs per 10,000 Population**



Year	2006	2007	2008	2009	2010
Concord	1.97	1.83	1.76	1.57	1.54
Average	2.26	2.21	2.18	2.16	2.07

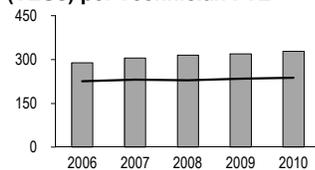
**Fleet Maintenance FTEs per 100 Municipal Employees**



Year	2006	2007	2008	2009	2010
Concord	1.43	1.42	1.36	1.31	1.33
Average	1.64	1.61	1.60	1.66	1.62

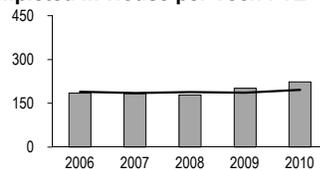
## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**



Year	2006	2007	2008	2009	2010
Concord	289	305	315	319	328
Average	226	232	229	235	238

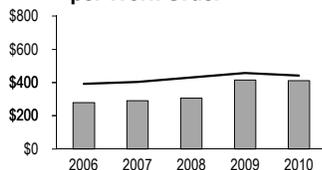
**Preventive Maintenances (PMs) Completed In-House per Tech FTE**



Year	2006	2007	2008	2009	2010
Concord	185	183	179	202	224
Average	189	185	188	186	196

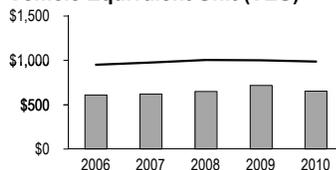
## EFFICIENCY Measures

**Fleet Maintenance Cost per Work Order**



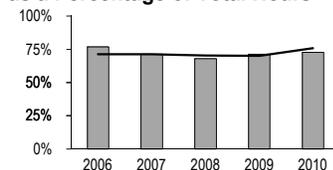
Year	2006	2007	2008	2009	2010
Concord	\$279	\$291	\$306	\$415	\$412
Average	\$393	\$404	\$431	\$457	\$443

**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**



Year	2006	2007	2008	2009	2010
Concord	\$611	\$621	\$651	\$717	\$652
Average	\$950	\$976	\$1,005	\$1,002	\$986

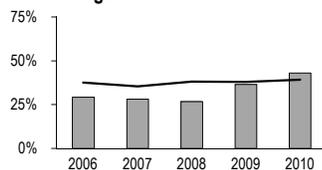
**Hours Billed as a Percentage of Total Hours**



Year	2006	2007	2008	2009	2010
Concord	77%	71%	68%	71%	73%
Average	71%	71%	70%	70%	76%

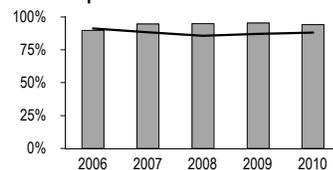
## EFFECTIVENESS Measures

**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



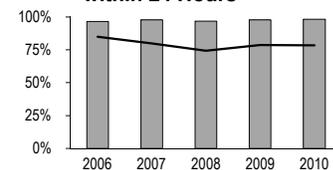
Year	2006	2007	2008	2009	2010
Concord	29%	28%	27%	37%	43%
Average	37%	35%	38%	38%	39%

**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



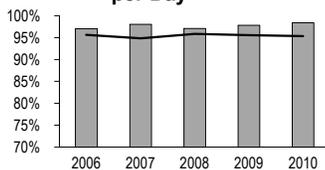
Year	2006	2007	2008	2009	2010
Concord	90%	95%	95%	95%	94%
Average	91%	88%	86%	87%	88%

**Percentage of Work Orders Completed within 24 Hours**



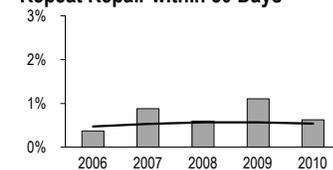
Year	2006	2007	2008	2009	2010
Concord	97%	98%	97%	98%	98%
Average	85%	80%	74%	79%	78%

**Percentage of Rolling Stock Available per Day**



Year	2006	2007	2008	2009	2010
Concord	97%	98%	97%	98%	98%
Average	96%	95%	96%	96%	95%

**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



Year	2006	2007	2008	2009	2010
Concord	0.38%	0.88%	0.60%	1.11%	0.63%
Average	0.48%	0.53%	0.57%	0.57%	0.54%

# Concord

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		81,370
Land Area (Square Miles)		59.59
Persons per Square Mile		1,365
County		Cabarrus
Topography		Flat; gently rolling
Climate		Mild; some ice
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	15	9.5 Years
Cars—Severe Usage	151	4.9 Years
Light Vehicles	232	7.0 Years
Medium Vehicles	51	7.6 Years
Heavy—Sanitation	13	5.2 Years
Heavy—Sewer	3	7.0 Years
Heavy—Fire Apparatus	25	9.6 Years
Heavy—Other	52	6.1 Years
Trailed Equipment	154	9.0 Years
Off-Road/Construction/Tractors	97	6.9 Years
Buses	15	6.4 Years
TOTAL	808	
Vehicle Equivalent Units (VEUs)		2,624
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		43.8%
Operating Costs		52.8%
Capital Costs		3.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	\$	748,646
Operating Costs	\$	903,026
Capital Costs	\$	59,337
TOTAL	\$	1,711,009
SERVICE PROFILE		
FTE Positions—Technician		8.0
FTE Positions—Other		4.5
Work Bays		8
Average Rolling Stock Units Available per Day		795
Hours Billed		11,210
Work Orders		4,154
Repeat Repairs within 30 Days		26
Work Orders Completed within 24 hours		4,088
Preventive Maintenance (PMs)		1,788
PMs Completed as Scheduled		1,687

### 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 5.51 times during the fiscal year.

The following services were contracted out during FY 2009–10:

- 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 7.40 technician FTEs were actually working during FY 2009–10 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, weed-eaters, chainsaws, chop saws, leaf blowers, tamps, pumps, power washers, and other city equipment.

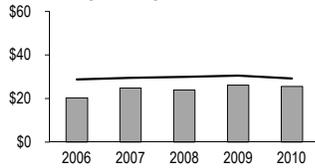
# Durham

# Fleet Maintenance

Key: Durham ■ Benchmarking Average — Fiscal Years 2006 through 2010

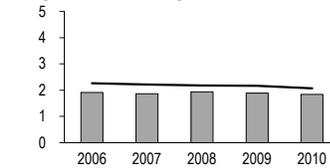
## RESOURCE Measures

**Fleet Maintenance Services Cost per Capita**



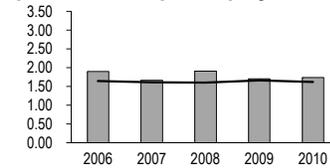
Year	Durham	Average
2006	\$20.37	\$28.79
2007	\$24.82	\$29.47
2008	\$24.05	\$30.01
2009	\$26.21	\$30.60
2010	\$25.64	\$29.17

**Fleet Maintenance FTEs per 10,000 Population**



Year	Durham	Average
2006	1.91	2.26
2007	1.86	2.21
2008	1.93	2.18
2009	1.88	2.16
2010	1.84	2.07

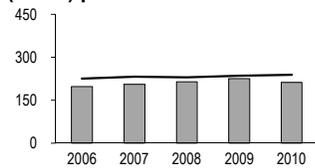
**Fleet Maintenance FTEs per 100 Municipal Employees**



Year	Durham	Average
2006	1.90	1.64
2007	1.66	1.61
2008	1.91	1.60
2009	1.70	1.66
2010	1.73	1.62

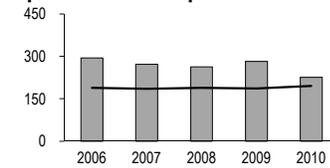
## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**



Year	Durham	Average
2006	197	226
2007	205	232
2008	214	229
2009	226	235
2010	212	238

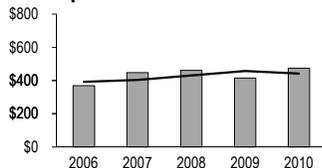
**Preventive Maintenances (PMs) Completed In-House per Tech FTE**



Year	Durham	Average
2006	295	189
2007	272	185
2008	263	188
2009	282	186
2010	226	196

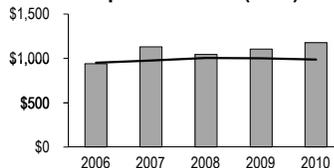
## EFFICIENCY Measures

**Fleet Maintenance Cost per Work Order**



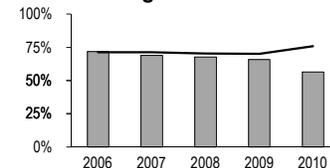
Year	Durham	Average
2006	\$370	\$393
2007	\$448	\$404
2008	\$461	\$431
2009	\$415	\$457
2010	\$475	\$443

**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**



Year	Durham	Average
2006	\$939	\$950
2007	\$1,129	\$976
2008	\$1,043	\$1,005
2009	\$1,106	\$1,002
2010	\$1,179	\$986

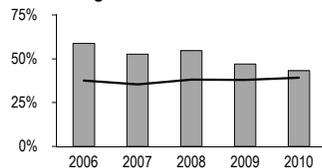
**Hours Billed as a Percentage of Total Hours**



Year	Durham	Average
2006	72%	71%
2007	69%	71%
2008	68%	70%
2009	66%	70%
2010	56%	76%

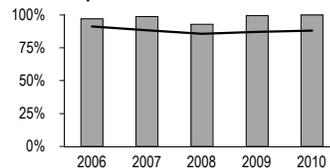
## EFFECTIVENESS Measures

**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



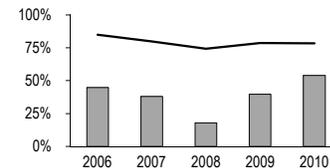
Year	Durham	Average
2006	59%	37%
2007	53%	35%
2008	55%	38%
2009	47%	38%
2010	43%	39%

**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



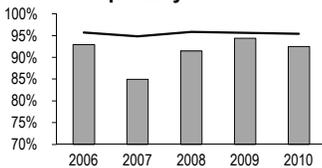
Year	Durham	Average
2006	97%	91%
2007	99%	88%
2008	93%	86%
2009	100%	87%
2010	100%	88%

**Percentage of Work Orders Completed within 24 Hours**



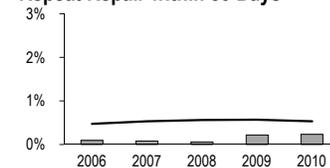
Year	Durham	Average
2006	45%	85%
2007	38%	80%
2008	18%	74%
2009	40%	79%
2010	54%	78%

**Percentage of Rolling Stock Available per Day**



Year	Durham	Average
2006	93%	96%
2007	85%	95%
2008	91%	96%
2009	94%	96%
2010	92%	95%

**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



Year	Durham	Average
2006	0.10%	0.48%
2007	0.08%	0.53%
2008	0.06%	0.57%
2009	0.22%	0.57%
2010	0.24%	0.54%

# Durham

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE	
Population (OSBM 2009)	234,140
Land Area (Square Miles)	105.59
Persons per Square Mile	2,217
County	Durham
Topography	Flat; gently rolling
Climate	Mild; some ice
Rolling Stock Maintained	No.      Average Age
Cars—Normal Usage	97          7.1 Years
Cars—Severe Usage	361         2.7 Years
Light Vehicles	411         5.0 Years
Medium Vehicles	64          4.9 Years
Heavy—Sanitation	77          3.4 Years
Heavy—Sewer	9          7.9 Years
Heavy—Fire Apparatus	31         9.1 Years
Heavy—Other	86          4.6 Years
Trailed Equipment	209        14.4 Years
Off-Road/Construction/Tractors	122        9.4 Years
Buses	9          4.7 Years
TOTAL	<u>1,476</u>
Vehicle Equivalent Units (VEUs)	5,092
FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	42.3%
Operating Costs	53.9%
Capital Costs	3.8%
TOTAL	<u>100.0%</u>
Cost Breakdown in Dollars	
Personal Services	\$ 2,540,660
Operating Costs	\$ 3,233,097
Capital Costs	\$ 229,959
TOTAL	<u>\$ 6,003,716</u>
SERVICE PROFILE	
FTE Positions—Technician	24.0
FTE Positions—Other	19.0
Work Bays	33
Average Rolling Stock Units Available per Day	1,365
Hours Billed	28,156
Work Orders	12,632
Repeat Repairs within 30 Days	30
Work Orders Completed within 24 hours	6,811
Preventive Maintenance (PMs)	5,457
PMs Completed as Scheduled	5,457

### EXPLANATORY INFORMATION

#### Service Level and Delivery

Fleet Maintenance is a division of Durham's General Services Department. All activities for this operation were accounted for through the general fund. No fees are charged for labor although the data is tracked. A 5 percent markup is added to all inside and outside parts issued to work orders to cover consummable items such as nuts, bolts, and light bulbs.

The following services were contracted out during FY 2009–10:

- paint and body
- transmission and engine overhauls
- glass repairs
- environmental cleanup and spills
- towing
- window tinting
- welding

#### 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 Durham the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month and by mileage parameters.

In addition to rolling stock, Durham's fleet services has maintenance responsibilities for tractors, mowers, generators, compressors, pumps, jack hammers, and other city equipment.

# Greensboro

# Fleet Maintenance

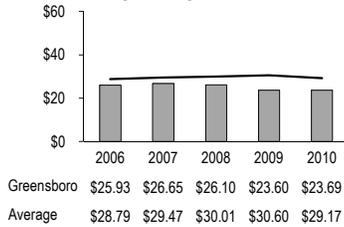
Key: Greensboro ■

Benchmarking Average —

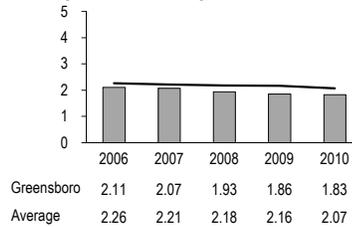
Fiscal Years 2006 through 2010

## RESOURCE Measures

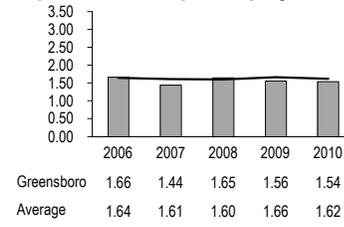
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

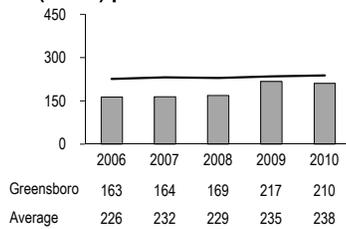


**Fleet Maintenance FTEs per 100 Municipal Employees**

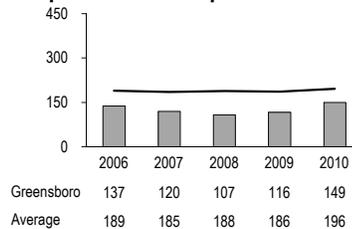


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

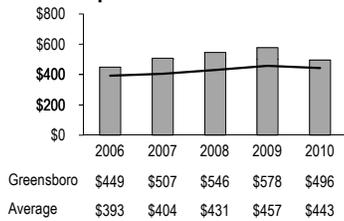


**Preventive Maintenance (PMs) Completed In-House per Tech FTE**

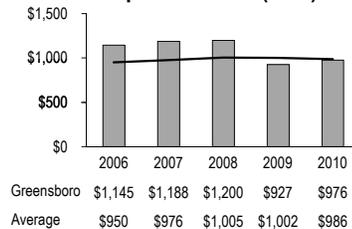


## EFFICIENCY Measures

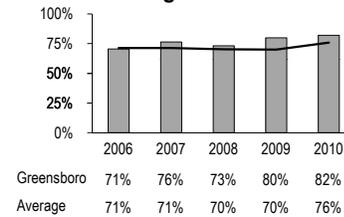
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

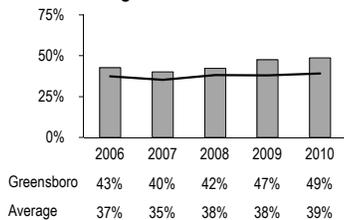


**Hours Billed as a Percentage of Total Hours**

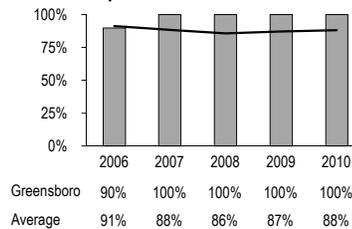


## EFFECTIVENESS Measures

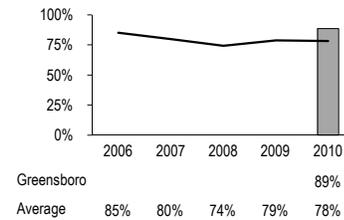
**Preventive Maintenance (PMs) as a Percentage of All Work Orders**



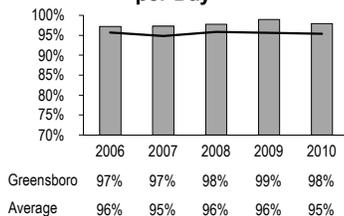
**Percentage of Preventive Maintenance (PMs) Completed as Scheduled**



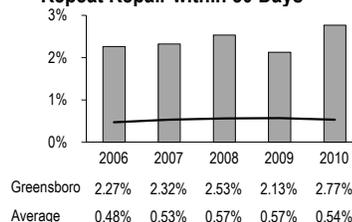
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# Greensboro

## Fleet Maintenance

## Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		268,283
Land Area (Square Miles)		127.75
Persons per Square Mile		2,100
County		Guilford
Topography		Flat; gently rolling
Climate		Temperate
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	181	5.0 Years
Cars—Severe Usage	309	3.0 Years
Light Vehicles	416	6.0 Years
Medium Vehicles	193	5.0 Years
Heavy—Sanitation	91	3.0 Years
Heavy—Sewer	7	4.0 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	43	6.0 Years
Trailed Equipment	187	7.0 Years
Off-Road/Construction/Tractors	534	7.0 Years
Buses	0	NA
TOTAL	1,961	
Vehicle Equivalent Units (VEUs)		6,513
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		48.5%
Operating Costs		51.5%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	\$	3,080,529
Operating Costs	\$	3,274,703
Capital Costs	\$	-
TOTAL	\$	6,355,232
SERVICE PROFILE		
FTE Positions—Technician		31.0
FTE Positions—Other		18.0
Work Bays		33
Average Rolling Stock Units Available per Day		1,920
Hours Billed		52,961
Work Orders		12,823
Repeat Repairs within 30 Days		355
Work Orders Completed within 24 hours		11,366
Preventive Maintenance (PMs)		6,242
PMs Completed as Scheduled		6,242

### 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 were 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 2009–10 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 2009–10:

- 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. Greensboro indicated 31 technician FTE positions were actually filled during FY 2009–10 for this calculation.

In Greensboro the preventive maintenance completion standard for "percentage of PMs completed as scheduled" uses mileage parameters and scheduled dates within the calendar month or within thirty days of schedule.

Number of repeat repairs within 30 days is tracked by the City fleet management software. This data reflects an inflated number of repeat repairs within 30 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 10-11 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.

The increase in rolling stock reflects vehicles maintained by the city and not just city owned equipment.

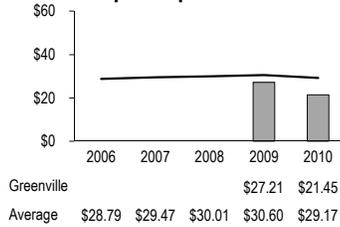
# Greenville

# Fleet Maintenance

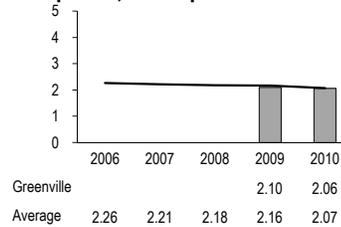
Key: Greenville ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

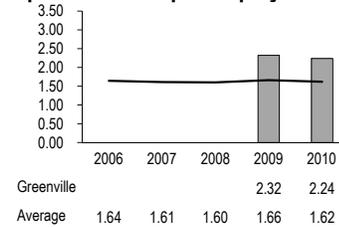
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

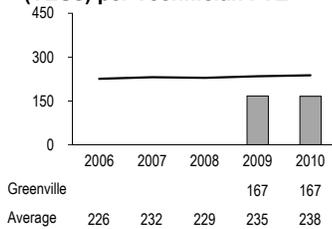


**Fleet Maintenance FTEs per 100 Municipal Employees**

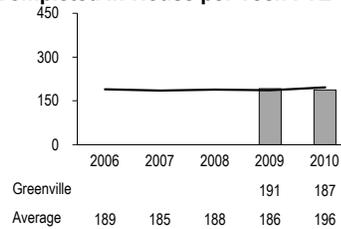


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

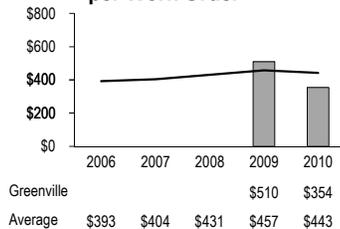


**Preventive Maintenance (PMs) Completed In-House per Tech FTE**

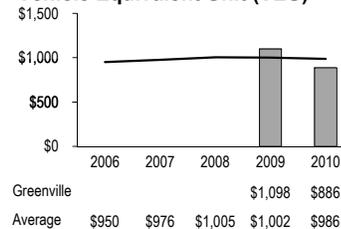


## EFFICIENCY Measures

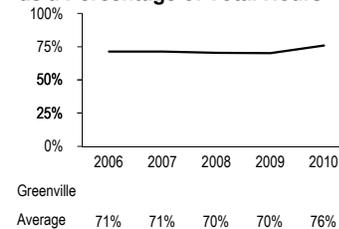
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

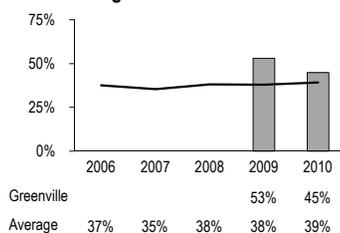


**Hours Billed as a Percentage of Total Hours**

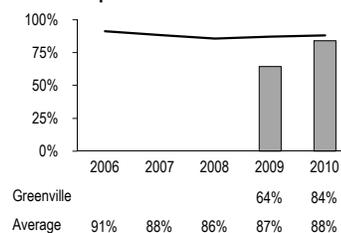


## EFFECTIVENESS Measures

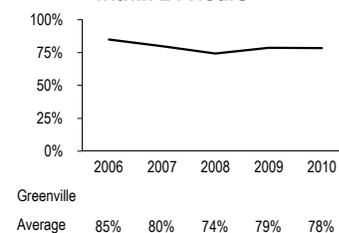
**Preventive Maintenance (PMs) as a Percentage of All Work Orders**



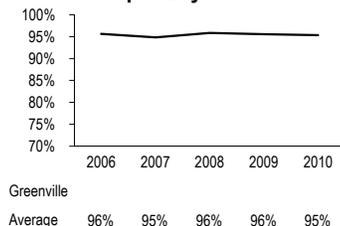
**Percentage of Preventive Maintenance (PMs) Completed as Scheduled**



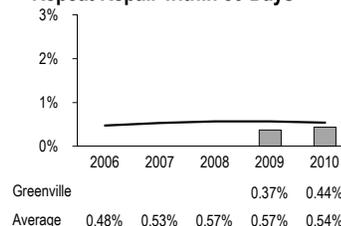
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# Greenville

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		82,571
Land Area (Square Miles)		35.01
Persons per Square Mile		2,358
County		Pitt
Topography		Flat
Climate		Mild
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	92	NA
Cars—Severe Usage	90	NA
Light Vehicles	130	NA
Medium Vehicles	23	6.3 Years
Heavy—Sanitation	40	7.3 Years
Heavy—Sewer	1	9.0 Years
Heavy—Fire Apparatus	13	11.0 Years
Heavy—Other	25	NA
Trailed Equipment	43	NA
Off-Road/Construction/Tractors	57	NA
Buses	11	5.2 Years
<b>TOTAL</b>	<b>525</b>	
Vehicle Equivalent Units (VEUs)		1,998
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		57.8%
Operating Costs		40.0%
Capital Costs		2.2%
<b>TOTAL</b>		<b>100.0%</b>
Cost Breakdown in Dollars		
Personal Services	\$	1,023,937
Operating Costs	\$	708,821
Capital Costs	\$	38,346
<b>TOTAL</b>	\$	<b>1,771,104</b>
SERVICE PROFILE		
FTE Positions—Technician		12.0
FTE Positions—Other		5.0
Work Bays		13
Average Rolling Stock Units Available per Day		NA
Hours Billed		NA
Work Orders		5,002
Repeat Repairs within 30 Days		22
Work Orders Completed within 24 hours		NA
Preventive Maintenance (PMs)		2,245
PMs Completed as Scheduled		1,886

### EXPLANATORY INFORMATION

#### Service Level and Delivery

The Fleet Division is a part of Greenville's Public Works Department. All activities for this operation were accounted for as part of the city's general fund.

The division charges the Transit and Sanitation Departments a \$42.83 per hour labor rate for maintenance services and has no markup on parts or sublet work.

