NORTH CAROLINA LOCAL GOVERNMENT
PERFORMANCE MEASUREMENT PROJECT

Final Report on City Services for Fiscal Year 2007–2008

PERFORMANCE AND COST DATA

FEBRUARY 2009

COSPONSORED BY:

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

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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, 2008, for the seventeen North Carolina municipalities participating in the benchmarking project —Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem. Twelve 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 Sandy Bumgarner, budget analyst, of Asheville; Sandy Svoboda, purchasing officer/budget analyst of Carrboro; Scott Fogleman, budget director, Kathy Lleras, budget analyst, and Marcello Penha, budget analyst, of Cary; Bill Parks, budget and evaluation analyst, and Toni Gortney, budget and evaluation analyst, of Charlotte; Robin Barham, budget and performance manager, and Lesley Hall, management analyst, of Concord; Matthew Brinkley, budget analyst of Durham; Crystal Falls, senior budget analyst of Gastonia; Mary Vigue, budget analyst of Greensboro; Karen Hurley, budget analyst of Hickory; Louanne C. Hedrick, budget manager of High Point; Christine Surratt, finance director of Matthews; David Scarborough, staff analyst of Raleigh; 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 Lukas Brun who worked on this report as a research assistant.

Dale J. Roenigk
February 2009

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INTRODUCTION

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

- Asheville
- Burlington
- Carrboro
- Cary
- Charlotte
- Concord
- Durham
- Gastonia
- Greensboro
- Hickory
- High Point
- Matthews
- Raleigh
- 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 thirteenth publication representing municipal services. The previous twelve 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).

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, 2008. It also presents multiyear data for participants based on the number of fiscal years that each municipality has participated in the benchmarking project. The following table provides the five fiscal years of performance measures by final report contained within and the corresponding municipalities by fiscal year of participation.

Final Report	Jurisdictions
Final Report on City Services for Fiscal Year 2003–2004	Asheville, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2004–2005	Asheville, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2005–2006	Asheville, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2006–2007	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Final Report on City Services for Fiscal Year 2007–2008	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem

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, 2008. 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, 2004, through June 30, 2007, 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.

Service Area	Jurisdictions
Residential Refuse Collection	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Household Recycling	Asheville, Burlington, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Yard Waste/Leaf Collection	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Police Services	Asheville, Burlington, Carrboro, Cary, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Emergency Communications	Asheville, Burlington, Cary, Concord, Durham, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, and Winston-Salem
Asphalt Maintenance and Repair	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Salisbury, Wilmington, Wilson, and Winston-Salem
Fire Services	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem

Service Area	Jurisdictions
Building Inspections	Asheville, Burlington, Carrboro, Cary, Durham, Gastonia, Greensboro, High Point, Raleigh, Wilson, and Winston-Salem
Fleet Maintenance	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Matthews, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Human Resources	Asheville, Burlington, Carrboro, Cary, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Raleigh, Salisbury, Wilmington, Wilson, and Winston-Salem
Water Services	Asheville, Burlington, Charlotte, Concord, Durham, Gastonia, Greensboro, Hickory, High Point, Raleigh, Salisbury, Wilson, and Winston-Salem

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

Performance and Cost Data

RESIDENTIAL REFUSE COLLECTION

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 for fiscal year 2007–08. 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.

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Residential Refuse Collection

Summary of Key Dimensions of Service

FY 2007-08

City or Town	Collection Location	Collection Points	Tons Collected	Weekly Routes	Percentage Contracted Service	Crew Size (most commonly used)	FTE Collection Positions	Main Equipment		Landfill	
								Packers	Automated	Trips per Day	Distance
Asheville	Curbside	28,485	25,621	38	0%	1 & 3 person	16	2	7	2	6 Miles
Burlington	Curbside	17,594	15,588	25	0%	1 & 2 person	8.5	1	5	2	17 Miles
Carrboro	Curbside	2,871	2,750	5	0%	1 person	1.64	0	1	2	5 Miles
Cary	Curbside	38,500	32,494	48	0%	1 & 4 person	27	3	10	1.5	7 Miles
Charlotte	Curbside	206,359	192,434	300	22%	1 & 2 person	62	9	40	1.5	14 Miles
Concord	Curbside	26,642	23,883	45	100%	2 person	NA	NA	NA	2	8 Miles
Durham	Curbside	64,500	48,931	96	0%	1 & 3 person	57	10	14	2	11 Miles
Gastonia	Curbside	25,701	13,618	25	0%	1 person	5.75	0	5	2	26 Miles
Greensboro	Curbside	66,215	61,974	108	0%	1 & 2 person	45	8	17	1.75	8 Miles
Hickory	Curbside	11,600	9,461	15	0%	1 person	4.25	1	3	2	5 Miles
High Point	Curbside	35,332	33,644	40	0%	3 person	35	10	0	2	8 Miles
Matthews	Curbside	8,721	8,840	12	100%	2 person	NA	NA	NA	2	15 Miles
Raleigh	Curbside	108,203	83,648	144	0%	1 & 3 person	74	12	25	2	7 Miles
Salisbury	Curbside	11,262	9,102	15	0%	1 & 2 person	9.5	6	0	1	4 Miles
Wilmington	Curbside	28,317	27,124	44	0%	2 & 3 person	38	15	0	2	10 Miles
Wilson	Curbside	17,700	19,302	19	0%	1 & 3 person	11	2	5	2	10 Miles
Winston-Salem	Curbside and Backyard	73,500	51,394	134	0%	3 person	106.8	31	1	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

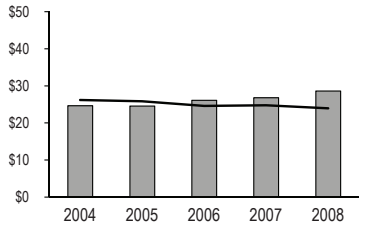
These are factors that the project found to affect residential refuse collection performance and cost in one or more of the municipalities:

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)

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

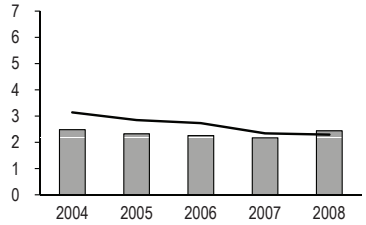
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Asheville	$24.62	$24.56	$26.10	$26.79	$28.62
Average	$26.20	$25.86	$24.59	$24.78	$23.97

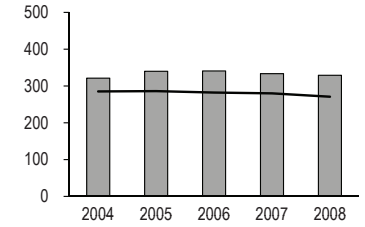
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	2.48	2.32	2.25	2.17	2.44
Average	3.14	2.85	2.74	2.34	2.30

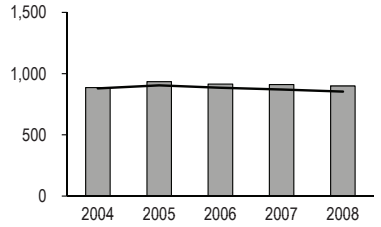
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	321	340	341	333	329
Average	285	286	282	280	271

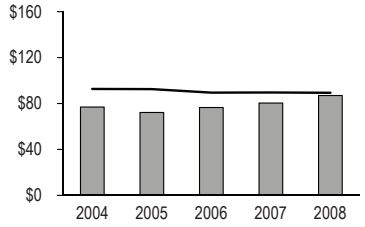
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Asheville	886	934	914	911	899
Average	880	904	885	870	853

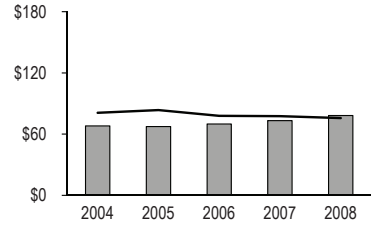
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



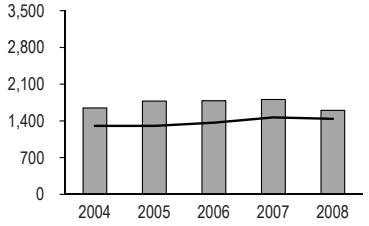
	2004	2005	2006	2007	2008
Asheville	$77	$72	$77	$80	$87
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Asheville	$68	$67	$70	$73	$78
Average	$81	$84	$78	$78	$76

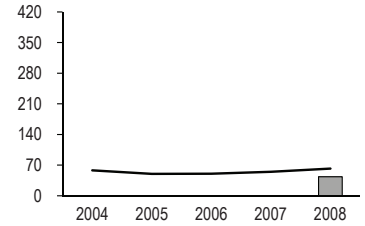
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Asheville	1,645	1,778	1,783	1,808	1,601
Average	1,305	1,304	1,365	1,467	1,439

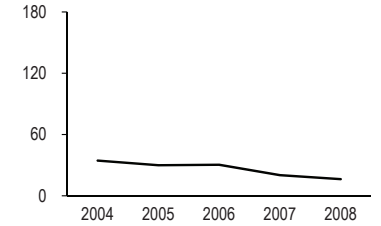
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Asheville					43.5
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Asheville					
Average	34.5	30.0	30.4	20.1	16.3

Asheville

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2000)	$44,029

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		36.7%
Operating Costs		45.6%
Capital Costs		17.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	816,837
Operating Costs	$	1,014,622
Capital Costs	$	395,931
TOTAL	$	2,227,390

SERVICE PROFILE

FTE Positions—Collection	16.0
FTE Positions—Other	3.0
Tons Collected	25,621
Residential Customers (number represents collection points)	28,485
Collection Location (backyard for fee and 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	7 automated packers 2 packers

EXPLANATORY INFORMATION

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

The city uses seven automated trucks with one driver from Monday to Thursday working ten-hour days. Two rear loading packers with one driver and two collectors for each truck are used from Monday to Friday for the collection of bulky items, cleanups, and streets not accessible by automated trucks.

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. The average distance to the landfill or transfer station is six miles.

The city collected 25,621 tons of residential refuse during FY 2007–08, at a cost of $87 per ton. The cost per ton does not include the disposal cost per ton of $32 at the landfill or $33 at the transfer station.

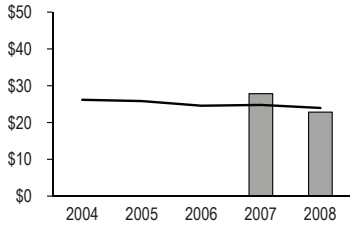
Residents receiving automated service are provided with one container. The majority of the containers are ninety-five-gallon capacity. Some residents use containers of sixty-five-gallon or thirty-five-gallon capacity. Residents may rent more containers if desired. Residents receiving rear loading service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

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

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

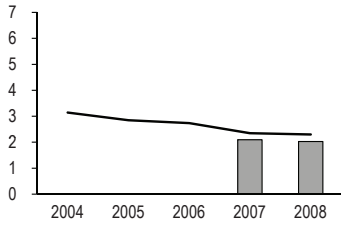
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Burlington				$27.84	$22.81
Average	$26.20	$25.86	$24.59	$24.78	$23.97

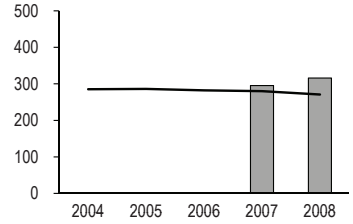
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				2.10	2.03
Average	3.14	2.85	2.74	2.34	2.30

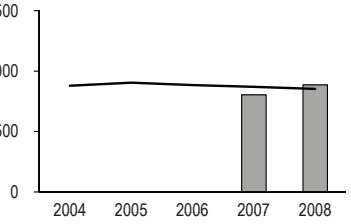
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				295	316
Average	285	286	282	280	271

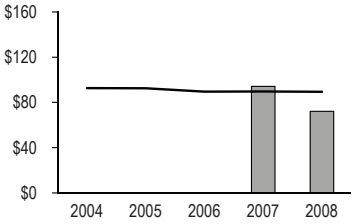
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Burlington				803	886
Average	880	904	885	870	853

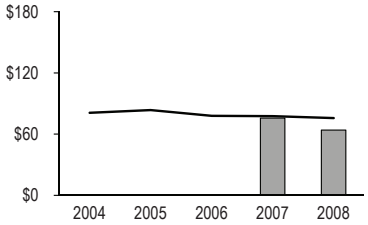
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



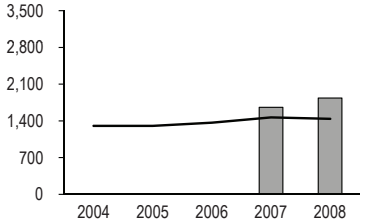
	2004	2005	2006	2007	2008
Burlington				$94	$72
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Burlington				$76	$64
Average	$81	$84	$78	$78	$76

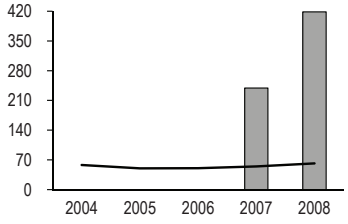
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Burlington				1,657	1,834
Average	1,305	1,304	1,365	1,467	1,439

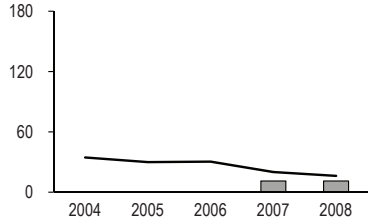
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Burlington				239.1	418.6
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Burlington				11.2	11.1
Average	34.5	30.0	30.4	20.1	16.3

Burlington

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
Topography	Flat; gently rolling
County	Alamance
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$45,441

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		44.3%
Operating Costs		35.8%
Capital Costs		19.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	498,507
Operating Costs	$	402,935
Capital Costs	$	224,074
TOTAL	$	1,125,516

SERVICE PROFILE

FTE Positions—Collection	8.50
FTE Positions—Other	1.50
Tons Collected	15,588
Residential Customers (number represents collection points)	17,594
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 person
Percentage of Service Contracted	0%
Service Fee (monthly)	$6.00
Type of Equipment	5 automated packers 1 packer

EXPLANATORY INFORMATION

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

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

The city collected 15,588 tons of residential refuse during FY 2007–08, at a cost of $72 per ton. The cost per ton does not include the disposal cost per ton of $36 at the landfill.

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

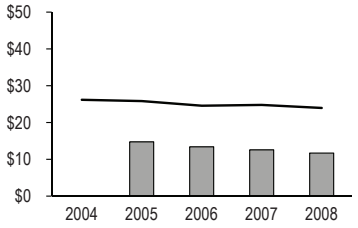
Conditions Affecting Service, Performance, and Costs
Complaints for Burlington include calls for service, inquiries, and regular complaints. Complaints are considered valid if verified by a supervisor in the field.

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

Key: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

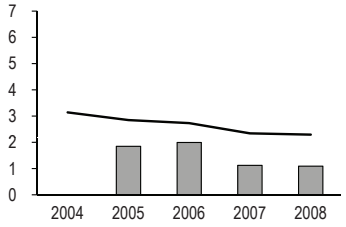
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Carrboro		$14.73	$13.39	$12.54	$11.69
Average	$26.20	$25.86	$24.59	$24.78	$23.97

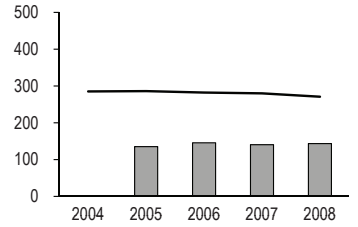
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		1.85	1.99	1.12	1.09
Average	3.14	2.85	2.74	2.34	2.30

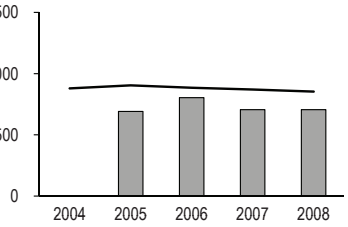
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Carrboro		135	146	140	143
Average	285	286	282	280	271

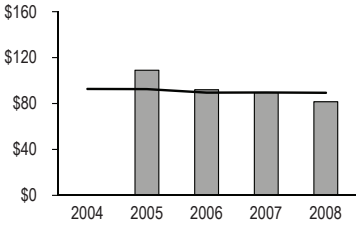
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Carrboro		691	804	706	706
Average	880	904	885	870	853

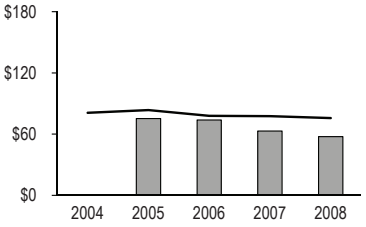
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



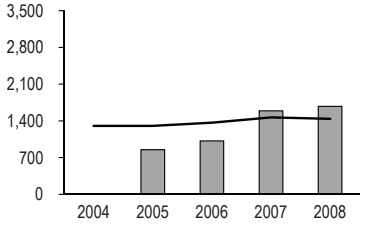
	2004	2005	2006	2007	2008
Carrboro		$109	$92	$89	$82
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Carrboro		$75	$74	$63	$58
Average	$81	$84	$78	$78	$76

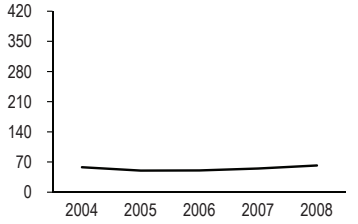
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Carrboro		852	1,017	1,592	1,677
Average	1,305	1,304	1,365	1,467	1,439

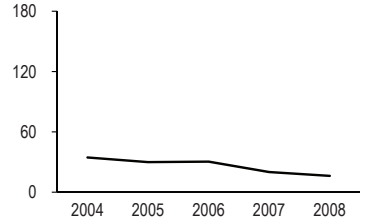
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Carrboro					
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Carrboro					
Average	34.5	30.0	30.4	20.1	16.3

Carrboro

MUNICIPAL PROFILE

Population (OSBM 2007)	19,178
Land Area (Square Miles)	6.33
Persons per Square Mile	3,030
Topography	Flat; gently rolling
County	Orange
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$47,330

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		43.6%
Operating Costs		40.2%
Capital Costs		16.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	97,809
Operating Costs	$	90,128
Capital Costs	$	36,276
TOTAL	$	224,213

SERVICE PROFILE

FTE Positions—Collection	1.64
FTE Positions—Other	0.45
Tons Collected	2,750
Residential Customers (number represents collection points)	3,897
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	1 automated packer

EXPLANATORY INFORMATION

Service Level and Delivery
Carrboro collects residential refuse once a week at curbside, although backyard collection is provided if it is medically necessary (documentation is required).

The town uses an automated arm truck with one driver. One truck collects five days a week. The average number of trips to the landfill is two per day per route, and the average distance to the landfill is five miles.

The town collected 2,750 tons of residential refuse during FY 2007–08 at a cost of $82 per ton. The cost per ton does not include the tipping fee at the landfill of $47.

Residents are required to purchase a ninety-five-gallon container. Additional containers may be purchased. While there is no limit on the number of containers per household, no household has more than three.

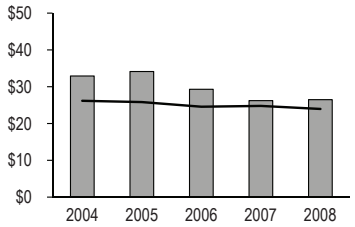
Conditions Affecting Service, Performance, and Costs
The town does not track complaints or valid complaints.

Because more than half of Carrboro's population lives in multi-unit housing, which is not part of this service area definition, the workload measure "tons per 1,000 population" is low.

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

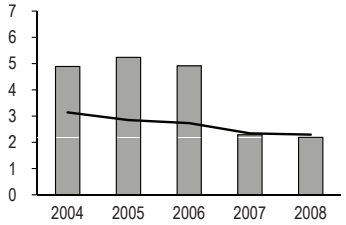
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Cary	$32.90	$34.13	$29.29	$26.23	$26.46
Average	$26.20	$25.86	$24.59	$24.78	$23.97

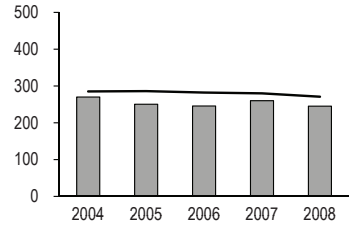
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	4.89	5.24	4.92	2.29	2.19
Average	3.14	2.85	2.74	2.34	2.30

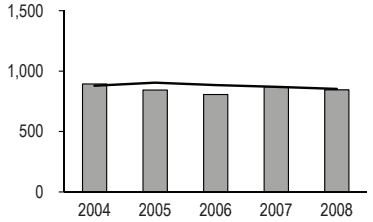
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Cary	270	251	246	260	245
Average	285	286	282	280	271

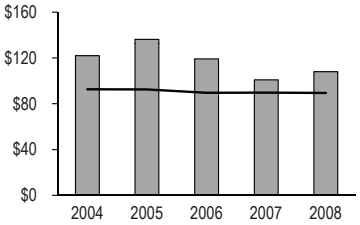
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Cary	893	843	806	871	844
Average	880	904	885	870	853

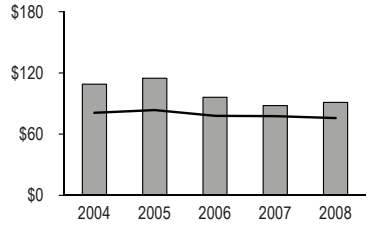
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



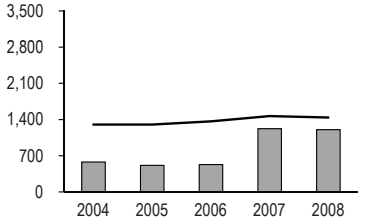
	2004	2005	2006	2007	2008
Cary	$122	$136	$119	$101	$108
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Cary	$109	$115	$96	$88	$91
Average	$81	$84	$78	$78	$76

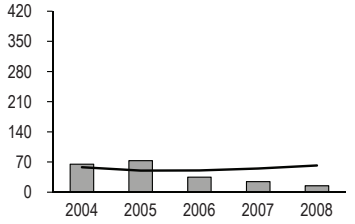
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Cary	579	514	528	1,223	1,203
Average	1,305	1,304	1,365	1,467	1,439

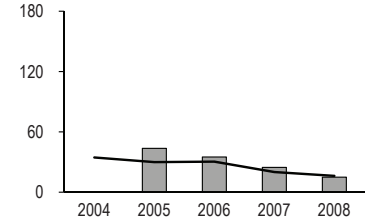
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Cary	64.9	73.0	35.0	24.7	15.0
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Cary		43.7	35.0	24.7	15.0
Average	34.5	30.0	30.4	20.1	16.3

Cary

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$88,074

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		51.8%
Operating Costs		34.1%
Capital Costs		14.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,818,044
Operating Costs	$	1,196,063
Capital Costs	$	494,761
TOTAL	$	3,508,868

SERVICE PROFILE

FTE Positions—Collection	27.0
FTE Positions—Other	2.0
Tons Collected	32,494
Residential Customers (number represents collection points)	38,500
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)	$11.75
Type of Equipment	10 automated packers 3 packers

EXPLANATORY INFORMATION

Service Level and Delivery

Cary residential refuse collection began major changes during FY 2005–06 moving from backyard collection to curbside and transitioning to automation by the start of FY 2006–07. The town charges a fee of $11.75 per month, covering both solid waste and recycling services.

Cary uses 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 2007–08, with 1.5 average trips to the transfer station per day per route. The average distance to the transfer station was seven miles.

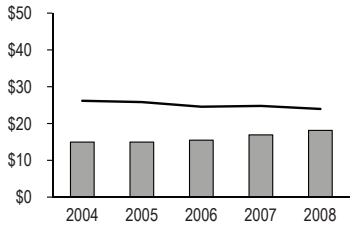
The town collected 32,494 tons of residential refuse during FY 2007–08, at a cost of $108 per ton. The cost per ton does not include the disposal cost of $35, representing the transfer station cost and the county landfill tipping fee. Residents use one ninety-five-gallon receptacle.

Conditions Affecting Service, Performance, and Costs

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2004 through 2008

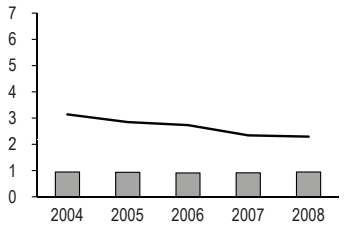
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Charlotte	$14.94	$14.94	$15.47	$16.91	$18.13
Average	$26.20	$25.86	$24.59	$24.78	$23.97

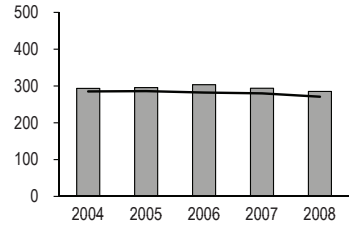
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Charlotte	0.95	0.93	0.91	0.91	0.95
Average	3.14	2.85	2.74	2.34	2.30

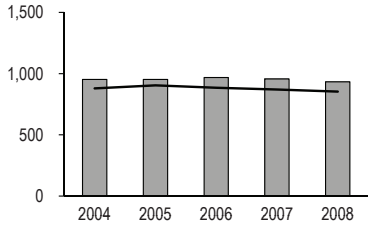
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Charlotte	294	296	304	294	285
Average	285	286	282	280	271

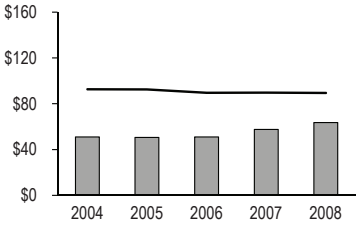
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Charlotte	952	953	968	956	933
Average	880	904	885	870	853

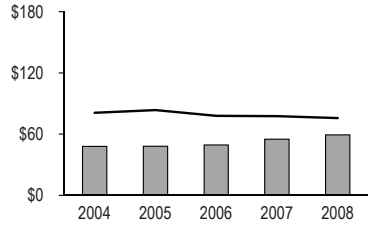
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



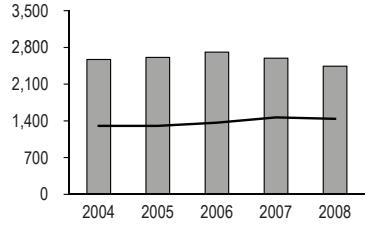
	2004	2005	2006	2007	2008
Charlotte	$51	$51	$51	$58	$64
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Charlotte	$48	$48	$49	$55	$59
Average	$81	$84	$78	$78	$76

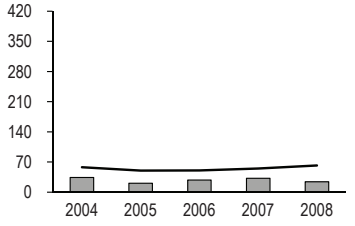
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Charlotte	2,571	2,608	2,709	2,595	2,442
Average	1,305	1,304	1,365	1,467	1,439

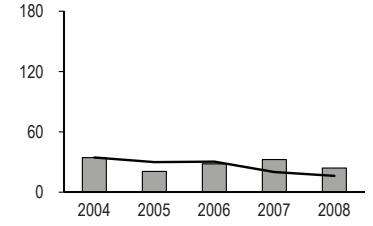
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Charlotte	34.3	20.6	28.2	32.4	24.0
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Charlotte	34.3	20.6	28.2	32.4	24.0
Average	34.5	30.0	30.4	20.1	16.3

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2007)	674,752
Land Area (Square Miles)	287.93
Persons per Square Mile	2,343
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$56,517

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		26.4%
Operating Costs		61.2%
Capital Costs		12.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,226,054
Operating Costs	$	7,487,440
Capital Costs	$	1,522,077
TOTAL	$	12,235,571

SERVICE PROFILE

FTE Positions—Collection	62.00
FTE Positions—Other	1.85
Tons Collected	192,434
Residential Customers (number represents collection points)	206,359
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 2 person
Percentage of Service Contracted	22%
Service Fee	No
Type of Equipment	40 automated packers 9 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte collects residential refuse once a week at curbside. Backyard service is available only to those persons with valid medical reasons and physician certification. The city did not charge a fee for residential refuse collection during FY 2007–08.

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 2007–08, the city provided service to three of the four zones. One zone was serviced by the private sector at a cost of $2,588,873 and covered approximately 22 percent of the collection points.

City crews are composed primarily of one driver each, operating an automated packer. There were forty of these crews for FY 2007–08. 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 fewer 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.

The city serviced 300 daily collection routes once each week during FY 2007–08, with an average of 1.5 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 192,434 tons of residential refuse during the fiscal year at a cost of $64 per ton. The cost per ton does not include the disposal cost of $26, representing the landfill tipping fee.

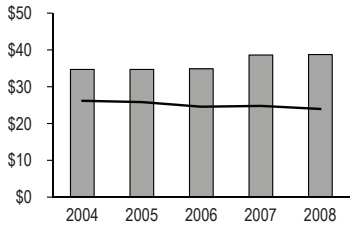
Conditions Affecting Service, Performance, and Costs
Charlotte is highly automated in the area of residential refuse collection. It also uses managed competition for this service and considers all complaints to be valid complaints.

The performance measure "tons collected per collection FTE" represents city crews only.

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

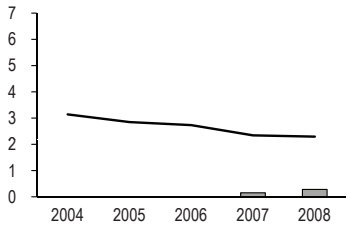
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Concord	$34.70	$34.69	$34.89	$38.60	$38.75
Average	$26.20	$25.86	$24.59	$24.78	$23.97

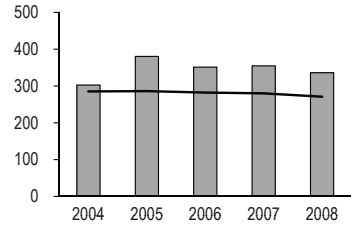
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord				0.15	0.28
Average	3.14	2.85	2.74	2.34	2.30

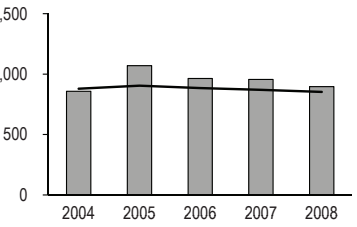
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Concord	303	380	351	355	336
Average	285	286	282	280	271

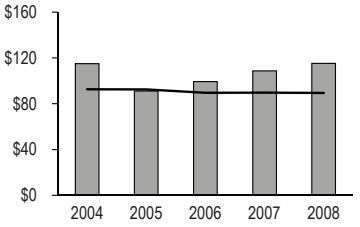
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Concord	858	1069	964	956	896
Average	880	904	885	870	853

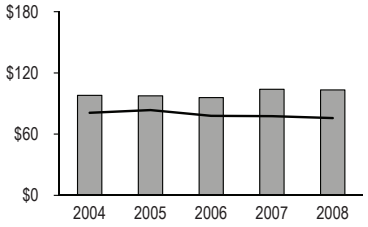
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



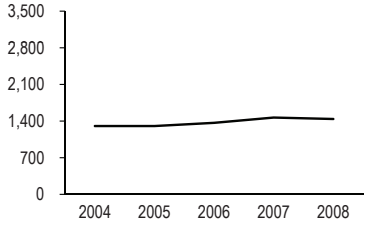
	2004	2005	2006	2007	2008
Concord	$115	$91	$99	$109	$115
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Concord	$98	$97	$96	$104	$103
Average	$81	$84	$78	$78	$76

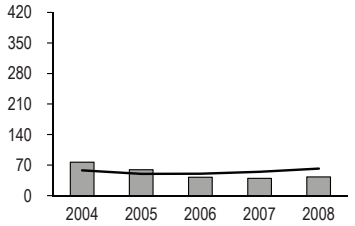
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Concord					
Average	1,305	1,304	1,365	1,467	1,439

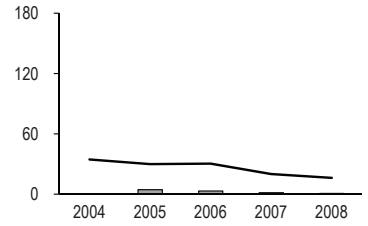
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Concord	76.8	59.4	42.2	39.6	42.9
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Concord		4.5	3.2	1.4	0.8
Average	34.5	30.0	30.4	20.1	16.3

Concord

MUNICIPAL PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
Topography	Flat; gently rolling
County	Cabarrus
Climate	Mild; some ice
Median Family Income (US Census 2000)	$53,571

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		2.6%
Operating Costs		97.2%
Capital Costs		0.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	72,386
Operating Costs	$	2,677,699
Capital Costs	$	3,858
TOTAL	$	2,753,943

SERVICE PROFILE

FTE Positions—Collection	1.0
FTE Positions—Other	1.0
Tons Collected	23,883
Residential Customers (number represents collection points)	26,642
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 packers 1 automated packer

EXPLANATORY INFORMATION

Service Level and Delivery
Residential refuse collection service is provided once a week at curbside to Concord residents. Backyard service is available for the elderly and disabled. The city provided residential refuse collection service during FY 2007–08 under contract, with an annual cost of approximately $2.46 million.

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

The contractor serviced forty-five collection routes over the week during FY 2007–08, with an average distance per residential refuse collection route per day to the landfill of eight miles. The packers made an average of two trips to the landfill per day per route.

The contractor collected 23,883 tons of residential refuse during the fiscal year, at a cost of $115 per ton.

Conditions Affecting Service, Performance, and Costs
Concord is one of only two jurisdictions 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. The city does have a worker who provides spot pickups.

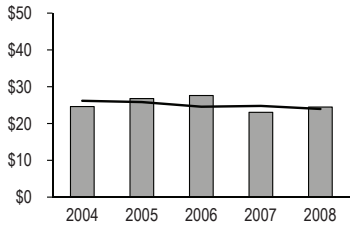
Concord's "total tons collected" includes bulk trash, which is collected along with residential refuse and cannot be separated for reporting purposes.

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

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

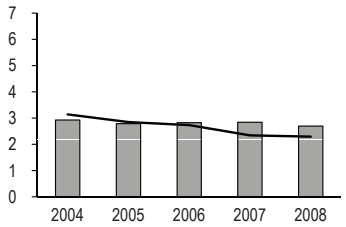
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Durham	$24.60	$26.78	$27.62	$23.02	$24.49
Average	$26.20	$25.86	$24.59	$24.78	$23.97

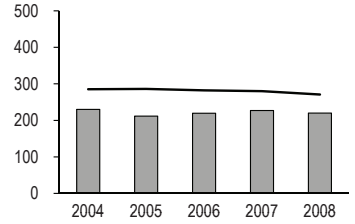
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	2.93	2.78	2.82	2.84	2.70
Average	3.14	2.85	2.74	2.34	2.30

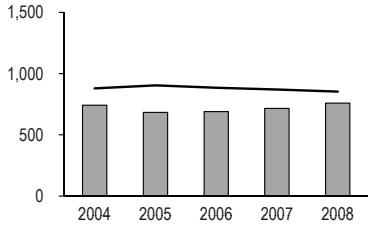
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Durham	230	212	220	227	220
Average	285	286	282	280	271

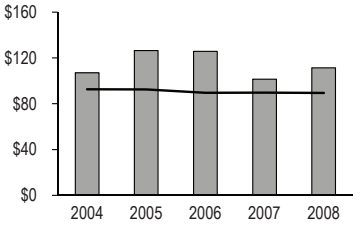
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Durham	742	683	690	716	759
Average	880	904	885	870	853

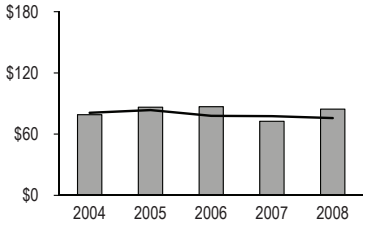
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



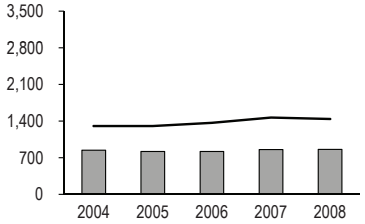
	2004	2005	2006	2007	2008
Durham	$107	$126	$126	$101	$111
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Durham	$79	$86	$87	$73	$84
Average	$81	$84	$78	$78	$76

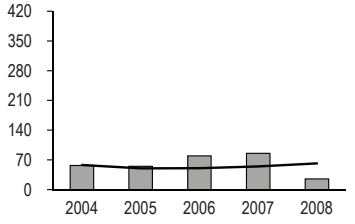
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Durham	843	818	820	855	858
Average	1,305	1,304	1,365	1,467	1,439

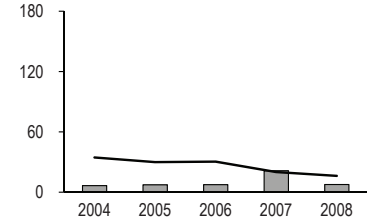
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Durham	56.7	54.9	79.4	85.5	25.2
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Durham	6.5	7.4	7.5	21.4	7.6
Average	34.5	30.0	30.4	20.1	16.3

Durham

MUNICIPAL PROFILE

Population (OSBM 2007)	222,491
Land Area (Square Miles)	105.50
Persons per Square Mile	2,109
Topography	Flat; gently rolling
County	Durham
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$51,162

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		50.5%
Operating Costs		27.9%
Capital Costs		21.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,752,630
Operating Costs	$	1,519,165
Capital Costs	$	1,177,808
TOTAL	$	5,449,603

SERVICE PROFILE

FTE Positions—Collection	57.0
FTE Positions—Other	3.0
Tons Collected	48,931
Residential Customers (number represents collection points)	64,500
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	14 automated packers 10 packers

EXPLANATORY INFORMATION

Service Level and Delivery
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.

The city used twenty-four crews during FY 2007–08. Nine crews were composed of one driver and two collectors using rear-loading packers. Fourteen one-person crews operated automated loaders. One two-person crew serviced the downtown route. Residents use one to four ninety-six-gallon capacity containers.

The city serviced ninety-six routes in FY 2007–08. The packers made an average of two trips to the disposal facility per day per route. The city used a transfer station during FY 2007–08.

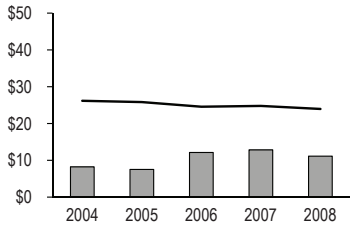
Durham collected 48,931 tons of residential refuse during the fiscal year, at a cost of $111 per ton. The cost per ton does not include the disposal cost of $39.50, representing the landfill tipping fee.

Conditions Affecting Service, Performance, and Costs
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.

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

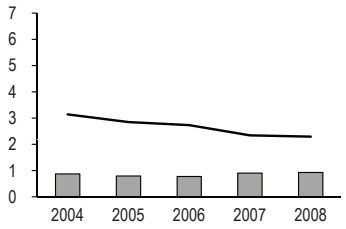
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Gastonia	$8.23	$7.53	$12.12	$12.82	$11.11
Average	$26.20	$25.86	$24.59	$24.78	$23.97

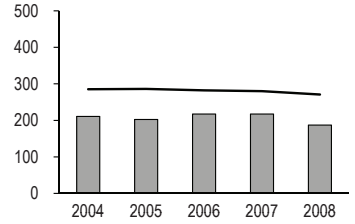
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	0.87	0.79	0.78	0.90	0.93
Average	3.14	2.85	2.74	2.34	2.30

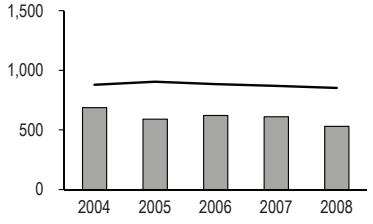
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	211	202	217	217	187
Average	285	286	282	280	271

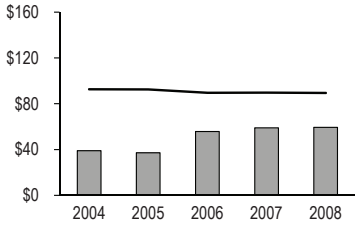
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Gastonia	687	591	621	610	530
Average	880	904	885	870	853

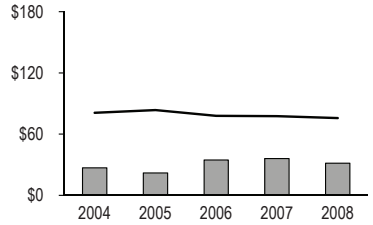
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



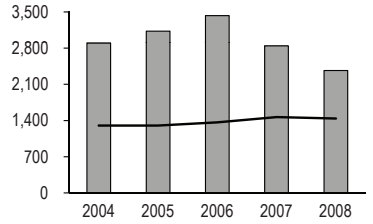
	2004	2005	2006	2007	2008
Gastonia	$39	$37	$56	$59	$59
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Gastonia	$27	$22	$35	$36	$31
Average	$81	$84	$78	$78	$76

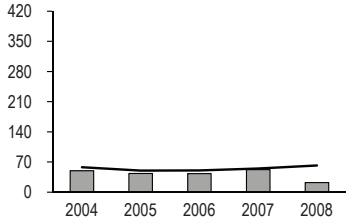
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Gastonia	2,898	3,130	3,430	2,845	2,368
Average	1,305	1,304	1,365	1,467	1,439

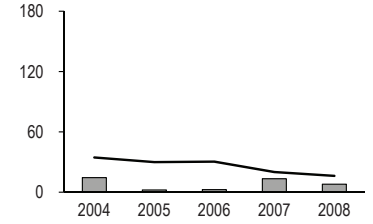
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Gastonia	49.8	43.6	43.0	52.4	22.1
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Gastonia	14.5	2.2	2.5	13.3	8.0
Average	34.5	30.0	30.4	20.1	16.3

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2007)	72,848
Land Area (Square Miles)	50.43
Persons per Square Mile	1,445
Topography	Flat; gently rolling
County	Gaston
Climate	Mild; some ice
Median Family Income (US Census 2000)	$44,873

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		34.1%
Operating Costs		57.4%
Capital Costs		8.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	276,221
Operating Costs	$	464,317
Capital Costs	$	68,905
TOTAL	$	809,443

SERVICE PROFILE

FTE Positions—Collection	5.75
FTE Positions—Other	1.00
Tons Collected	13,618
Residential Customers (number represents collection points)	25,701
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	5 automated packers

EXPLANATORY INFORMATION

Service Level and Delivery
Gastonia collects residential refuse once a week from the curbside. There is currently no fee charged for residential collection.

Five one-person crews operate automated packers to collect residential refuse. Each resident is provided with one ninety-six-gallon roll-out cart.

The city serviced twenty-five routes in FY 2007–08. For each route, crews averaged two trips per day to the Gaston County landfill, which was an average distance of thirteen miles from each collection route.

Gastonia collected 13,618 tons of residential refuse during the fiscal year at a cost of $59 per ton. The cost per ton does not include the disposal cost of $26, representing the landfill tipping fee.

Gastonia defines automated packers as one-armed, side-loading packers that are operated by the driver.

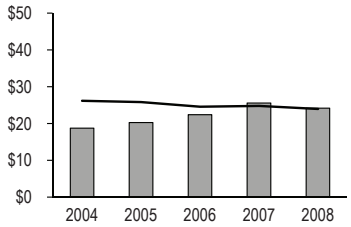
Conditions Affecting Service, Performance, and Costs
Gastonia is highly automated in the area of residential refuse collection.

A valid complaint is one where the driver does not inform the office staff of a problem either in writing or by radio.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

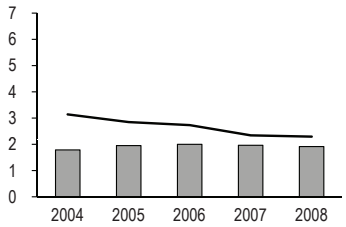
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Greensboro	$18.73	$20.26	$22.40	$25.55	$24.19
Average	$26.20	$25.86	$24.59	$24.78	$23.97

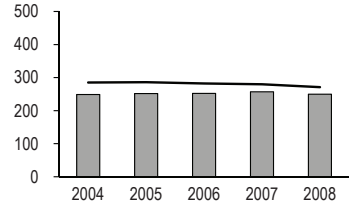
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	1.79	1.95	2.00	1.96	1.91
Average	3.14	2.85	2.74	2.34	2.30

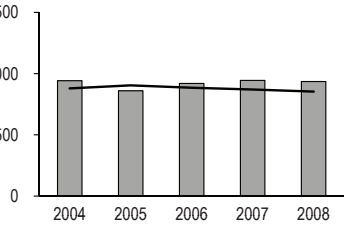
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	249	252	252	257	250
Average	285	286	282	280	271

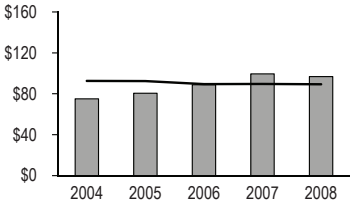
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Greensboro	942	860	920	944	936
Average	880	904	885	870	853

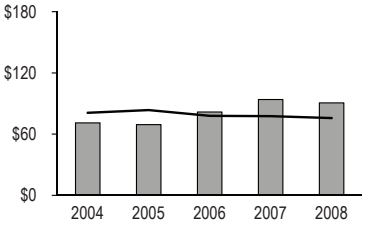
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



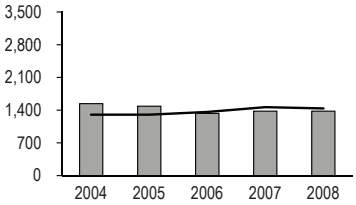
	2004	2005	2006	2007	2008
Greensboro	$75	$81	$89	$99	$97
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Greensboro	$71	$69	$82	$94	$91
Average	$81	$84	$78	$78	$76

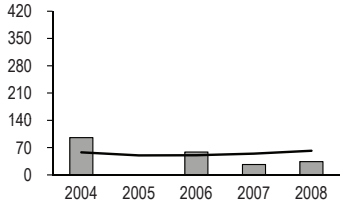
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Greensboro	1,541	1,485	1,330	1,380	1,377
Average	1,305	1,304	1,365	1,467	1,439

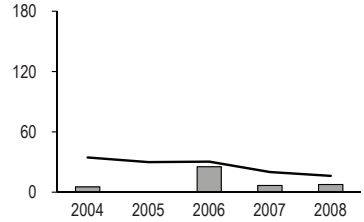
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Greensboro	95.5		58.6	26.8	33.9
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Greensboro	5.3		25.3	6.6	7.6
Average	34.5	30.0	30.4	20.1	16.3

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2007)	248,111
Land Area (Square Miles)	119.00
Persons per Square Mile	2,085
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2000)	$50,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		37.5%
Operating Costs		62.5%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,247,835
Operating Costs	$	3,753,888
Capital Costs	$	-
TOTAL	$	6,001,723

SERVICE PROFILE

FTE Positions—Collection	45.0
FTE Positions—Other	2.5
Tons Collected	61,974
Residential Customers (number represents collection points)	66,215
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 2 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	17 automated packers 8 packers

EXPLANATORY INFORMATION

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

There were twenty-seven city crews for FY 2007–08. Eighteen crews have one driver operating an automated packer. Nine crews use rear loaders with two-person crews collecting in the downtown business district or bulk waste collection.

The city used 108 collection routes during the fiscal year, with each packer making an average of 1.8 trips per day to the disposal facility, averaging about eight miles.

The city collected 61,974 tons of residential refuse during FY 2007–08, at a cost of $97 per ton. Greensboro operates its own solid waste transfer station and landfill.

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

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

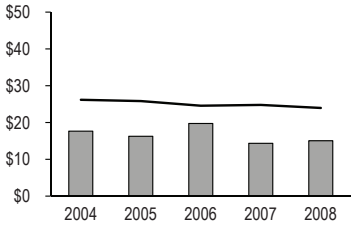
Greensboro's total tons collected includes bulk trash, which is collected along with residential refuse and cannot be separated for reporting purposes.

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

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

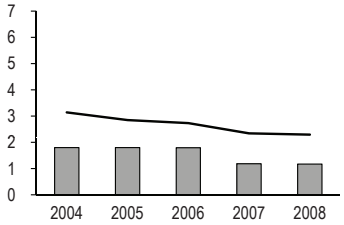
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Hickory	$17.67	$16.25	$19.74	$14.36	$15.05
Average	$26.20	$25.86	$24.59	$24.78	$23.97

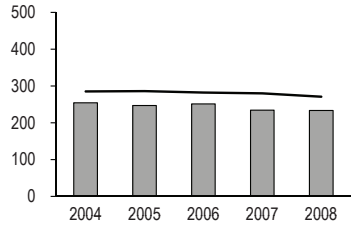
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	1.80	1.80	1.79	1.18	1.17
Average	3.14	2.85	2.74	2.34	2.30

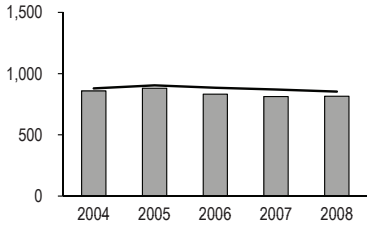
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	254	247	251	234	233
Average	285	286	282	280	271

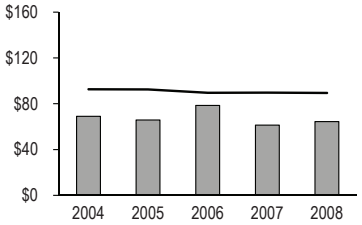
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Hickory	859	881	832	812	816
Average	880	904	885	870	853

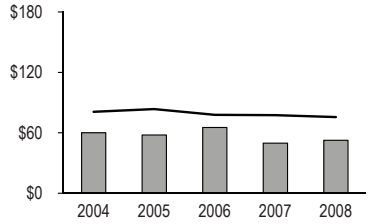
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



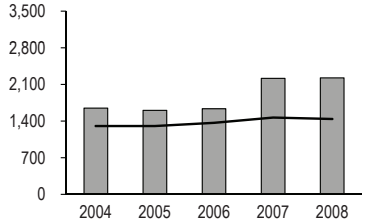
	2004	2005	2006	2007	2008
Hickory	$69	$66	$78	$61	$64
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Hickory	$60	$58	$65	$50	$53
Average	$81	$84	$78	$78	$76

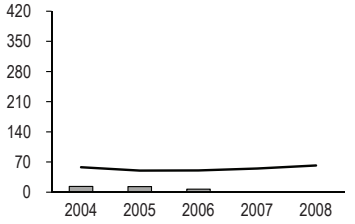
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Hickory	1,648	1,605	1,635	2,217	2,226
Average	1,305	1,304	1,365	1,467	1,439

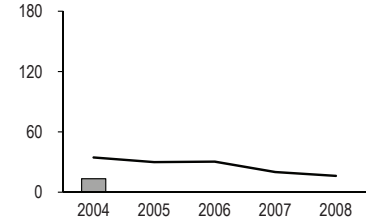
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Hickory	13.4	13.1	6.9		
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Hickory	13.4				
Average	34.5	30.0	30.4	20.1	16.3

Hickory

MUNICIPAL PROFILE

Population (OSBM 2007)	40,522
Land Area (Square Miles)	29.10
Persons per Square Mile	1,393
Topography	Gently rolling
County	Catawba
Climate	Moderate; some snow and ice
Median Family Income (US Census 2000)	$47,522

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		33.3%
Operating Costs		43.0%
Capital Costs		23.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	203,117
Operating Costs	$	262,457
Capital Costs	$	144,344
TOTAL	$	609,918

SERVICE PROFILE

FTE Positions—Collection	4.25
FTE Positions—Other	0.5
Tons Collected	9,461
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 (monthlly per cart)	$9
Type of Equipment	3 automated packers 1 packer

EXPLANATORY INFORMATION

Service Level and Delivery
Hickory collects refuse from residential premises once a week at curbside, although backyard collection is provided for elderly and disabled citizens. A monthly solid waste fee of $9 per cart was charged for residential refuse collection service during FY 2007–08. Each residence uses a cart provided by the city for residential refuse collection. Each cart has a capacity of ninety-six gallons and is provided at no charge. Upon request a second cart is provided to the customer for an additional solid waste fee.

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

Fifteen collection routes were employed during FY 2007–08, with an average of two trips to the transfer station per day per route. The average distance to the transfer station per route was five miles.

Hickory collected 9,461 tons of residential refuse during FY 2007–08, at a cost of $64 per ton. The cost per ton does not include the disposal cost of $30, representing the tipping fee at the Catawba County landfill.

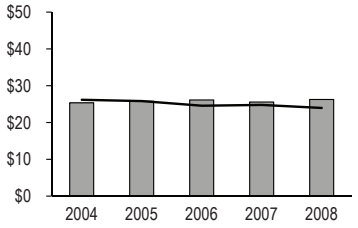
Hickory defines automated packers as trucks with mechanical arms.

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

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

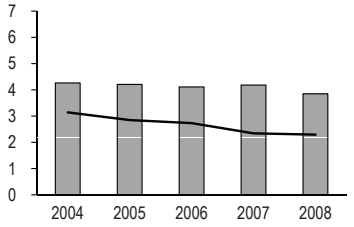
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
High Point	$25.35	$25.78	$26.12	$25.57	$26.24
Average	$26.20	$25.86	$24.59	$24.78	$23.97

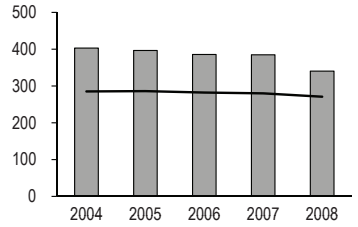
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	4.26	4.21	4.11	4.18	3.85
Average	3.14	2.85	2.74	2.34	2.30

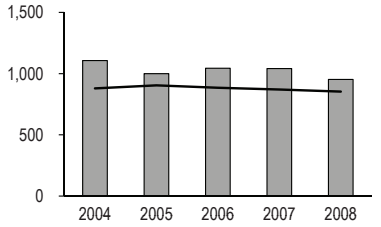
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
High Point	403	397	386	385	341
Average	285	286	282	280	271

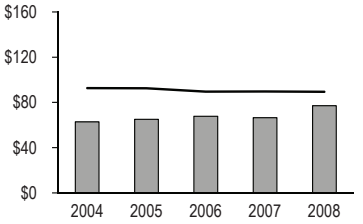
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
High Point	1106	1000	1044	1042	952
Average	880	904	885	870	853

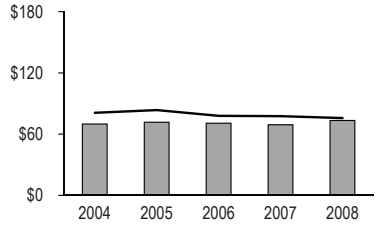
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



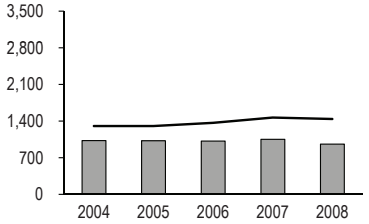
	2004	2005	2006	2007	2008
High Point	$63	$65	$68	$66	$77
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
High Point	$70	$72	$71	$69	$73
Average	$81	$84	$78	$78	$76

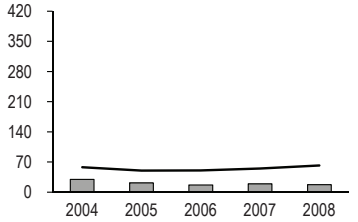
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
High Point	1,028	1,024	1,019	1,052	961
Average	1,305	1,304	1,365	1,467	1,439

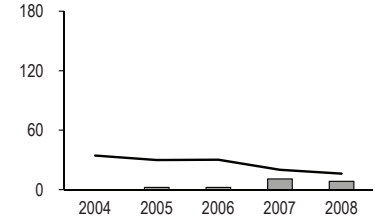
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
High Point	29.6	21.4	16.6	19.4	17.5
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
High Point		2.2	2.3	10.8	8.3
Average	34.5	30.0	30.4	20.1	16.3

High Point

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2000)	$48,057

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.2%
Operating Costs		31.1%
Capital Costs		11.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,482,410
Operating Costs	$	805,166
Capital Costs	$	305,379
TOTAL	$	2,592,955

SERVICE PROFILE

FTE Positions—Collection	35.0
FTE Positions—Other	3.0
Tons Collected	33,644
Residential Customers (number represents collection points)	35,332
Collection Location (backyard for disabled)	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	10 packers

EXPLANATORY INFORMATION

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

The city uses ten crews with one driver and two collectors. There are forty collection routes. The average number of trips to the landfill is two per day per route. The average distance to the landfill is eight miles.

The city collected 33,644 tons of residential refuse during FY 2007–08, at a cost of $77 per ton. The cost per ton does not include the disposal cost of $20, representing the landfill tipping fee. The city does not use a transfer station.

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

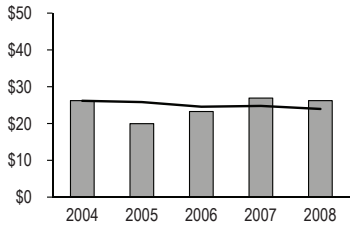
High Point defines rear loaders as trucks with large hoppers and bulky item capacity, with refuse loaded from the rear. Automated packers are trucks that contain a device that sweeps the refuse into the trucks and are essentially independent of external influence or control. Packers are manual trucks.

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

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

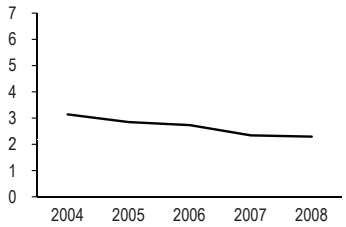
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Matthews	$26.20	$19.94	$23.26	$26.93	$26.21
Average	$26.20	$25.86	$24.59	$24.78	$23.97

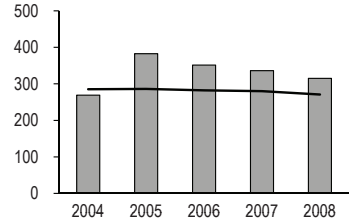
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Matthews					
Average	3.14	2.85	2.74	2.34	2.30

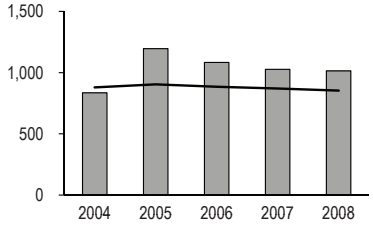
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	269	383	352	336	315
Average	285	286	282	280	271

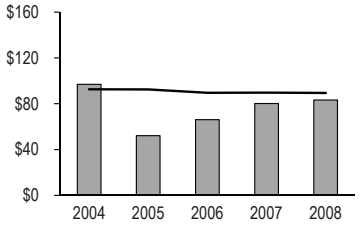
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Matthews	835	1196	1083	1027	1014
Average	880	904	885	870	853

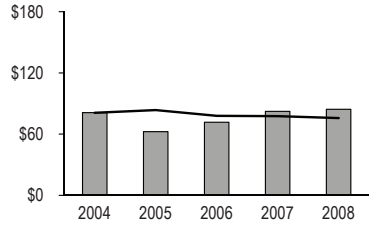
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



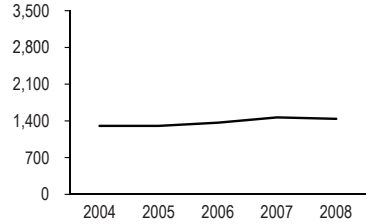
	2004	2005	2006	2007	2008
Matthews	$97	$52	$66	$80	$83
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Matthews	$81	$62	$72	$82	$84
Average	$81	$84	$78	$78	$76

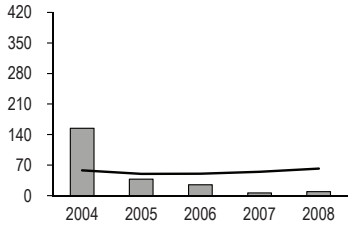
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Matthews					
Average	1,305	1,304	1,365	1,467	1,439

EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Matthews	154.6	37.7	24.9	6.1	9.3
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points

	2004	2005	2006	2007	2008
Matthews	116.0	35.2	24.9	6.1	9.3
Average	34.5	30.0	30.4	20.1	16.3

Matthews

MUNICIPAL PROFILE

Population (OSBM 2007)	28,072
Land Area (Square Miles)	16.63
Persons per Square Mile	1,688
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$75,791

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	735,687
Capital Costs	$	-
TOTAL	$	735,687

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	8,840
Residential Customers (number represents collection points)	8,721
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	3 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Residential refuse collection service is provided once a week at curbside to Matthews residents. Backyard service is available for certified invalids or the elderly. The town provided residential refuse collection service during FY 2007–08 under contract, with an estimated annual cost of $702,001 for residential refuse collection. The contractor also provides recycling collection. There is currently no fee for this service to citizens.

The contractor used three two-person crews on rear loaders. Each residence is given one ninety-gallon cart, though approximately 5 percent have more than one cart, which is supplied for an annual charge.

The contractor serviced twelve collection routes during FY 2007–08, with an average distance per residential refuse collection route per day to the landfill of fifteen miles. The packers made an average of two trips to the landfill per day per route.

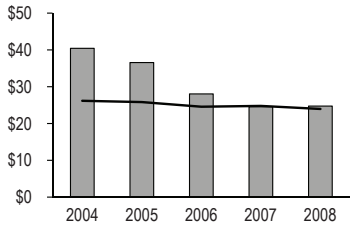
The contractor collected 8,840 tons of residential refuse during the fiscal year, at a cost of $83 per ton. The cost per ton does not include the $22.50 tipping fee charged by the landfill.

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

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

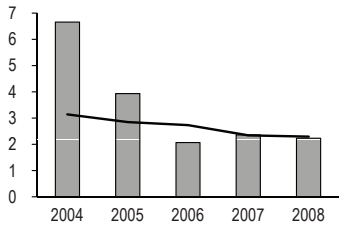
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Raleigh	$40.42	$36.56	$28.02	$24.57	$24.73
Average	$26.20	$25.86	$24.59	$24.78	$23.97

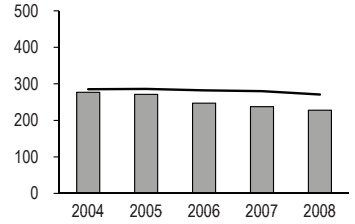
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	6.66	3.94	2.07	2.36	2.23
Average	3.14	2.85	2.74	2.34	2.30

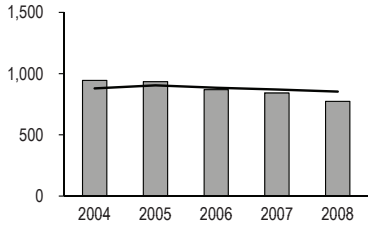
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	277	271	247	238	228
Average	285	286	282	280	271

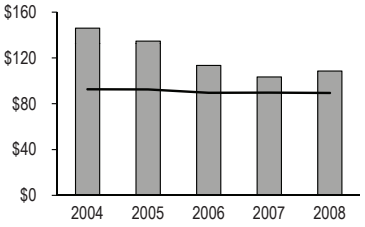
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Raleigh	945	935	869	841	773
Average	880	904	885	870	853

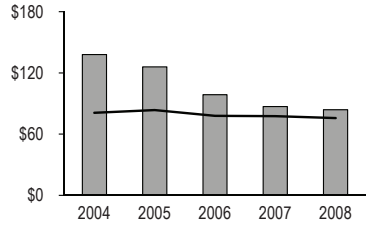
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



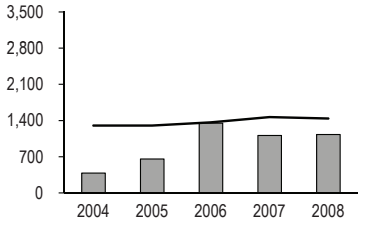
	2004	2005	2006	2007	2008
Raleigh	$146	$135	$113	$103	$109
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Raleigh	$138	$126	$99	$87	$84
Average	$81	$84	$78	$78	$76

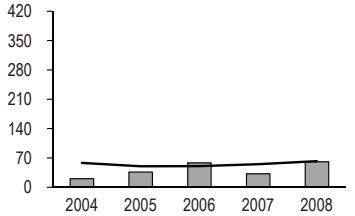
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Raleigh	383	656	1,349	1,112	1,130
Average	1,305	1,304	1,365	1,467	1,439

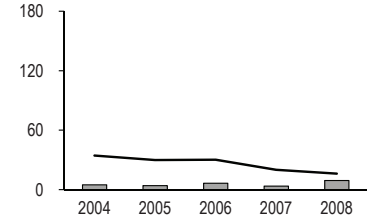
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Raleigh	20.2	36.4	58.2	32.2	60.5
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Raleigh	4.8	4.0	6.4	3.5	9.2
Average	34.5	30.0	30.4	20.1	16.3

Raleigh

MUNICIPAL PROFILE

Population (OSBM 2007)	367,313
Land Area (Square Miles)	140.54
Persons per Square Mile	2,614
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$60,003

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		45.1%
Operating Costs		40.6%
Capital Costs		14.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,092,842
Operating Costs	$	3,690,955
Capital Costs	$	1,299,265
TOTAL	$	9,083,062

SERVICE PROFILE

FTE Positions—Collection	74.0
FTE Positions—Other	8.0
Tons Collected	83,648
Residential Customers (number represents collection points)	108,203
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)	$10.30
Type of Equipment	25 automated packers 12 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Raleigh collects once per week at curbside. Raleigh charges a monthly solid waste fee of $10.30 that provides revenue for all solid waste management activities, including residential refuse collection.

Forty-one crews were employed during FY 2007–08. Twenty-five crews use automated trucks with one driver, twelve crews use loaders with one driver and two collectors, and four crews use one driver for collections for customers needing assistance.

One hundred forty-four collection routes were used during FY 2007–08, with an average of two trips per day per route to the landfill. The average distance to the landfill was seven miles per route.

The city collected 83,648 tons of residential refuse during FY 2007–08, at a cost of $109 per ton. The cost per ton does not include the disposal cost of $25 at the Wake County landfill.

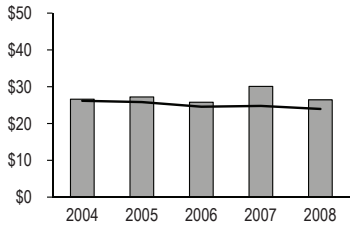
Raleigh defines automated packers as side-loading trucks, utilized by one person who operates a single arm to lift and dump the container into the truck. Rear loaders are trucks that use cart dumpsters to place the refuse in the rear of the trucks or collectors to bring the garbage from the house and throw it into the rear of the trucks. Packer is the generic name for any type of truck that uses compaction, including automated trucks, semi-automated trucks, and rear-loaders.

Conditions Affecting Service, Performance, and Costs
Valid complaints include incidents when garbage pickup in proper containers at the appropriate location is missed, spilled garbage, and damage to containers.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

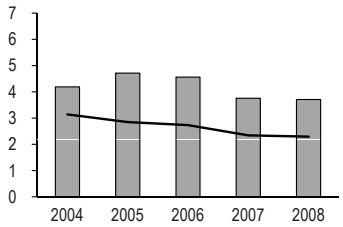
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Salisbury	$26.63	$27.20	$25.78	$30.10	$26.46
Average	$26.20	$25.86	$24.59	$24.78	$23.97

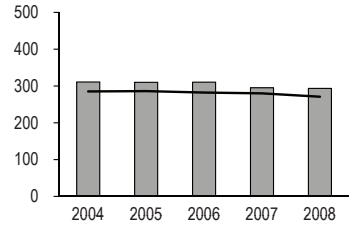
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	4.19	4.71	4.56	3.75	3.71
Average	3.14	2.85	2.74	2.34	2.30

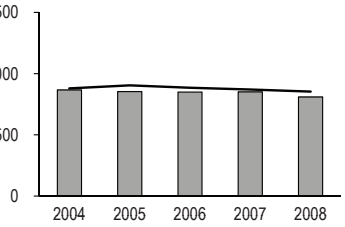
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	311	310	311	295	293
Average	285	286	282	280	271

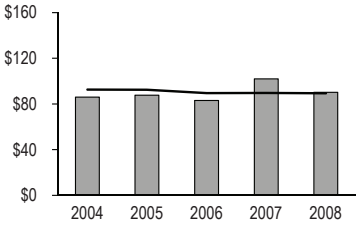
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Salisbury	866	853	849	850	808
Average	880	904	885	870	853

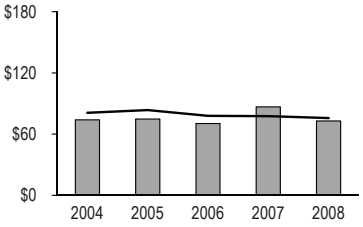
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



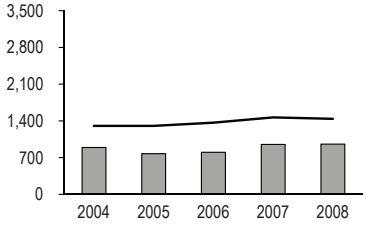
	2004	2005	2006	2007	2008
Salisbury	$86	$88	$83	$102	$90
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Salisbury	$74	$75	$70	$87	$73
Average	$81	$84	$78	$78	$76

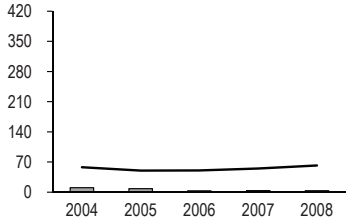
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Salisbury	894	774	802	952	958
Average	1,305	1,304	1,365	1,467	1,439

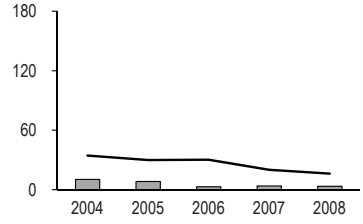
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Salisbury	10.4	8.2	2.9	3.7	3.5
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Salisbury	10.4	8.2	2.9	3.7	3.4
Average	34.5	30.0	30.4	20.1	16.3

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
Topography	Gently rolling
County	Rowan
Climate	Moderate; little snow and ice
Median Family Income (US Census 2000)	$41,108

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.9%
Operating Costs		34.6%
Capital Costs		11.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	442,245
Operating Costs	$	284,035
Capital Costs	$	94,460
TOTAL	$	820,740

SERVICE PROFILE

FTE Positions—Collection	9.50
FTE Positions—Other	2.00
Tons Collected	9,102
Residential Customers (number represents collection points)	11,262
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	2 person
Percentage of Service Contracted	0%
Service Fee (monthly)	$2.98
Type of Equipment	3 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Salisbury provides residential refuse collection service once per week at curbside. Backyard collection service is provided for disabled customers only. The city charges a monthly fee of $2.98 for residential collection.

The city employed three crews during FY 2007–08, with two driver-operators. Fifteen collection routes were used, with an average of one four-mile trip per route per day to the transfer station.

Each resident has one ninety-five-gallon roll-out cart provided and paid for by the city. A second cart may be obtained. The city collected 9,102 tons of residential refuse during FY 2007–08, at a cost per ton of $90. Not included in the cost per ton was a $38.50 landfill tipping fee.

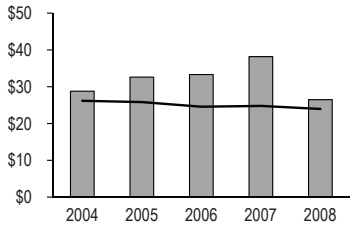
Salisbury defines its semi-automated packers as low-entry compactors that can be driven from either side of the truck, with the refuse being dumped in the rear of the truck from roll-out carts.