The following services were contracted out for FY 2009–10:

- 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 with the first year of reporting 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, lawn mowers, blowers, weed-eaters, 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

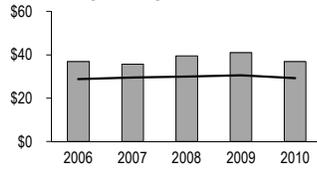
Key: Hickory ■

Benchmarking Average —

Fiscal Years 2006 through 2010

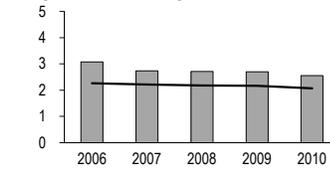
## RESOURCE Measures

**Fleet Maintenance Services Cost per Capita**



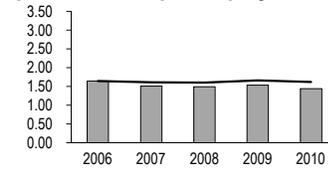
Year	Hickory	Average
2006	\$36.84	\$28.79
2007	\$35.62	\$29.47
2008	\$39.49	\$30.01
2009	\$40.89	\$30.60
2010	\$36.82	\$29.17

**Fleet Maintenance FTEs per 10,000 Population**



Year	Hickory	Average
2006	3.08	2.26
2007	2.74	2.21
2008	2.71	2.18
2009	2.70	2.16
2010	2.55	2.07

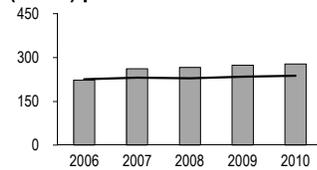
**Fleet Maintenance FTEs per 100 Municipal Employees**



Year	Hickory	Average
2006	1.64	1.64
2007	1.51	1.61
2008	1.49	1.60
2009	1.54	1.66
2010	1.44	1.62

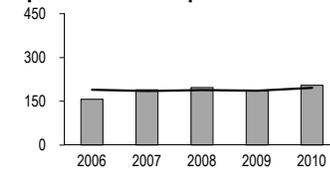
## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**



Year	Hickory	Average
2006	222	226
2007	262	232
2008	266	229
2009	273	235
2010	278	238

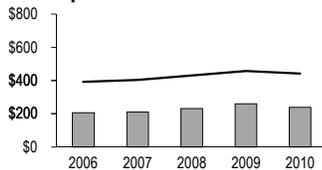
**Preventive Maintenance (PMs) Completed In-House per Tech FTE**



Year	Hickory	Average
2006	157	189
2007	190	185
2008	197	188
2009	185	186
2010	204	196

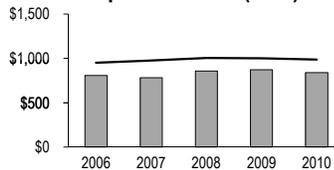
## EFFICIENCY Measures

**Fleet Maintenance Cost per Work Order**



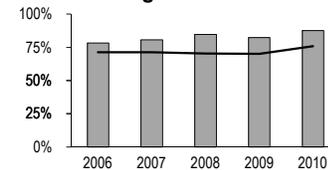
Year	Hickory	Average
2006	\$205	\$393
2007	\$210	\$404
2008	\$230	\$431
2009	\$259	\$457
2010	\$239	\$443

**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**



Year	Hickory	Average
2006	\$808	\$950
2007	\$782	\$976
2008	\$859	\$1,005
2009	\$871	\$1,002
2010	\$838	\$986

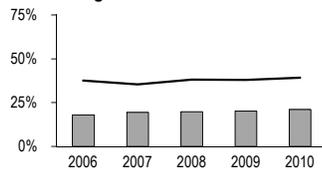
**Hours Billed as a Percentage of Total Hours**



Year	Hickory	Average
2006	78%	71%
2007	81%	71%
2008	85%	70%
2009	82%	70%
2010	88%	76%

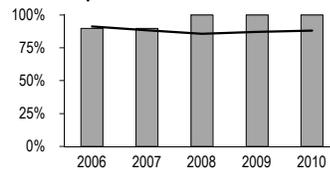
## EFFECTIVENESS Measures

**Preventive Maintenance (PMs) as a Percentage of All Work Orders**



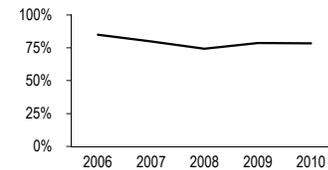
Year	Hickory	Average
2006	18%	37%
2007	19%	35%
2008	20%	38%
2009	20%	38%
2010	21%	39%

**Percentage of Preventive Maintenance (PMs) Completed as Scheduled**



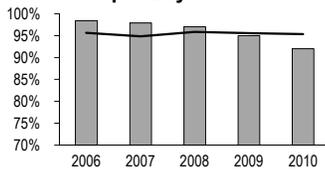
Year	Hickory	Average
2006	90%	91%
2007	90%	88%
2008	100%	86%
2009	100%	87%
2010	100%	88%

**Percentage of Work Orders Completed within 24 Hours**



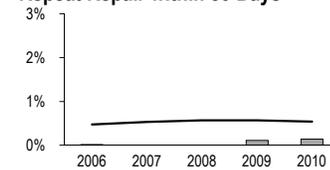
Year	Hickory	Average
2006	85%	85%
2007	80%	80%
2008	74%	74%
2009	79%	79%
2010	78%	78%

**Percentage of Rolling Stock Available per Day**



Year	Hickory	Average
2006	98%	96%
2007	98%	95%
2008	97%	96%
2009	95%	96%
2010	92%	95%

**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



Year	Hickory	Average
2006	0.01%	0.48%
2007	0.01%	0.53%
2008	0.11%	0.57%
2009	0.14%	0.57%
2010	0.14%	0.54%

# Hickory

## Fleet Maintenance

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION		
Population (OSBM 2009)	41,151	<b>Service Level and Delivery</b> 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 were accounted for in an internal service fund.		
Land Area (Square Miles)	29.28			
Persons per Square Mile	1,405			
County	Catawba	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.		
Topography	Gently rolling			
Climate	Moderate			
Rolling Stock Maintained	No.	Average Age	The following services were contracted out for FY 2009–10: <ul style="list-style-type: none"> <li>• alignments</li> <li>• body work</li> <li>• large wrecker service</li> <li>• special machine work</li> <li>• starter/alternator repair</li> <li>• glass repair or replacement</li> <li>• transmission repairs</li> </ul> <b>Conditions Affecting Service, Performance, and Costs</b> 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.	
Cars—Normal Usage	25	7.9 Years		
Cars—Severe Usage	143	5.7 Years		
Light Vehicles	105	7.8 Years		
Medium Vehicles	29	15.1 Years		
Heavy—Sanitation	26	8.9 Years		
Heavy—Sewer	5	9.8 Years		
Heavy—Fire Apparatus	0	NA		
Heavy—Other	23	11.8 Years		
Trailed Equipment	49	12.3 Years		
Off-Road/Construction/Tractors	122	14.3 Years		
Buses	0	NA		
TOTAL	527			
Vehicle Equivalent Units (VEUs)	1,808			
<b>FULL COST PROFILE</b>				
Cost Breakdown by Percentage			In Hickory the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date.	
Personal Services	42.0%			
Operating Costs	53.4%			
Capital Costs	4.5%		In addition to rolling stock, Hickory's fleet services has maintenance responsibilities for electronic signs, saws, weed eaters, 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.	
TOTAL	100.0%			
<b>COST BREAKDOWN IN DOLLARS</b>				
Personal Services	\$ 636,879		<b>SERVICE PROFILE</b>	
Operating Costs	\$ 809,727			
Capital Costs	\$ 68,490			
TOTAL	\$ 1,515,096		FTE Positions—Technician 6.5 FTE Positions—Other 4.0  Work Bays 14  Average Rolling Stock Units Available per Day 485  Hours Billed 11,832  Work Orders 6,331 Repeat Repairs within 30 Days 9 Work Orders Completed within 24 hours NA  Preventive Maintenance (PMs) 1,329 PMs Completed as Scheduled 1,329	
FTE Positions—Technician	6.5			
FTE Positions—Other	4.0			
Work Bays	14			
Average Rolling Stock Units Available per Day	485			
Hours Billed	11,832			
Work Orders	6,331			
Repeat Repairs within 30 Days	9			
Work Orders Completed within 24 hours	NA			
Preventive Maintenance (PMs)	1,329			
PMs Completed as Scheduled	1,329			

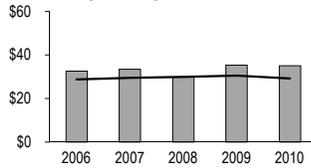
# High Point

# Fleet Maintenance

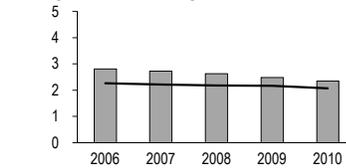
Key: High Point ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

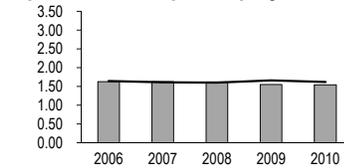
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

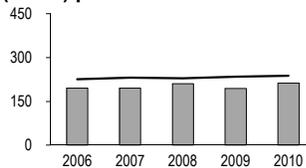


**Fleet Maintenance FTEs per 100 Municipal Employees**

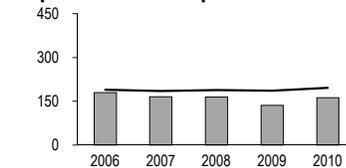


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

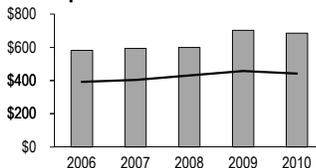


**Preventive Maintenances (PMs) Completed In-House per Tech FTE**

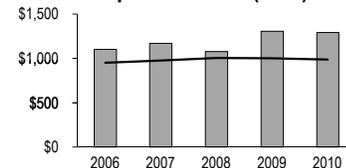


## EFFICIENCY Measures

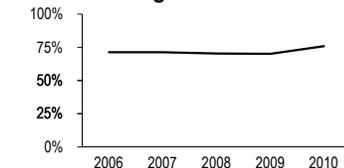
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

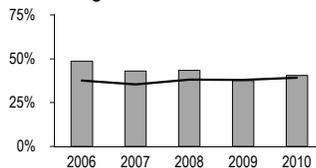


**Hours Billed as a Percentage of Total Hours**

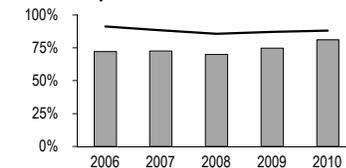


## EFFECTIVENESS Measures

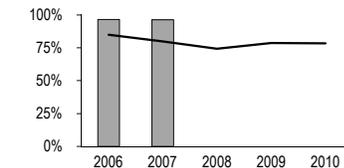
**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



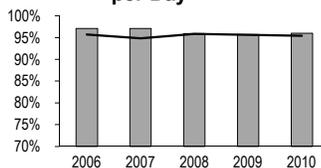
**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



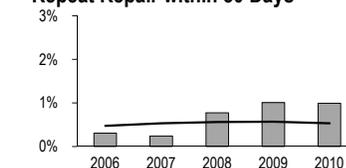
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# High Point

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		102,216
Land Area (Square Miles)		54.05
Persons per Square Mile		1,891
County		Guilford
Topography		Flat; gently rolling
Climate		Temperate
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	78	8.0 Years
Cars—Severe Usage	191	6.0 Years
Light Vehicles	235	8.0 Years
Medium Vehicles	61	10.0 Years
Heavy—Sanitation	27	8.0 Years
Heavy—Sewer	4	7.0 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	45	10.0 Years
Trailed Equipment	119	10.0 Years
Off-Road/Construction/Tractors	171	10.0 Years
Buses	0	NA
<b>TOTAL</b>	<b>931</b>	
Vehicle Equivalent Units (VEUs)		2,770
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		41.0%
Operating Costs		55.7%
Capital Costs		3.3%
<b>TOTAL</b>		<b>100.0%</b>
Cost Breakdown in Dollars		
Personal Services	\$	1,466,139
Operating Costs	\$	1,993,256
Capital Costs	\$	119,785
<b>TOTAL</b>	<b>\$</b>	<b>3,579,180</b>
SERVICE PROFILE		
FTE Positions—Technician		13.0
FTE Positions—Other		11.0
Work Bays		18
Average Rolling Stock Units Available per Day		894
Hours Billed		18,720
Work Orders		5,220
Repeat Repairs within 30 Days		52
Work Orders Completed within 24 hours		NA
Preventive Maintenance (PMs)		2,109
PMs Completed as Scheduled		1,709

### 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.

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 2009–10:

- 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.

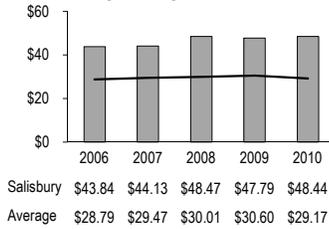
# Salisbury

# Fleet Maintenance

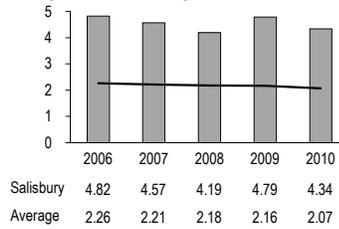
Key: Salisbury ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

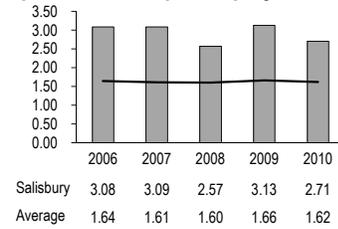
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

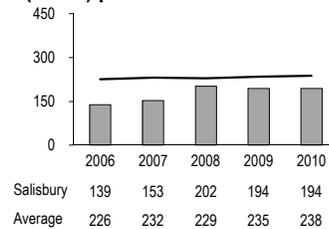


**Fleet Maintenance FTEs per 100 Municipal Employees**

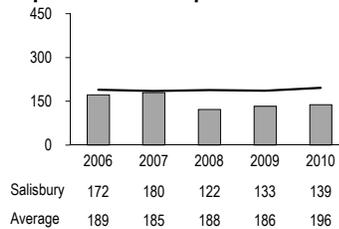


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

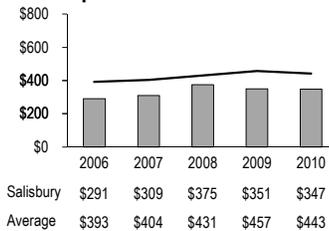


**Preventive Maintenance (PMs) Completed In-House per Tech FTE**

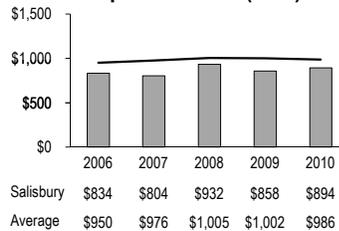


## EFFICIENCY Measures

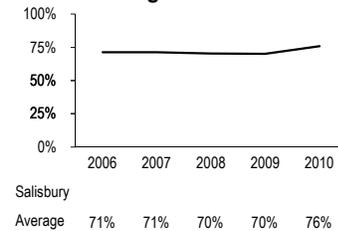
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

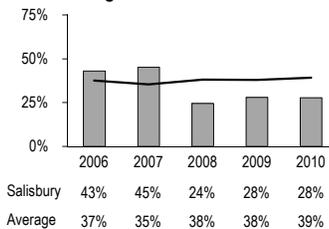


**Hours Billed as a Percentage of Total Hours**

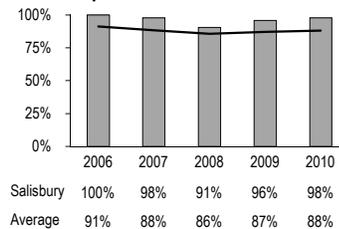


## EFFECTIVENESS Measures

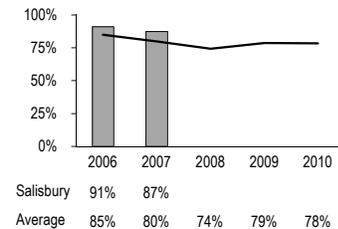
**Preventive Maintenance (PMs) as a Percentage of All Work Orders**



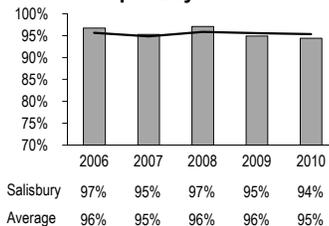
**Percentage of Preventive Maintenance (PMs) Completed as Scheduled**



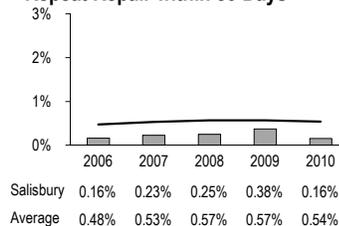
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# Salisbury

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		32,263
Land Area (Square Miles)		21.93
Persons per Square Mile		1,471
County		Rowan
Topography		Gently rolling
Climate		Moderate
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	6	9.7 Years
Cars—Severe Usage	95	4.3 Years
Light Vehicles	166	7.2 Years
Medium Vehicles	25	7.1 Years
Heavy—Sanitation	11	6.6 Years
Heavy—Sewer	3	6.3 Years
Heavy—Fire Apparatus	14	17.5 Years
Heavy—Other	28	11.1 Years
Trailed Equipment	88	13.5 Years
Off-Road/Construction/Tractors	87	10.7 Years
Buses	10	12.0 Years
TOTAL	533	
Vehicle Equivalent Units (VEUs)		1,748
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		45.9%
Operating Costs		50.2%
Capital Costs		3.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	\$	716,981
Operating Costs	\$	784,939
Capital Costs	\$	60,857
TOTAL	\$	1,562,777
SERVICE PROFILE		
FTE Positions—Technician		9.0
FTE Positions—Other		5.0
Work Bays		14
Average Rolling Stock Units Available per Day		503
Hours Billed		NA
Work Orders		4,500
Repeat Repairs within 30 Days		7
Work Orders Completed within 24 hours		NA
Preventive Maintenance (PMs)		1,247
PMs Completed as Scheduled		1,221

### 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 were 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 2009–10:

- 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, weed-wackers, 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.

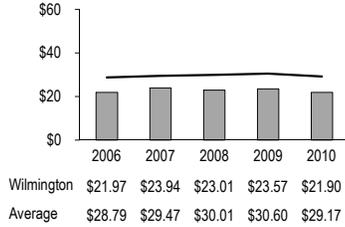
# Wilmington

# Fleet Maintenance

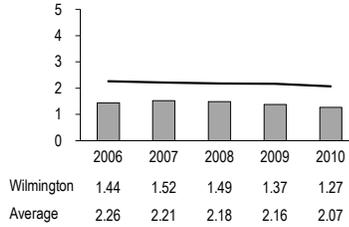
Key: Wilmington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

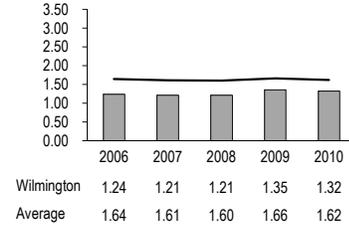
**Fleet Maintenance Services Cost per Capita**



**Fleet Maintenance FTEs per 10,000 Population**

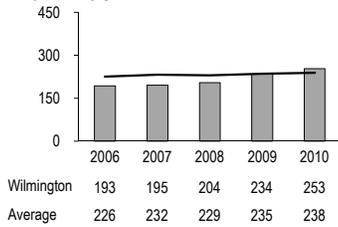


**Fleet Maintenance FTEs per 100 Municipal Employees**

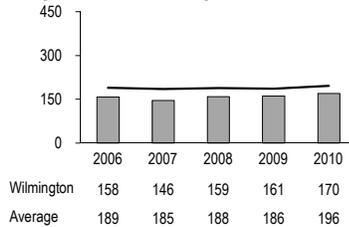


## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**

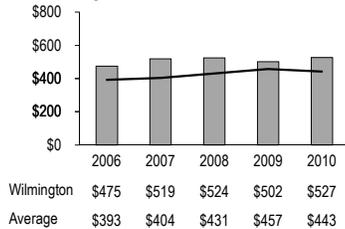


**Preventive Maintenances (PMs) Completed In-House per Tech FTE**

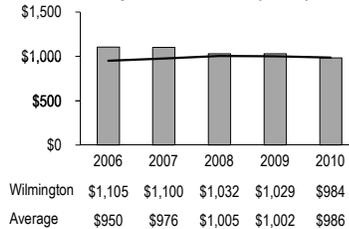


## EFFICIENCY Measures

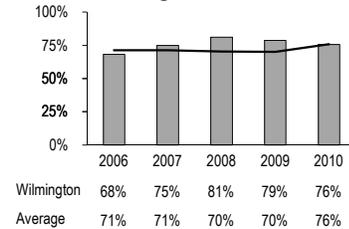
**Fleet Maintenance Cost per Work Order**



**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**

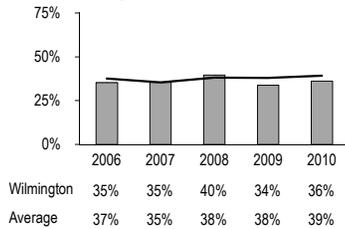


**Hours Billed as a Percentage of Total Hours**

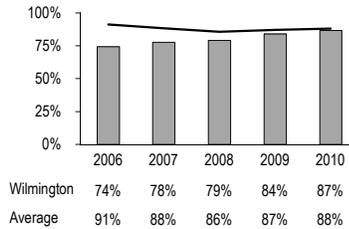


## EFFECTIVENESS Measures

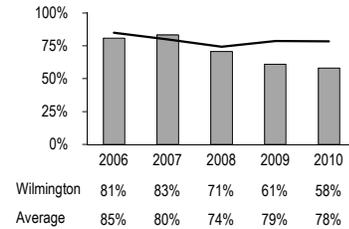
**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



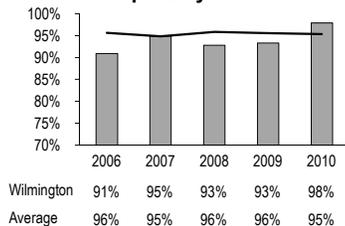
**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



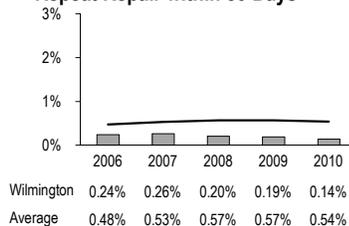
**Percentage of Work Orders Completed within 24 Hours**



**Percentage of Rolling Stock Available per Day**



**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



# Wilmington

## Fleet Maintenance

### Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		102,207
Land Area (Square Miles)		51.55
Persons per Square Mile		1,983
County	New Hanover	
Topography	Flat; coastal plain	
Climate	Mild	
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	119	5.5 Years
Cars—Severe Usage	175	3.7 Years
Light Vehicles	214	7.7 Years
Medium Vehicles	60	9.5 Years
Heavy—Sanitation	34	6.4 Years
Heavy—Sewer	9	5.1 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	22	6.4 Years
Trailed Equipment	27	9.2 Years
Off-Road/Construction/Tractors	68	8.0 Years
Buses	2	3.3 Years
<b>TOTAL</b>	<b>730</b>	
Vehicle Equivalent Units (VEUs)		2,274

FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		33.1%
Operating Costs		62.8%
Capital Costs		4.0%
<b>TOTAL</b>		<b>100.0%</b>

Cost Breakdown in Dollars		
Personal Services	\$	740,938
Operating Costs	\$	1,406,640
Capital Costs	\$	90,554
<b>TOTAL</b>	<b>\$</b>	<b>2,238,132</b>

SERVICE PROFILE		
FTE Positions—Technician		9.0
FTE Positions—Other		4.0
Work Bays		20
Average Rolling Stock Units Available per Day		715
Hours Billed		14,158
Work Orders		4,249
Repeat Repairs within 30 Days		6
Work Orders Completed within 24 hours		2,471
Preventive Maintenance (PMs)		1,533
PMs Completed as Scheduled		1,329

### 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 ten percent markup for special order parts sold but no markup for other parts or sublet work.

The following services were contracted out during FY 2009–10:

- wrecker service
- body repairs
- transmission 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 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 2009–10 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 2009–10.