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

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

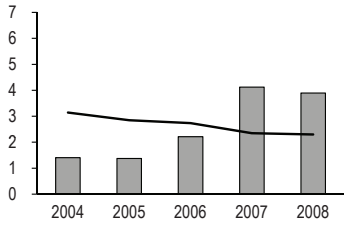
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Wilmington	$28.77	$32.62	$33.30	$38.16	$26.50
Average	$26.20	$25.86	$24.59	$24.78	$23.97

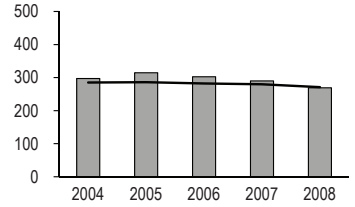
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	1.40	1.37	2.21	4.12	3.90
Average	3.14	2.85	2.74	2.34	2.30

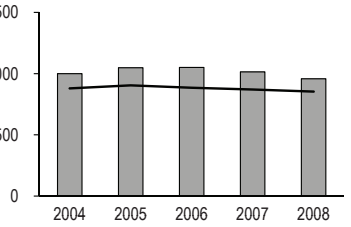
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	297	315	303	290	269
Average	285	286	282	280	271

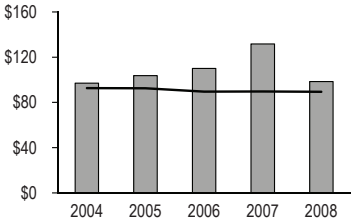
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilmington	999	1048	1050	1014	958
Average	880	904	885	870	853

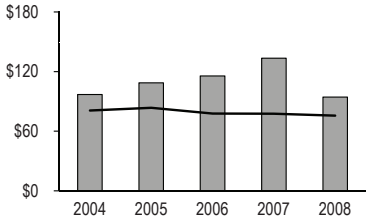
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



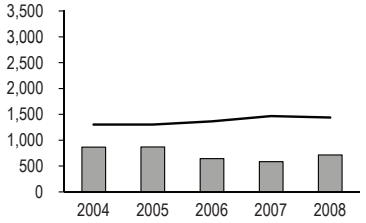
	2004	2005	2006	2007	2008
Wilmington	$97	$104	$110	$132	$98
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Wilmington	$97	$109	$116	$133	$94
Average	$81	$84	$78	$78	$76

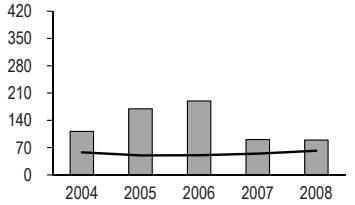
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Wilmington	866	869	644	584	714
Average	1,305	1,304	1,365	1,467	1,439

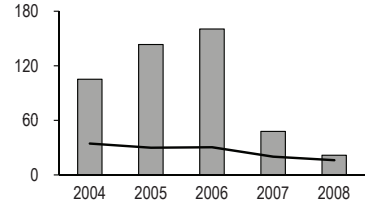
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilmington	111.7	169.5	189.6	90.9	89.6
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilmington	105.2	143.5	160.5	47.9	21.7
Average	34.5	30.0	30.4	20.1	16.3

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2007)	100,746
Land Area (Square Miles)	49.29
Persons per Square Mile	2,044
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild
Median Family Income (US Census 2000)	$41,891

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		50.0%
Operating Costs		38.3%
Capital Costs		11.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,334,862
Operating Costs	$	1,022,558
Capital Costs	$	312,114
TOTAL	$	2,669,534

SERVICE PROFILE

FTE Positions—Collection	38.0
FTE Positions—Other	1.3
Tons Collected	27,124
Residential Customers (number represents collection points)	28,317
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	$21.95 for maxi $18.50 for mini
Type of Equipment	15 packers

EXPLANATORY INFORMATION

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

A volume-based fee system is used to finance residential refuse collection. This is designed to encourage residents to reduce the amount of refuse they generate. The city charged a monthly fee of $21.95 for ninety-gallon carts and $18.50 for forty-gallon carts during FY 2007–08.

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

During FY 2007–08 Wilmington used eleven crews with one driver and two collectors and five crews with one driver and one collector. All crews use semi-automated packer trucks.

Forty-four collection routes were used during FY 2007–08, 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 27,124 tons of residential refuse during FY 2007–08, at a cost of $98 per ton. The cost per ton does not include the disposal cost of $49 for the landfill tipping fee.

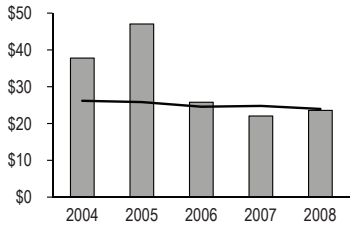
Wilmington defines semi-automated packers as packer trucks that have tippers on them to lift the carts.

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

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

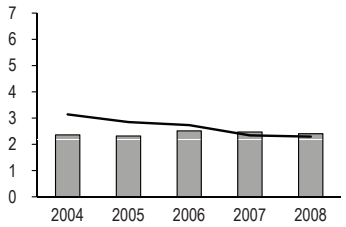
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Wilson	$37.80	$47.06	$25.78	$22.05	$23.55
Average	$26.20	$25.86	$24.59	$24.78	$23.97

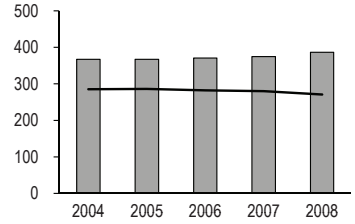
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	2.36	2.32	2.51	2.47	2.40
Average	3.14	2.85	2.74	2.34	2.30

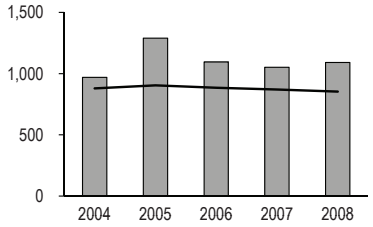
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	367	367	371	375	386
Average	285	286	282	280	271

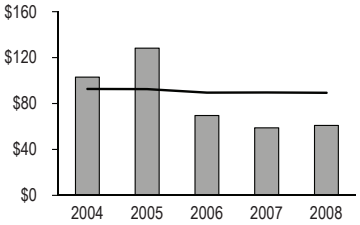
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilson	969	1290	1095	1052	1091
Average	880	904	885	870	853

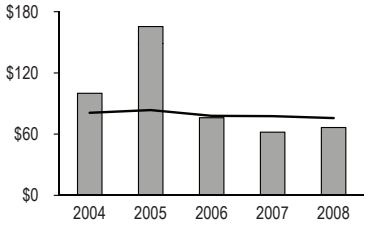
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



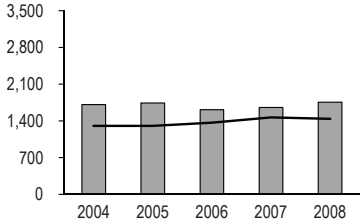
	2004	2005	2006	2007	2008
Wilson	$103	$128	$70	$59	$61
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Wilson	$100	$165	$76	$62	$66
Average	$81	$84	$78	$78	$76

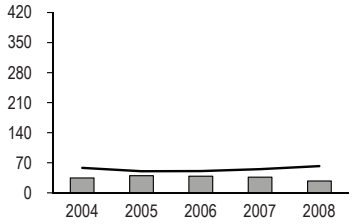
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Wilson	1,710	1,742	1,612	1,655	1,755
Average	1,305	1,304	1,365	1,467	1,439

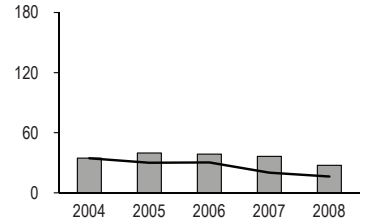
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilson	34.7	39.8	38.6	36.4	27.5
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilson	34.7	39.8	38.6	36.4	27.5
Average	34.5	30.0	30.4	20.1	16.3

Wilson

MUNICIPAL PROFILE

Population (OSBM 2007)	49,954
Land Area (Square Miles)	28.87
Persons per Square Mile	1,730
Topography	Flat
County	Wilson
Climate	Mild; little snow and ice
Median Family Income (US Census 2000)	$41,041

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		42.2%
Operating Costs		38.7%
Capital Costs		19.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	496,131
Operating Costs	$	455,041
Capital Costs	$	225,090
TOTAL	$	1,176,262

SERVICE PROFILE

FTE Positions—Collection	11.0
FTE Positions—Other	1.0
Tons Collected	19,302
Residential Customers (number represents collection points)	17,700
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)	$13.50
Type of Equipment	5 automated packers 2 packers

EXPLANATORY INFORMATION

Service Level and Delivery
Residential refuse collection service is provided once a week at curbside to Wilson residents. Senior citizens and disabled persons may apply for and receive backyard pickup. There is currently a monthly $13.50 fee per household for residential refuse collection service.

The city used five one-person crews working from automated packers during FY 2007–08. The city also used two three-person crews composed of one driver and two collectors working from semi-automated rear loaders. Residents are required to use ninety-six-gallon roll-out containers.

The city serviced nineteen collection routes in a week during FY 2007–08. The packers made an average of two trips to the disposal facility per day per route with the distance to the transfer station being ten miles.

Wilson collected 19,302 tons of residential refuse during the fiscal year, at a cost of $61 per ton. The cost per ton does not include the disposal cost of $36.47, representing the tipping fee at the transfer station.

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

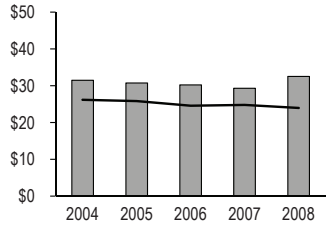
Conditions Affecting Service, Performance, and Costs
The city of Wilson considers all complaints to be valid complaints.

The drop in cost per ton and cost per collection point in FY 2005–06 was not due to service changes but primarily to a more accurate accounting of the costs associated with residential refuse collection in Wilson.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

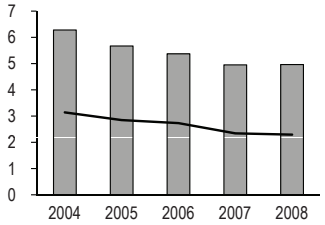
RESOURCE Measures

Residential Refuse Collection Costs per Capita



	2004	2005	2006	2007	2008
Winston-Salem	$31.50	$30.76	$30.24	$29.28	$32.51
Average	$26.20	$25.86	$24.59	$24.78	$23.97

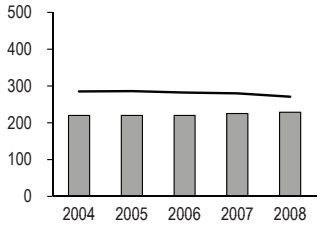
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	6.28	5.67	5.37	4.95	4.96
Average	3.14	2.85	2.74	2.34	2.30

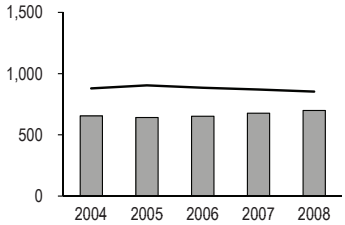
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	220	220	220	225	229
Average	285	286	282	280	271

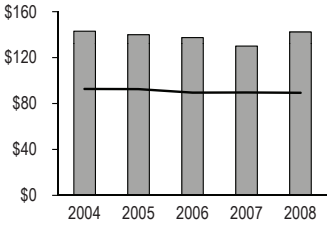
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007	2008
Winston-Salem	654	642	652	677	699
Average	880	904	885	870	853

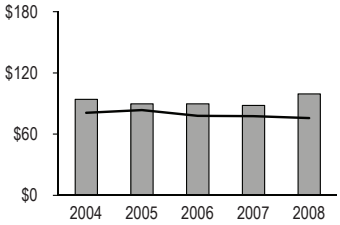
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



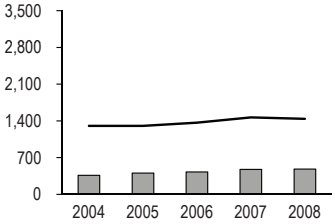
	2004	2005	2006	2007	2008
Winston-Salem	$143	$140	$137	$130	$142
Average	$93	$93	$90	$90	$89

Residential Refuse Collection Cost per Collection Point



	2004	2005	2006	2007	2008
Winston-Salem	$94	$90	$90	$88	$99
Average	$81	$84	$78	$78	$76

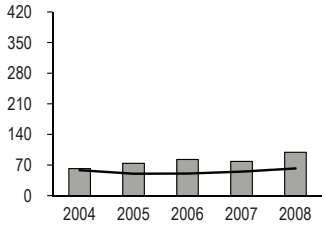
Refuse Tons Collected per Municipal Collection FTE



	2004	2005	2006	2007	2008
Winston-Salem	364	404	428	475	481
Average	1,305	1,304	1,365	1,467	1,439

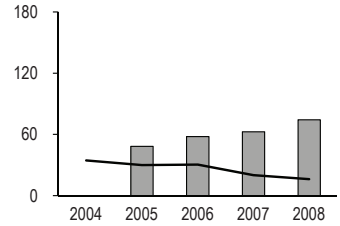
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Winston-Salem	61.9	74.1	82.6	78.3	99.1
Average	58.2	50.1	50.5	54.8	62.1

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007	2008
Winston-Salem		48.3	57.8	62.6	74.4
Average	34.5	30.0	30.4	20.1	16.3

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2007)	224,889
Land Area (Square Miles)	132.45
Persons per Square Mile	1,698
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some snow and ice
Median Family Income (US Census 2000)	$46,595

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		59.4%
Operating Costs		30.3%
Capital Costs		10.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,338,888
Operating Costs	$	2,216,069
Capital Costs	$	755,484
TOTAL	$	7,310,441

SERVICE PROFILE

FTE Positions—Collection	106.80
FTE Positions—Other	4.80
Tons Collected	51,394
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	31 packers 1 automated packer

EXPLANATORY INFORMATION

Service Level and Delivery
Winston-Salem collects residential refuse once a week from backyards and at curbside. The city implemented a voluntary curbside collection program in March 2005.

The city uses thirty-one three-person crews composed of a driver and two collectors equipped with rear-loading packers to collect most of the residential refuse. As a result of increased participation in the voluntary curbside refuse collection program, the city serves eight routes using an automated loader with a one-person crew. In addition, there is one two-person crew dedicated to the central business district and a one-person crew doing special collections.

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 2007–08.

The city collected 51,394 tons of residential refuse during FY 2007–08 from 73,500 collection points. The cost per ton was $142, which does not include the tipping fee of $34 per ton. The city used 134 collection routes during the fiscal year with an average of one trip per route per day to the landfill. The average distance to the landfill was ten miles.

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

Conditions Affecting Service, Performance, and Costs
As of the end of the fiscal year Winston-Salem was the only municipality 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.

The number of complaints per 1,000 collection points increased twenty-seven percent from FY2006-07 to FY 2007-08. During FY 2007-08, the city created a new call center that takes calls from citizens about a number of city departments. Staff concluded that the call center uses a different method to categorize complaints. For example, inquiries about collection days were recorded as complaints; the Sanitation Department did not count these calls as complaints for previous benchmarking reports.

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

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

FY 2007-08

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	27,111	80%	7,838	23%	98%	0
Burlington	0	3	1 x 2 weeks	Yes	16,972	64%	2,634	14%	99%	0
Cary	1	0	1 x week	Yes	39,521	72%	9,305	22%	0%	17
Charlotte	0	0	1 x week	Yes	202,777	43%	31,728	14%	14%	38
Concord	0	1	1 x week	No	26,642	42%	2,862	11%	97%	0.4
Durham	1	6	1 x week	Yes	67,000	55%	11,541	19%	100%	0
Gastonia	0	1	1 x week	Yes	3,765	10%	896	6%	98%	0
Greensboro	17	0	1 x 2 weeks	No	66,215	39%	17,265	22%	0%	12
Hickory	2	18	1 x week	Yes	11,600	65%	1,904	17%	75%	0.6
High Point	13	0	1 x week	Yes	35,332	60%	6,150	15%	0%	10.25
Matthews	0	2	1 x week	Yes	8,571	51%	1,792	17%	100%	0
Raleigh	3	4	1 x week	Yes	108,303	52%	18,886	18%	1%	81
Salisbury	0	0	1 x week	Yes	11,967	31%	1,666	15%	100%	0
Wilmington	0	0	1 x week	No	14,886	49%	4,818	15%	0%	11
Wilson	0	0	1 x week	No	19,700	30%	1,351	7%	0%	6
Winston-Salem	9	0	1 x week	Yes	73,393	53%	10,818	17%	100%	0

NOTES

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

EXPLANATORY FACTORS

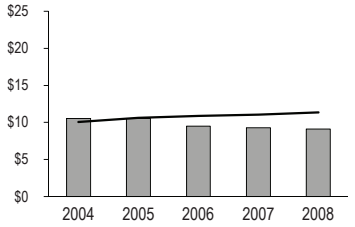
These are factors that the project found to affect household recycling collection performance and cost in one or more of the municipalities:

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

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

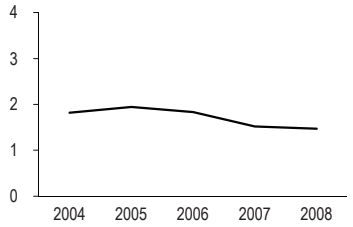
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Asheville	$10.54	$10.52	$9.50	$9.29	$9.10
Average	$10.04	$10.62	$10.88	$11.06	$11.34

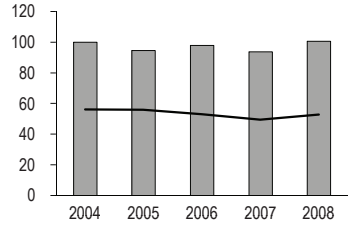
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville					
Average	1.82	1.95	1.83	1.52	1.47

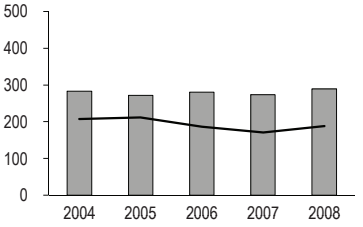
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



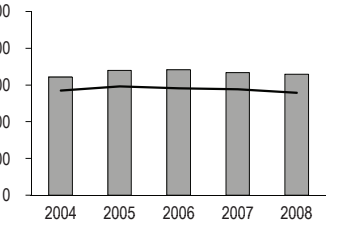
	2004	2005	2006	2007	2008
Asheville	100	95	98	94	101
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Asheville	283	272	281	273	289
Average	207	212	187	171	188

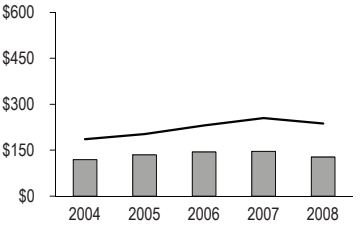
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	321	340	341	333	329
Average	285	296	291	289	279

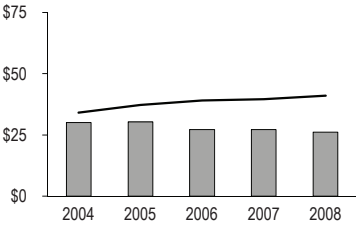
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



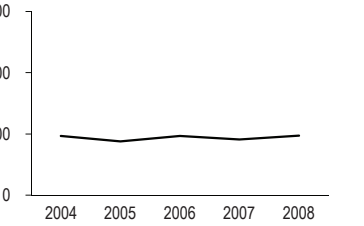
	2004	2005	2006	2007	2008
Asheville	$119	$135	$144	$146	$128
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Asheville	$30.00	$30.26	$27.21	$27.12	$26.12
Average	$34.20	$37.29	$39.11	$39.61	$41.05

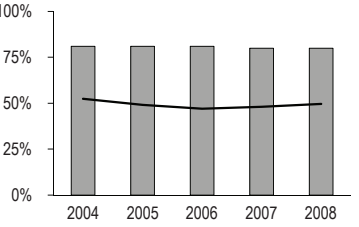
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Asheville					
Average	580	528	580	547	585

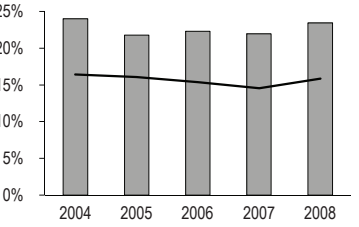
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Asheville	81.0%	81.0%	81.0%	80.0%	80.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Asheville	24.0%	21.8%	22.3%	21.9%	23.4%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Asheville

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2000)	$44,029

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	708,269
Capital Costs	$	-
TOTAL	$	708,269

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	7,838
Collection Points	27,111
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	1
Percentage of Service Contracted	97.5%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
The city offers curbside recycling service to all residential customers. The service was provided by contract during FY 2007–08.

Asheville charges a $1.32 monthly fee for its recycling service. Recyclables are collected using a two-bin system, with curbside sorting from the collection vehicle. The following materials are collected:

- mixed paper
- newspaper
- corrugated cardboard
- clear, green, and brown glass bottles
- No. 1 through No. 7 plastic bottles
- aerosol cans
- aluminum and steel cans
- telephone books

Residents living within the City of Asheville are encouraged to participate in the curbside recycling program. The program serves 27,111 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.

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

Conditions Affecting Service, Performance, and Costs
One of the drop-off centers managed by GDS is jointly supported by Asheville and Buncombe County. The tons of recyclable materials collected at this drop-off center are included in total tons collected by Asheville. However, they are excluded for the measure "cost per ton collected."

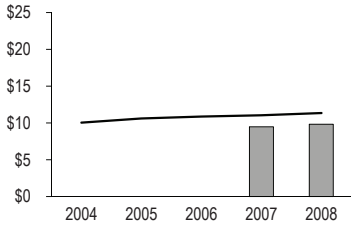
The set-out rate is based on the contractor's estimate in monthly reports.

Burlington Household Recycling

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

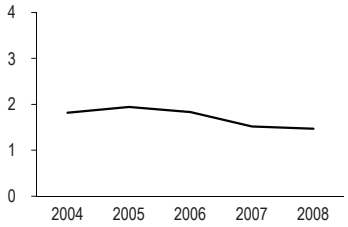
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Burlington				$9.47	$9.81
Average	$10.04	$10.62	$10.88	$11.06	$11.34

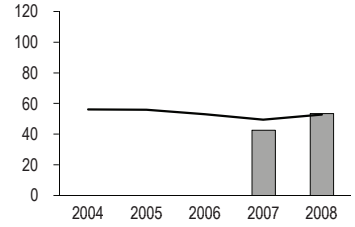
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington					
Average	1.82	1.95	1.83	1.52	1.47

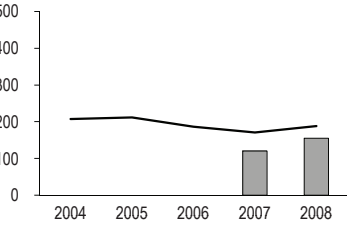
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



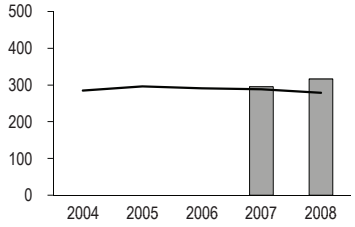
	2004	2005	2006	2007	2008
Burlington				43	53
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Burlington				120	155
Average	207	212	187	171	188

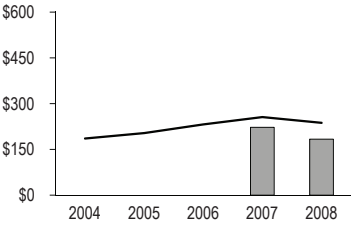
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				295	316
Average	285	296	291	289	279

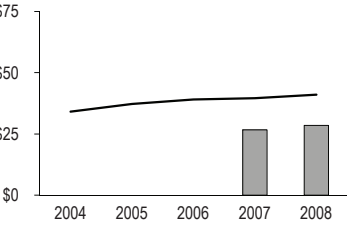
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



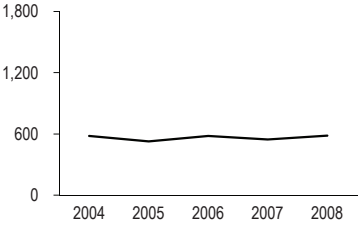
	2004	2005	2006	2007	2008
Burlington				$222	$184
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Burlington				$26.63	$28.51
Average	$34.20	$37.29	$39.11	$39.61	$41.05

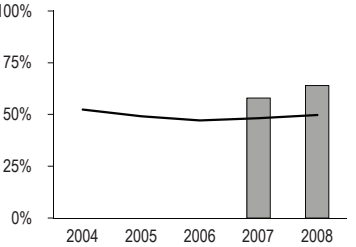
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Burlington					
Average	580	528	580	547	585

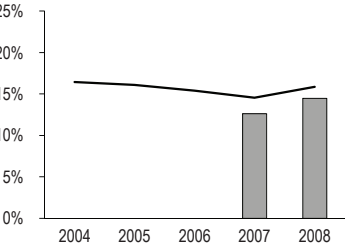
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Burlington				58.0%	64.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Burlington				12.6%	14.5%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Burlington

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
Topography	Flat; gently rolling
County	Alamance
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$45,441

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	483,819
Capital Costs	$	-
TOTAL	$	483,819

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	2,634
Collection Points	16,972
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	0
Percentage of Service Contracted	99%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Burlington offers curbside recycling to all city residents. The service was contracted through Tidewater Fibre Corporation in FY 2007–08.

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

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

As part of its bulk waste collection, Burlington also collected sixteen tons of scrap metal that was sold rather than landfilled and is counted in the total tons recycled.

Alamance County provides three drop-off recycling sites.

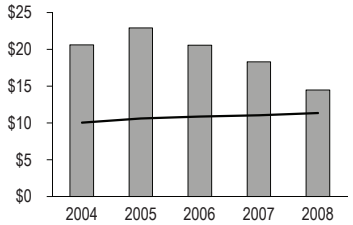
Conditions Affecting Service, Performance, and Costs
The set-out rate is provided annually by the contractor.

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

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

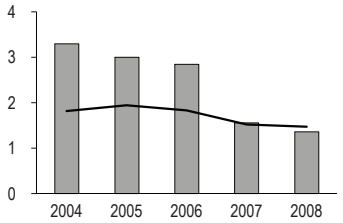
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Cary	$20.60	$22.92	$20.58	$18.32	$14.48
Average	$10.04	$10.62	$10.88	$11.06	$11.34

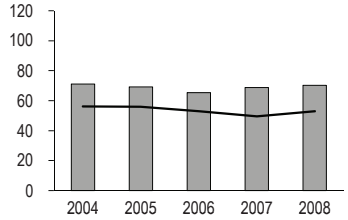
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	3.29	3.00	2.85	1.55	1.36
Average	1.82	1.95	1.83	1.52	1.47

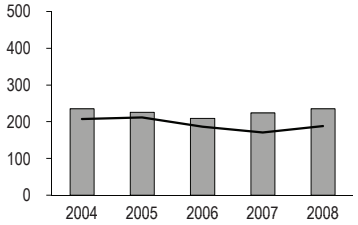
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



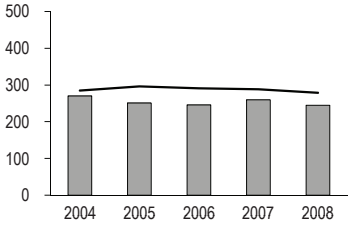
	2004	2005	2006	2007	2008
Cary	71	69	65	69	70
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Cary	235	225	209	224	235
Average	207	212	187	171	188

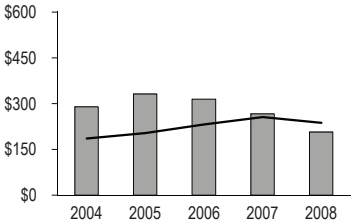
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Cary	270	251	246	260	245
Average	285	296	291	289	279

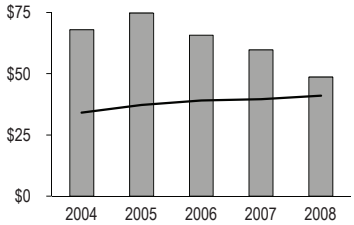
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



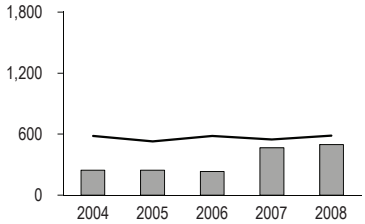
	2004	2005	2006	2007	2008
Cary	$289	$332	$315	$267	$206
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Cary	$68.00	$74.80	$65.79	$59.74	$48.57
Average	$34.20	$37.29	$39.11	$39.61	$41.05

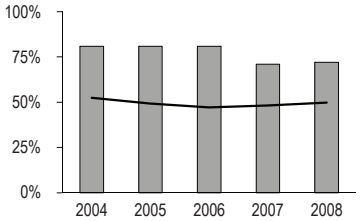
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Cary	244	245	234	465	498
Average	580	528	580	547	585

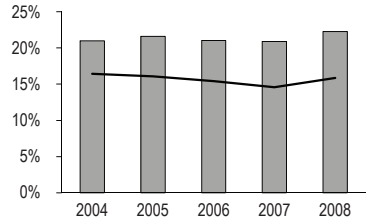
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Cary	81.0%	81.0%	81.0%	71.0%	72.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Cary	21.0%	21.6%	21.0%	20.9%	22.3%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Cary

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$88,074

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		54.6%
Operating Costs		31.8%
Capital Costs		13.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,048,249
Operating Costs	$	610,105
Capital Costs	$	261,165
TOTAL	$	1,919,519

SERVICE PROFILE

FTE Positions—Collection	17.0
FTE Positions—Other	1.0
Tons Collected	9,305
Collection Points	39,521
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	1
Percentage of Service Contracted	0%
Revenue from Recycling	$165,000
Revenue as Percentage of Cost	8.6%

EXPLANATORY INFORMATION

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

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

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

The town used eleven crews in FY 2007–08. In addition to collecting 8,467 tons from the curbside collection, Cary gathered 838 tons at its drop-off site. The town changed to comingled recycling at the curb during FY 2006–07 eliminating curbside sorting. Cary received $165,000 in revenue from the sale of recyclables during FY 2007–08.

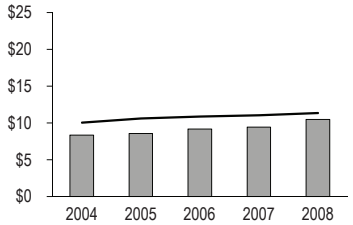
Cary defines a valid complaint as a complaint that has been verified in the field by a supervisor.

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

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2004 through 2008

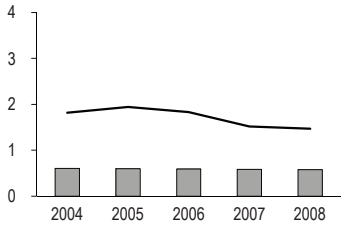
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Charlotte	$8.33	$8.58	$9.16	$9.43	$10.46
Average	$10.04	$10.62	$10.88	$11.06	$11.34

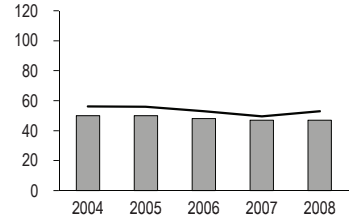
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Charlotte	0.61	0.60	0.59	0.59	0.58
Average	1.82	1.95	1.83	1.52	1.47

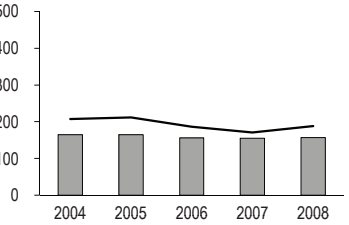
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



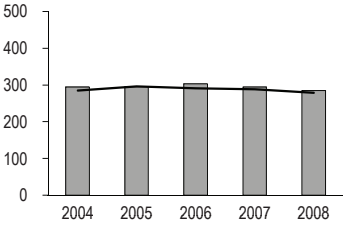
	2004	2005	2006	2007	2008
Charlotte	50	50	48	47	47
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Charlotte	164	164	156	155	156
Average	207	212	187	171	188

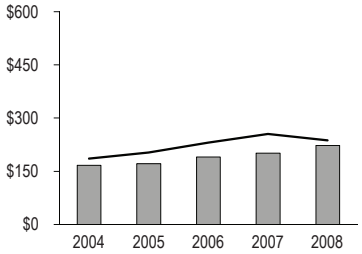
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Charlotte	294	296	304	294	285
Average	285	296	291	289	279

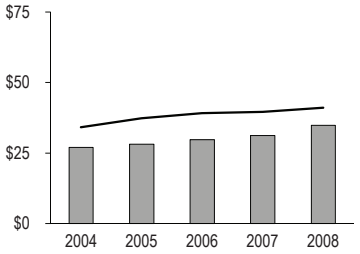
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



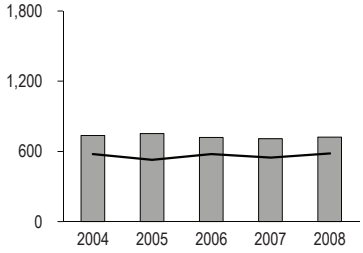
	2004	2005	2006	2007	2008
Charlotte	$167	$171	$191	$201	$222
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Charlotte	$27.00	$28.18	$29.74	$31.24	$34.80
Average	$34.20	$37.29	$39.11	$39.61	$41.05

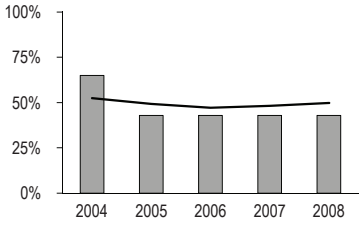
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Charlotte	736	753	720	710	722
Average	580	528	580	547	585

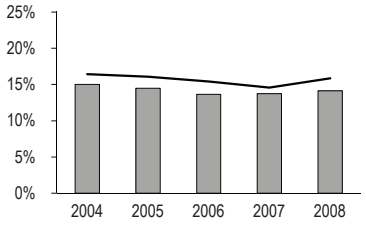
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Charlotte	65.0%	43.0%	43.0%	43.0%	43.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Charlotte	15.0%	14.5%	13.7%	13.7%	14.2%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2007)	674,752
Land Area (Square Miles)	287.93
Persons per Square Mile	2,343
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$56,517

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		28.3%
Operating Costs		59.6%
Capital Costs		12.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,994,010
Operating Costs	$	4,209,123
Capital Costs	$	854,284
TOTAL	$	7,057,417

SERVICE PROFILE

FTE Positions—Collection	38.00
FTE Positions—Other	1.25
Tons Collected	31,728
Collection Points	202,777
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	13.6%
Revenue from Recycling	$136,833
Revenue as Percentage of Cost	1.9%

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte provides weekly curbside recycling collection to single-family residential customers. Recycling was provided by thirty-five one-person crews in FY 2007–08. Materials collected in the recycling program include the following:

glass
plastic
aluminum
newspaper
magazines
catalogs
phone books
cardboard

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 2007–08 the city of Charlotte provided service to three of the four zones. One zone was serviced by the private sector, at a cost of $1,363,772.

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.

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

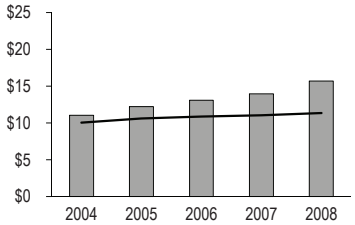
Conditions Affecting Service, Performance, and Costs
Charlotte uses managed competition to provide this service. Therefore, the performance measure "tons collected per collection FTE" represents city crews only.

The set-out rate is calculated biannually.

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

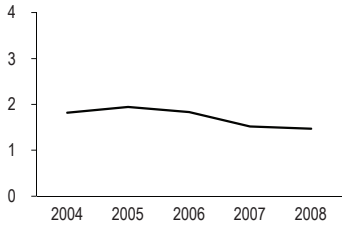
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Concord	$11.06	$12.22	$13.10	$13.97	$15.71
Average	$10.04	$10.62	$10.88	$11.06	$11.34

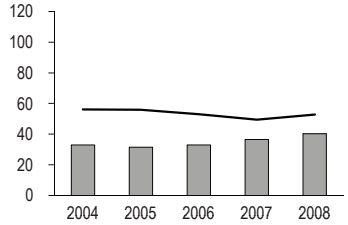
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord					
Average	1.82	1.95	1.83	1.52	1.47

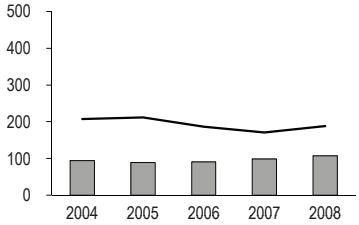
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



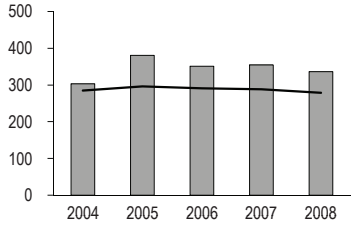
	2004	2005	2006	2007	2008
Concord	33	32	33	37	40
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Concord	94	89	91	99	107
Average	207	212	187	171	188

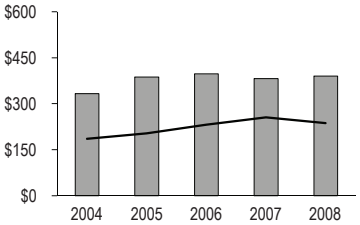
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Concord	303	380	351	355	336
Average	285	296	291	289	279

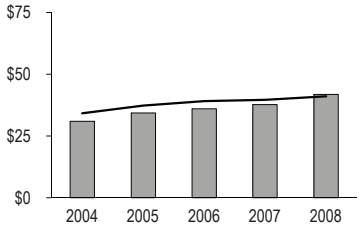
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



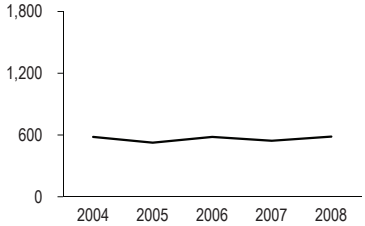
	2004	2005	2006	2007	2008
Concord	$333	$387	$397	$382	$390
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Concord	$31.00	$34.33	$35.95	$37.64	$41.90
Average	$34.20	$37.29	$39.11	$39.61	$41.05

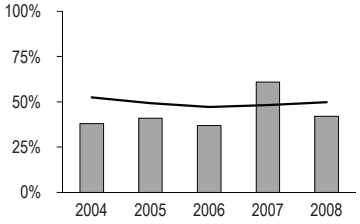
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Concord					
Average	580	528	580	547	585

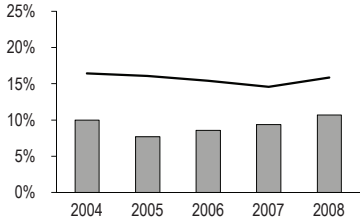
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Concord	38.0%	41.0%	37.0%	61.0%	42.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Concord	10.0%	7.7%	8.6%	9.3%	10.7%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Concord

MUNICIPAL PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
Topography	Flat
County	Cabarrus
Climate	Mild; some snow and ice
Median Family Income (US Census 2000)	$53,571

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		3.8%
Operating Costs		96.0%
Capital Costs		0.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	41,864
Operating Costs	$	1,071,308
Capital Costs	$	3,131
TOTAL	$	1,116,303

SERVICE PROFILE

FTE Positions—Collection	0.4
FTE Positions—Other	0.9
Tons Collected	2,862
Collection Points	26,642
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	97%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

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

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

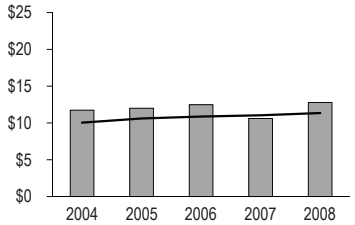
Concord uses a contract collector for regular residential curbside recycling. The materials are collected on a commingled basis weekly from each participating resident and delivered to a materials recovery facility (MRF) in Charlotte for separation and marketing.

Conditions Affecting Service, Performance, and Costs
The city did not report on how the set-out rate was calculated.

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

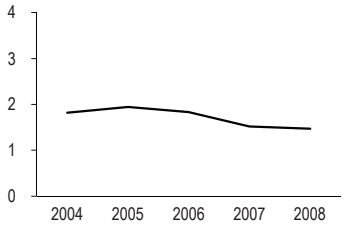
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Durham	$11.72	$12.01	$12.47	$10.60	$12.77
Average	$10.04	$10.62	$10.88	$11.06	$11.34

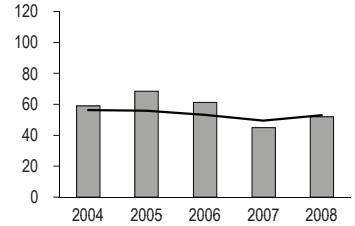
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham					
Average	1.82	1.95	1.83	1.52	1.47

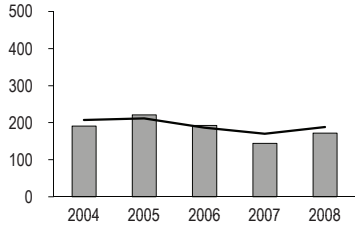
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



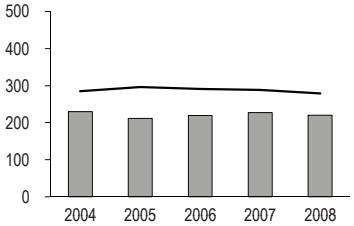
	2004	2005	2006	2007	2008
Durham	59	68	61	45	52
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Durham	191	221	192	144	172
Average	207	212	187	171	188

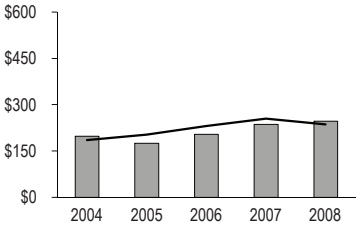
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Durham	230	212	220	227	220
Average	285	296	291	289	279

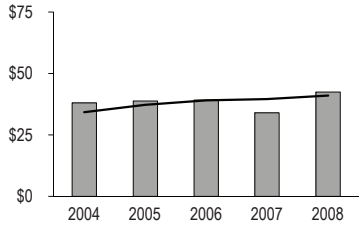
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



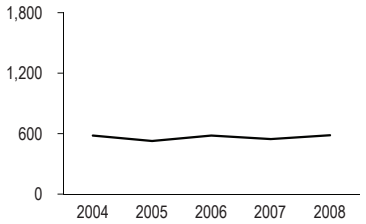
	2004	2005	2006	2007	2008
Durham	$198	$176	$204	$236	$246
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Durham	$38.00	$38.74	$39.20	$33.95	$42.42
Average	$34.20	$37.29	$39.11	$39.61	$41.05

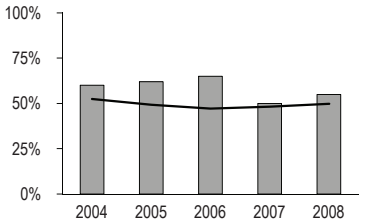
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Durham					
Average	580	528	580	547	585

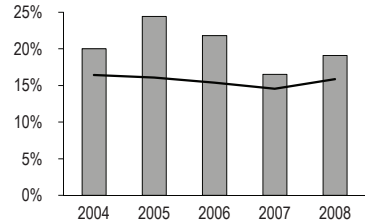
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Durham	60.0%	62.0%	65.0%	50.0%	55.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Durham	20.0%	24.4%	21.8%	16.5%	19.1%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Durham

MUNICIPAL PROFILE

Population (OSBM 2007)	222,491
Land Area (Square Miles)	105.50
Persons per Square Mile	2,109
Topography	Flat; gently rolling
County	Durham
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$51,162

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		3.5%
Operating Costs		95.1%
Capital Costs		1.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	98,314
Operating Costs	$	2,701,542
Capital Costs	$	42,197
TOTAL	$	2,842,053

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	11,541
Collection Points	67,000
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	1
Percentage of Service Contracted	100%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
The city provides once-a-week curbside service to all participating city residents. Durham contracted 100 percent of its recycling program during FY 2007–08. This service provider also retained the revenue received from the sale of recyclable items. There is no collection fee for collecting curbside recycling.

Materials collected in Durham's recycling program include:

- aluminum cans, foil, and pie tins
- steel cans
- glass bottles and jars
- plastic bottles
- gable-top beverage and aseptic containers
- plastic six-pack rings
- newspaper
- cardboard
- glossary magazines and catalogs
- white and colored office paper

Conditions Affecting Service, Performance, and Costs
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.

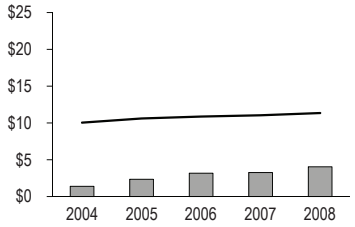
The set-out rate for the City of Durham is an estimate provided by the contractor.

Durham has begun some pilot programs throughout the city using larger containers to collect recyclables. The upsurge in the amount of recyclables collected may be related to these efforts.

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

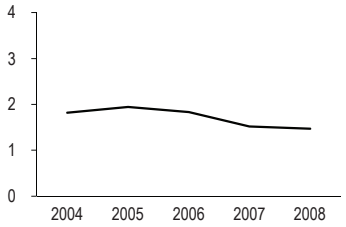
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Gastonia	$1.41	$2.34	$3.19	$3.26	$4.05
Average	$10.04	$10.62	$10.88	$11.06	$11.34

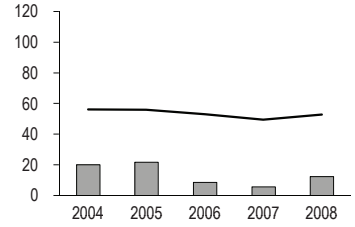
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia					
Average	1.82	1.95	1.83	1.52	1.47

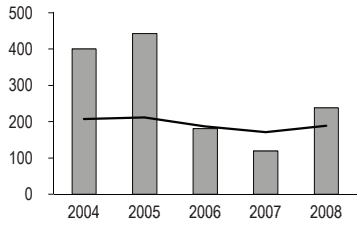
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



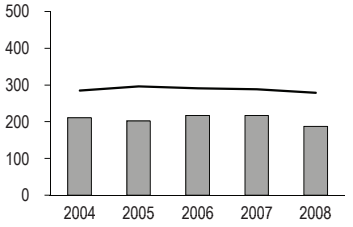
	2004	2005	2006	2007	2008
Gastonia	20	22	9	6	12
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Gastonia	401	442	181	119	238
Average	207	212	187	171	188

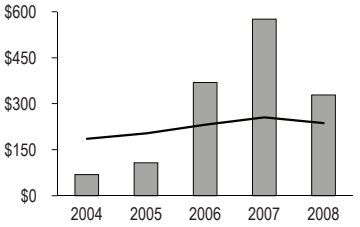
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	211	202	217	217	187
Average	285	296	291	289	279

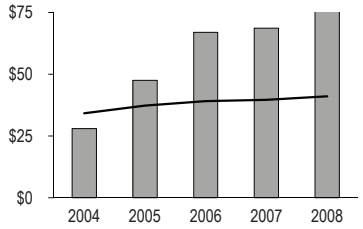
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



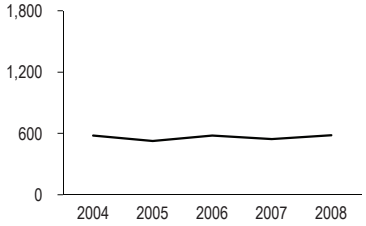
	2004	2005	2006	2007	2008
Gastonia	$69	$108	$370	$576	$329
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Gastonia	$28.00	$47.63	$66.98	$68.64	$78.29
Average	$34.20	$37.29	$39.11	$39.61	$41.05

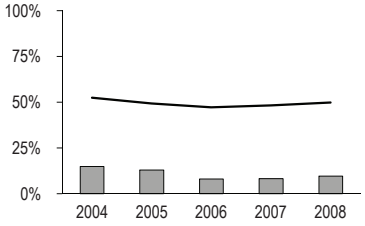
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Gastonia					
Average	580	528	580	547	585

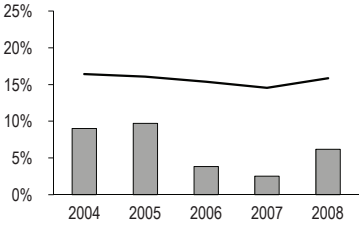
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Gastonia	14.9%	13.0%	8.0%	8.2%	9.7%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Gastonia	9.0%	9.7%	3.8%	2.5%	6.2%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2007)	72,848
Land Area (Square Miles)	50.43
Persons per Square Mile	1,445
Topography	Flat; gently rolling
County	Gaston
Climate	Mild; some ice
Median Family Income (US Census 2000)	$44,873

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		6.9%
Operating Costs		91.2%
Capital Costs		1.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	20,437
Operating Costs	$	268,916
Capital Costs	$	5,391
TOTAL	$	294,744

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.5
Tons Collected	896
Collection Points	3,765
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	98%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
The city offers weekly curbside recycling service to residential customers on a voluntary basis. The service has been provided by private contractor for years but a new contractor began providing service during FY 2007–08. Households that participate in this service pay $2 per month.

Recyclables are sorted at the curb and transported to the contractor's processing center in Conover, North Carolina. The following materials are collected at curbside:

- newspaper (including all inserts)
- green, clear, and brown glass
- plastic soft drink bottles
- plastic laundry detergent bottles
- milk jugs
- aluminum cans
- aluminum foil and trays
- steel cans
- junk mail
- magazines
- cereal boxes
- catalogs

Residents of Gastonia also may take recyclable materials to a county-owned drop-off site located in Gastonia.

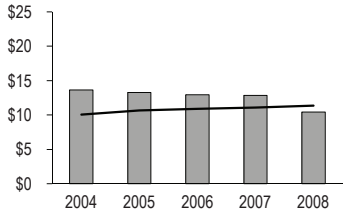
Conditions Affecting Service, Performance, and Costs
As part of bringing on a new contractor, participation has increased in the voluntary recycling program.

Of the potential 25,701 households who could join in the voluntary program, 14.6 percent or 3,765 households chose to participate. Of these participating households, 66 percent set out their recycling bins for a typical collection. The city calculated the set-out rate on an annual basis.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

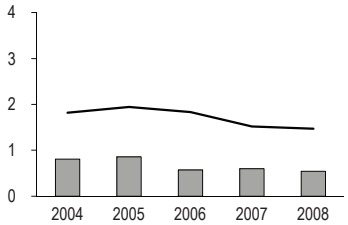
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Greensboro	$13.62	$13.28	$12.96	$12.84	$10.45
Average	$10.04	$10.62	$10.88	$11.06	$11.34

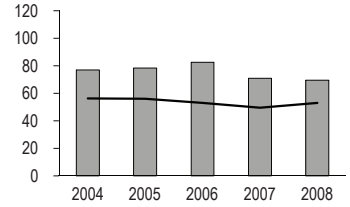
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	0.81	0.86	0.57	0.60	0.54
Average	1.82	1.95	1.83	1.52	1.47

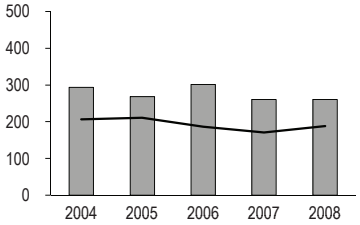
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



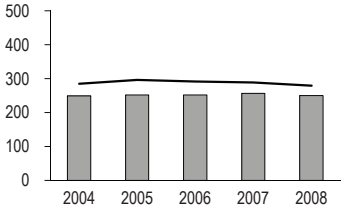
	2004	2005	2006	2007	2008
Greensboro	77	78	83	71	70
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Greensboro	293	268	301	261	261
Average	207	212	187	171	188

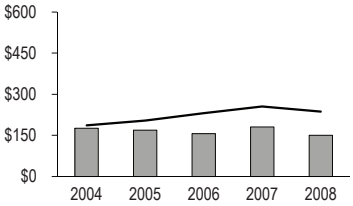
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	249	252	252	257	250
Average	285	296	291	289	279

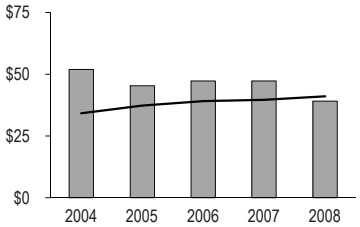
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



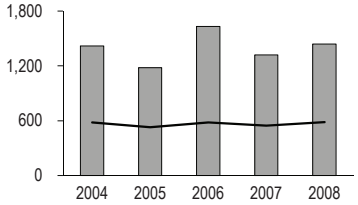
	2004	2005	2006	2007	2008
Greensboro	$176	$169	$157	$181	$150
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Greensboro	$52.00	$45.39	$47.26	$47.23	$39.15
Average	$34.20	$37.29	$39.11	$39.61	$41.05

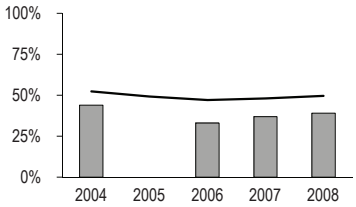
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Greensboro	1420	1180	1633	1319	1439
Average	580	528	580	547	585

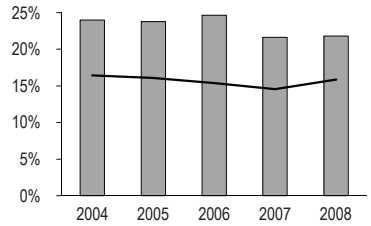
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Greensboro	44.0%		33.0%	37.0%	39.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Greensboro	24.0%	23.8%	24.7%	21.6%	21.8%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2007)	248,111
Land Area (Square Miles)	119.00
Persons per Square Mile	2,085
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2000)	$50,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		18.2%
Operating Costs		81.8%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	472,946
Operating Costs	$	2,119,567
Capital Costs	$	-
TOTAL	$	2,592,513

SERVICE PROFILE

FTE Positions—Collection	12.0
FTE Positions—Other	1.5
Tons Collected	17,265
Collection Points	66,215
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-Off Centers	17
Percentage of Service Contracted	0%
Revenue from Recycling	$245,115
Revenue as Percentage of Cost	9.5%

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro operates a voluntary commingled collection process for its recycling customers. Recycling services are provided to the community by means of single ninety-gallon automated containers, by green translucent bags, or by the commercial dumpster program. 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 drop-off sites in the city.

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

Materials collected by Greensboro's household recycling program include:

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

Greensboro contracts with a private firm for separation, packaging, and sale of recyclable materials. City payments to the contractor for FY 2007–08 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 $245,115 from the sale of recyclables from residential collection for FY 2007–08.

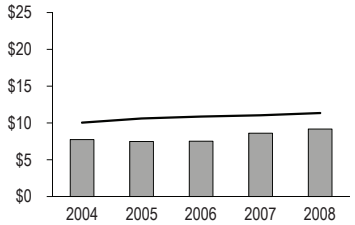
Conditions Affecting Service, Performance, and Costs
Greensboro is highly automated in gathering materials from its recycling program.

The set-out rate was based on a manual count done on a weekly basis.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

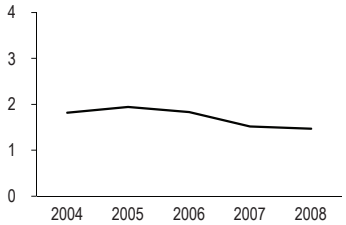
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Hickory	$7.75	$7.48	$7.53	$8.59	$9.17
Average	$10.04	$10.62	$10.88	$11.06	$11.34

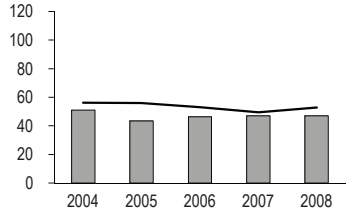
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory					
Average	1.82	1.95	1.83	1.52	1.47

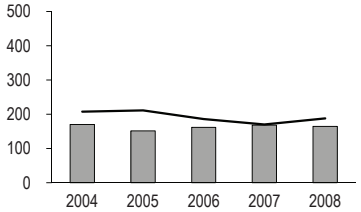
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



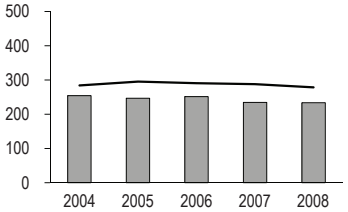
	2004	2005	2006	2007	2008
Hickory	51	43	46	47	47
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Hickory	170	151	162	168	164
Average	207	212	187	171	188

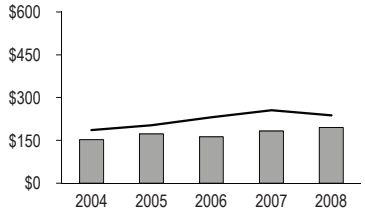
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	254	247	251	234	233
Average	285	296	291	289	279

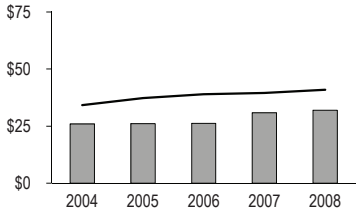
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



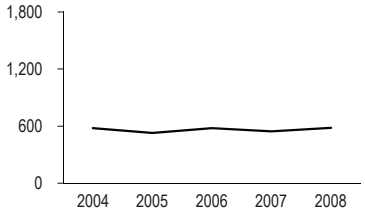
	2004	2005	2006	2007	2008
Hickory	$153	$172	$162	$183	$195
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Hickory	$26.00	$26.02	$26.23	$30.84	$32.03
Average	$34.20	$37.29	$39.11	$39.61	$41.05

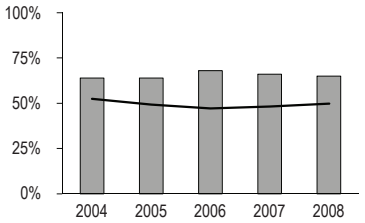
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Hickory					
Average	580	528	580	547	585

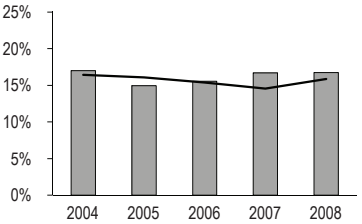
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Hickory	64.0%	64.0%	68.0%	66.0%	65.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Hickory	17.0%	14.9%	15.6%	16.7%	16.8%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Hickory

MUNICIPAL PROFILE

Population (OSBM 2007)	40,522
Land Area (Square Miles)	29.10
Persons per Square Mile	1,393
Topography	Gently rolling
County	Catawba
Climate	Moderate; some snow and ice
Median Family Income (US Census 2000)	$47,522

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		7.7%
Operating Costs		91.7%
Capital Costs		0.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	28,741
Operating Costs	$	340,586
Capital Costs	$	2,236
TOTAL	$	371,563

SERVICE PROFILE

FTE Positions—Collection	0.6
FTE Positions—Other	0.1
Tons Collected	1,904
Collection Points	11,600
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	2
Percentage of Service Contracted	75%
Revenue from Recycling	$53,437
Revenue as Percentage of Cost	14.4%

EXPLANATORY INFORMATION

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

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

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

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

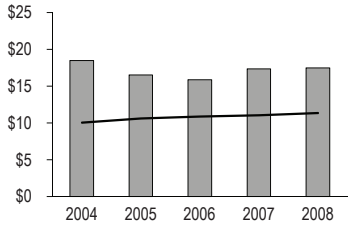
The city charges residents a monthly fee for recycling, which is included in the monthly solid waste fee. In FY 2007–08 the city collected $53,437 in revenue from the sale of recyclables.

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

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

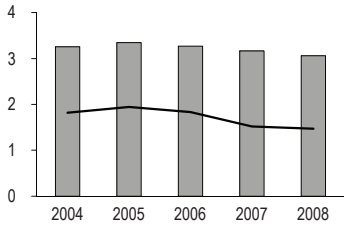
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
High Point	$18.48	$16.51	$15.87	$17.34	$17.47
Average	$10.04	$10.62	$10.88	$11.06	$11.34

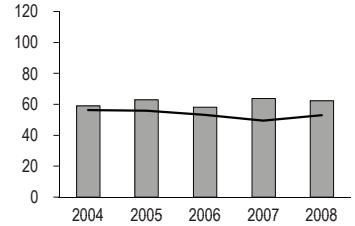
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	3.25	3.35	3.27	3.16	3.06
Average	1.82	1.95	1.83	1.52	1.47

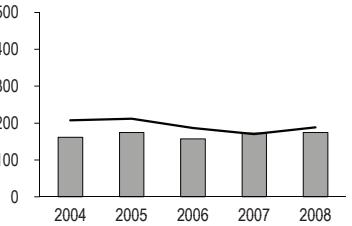
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



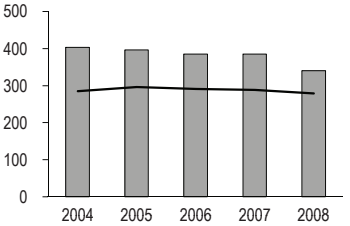
	2004	2005	2006	2007	2008
High Point	59	63	58	64	62
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
High Point	161	175	157	172	174
Average	207	212	187	171	188

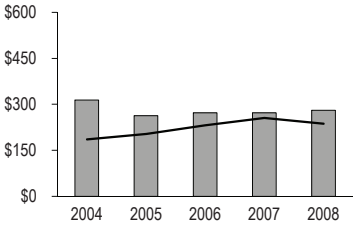
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
High Point	403	397	386	385	341
Average	285	296	291	289	279

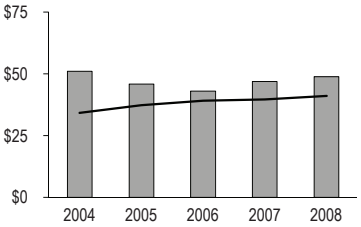
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



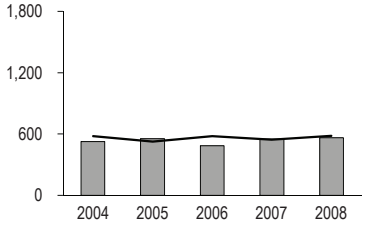
	2004	2005	2006	2007	2008
High Point	$314	$263	$273	$272	$281
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
High Point	$51.00	$45.90	$42.95	$46.93	$48.87
Average	$34.20	$37.29	$39.11	$39.61	$41.05

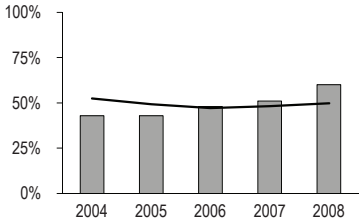
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
High Point	525	554	485	552	563
Average	580	528	580	547	585

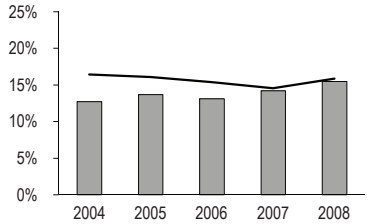
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
High Point	43.0%	43.0%	48.0%	51.0%	60.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
High Point	12.7%	13.7%	13.1%	14.2%	15.5%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

High Point

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2000)	$48,057

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		24.9%
Operating Costs		70.4%
Capital Costs		4.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	429,483
Operating Costs	$	1,215,340
Capital Costs	$	81,777
TOTAL	$	1,726,600

SERVICE PROFILE

FTE Positions—Collection	10.25
FTE Positions—Other	20.00
Tons Collected	6,150
Collection Points	35,332
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	13
Percentage of Service Contracted	0%
Revenue from Recycling	$636,936
Revenue as Percentage of Cost	36.9%

EXPLANATORY INFORMATION

Service Level and Delivery
The city offers curbside collection once per week. Eighteen-gallon containers are provided, and optional thirty-six-gallon containers may be purchased by customers. The recycling program is a city function.

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

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

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

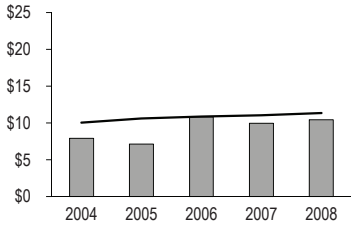
Conditions Affecting Service, Performance, and Costs
The city used a random sample to determine the set-out rate.

Matthews — Household Recycling

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

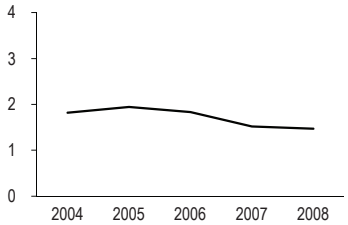
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Matthews	$7.92	$7.14	$10.82	$9.95	$10.42
Average	$10.04	$10.62	$10.88	$11.06	$11.34

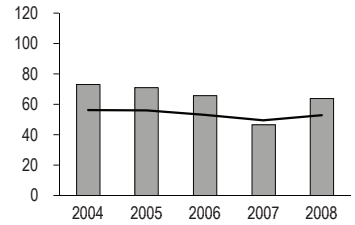
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Matthews					
Average	1.82	1.95	1.83	1.52	1.47

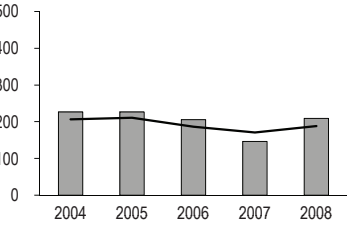
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



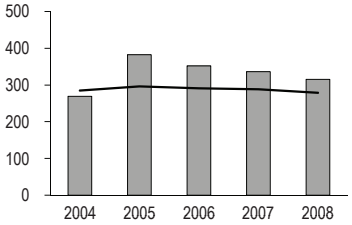
	2004	2005	2006	2007	2008
Matthews	73	71	66	46	64
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Matthews	227	226	206	146	209
Average	207	212	187	171	188

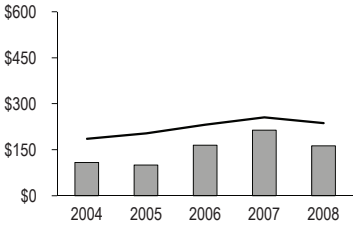
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	269	383	352	336	315
Average	285	296	291	289	279

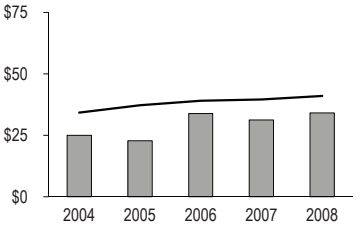
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



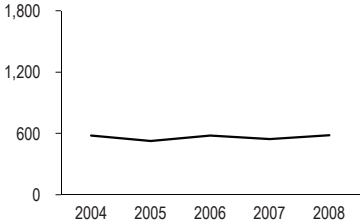
	2004	2005	2006	2007	2008
Matthews	$108	$101	$165	$214	$163
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Matthews	$25.00	$22.78	$33.88	$31.31	$34.14
Average	$34.20	$37.29	$39.11	$39.61	$41.05

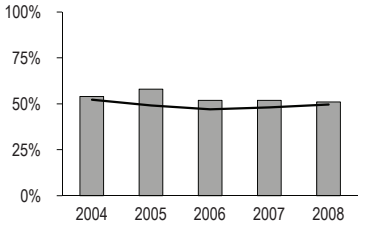
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Matthews					
Average	580	528	580	547	585

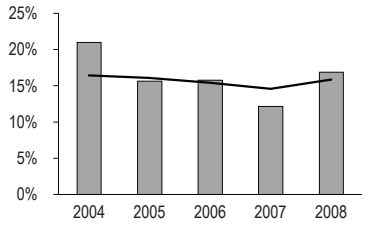
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Matthews	54.0%	58.0%	52.0%	52.0%	51.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Matthews	21.0%	15.6%	15.8%	12.1%	16.9%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Matthews

MUNICIPAL PROFILE

Population (OSBM 2007)	28,072
Land Area (Square Miles)	16.63
Persons per Square Mile	1,688
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$75,791

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	292,630
Capital Costs	$	-
TOTAL	$	292,630

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	1,792
Collection Points	8,571
Collection Location	Curbside
Collection Frequency	1 X week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	100%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Matthews provides once-a-week curbside collection of recyclable materials from households. The town does not charge a monthly recycling fee. Matthews used a contract collector for regular residential curbside recycling during FY 2007–08. Residents place materials into bins.

The recyclable materials collected include:

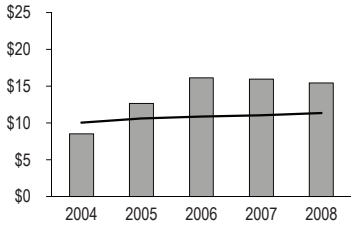
- newspaper
- magazines
- junk mail
- cardboard
- glass
- paper
- steel and aluminum cans
- plastics

Conditions Affecting Service, Performance, and Costs
The set-out rate was calculated monthly.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

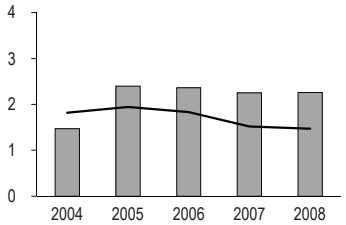
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Raleigh	$8.50	$12.67	$16.15	$15.94	$15.44
Average	$10.04	$10.62	$10.88	$11.06	$11.34

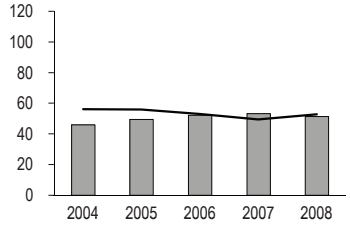
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	1.47	2.40	2.36	2.25	2.26
Average	1.82	1.95	1.83	1.52	1.47

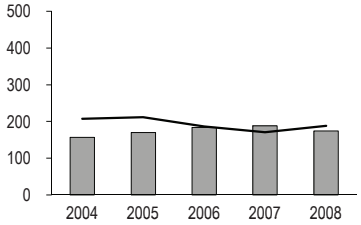
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



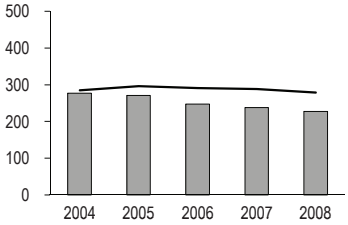
	2004	2005	2006	2007	2008
Raleigh	46	49	52	53	51
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Raleigh	157	170	183	189	174
Average	207	212	187	171	188

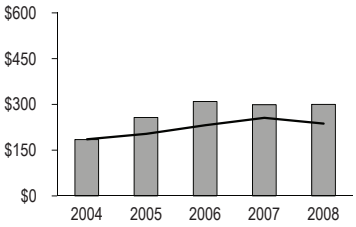
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	277	271	247	238	228
Average	285	296	291	289	279

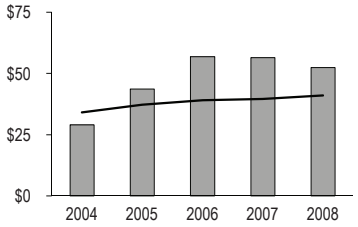
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



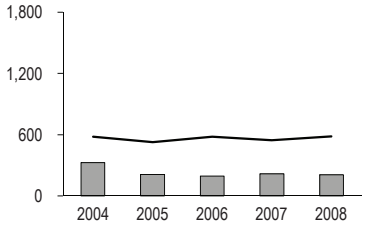
	2004	2005	2006	2007	2008
Raleigh	$185	$257	$310	$299	$300
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Raleigh	$29.00	$43.66	$56.81	$56.45	$52.37
Average	$34.20	$37.29	$39.11	$39.61	$41.05

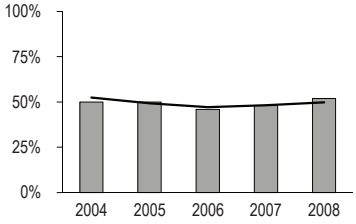
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Raleigh	326	211	194	216	208
Average	580	528	580	547	585

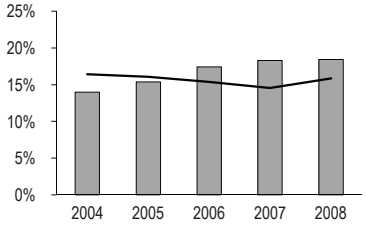
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Raleigh	50.0%	50.0%	46.0%	48.0%	52.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Raleigh	14.0%	15.4%	17.4%	18.3%	18.4%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Raleigh

MUNICIPAL PROFILE

Population (OSBM 2007)	367,313
Land Area (Square Miles)	140.54
Persons per Square Mile	2,614
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$60,003

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		56.8%
Operating Costs		30.8%
Capital Costs		12.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,219,381
Operating Costs	$	1,744,663
Capital Costs	$	707,573
TOTAL	$	5,671,617

SERVICE PROFILE

FTE Positions—Collection	81.0
FTE Positions—Other	2.0
Tons Collected	18,886
Collection Points	108,303
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	3
Percentage of Service Contracted	0.80%
Revenue from Recycling	$486,105
Revenue as Percentage of Cost	8.6%

EXPLANATORY INFORMATION

Service Level and Delivery
Raleigh's recycling program provides curbside collection of items at residences weekly. Each household is provided with one eighteen-gallon bin for recyclable materials. The city operates three unstaffed recycling drop-off centers. Three additional drop-off centers also are located in Raleigh. Items collected in Raleigh's household recycling program include:

- clear, brown, and green glass
- newspaper and inserts
- No. 1 and No. 2 plastic drink bottles
- white paper and mail
- magazines and catalogs
- aluminum and steel cans
- corrugated cardboard (drop-off centers only)

Raleigh's monthly recycling fee is $2.60 out of a total $10.30 monthly fee for all solid waste services. The city reported revenue from the sale of recyclables of $486,105 for FY 2007–08.

The city had a contract for collecting office paper and cardboard from city offices for $5,155.