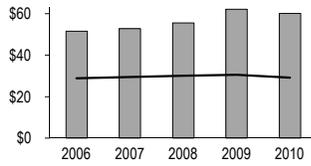
# Wilson

# Fleet Maintenance

Key: Wilson ■ Benchmarking Average — Fiscal Years 2006 through 2010

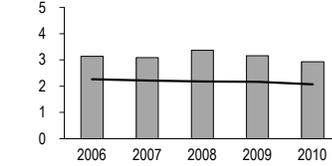
## RESOURCE Measures

**Fleet Maintenance Services Cost per Capita**



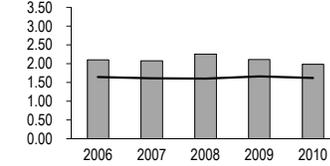
Year	Wilson	Average
2006	\$51.55	\$28.79
2007	\$52.74	\$29.47
2008	\$55.50	\$30.01
2009	\$62.10	\$30.60
2010	\$60.19	\$29.17

**Fleet Maintenance FTEs per 10,000 Population**



Year	Wilson	Average
2006	3.14	2.26
2007	3.09	2.21
2008	3.36	2.18
2009	3.16	2.16
2010	2.93	2.07

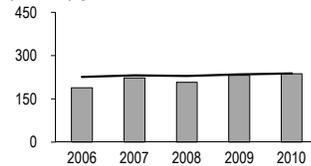
**Fleet Maintenance FTEs per 100 Municipal Employees**



Year	Wilson	Average
2006	2.10	1.64
2007	2.07	1.61
2008	2.26	1.60
2009	2.11	1.66
2010	1.98	1.62

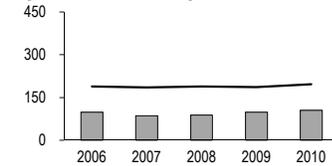
## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**



Year	Wilson	Average
2006	189	226
2007	223	232
2008	207	229
2009	231	235
2010	236	238

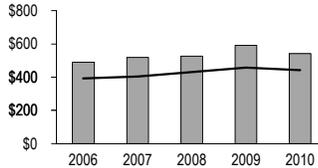
**Preventive Maintenances (PMs) Completed In-House per Tech FTE**



Year	Wilson	Average
2006	98	189
2007	86	185
2008	88	188
2009	98	186
2010	105	196

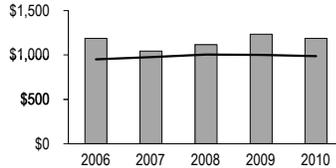
## EFFICIENCY Measures

**Fleet Maintenance Cost per Work Order**



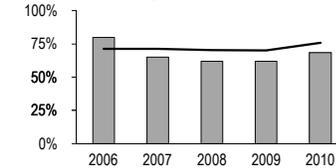
Year	Wilson	Average
2006	\$491	\$393
2007	\$520	\$404
2008	\$527	\$431
2009	\$592	\$457
2010	\$542	\$443

**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**



Year	Wilson	Average
2006	\$1,187	\$950
2007	\$1,044	\$976
2008	\$1,117	\$1,005
2009	\$1,236	\$1,002
2010	\$1,187	\$986

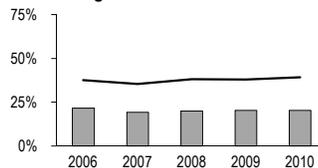
**Hours Billed as a Percentage of Total Hours**



Year	Wilson	Average
2006	80%	71%
2007	65%	71%
2008	62%	70%
2009	62%	70%
2010	68%	76%

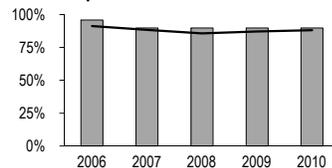
## EFFECTIVENESS Measures

**Preventive Maintenances (PMs) as a Percentage of All Work Orders**



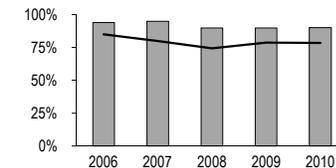
Year	Wilson	Average
2006	21%	37%
2007	19%	35%
2008	20%	38%
2009	20%	38%
2010	20%	39%

**Percentage of Preventive Maintenances (PMs) Completed as Scheduled**



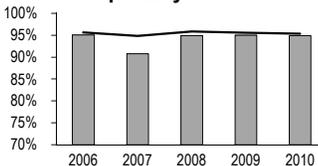
Year	Wilson	Average
2006	96%	91%
2007	90%	88%
2008	90%	86%
2009	90%	87%
2010	90%	88%

**Percentage of Work Orders Completed within 24 Hours**



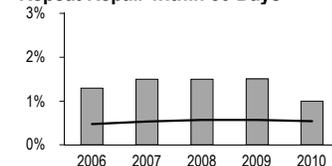
Year	Wilson	Average
2006	94%	85%
2007	95%	80%
2008	90%	74%
2009	90%	79%
2010	90%	78%

**Percentage of Rolling Stock Available per Day**



Year	Wilson	Average
2006	95%	96%
2007	91%	95%
2008	95%	96%
2009	95%	96%
2010	95%	95%

**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



Year	Wilson	Average
2006	1.29%	0.48%
2007	1.50%	0.53%
2008	1.50%	0.57%
2009	1.50%	0.57%
2010	1.00%	0.54%

# Wilson

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE			EXPLANATORY INFORMATION	
Population (OSBM 2009)		51,274	<b>Service Level and Delivery</b> Fleet maintenance is a division housed within the Department of Public Services. All activities in this operation were accounted for in the general fund.	
Land Area (Square Miles)		29.02		
Persons per Square Mile		1,767		
County		Wilson	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.	
Topography		Flat		
Climate		Mild		
Rolling Stock Maintained	No.	Average Age	The following services were contracted out during FY 2009–10: <ul style="list-style-type: none"> <li>• body repairs</li> <li>• paint work</li> <li>• wrecker service</li> <li>• radiator repairs</li> <li>• alignment</li> <li>• muffler repairs</li> </ul> In addition to rolling stock, Wilson's fleet services has maintenance responsibilities for generators, mowers, tamps, leaf machines, water pumps, and other city equipment.	
Cars—Normal Usage	31	8.6 Years		
Cars—Severe Usage	114	6.0 Years		
Light Vehicles	171	6.8 Years		
Medium Vehicles	36	8.4 Years		
Heavy—Sanitation	31	6.0 Years		
Heavy—Sewer	6	14.2 Years		
Heavy—Fire Apparatus	10	11.6 Years		
Heavy—Other	62	9.5 Years		
Trailed Equipment	137	8.0 Years		
Off-Road/Construction/Tractors	147	8.2 Years		
Buses	7	5.2 Years		
TOTAL	752			
Vehicle Equivalent Units (VEUs)		2,601		
<b>FULL COST PROFILE</b>				
Cost Breakdown by Percentage				
Personal Services		33.0%		
Operating Costs		62.2%		
Capital Costs		4.7%		
TOTAL		100.0%		
Cost Breakdown in Dollars				
Personal Services	\$	1,019,962		
Operating Costs	\$	1,919,839		
Capital Costs	\$	146,590		
TOTAL	\$	3,086,391		
<b>SERVICE PROFILE</b>				
FTE Positions—Technician		11.0		
FTE Positions—Other		4.0		
Work Bays		15		
Average Rolling Stock Units Available per Day		714		
Hours Billed		15,653		
Work Orders		5,695		
Repeat Repairs within 30 Days		57		
Work Orders Completed within 24 hours		5,126		
Preventive Maintenance (PMs)		1,152		
PMs Completed as Scheduled		1,036		

# Winston-Salem

# Fleet Maintenance

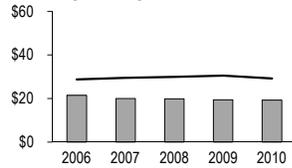
Key: Winston-Salem ■

Benchmarking Average —

Fiscal Years 2006 through 2010

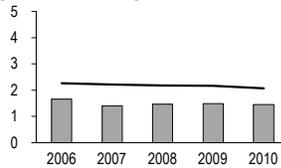
## RESOURCE Measures

**Fleet Maintenance Services Cost per Capita**



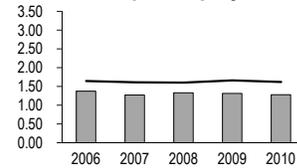
Year	Winston-Salem	Average
2006	\$21.43	\$28.79
2007	\$20.02	\$29.47
2008	\$19.89	\$30.01
2009	\$19.50	\$30.60
2010	\$19.37	\$29.17

**Fleet Maintenance FTEs per 10,000 Population**



Year	Winston-Salem	Average
2006	1.66	2.26
2007	1.40	2.21
2008	1.47	2.18
2009	1.49	2.16
2010	1.45	2.07

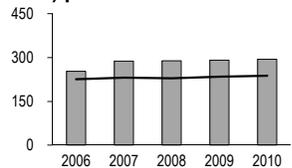
**Fleet Maintenance FTEs per 100 Municipal Employees**



Year	Winston-Salem	Average
2006	1.37	1.64
2007	1.27	1.61
2008	1.33	1.60
2009	1.31	1.66
2010	1.28	1.62

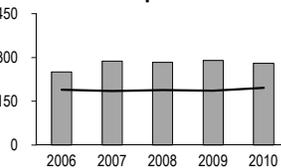
## WORKLOAD Measures

**Number of Vehicle Equivalent Units (VEUs) per Technician FTE**



Year	Winston-Salem	Average
2006	253	226
2007	288	232
2008	289	229
2009	291	235
2010	294	238

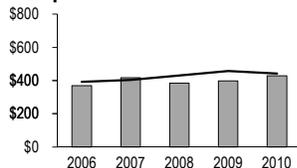
**Preventive Maintenance (PMs) Completed In-House per Tech FTE**



Year	Winston-Salem	Average
2006	251	189
2007	287	185
2008	283	188
2009	290	186
2010	280	196

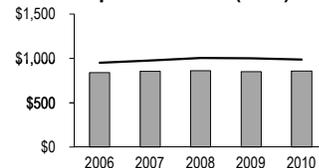
## EFFICIENCY Measures

**Fleet Maintenance Cost per Work Order**



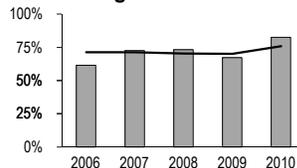
Year	Winston-Salem	Average
2006	\$370	\$393
2007	\$418	\$404
2008	\$385	\$431
2009	\$397	\$457
2010	\$428	\$443

**Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)**



Year	Winston-Salem	Average
2006	\$840	\$950
2007	\$854	\$976
2008	\$861	\$1,005
2009	\$849	\$1,002
2010	\$859	\$986

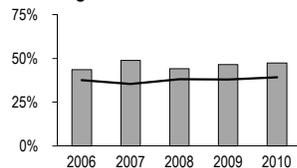
**Hours Billed as a Percentage of Total Hours**



Year	Winston-Salem	Average
2006	62%	71%
2007	73%	71%
2008	73%	70%
2009	67%	70%
2010	82%	76%

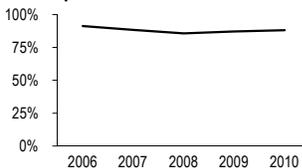
## EFFECTIVENESS Measures

**Preventive Maintenance (PMs) as a Percentage of All Work Orders**



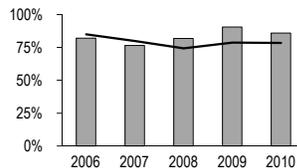
Year	Winston-Salem	Average
2006	44%	37%
2007	49%	35%
2008	44%	38%
2009	47%	38%
2010	47%	39%

**Percentage of Preventive Maintenance (PMs) Completed as Scheduled**



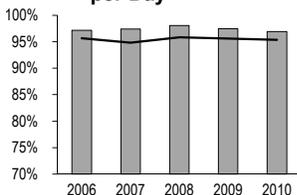
Year	Winston-Salem	Average
2006	91%	91%
2007	88%	88%
2008	86%	86%
2009	87%	87%
2010	88%	88%

**Percentage of Work Orders Completed within 24 Hours**



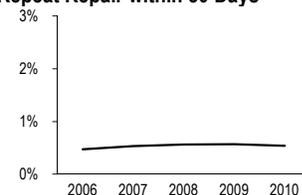
Year	Winston-Salem	Average
2006	82%	85%
2007	77%	80%
2008	82%	74%
2009	91%	79%
2010	86%	78%

**Percentage of Rolling Stock Available per Day**



Year	Winston-Salem	Average
2006	97%	96%
2007	97%	95%
2008	98%	96%
2009	97%	96%
2010	97%	95%

**Percentage of Work Orders Requiring Repeat Repair within 30 Days**



Year	Winston-Salem	Average
2006	0.48%	0.48%
2007	0.53%	0.53%
2008	0.57%	0.57%
2009	0.57%	0.57%
2010	0.54%	0.54%

# Winston-Salem

## Fleet Maintenance Fiscal Year 2009–10

MUNICIPAL PROFILE		
Population (OSBM 2009)		235,075
Land Area (Square Miles)		133.19
Persons per Square Mile		1,765
County		Forsyth
Topography		Gently rolling
Climate		Moderate
Rolling Stock Maintained	No.	Average Age
Cars—Normal Usage	260	6.6 Years
Cars—Severe Usage	436	5.3 Years
Light Vehicles	430	6.9 Years
Medium Vehicles	123	9.3 Years
Heavy—Sanitation	66	8.3 Years
Heavy—Sewer	7	10.3 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	53	7.0 Years
Trailed Equipment	133	14.6 Years
Off-Road/Construction/Tractors	270	11.1 Years
Buses	0	NA
<b>TOTAL</b>	<b>1,778</b>	
Vehicle Equivalent Units (VEUs)		5,300
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services		34.5%
Operating Costs		63.1%
Capital Costs		2.4%
<b>TOTAL</b>		<b>100.0%</b>
Cost Breakdown in Dollars		
Personal Services	\$	1,568,979
Operating Costs	\$	2,872,729
Capital Costs	\$	110,534
<b>TOTAL</b>	<b>\$</b>	<b>4,552,242</b>
SERVICE PROFILE		
FTE Positions—Technician		18.0
FTE Positions—Other		16.0
Work Bays		31
Average Rolling Stock Units Available per Day		1,724
Hours Billed		25,734
Work Orders		10,633
Repeat Repairs within 30 Days		NA
Work Orders Completed within 24 hours		9,144
Preventive Maintenance (PMs)		5,042
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 were accounted for in the general 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 2009–10:

- body work
- welding
- hydraulic cylinder and pump repair
- glass repair
- towing
- transmission repair

In addition to rolling stock, Winston-Salem's Fleet Services has maintenance responsibilities for mowers, weed-eaters, 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.







# Performance and Cost Data

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CENTRAL HUMAN RESOURCES

## 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 ended 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
Asheville	1,173	8.9	172	6,152	330	6 months	13.8%	14.2
Burlington	850	7.7	32	1,288	20	6 & 12 months	10.0%	4.0
Cary	1,163	9.3	111	5,579	122	6 & 12 months	5.0%	12.3
Charlotte	6,828	10.4	406	61,123	2,000	6 & 12 months	5.8%	32.8
Concord	939	9.6	44	2,748	na	6 & 12 months	7.1%	6.5
Durham	2,480	8.3	295	16,492	700	6 months	7.2%	19.0
Greensboro	3,186	11.6	198	7,317	1,100	6 & 12 months	5.6%	30.0
Greenville	759	10.0	62	7,210	160	6 & 12 months	5.7%	9.0
Hickory	729	9.0	24	2,001	58	12 months	8.1%	4.6
High Point	1,560	10.3	261	733	98	12 months	5.9%	12.5
Salisbury	517	10.4	36	3,469	38	6 months	6.8%	6.0
Wilmington	982	8.9	142	3,057	105	12 & 18 months	7.1%	8.0
Wilson	757	9.7	62	2,833	306	12 months	8.5%	6.0
Winston-Salem	2,665	11.0	135	20,315	73	None	7.6%	12.0

### 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

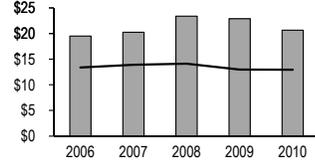
# Asheville

# Central Human Resources

Key: Asheville ■ Benchmarking Average — Fiscal Years 2006 through 2010

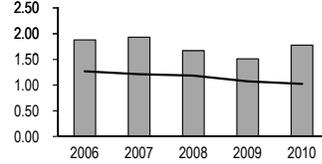
## RESOURCE Measures

**Human Resources Services Cost per Capita**



Year	Asheville	Average
2006	\$19.53	\$13.38
2007	\$20.28	\$13.90
2008	\$23.39	\$14.12
2009	\$22.89	\$12.97
2010	\$20.68	\$12.93

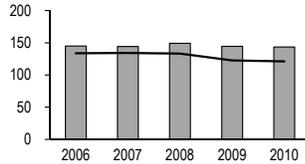
**Human Resources FTEs per 10,000 Population**



Year	Asheville	Average
2006	1.88	1.27
2007	1.93	1.21
2008	1.67	1.18
2009	1.51	1.07
2010	1.78	1.02

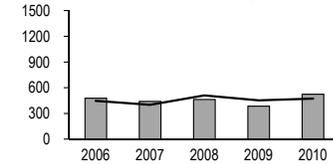
## WORKLOAD Measures

**Total Municipal FTEs per 10,000 Population**



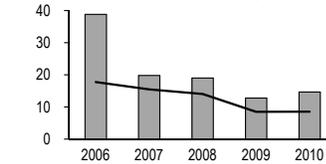
Year	Asheville	Average
2006	145	134
2007	144	134
2008	149	133
2009	145	123
2010	144	121

**Applications Processed per 100 Municipal Employees**



Year	Asheville	Average
2006	478	448
2007	440	401
2008	463	510
2009	386	452
2010	524	473

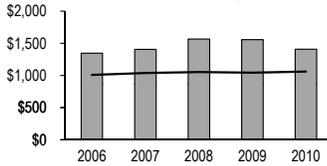
**Position Requisitions per 100 Municipal Employees**



Year	Asheville	Average
2006	38.8	17.7
2007	19.8	15.5
2008	19.0	14.0
2009	12.8	8.5
2010	14.7	8.5

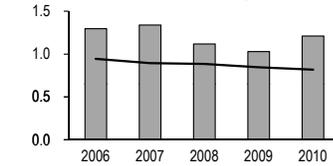
## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**



Year	Asheville	Average
2006	\$1,347	\$1,008
2007	\$1,406	\$1,039
2008	\$1,567	\$1,054
2009	\$1,557	\$1,045
2010	\$1,410	\$1,061

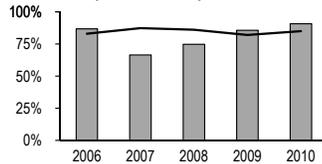
**Ratio of Human Resources Staff to 100 Municipal Employees**



Year	Asheville	Average
2006	1.30	0.95
2007	1.34	0.89
2008	1.12	0.88
2009	1.03	0.85
2010	1.21	0.82

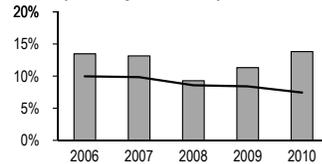
## EFFECTIVENESS Measures

**Probationary Period Completion Rate (New Hires)**



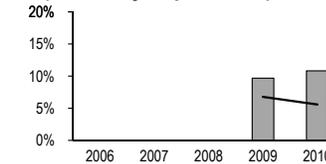
Year	Asheville	Average
2006	87%	83%
2007	66%	87%
2008	75%	86%
2009	86%	82%
2010	91%	85%

**Employee Turnover Rate (All Separations)**



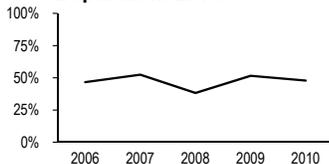
Year	Asheville	Average
2006	13.5%	10.0%
2007	13.2%	9.8%
2008	9.3%	8.6%
2009	11.3%	8.4%
2010	13.8%	7.4%

**Employee Turnover Rate (Voluntary Separations)**



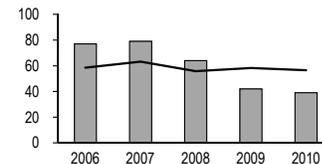
Year	Asheville	Average
2009	9.7%	6.8%
2010	10.8%	5.6%

**Percentage of Grievances Resolved at Department Level**



Year	Asheville	Average
2006	47%	47%
2007	52%	52%
2008	38%	38%
2009	52%	52%
2010	48%	48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



Year	Asheville	Average
2006	77	58
2007	79	63
2008	64	56
2009	42	58
2010	39	57

# Asheville

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION	
Population (OSBM 2009)	79,973	<p><b>Service Level and Delivery</b> 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.</p>	
Land Area (Square Miles)	44.99		
Persons per Square Mile	1,778		
Unemployment Rate (ESC-09)	8.6%	<p>No employee compensations studies were completed during the year.</p> <p>The city's probationary period for new employees was six months.</p>	
County	Buncombe		
Topography	Hills, mountains		
Climate	Moderate	<p><b>Conditions Affecting Service, Performance, and Costs</b> The city's data include the following positions (and related cost) that perform human resource functions but are not part of the city's Human Resources Department: Health Services Supervisor, Registered Nurse, and administrative staff, and a wellness coordinator in which half of this position is included in the human resources costs.</p> <p>Employee relations issues are resolved through the city's administration.</p> <p>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. Prior to FY 2007–08, departments in Asheville paid for advertising individually. This has raised costs in HR somewhat.</p>	
FULL COST PROFILE			
Cost Breakdown by Percentage			
Personal Services	60.6%		
Operating Costs	38.0%		
Capital Costs	1.4%		
<b>TOTAL</b>	<b>100.0%</b>		
Cost Breakdown in Dollars			
Personal Services	\$ 1,002,806		
Operating Costs	\$ 627,537		
Capital Costs	\$ 23,129		
<b>TOTAL</b>	<b>\$ 1,653,472</b>		
SERVICE PROFILE			
FTE Positions			
Administration	2.50		
Generalist/Specialist	9.20		
Staff Support (Clerical)	2.50		
Total Authorized Workforce	1,173		
Authorized FTEs	1148.5		
Number of Position Requisitions	172		
Employment Applications Processed	6,152		
Employee Turnover			
Voluntary Separations	127		
Involuntary Separations	35		
<b>TOTAL SEPARATIONS</b>	<b>162</b>		
Average Length of Service (Months)	107.0		
Formal Grievances Filed by Employees	NA		
EEOC Complaints Filed	3		
Length of Probationary Employment Period	6 months		
Compensation Studies Completed	0		
Positions Studied	0		

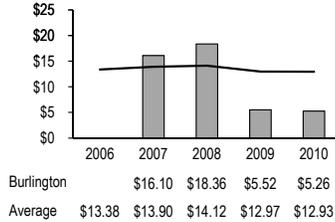
# Burlington

# Central Human Resources

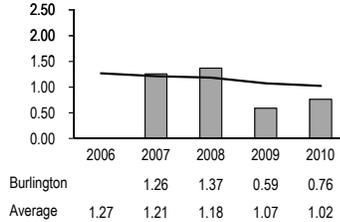
Key: Burlington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

**Human Resources Services Cost per Capita**

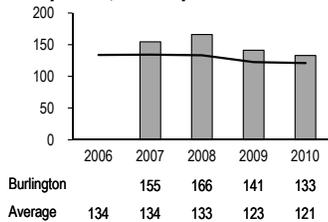


**Human Resources FTEs per 10,000 Population**

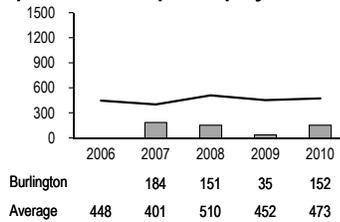


## WORKLOAD Measures

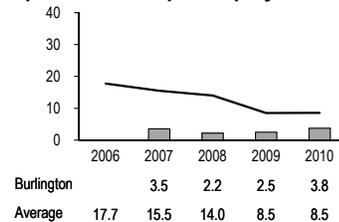
**Total Municipal FTEs per 10,000 Population**



**Applications Processed per 100 Municipal Employees**

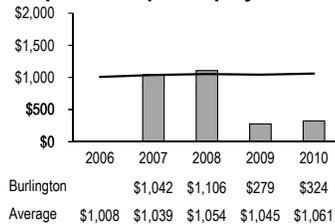


**Position Requisitions per 100 Municipal Employees**

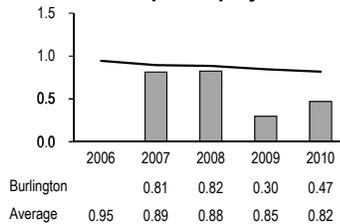


## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**

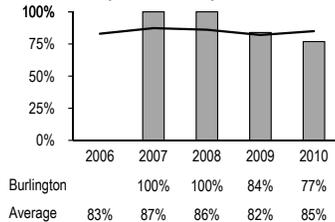


**Ratio of Human Resources Staff to 100 Municipal Employees**

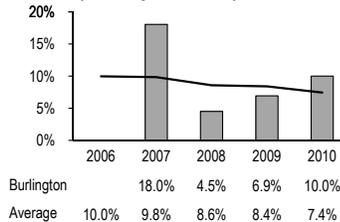


## EFFECTIVENESS Measures

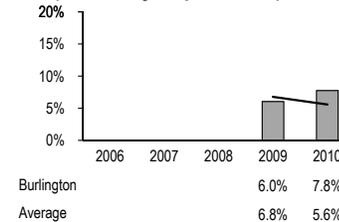
**Probationary Period Completion Rate (New Hires)**



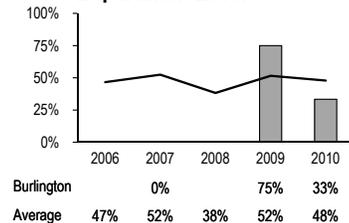
**Employee Turnover Rate (All Separations)**



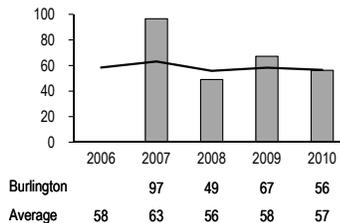
**Employee Turnover Rate (Voluntary Separations)**



**Percentage of Grievances Resolved at Department Level**



**Average Days from Post Date to Hire Date (First Day of Employment)**



# Burlington

## Central Human Resources

### Fiscal Year 2009–10

#### MUNICIPAL PROFILE

Population (OSBM 2009)	52,457
Land Area (Square Miles)	25.14
Persons per Square Mile	2,087
Unemployment Rate (ESC-09)	12.0%
County	Alamance
Topography	Flat; gently rolling
Climate	Temperate

#### FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	91.9%
Operating Costs	8.1%
Capital Costs	0.0%
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	\$ 253,320
Operating Costs	\$ 22,460
Capital Costs	\$ -
TOTAL	\$ 275,780

#### SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	3.00
Staff Support (Clerical)	0.00
Total Authorized Workforce	850
Authorized FTEs	697.5
Number of Position Requisitions	32
Employment Applications Processed	1,288
Employee Turnover	
Voluntary Separations	66
Involuntary Separations	19
TOTAL SEPARATIONS	85
Average Length of Service (Months)	92.0
Formal Grievances Filed by Employees	3
EEOC Complaints Filed	0
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	0
Positions Studied	0

#### EXPLANATORY INFORMATION

##### Service Level and Delivery

The City of Burlington's Human Resources Department is a separate department consisting of three full-time positions. The full-time positions include an HR director and two HR specialists.

The city's probationary period for new employees was twelve months for police and six months for all other employees.

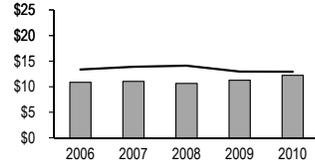
##### Conditions Affecting Service, Performance, and Costs

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

Key: Cary ■ Benchmarking Average — Fiscal Years 2006 through 2010

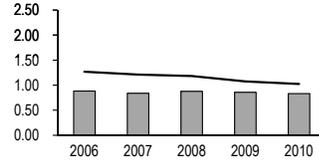
**RESOURCE Measures**

**Human Resources Services Cost per Capita**



Cary \$10.86 \$11.04 \$10.65 \$11.26 \$12.24  
Average \$13.38 \$13.90 \$14.12 \$12.97 \$12.93

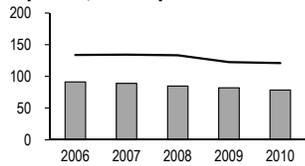
**Human Resources FTEs per 10,000 Population**



Cary 0.88 0.84 0.88 0.86 0.83  
Average 1.27 1.21 1.18 1.07 1.02

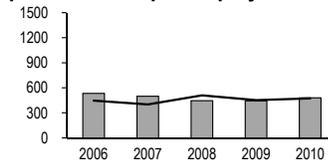
**WORKLOAD Measures**

**Total Municipal FTEs per 10,000 Population**



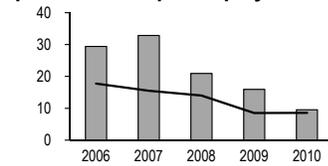
Cary 91 89 85 82 78  
Average 134 134 133 123 121

**Applications Processed per 100 Municipal Employees**



Cary 534 499 446 445 480  
Average 448 401 510 452 473

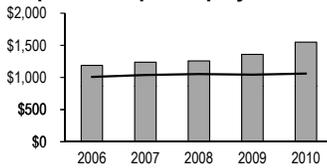
**Position Requisitions per 100 Municipal Employees**



Cary 29.4 32.8 20.9 15.9 9.5  
Average 17.7 15.5 14.0 8.5 8.5

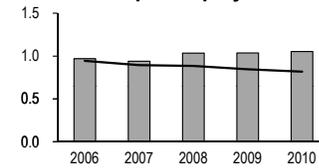
**EFFICIENCY Measures**

**Human Resources Cost per Municipal Employee**



Cary \$1,190 \$1,239 \$1,257 \$1,361 \$1,549  
Average \$1,008 \$1,039 \$1,054 \$1,045 \$1,061

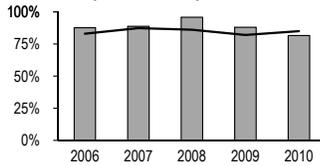
**Ratio of Human Resources Staff to 100 Municipal Employees**



Cary 0.97 0.94 1.03 1.04 1.05  
Average 0.95 0.89 0.88 0.85 0.82

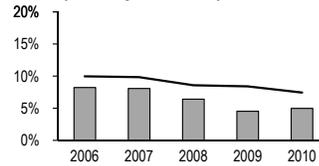
**EFFECTIVENESS Measures**

**Probationary Period Completion Rate (New Hires)**



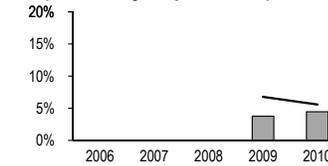
Cary 88% 89% 96% 88% 82%  
Average 83% 87% 86% 82% 85%

**Employee Turnover Rate (All Separations)**



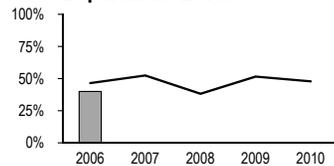
Cary 8.2% 8.1% 6.4% 4.5% 5.0%  
Average 10.0% 9.8% 8.6% 8.4% 7.4%

**Employee Turnover Rate (Voluntary Separations)**



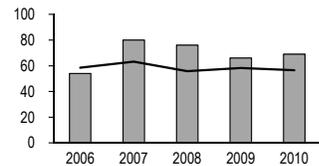
Cary 3.8% 4.5%  
Average 6.8% 5.6%

**Percentage of Grievances Resolved at Department Level**



Cary 40% 0% 0% 0% 0%  
Average 47% 52% 38% 52% 48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



Cary 54 80 76 66 69  
Average 58 63 56 58 57

# Central Human Resources

# Cary

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	147,282	<p><b>Service Level and Delivery</b>                      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.</p> <p>The town conducted one compensation study during FY 2009–10 that involved the study of 108 positions.</p> <p>The town's probationary period for new employees was six months for non–public safety employees during and twelve months for public safety employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b>                      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.</p>
Land Area (Square Miles)	54.01	
Persons per Square Mile	2,727	
Unemployment Rate (ESC-09)	8.4%	
County	Wake	
Topography	Flat; gently rolling	
Climate	Temperate	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	58.7%	
Operating Costs	39.6%	
Capital Costs	1.7%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 1,058,062	
Operating Costs	\$ 713,226	
Capital Costs	\$ 30,752	
TOTAL	\$ 1,802,040	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	3.00	
Generalist/Specialist	5.00	
Staff Support (Clerical)	4.25	
Total Authorized Workforce	1,163	
Authorized FTEs	1,153.9	
Number of Position Requisitions	111	
Employment Applications Processed	5,579	
Employee Turnover		
Voluntary Separations	52	
Involuntary Separations	6	
TOTAL SEPARATIONS	58	
Average Length of Service (Months)	112.0	
Formal Grievances Filed by Employees	2	
EEOC Complaints Filed	0	
Length of Probationary Employment Period	6 or 12 months	
Compensation Studies Completed	1	
Positions Studied	108	

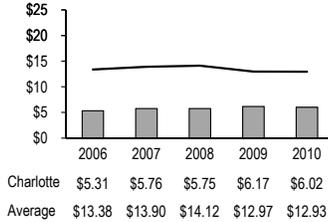
# Charlotte

# Central Human Resources

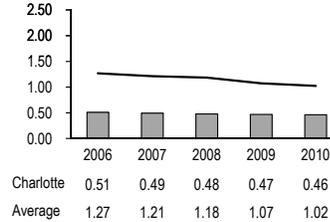
Key: Charlotte ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

**Human Resources Services Cost per Capita**

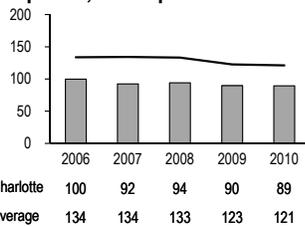


**Human Resources FTEs per 10,000 Population**

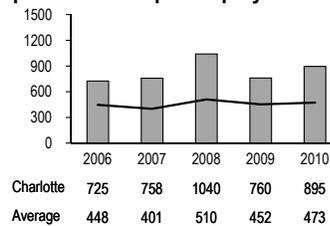


## WORKLOAD Measures

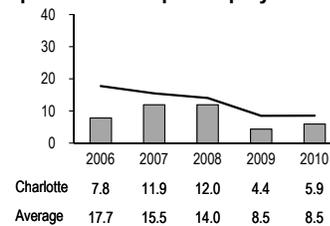
**Total Municipal FTEs per 10,000 Population**



**Applications Processed per 100 Municipal Employees**

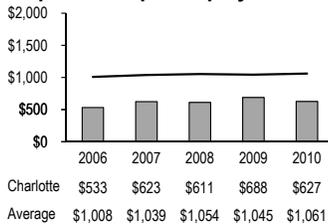


**Position Requisitions per 100 Municipal Employees**

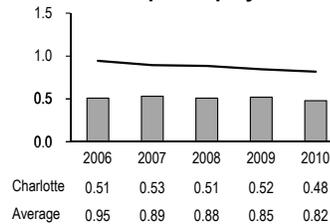


## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**

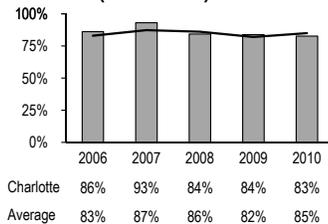


**Ratio of Human Resources Staff to 100 Municipal Employees**

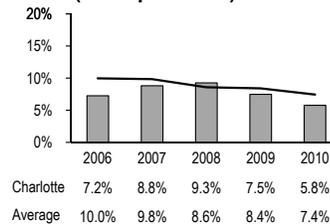


## EFFECTIVENESS Measures

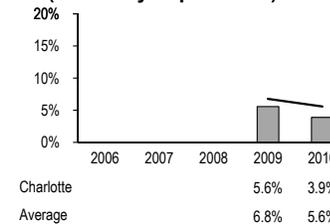
**Probationary Period Completion Rate (New Hires)**



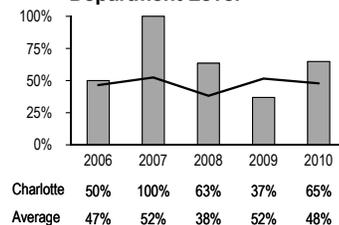
**Employee Turnover Rate (All Separations)**



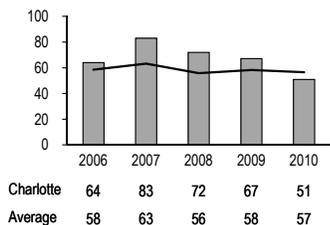
**Employee Turnover Rate (Voluntary Separations)**



**Percentage of Grievances Resolved at Department Level**



**Average Days from Post Date to Hire Date (First Day of Employment)**

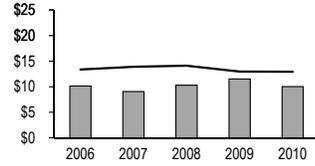


MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	711,349	<p><b>Service Level and Delivery</b> Charlotte's Human Resources Business Unit is organized into five core services including benefits, compensations, business unit services, HRMS/payroll, and organizational development and learning. These functional areas perform a variety of strategic, tactical, and transactional services. A portion of transactional services are outsourced to third-party providers.</p> <p>The city conducted seventeen compensation studies during FY 2009–10 covering 390 positions. Surveys were done on the basis of national, regional, and other larger city comparisons.</p> <p>The city's probationary period for new employees was six months for non-public safety employees and twelve months for public safety employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	298.97	
Persons per Square Mile	2,379	
Unemployment Rate (ESC-09)	10.8%	
County	Mecklenburg	
Topography	Flat, gently rolling	
Climate	Mild; some ice	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	66.9%	
Operating Costs	32.9%	
Capital Costs	0.1%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 2,865,609	
Operating Costs	\$ 1,409,621	
Capital Costs	\$ 5,329	
TOTAL	\$ 4,280,559	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	2.00	
Generalist/Specialist	27.75	
Staff Support (Clerical)	3.00	
Total Authorized Workforce	6,828	
Authorized FTEs	6,361.2	
Number of Position Requisitions	406	
Employment Applications Processed	61,123	
Employee Turnover		
Voluntary Separations	265	
Involuntary Separations	129	
TOTAL SEPARATIONS	394	
Average Length of Service (Months)	125.0	
Formal Grievances Filed by Employees	37	
EEOC Complaints Filed	19	
Length of Probationary Employment Period	6 or 12 months	
Compensation Studies Completed	17	
Positions Studied	390	

Key: Concord ■ Benchmarking Average — Fiscal Years 2006 through 2010

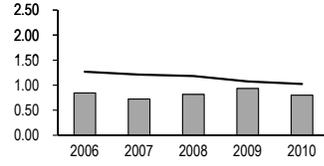
**RESOURCE Measures**

**Human Resources Services Cost per Capita**



Year	Concord	Average
2006	\$10.15	\$13.38
2007	\$9.07	\$13.90
2008	\$10.31	\$14.12
2009	\$11.50	\$12.97
2010	\$10.02	\$12.93

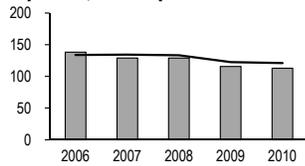
**Human Resources FTEs per 10,000 Population**



Year	Concord	Average
2006	0.84	1.27
2007	0.72	1.21
2008	0.81	1.18
2009	0.94	1.07
2010	0.80	1.02

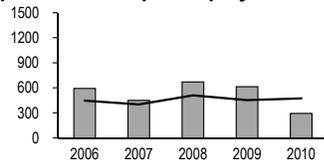
**WORKLOAD Measures**

**Total Municipal FTEs per 10,000 Population**



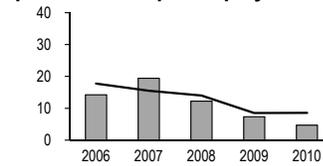
Year	Concord	Average
2006	138	134
2007	129	134
2008	129	133
2009	116	123
2010	113	121

**Applications Processed per 100 Municipal Employees**



Year	Concord	Average
2006	593	448
2007	450	401
2008	671	510
2009	614	452
2010	293	473

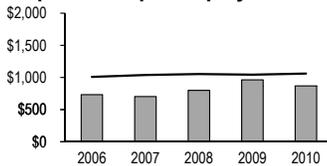
**Position Requisitions per 100 Municipal Employees**



Year	Concord	Average
2006	14.3	17.7
2007	19.4	15.5
2008	12.2	14.0
2009	7.4	8.5
2010	4.7	8.5

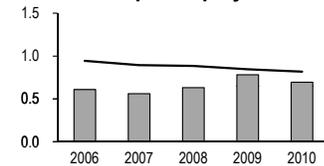
**EFFICIENCY Measures**

**Human Resources Cost per Municipal Employee**



Year	Concord	Average
2006	\$734	\$1,008
2007	\$704	\$1,039
2008	\$799	\$1,054
2009	\$963	\$1,045
2010	\$868	\$1,061

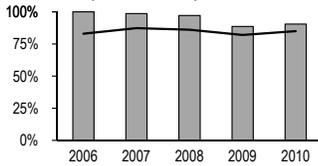
**Ratio of Human Resources Staff to 100 Municipal Employees**



Year	Concord	Average
2006	0.61	0.95
2007	0.56	0.89
2008	0.63	0.88
2009	0.78	0.85
2010	0.69	0.82

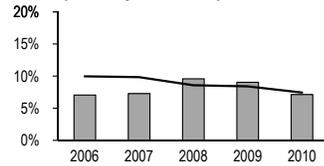
**EFFECTIVENESS Measures**

**Probationary Period Completion Rate (New Hires)**



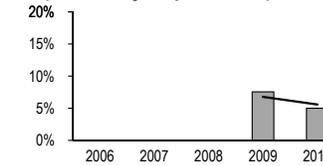
Year	Concord	Average
2006	100%	83%
2007	99%	87%
2008	97%	86%
2009	89%	82%
2010	90%	85%

**Employee Turnover Rate (All Separations)**



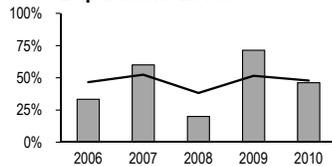
Year	Concord	Average
2006	7.1%	10.0%
2007	7.3%	9.8%
2008	9.6%	8.6%
2009	9.0%	8.4%
2010	7.1%	7.4%

**Employee Turnover Rate (Voluntary Separations)**



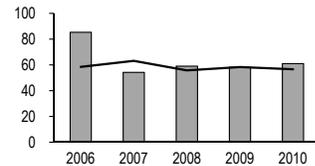
Year	Concord	Average
2006		
2007		
2008		
2009	7.6%	6.8%
2010	5.0%	5.6%

**Percentage of Grievances Resolved at Department Level**



Year	Concord	Average
2006	33%	47%
2007	60%	52%
2008	20%	38%
2009	71%	52%
2010	46%	48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



Year	Concord	Average
2006	85	58
2007	54	63
2008	59	56
2009	58	58
2010	61	57

# Concord

## Central Human Resources

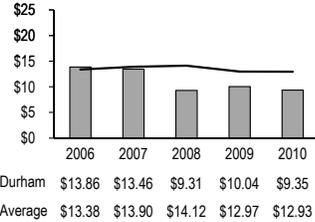
### Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	81,370	<p><b>Service Level and Delivery</b>                      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.</p> <p>The department conducted seventeen compensation studies during FY 2009–10 covering sixty-three positions.</p> <p>The city's probationary period for new employees was six months for non-public safety employees and twelve months for public safety employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	59.59	
Persons per Square Mile	1,365	
Unemployment Rate (ESC-09)	11.2%	
County	Cabarrus	
Topography	Flat; gently rolling	
Climate	Mild; some ice	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	59.2%	
Operating Costs	39.6%	
Capital Costs	1.2%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 482,609	
Operating Costs	\$ 322,798	
Capital Costs	\$ 10,091	
TOTAL	\$ 815,498	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	2.00	
Generalist/Specialist	3.34	
Staff Support (Clerical)	1.18	
Total Authorized Workforce	939	
Authorized FTEs	918	
Number of Position Requisitions	44	
Employment Applications Processed	2,748	
Employee Turnover		
Voluntary Separations	47	
Involuntary Separations	20	
TOTAL SEPARATIONS	67	
Average Length of Service (Months)	116.0	
Formal Grievances Filed by Employees	13	
EEOC Complaints Filed	3	
Length of Probationary Employment Period	6 or 12 months	
Compensation Studies Completed	17	
Positions Studied	63	

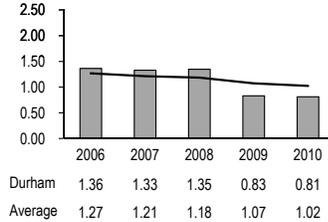
Key: Durham ■ Benchmarking Average — Fiscal Years 2006 through 2010

**RESOURCE Measures**

**Human Resources Services Cost per Capita**

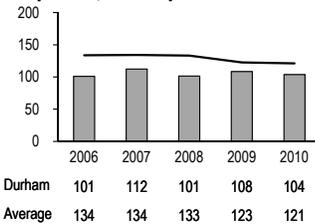


**Human Resources FTEs per 10,000 Population**

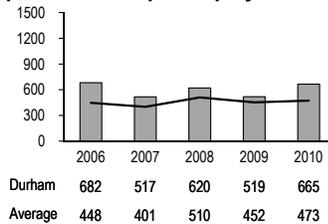


**WORKLOAD Measures**

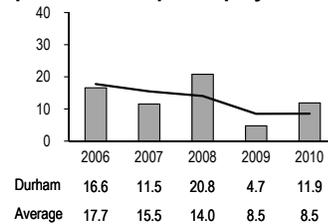
**Total Municipal FTEs per 10,000 Population**



**Applications Processed per 100 Municipal Employees**

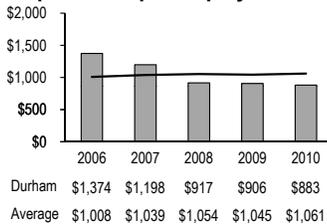


**Position Requisitions per 100 Municipal Employees**

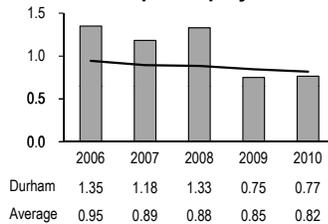


**EFFICIENCY Measures**

**Human Resources Cost per Municipal Employee**

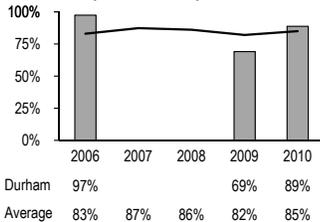


**Ratio of Human Resources Staff to 100 Municipal Employees**

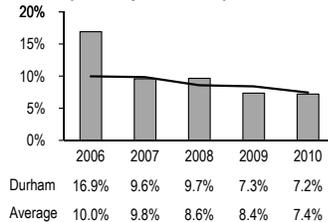


**EFFECTIVENESS Measures**

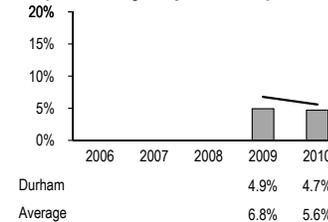
**Probationary Period Completion Rate (New Hires)**



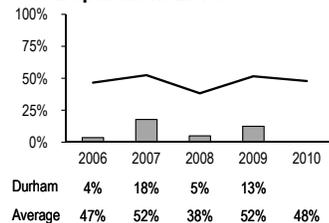
**Employee Turnover Rate (All Separations)**



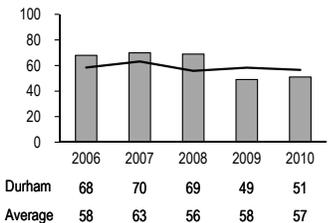
**Employee Turnover Rate (Voluntary Separations)**



**Percentage of Grievances Resolved at Department Level**



**Average Days from Post Date to Hire Date (First Day of Employment)**



# Central Human Resources

# Durham

## Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	234,140	<p><b>Service Level and Delivery</b>                      The Human Resources Department of the City of Durham is organized into teams. Three teams serve specific sets of departments. A fourth team, Planning and Systems, provides basic information for the departmental teams and provides core functions such as benefits and training. A fifth team provides support with management assistants who provide technical and clerical support to the whole HR department.</p> <p>The department conducted compensation studies covering seventy-six positions during FY 2009–10.</p> <p>The city's probationary period was six months for new employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	105.59	
Persons per Square Mile	2,217	
Unemployment Rate (ESC-09)	7.9%	
County	Durham	
Topography	Flat; gently rolling	
Climate	Mild; some ice	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	67.0%	
Operating Costs	31.9%	
Capital Costs	1.1%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 1,467,398	
Operating Costs	\$ 697,991	
Capital Costs	\$ 24,727	
TOTAL	\$ 2,190,116	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	7.00	
Generalist/Specialist	9.00	
Staff Support (Clerical)	3.00	
Total Authorized Workforce	248	
Authorized FTEs	2,426	
Number of Position Requisitions	295	
Employment Applications Processed	16,492	
Employee Turnover		
Voluntary Separations	117	
Involuntary Separations	62	
TOTAL SEPARATIONS	179	
Average Length of Service (Months)	99.0	
Formal Grievances Filed by Employees	21	
EEOC Complaints Filed	8	
Length of Probationary Employment Period	6 months	
Compensation Studies Completed	76	
Positions Studied	76	

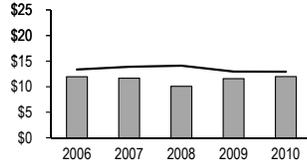
# Greensboro

# Central Human Resources

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2006 through 2010

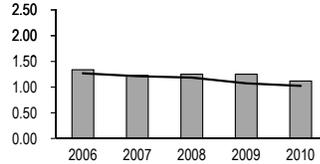
## RESOURCE Measures

**Human Resources Services Cost per Capita**



Greensboro	\$11.94	\$11.66	\$10.07	\$11.59	\$11.97
Average	\$13.38	\$13.90	\$14.12	\$12.97	\$12.93

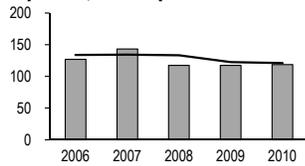
**Human Resources FTEs per 10,000 Population**



Greensboro	1.34	1.23	1.25	1.25	1.12
Average	1.27	1.21	1.18	1.07	1.02

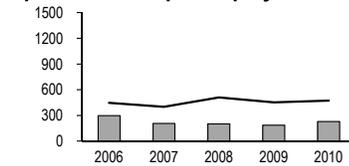
## WORKLOAD Measures

**Total Municipal FTEs per 10,000 Population**



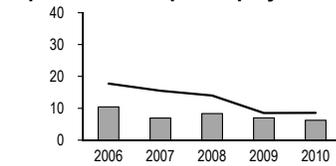
Greensboro	127	143	117	117	118
Average	134	134	133	123	121

**Applications Processed per 100 Municipal Employees**



Greensboro	297	207	201	187	230
Average	448	401	510	452	473

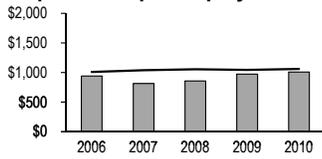
**Position Requisitions per 100 Municipal Employees**



Greensboro	10.4	6.9	8.3	7.0	6.2
Average	17.7	15.5	14.0	8.5	8.5

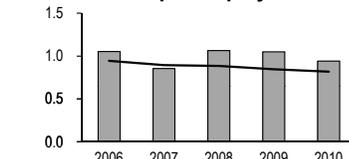
## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**



Greensboro	\$940	\$814	\$858	\$972	\$1,008
Average	\$1,008	\$1,039	\$1,054	\$1,045	\$1,061

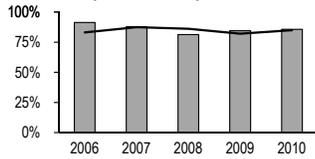
**Ratio of Human Resources Staff to 100 Municipal Employees**



Greensboro	1.05	0.86	1.06	1.05	0.94
Average	0.95	0.89	0.88	0.85	0.82

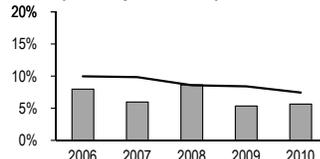
## EFFECTIVENESS Measures

**Probationary Period Completion Rate (New Hires)**



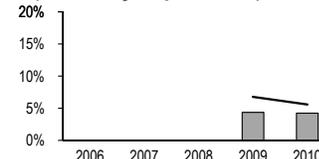
Greensboro	91%	88%	81%	84%	86%
Average	83%	87%	86%	82%	85%

**Employee Turnover Rate (All Separations)**



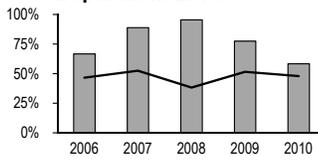
Greensboro	8.0%	6.0%	8.7%	5.3%	5.6%
Average	10.0%	9.8%	8.6%	8.4%	7.4%

**Employee Turnover Rate (Voluntary Separations)**



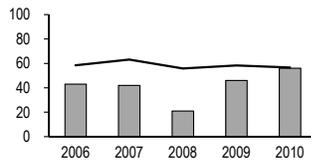
Greensboro	0%	0%	0%	4.4%	4.2%
Average	6.8%	5.6%	6.8%	6.8%	5.6%

**Percentage of Grievances Resolved at Department Level**



Greensboro	67%	89%	95%	77%	58%
Average	47%	52%	38%	52%	48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



Greensboro	43	42	21	46	56
Average	58	63	56	58	57

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	268,283	<p><b>Service Level and Delivery</b>                      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.</p> <p>The department completed two compensation studies during FY 2009–10. Market reviews were done for select groups affecting 150 positions.</p> <p>The city's probationary period for new employees was six months for non–public safety employees and twelve months for public safety employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	127.75	
Persons per Square Mile	2,100	
Unemployment Rate (ESC-09)	11.0%	
County	Guilford	
Topography	Flat; gently rolling	
Climate	Temperate	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	73.5%	
Operating Costs	26.5%	
Capital Costs	0.0%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 2,360,814	
Operating Costs	\$ 849,935	
Capital Costs	\$ -	
<b>TOTAL</b>	<b>\$ 3,210,749</b>	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	6.00	
Generalist/Specialist	21.00	
Staff Support (Clerical)	3.00	
Total Authorized Workforce	3,186	
Authorized FTEs	3,179.0	
Number of Position Requisitions	198	
Employment Applications Processed	7,317	
Employee Turnover		
Voluntary Separations	135	
Involuntary Separations	45	
<b>TOTAL SEPARATIONS</b>	<b>180</b>	
Average Length of Service (Months)	139.0	
Formal Grievances Filed by Employees	24	
EEOC Complaints Filed	23	
Length of Probationary Employment Period	6 or 12 months	
Compensation Studies Completed	2	
Positions Studied	150	

# Greenville

# Central Human Resources

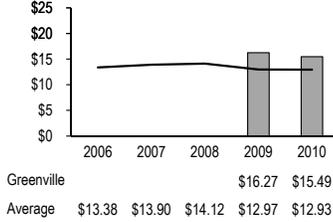
Key: Greenville ■

Benchmarking Average —

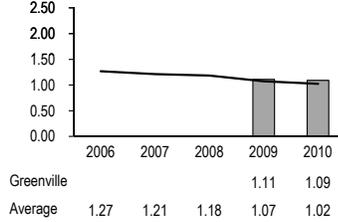
Fiscal Years 2006 through 2010

## RESOURCE Measures

**Human Resources Services Cost per Capita**

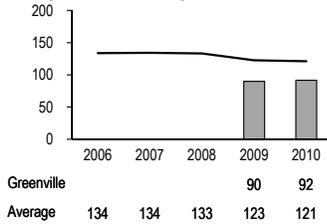


**Human Resources FTEs per 10,000 Population**

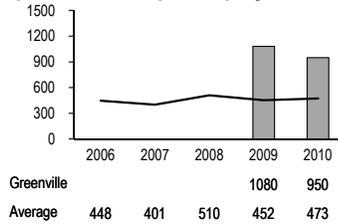


## WORKLOAD Measures

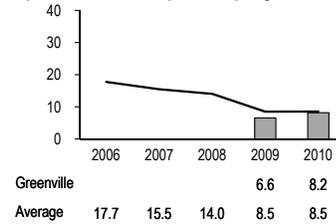
**Total Municipal FTEs per 10,000 Population**