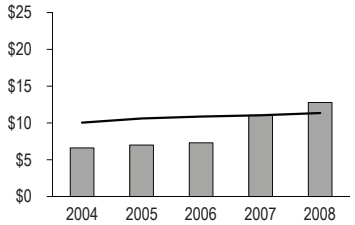
Conditions Affecting Service, Performance, and Costs
Raleigh's recycling service underwent a significant change in FY 2004–05. The level of service was raised by changing collection from every other week to once a week, which has raised costs. The number of collection personnel was increased to facilitate the more frequent pickups, which has lowered the tons collected per FTE.

The city calculated the set-out rate on a monthly basis.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

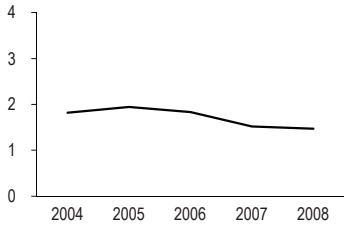
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Salisbury	$6.60	$6.99	$7.29	$11.03	$12.79
Average	$10.04	$10.62	$10.88	$11.06	$11.34

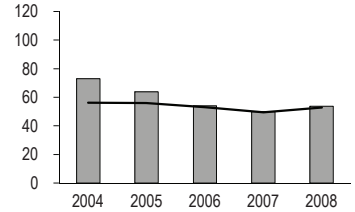
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury					
Average	1.82	1.95	1.83	1.52	1.47

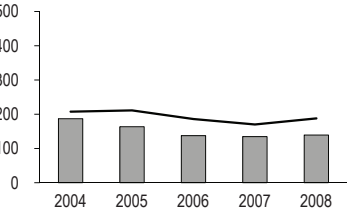
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



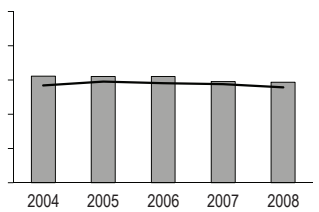
	2004	2005	2006	2007	2008
Salisbury	73	64	54	50	54
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Salisbury	187	164	138	134	139
Average	207	212	187	171	188

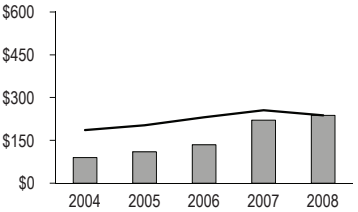
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	311	310	311	295	293
Average	285	296	291	289	279

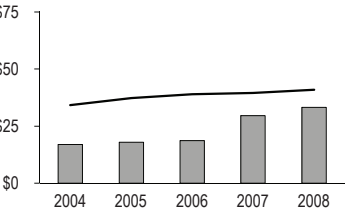
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



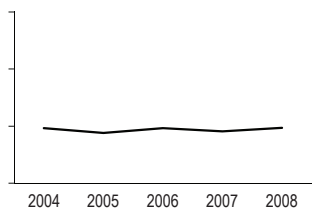
	2004	2005	2006	2007	2008
Salisbury	$90	$110	$135	$221	$238
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Salisbury	$17.00	$17.94	$18.59	$29.65	$33.17
Average	$34.20	$37.29	$39.11	$39.61	$41.05

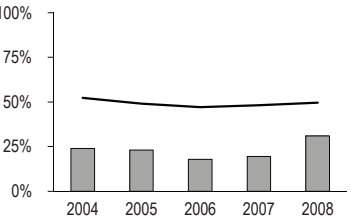
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Salisbury					
Average	580	528	580	547	585

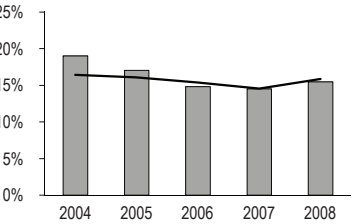
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Salisbury	24.0%	23.2%	18.0%	19.5%	31.1%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Salisbury	19.0%	17.1%	14.8%	14.5%	15.5%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
Topography	Gently rolling
County	Rowan
Climate	Moderate; Some snow and ice
Median Family Income (US Census 2000)	$41,108

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	396,936
Capital Costs	$	-
TOTAL	$	396,936

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	1,666
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

EXPLANATORY INFORMATION

Service Level and Delivery
Salisbury provides once-a-week curbside collection of recyclable materials from households. The city charged a monthly recycling fee of $2.81 in FY 2007–08. The city provides and pays for the fourteen-gallon recycling bins that residents use. The city contracts 100 percent of its recycling program. Recyclables are sorted at the curb by the contractor and taken to the county recycling site.

The recyclable materials collected include:

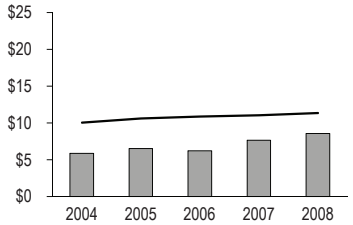
- glass (all colors)
- newspaper
- magazines and catalogs
- mixed paper and mail
- telephone books
- cardboard–broken down and cereal boxes
- No. 1 and No. 2 plastics
- aluminum cans
- steel cans

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

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

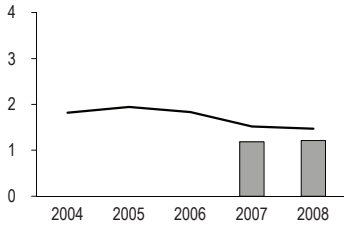
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Wilmington	$5.88	$6.52	$6.20	$7.65	$8.54
Average	$10.04	$10.62	$10.88	$11.06	$11.34

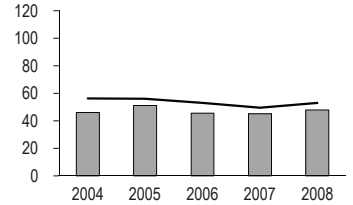
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington				1.18	1.22
Average	1.82	1.95	1.83	1.52	1.47

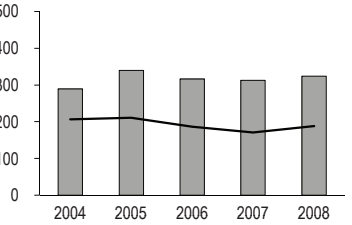
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



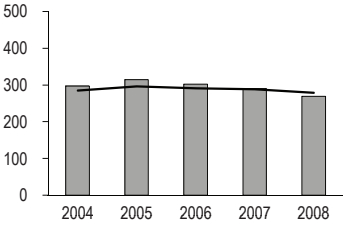
	2004	2005	2006	2007	2008
Wilmington	46	51	46	45	48
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilmington	289	340	317	312	324
Average	207	212	187	171	188

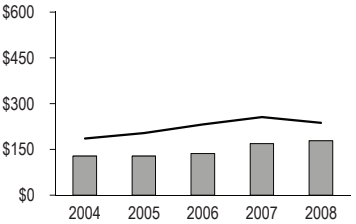
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	297	315	303	290	269
Average	285	296	291	289	279

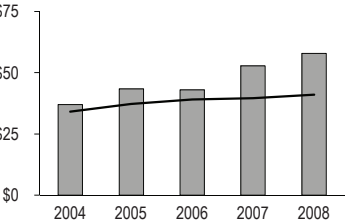
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



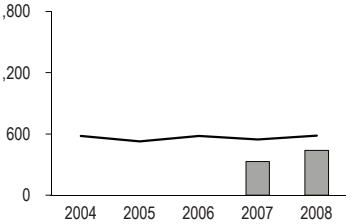
	2004	2005	2006	2007	2008
Wilmington	$128	$128	$136	$169	$179
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Wilmington	$37.00	$43.32	$43.03	$52.85	$57.83
Average	$34.20	$37.29	$39.11	$39.61	$41.05

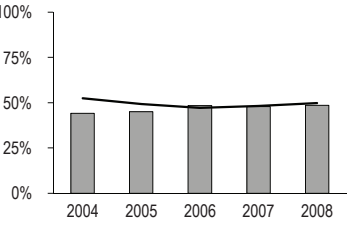
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Wilmington				328	438
Average	580	528	580	547	585

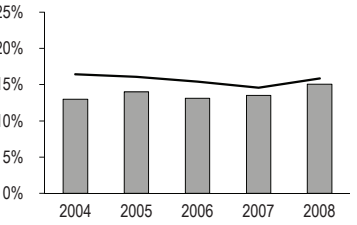
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Wilmington	44.1%	45.0%	48.4%	47.8%	48.6%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Wilmington	13.0%	14.0%	13.1%	13.5%	15.1%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2007)	100,746
Land Area (Square Miles)	49.29
Persons per Square Mile	2,044
Topography	Flat; gently rolling
County	New Hanover
Climate	Mild
Median Family Income (US Census 2000)	$41,891

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		58.8%
Operating Costs		31.4%
Capital Costs		9.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	506,338
Operating Costs	$	270,270
Capital Costs	$	84,265
TOTAL	$	860,873

SERVICE PROFILE

FTE Positions—Collection	11.00
FTE Positions—Other	1.25
Tons Collected	4,818
Collection Points	14,886
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	0%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Wilmington's household recycling program provides curbside pickup of materials once each week to residences, small businesses, and small apartment complexes 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 2007–08, city crews gathered 4,818 tons of recyclables. The transition from a contracted service to a wholly city run collection program entailed a significant amount of one-time costs such as for purchasing equipment and collection bins.

Materials collected by Wilmington's recycling program include:

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

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

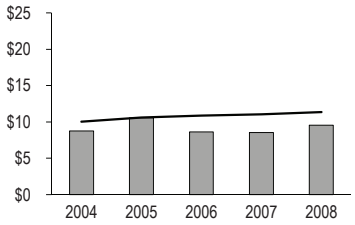
Conditions Affecting Service, Performance, and Costs
Of the potential eligible households who could join in the voluntary program, 54 percent or 14,86 households chose to participate. Of these participating households, 90 percent set out their recycling on average. Thus approximately 49 percent of the households that could join were actually setting out recyclables during a regular collection week.

Wilson — Household Recycling

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

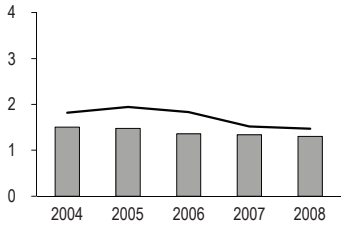
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Wilson	$8.76	$10.57	$8.62	$8.53	$9.53
Average	$10.04	$10.62	$10.88	$11.06	$11.34

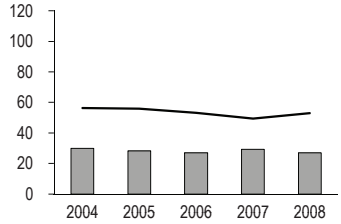
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	1.50	1.48	1.36	1.34	1.30
Average	1.82	1.95	1.83	1.52	1.47

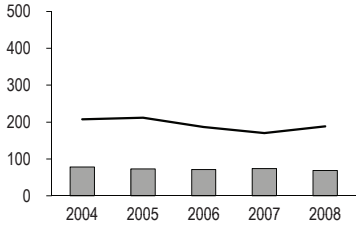
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



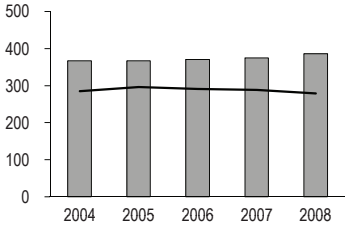
	2004	2005	2006	2007	2008
Wilson	30	28	27	29	27
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilson	78	73	71	74	69
Average	207	212	187	171	188

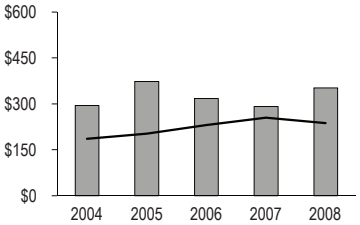
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	367	367	371	375	386
Average	285	296	291	289	279

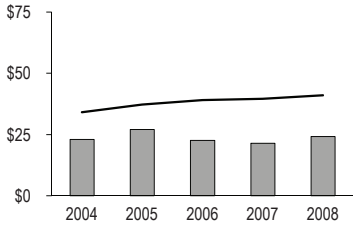
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



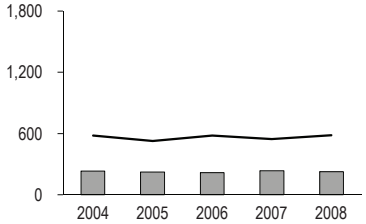
	2004	2005	2006	2007	2008
Wilson	$295	$373	$318	$292	$353
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Wilson	$23.00	$27.11	$22.65	$21.47	$24.17
Average	$34.20	$37.29	$39.11	$39.61	$41.05

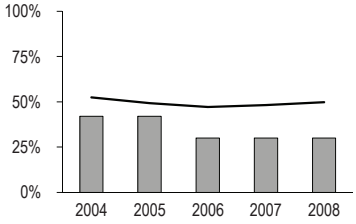
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Wilson	231	224	216	237	225
Average	580	528	580	547	585

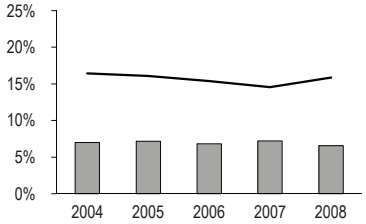
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Wilson	42.0%	42.0%	30.0%	30.0%	30.0%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Wilson	7.0%	7.2%	6.8%	7.2%	6.5%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Wilson

MUNICIPAL PROFILE

Population (OSBM 2007)	49,954
Land Area (Square Miles)	28.87
Persons per Square Mile	1,730
Topography	Flat
County	Wilson
Climate	Mild; little snow and ice
Median Family Income (US Census 2000)	$41,041

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		36.2%
Operating Costs		47.8%
Capital Costs		16.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	172,352
Operating Costs	$	227,554
Capital Costs	$	76,339
TOTAL	$	476,245

SERVICE PROFILE

FTE Positions—Collection	6.0
FTE Positions—Other	0.5
Tons Collected	1,351
Collection Points	19,700
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	0
Percentage of Service Contracted	0%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

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

The following materials are collected:

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

Wilson used two three-person crews in FY 2007–08 consisting of one driver and two collectors each.

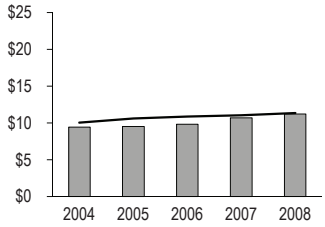
Conditions Affecting Service, Performance, and Costs
The set-out rate was calculated on a monthly basis with drivers on the recycling trucks using counters.

Winston-Salem Household Recycling

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

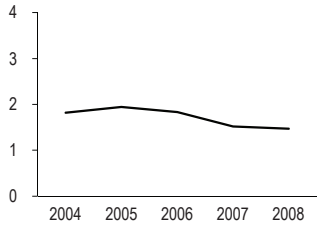
RESOURCE Measures

Recycling Services Cost per Capita



	2004	2005	2006	2007	2008
Winston-Salem	$9.43	$9.54	$9.81	$10.70	$11.24
Average	$10.04	$10.62	$10.88	$11.06	$11.34

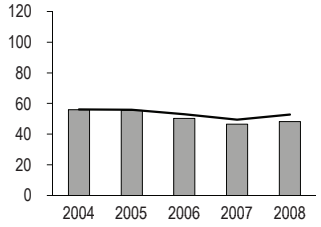
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem					
Average	1.82	1.95	1.83	1.52	1.47

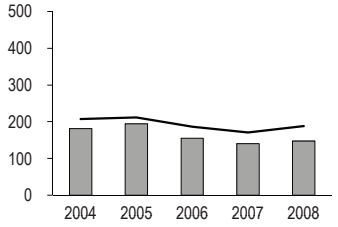
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



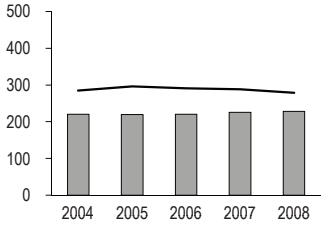
	2004	2005	2006	2007	2008
Winston-Salem	56	56	50	47	48
Average	56	56	53	49	53

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Winston-Salem	181	194	155	140	147
Average	207	212	187	171	188

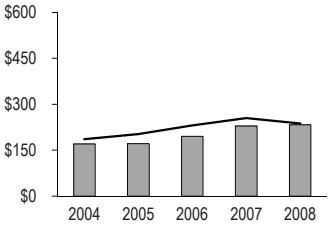
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	220	220	220	225	229
Average	285	296	291	289	279

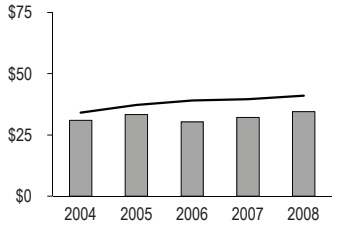
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



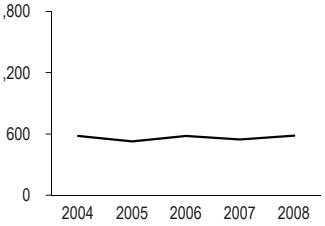
	2004	2005	2006	2007	2008
Winston-Salem	$170	$172	$195	$229	$234
Average	$186	$203	$231	$256	$237

Recycling Services Cost per Collection Point



	2004	2005	2006	2007	2008
Winston-Salem	$31.00	$33.31	$30.32	$32.17	$34.44
Average	$34.20	$37.29	$39.11	$39.61	$41.05

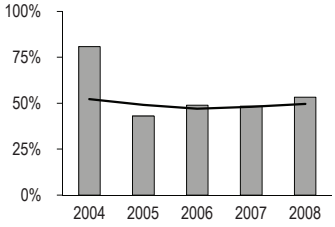
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007	2008
Winston-Salem					
Average	580	528	580	547	585

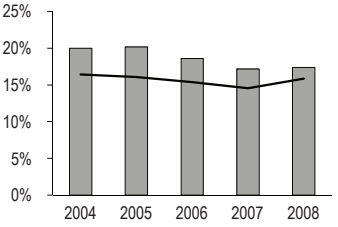
EFFECTIVENESS Measures

Community Set-Out Rate



	2004	2005	2006	2007	2008
Winston-Salem	80.9%	43.0%	49.0%	48.4%	53.3%
Average	52.4%	49.2%	47.2%	48.2%	49.7%

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



	2004	2005	2006	2007	2008
Winston-Salem	20.0%	20.2%	18.6%	17.2%	17.4%
Average	16.4%	16.1%	15.4%	14.6%	15.9%

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2007)	224,889
Land Area (Square Miles)	132.45
Persons per Square Mile	1,698
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some snow and ice
Median Family Income (US Census 2000)	$46,595

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		3.1%
Operating Costs		96.9%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	78,010
Operating Costs	$	2,448,498
Capital Costs	$	889
TOTAL	$	2,527,397

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	1.0
Tons Collected	10,818
Collection Points	73,393
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-Off Centers	9
Percentage of Service Contracted	100%
Revenue from Recycling	$394,784
Revenue as Percentage of Cost	15.6%

EXPLANATORY INFORMATION

Service Level and Delivery

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

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

The city contracts for 100 percent of its curbside household recycling program. The contractor separates recyclables at the curb, placing paper products in one compartment on the truck and nonpaper 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 $394,784 during FY 2007–08.

Conditions Affecting Service, Performance, and Costs

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

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 for FY 2007–08. 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

FY 2007-08

City or Town	Yard Waste Collection		Seasonal Loose Leaf Collection	Collection Points	Tons Collected		FTE Collection Positions
	Location	Frequency			Yard Waste	Loose Leaves	
Asheville	Curbside	2 x month	2 sweeps	28,485	7,453	3,180	19.3
Burlington	Curbside	1 x week	4 sweeps	17,594	3,728	2,552	14.8
Carrboro	Curbside	2 x month	2 x month	2,871	850	468	2.17
Cary	Curbside	1 x week	3 sweeps	38,500	10,428	4,301	25.4
Charlotte	Curbside	1 x week	NA	202,777	40,202	NA	54
Concord	Curbside	1 x week	4 sweeps	26,642	6,702	1,381	23.15
Durham	Curbside	1 x week	NA	17,028	7,900	NA	15
Gastonia	Curbside	1 x week	1 x week	25,701	4,248	1,529	9.67
Greensboro	Curbside	1 x week	2 sweeps	66,215	12,553	7,620	28.62
Hickory	Curbside	1 x week	2 sweeps	11,600	3,439	2,838	10
High Point	Curbside	1 x week	2 sweeps	35,332	7,176	1,271	16.5
Matthews	Curbside	1 x week	NA	8,571	2,722	NA	NA
Raleigh	Curbside	1 x week	2 sweeps	108,203	13,957	4,758	59
Salisbury	Curbside	1 x week	1 x 3 weeks	11,262	8,008	2,506	11
Wilmington	Curbside	1 x week	NA	27,566	10,008	NA	19
Wilson	Curbside	1 x week	1 x 3 weeks	19,700	5,008	1,790	15
Winston-Salem	Curbside	yard waste cart 1 x week brush every 10 days	3 sweeps	14,476 for yard waste 71,673 for brush and leaves	20,816	10,876	76.57

NOTES

Municipalities with no reported seasonal leaf collection collect leaves as part of their yard waste collection programs.
The town of Matthews contracts all yard waste collection.

EXPLANATORY FACTORS

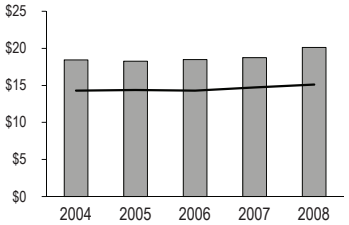
These are factors that the project found to affect yard waste and leaf collection performance and cost in one or more of the municipalities:

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

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

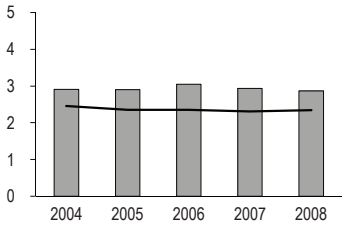
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Asheville	$18.46	$18.25	$18.50	$18.74	$20.13
Average	$14.26	$14.35	$14.27	$14.71	$15.11

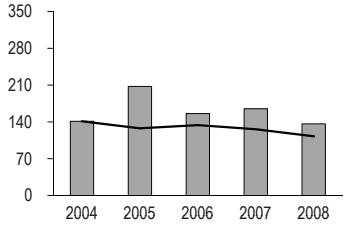
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	2.9	2.9	3.0	2.9	2.9
Average	2.5	2.4	2.4	2.3	2.4

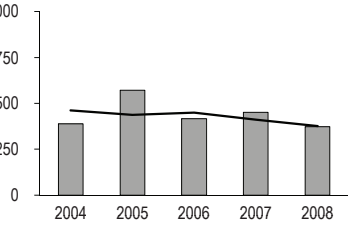
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	141	208	156	165	137
Average	141	128	134	126	113

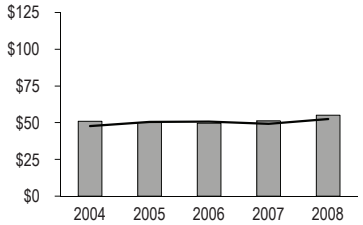
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Asheville	388	571	417	452	373
Average	463	438	451	412	378

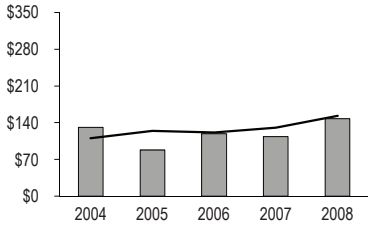
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



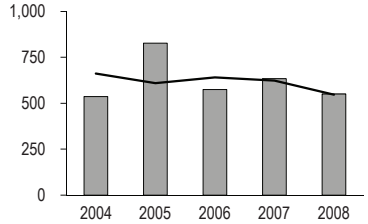
	2004	2005	2006	2007	2008
Asheville	$51	$50	$50	$51	$55
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Asheville	$131	$88	$119	$113	$147
Average	$110	$124	$122	$131	$153

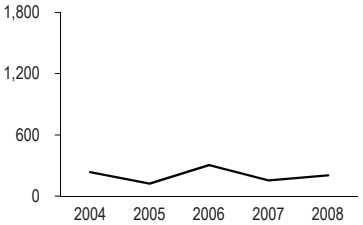
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Asheville	537	827	575	634	551
Average	663	610	642	625	547

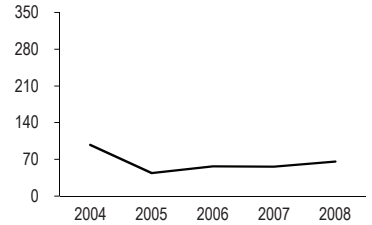
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Asheville					
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Asheville					
Average	98	44	57	56	66

Asheville

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2000)	$44,029

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		45.0%
Operating Costs		45.2%
Capital Costs		9.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	705,163
Operating Costs	$	707,350
Capital Costs	$	154,064
TOTAL	$	1,566,577

SERVICE PROFILE

FTE Positions—Collection	19.3
FTE Positions—Other	3.0
Collection Points	
Yard Waste	28,845
Leaves	28,845
Tons Collected	
Yard Waste	7,453
Leaves	3,180
Total	10,633
Collection Frequency	
Yard Waste	2 x month
Bagged Leaves	2 x month
Loose Leaves (seasonal collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
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.

There are three one-person crews on knuckleboom, 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 loading packers collect yard waste five days per week.

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

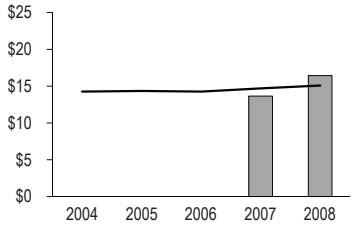
Asheville vacuums leaves at the curb twice on a pre-set schedule during the leaf season, which lasts from the beginning of November to the end of January. Leaves may be bagged and placed at the curb for regular weekly yard waste collection.

Conditions Affecting Service, Performance, and Costs

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

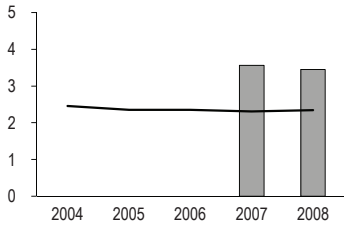
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Burlington				$13.65	$16.45
Average	$14.26	$14.35	$14.27	$14.71	$15.11

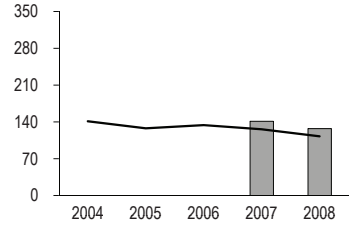
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				3.6	3.4
Average	2.5	2.4	2.4	2.3	2.4

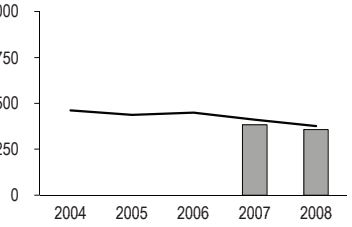
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				141	127
Average	141	128	134	126	113

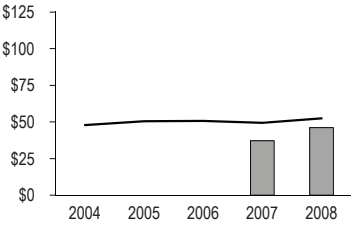
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Burlington				384	357
Average	463	438	451	412	378

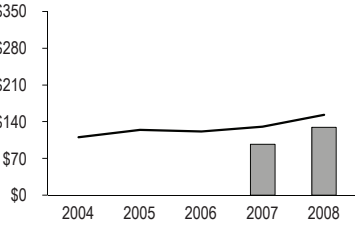
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



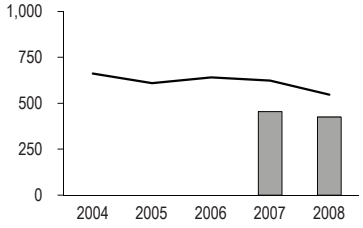
	2004	2005	2006	2007	2008
Burlington				$37	$46
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Burlington				$97	$129
Average	$110	$124	$122	$131	$153

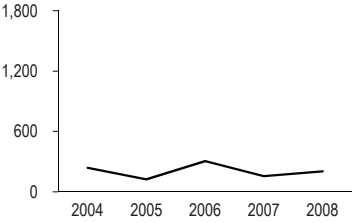
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Burlington				454	424
Average	663	610	642	625	547

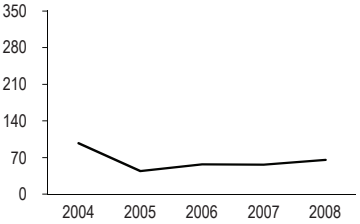
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Burlington					
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Burlington					
Average	98	44	57	56	66

Burlington

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
Topography	Flat; gently rolling
County	Orange
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$45,441

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		50.3%
Operating Costs		27.2%
Capital Costs		22.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	407,932
Operating Costs	$	220,561
Capital Costs	$	183,269
TOTAL	$	811,762

SERVICE PROFILE

FTE Positions—Collection	14.80
FTE Positions—Other	2.20
Collection Points	
Yard Waste	17,594
Leaves	17,594
Tons Collected	
Yard Waste	3,728
Leaves	2,552
Total	6,280
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	4 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Yard waste is collected by the Burlington Sanitation Division once per week. Residents may put yard waste in cans, bags, or simply stack it curbside. The amount per household cannot exceed fifty pounds each week.

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

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

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

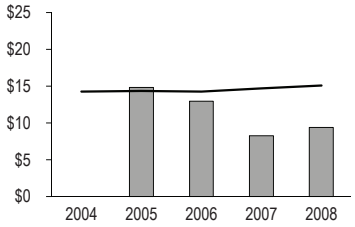
Conditions Affecting Service, Performance, and Costs
The city does not track complaints or valid complaints.

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

Key: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

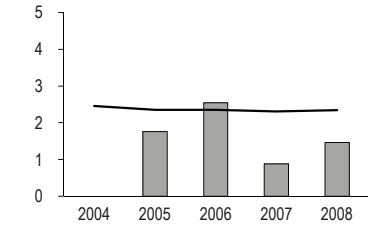
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Carrboro		$14.82	$12.97	$8.24	$9.40
Average	$14.26	$14.35	$14.27	$14.71	$15.11

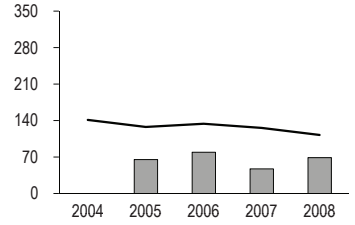
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		1.8	2.5	0.9	1.5
Average	2.5	2.4	2.4	2.3	2.4

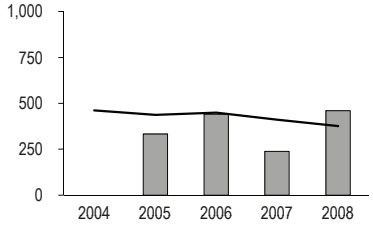
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Carrboro		65	79	47	69
Average	141	128	134	126	113

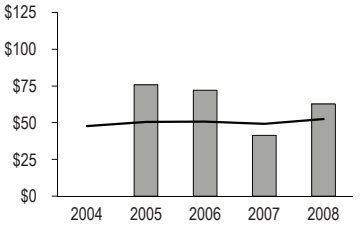
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Carrboro		333	441	238	459
Average	463	438	451	412	378

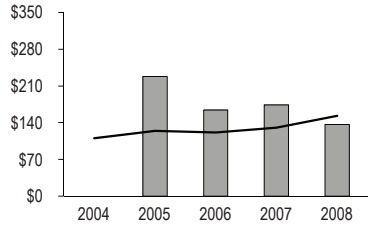
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



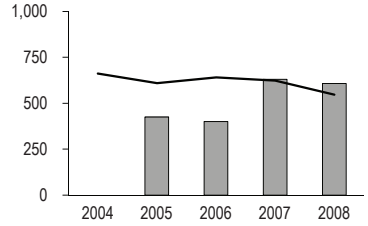
	2004	2005	2006	2007	2008
Carrboro		$76	$72	$41	$63
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Carrboro		$228	$164	$174	$137
Average	$110	$124	$122	$131	$153

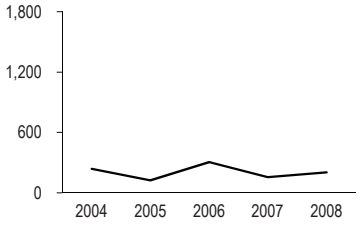
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Carrboro		425	401	630	607
Average	663	610	642	625	547

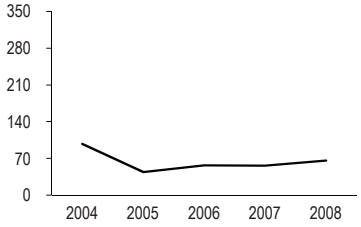
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Carrboro					
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Carrboro					
Average	98	44	57	56	66

MUNICIPAL PROFILE

Population (OSBM 2007)	19,178
Land Area (Square Miles)	6.33
Persons per Square Mile	3,030
Topography	Flat; gently rolling
County	Orange
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$47,330

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		33.9%
Operating Costs		49.1%
Capital Costs		17.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	61,125
Operating Costs	$	88,582
Capital Costs	$	30,614
TOTAL	$	180,321

SERVICE PROFILE

FTE Positions—Collection	2.17
FTE Positions—Other	0.64
Collection Points	
Yard Waste	2,871
Leaves	2,871
Tons Collected	
Yard Waste	850
Leaves	468
Total	1,318
Collection Frequency	
Yard Waste	2 x month
Bagged Leaves	2 x month
Loose Leaves (seasonal collection)	1 x 2 weeks
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Yard waste is collected by the Solid Waste Division, and leaf collection is handled by the Landscape and Grounds Division.

Carrboro collects yard waste at curbside twice each month for all town residents. The town collects yard trimmings no longer than three feet and no wider than four inches. Grass clippings also are collected.

There are two one-person crews on a rear loader and a side loader for yard waste collection. A knuckleboom truck occasionally helps with larger items. The crews do one-half of the town each Wednesday and the other half on the following Wednesday.

Loose leaves are collected seasonally during the November through February leaf collection season. Leaf collection is done with one or two three-person crews depending on the volume of leaves to be collected. Crews use a dump truck driver, a leaf sucker operator, and a follow-up worker in a pickup who scouts side streets and rakes for the leaf sucker operator.

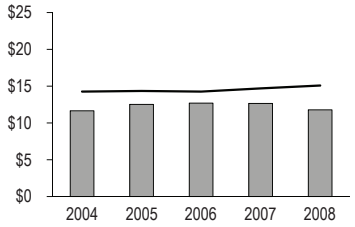
The town does not charge a regular fee for yard waste collection. The town code specifies that volume equal to a pickup truck is picked up free but that after that a fee may be charged. Residents have the option of buying a ninety-five-gallon yard waste cart for $46 that can be placed curbside.