**Applications Processed per 100 Municipal Employees**

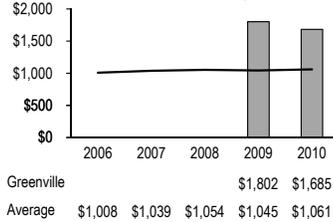


**Position Requisitions per 100 Municipal Employees**

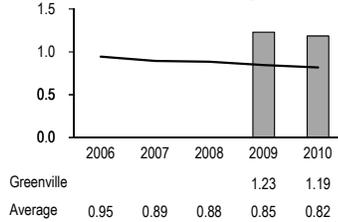


## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**

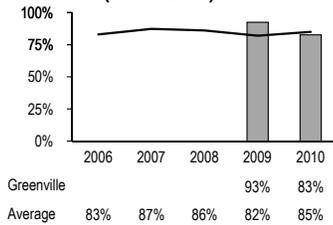


**Ratio of Human Resources Staff to 100 Municipal Employees**

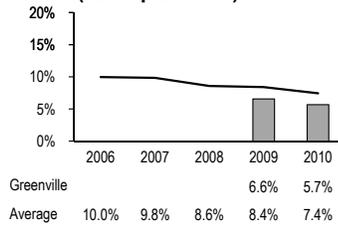


## EFFECTIVENESS Measures

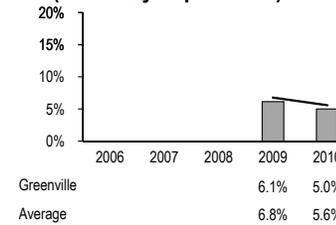
**Probationary Period Completion Rate (New Hires)**



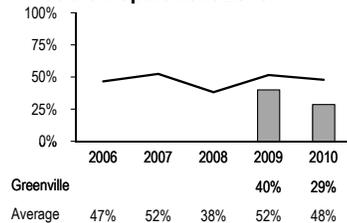
**Employee Turnover Rate (All Separations)**



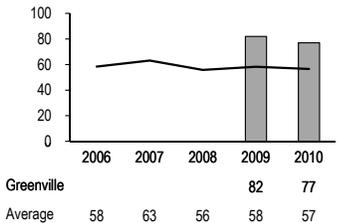
**Employee Turnover Rate (Voluntary Separations)**



**Percentage of Grievances Resolved at Department Level at the Department Level**



**Average Days from Post Date to Hire Date (First Day of Employment)**



# Greenville

## Central Human Resources

### Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	82,571	<p><b>Service Level and Delivery</b> 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.</p> <p>The city's probationary period was 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.</p> <p>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.</p> <p>Greenville has a voluntary wellness program focussing 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.</p> <p>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.</p> <p>No compensation studies were complete during the fiscal year.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Greenville joined the project with the first year of reporting for FY 2008–09.</p>
Land Area (Square Miles)	35.01	
Persons per Square Mile	2,358	
Unemployment Rate (ESC-09)	10.3%	
County	Pitt	
Topography	Flat	
Climate	Mild	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	54.8%	
Operating Costs	44.7%	
Capital Costs	0.5%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 700,823	
Operating Costs	\$ 571,477	
Capital Costs	\$ 6,753	
TOTAL	\$ 1,279,053	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	4.00	
Generalist/Specialist	2.00	
Staff Support (Clerical)	3.00	
Total Authorized Workforce	759	
Authorized FTEs	756.5	
Number of Position Requisitions	62	
Employment Applications Processed	7,210	
Employee Turnover		
Voluntary Separations	38	
Involuntary Separations	5	
TOTAL SEPARATIONS	43	
Average Length of Service (Months)	120.0	
Formal Grievances Filed by Employees	7	
EEOC Complaints Filed	0	
Length of Probationary Employment Period	6 or 12 months	
Compensation Studies Completed	0	
Positions Studied	0	

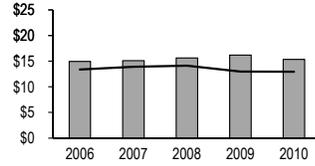
# Hickory

# Central Human Resources

Key: Hickory ■ Benchmarking Average — Fiscal Years 2006 through 2010

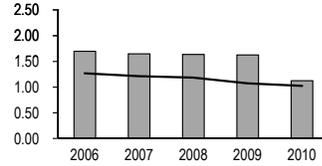
## RESOURCE Measures

**Human Resources Services Cost per Capita**



Hickory \$14.95 \$15.10 \$15.64 \$16.20 \$15.36  
Average \$13.38 \$13.90 \$14.12 \$12.97 \$12.93

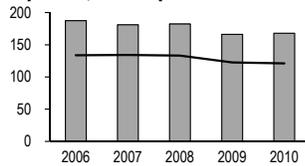
**Human Resources FTEs per 10,000 Population**



Hickory 1.70 1.65 1.63 1.62 1.12  
Average 1.27 1.21 1.18 1.07 1.02

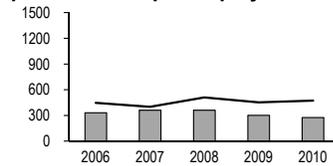
## WORKLOAD Measures

**Total Municipal FTEs per 10,000 Population**



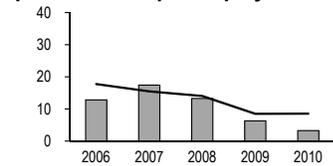
Hickory 188 181 182 166 168  
Average 134 134 133 123 121

**Applications Processed per 100 Municipal Employees**



Hickory 331 361 360 301 274  
Average 448 401 510 452 473

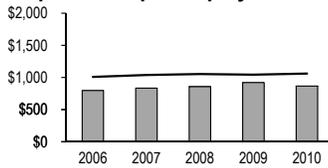
**Position Requisitions per 100 Municipal Employees**



Hickory 12.8 17.4 13.3 6.3 3.3  
Average 17.7 15.5 14.0 8.5 8.5

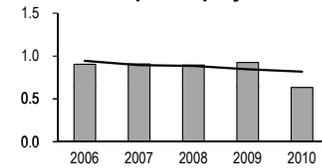
## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**



Hickory \$797 \$834 \$858 \$922 \$867  
Average \$1,008 \$1,039 \$1,054 \$1,045 \$1,061

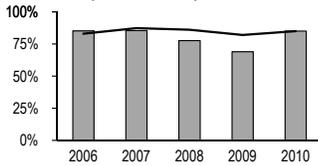
**Ratio of Human Resources Staff to 100 Municipal Employees**



Hickory 0.90 0.91 0.90 0.92 0.63  
Average 0.95 0.89 0.88 0.85 0.82

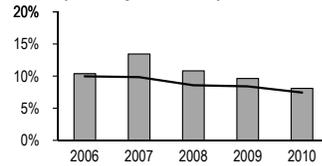
## EFFECTIVENESS Measures

**Probationary Period Completion Rate (New Hires)**



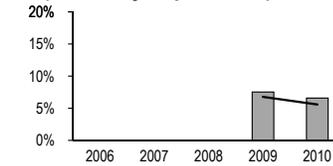
Hickory 85% 85% 78% 69% 85%  
Average 83% 87% 86% 82% 85%

**Employee Turnover Rate (All Separations)**



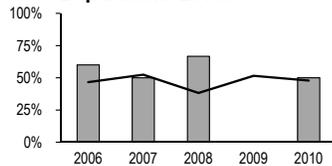
Hickory 10.4% 13.5% 10.8% 9.6% 8.1%  
Average 10.0% 9.8% 8.6% 8.4% 7.4%

**Employee Turnover Rate (Voluntary Separations)**



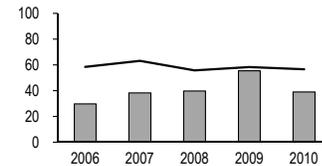
Hickory 7.5% 6.6%  
Average 6.8% 5.6%

**Percentage of Grievances Resolved at Department Level**



Hickory 60% 50% 67% 0% 50%  
Average 47% 52% 38% 52% 48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



Hickory 30 38 40 55 39  
Average 58 63 56 58 57

# Hickory

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	41,151	<p><b>Service Level and Delivery</b>                      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.</p> <p>The city's probationary period was twelve months for all new city employees. The city conducted compensation studies covering three positions during the year.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	29.28	
Persons per Square Mile	1,405	
Unemployment Rate (ESC-09)	14.4%	
County	Catawba	
Topography	Gently rolling	
Climate	Moderate	
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services	69.3%	
Operating Costs	29.9%	
Capital Costs	0.8%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 437,754	
Operating Costs	\$ 189,066	
Capital Costs	\$ 5,207	
TOTAL	\$ 632,027	
SERVICE PROFILE		
FTE Positions		
Administration	0.94	
Generalist/Specialist	3.00	
Staff Support (Clerical)	0.68	
Total Authorized Workforce	729	
Authorized FTEs	691	
Number of Position Requisitions	24	
Employment Applications Processed	2,001	
Employee Turnover		
Voluntary Separations	48	
Involuntary Separations	11	
TOTAL SEPARATIONS	59	
Average Length of Service (Months)	108.0	
Formal Grievances Filed by Employees	2	
EEOC Complaints Filed	0	
Length of Probationary Employment Period	12 months	
Compensation Studies Completed	3	
Positions Studied	3	

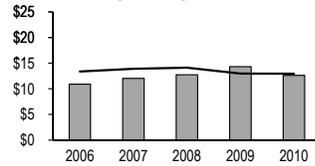
# High Point

# Central Human Resources

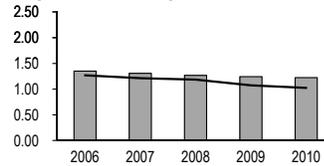
Key: High Point ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

**Human Resources Services Cost per Capita**



**Human Resources FTEs per 10,000 Population**

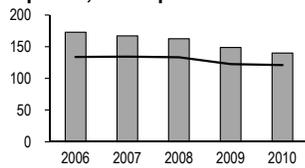


High Point \$10.92 \$12.02 \$12.74 \$14.32 \$12.63  
Average \$13.38 \$13.90 \$14.12 \$12.97 \$12.93

High Point 1.35 1.31 1.27 1.24 1.22  
Average 1.27 1.21 1.18 1.07 1.02

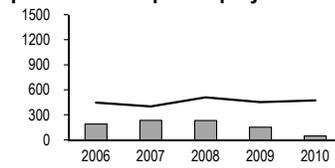
## WORKLOAD Measures

**Total Municipal FTEs per 10,000 Population**



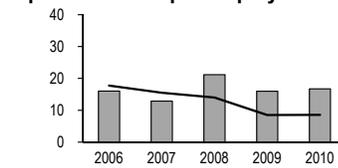
High Point 173 167 163 149 140  
Average 134 134 133 123 121

**Applications Processed per 100 Municipal Employees**



High Point 190 234 231 153 47  
Average 448 401 510 452 473

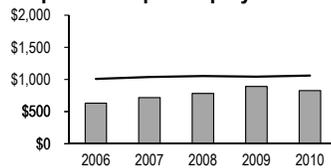
**Position Requisitions per 100 Municipal Employees**



High Point 16.0 12.9 21.2 16.0 16.7  
Average 17.7 15.5 14.0 8.5 8.5

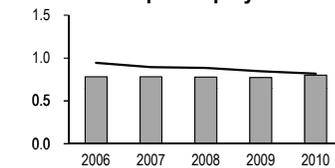
## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**



High Point \$631 \$719 \$784 \$891 \$827  
Average \$1,008 \$1,039 \$1,054 \$1,045 \$1,061

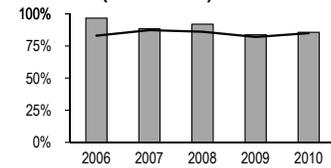
**Ratio of Human Resources Staff to 100 Municipal Employees**



High Point 0.78 0.78 0.78 0.77 0.80  
Average 0.95 0.89 0.88 0.85 0.82

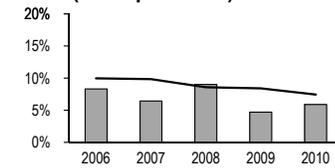
## EFFECTIVENESS Measures

**Probationary Period Completion Rate (New Hires)**



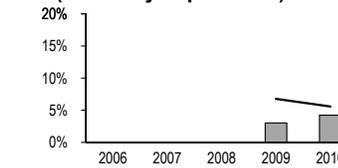
High Point 97% 88% 92% 84% 86%  
Average 83% 87% 86% 82% 85%

**Employee Turnover Rate (All Separations)**



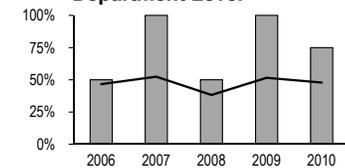
High Point 8.3% 6.4% 9.0% 4.7% 5.9%  
Average 10.0% 9.8% 8.6% 8.4% 7.4%

**Employee Turnover Rate (Voluntary Separations)**



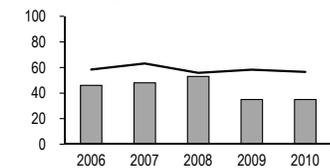
High Point 3.0% 4.2%  
Average 6.8% 5.6%

**Percentage of Grievances Resolved at Department Level**



High Point 50% 100% 50% 100% 75%  
Average 47% 52% 38% 52% 48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



High Point 46 48 53 35 35  
Average 58 63 56 58 57

**MUNICIPAL PROFILE**

Population (OSBM 2009)	102,216
Land Area (Square Miles)	54.05
Persons per Square Mile	1,891
Unemployment Rate (ESC-09)	11.0%
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

**FULL COST PROFILE**

Cost Breakdown by Percentage	
Personal Services	76.5%
Operating Costs	22.6%
Capital Costs	1.0%
TOTAL	<u>100.0%</u>
Cost Breakdown in Dollars	
Personal Services	\$ 986,813
Operating Costs	\$ 291,295
Capital Costs	\$ 12,373
TOTAL	<u>\$ 1,290,481</u>

**SERVICE PROFILE**

FTE Positions	
Administration	5.00
Generalist/Specialist	6.50
Staff Support (Clerical)	1.00
Total Authorized Workforce	1,560
Authorized FTEs	1,431
Number of Position Requisitions	261
Employment Applications Processed	733
Employee Turnover	
Voluntary Separations	66
Involuntary Separations	26
TOTAL SEPARATIONS	<u>92</u>
Average Length of Service (Months)	123.0
Formal Grievances Filed by Employees	4
EEOC Complaints Filed	1
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 2009–10.

The city's probationary period was 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**

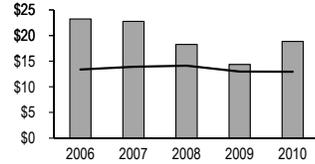
# Salisbury

# Central Human Resources

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2006 through 2010

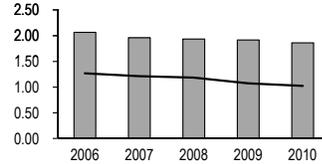
## RESOURCE Measures

**Human Resources Services Cost per Capita**



Salisbury \$23.25 \$22.79 \$18.29 \$14.36 \$18.85  
Average \$13.38 \$13.90 \$14.12 \$12.97 \$12.93

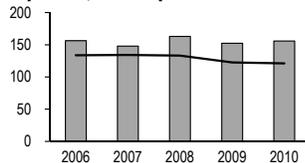
**Human Resources FTEs per 10,000 Population**



Salisbury 2.06 1.96 1.93 1.92 1.86  
Average 1.27 1.21 1.18 1.07 1.02

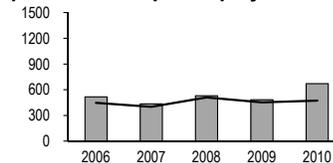
## WORKLOAD Measures

**Total Municipal FTEs per 10,000 Population**



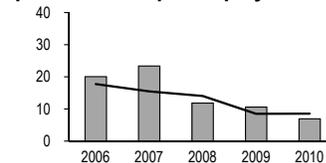
Salisbury 156 148 163 152 156  
Average 134 134 133 123 121

**Applications Processed per 100 Municipal Employees**



Salisbury 516 435 529 483 671  
Average 448 401 510 452 473

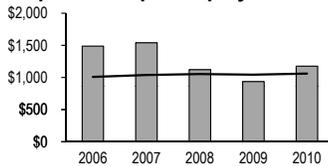
**Position Requisitions per 100 Municipal Employees**



Salisbury 20.0 23.4 11.9 10.6 7.0  
Average 17.7 15.5 14.0 8.5 8.5

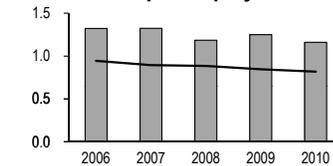
## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**



Salisbury \$1,488 \$1,541 \$1,121 \$937 \$1,176  
Average \$1,008 \$1,039 \$1,054 \$1,045 \$1,061

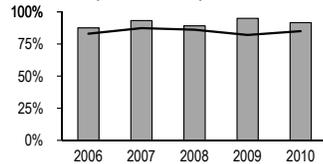
**Ratio of Human Resources Staff to 100 Municipal Employees**



Salisbury 1.32 1.32 1.19 1.25 1.16  
Average 0.95 0.89 0.88 0.85 0.82

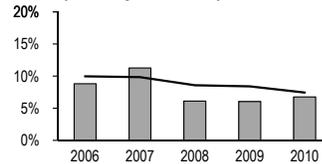
## EFFECTIVENESS Measures

**Probationary Period Completion Rate (New Hires)**



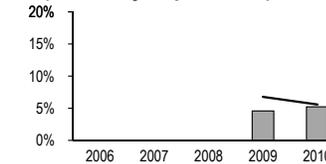
Salisbury 88% 93% 89% 95% 92%  
Average 83% 87% 86% 82% 85%

**Employee Turnover Rate (All Separations)**



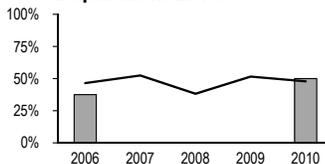
Salisbury 8.8% 11.3% 6.1% 6.0% 6.8%  
Average 10.0% 9.8% 8.6% 8.4% 7.4%

**Employee Turnover Rate (Voluntary Separations)**



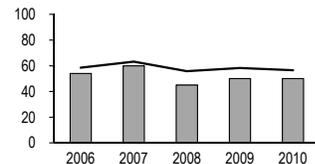
Salisbury 4.6% 5.2%  
Average 6.8% 5.6%

**Percentage of Grievances Resolved at Department Level**



Salisbury 38% 0% 50%  
Average 47% 52% 38% 52% 48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



Salisbury 54 60 45 50 50  
Average 58 63 56 58 57

# Salisbury

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	32,263	<p><b>Service Level and Delivery</b>                      The human resources function in Salisbury is a centralized unit that provides internal support and assistance with six staff members, including 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).</p> <p>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.</p> <p>Salisbury completed one compensation study during FY 2009–10 covering 146 positions.</p> <p>The city's probationary period for new employees was six months.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	21.93	
Persons per Square Mile	1,471	
Unemployment Rate (ESC-09)	12.2%	
County	Rowan	
Topography	Gently rolling	
Climate	Moderate	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	71.9%	
Operating Costs	25.0%	
Capital Costs	3.1%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 437,218	
Operating Costs	\$ 152,107	
Capital Costs	\$ 18,814	
TOTAL	\$ 608,139	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	1.00	
Generalist/Specialist	4.00	
Staff Support (Clerical)	3.00	
Total Authorized Workforce	517	
Authorized FTEs	502.5	
Number of Position Requisitions	36	
Employment Applications Processed	3,469	
Employee Turnover		
Voluntary Separations	27	
Involuntary Separations	8	
TOTAL SEPARATIONS	35	
Average Length of Service (Months)	124.0	
Formal Grievances Filed by Employees	2	
EEOC Complaints Filed	3	
Length of Probationary Employment Period	6 months	
Compensation Studies Completed	1	
Positions Studied	146	

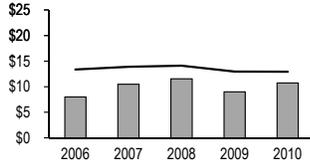
# Wilmington

# Central Human Resources

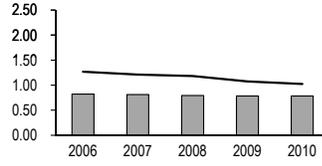
Key: Wilmington ■ Benchmarking Average — Fiscal Years 2006 through 2010

## RESOURCE Measures

**Human Resources Services Cost per Capita**



**Human Resources FTEs per 10,000 Population**

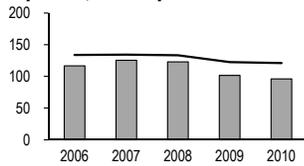


Year	Wilmington	Average
2006	\$8.00	\$13.38
2007	\$10.49	\$13.90
2008	\$11.55	\$14.12
2009	\$8.99	\$12.97
2010	\$10.73	\$12.93

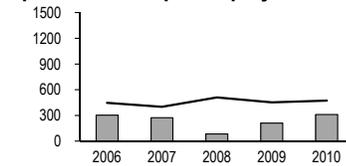
Year	Wilmington	Average
2006	0.82	1.27
2007	0.81	1.21
2008	0.79	1.18
2009	0.78	1.07
2010	0.78	1.02

## WORKLOAD Measures

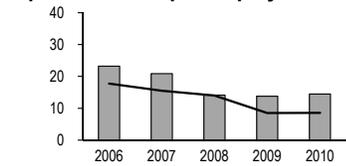
**Total Municipal FTEs per 10,000 Population**



**Applications Processed per 100 Municipal Employees**



**Position Requisitions per 100 Municipal Employees**



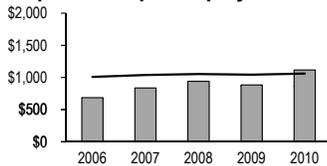
Year	Wilmington	Average
2006	117	134
2007	125	134
2008	123	133
2009	102	123
2010	96	121

Year	Wilmington	Average
2006	303	448
2007	273	401
2008	84	510
2009	210	452
2010	311	473

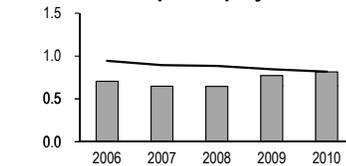
Year	Wilmington	Average
2006	23.2	17.7
2007	20.9	15.5
2008	14.1	14.0
2009	13.8	8.5
2010	14.5	8.5

## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**



**Ratio of Human Resources Staff to 100 Municipal Employees**

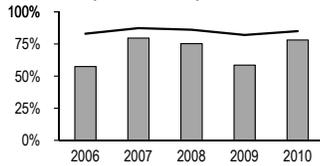


Year	Wilmington	Average
2006	\$685	\$1,008
2007	\$837	\$1,039
2008	\$941	\$1,054
2009	\$885	\$1,045
2010	\$1,116	\$1,061

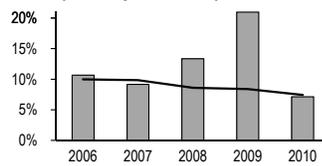
Year	Wilmington	Average
2006	0.71	0.95
2007	0.65	0.89
2008	0.65	0.88
2009	0.77	0.85
2010	0.81	0.82

## EFFECTIVENESS Measures

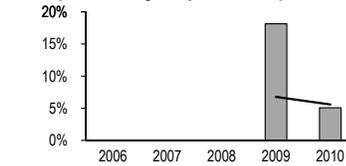
**Probationary Period Completion Rate (New Hires)**



**Employee Turnover Rate (All Separations)**



**Employee Turnover Rate (Voluntary Separations)**

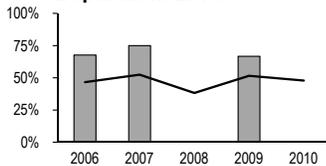


Year	Wilmington	Average
2006	57%	83%
2007	80%	87%
2008	75%	86%
2009	59%	82%
2010	78%	85%

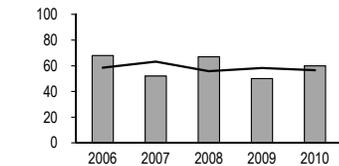
Year	Wilmington	Average
2006	10.7%	10.0%
2007	9.1%	9.8%
2008	13.3%	8.6%
2009	20.9%	8.4%
2010	7.1%	7.4%

Year	Wilmington	Average
2006		6.8%
2007		5.6%
2008		
2009	18.1%	
2010	5.1%	

**Percentage of Grievances Resolved at Department Level**



**Average Days from Post Date to Hire Date (First Day of Employment)**



Year	Wilmington	Average
2006	68%	47%
2007	75%	52%
2008	0%	38%
2009	67%	52%
2010		48%

Year	Wilmington	Average
2006	68	58
2007	52	63
2008	67	56
2009	50	58
2010	60	57

# Wilmington

## Central Human Resources

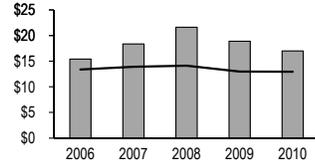
### Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	102,207	<p><b>Service Level and Delivery</b>                      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 like benefits, recruiting, policies, compensation, learning and development, and safety management.</p> <p>Wilmington is undergoing a change 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.</p> <p>Wilmington conducted sixteen compensations studies during the fiscal year to evaluate employee pay.</p> <p>The city's probationary period for new employees was twelve months for non–public safety employees and eighteen months for public safety employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	51.55	
Persons per Square Mile	1,983	
Unemployment Rate (ESC-09)	9.4%	
County	New Hanover	
Topography	Flat; coastal plain	
Climate	Mild	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	40.7%	
Operating Costs	58.7%	
Capital Costs	0.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 446,123	
Operating Costs	\$ 643,733	
Capital Costs	\$ 6,461	
TOTAL	\$ 1,096,317	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	1.00	
Generalist/Specialist	4.00	
Staff Support (Clerical)	3.00	
Total Authorized Workforce	982	
Authorized FTEs	981.3	
Number of Position Requisitions	142	
Employment Applications Processed	3,057	
Employee Turnover		
Voluntary Separations	50	
Involuntary Separations	20	
TOTAL SEPARATIONS	70	
Average Length of Service (Months)	107.0	
Formal Grievances Filed by Employees	2	
EEOC Complaints Filed	1	
Length of Probationary Employment Period	12 or 18 months	
Compensation Studies Completed	16	
Positions Studied	NA	

Key: Wilson ■ Benchmarking Average — Fiscal Years 2006 through 2010

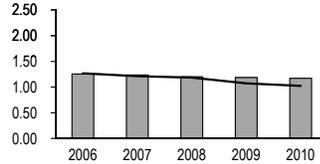
**RESOURCE Measures**

**Human Resources Services Cost per Capita**



Year	Wilson	Average
2006	\$15.41	\$13.38
2007	\$18.36	\$13.90
2008	\$21.64	\$14.12
2009	\$18.91	\$12.97
2010	\$16.99	\$12.93

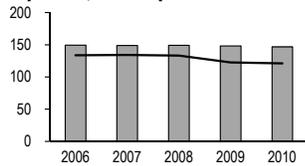
**Human Resources FTEs per 10,000 Population**



Year	Wilson	Average
2006	1.25	1.27
2007	1.24	1.21
2008	1.20	1.18
2009	1.18	1.07
2010	1.17	1.02

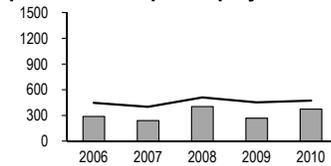
**WORKLOAD Measures**

**Total Municipal FTEs per 10,000 Population**



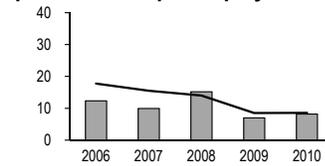
Year	Wilson	Average
2006	149	134
2007	149	134
2008	149	133
2009	148	123
2010	147	121

**Applications Processed per 100 Municipal Employees**



Year	Wilson	Average
2006	288	448
2007	240	401
2008	403	510
2009	267	452
2010	374	473

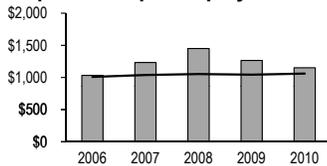
**Position Requisitions per 100 Municipal Employees**



Year	Wilson	Average
2006	12.3	17.7
2007	10.0	15.5
2008	15.2	14.0
2009	7.0	8.5
2010	8.2	8.5

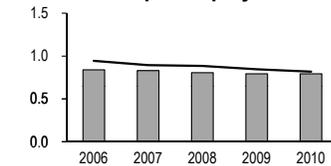
**EFFICIENCY Measures**

**Human Resources Cost per Municipal Employee**



Year	Wilson	Average
2006	\$1,032	\$1,008
2007	\$1,233	\$1,039
2008	\$1,451	\$1,054
2009	\$1,265	\$1,045
2010	\$1,151	\$1,061

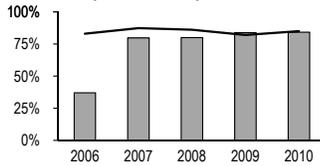
**Ratio of Human Resources Staff to 100 Municipal Employees**



Year	Wilson	Average
2006	0.84	0.95
2007	0.83	0.89
2008	0.81	0.88
2009	0.79	0.85
2010	0.79	0.82

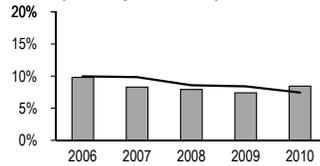
**EFFECTIVENESS Measures**

**Probationary Period Completion Rate (New Hires)**



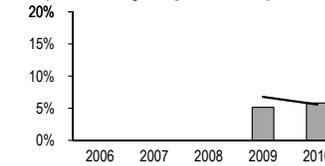
Year	Wilson	Average
2006	37%	83%
2007	80%	87%
2008	80%	86%
2009	84%	82%
2010	84%	85%

**Employee Turnover Rate (All Separations)**



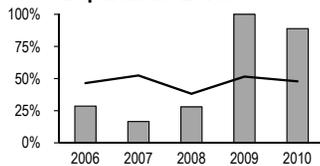
Year	Wilson	Average
2006	9.8%	10.0%
2007	8.3%	9.8%
2008	7.9%	8.6%
2009	7.4%	8.4%
2010	8.5%	7.4%

**Employee Turnover Rate (Voluntary Separations)**



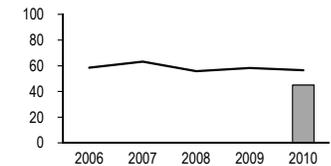
Year	Wilson	Average
2006		
2007		
2008		
2009	5.2%	6.8%
2010	5.8%	5.6%

**Percentage of Grievances Resolved at Department Level**



Year	Wilson	Average
2006	29%	47%
2007	17%	52%
2008	28%	38%
2009	100%	52%
2010	89%	48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



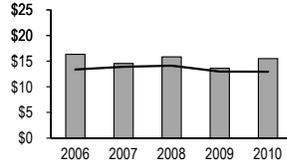
Year	Wilson	Average
2006		58
2007		63
2008		56
2009		58
2010	45	57

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	51,274	<p><b>Service Level and Delivery</b>                      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.</p> <p>The city conducted no compensation studies during FY 2009–10.</p> <p>The city's probationary period was twelve months for new city employees.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p>
Land Area (Square Miles)	29.02	
Persons per Square Mile	1,767	
Unemployment Rate (ESC-09)	12.1%	
County	Wilson	
Topography	Flat	
Climate	Mild	
FULL COST PROFILE		
Cost Breakdown by Percentage		
Personal Services	48.2%	
Operating Costs	51.2%	
Capital Costs	0.6%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 420,020	
Operating Costs	\$ 446,056	
Capital Costs	\$ 5,261	
TOTAL	\$ 871,337	
SERVICE PROFILE		
FTE Positions		
Administration	2.00	
Generalist/Specialist	3.00	
Staff Support (Clerical)	1.00	
Total Authorized Workforce	757	
Authorized FTEs	752	
Number of Position Requisitions	62	
Employment Applications Processed	2,833	
Employee Turnover		
Voluntary Separations	44	
Involuntary Separations	20	
TOTAL SEPARATIONS	64	
Average Length of Service (Months)	116.0	
Formal Grievances Filed by Employees	9	
EEOC Complaints Filed	2	
Length of Probationary Employment Period	12 months	
Compensation Studies Completed	0	
Positions Studied	0	

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2006 through 2010

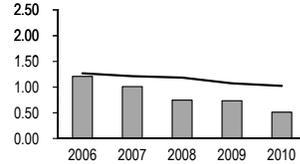
## RESOURCE Measures

**Human Resources Services Cost per Capita**



Year	Winston-Salem	Average
2006	\$16.35	\$13.38
2007	\$14.54	\$13.90
2008	\$15.86	\$14.12
2009	\$13.62	\$12.97
2010	\$15.50	\$12.93

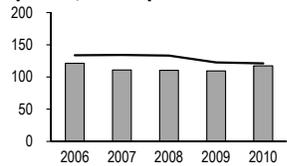
**Human Resources FTEs per 10,000 Population**



Year	Winston-Salem	Average
2006	1.21	1.27
2007	1.01	1.21
2008	0.75	1.18
2009	0.74	1.07
2010	0.51	1.02

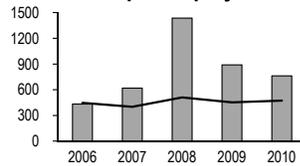
## WORKLOAD Measures

**Total Municipal FTEs per 10,000 Population**



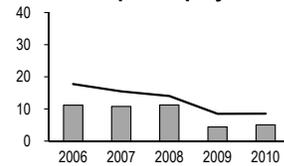
Year	Winston-Salem	Average
2006	121	134
2007	111	134
2008	110	133
2009	109	123
2010	117	121

**Applications Processed per 100 Municipal Employees**



Year	Winston-Salem	Average
2006	432	448
2007	618	401
2008	1435	510
2009	891	452
2010	762	473

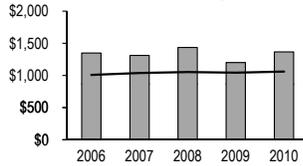
**Position Requisitions per 100 Municipal Employees**



Year	Winston-Salem	Average
2006	11.2	17.7
2007	10.8	15.5
2008	11.3	14.0
2009	4.4	8.5
2010	5.1	8.5

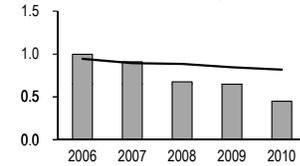
## EFFICIENCY Measures

**Human Resources Cost per Municipal Employee**



Year	Winston-Salem	Average
2006	\$1,349	\$1,008
2007	\$1,312	\$1,039
2008	\$1,436	\$1,054
2009	\$1,201	\$1,045
2010	\$1,367	\$1,061

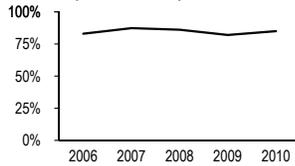
**Ratio of Human Resources Staff to 100 Municipal Employees**



Year	Winston-Salem	Average
2006	1.00	0.95
2007	0.91	0.89
2008	0.68	0.88
2009	0.65	0.85
2010	0.45	0.82

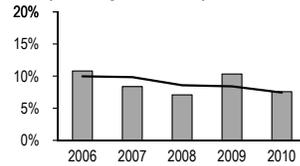
## EFFECTIVENESS Measures

**Probationary Period Completion Rate (New Hires)**



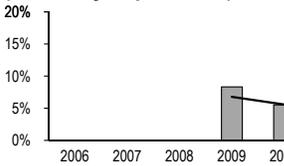
Year	Winston-Salem	Average
2006	83%	83%
2007	87%	87%
2008	86%	86%
2009	82%	82%
2010	85%	85%

**Employee Turnover Rate (All Separations)**



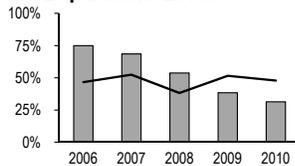
Year	Winston-Salem	Average
2006	10.8%	10.0%
2007	8.4%	9.8%
2008	7.1%	8.6%
2009	10.3%	8.4%
2010	7.6%	7.4%

**Employee Turnover Rate (Voluntary Separations)**



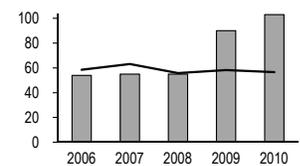
Year	Winston-Salem	Average
2006		
2007		
2008		
2009	8.3%	6.8%
2010	5.5%	5.6%

**Percentage of Grievances Resolved at Department Level**



Year	Winston-Salem	Average
2006	75%	47%
2007	69%	52%
2008	54%	38%
2009	38%	52%
2010	31%	48%

**Average Days from Post Date to Hire Date (First Day of Employment)**



Year	Winston-Salem	Average
2006	54	58
2007	55	63
2008	55	56
2009	90	58
2010	103	57

# Winston-Salem

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Population (OSBM 2009)	235,075	<p><b>Service Level and Delivery</b> 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.</p> <p>The city conducted eight compensation studies during FY 2009–10 covering seventy-two positions.</p> <p>Winston-Salem did not use a probationary period. As a result, no data are available for the measure "probationary period completion rate (new hires)."</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Winston-Salem has added the alternative to submit 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 eighty-five 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.</p> <p>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.</p>
Land Area (Square Miles)	133.19	
Persons per Square Mile	1,765	
Unemployment Rate (ESC-09)	9.7%	
County	Forsyth	
Topography	Gently rolling	
Climate	Moderate	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	34.2%	
Operating Costs	60.8%	
Capital Costs	5.0%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 1,248,000	
Operating Costs	\$ 2,215,448	
Capital Costs	\$ 180,433	
TOTAL	\$ 3,643,881	
<b>SERVICE PROFILE</b>		
FTE Positions		
Administration	2.00	
Generalist/Specialist	6.00	
Staff Support (Clerical)	4.00	
Total Authorized Workforce		
Authorized FTEs	2,756	
Number of Position Requisitions	135	
Employment Applications Processed	20,315	
Employee Turnover		
Voluntary Separations	147	
Involuntary Separations	55	
TOTAL SEPARATIONS	202	
Average Length of Service (Months)	132.0	
Formal Grievances Filed by Employees	86	
EEOC Complaints Filed	3	
Length of Probationary Employment Period	No Probationary Period	
Compensation Studies Completed	8	
Positions Studied	72	







# Performance and Cost Data

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## WATER SERVICES

## 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
Asheville	124,000	183.0	21.6	3	43.5	1,658.0	55,538	152.0
Burlington	52,156	40.9	11.9	2	34.0	435.0	21,049	46.0
Charlotte	909,493	546.0	108.8	3	242.0	4,064.0	261,685	388.0
Concord	84,425	173.4	9.5	2	24.0	667.0	33,770	73.3
Durham	234,508	144.0	24.4	2	52.0	1,204.0	85,205	144.6
Greensboro	260,000	143.1	31.8	2	54.0	1,468.9	101,293	163.0
Hickory	92,000	326.0	14.2	1	32.0	893.0	27,807	60.5
High Point	106,000	64.0	11.6	1	24.0	679.8	40,111	57.5
Salisbury	51,500	44.9	7.9	1	25.0	392.1	17,103	47.0
Wilson	50,947	99.0	8.8	2	22.0	412.0	21,969	45.0
Winston-Salem	300,000	325.0	36.7	2	73.0	2,101.0	121,095	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

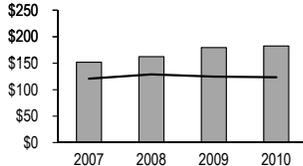
# Asheville

# Water Services

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2010

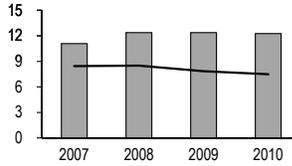
## RESOURCE Measures

**Water Services Cost per Capita**



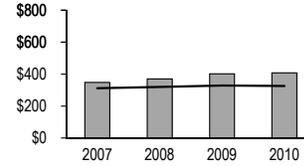
Asheville \$151.73 \$162.40 \$179.32 \$182.45  
Average \$120.64 \$128.92 \$124.71 \$123.31

**Water Services FTEs per 10,000 Population**



Asheville 11.1 12.4 12.4 12.3  
Average 8.4 8.5 7.8 7.5

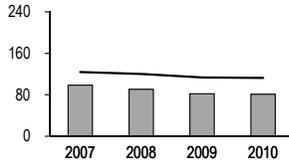
**Water Services Cost per Meter**



Asheville \$348 \$370 \$402 \$407  
Average \$311 \$320 \$328 \$325

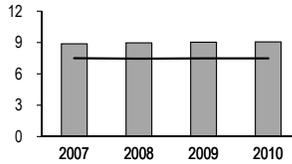
## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**



Asheville 98.4 90.4 82.0 80.9  
Average 123.8 120.1 113.4 112.6

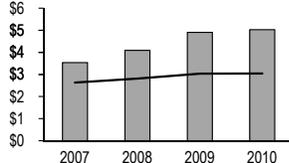
**Miles of Main Line Pipe per Square Mile of Service Area**



Asheville 8.9 9.0 9.0 9.1  
Average 7.5 7.5 7.5 7.5

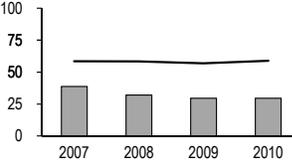
## EFFICIENCY Measures

**Total Cost per Thousand Gallons of Billed Water**



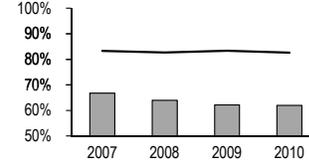
Asheville \$3.54 \$4.10 \$4.91 \$5.03  
Average \$2.63 \$2.81 \$3.04 \$3.04

**Million Gallons of Billed Water per Water Services FTEs**



Asheville 38.7 32.1 29.6 29.6  
Average 58.6 58.4 56.9 58.9

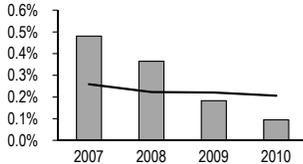
**Billed Water as a Percentage of Finished Water**



Asheville 67% 64% 62% 62%  
Average 83% 83% 83% 83%

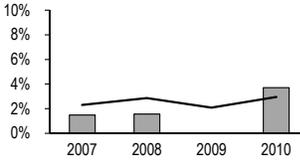
## EFFECTIVENESS Measures

**Percentage of Existing Pipeline Replaced or Rehabbed**



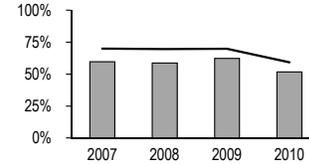
Asheville 0.48% 0.36% 0.18% 0.09%  
Average 0.26% 0.22% 0.22% 0.21%

**Percentage of Water Bills Not Collected**



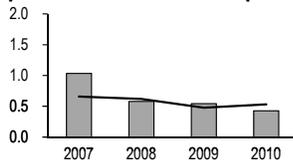
Asheville 1.49% 1.56% 0.02% 3.70%  
Average 2.30% 2.86% 2.08% 2.94%

**Peak Daily Demand as a Percentage of Treatment Capacity**



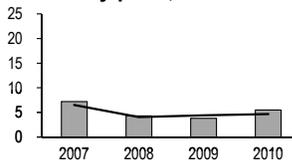
Asheville 60% 59% 62% 52%  
Average 70% 70% 70% 59%

**Breaks and Leaks per Mile of Main Line Pipe**



Asheville 1.03 0.58 0.54 0.42  
Average 0.66 0.62 0.47 0.53

**Customer Complaints about Water Quality per 1,000 Meters**



Asheville 7.21 4.29 3.79 5.49  
Average 6.50 4.03 4.41 4.64

# Asheville

Fiscal Year 2009–10

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 2000)	\$44,029

FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	36.8%
Operating Costs	38.7%
Capital Costs	24.5%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 8,316,997
Operating Costs	\$ 8,760,058
Capital Costs	\$ 5,546,351
<b>TOTAL</b>	<b>\$ 22,623,406</b>

SERVICE PROFILE	
FTE Staff Positions	
Treatment Plant	41.0
Line Crews	56.0
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	21.6 MG
Miles of Mainline Pipe	1,658
Average Age of Mainline Pipe	51 years
Number of Breaks/Leaks	704
Number of Water Meters	55,538
Percent of Meters Read Automatically	15.1%
Total Revenues Collected	\$31,586,443

EXPLANATORY INFORMATION
<p><b>Service Level and Delivery</b></p> <p>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.</p> <p>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 35 million gallons per day. The utility has three treatment plants.</p> <p>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.</p> <p>Currently about 15.1 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.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b></p> <p>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.</p> <p>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.</p> <p>The number of breaks and leaks in the system has been declining. The Water Resources Department has worked actively to better determine situations with repeated leaks in time and when identified to replace pipe for a more permanent solution.</p> <p>Water quality complaints in FY 2006–07 were higher than normal because of the drought. Low levels in the city's reservoirs required more pumping which can have the side effect of leaving some water with a slight color. The return of water supplies to more normal levels has significantly reduced this problem.</p>

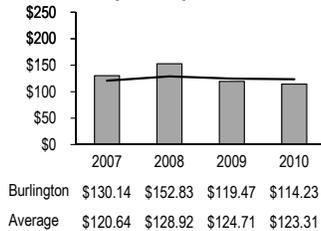
# Burlington

# Water Services

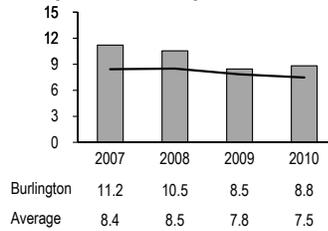
Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2010

## RESOURCE Measures

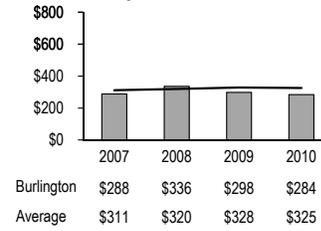
**Water Services Cost per Capita**



**Water Services FTEs per 10,000 Population**

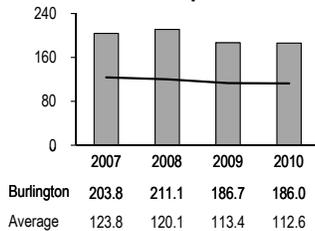


**Water Services Cost per Meter**

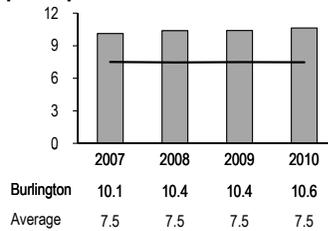


## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**

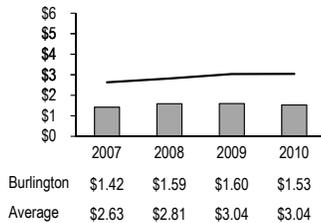


**Miles of Main Line Pipe per Square Mile of Service Area**

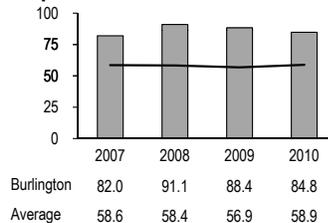


## EFFICIENCY Measures

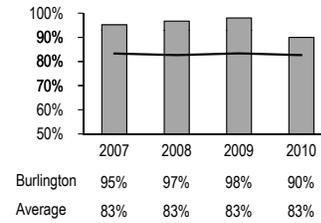
**Total Cost per Thousand Gallons of Billed Water**



**Million Gallons of Billed Water per Water Services FTEs**

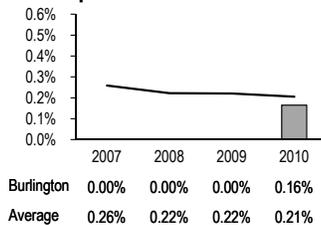


**Billed Water as a Percentage of Finished Water**

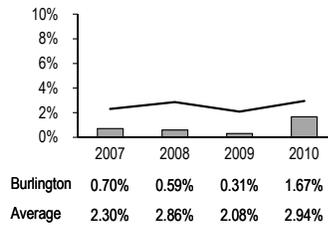


## EFFECTIVENESS Measures

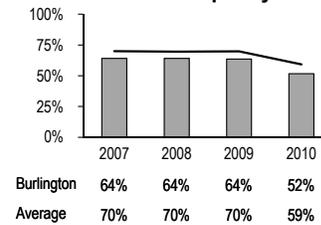
**Percentage of Existing Pipeline Replaced or Rehabbed**



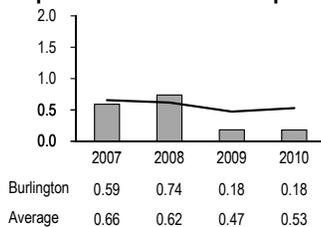
**Percentage of Water Bills Not Collected**



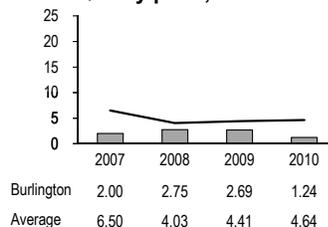
**Peak Daily Demand as a Percentage of Treatment Capacity**



**Breaks and Leaks per Mile of Main Line Pipe**



**Customer Complaints about Water Quality per 1,000 Meters**



# Burlington

Fiscal Year 2009–10

MUNICIPAL PROFILE	
Estimated Service Population	52,156
Service Land Area (Square Miles)	40.9
Persons per Square Mile	1,275
County	Alamance
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2000)	\$45,441

FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	22.7%
Operating Costs	41.2%
Capital Costs	36.1%
<b>TOTAL</b>	<b>100.0%</b>

Cost Breakdown in Dollars	
Personal Services	\$ 1,354,129
Operating Costs	\$ 2,454,606
Capital Costs	\$ 2,149,001
<b>TOTAL</b>	<b>\$ 5,957,736</b>

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	11.9 MG
Miles of Mainline Pipe	435
Average Age of Mainline Pipe	46 years
Number of Breaks/Leaks	79
Number of Water Meters	20,972
Percent of Meters Read Automatically	12.4%
Total Revenues Collected	\$10,793,882

EXPLANATORY INFORMATION
<p><b>Service Level and Delivery</b> Water services are housed in the Department of Utilities 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.</p> <p>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.</p> <p>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.</p> <p>The city sells small amounts of water to several other systems including Greensboro, Gibsonville, Elon, the Village of Alamance, and Haw River. The city has emergency connections with Greensboro and Graham.</p> <p>The city reads meters on a monthly basis with most meters being read manually. Meters are replaced approximately every twelve to fifteen years.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.</p> <p>The costs of water service as captured here do not include debt service but do capture depreciation.</p>

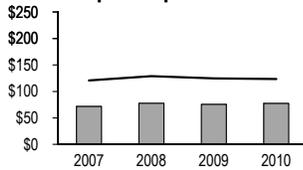
# Charlotte

# Water Services

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2010

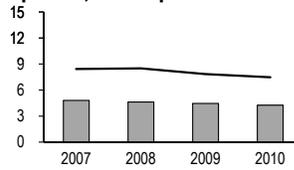
## RESOURCE Measures

**Water Services Cost per Capita**



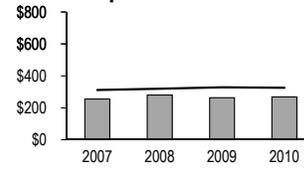
Charlotte \$71.49 \$77.58 \$75.63 \$77.32  
Average \$120.64 \$128.92 \$124.71 \$123.31

**Water Services FTEs per 10,000 Population**



Charlotte 4.8 4.6 4.5 4.3  
Average 8.4 8.5 7.8 7.5

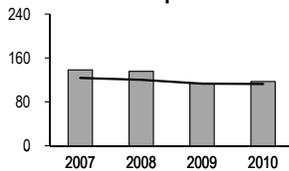
**Water Services Cost per Meter**



Charlotte \$255 \$280 \$263 \$269  
Average \$311 \$320 \$328 \$325

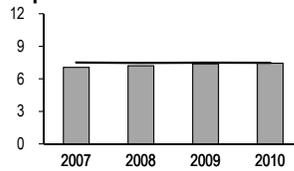
## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**



Charlotte 138.3 135.7 114.3 117.3  
Average 123.8 120.1 113.4 112.6

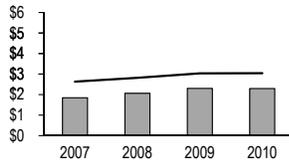
**Miles of Main Line Pipe per Square Mile of Service Area**



Charlotte 7.1 7.2 7.4 7.4  
Average 7.5 7.5 7.5 7.5

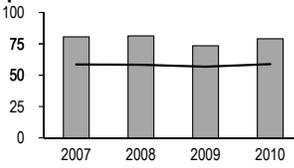
## EFFICIENCY Measures

**Total Cost per Thousand Gallons of Billed Water**



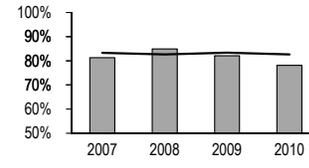
Charlotte \$1.85 \$2.06 \$2.30 \$2.29  
Average \$2.63 \$2.81 \$3.04 \$3.04

**Million Gallons of Billed Water per Water Services FTEs**



Charlotte 80.6 81.4 73.5 79.1  
Average 58.6 58.4 56.9 58.9

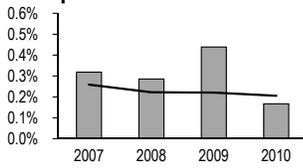
**Billed Water as a Percentage of Finished Water**



Charlotte 81% 85% 82% 78%  
Average 83% 83% 83% 83%

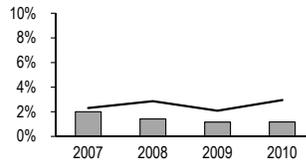
## EFFECTIVENESS Measures

**Percentage of Existing Pipeline Replaced or Rehabbed**



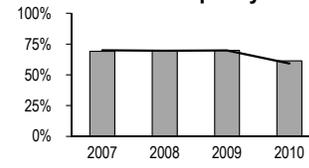
Charlotte 0.32% 0.29% 0.44% 0.17%  
Average 0.26% 0.22% 0.22% 0.21%

**Percentage of Water Bills Not Collected**



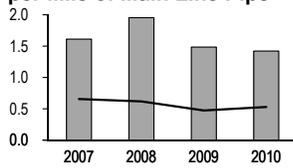
Charlotte 2.00% 1.42% 1.16% 1.17%  
Average 2.30% 2.86% 2.08% 2.94%

**Peak Daily Demand as a Percentage of Treatment Capacity**



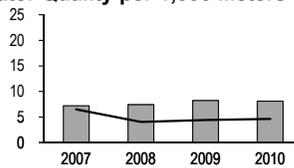
Charlotte 69% 70% 70% 61%  
Average 70% 70% 70% 59%

**Breaks and Leaks per Mile of Main Line Pipe**



Charlotte 1.61 1.95 1.49 1.42  
Average 0.66 0.62 0.47 0.53

**Customer Complaints about Water Quality per 1,000 Meters**



Charlotte 7.19 7.40 8.22 8.12  
Average 6.50 4.03 4.41 4.64

# Charlotte

Fiscal Year 2009–10

MUNICIPAL PROFILE	
Estimated Service Population	909,493
Service Land Area (Square Miles)	546.0
Persons per Square Mile	1,666
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2000)	\$56,517

FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	21.5%
Operating Costs	35.0%
Capital Costs	43.6%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 15,099,080
Operating Costs	\$ 24,583,341
Capital Costs	\$ 30,641,370
<b>TOTAL</b>	<b>\$ 70,323,791</b>

SERVICE PROFILE	
FTE Staff Positions	
Treatment Plant	38.0
Line Crews	138.0
Meter Readers	3.0
Billing/Collection	27.0
Other	182.0
Number of Treatment Plants	3
Total Treatment Capacity	242.0 MG
Average Daily Demand	108.8 MG
Miles of Mainline Pipe	4,064
Average Age of Mainline Pipe	20 years
Number of Breaks/Leaks	5,779
Number of Water Meters	261,685
Percent of Meters Read Automatically	99.9%
Total Revenues Collected	\$101,354,716

EXPLANATORY INFORMATION	
<b>Service Level and Delivery</b>	
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 pretreatment 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.	
<b>Conditions Affecting Service, Performance, and Costs</b>	
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.	