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

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

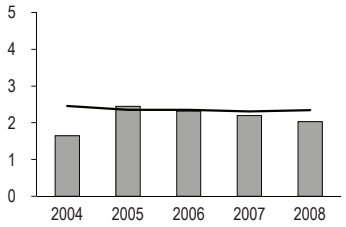
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Cary	$11.65	$12.51	$12.68	$12.63	$11.79
Average	$14.26	$14.35	$14.27	$14.71	$15.11

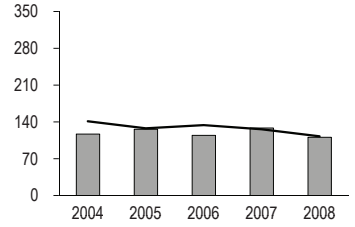
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	1.6	2.4	2.3	2.2	2.0
Average	2.5	2.4	2.4	2.3	2.4

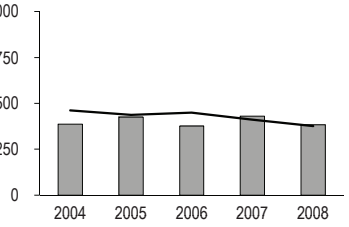
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Cary	117	126	115	129	111
Average	141	128	134	126	113

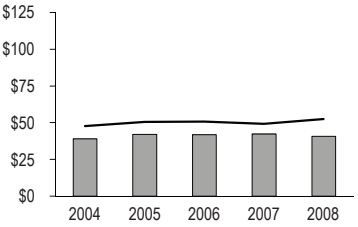
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Cary	387	425	377	431	383
Average	463	438	451	412	378

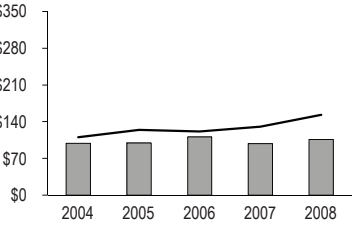
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



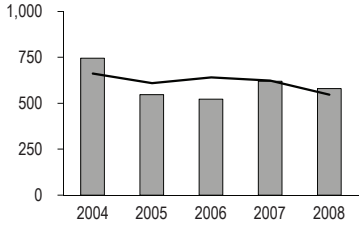
	2004	2005	2006	2007	2008
Cary	$39	$42	$42	$42	$41
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Cary	$99	$99	$111	$98	$106
Average	$110	$124	$122	$131	$153

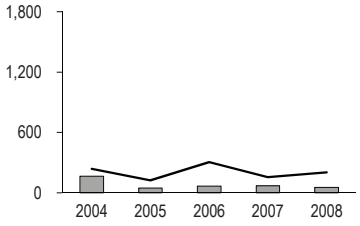
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Cary	745	547	523	620	580
Average	663	610	642	625	547

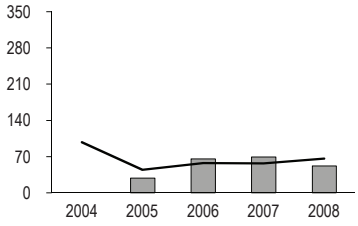
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Cary	166	48	65	69	55
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Cary		28	65	69	52
Average	98	44	57	56	66

Cary

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$88,074

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		54.5%
Operating Costs		36.1%
Capital Costs		9.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	851,500
Operating Costs	$	565,231
Capital Costs	$	147,007
TOTAL	$	1,563,738

SERVICE PROFILE

FTE Positions—Collection	25.4
FTE Positions—Other	1.5
Collection Points	
Yard Waste	38,500
Leaves	38,500
Tons Collected	
Yard Waste	10,428
Leaves	4,301
Total	14,729
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	3 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery

Cary's yard waste is collected 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.

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

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

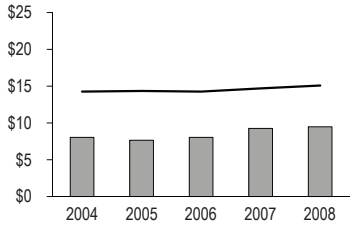
Cary defines valid complaints as those that have been verified in the field by a supervisor.

Conditions Affecting Service, Performance, and Costs

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2004 through 2008

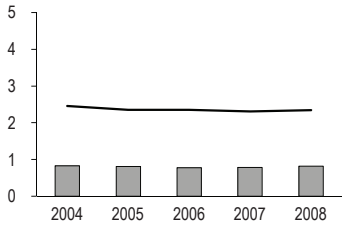
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Charlotte	$8.04	$7.64	$8.04	$9.26	$9.48
Average	$14.26	$14.35	$14.27	$14.71	$15.11

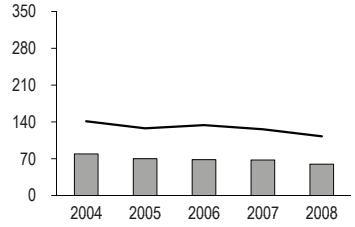
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Charlotte	0.8	0.8	0.8	0.8	0.8
Average	2.5	2.4	2.4	2.3	2.4

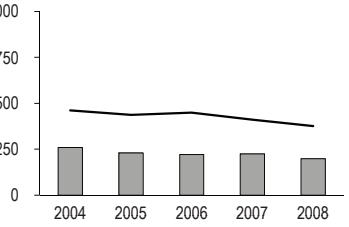
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Charlotte	79	70	68	68	60
Average	141	128	134	126	113

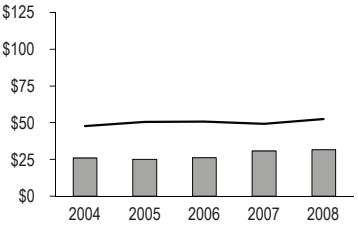
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Charlotte	260	230	221	225	198
Average	463	438	451	412	378

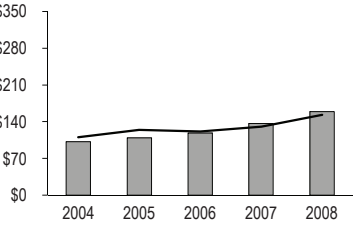
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



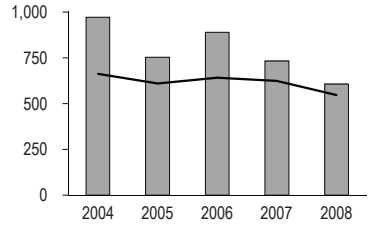
	2004	2005	2006	2007	2008
Charlotte	$26	$25	$26	$31	$32
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Charlotte	$102	$109	$118	$137	$159
Average	$110	$124	$122	$131	$153

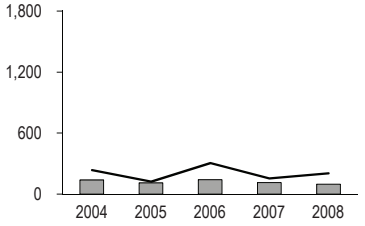
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Charlotte	972	753	890	732	606
Average	663	610	642	625	547

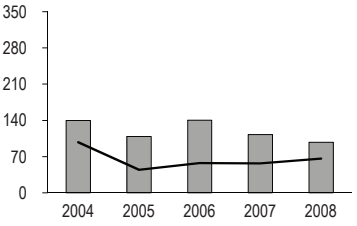
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Charlotte	140	109	140	112	98
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Charlotte	140	109	140	112	98
Average	98	44	57	56	66

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2007)	674,752
Land Area (Square Miles)	287.93
Persons per Square Mile	2,343
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$56,517

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		36.5%
Operating Costs		53.5%
Capital Costs		10.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,337,698
Operating Costs	$	3,420,081
Capital Costs	$	640,317
TOTAL	$	6,398,096

SERVICE PROFILE

FTE Positions—Collection	54.00
FTE Positions—Other	1.25
Collection Points	
Yard Waste	202,777
Leaves	202,777
Tons Collected	
Yard Waste	40,202
Leaves	included above
Total	40,202
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	NA
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
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 2007–08, the City of Charlotte provided service to three of the four zones. One zone was serviced by the private sector at a cost of $918,947. The city collected approximately fifteen percent of the total tonnage reported.

Yard waste includes leaves, stems, grass, limbs, and other residential organic matter. Limbs should be separated into piles small enough for one individual to handle. Leaves and grass clippings must be placed in untied plastic bags or in uncovered trash cans. The City of Charlotte used twenty-four two-person crews working from rear loaders to service the three zones.

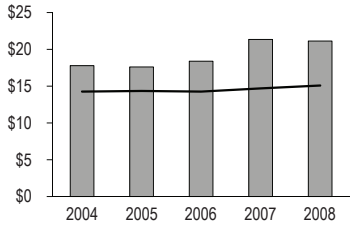
Leaves are collected in bags and are debagged at the curb as part of the regular yard waste service. A special seasonal leaf collection is not done by the city of Charlotte.

Conditions Affecting Service, Performance, and Costs
Charlotte used managed competition to provide this service. Therefore, the performance measure "tons collected per collection FTE" represents city crews only.

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

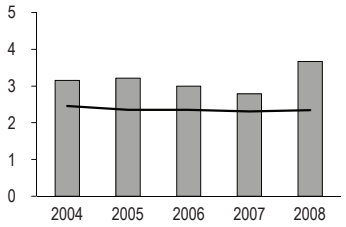
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Concord	$17.79	$17.63	$18.41	$21.35	$21.15
Average	$14.26	$14.35	$14.27	$14.71	$15.11

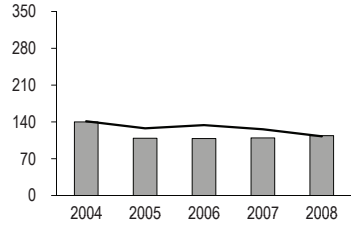
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord	3.2	3.2	3.0	2.8	3.7
Average	2.5	2.4	2.4	2.3	2.4

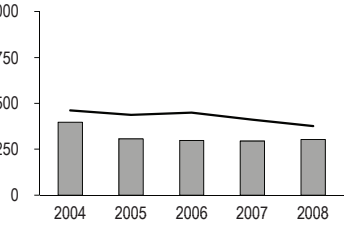
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Concord	140	109	108	109	114
Average	141	128	134	126	113

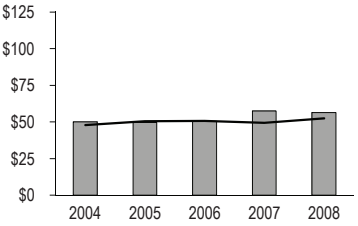
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Concord	397	306	298	295	303
Average	463	438	451	412	378

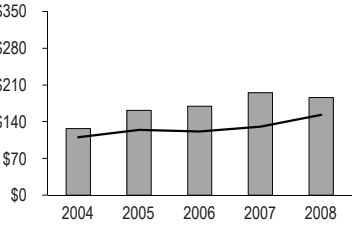
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



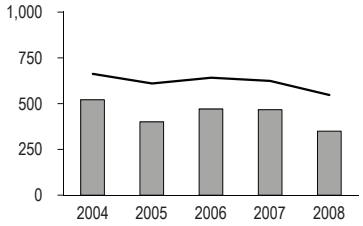
	2004	2005	2006	2007	2008
Concord	$50	$50	$51	$58	$56
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Concord	$127	$162	$170	$195	$186
Average	$110	$124	$122	$131	$153

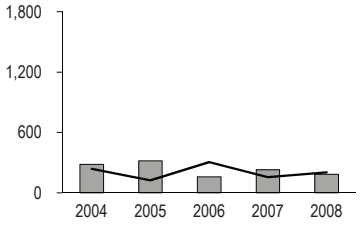
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Concord	521	400	470	467	349
Average	663	610	642	625	547

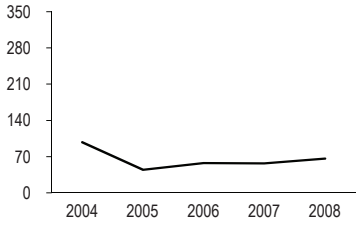
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Concord	282	319	158	228	185
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Concord					
Average	98	44	57	56	66

Concord

MUNICIPAL PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
Topography	Flat
County	Cabarrus
Climate	Mild; some snow and ice
Median Family Income (US Census 2000)	$53,571

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.7%
Operating Costs		24.2%
Capital Costs		12.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	957,085
Operating Costs	$	362,965
Capital Costs	$	182,869
TOTAL	$	1,502,919

SERVICE PROFILE

FTE Positions—Collection	23.15
FTE Positions—Other	2.90
Collection Points	
Yard Waste	26,642
Leaves	26,642
Tons Collected	
Yard Waste	6,702
Leaves	1,381
Total	8,083
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	4 sweeps
Service Fee	No

EXPLANATORY INFORMATION

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

Concord used five two-person crews with garbage trucks and dump trucks to collect yard waste during FY 2007–08. Four two-person crews also were used to collect limbs and brush with knuckle-boom trucks on a weekly basis.

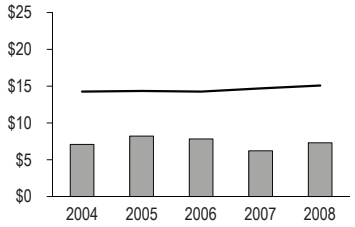
Concord's seasonal loose leaf collection runs from mid-October through mid-February. Each street is serviced following a publicized schedule a minimum of four times for loose leaf collection during this period. Residents who bag their leaves receive weekly collection along with the normal yard waste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

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

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

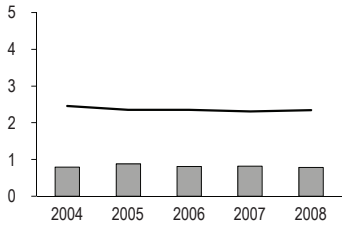
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Durham	$7.09	$8.20	$7.83	$6.22	$7.29
Average	$14.26	$14.35	$14.27	$14.71	$15.11

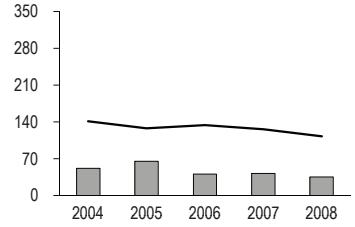
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	0.8	0.9	0.8	0.8	0.8
Average	2.5	2.4	2.4	2.3	2.4

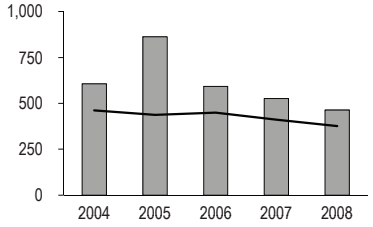
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Durham	52	65	41	42	36
Average	141	128	134	126	113

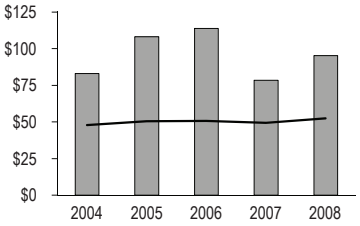
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Durham	606	862	593	526	464
Average	463	438	451	412	378

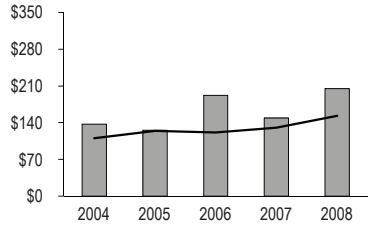
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



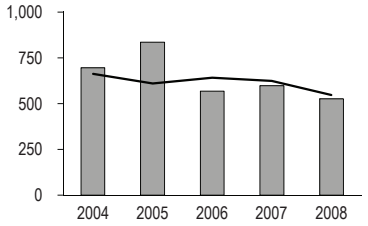
	2004	2005	2006	2007	2008
Durham	$83	$108	$114	$78	$95
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Durham	$137	$126	$192	$149	$205
Average	$110	$124	$122	$131	$153

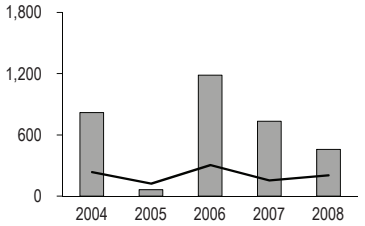
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Durham	696	835	569	597	527
Average	663	610	642	625	547

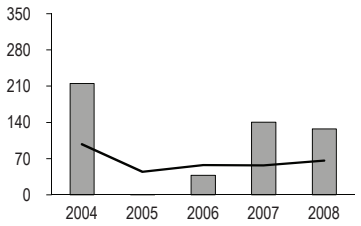
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Durham	820	62	1185	734	458
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Durham	215	1	38	140	127
Average	98	44	57	56	66

Durham

MUNICIPAL PROFILE

Population (OSBM 2007)	222,491
Land Area (Square Miles)	105.50
Persons per Square Mile	2,109
Topography	Flat; gently rolling
County	Durham
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$51,162

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		45.8%
Operating Costs		26.5%
Capital Costs		27.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	742,353
Operating Costs	$	429,774
Capital Costs	$	448,813
TOTAL	$	1,620,940

SERVICE PROFILE

FTE Positions—Collection	15.0
FTE Positions—Other	2.5
Collection Points	
Yard Waste	17,028
Leaves	17,028
Tons Collected	
Yard Waste	7,900
Leaves	included above
Total	7,900
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	NA
Service Fee (annual)	$60

EXPLANATORY INFORMATION

Service Level and Delivery

Durham collects yard waste once per week at curbside from customers who 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.

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.

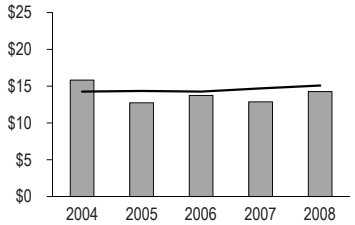
Durham has no separate seasonal leaf collection service. Leaves are collected in carts or when placed at the curb in biodegradable brown bags during the regular pickup of yard waste.

Conditions Affecting Service, Performance, and Costs

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

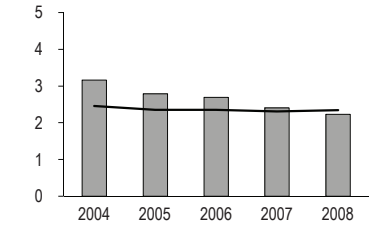
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Gastonia	$15.82	$12.76	$13.75	$12.87	$14.26
Average	$14.26	$14.35	$14.27	$14.71	$15.11

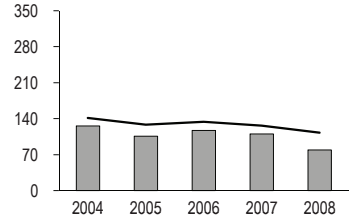
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	3.2	2.8	2.7	2.4	2.2
Average	2.5	2.4	2.4	2.3	2.4

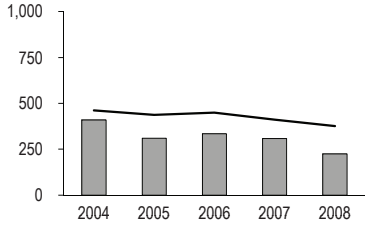
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	126	106	117	110	79
Average	141	128	134	126	113

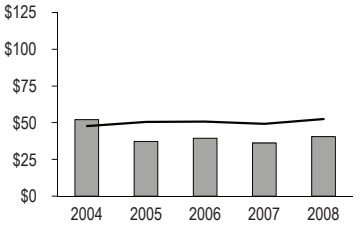
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Gastonia	410	309	335	309	225
Average	463	438	451	412	378

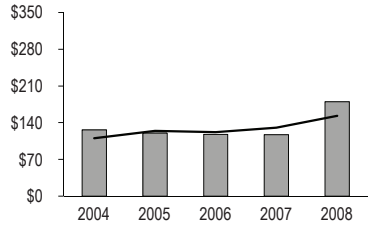
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



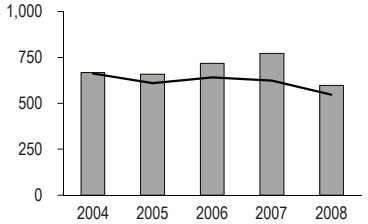
	2004	2005	2006	2007	2008
Gastonia	$52	$37	$39	$36	$40
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Gastonia	$126	$120	$117	$117	$180
Average	$110	$124	$122	$131	$153

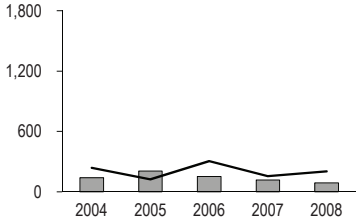
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Gastonia	668	658	719	772	597
Average	663	610	642	625	547

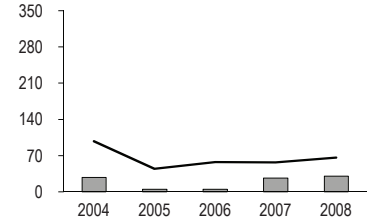
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Gastonia	140	206	151	119	88
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Gastonia	28	5	5	27	30
Average	98	44	57	56	66

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2007)	72,848
Land Area (Square Miles)	50.43
Persons per Square Mile	1,445
Topography	Flat; gently rolling
County	Gaston
Climate	Mild; some ice
Median Family Income (US Census 2000)	$44,873

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.9%
Operating Costs		30.9%
Capital Costs		5.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	663,633
Operating Costs	$	320,559
Capital Costs	$	54,496
TOTAL	$	1,038,688

SERVICE PROFILE

FTE Positions—Collection	9.67
FTE Positions—Other	6.55
Collection Points	
Yard Waste	25,701
Leaves	25,701
Tons Collected	
Yard Waste	4,248
Leaves	1,529
Total	5,777
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	1 x week
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery

Gastonia collects yard waste at curbside once a week for all city residents. Crews collect tree limbs if they are less than four feet in length and four inches in diameter. Grass clippings must be contained in clear plastic bags or in garbage cans with thirty-two-gallon capacity or less. City crews do not collect any yard waste generated by professional tree cutting crews. The city does not charge a fee for its yard waste collection service.

The city uses three three-person crews to collect yard waste on the same routes and days as residential refuse collection. Each crew is composed of one driver and two collectors. Large piles are collected by two-person crews using a knuckleboom truck.

The city employs a seasonal leaf collection program from October through December. Loose leaves are vacuumed from the curb every week, typically on the same day as residential refuse collection. Bagged leaves are collected along with regular yard waste year round.

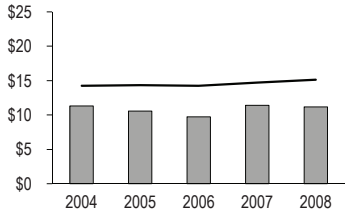
Six crews composed of one driver and two collectors are used for the seasonal leaf collection. The drivers and all collectors are permanent employees.

Conditions Affecting Service, Performance, and Costs

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

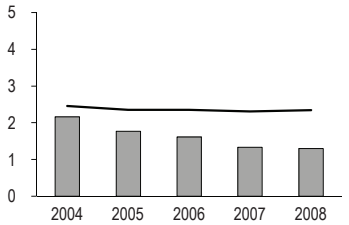
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Greensboro	$11.32	$10.56	$9.72	$11.39	$11.18
Average	$14.26	$14.35	$14.27	$14.71	$15.11

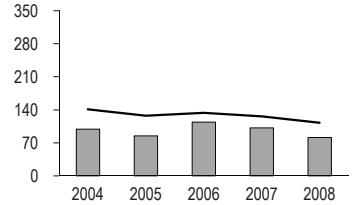
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	2.2	1.8	1.6	1.3	1.3
Average	2.5	2.4	2.4	2.3	2.4

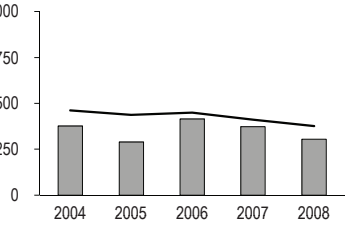
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	99	85	114	101	81
Average	141	128	134	126	113

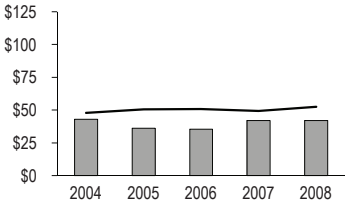
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Greensboro	376	290	415	373	305
Average	463	438	451	412	378

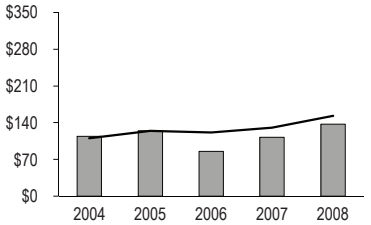
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



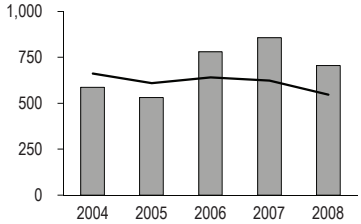
	2004	2005	2006	2007	2008
Greensboro	$43	$36	$35	$42	$42
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Greensboro	$114	$125	$85	$112	$137
Average	$110	$124	$122	$131	$153

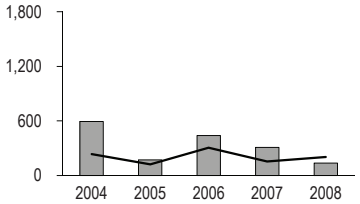
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Greensboro	587	532	780	857	705
Average	663	610	642	625	547

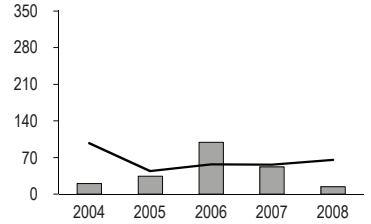
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Greensboro	593	173	438	308	136
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Greensboro	20	34	99	52	14
Average	98	44	57	56	66

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2007)	248,111
Land Area (Square Miles)	119.00
Persons per Square Mile	2,085
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2000)	$50,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		34.3%
Operating Costs		65.7%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	950,957
Operating Costs	$	1,822,032
Capital Costs	$	-
TOTAL	$	2,772,989

SERVICE PROFILE

FTE Positions—Collection	28.62
FTE Positions—Other	3.58
Collection Points	
Yard Waste	66,215
Leaves	66,215
Tons Collected	
Yard Waste	12,553
Leaves	7,620
Total	20,173
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro collects yard waste once per week 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.

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

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

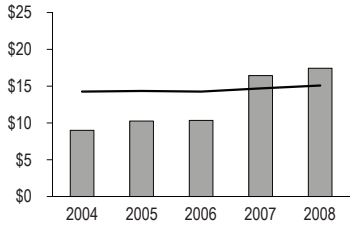
Conditions Affecting Service, Performance, and Costs
Complaints for FY 2004–05 only reflect seasonal leaf collection complaints. Complaints for yard waste collection were not available for that year.

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

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

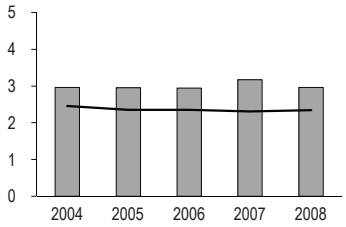
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Hickory	$9.01	$10.26	$10.34	$16.42	$17.43
Average	$14.26	$14.35	$14.27	$14.71	$15.11

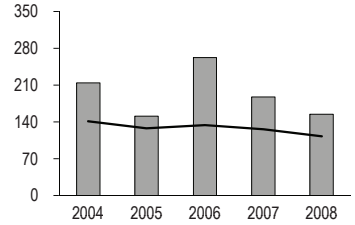
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	3.0	3.0	2.9	3.2	3.0
Average	2.5	2.4	2.4	2.3	2.4

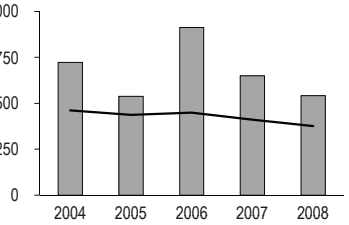
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	214	151	262	188	155
Average	141	128	134	126	113

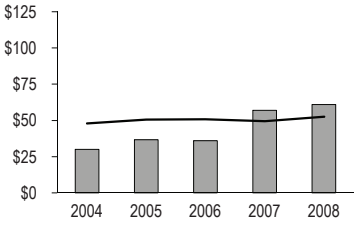
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Hickory	724	539	913	651	541
Average	463	438	451	412	378

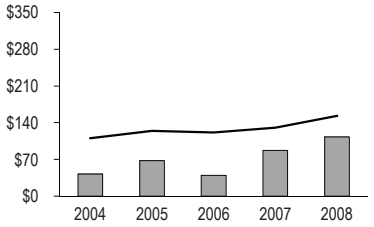
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



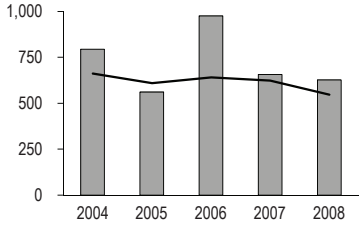
	2004	2005	2006	2007	2008
Hickory	$30	$37	$36	$57	$61
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Hickory	$42	$68	$39	$87	$113
Average	$110	$124	$122	$131	$153

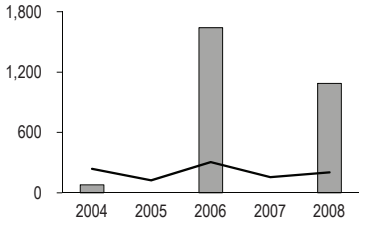
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Hickory	794	561	975	656	628
Average	663	610	642	625	547

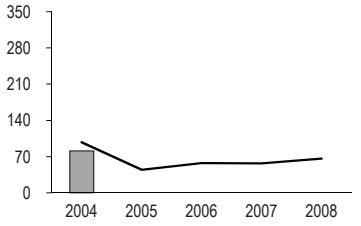
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Hickory	81		1641		1086
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Hickory	81				
Average	98	44	57	56	66

Hickory

MUNICIPAL PROFILE

Population (OSBM 2007)	40,522
Land Area (Square Miles)	29.10
Persons per Square Mile	1,393
Topography	Gently rolling
County	Catawba
Climate	Moderate; some snow and ice
Median Family Income (US Census 2000)	$47,522

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		45.9%
Operating Costs		46.6%
Capital Costs		7.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	324,336
Operating Costs	$	329,294
Capital Costs	$	52,859
TOTAL	$	706,489

SERVICE PROFILE

FTE Positions—Collection	10.0
FTE Positions—Other	2.00
Collection Points	
Yard Waste	11,600
Leaves	11,600
Tons Collected	
Yard Waste	3,439
Leaves	2,838
Total	6,277
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Hickory collects yard waste once per week 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.

Hickory is divided into five sections for the yard waste program. Three routes are serviced each day within each section, using three rear loaders operated by 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.

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

The city's seasonal leaf collection service runs from November to January. There are two sweeps down each city street during this time. City crews use leaf vacuums to collect leaves in box trucks. Hickory uses temporary contract workers to help with leaf colleciton.

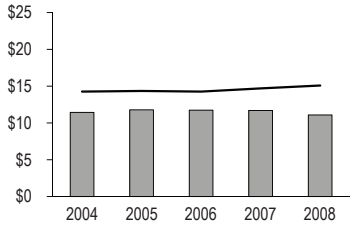
Conditions Affecting Service, Performance, and Costs
On December 15, 2005, Hickory experienced a major ice storm that significantly increased the yard waste tonnage collected for FY 2005–06. With 4,000 tons of limbs to remove from the streets, it took six weeks for the city to clear the backlog. As a consequence, the number of calls for service increased, which is reflected in the complaint section.

Hickory does not allocate the resources it would take to differentiate between valid and nonvalid complaints. Complaints for FY 2006–07 were not available.

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

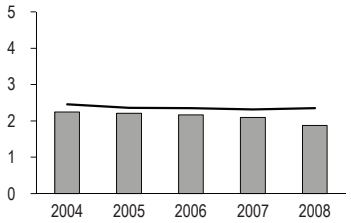
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
High Point	$11.44	$11.79	$11.74	$11.69	$11.07
Average	$14.26	$14.35	$14.27	$14.71	$15.11

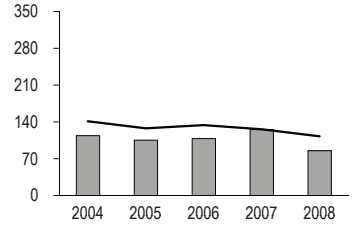
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	2.2	2.2	2.2	2.1	1.9
Average	2.5	2.4	2.4	2.3	2.4

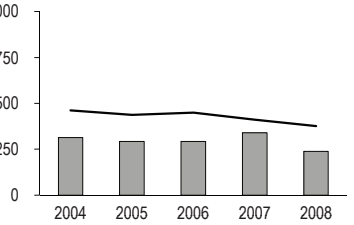
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
High Point	114	105	108	125	85
Average	141	128	134	126	113

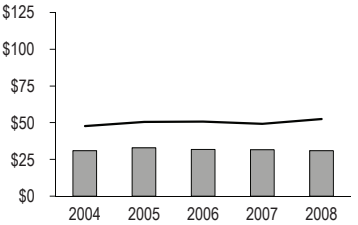
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
High Point	313	292	293	339	239
Average	463	438	451	412	378

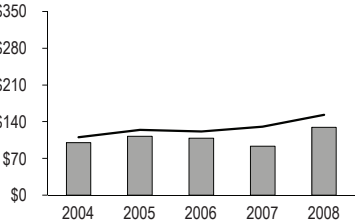
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



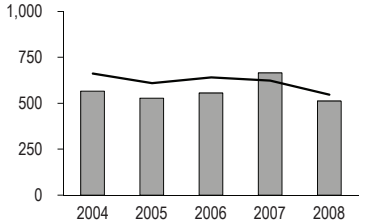
	2004	2005	2006	2007	2008
High Point	$31	$33	$32	$32	$31
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
High Point	$100	$112	$108	$93	$130
Average	$110	$124	$122	$131	$153

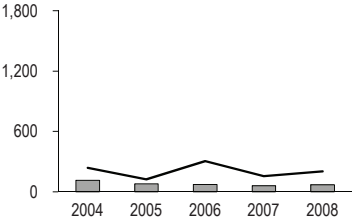
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
High Point	566	528	556	665	512
Average	663	610	642	625	547

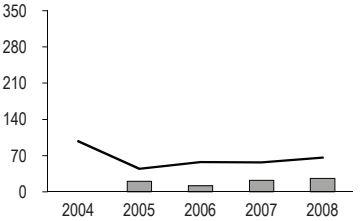
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
High Point	115	81	72	60	70
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
High Point		20	12	22	26
Average	98	44	57	56	66

High Point

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some snow and ice
Median Family Income (US Census 2000)	$48,057

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.5%
Operating Costs		25.1%
Capital Costs		9.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	716,544
Operating Costs	$	274,298
Capital Costs	$	103,058
TOTAL	$	1,093,900

SERVICE PROFILE

FTE Positions—Collection	16.5
FTE Positions—Other	2.0
Collection Points	
Yard Waste	35,332
Leaves	35,332
Tons Collected	
Yard Waste	7,176
Leaves	1,271
Total	8,447
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	2 sweeps
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery

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

Yard waste is collected once each week 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.

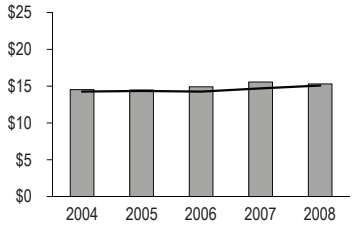
The city provides two citywide cycles of loose leaf collection, beginning mid-November and continuing through mid-January. There are usually six leaf collection crews, with each crew consisting of five permanent employees. Bagged leaves are collected once per week with the regular yard waste.

Conditions Affecting Service, Performance, and Costs

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

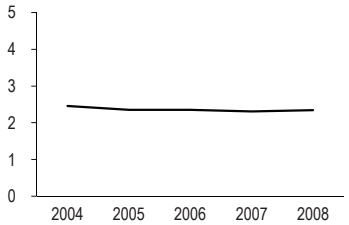
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Matthews	$14.51	$14.50	$14.93	$15.58	$15.30
Average	$14.26	$14.35	$14.27	$14.71	$15.11

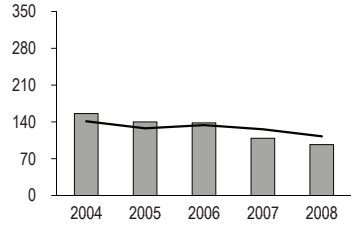
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Matthews					
Average	2.5	2.4	2.4	2.3	2.4

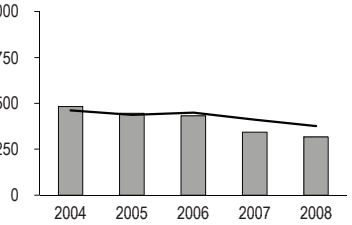
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	156	140	138	109	97
Average	141	128	134	126	113

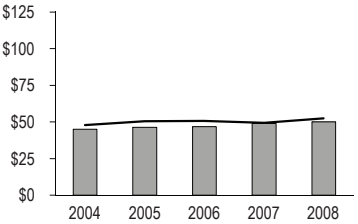
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Matthews	483	447	433	342	318
Average	463	438	451	412	378

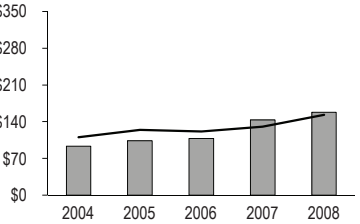
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



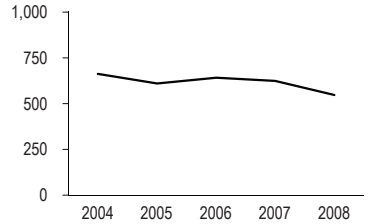
	2004	2005	2006	2007	2008
Matthews	$45	$46	$47	$49	$50
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Matthews	$93	$104	$108	$143	$158
Average	$110	$124	$122	$131	$153

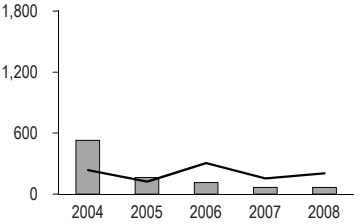
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Matthews					
Average	663	610	642	625	547

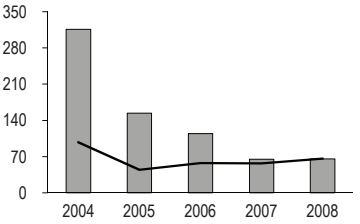
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Matthews	528	164	114	65	65
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Matthews	316	154	114	65	65
Average	98	44	57	56	66

Matthews

MUNICIPAL PROFILE

Population (OSBM 2007)	28,072
Land Area (Square Miles)	16.63
Persons per Square Mile	1,688
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$75,791

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		0.0%
Operating Costs		100.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	-
Operating Costs	$	429,435
Capital Costs	$	-
TOTAL	$	429,435

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Collection Points	
Yard Waste	8,571
Leaves	8,571
Tons Collected	
Yard Waste	2,722
Leaves	included above
Total	2,722
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	NA
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery
Matthews collects all yard waste, including leaves, once per week on Monday, Tuesday, Thursday, and Friday. The service was provided by a private contractor during FY 2007–08, at a cost of $414,152. Yard waste includes leaves, grass, brush, and limbs.

Each resident is limited to twenty bags of yard waste and twenty minutes for each service stop. Limbs must be cut up to no more than six feet in length and six inches in diameter.

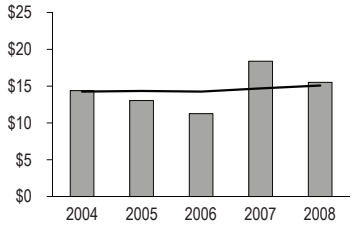
Because leaves are part of weekly yard waste collection, Matthews does not have a seasonal leaf collection program.

Conditions Affecting Service, Performance, and Costs
Matthews is the only jurisdiction that contracts 100 percent of its yard waste/leaf collection program.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

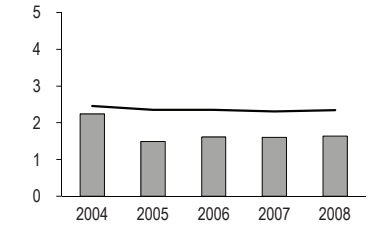
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Raleigh	$14.41	$13.03	$11.26	$18.38	$15.52
Average	$14.26	$14.35	$14.27	$14.71	$15.11

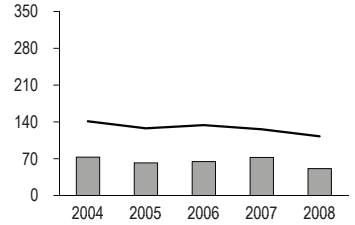
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	2.2	1.5	1.6	1.6	1.6
Average	2.5	2.4	2.4	2.3	2.4

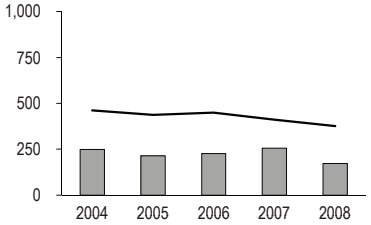
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	73	62	64	72	51
Average	141	128	134	126	113

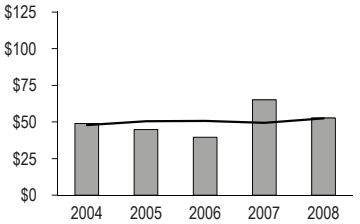
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Raleigh	249	214	227	257	173
Average	463	438	451	412	378

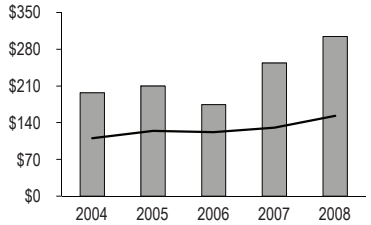
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



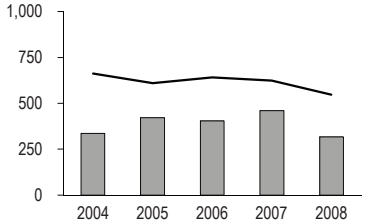
	2004	2005	2006	2007	2008
Raleigh	$49	$45	$40	$65	$53
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Raleigh	$197	$210	$175	$254	$305
Average	$110	$124	$122	$131	$153

Yard Waste and Leaf Tons Collected per Collection FTE



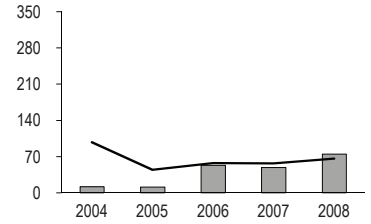
	2004	2005	2006	2007	2008
Raleigh	336	421	404	461	317
Average	663	610	642	625	547

EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points

	2004	2005	2006	2007	2008
Raleigh	26	26	114	164	215
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Raleigh	12	11	53	49	75
Average	98	44	57	56	66

MUNICIPAL PROFILE

Population (OSBM 2007)	367,313
Land Area (Square Miles)	140.54
Persons per Square Mile	2,614
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little snow and ice
Median Family Income (US Census 2000)	$60,003

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		47.8%
Operating Costs		37.0%
Capital Costs		15.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,723,710
Operating Costs	$	2,105,787
Capital Costs	$	869,373
TOTAL	$	5,698,870

SERVICE PROFILE

FTE Positions—Collection	59.0
FTE Positions—Other	1.0
Collection Points	
Yard Waste	108,203
Leaves	108,203
Tons Collected	
Yard Waste	13,957
Leaves	4,758
Total	18,715
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	2 sweeps
Service Fee	Included in Solid Waste Fee

EXPLANATORY INFORMATION

Service Level and Delivery

Raleigh collects yard waste once per week. Yard waste includes any material or debris generated from landscaping and lawn care activities. Tree limbs must be less than five feet in length and four inches in diameter. Limbs and branches must be tied in bundles no longer than five feet in length and weighing less than seventy-five pounds. Yard waste is collected in permanent containers (regular garbage cans), plastic containers no larger than fifty-five gallons and weighing no more than seventy-five pounds, clear plastic bags, or biodegradable paper bags. There is a solid waste fee of $10.30 per month which also covers yard waste.

Raleigh used twelve three-person crews to collect yard waste during FY 2007–08. Each crew was composed of one driver and two collectors. Yard waste is collected on the same day as garbage.

The city's seasonal loose leaf collection program runs from November through February. Leaves are collected at the curbside with two collection sweeps. Bagged leaves are also collected year round along with other yard waste on a weekly basis.

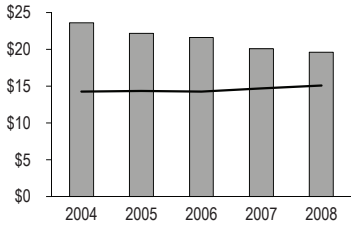
Raleigh used twenty-two three-person crews for seasonal leaf collection. Each crew has one equipment operator and two collectors. Crews for the seasonal leaf collection are located in street maintenance.

Conditions Affecting Service, Performance, and Costs

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

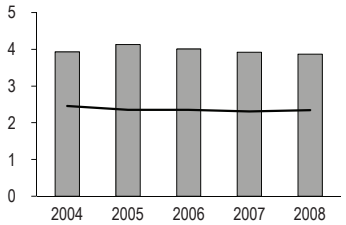
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Salisbury	$23.61	$22.18	$21.60	$20.07	$19.60
Average	$14.26	$14.35	$14.27	$14.71	$15.11

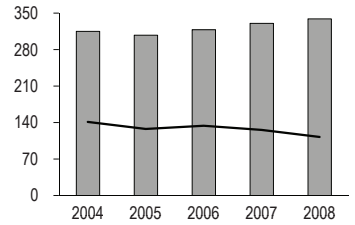
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	3.9	4.1	4.0	3.9	3.9
Average	2.5	2.4	2.4	2.3	2.4

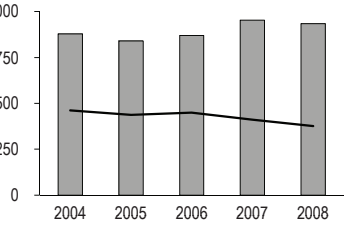
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	315	307	318	331	339
Average	141	128	134	126	113

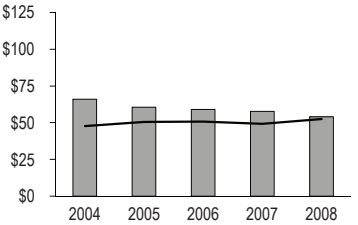
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Salisbury	878	840	869	953	934
Average	463	438	451	412	378

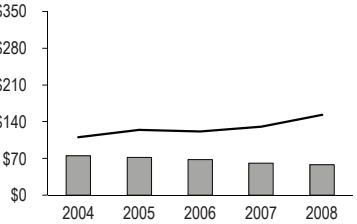
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



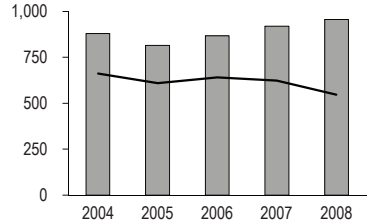
	2004	2005	2006	2007	2008
Salisbury	$66	$61	$59	$58	$54
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Salisbury	$75	$72	$68	$61	$58
Average	$110	$124	$122	$131	$153

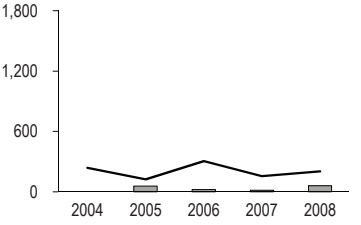
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Salisbury	880	815	868	921	956
Average	663	610	642	625	547

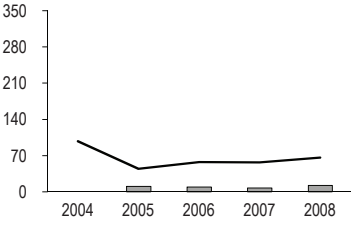
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Salisbury		56	23	17	60
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Salisbury		11	9	8	12
Average	98	44	57	56	66

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
Topography	Gently Rolling
County	Rowan
Climate	Moderate; some snow and ice
Median Family Income (US Census 2000)	$41,108

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		61.4%
Operating Costs		34.4%
Capital Costs		4.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	373,031
Operating Costs	$	209,264
Capital Costs	$	25,723
TOTAL	$	608,018

SERVICE PROFILE

FTE Positions—Collection	11.00
FTE Positions—Other	1.00
Collection Points	
Yard Waste	11,262
Leaves	11,262
Tons Collected	
Yard Waste	8,008
Leaves	2,506
Total	10,514
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	1 x 3 weeks
Service Fee	No

EXPLANATORY INFORMATION

Service Level and Delivery

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

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

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.

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.

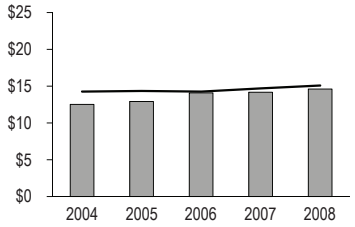
The city did not charge a fee for its yard waste collection program during FY 2007–08.

Conditions Affecting Service, Performance, and Costs

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

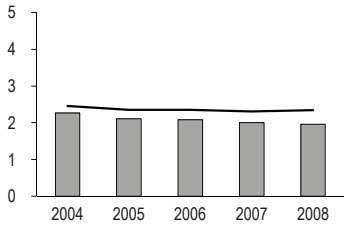
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Wilmington	$12.51	$12.90	$14.08	$14.19	$14.62
Average	$14.26	$14.35	$14.27	$14.71	$15.11

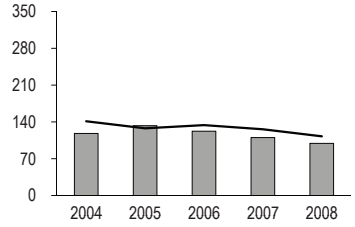
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	2.3	2.1	2.1	2.0	2.0
Average	2.5	2.4	2.4	2.3	2.4

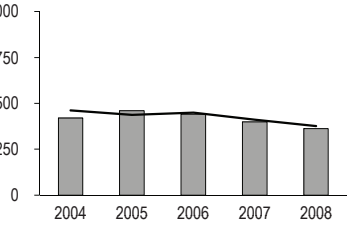
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	118	133	122	110	99
Average	141	128	134	126	113

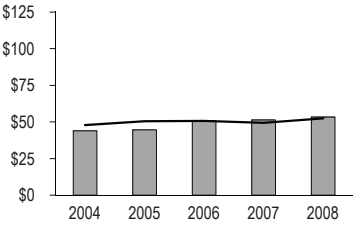
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilmington	419	459	441	398	363
Average	463	438	451	412	378

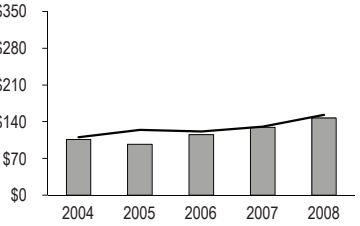
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



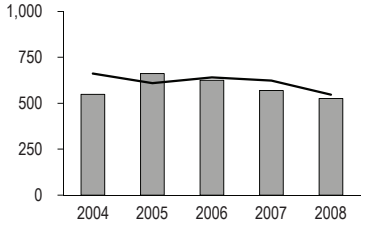
	2004	2005	2006	2007	2008
Wilmington	$44	$45	$51	$51	$53
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Wilmington	$106	$97	$115	$129	$147
Average	$110	$124	$122	$131	$153

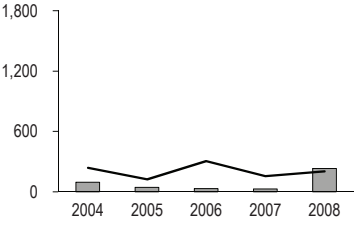
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Wilmington	549	662	625	570	527
Average	663	610	642	625	547

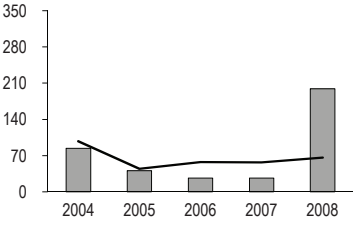
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Wilmington	95	46	32	29	233
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Wilmington	84	41	26	27	199
Average	98	44	57	56	66

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2007)	100,746
Land Area (Square Miles)	49.29
Persons per Square Mile	2,044
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild
Median Family Income (US Census 2000)	$41,891

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.5%
Operating Costs		34.7%
Capital Costs		11.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	788,156
Operating Costs	$	511,377
Capital Costs	$	173,294
TOTAL	$	1,472,827

SERVICE PROFILE

FTE Positions—Collection	19.00
FTE Positions—Other	0.75
Collection Points	
Yard Waste	27,566
Leaves	27,566
Tons Collected	
Yard Waste	10,008
Leaves	included above
Total	10,008
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	NA
Service Fee	Included in Solid Waste Fee

EXPLANATORY INFORMATION

Service Level and Delivery

The city collects yard waste 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.

There is no limit on the type or number of containers that residents can use when placing yard waste at the curb for pickup, but the amount of crew time spent at each household is limited to fifteen minutes. Yard waste is picked up by eight crews using packer trucks staffed by two-person crews consisting of one driver and one laborer working four ten-hour days each week.

There was no separate fee for yard waste collection, including bulky items. The cost is included in the fee for solid waste collection.

Leaf collection is not a separate function for the city of Wilmington. Leaves are collected throughout the year with the regular yard waste program.

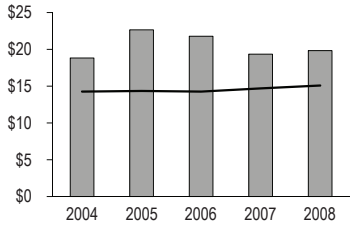
Conditions Affecting Service, Performance, and Costs

Turn-over as well as an increased demand for off-cycle pickups requiring special equipment has contributed to the increase in complaints.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

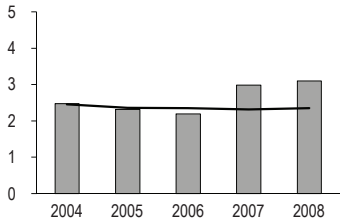
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Wilson	$18.83	$22.63	$21.77	$19.33	$19.83
Average	$14.26	$14.35	$14.27	$14.71	$15.11

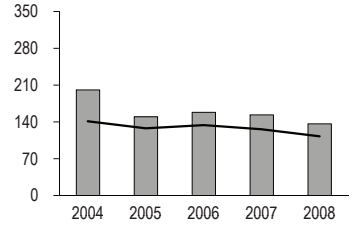
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	2.5	2.3	2.2	3.0	3.1
Average	2.5	2.4	2.4	2.3	2.4

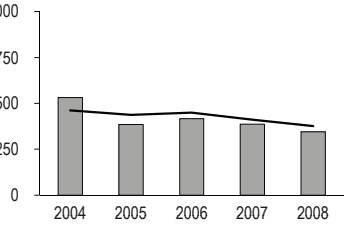
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	201	150	158	154	136
Average	141	128	134	126	113

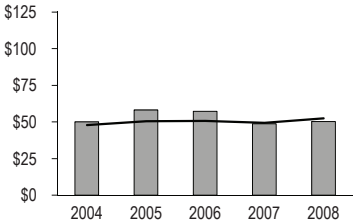
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Wilson	531	384	416	386	345
Average	463	438	451	412	378

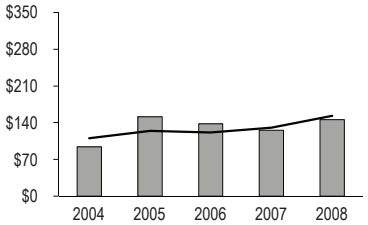
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



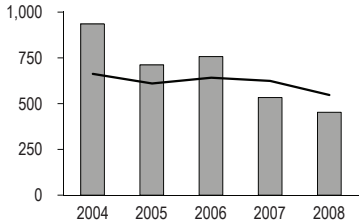
	2004	2005	2006	2007	2008
Wilson	$50	$58	$57	$49	$50
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Wilson	$94	$151	$138	$126	$146
Average	$110	$124	$122	$131	$153

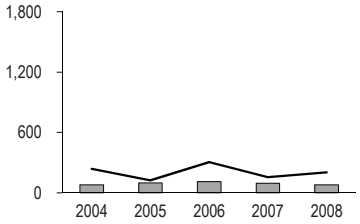
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Wilson	936	711	757	533	453
Average	663	610	642	625	547

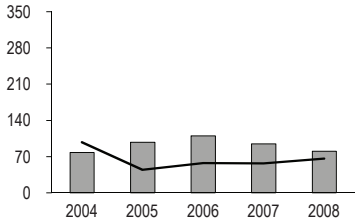
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Wilson	78	98	110	95	80
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Wilson	78	98	110	95	80
Average	98	44	57	56	66

Wilson

MUNICIPAL PROFILE

Population (OSBM 2007)	49,954
Land Area (Square Miles)	28.87
Persons per Square Mile	1,730
Topography	Flat
County	Wilson
Climate	Mild; little snow and ice
Median Family Income (US Census 2000)	$41,041

FULL COST PROFILE

Cost Breakdown by Percentage		
-Personal Services		41.1%
-Operating Costs		39.6%
-Capital Costs		19.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	407,408
Operating Costs	$	392,628
Capital Costs	$	190,349
TOTAL	$	990,385

SERVICE PROFILE

FTE Positions—Collection	15.0
FTE Positions—Other	0.5
Collection Points	
Yard Waste	19,700
Leaves	19,700
Tons Collected	
Yard Waste	5,008
Leaves	1,790
Total	6,798
Collection Frequency	
Yard Waste	1 x week
Bagged Leaves	1 x week
Loose Leaves (seasonal collection)	1 x 3 weeks
Service Fee	Included in Solid Waste Fee

EXPLANATORY INFORMATION

Service Level and Delivery

Yard waste is placed in bags, sheets, rollout containers, or other container types for collection by rear loading packers. Yard waste is collected once per week by compost crews on the same day as residential refuse collection.

The city uses two three-person crews on Tuesday and Friday and three to four three-person crews on Monday and Thursday to collect yard waste. Each crew is composed of one driver and two workers. These crews rotate collection between residential refuse and yard waste. A one-person crew uses a knuckleboom truck to collect large limbs daily.

The city's leaf season is from mid-October to mid-January. Leaves are collected loose at the curb on a one-to-three-week cycle. The city uses leaf vacuum machines and compacting leaf trucks to collect loose leaves.

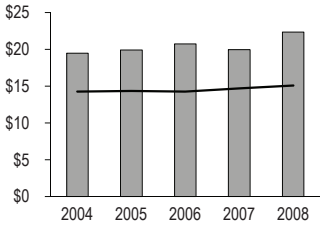
Six to eight three-person crews are used to collect loose leaves. The drivers are permanent employees. Collectors are seasonal employees.

Conditions Affecting Service, Performance, and Costs

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

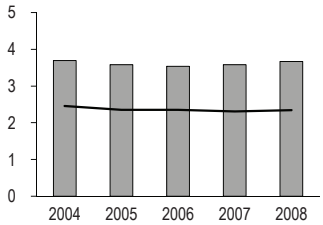
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007	2008
Winston-Salem	$19.48	$19.90	$20.72	$19.97	$22.34
Average	$14.26	$14.35	$14.27	$14.71	$15.11

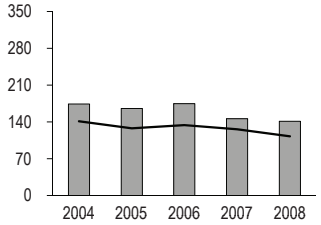
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	3.7	3.6	3.5	3.6	3.7
Average	2.5	2.4	2.4	2.3	2.4

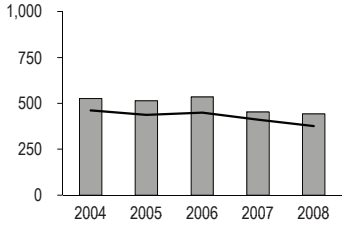
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	174	166	175	146	141
Average	141	128	134	126	113

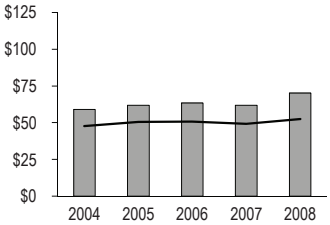
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007	2008
Winston-Salem	527	514	534	453	442
Average	463	438	451	412	378

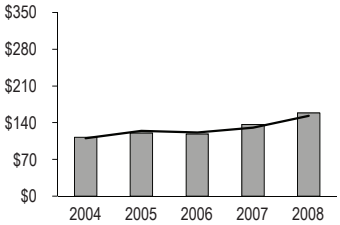
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



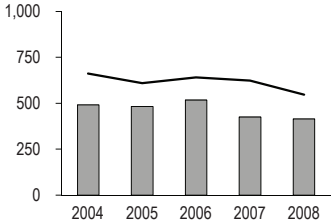
	2004	2005	2006	2007	2008
Winston-Salem	$59	$62	$63	$62	$70
Average	$48	$51	$51	$49	$52

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007	2008
Winston-Salem	$112	$120	$118	$137	$159
Average	$110	$124	$122	$131	$153

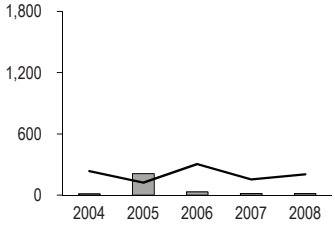
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007	2008
Winston-Salem	491	483	517	425	414
Average	663	610	642	625	547

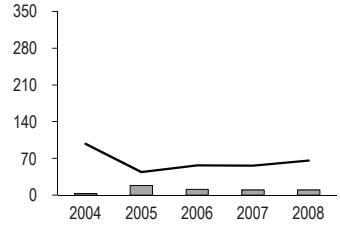
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Winston-Salem	14	209	30	15	17
Average	237	123	305	155	203

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007	2008
Winston-Salem	3	18	11	10	10
Average	98	44	57	56	66

MUNICIPAL PROFILE

Population (OSBM 2007)	224,889
Land Area (Square Miles)	132.45
Persons per Square Mile	1,698
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some snow and ice
Median Family Income (US Census 2000)	$46,595

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		52.5%
Operating Costs		31.2%
Capital Costs		16.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,639,617
Operating Costs	$	1,568,172
Capital Costs	$	817,297
TOTAL	$	5,025,086

SERVICE PROFILE

FTE Positions—Collection	76.57
FTE Positions—Other	5.83
Collection Points	
Brush Collection	71,673
Yard Waste	14,476
Leaves	71,673
Tons Collected	
Yard and Brush Waste	20,816
Leaves	10,876
Total	31,692
Collection Frequency	
Yard Waste	1 x week
Brush collection	1 x 10 work days
Loose Leaves (seasonal collection)	2 to 3 sweeps
Service Fee	See explanatory information

EXPLANATORY INFORMATION

Service Level and Delivery
The city operates a curbside collection program for brush, leaves, and bulky items. Brush is collected throughout the year, while leaves and bulky items are collected on a seasonal basis. Brush is defined as small tree limbs, branches, and shrubbery clippings. Tree and shrubbery limbs cannot be larger than six inches in diameter 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.

The yard waste cart program provides weekly collection of containerized yard waste placed in ninety-six-gallon carts. Starting in FY 2002–03, this service is provided year round and serves 14,476 households. The city uses six one-person crews using automated packers and one two-person crew using a rear-loading packer to service these carts. Collection is provided Monday through Thursday. Carts are delivered on Friday.

Residents who participate in the yard waste cart program pay an annual $50 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 may have up to three carts.

The city's seasonal leaf collection program picks up leaves that are deposited at the curb between November 1 and January 15. Loose leaves are vacuumed three times during this period. Containerized leaves are collected throughout the year as part of the yard waste program. The city uses thirty-two crews for seasonal leaf collection, with a combination of equipment operators, maintenance workers, and both permanent and seasonal workers.

Conditions Affecting Service, Performance, and Costs
The performance measure "cost per collection point" is based on 71,673 collection points.

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

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 fiscal year 2007–08.

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

FY 2007-08

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	205	8.9	221	UCR	518	4,573	5,091	4,942	114,112	3,290
Burlington	Yes	114	10.1	134	IBR	374	2,773	3,147	4,969	73,724	1,920
Carrboro	No	39	9.8	43	IBR	79	893	972	1,119	17,841	173
Cary	Yes	163	5.5	114	IBR	140	2,492	2,632	2,349	123,360	3,925
Concord	No	156	8.1	183	IBR	194	3,304	3,498	2,182	93,470	3,110
Durham	Yes	512	10.8	405	IBR	1,823	11,468	13,291	9,402	276,663	4,873
Gastonia	No	167	11.3	167	UCR	697	5,943	6,640	5,462	88,316	1,893
Greensboro	Yes	592	10.0	196	IBR	2,028	15,149	17,177	16,214	213,554	9,060
Hickory	No	118	8.9	143	IBR	322	3,401	3,723	3,937	71,510	2,189
High Point	No	225	9.8	222	IBR	717	6,135	6,852	4,325	135,377	4,477
Matthews	No	56	11.3	60	UCR	76	1,223	1,299	1,080	31,954	1,630
Raleigh	Yes	762	9.8	353	UCR	2,299	13,215	15,514	29,259	404,610	19,256
Salisbury	Yes	88	10.3	105	IBR	312	2,550	2,862	2,533	40,442	2,020
Wilmington	No	265	9.8	271	IBR	822	6,604	7,426	6,717	179,803	4,118
Wilson	Yes	116	7.9	129	IBR	236	2,266	2,502	5,349	82,800	2,203
Winston-Salem	Yes	514	10.7	416	IBR	1,950	15,209	17,159	49,860	245,944	8,624

NOTES

EXPLANATORY FACTORS

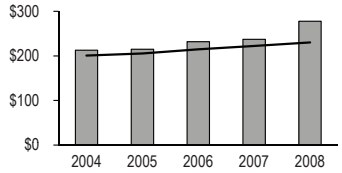
These are factors that the project found to affect police services performance and cost in one or more of the municipalities:

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

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

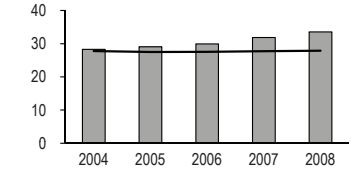
RESOURCE Measures

Police Services Costs per Capita



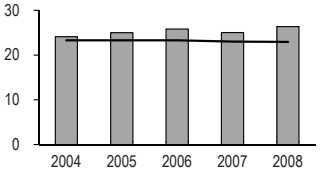
	2004	2005	2006	2007	2008
Asheville	$213	$215	$232	$237	$278
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	28.3	29.1	29.9	31.9	33.5
Average	27.8	27.5	27.5	27.7	27.9

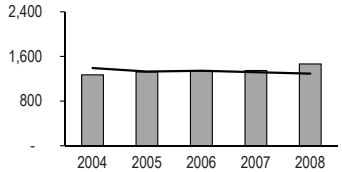
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	24.1	25.0	25.8	25.0	26.3
Average	23.3	23.3	23.3	23.0	22.9

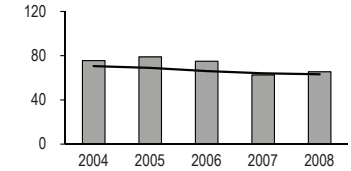
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	1,271	1,321	1,340	1,347	1,466
Average	1,393	1,328	1,345	1,317	1,292

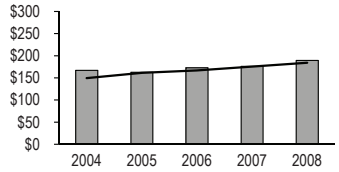
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	75.6	78.9	75.0	62.5	65.4
Average	70.5	68.9	66.0	64.1	63.2

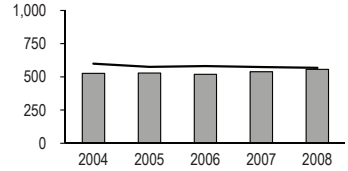
EFFICIENCY Measures

Police Services Cost per Call Dispatched



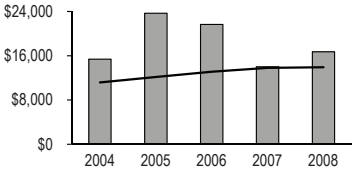
	2004	2005	2006	2007	2008
Asheville	$167	$163	$173	$176	$189
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



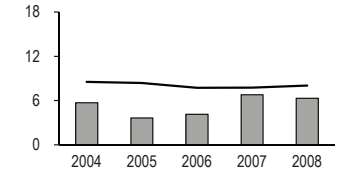
	2004	2005	2006	2007	2008
Asheville	527	529	519	538	557
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Asheville	$15,381	$23,675	$21,653	$13,987	$16,711
Average	$11,170	$12,163	$13,115	$13,811	$13,917

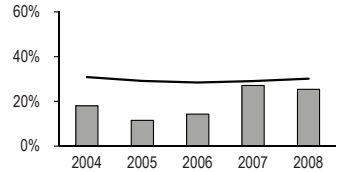
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Asheville	5.7	3.6	4.1	6.8	6.3
Average	8.5	8.4	7.7	7.7	8.0

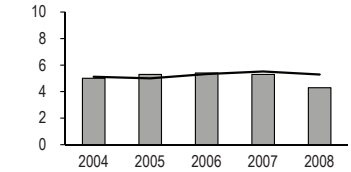
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Asheville	18.0%	11.5%	14.3%	27.1%	25.4%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Asheville	5.0	5.3	5.4	5.3	4.3
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
County	Buncombe
Median Family Income (US Census 2000)	$44,029
Unemployment Rate (ESC-07)	3.5%
Part I Crimes Reported	
Homicide	7
Rape	31
Robbery	244
Assault	236
Burglary	991
Larceny	3,034
Auto Theft	457
Arson	91
TOTAL	5,091

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		66.8%
Operating Costs		24.1%
Capital Costs		9.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	14,426,292
Operating Costs	$	5,200,922
Capital Costs	$	1,980,698
TOTAL	$	21,607,912

SERVICE PROFILE

FTE Positions—Sworn	205.0
FTE Positions—Other	56.0
Part I Crimes Cleared	
Persons	274
Property	1,019
Total	1,293
Reporting Format	UCR
Part II Crimes Reported	4,942
Number of Calls Dispatched	114,112
Traffic Accidents	3,290
Property Damage	$13,770,000

EXPLANATORY INFORMATION

Service Level and Delivery
The Asheville Police Department provides an array of police services, including patrol, investigations, a telephone response unit, a canine unit, a special response unit, animal control, a drug enforcement unit, a hostage negotiation team, a hazardous device team, and several other special programs to provide quality service.

The city had 205 sworn officer positions authorized for FY 2007–08, with an average length of service of about nine years. Police services occupies four facilities: the main downtown facility shared by the fire department and three substations serving the three patrol districts.

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 Mondays and the other half off Fridays. Detective supervisors work five eight-hour days.

Specialty units such as traffic, SWAT, and detectives have assigned take-home cars. Additionally, sergeants and higher ranked officers also have assigned vehicles. Patrol cars have multiple users.

The police department was successful in clearing a total of 1,293 Part I cases in FY 2007–08.

The definition of a high priority call in Asheville is any call dealing with a crime in progress or a situation where there is immediate danger to a person.

Conditions Affecting Service, Performance, and Costs
Significant efforts have been made starting in FY 2006–07 to reduce drug crime in Asheville. The number of Part 1 crimes has declined, which is believed to be due in part to the focus on reducing drug crime.

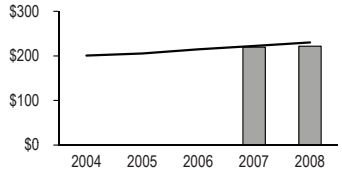
Asheville's costs for police services were up in FY 2007–08 due to the addition of fifteen sworn officers during the year and the final stages of implementation of a market-based pay plan for police officers.

The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included in the response time. Due to a better classification of high priority calls at the Asheville communications unit, police have been able to lower their response time to high priority calls.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

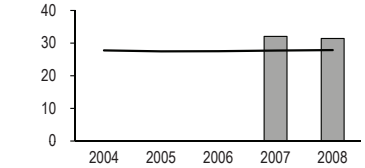
RESOURCE Measures

Police Services Costs per Capita



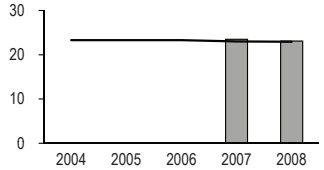
	2004	2005	2006	2007	2008
Burlington				$220	$222
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				32.1	31.4
Average	27.8	27.5	27.5	27.7	27.9

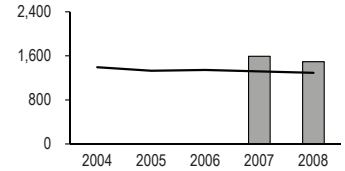
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				23.5	23.1
Average	23.3	23.3	23.3	23.0	22.9

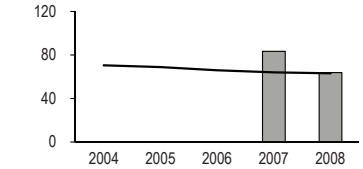
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				1,592	1,494
Average	1,393	1,328	1,345	1,317	1,292

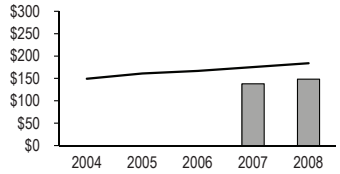
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				83.5	63.8
Average	70.5	68.9	66.0	64.1	63.2

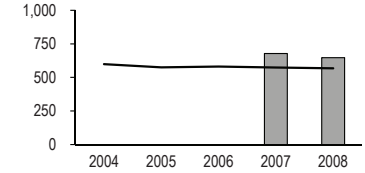
EFFICIENCY Measures

Police Services Cost per Call Dispatched



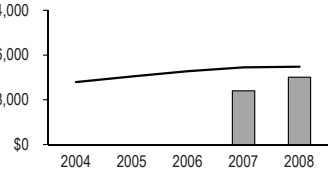
	2004	2005	2006	2007	2008
Burlington				$138	$148
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



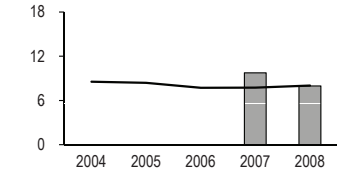
	2004	2005	2006	2007	2008
Burlington				678	647
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Burlington				$9,601	$12,044
Average	$11,170	$12,163	$13,115	$13,811	$13,917

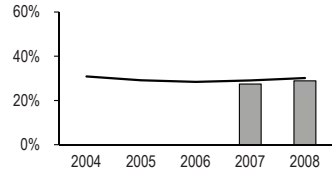
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Burlington				9.7	8.0
Average	8.5	8.4	7.7	7.7	8.0

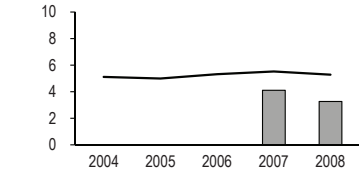
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Burlington				27.4%	28.9%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Burlington				4.1	3.3
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
County	Alamance
Median Family Income (US Census 2000)	$45,441
Unemployment Rate (ESC-07)	5.1%
Part I Crimes Reported	
Homicide	4
Rape	12
Robbery	110
Assault	248
Burglary	804
Larceny	1,823
Auto Theft	132
Arson	14
TOTAL	3,147

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.6%
Operating Costs		15.7%
Capital Costs		9.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	8,171,983
Operating Costs	$	1,720,530
Capital Costs	$	1,055,302
TOTAL	$	10,947,815

SERVICE PROFILE

FTE Positions—Sworn	112.0
FTE Positions—Other	41.0
Part I Crimes Cleared	
Persons	226
Property	683
Total	909
Reporting Format	IBR
Part II Crimes Reported	4,969
Number of Calls Dispatched	73,724
Traffic Accidents	1,920
Property Damage	$6,483,624

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 112 sworn officer positions authorized for FY 2007–08, with an average length of service of 10.1 years. Police services occupies its own separate building. There are also three substations and a separate facility for animal control services and a pet adoption center.