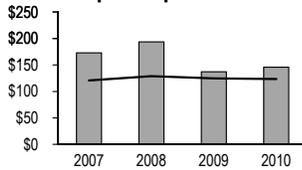
# Concord

# Water Services

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2010

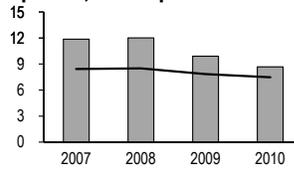
## RESOURCE Measures

**Water Services Cost per Capita**



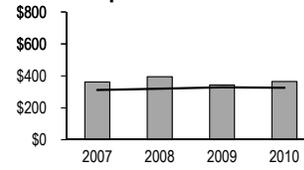
Concord	\$172.95	\$193.45	\$137.24	\$145.90
Average	\$120.64	\$128.92	\$124.71	\$123.31

**Water Services FTEs per 10,000 Population**



Concord	11.9	12.0	9.9	8.7
Average	8.4	8.5	7.8	7.5

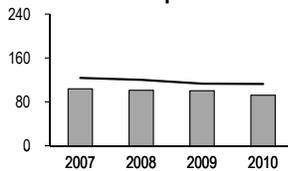
**Water Services Cost per Meter**



Concord	\$362	\$395	\$343	\$365
Average	\$311	\$320	\$328	\$325

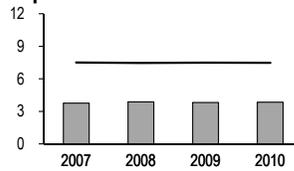
## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**



Concord	104.0	101.1	100.3	92.3
Average	123.8	120.1	113.4	112.6

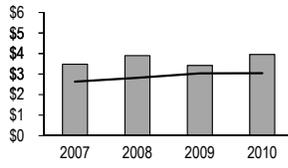
**Miles of Main Line Pipe per Square Mile of Service Area**



Concord	3.8	3.9	3.8	3.8
Average	7.5	7.5	7.5	7.5

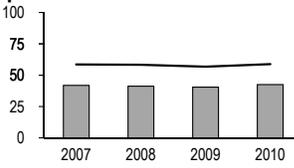
## EFFICIENCY Measures

**Total Cost per Thousand Gallons of Billed Water**



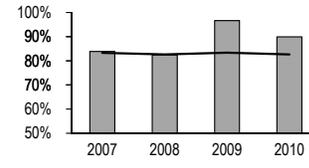
Concord	\$3.48	\$3.90	\$3.42	\$3.95
Average	\$2.63	\$2.81	\$3.04	\$3.04

**Million Gallons of Billed Water per Water Services FTEs**



Concord	41.9	41.3	40.5	42.5
Average	58.6	58.4	56.9	58.9

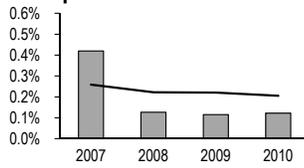
**Billed Water as a Percentage of Finished Water**



Concord	84%	82%	97%	90%
Average	83%	83%	83%	83%

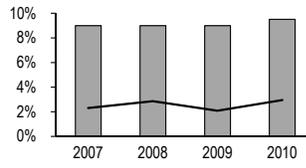
## EFFECTIVENESS Measures

**Percentage of Existing Pipeline Replaced or Rehabbed**



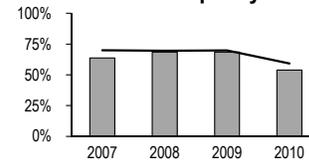
Concord	0.42%	0.13%	0.12%	0.12%
Average	0.26%	0.22%	0.22%	0.21%

**Percentage of Water Bills Not Collected**



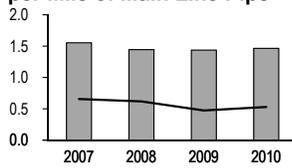
Concord	9.00%	9.00%	9.00%	9.51%
Average	2.30%	2.86%	2.08%	2.94%

**Peak Daily Demand as a Percentage of Treatment Capacity**



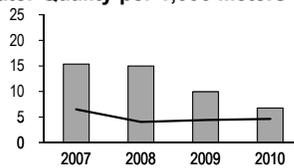
Concord	64%	69%	69%	54%
Average	70%	70%	70%	59%

**Breaks and Leaks per Mile of Main Line Pipe**



Concord	1.56	1.45	1.44	1.47
Average	0.66	0.62	0.47	0.53

**Customer Complaints about Water Quality per 1,000 Meters**



Concord	15.35	14.97	9.93	6.75
Average	6.50	4.03	4.41	4.64

# Concord

Fiscal Year 2009–10

MUNICIPAL PROFILE	
Estimated Service Population	84,425
Service Land Area (Square Miles)	173.4
Persons per Square Mile	487
County	Cabarrus
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2000)	\$53,571

FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	30.7%
Operating Costs	45.3%
Capital Costs	24.0%
<b>TOTAL</b>	<b>100.0%</b>
Cost Breakdown in Dollars	
Personal Services	\$ 3,783,723
Operating Costs	\$ 5,581,164
Capital Costs	\$ 2,952,725
<b>TOTAL</b>	<b>\$ 12,317,612</b>

SERVICE PROFILE	
FTE Staff Positions	
Treatment Plant	28.0
Line Crews	31.0
Meter Readers	3.0
Billing/Collection	6.3
Other	5.0
Number of Treatment Plants	2
Total Treatment Capacity	24.0 MG
Average Daily Demand	9.5 MG
Miles of Mainline Pipe	667
Average Age of Mainline Pipe	35 years
Number of Breaks/Leaks	978
Number of Water Meters	33,770
Percent of Meters Read Automatically	96.4%
Total Revenues Collected	\$19,504,258

**EXPLANATORY INFORMATION**

**Service Level and Delivery**  
 The City of Concord Water Resources Department is a water only utility. The departments 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 mainline 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.

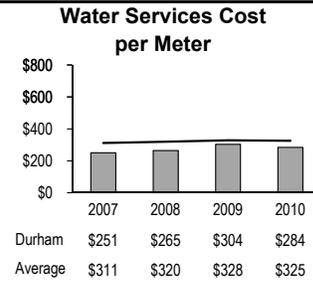
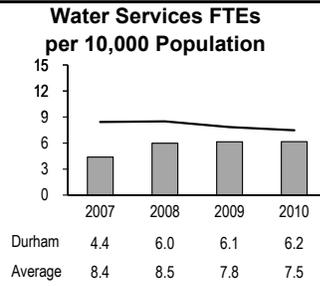
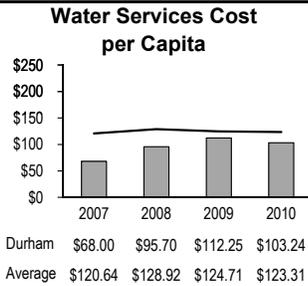
The costs of water service as captured here do not include debt service but do capture depreciation.

# Durham

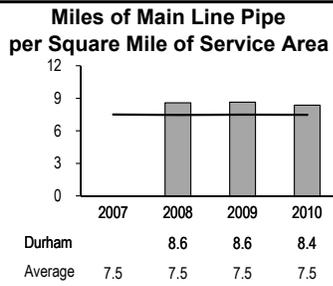
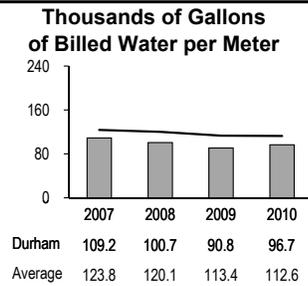
# Water Services

Key: Durham ■ Benchmarking Average — Fiscal Years 2007 through 2010

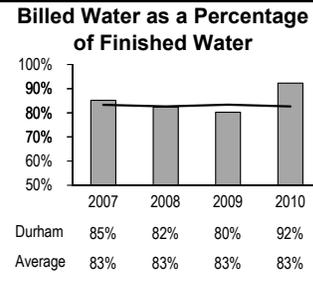
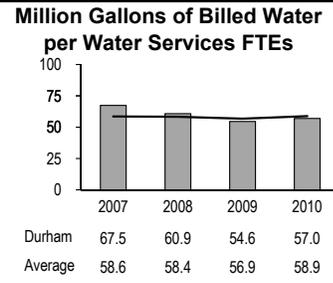
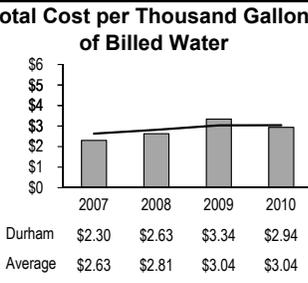
## RESOURCE Measures



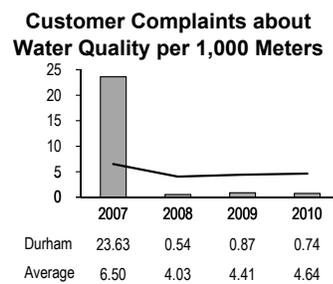
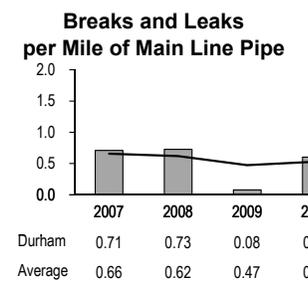
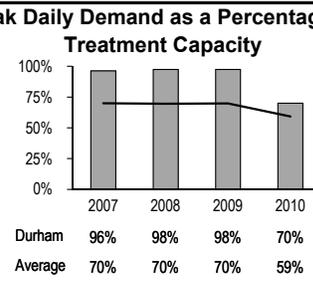
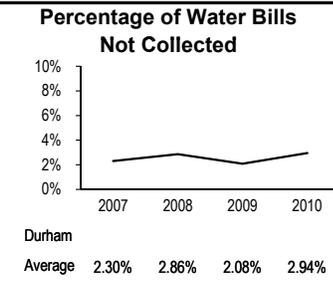
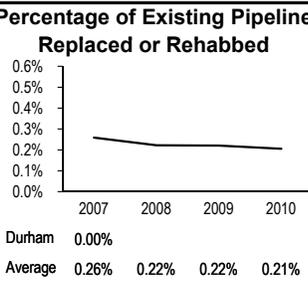
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



# Durham

Fiscal Year 2009–10

MUNICIPAL PROFILE	
Estimated Service Population	234,508
Service Land Area (Square Miles)	144.0
Persons per Square Mile	1,629
County	Durham
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2000)	\$45,441

FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	37.7%
Operating Costs	51.3%
Capital Costs	11.0%
<b>TOTAL</b>	<b>100.0%</b>

Cost Breakdown in Dollars	
Personal Services	\$ 9,137,102
Operating Costs	\$ 12,416,807
Capital Costs	\$ 2,655,667
<b>TOTAL</b>	<b>\$ 24,209,576</b>

SERVICE PROFILE	
FTE Staff Positions	
Treatment Plant	39.0
Line Crews	41.2
Meter Readers	14.9
Billing/Collection	11.3
Other	38.2
Number of Treatment Plants	2
Total Treatment Capacity	52.0 MG
Average Daily Demand	24.4 MG
Miles of Mainline Pipe	1,204
Average Age of Mainline Pipe	22 years
Number of Breaks/Leaks	727
Number of Water Meters	85,205
Percent of Meters Read Automatically	2.8%
Total Revenues Collected	\$40,043,379

EXPLANATORY INFORMATION	
<b>Service Level and Delivery</b>	
<p>The Durham Department of Water Management is a combined utility providing drinking water along with wastewater treatment. The broader utility fund also makes use of services from the Finance Department and the Public Works Department's Engineering Division.</p> <p>Durham's system provides water to all water customers in the City of Durham and to additional customers in Durham County. Approximately 234,000 people are served by the system.</p> <p>The water source for the system is two city-owned reservoirs, the Little River reservoir and Lake Michie in the Neuse River basin. Durham also has emergency connections with Cary, OWASA, Hillsborough, Chatham County, Orange-Alamance, and Morrisville.</p> <p>Durham has two treatment facilities with combined capacity of fifty-two million gallons per day. The Little River reservoir flows by gravity to the treatment plant but Lake Michie uses purchased electricity to pump water to the two treatment plants. Durham has many water main lines that are over 100 years old but generally plans on replacement at 100 years, depending on materials. The water system has two pressure zones, regular and high.</p> <p>Larger meters are read monthly and smaller meters are read every two months. Currently Durham has about three percent of its meters read by automatic means but is planning over the next few years to replace all residential touch read meters with drive-by automated meters. Meters are generally replaced every fifteen to twenty years.</p>	
<b>Conditions Affecting Service, Performance, and Costs</b>	
<p>Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.</p> <p>The costs of water service as captured here do not include debt service but do capture depreciation.</p>	

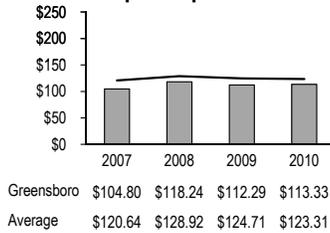
# Greensboro

# Water Services

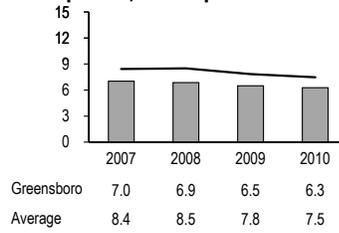
Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2010

## RESOURCE Measures

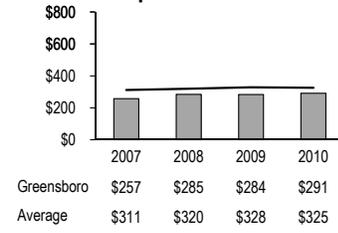
**Water Services Cost per Capita**



**Water Services FTEs per 10,000 Population**

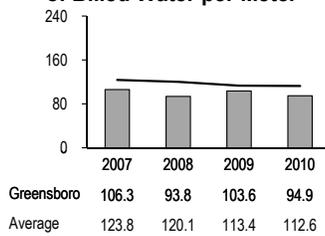


**Water Services Cost per Meter**

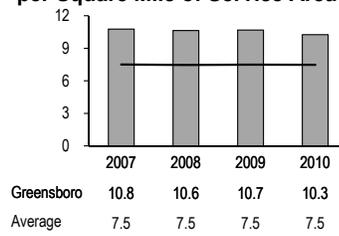


## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**

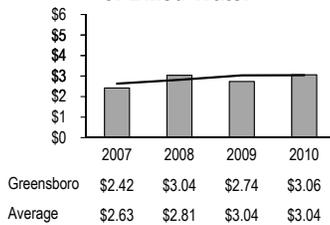


**Miles of Main Line Pipe per Square Mile of Service Area**

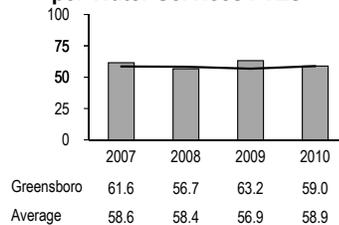


## EFFICIENCY Measures

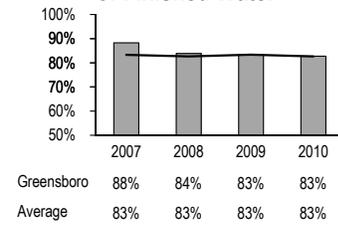
**Total Cost per Thousand Gallons of Billed Water**



**Million Gallons of Billed Water per Water Services FTEs**

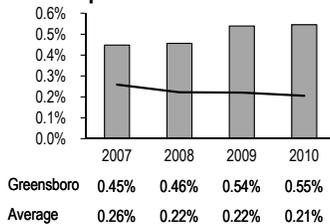


**Billed Water as a Percentage of Finished Water**

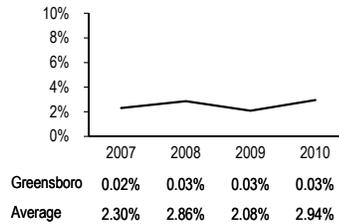


## EFFECTIVENESS Measures

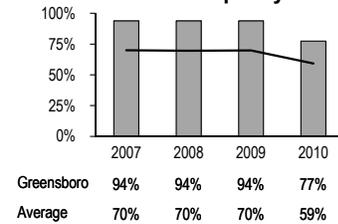
**Percentage of Existing Pipeline Replaced or Rehabbed**



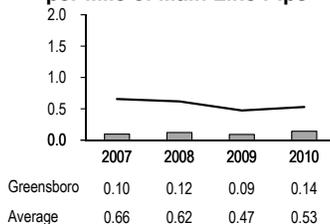
**Percentage of Water Bills Not Collected**



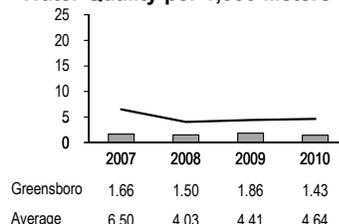
**Peak Daily Demand as a Percentage of Treatment Capacity**



**Breaks and Leaks per Mile of Main Line Pipe**



**Customer Complaints about Water Quality per 1,000 Meters**



# Greensboro

Fiscal Year 2009–10

MUNICIPAL PROFILE	
Estimated Service Population	260,000
Service Land Area (Square Miles)	143.1
Persons per Square Mile	1,817
County	Guilford
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2000)	\$50,192

FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	23.4%
Operating Costs	61.1%
Capital Costs	15.5%
<b>TOTAL</b>	<b>100.0%</b>

Cost Breakdown in Dollars	
Personal Services	\$ 6,897,364
Operating Costs	\$ 18,000,873
Capital Costs	\$ 4,566,521
<b>TOTAL</b>	<b>\$ 29,464,758</b>

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	31.8 MG
Miles of Mainline Pipe	1,469
Average Age of Mainline Pipe	37 years
Number of Breaks/Leaks	212
Number of Water Meters	101,293
Percent of Meters Read Automatically	100.0%
Total Revenues Collected	\$41,254,692

EXPLANATORY INFORMATION	
<b>Service Level and Delivery</b>	
<p>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 260,000 people in an area covering about 143 square miles. In addition to City of Greensboro residents the system serves many addresses in Guilford County in areas adjacent to the city limits.</p>	
<p>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 estimate as certified by engineers. The system has emergency connections with High Point, Burlington, Reidsville, and Winston-Salem.</p>	
<p>The city runs two treatment plants with a combined capacity of fifty-four million gallons. Both plants use conventional surface water treatment.</p>	
<p>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 \$1.3 million was spent in FY 2009–10.</p>	
<p>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.</p>	
<b>Conditions Affecting Service, Performance, and Costs</b>	
<p>Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.</p>	
<p>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.</p>	
<p>Greensboro has a \$300,000 per year public education program to encourage water conservation.</p>	
<p>The costs of water service as captured here do not include debt service but do capture depreciation.</p>	

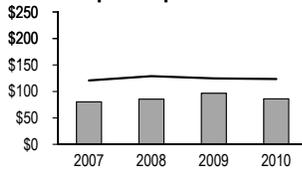
# Hickory

# Water Services

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2010

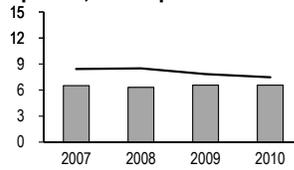
## RESOURCE Measures

**Water Services Cost per Capita**



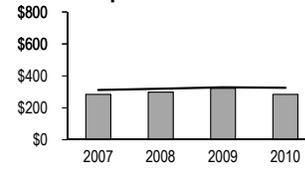
Hickory \$80.47 \$85.37 \$96.57 \$86.06  
Average \$120.64 \$128.92 \$124.71 \$123.31

**Water Services FTEs per 10,000 Population**



Hickory 6.5 6.3 6.6 6.6  
Average 8.4 8.5 7.8 7.5

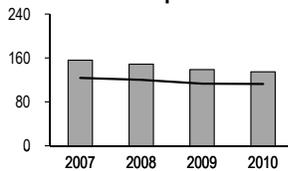
**Water Services Cost per Meter**



Hickory \$284 \$298 \$322 \$285  
Average \$311 \$320 \$328 \$325

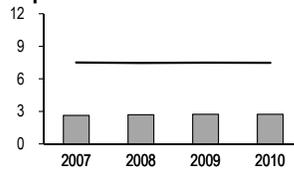
## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**



Hickory 156.1 148.7 138.9 134.8  
Average 123.8 120.1 113.4 112.6

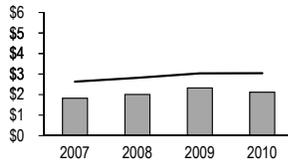
**Miles of Main Line Pipe per Square Mile of Service Area**



Hickory 2.6 2.7 2.7 2.7  
Average 7.5 7.5 7.5 7.5

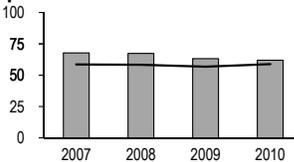
## EFFICIENCY Measures

**Total Cost per Thousand Gallons of Billed Water**



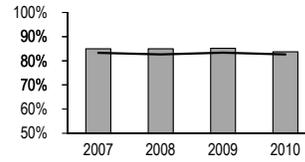
Hickory \$1.82 \$2.01 \$2.32 \$2.11  
Average \$2.63 \$2.81 \$3.04 \$3.04

**Million Gallons of Billed Water per Water Services FTEs**



Hickory 67.8 67.5 63.3 62.0  
Average 58.6 58.4 56.9 58.9

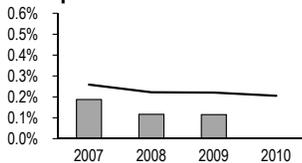
**Billed Water as a Percentage of Finished Water**



Hickory 85% 85% 85% 84%  
Average 83% 83% 83% 83%

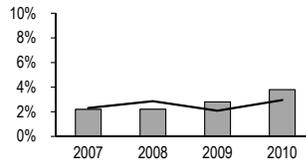
## EFFECTIVENESS Measures

**Percentage of Existing Pipeline Replaced or Rehabbed**



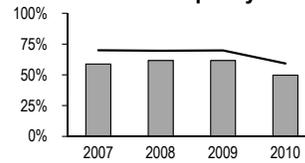
Hickory 0.19% 0.12% 0.12% 0.00%  
Average 0.26% 0.22% 0.22% 0.21%

**Percentage of Water Bills Not Collected**



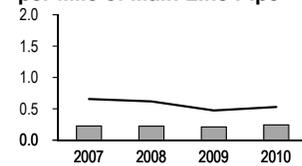
Hickory 2.19% 2.20% 2.80% 3.80%  
Average 2.30% 2.86% 2.08% 2.94%

**Peak Daily Demand as a Percentage of Treatment Capacity**



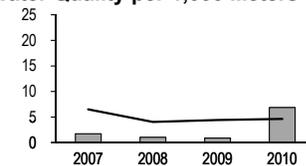
Hickory 59% 62% 62% 50%  
Average 70% 70% 70% 59%

**Breaks and Leaks per Mile of Main Line Pipe**



Hickory 0.23 0.22 0.21 0.24  
Average 0.66 0.62 0.47 0.53

**Customer Complaints about Water Quality per 1,000 Meters**



Hickory 1.73 1.03 0.87 6.87  
Average 6.50 4.03 4.41 4.64

# Hickory

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Estimated Service Population	92,000	<p><b>Service Level and Delivery</b> 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 92,000 people. Water is provided for the city of Hickory but 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.</p> <p>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.</p> <p>Water meters are read monthly. Hickory's replacement standard for water meters is twenty years. Two percent of water meters in the system are read by automatic means.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.</p> <p>The costs of water service as captured here do not include debt service but do capture depreciation.</p>
Service Land Area (Square Miles)	326.0	
Persons per Square Mile	282	
County	Catawba	
Topography	Gently rolling	
Climate	Moderate; Some ice and snow	
Median Family Income (US Census 2000)	\$47,522	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	33.8%	
Operating Costs	52.6%	
Capital Costs	13.7%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 2,673,310	
Operating Costs	\$ 4,163,073	
Capital Costs	\$ 1,080,851	
TOTAL	\$ 7,917,234	
<b>SERVICE PROFILE</b>		
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	14.2 MG	
Miles of Mainline Pipe	893	
Average Age of Mainline Pipe	40 years	
Number of Breaks/Leaks	218	
Number of Water Meters	27,807	
Percent of Meters Read Automatically	2.4%	
Total Revenues Collected	\$12,487,740	

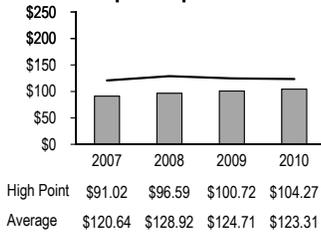
# High Point

# Water Services

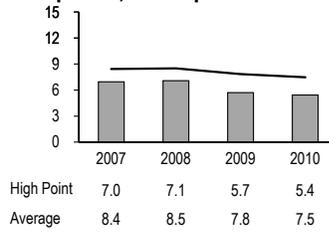
Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2010

## RESOURCE Measures

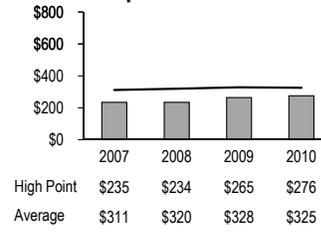
**Water Services Cost per Capita**



**Water Services FTEs per 10,000 Population**

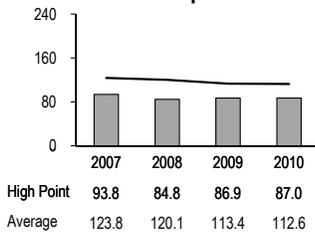


**Water Services Cost per Meter**

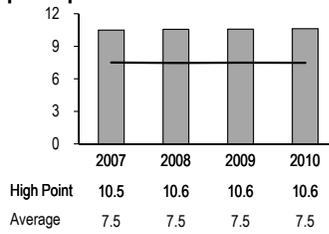


## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**

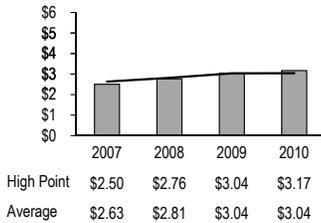


**Miles of Main Line Pipe per Square Mile of Service Area**

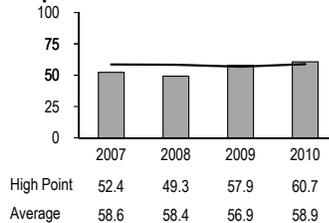


## EFFICIENCY Measures

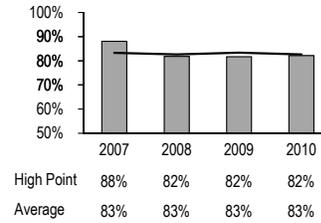
**Total Cost per Thousand Gallons of Billed Water**



**Million Gallons of Billed Water per Water Services FTEs**

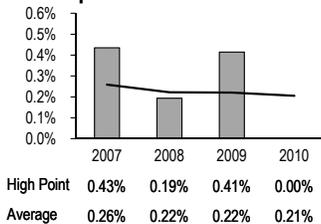


**Billed Water as a Percentage of Finished Water**

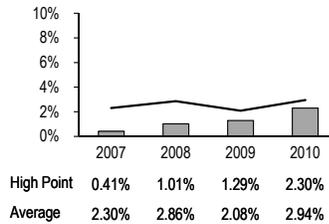


## EFFECTIVENESS Measures

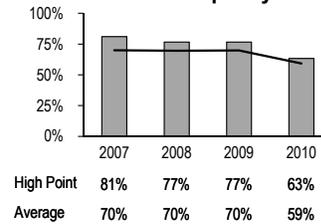
**Percentage of Existing Pipeline Replaced or Rehabbed**



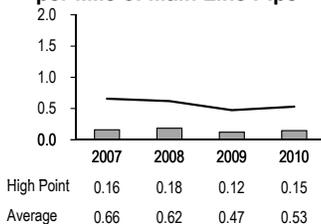
**Percentage of Water Bills Not Collected**



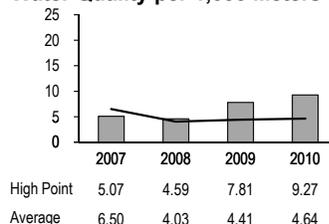
**Peak Daily Demand as a Percentage of Treatment Capacity**



**Breaks and Leaks per Mile of Main Line Pipe**



**Customer Complaints about Water Quality per 1,000 Meters**



# High Point

Fiscal Year 2009–10

MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Estimated Service Population	106,000	<p><b>Service Level and Delivery</b> 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.</p> <p>Water source for the system is 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 a upflow clarification process and a super "U" pulsator with a treatment capacity of twenty-four million gallons per day.</p> <p>Water meters are read monthly. Approximately ten percent of meters are read by automatic means. The city has a standard to replace water meters every ten years on average.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.</p> <p>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.</p> <p>The costs of water service as captured here do not include debt service but do capture depreciation.</p>
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 2000)	\$48,057	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	30.1%	
Operating Costs	32.1%	
Capital Costs	37.8%	
TOTAL	100.0%	
Cost Breakdown in Dollars		
Personal Services	\$ 3,330,216	
Operating Costs	\$ 3,545,393	
Capital Costs	\$ 4,177,163	
TOTAL	\$ 11,052,772	
<b>SERVICE PROFILE</b>		
FTE Staff Positions		
Treatment Plant	13.0	
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	11.6 MG	
Miles of Mainline Pipe	680	
Average Age of Mainline Pipe	50 years	
Number of Breaks/Leaks	101	
Number of Water Meters	40,111	
Percent of Meters Read Automatically	10.0%	
Total Revenues Collected	\$14,950,522	

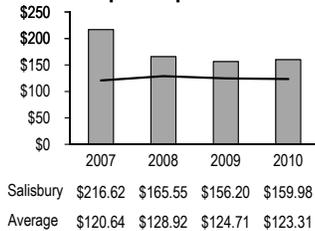
# Salisbury

# Water Services

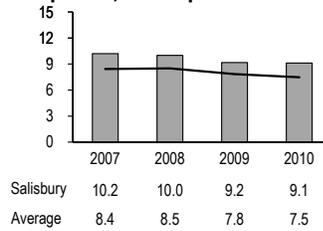
Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2010

## RESOURCE Measures

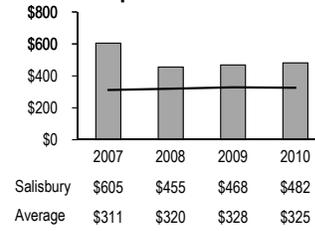
**Water Services Cost per Capita**



**Water Services FTEs per 10,000 Population**

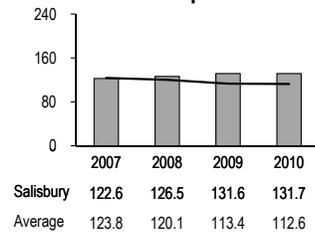


**Water Services Cost per Meter**

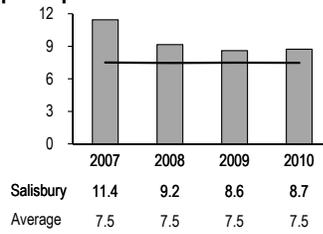


## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**

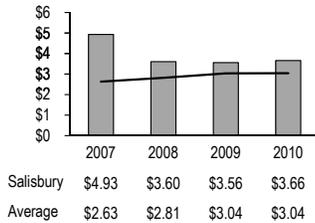


**Miles of Main Line Pipe per Square Mile of Service Area**

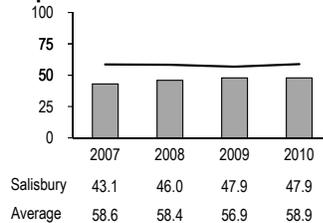


## EFFICIENCY Measures

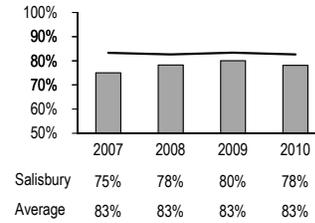
**Total Cost per Thousand Gallons of Billed Water**



**Million Gallons of Billed Water per Water Services FTEs**

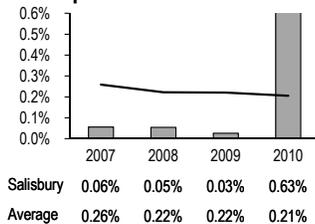


**Billed Water as a Percentage of Finished Water**

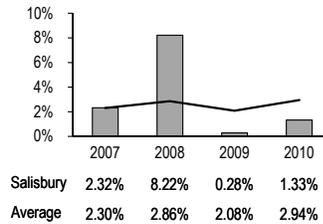


## EFFECTIVENESS Measures

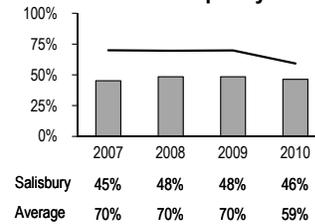
**Percentage of Existing Pipeline Replaced or Rehabbed**



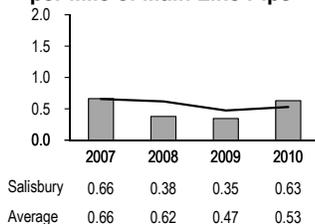
**Percentage of Water Bills Not Collected**



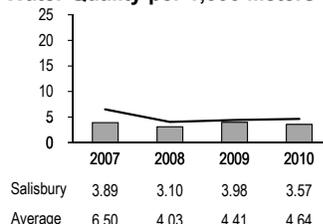
**Peak Daily Demand as a Percentage of Treatment Capacity**



**Breaks and Leaks per Mile of Main Line Pipe**



**Customer Complaints about Water Quality per 1,000 Meters**



# Salisbury

Fiscal Year 2009–10

MUNICIPAL PROFILE	
Estimated Service Population	51,500
Service Land Area (Square Miles)	44.9
Persons per Square Mile	1,147
County	Rowan
Topography	Gently rolling
Climate	Temperate; some ice and snow
Median Family Income (US Census 2000)	\$41,108

FULL COST PROFILE	
Cost Breakdown by Percentage	
Personal Services	28.1%
Operating Costs	45.8%
Capital Costs	26.1%
<b>TOTAL</b>	<b>100.0%</b>

Cost Breakdown in Dollars	
Personal Services	\$ 2,313,062
Operating Costs	\$ 3,771,567
Capital Costs	\$ 2,154,336
<b>TOTAL</b>	<b>\$ 8,238,965</b>

SERVICE PROFILE	
FTE Staff Positions	
Treatment Plant	8.0
Line Crews	13.0
Meter Readers	11.0
Billing/Collection	4.5
Other	10.5
Number of Treatment Plants	1
Total Treatment Capacity	25.0 MG
Average Daily Demand	7.9 MG
Miles of Mainline Pipe	392
Average Age of Mainline Pipe	43 years
Number of Breaks/Leaks	247
Number of Water Meters	17,103
Percent of Meters Read Automatically	0.0%
Total Revenues Collected	\$10,174,705

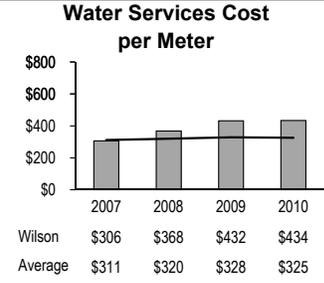
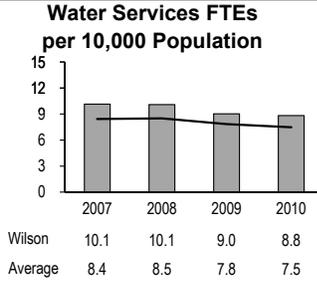
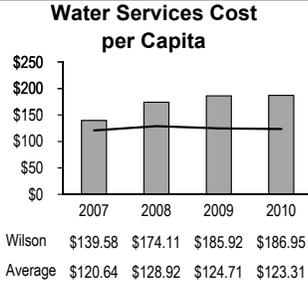
EXPLANATORY INFORMATION	
<b>Service Level and Delivery</b>	
<p>The City of Salisbury provides water service through an enterprise fund department. This department is known as Salisbury-Rowan Utilities. The system covers 44.9 square miles and covers much of Rowan County. Approximately 51,000 people are 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.</p>	
<p>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 pretreatment process followed by a conventional sedimentation and filtration treatment process.</p>	
<p>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.</p>	
<b>Conditions Affecting Service, Performance, and Costs</b>	
<p>Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.</p>	
<p>The costs of water service as captured here do not include debt service but do capture depreciation.</p>	
<p>Due to extreme cold coupled with wet ground causing a freeze/thaw cycle, Salisbury experienced a jump in pipe breaks over the prior year.</p>	

# Wilson

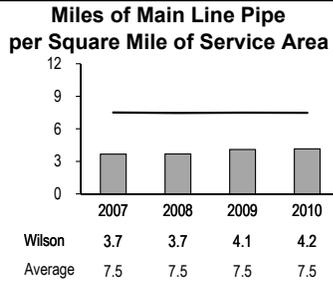
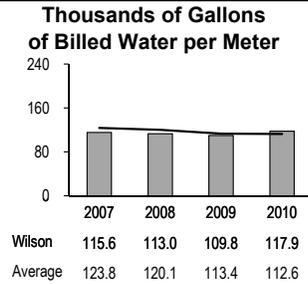
# Water Services

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2010

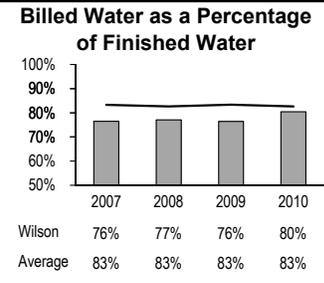
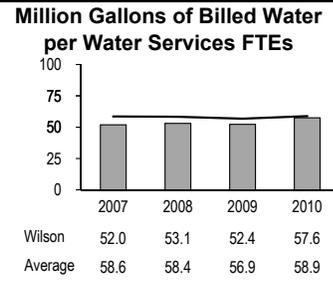
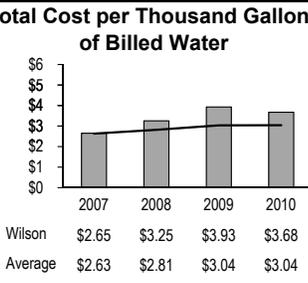
## RESOURCE Measures



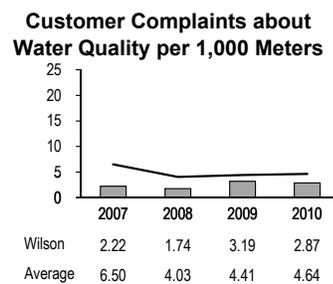
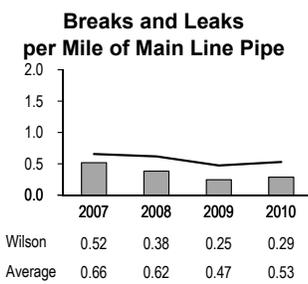
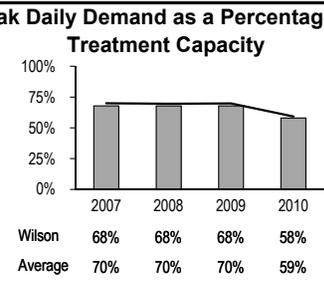
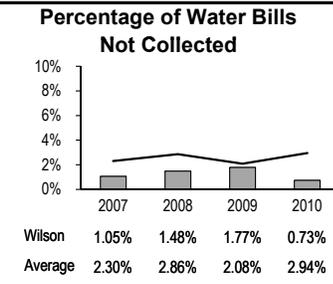
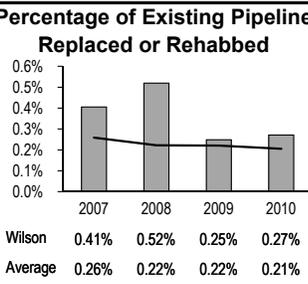
## WORKLOAD Measures



## EFFICIENCY Measures



## EFFECTIVENESS Measures



MUNICIPAL PROFILE		EXPLANATORY INFORMATION
Estimated Service Population	50,947	<p><b>Service Level and Delivery</b> 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 99 square miles.</p> <p>Source water for the system is 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.</p> <p>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.</p> <p>Water meters are read once per month in Wilson. Approximately twelve percent of the water meters in the system are read by automatic remote means using a radio system by Itron.</p> <p><b>Conditions Affecting Service, Performance, and Costs</b> Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.</p> <p>The costs of water service as captured here do not include debt service but do capture depreciation.</p>
Service Land Area (Square Miles)	99.0	
Persons per Square Mile	515	
County	Wilson	
Topography	Flat	
Climate	Mild; little ice and snow	
Median Family Income (US Census 2000)	\$41,041	
<b>FULL COST PROFILE</b>		
Cost Breakdown by Percentage		
Personal Services	31.1%	
Operating Costs	44.0%	
Capital Costs	24.9%	
<b>TOTAL</b>	<b>100.0%</b>	
Cost Breakdown in Dollars		
Personal Services	\$ 2,959,216	
Operating Costs	\$ 4,189,516	
Capital Costs	\$ 2,375,948	
<b>TOTAL</b>	<b>\$ 9,524,680</b>	
<b>SERVICE PROFILE</b>		
FTE Staff Positions		
Treatment Plant	18.0	
Line Crews	19.0	
Meter Readers	3.0	
Billing/Collection	2.0	
Other	3.0	
Number of Treatment Plants	2	
Total Treatment Capacity	22.0 MG	
Average Daily Demand	8.8 MG	
Miles of Mainline Pipe	412	
Average Age of Mainline Pipe	40 years	
Number of Breaks/Leaks	119	
Number of Water Meters	21,969	
Percent of Meters Read Automatically	11.8%	
Total Revenues Collected	\$9,672,880	

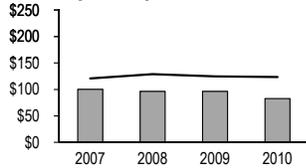
# Winston-Salem

# Water Services

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2010

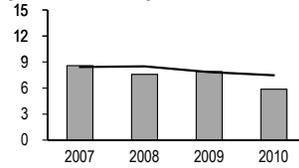
## RESOURCE Measures

**Water Services Cost per Capita**



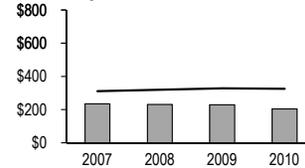
Year	Winston-Salem	Average
2007	\$100.27	\$120.64
2008	\$96.31	\$128.92
2009	\$96.19	\$124.71
2010	\$82.65	\$123.31

**Water Services FTEs per 10,000 Population**



Year	Winston-Salem	Average
2007	8.6	8.4
2008	7.6	8.5
2009	7.9	7.8
2010	5.9	7.5

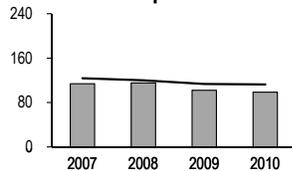
**Water Services Cost per Meter**



Year	Winston-Salem	Average
2007	\$235	\$311
2008	\$231	\$320
2009	\$229	\$328
2010	\$205	\$325

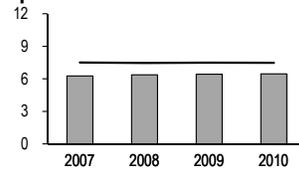
## WORKLOAD Measures

**Thousands of Gallons of Billed Water per Meter**



Year	Winston-Salem	Average
2007	113.7	123.8
2008	115.4	120.1
2009	102.0	113.4
2010	98.7	112.6

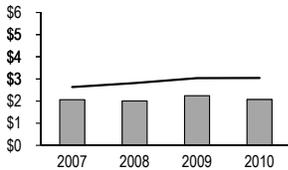
**Miles of Main Line Pipe per Square Mile of Service Area**



Year	Winston-Salem	Average
2007	6.3	7.5
2008	6.4	7.5
2009	6.4	7.5
2010	6.5	7.5

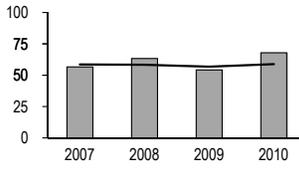
## EFFICIENCY Measures

**Total Cost per Thousand Gallons of Billed Water**



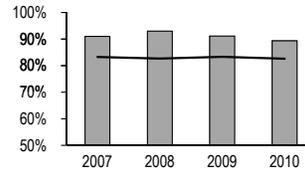
Year	Winston-Salem	Average
2007	\$2.06	\$2.63
2008	\$2.00	\$2.81
2009	\$2.24	\$3.04
2010	\$2.07	\$3.04

**Million Gallons of Billed Water per Water Services FTEs**



Year	Winston-Salem	Average
2007	56.6	58.6
2008	63.4	58.4
2009	54.2	56.9
2010	67.9	58.9

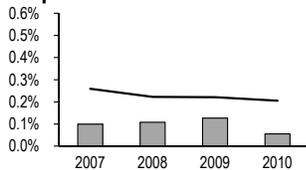
**Billed Water as a Percentage of Finished Water**



Year	Winston-Salem	Average
2007	91%	83%
2008	93%	83%
2009	91%	83%
2010	89%	83%

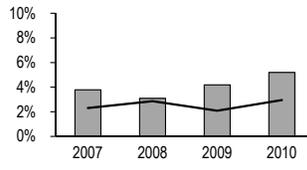
## EFFECTIVENESS Measures

**Percentage of Existing Pipeline Replaced or Rehabbed**



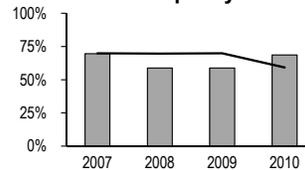
Year	Winston-Salem	Average
2007	0.10%	0.26%
2008	0.11%	0.22%
2009	0.13%	0.22%
2010	0.06%	0.21%

**Percentage of Water Bills Not Collected**



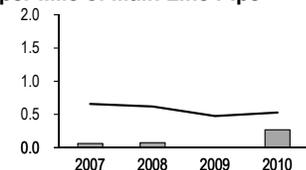
Year	Winston-Salem	Average
2007	3.79%	2.30%
2008	3.08%	2.86%
2009	4.19%	2.08%
2010	5.20%	2.94%

**Peak Daily Demand as a Percentage of Treatment Capacity**



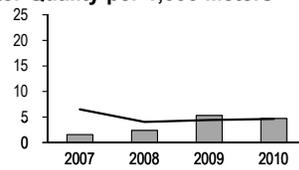
Year	Winston-Salem	Average
2007	70%	70%
2008	59%	70%
2009	59%	70%
2010	69%	59%

**Breaks and Leaks per Mile of Main Line Pipe**



Year	Winston-Salem	Average
2007	0.06	0.66
2008	0.07	0.62
2009	0.27	0.47
2010	0.27	0.53

**Customer Complaints about Water Quality per 1,000 Meters**



Year	Winston-Salem	Average
2007	1.56	6.50
2008	2.38	4.03
2009	5.29	4.41
2010	4.71	4.64

# Winston-Salem

Fiscal Year 2009–10

## MUNICIPAL PROFILE

Estimated Service Population	300,000
Service Land Area (Square Miles)	325.0
Persons per Square Mile	923
County	Forsyth
Topography	Gently rolling
Climate	Moderate; some ice and snow
Median Family Income (US Census 2000)	\$46,595

## FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	25.0%
Operating Costs	40.9%
Capital Costs	34.1%
<b>TOTAL</b>	<b>100.0%</b>

Cost Breakdown in Dollars	
Personal Services	\$ 6,199,819
Operating Costs	\$ 10,132,920
Capital Costs	\$ 8,461,684
<b>TOTAL</b>	<b>\$ 24,794,423</b>

## 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	
	2
Total Treatment Capacity	73.0 MG
Average Daily Demand	36.7 MG
Miles of Mainline Pipe	
	2,101
Average Age of Mainline Pipe	62.5 years
Number of Breaks/Leaks	566
Number of Water Meters	
	121,095
Percent of Meters Read Automatically	0.6%
Total Revenues Collected	\$40,979,931

## 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 300,000 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 source for the system is at two separate points on the Yadkin River. The city also uses Salem Lake as a second water source. The estimated safe yield for the system is 100 million gallons per day.

The city uses three treatment plants. One plant is currently out of service and will be finished with reconstruction in 2011. With the current two plants, treatment capacity is seventy-three million gallons and will increase to ninety-one million gallons when the third plant returns to service. 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 over 2,000 miles of pipeline with an estimated average age of 62.5 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.

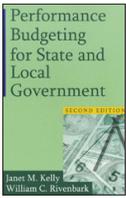
### Conditions Affecting Service, Performance, and Costs

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. The costs for water are down because one of the three treatment plants is closed for replacement and a city wide hiring freeze.



For more information on the North Carolina Local Government Performance Measurement Project, please see [www.sog.unc.edu/programs/perfmeas/index.html](http://www.sog.unc.edu/programs/perfmeas/index.html).



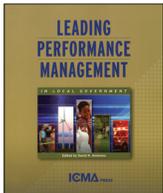
### **Performance Budgeting for State and Local Government**

Second Edition, 2010, published by M.E. Sharpe  
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



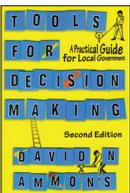
### **Leading Performance Management in Local Government**

2008, published by the ICMA  
Edited by David N. Ammons



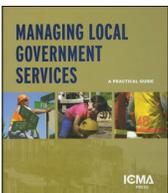
### **Development Review in Local Government: Benchmarking Best Practices**

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



### **Managing Local Government Services: A Practical Guide**

2007, published by the ICMA  
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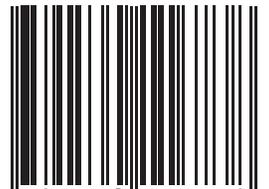
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