Burlington's uniformed 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 909 Part I cases in FY 2007–08.

Conditions Affecting Service, Performance, and Costs

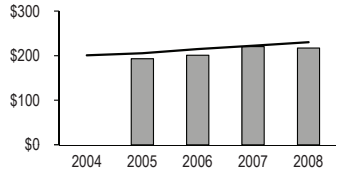
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included in the response time.

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

Key: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

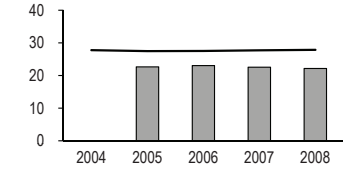
RESOURCE Measures

Police Services Costs per Capita



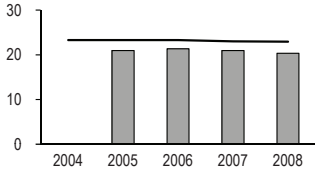
	2004	2005	2006	2007	2008
Carrboro		$193	$201	$220	$217
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		22.7	23.0	22.6	22.2
Average	27.8	27.5	27.5	27.7	27.9

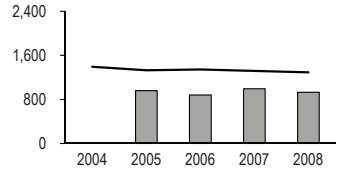
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		21.0	21.4	21.0	20.3
Average	23.3	23.3	23.3	23.0	22.9

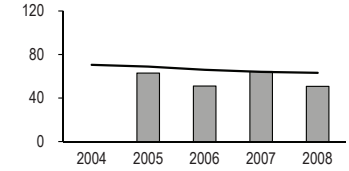
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Carrboro		958	881	993	930
Average	1,393	1,328	1,345	1,317	1,292

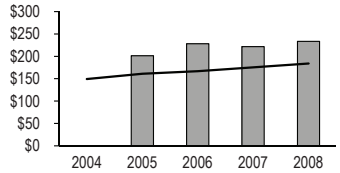
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Carrboro		62.9	51.0	64.4	50.7
Average	70.5	68.9	66.0	64.1	63.2

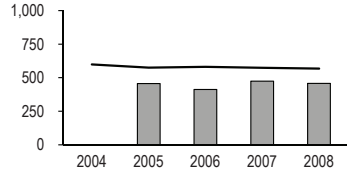
EFFICIENCY Measures

Police Services Cost per Call Dispatched



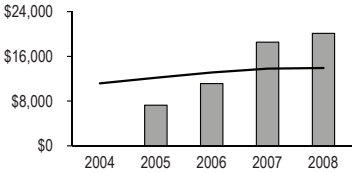
	2004	2005	2006	2007	2008
Carrboro		$201	$228	$222	$233
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



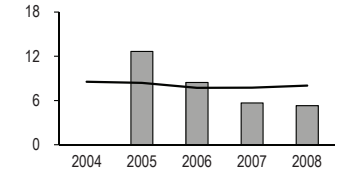
	2004	2005	2006	2007	2008
Carrboro		457	412	474	457
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Carrboro		$7,274	$11,135	$18,546	$20,111
Average	$11,170	$12,163	$13,115	$13,811	$13,917

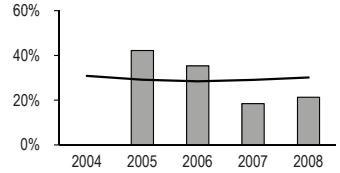
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Carrboro		12.6	8.4	5.7	5.3
Average	8.5	8.4	7.7	7.7	8.0

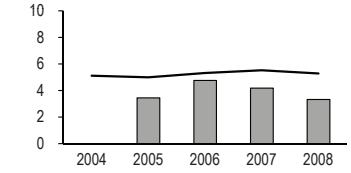
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Carrboro		42.2%	35.4%	18.4%	21.3%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Carrboro		3.4	4.8	4.2	3.3
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	19,178
Land Area (Square Miles)	6.33
Persons per Square Mile	3,030
County	Orange
Median Family Income (US Census 2000)	$47,330
Unemployment Rate (ESC-07)	3.2%
Part I Crimes Reported	
Homicide	1
Rape	3
Robbery	28
Assault	47
Burglary	305
Larceny	544
Auto Theft	42
Arson	2
TOTAL	972

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		61.0%
Operating Costs		29.2%
Capital Costs		9.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,539,558
Operating Costs	$	1,214,080
Capital Costs	$	409,439
TOTAL	$	4,163,077

SERVICE PROFILE

FTE Positions—Sworn	39.0
FTE Positions—Other	3.5
Part I Crimes Cleared	
Persons	33
Property	174
Total	207
Reporting Format	IBR
Part II Crimes Reported	1,119
Number of Calls Dispatched	17,841
Traffic Accidents	173
Property Damage	$596,820

EXPLANATORY INFORMATION

Service Level and Delivery

The Carrboro Police Department provides an array of police services, including patrol, investigations, a community services unit, a canine unit, an animal control officer, a narcotics officer, and periodic bicycle patrol to provide quality service.

The town had thirty-nine sworn officer positions authorized for FY 2007–08, with an average length of service of 9.8 years. Police services occupies part of a shared facility located in the downtown area of Carrboro.

Carrboro's uniformed patrol officers work 168 hours in a twenty-eight-day cycle. The uniformed patrol schedule includes four platoons, each working twelve-hour rotating shifts. When necessary, some officers work staggered hours to accommodate peak times or special projects. Investigators generally work from 8:30 a.m. to 5:00 p.m., Monday through Friday, although they flex their schedules to accommodate special investigations needs.

After completion of a one-year probationary period, officers are assigned a take-home vehicle.

The definition of a high priority call in Carrboro is any call involving immediate threat to life, a violent act in progress or having just occurred, a suspect still in the vicinity, potential violence, or imminent danger.

The police department was successful in clearing a total of 207 Part I cases in FY 2007–08.

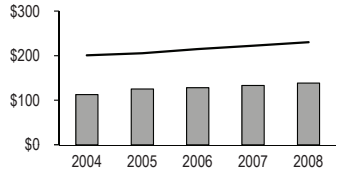
Conditions Affecting Service, Performance, and Costs

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. The average response time for Carrboro reflects all calls, not just high priority calls, based on the available data from Orange County emergency communications.

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

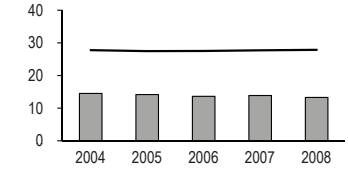
RESOURCE Measures

Police Services Costs per Capita



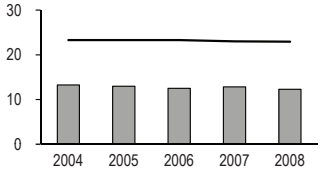
	2004	2005	2006	2007	2008
Cary	$113	$125	$128	$133	$139
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Cary	14.5	14.2	13.6	13.9	13.3
Average	27.8	27.5	27.5	27.7	27.9

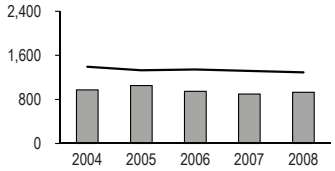
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Cary	13.3	13.0	12.5	12.8	12.3
Average	23.3	23.3	23.3	23.0	22.9

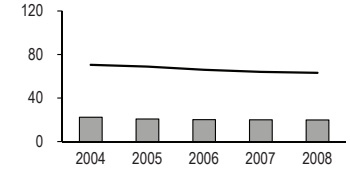
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Cary	972	1,051	947	897	930
Average	1,393	1,328	1,345	1,317	1,292

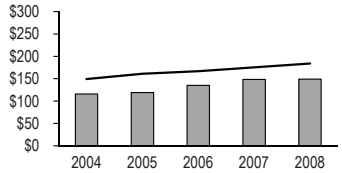
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Cary	22.3	20.8	20.1	20.0	19.8
Average	70.5	68.9	66.0	64.1	63.2

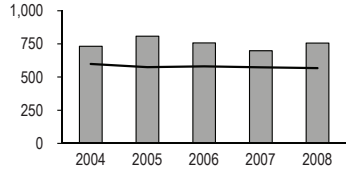
EFFICIENCY Measures

Police Services Cost per Call Dispatched



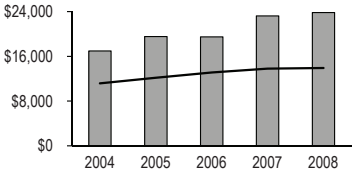
	2004	2005	2006	2007	2008
Cary	$116	$119	$135	$148	$149
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



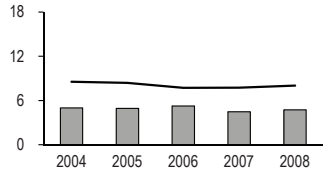
	2004	2005	2006	2007	2008
Cary	733	809	758	699	757
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Cary	$16,951	$19,533	$19,469	$23,235	$23,835
Average	$11,170	$12,163	$13,115	$13,811	$13,917

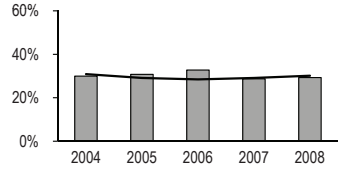
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Cary	5.0	4.9	5.3	4.5	4.7
Average	8.5	8.4	7.7	7.7	8.0

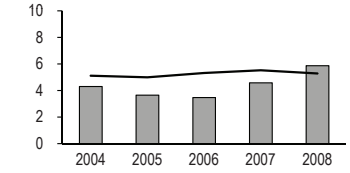
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Cary	30.0%	30.8%	32.7%	28.7%	29.3%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Cary	4.3	3.7	3.5	4.6	5.9
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
County	Wake
Median Family Income (US Census 2000)	$88,074
Unemployment Rate (ESC-07)	3.4%
Part I Crimes Reported	
Homicide	2
Rape	16
Robbery	58
Assault	64
Burglary	519
Larceny	1,852
Auto Theft	106
Arson	15
TOTAL	2,632

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.5%
Operating Costs		21.7%
Capital Costs		5.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	13,329,591
Operating Costs	$	3,983,177
Capital Costs	$	1,064,019
TOTAL	$	18,376,787

SERVICE PROFILE

FTE Positions—Sworn	163.0
FTE Positions—Other	13.0
Part I Crimes Cleared	
Persons	75
Property	696
Total	771
Reporting Format	IBR
Part II Crimes Reported	2,349
Number of Calls Dispatched	123,360
Traffic Accidents	3,925
Property Damage	$11,936,853

EXPLANATORY INFORMATION

Service Level and Delivery

The Cary Police Department provides an array of police services, including patrol, investigations, a motorcycle unit, a special response unit, bicycle patrol, animal control, drug enforcement, a youth services program for public schools, and a canine unit.

The town had 163 sworn officer positions authorized for FY 2007–08, with an average length of service of 5.5 years. The primary police headquarters is located in a three-story building shared with the town's technology services department. The department also operates four substations: one in a fire station, one in an apartment complex, and two in shopping centers.

In order to provide continuous service to the citizens of Cary, personnel are assigned to permanent shifts. These shifts overlap by design to provide sufficient protection during shift changes and to provide additional coverage during the times of peak activity. Tuesday through Friday the staff consists of three platoons of officers working ten-hour shifts. Saturday through Monday the staff consists of two platoons of officers working twelve-and-a-half hour shifts. Investigators work on-call schedules and are also scheduled to work some evening hours to ensure coverage during the most active times of the day.

Two uniformed patrol officers are assigned to each marked vehicle. Traffic officers and detectives are assigned individual vehicles. Only the detective on call is allowed to take home a vehicle, and the on-call assignment rotates.

The town defines a high priority call as one that is a life threatening situation.

The police department was successful in clearing a total of 771 Part I cases in FY 2007–08.

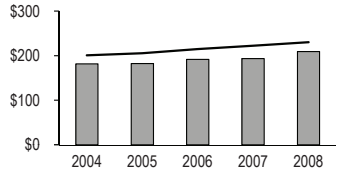
Conditions Affecting Service, Performance, and Costs

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

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

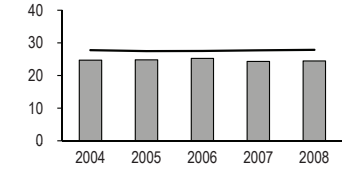
RESOURCE Measures

Police Services Costs per Capita



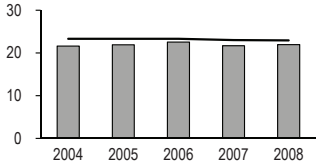
	2004	2005	2006	2007	2008
Concord	$181	$182	$192	$193	$209
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Concord	24.7	24.8	25.2	24.3	24.5
Average	27.8	27.5	27.5	27.7	27.9

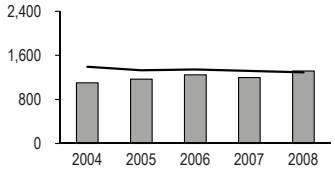
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Concord	21.6	21.9	22.5	21.7	21.9
Average	23.3	23.3	23.3	23.0	22.9

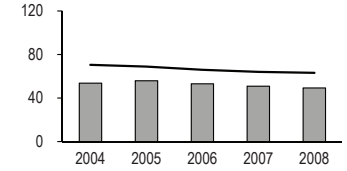
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Concord	1,100	1,169	1,246	1,197	1,315
Average	1,393	1,328	1,345	1,317	1,292

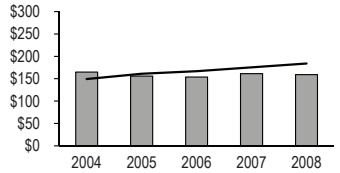
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Concord	53.7	55.9	53.1	50.9	49.2
Average	70.5	68.9	66.0	64.1	63.2

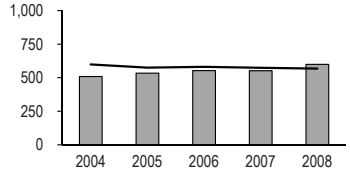
EFFICIENCY Measures

Police Services Cost per Call Dispatched



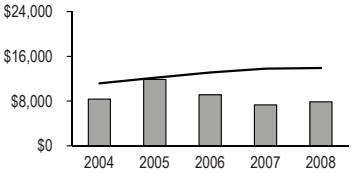
	2004	2005	2006	2007	2008
Concord	$165	$156	$154	$161	$159
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



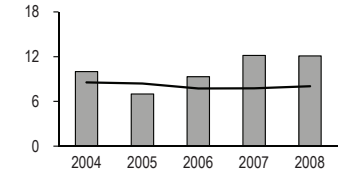
	2004	2005	2006	2007	2008
Concord	509	534	553	552	599
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Concord	$8,355	$11,879	$9,136	$7,323	$7,876
Average	$11,170	$12,163	$13,115	$13,811	$13,917

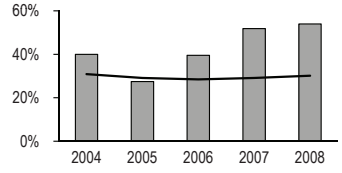
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Concord	10.0	7.0	9.3	12.2	12.1
Average	8.5	8.4	7.7	7.7	8.0

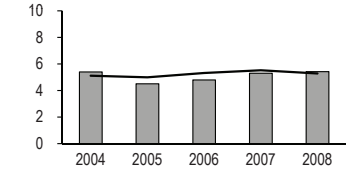
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Concord	40.0%	27.4%	39.5%	51.8%	54.0%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Concord	5.4	4.5	4.8	5.3	5.4
Average	5.1	5.0	5.3	5.5	5.3

Concord

MUNICIPAL PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
County	Cabarrus
Median Family Income (US Census 2000)	$53,571
Unemployment Rate (ESC-07)	4.4%
Part I Crimes Reported	
Homicide	7
Rape	24
Robbery	82
Assault	81
Burglary	527
Larceny	2,489
Auto Theft	263
Arson	25
TOTAL	3,498

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.5%
Operating Costs		22.5%
Capital Costs		12.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	9,741,625
Operating Costs	$	3,344,056
Capital Costs	$	1,784,160
TOTAL	$	14,869,841

SERVICE PROFILE

FTE Positions—Sworn	156.0
FTE Positions—Other	18.0
Part I Crimes Cleared	
Persons	111
Property	1,777
Total	1,888
Reporting Format	IBR
Part II Crimes Reported	2,182
Number of Calls Dispatched	93,470
Traffic Accidents	3,110
Property Damage	$9,915,650

EXPLANATORY INFORMATION

Service Level and Delivery
Concord's police department provides an array of police services, including patrol, investigations, a traffic unit, a telephone response unit, a canine unit, a special response unit, a bicycle patrol unit, a drug enforcement unit, and other programs such as school resource officers.

The city had 156 sworn officer positions authorized for FY 2007–08, with an average length of service of 8.1 years. The police headquarters is in a new separate building located downtown. Four substations are used: two in fire stations and two in shopping malls.

Uniformed patrol officers work twelve-hour rotating shifts. Investigators work five eight-hour days on first and second shift. District Commanders had the authority to change individual schedules to meet peak demands.

The city defines high priority emergency calls as 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.

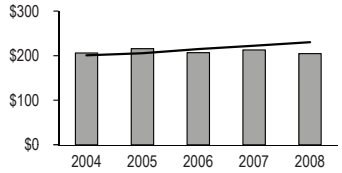
The police department was successful in clearing a total of 1,777 Part I cases in FY 2007–08.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls are not included.

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

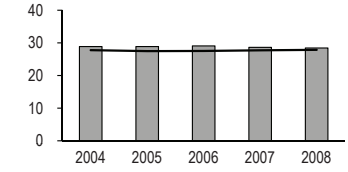
RESOURCE Measures

Police Services Costs per Capita



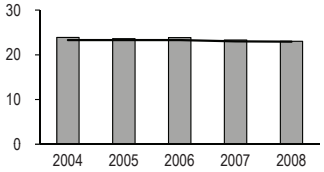
	2004	2005	2006	2007	2008
Durham	$206	$216	$207	$213	$205
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Durham	28.9	28.9	29.1	28.6	28.5
Average	27.8	27.5	27.5	27.7	27.9

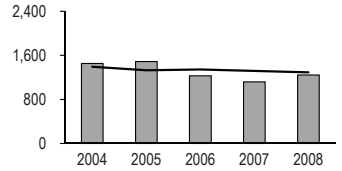
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Durham	23.9	23.6	23.9	23.3	23.0
Average	23.3	23.3	23.3	23.0	22.9

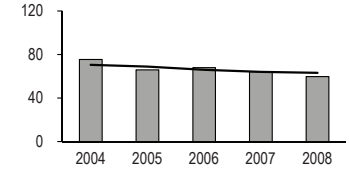
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Durham	1,454	1,487	1,230	1,119	1,243
Average	1,393	1,328	1,345	1,317	1,292

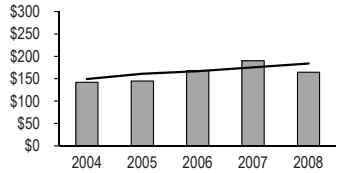
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Durham	75.5	65.9	68.0	64.3	59.7
Average	70.5	68.9	66.0	64.1	63.2

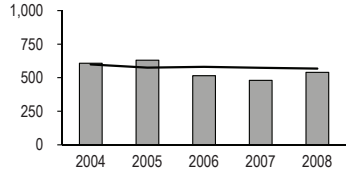
EFFICIENCY Measures

Police Services Cost per Call Dispatched



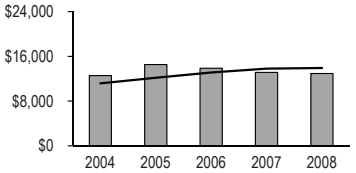
	2004	2005	2006	2007	2008
Durham	$142	$145	$168	$190	$165
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



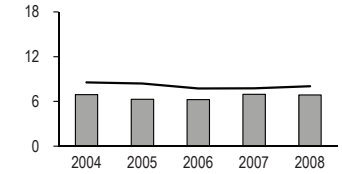
	2004	2005	2006	2007	2008
Durham	608	631	515	480	540
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Durham	$12,554	$14,519	$13,878	$13,138	$12,933
Average	$11,170	$12,163	$13,115	$13,811	$13,917

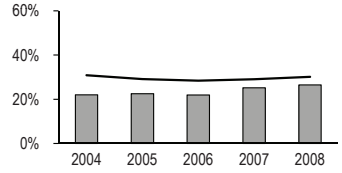
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Durham	6.9	6.3	6.2	7.0	6.9
Average	8.5	8.4	7.7	7.7	8.0

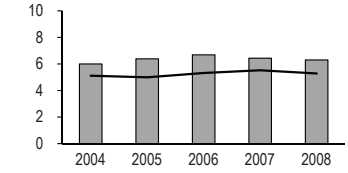
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Durham	22.0%	22.5%	21.9%	25.2%	26.5%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Durham	6.0	6.4	6.7	6.4	6.3
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	222,491
Land Area (Square Miles)	105.50
Persons per Square Mile	2,109
County	Durham
Median Family Income (US Census 2000)	$51,162
Unemployment Rate (ESC-07)	3.8%
Part I Crimes Reported	
Homicide	28
Rape	71
Robbery	856
Assault	868
Burglary	3,421
Larceny	7,095
Auto Theft	918
Arson	34
TOTAL	13,291

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.8%
Operating Costs		17.9%
Capital Costs		5.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	34,940,549
Operating Costs	$	8,129,156
Capital Costs	$	2,453,428
TOTAL	$	45,523,133

SERVICE PROFILE

FTE Positions—Sworn	512.0
FTE Positions—Other	121.0
Part I Crimes Cleared	
Persons	817
Property	2,703
Total	3,520
Reporting Format	IBR
Part II Crimes Reported	9,402
Number of Calls Dispatched	276,663
Traffic Accidents	4,873
Property Damage	$18,938,093

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 2007–08, with an average length of service of 10.8 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 uniformed 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.

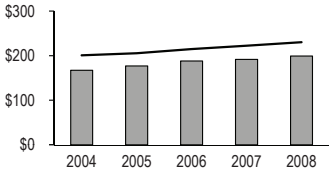
The police department was successful in clearing a total of 3,520 Part I cases in FY 2007–08.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

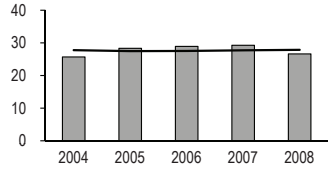
RESOURCE Measures

Police Services Costs per Capita



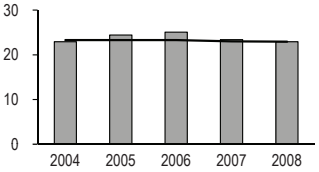
	2004	2005	2006	2007	2008
Gastonia	$167	$177	$188	$192	$199
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	25.7	28.3	28.9	29.3	26.6
Average	27.8	27.5	27.5	27.7	27.9

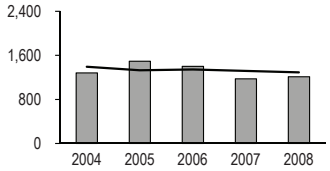
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	22.9	24.4	25.1	23.4	22.9
Average	23.3	23.3	23.3	23.0	22.9

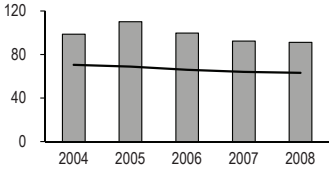
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	1,281	1,493	1,400	1,174	1,212
Average	1,393	1,328	1,345	1,317	1,292

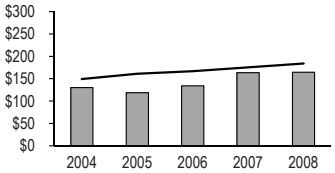
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	98.7	110.2	99.7	92.3	91.1
Average	70.5	68.9	66.0	64.1	63.2

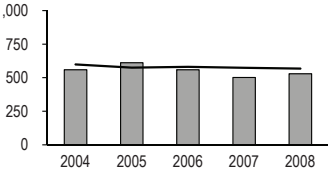
EFFICIENCY Measures

Police Services Cost per Call Dispatched



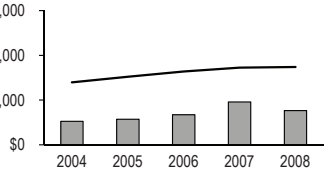
	2004	2005	2006	2007	2008
Gastonia	$130	$119	$134	$163	$164
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



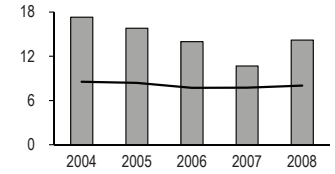
	2004	2005	2006	2007	2008
Gastonia	559	612	559	502	529
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Gastonia	$4,216	$4,589	$5,364	$7,669	$6,122
Average	$11,170	$12,163	$13,115	$13,811	$13,917

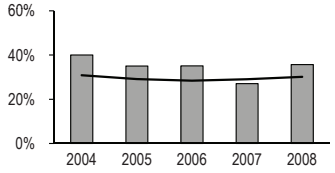
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Gastonia	17.3	15.8	14.0	10.7	14.2
Average	8.5	8.4	7.7	7.7	8.0

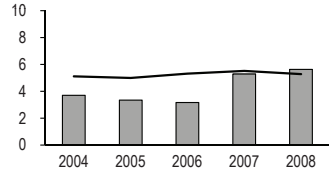
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Gastonia	40.0%	35.0%	35.1%	27.1%	35.7%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Gastonia	3.7	3.4	3.2	5.3	5.6
Average	5.1	5.0	5.3	5.5	5.3

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2007)	72,848
Land Area (Square Miles)	50.43
Persons per Square Mile	1,445
County	Gaston
Median Family Income (US Census 2000)	$44,873
Unemployment Rate (ESC-07)	5.5%
Part I Crimes Reported	
Homicide	5
Rape	33
Robbery	264
Assault	395
Burglary	1,347
Larceny	4,015
Auto Theft	528
Arson	53
TOTAL	6,640

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		81.6%
Operating Costs		15.1%
Capital Costs		3.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	11,837,393
Operating Costs	$	2,198,022
Capital Costs	$	479,181
TOTAL	$	14,514,596

SERVICE PROFILE

FTE Positions—Sworn	167.0
FTE Positions—Other	27.0
Part I Crimes Cleared	
Persons	466
Property	1,905
Total	2,371
Reporting Format	UCR
Part II Crimes Reported	5,462
Number of Calls Dispatched	88,316
Traffic Accidents	1,893
Property Damage	7,943,885

EXPLANATORY INFORMATION

Service Level and Delivery
The Gastonia Police Department provides a host of police services, including patrol, investigations, a telephone response unit, a canine unit, a special response unit, a drug enforcement unit, a part-time bicycle patrol, a crime prevention unit, and several other programs.

The city had 167 sworn officer positions authorized for FY 2007–08, with an average length of service of 11.3 years. Police services shares a central facility with the city's emergency communications backup center and public safety computer network hub. There is a detached training/firing range. There are no police substations.

Patrol officers work permanent twelve-hour shifts with every other weekend off. Investigators work eight hour shifts rotating to second shift every third week. There is no third shift for investigators but instead investigators are put on on-call status.

Each officer is assigned a vehicle. Those officers who live within city limits or within one mile of the extraterritorial jurisdiction may take their assigned cars home. Executive staff (captain and above), internal affairs, and on-call personnel are allowed to drive their vehicles home outside of the normal limits.

The definition of a high priority call in Gastonia is any call that requires an emergency response due to an imminent threat to life, an automobile crash with injuries, or an officer needing assistance.

The police department cleared 2,371 cases in FY 2007–08.

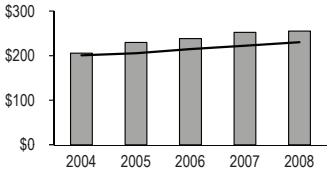
Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

In April 2006 Gastonia switched to a new tracking system for calls dispatched. The old system counted all calls made as calls for service even if no unit was dispatched. The new system only counts calls assigned when they are physically dispatched, which has reduced the number of reported calls.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

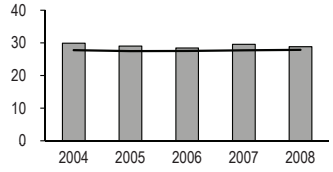
RESOURCE Measures

Police Services Costs per Capita



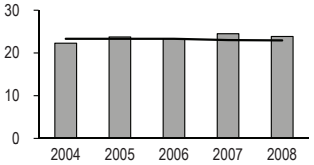
	2004	2005	2006	2007	2008
Greensboro	$206	$230	$238	$252	$255
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	29.9	29.0	28.4	29.6	28.8
Average	27.8	27.5	27.5	27.7	27.9

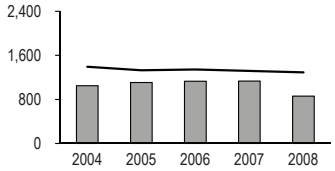
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	22.3	23.8	23.4	24.5	23.9
Average	23.3	23.3	23.3	23.0	22.9

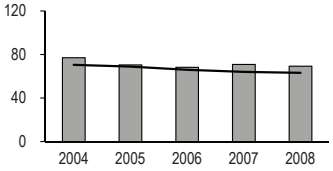
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	1,049	1,108	1,129	1,134	861
Average	1,393	1,328	1,345	1,317	1,292

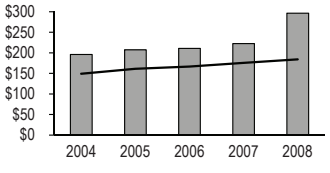
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	77.1	70.4	68.2	70.9	69.2
Average	70.5	68.9	66.0	64.1	63.2

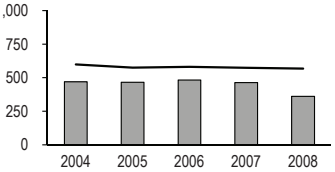
EFFICIENCY Measures

Police Services Cost per Call Dispatched



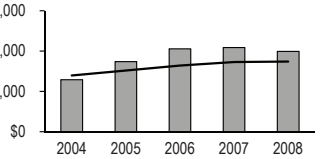
	2004	2005	2006	2007	2008
Greensboro	$196	$207	$211	$222	$297
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



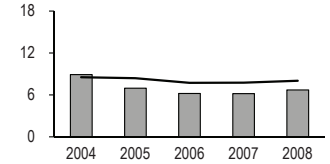
	2004	2005	2006	2007	2008
Greensboro	470	466	483	463	361
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Greensboro	$10,327	$13,899	$16,436	$16,683	$15,923
Average	$11,170	$12,163	$13,115	$13,811	$13,917

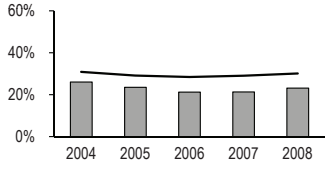
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Greensboro	8.9	7.0	6.2	6.2	6.7
Average	8.5	8.4	7.7	7.7	8.0

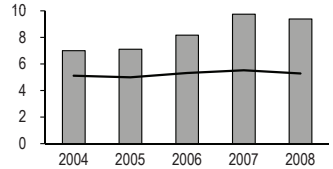
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Greensboro	26.0%	23.5%	21.3%	21.3%	23.2%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Greensboro	7.0	7.1	8.2	9.8	9.4
Average	5.1	5.0	5.3	5.5	5.3

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2007)	248,111
Land Area (Square Miles)	119.00
Persons per Square Mile	2,085
County	Guilford
Median Family Income (US Census 2000)	$50,192
Unemployment Rate (ESC-07)	4.7%
Part I Crimes Reported	
Homicide	32
Rape	98
Robbery	942
Assault	956
Burglary	4,759
Larceny	9,327
Auto Theft	978
Arson	85
TOTAL	17,177

FULL COST PROFILE

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	$	47,878,696
Operating Costs	$	15,462,937
Capital Costs	$	-
TOTAL	$	63,341,633

SERVICE PROFILE

FTE Positions—Sworn	592.0
FTE Positions—Other	123.0
Part I Crimes Cleared	
Persons	879
Property	3,099
Total	3,978
Reporting Format	IBR
Part II Crimes Reported	16,214
Number of Calls Dispatched	213,554
Traffic Accidents	9,060
Property Damage	$30,974,672

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro provides comprehensive police services, including patrol, investigations, a traffic unit, a telephone response unit, a forensics laboratory, a canine unit, a motorcycle unit, a special response unit, a bicycle patrol unit, a drug enforcement unit, and a student outreach and recruiting program.

The city had 592 sworn officer positions authorized for FY 2007–08, with an average length of service of ten years. The police department is housed in a downtown facility with other city departments. The city also has three substations that serve as remote line-up facilities.

Patrol officers work a five-days-on and four-days-off rotating schedule with fixed shifts. There are four shifts each day, with each patrol officer shift lasting 10.25 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.

Patrol officers do not take vehicles home. Each bureau is assigned a fleet of vehicles to use for its assigned tasks. Some investigators may take cars home but must pay a monthly fee based on mileage if they exercise this option.

Greensboro defines a high priority emergency call as one where there is a potential for imminent serious injury or death.

The police department was successful in clearing a total of 3,978 cases in FY 2007–08.

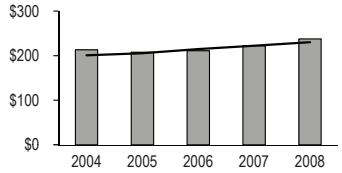
Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls with the exception of traffic stops and report-only calls.

A new dispatch system in Greensboro beginning 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 generate multiple dispatches. This system change means the number of dispatched calls for Greensboro declined due not to service changes but primarily due to data reporting differences.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

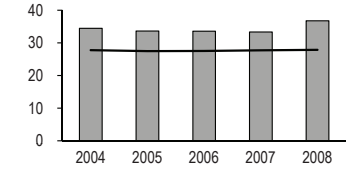
RESOURCE Measures

Police Services Costs per Capita



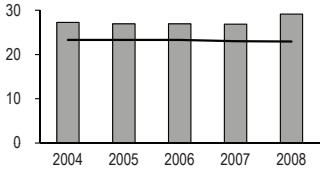
	2004	2005	2006	2007	2008
Hickory	$213	$208	$211	$222	$237
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	34.5	33.6	33.6	33.3	36.8
Average	27.8	27.5	27.5	27.7	27.9

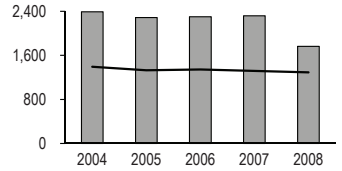
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	27.3	26.9	26.9	26.9	29.1
Average	23.3	23.3	23.3	23.0	22.9

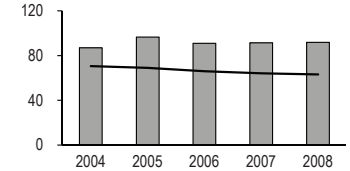
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	2,390	2,285	2,301	2,319	1,765
Average	1,393	1,328	1,345	1,317	1,292

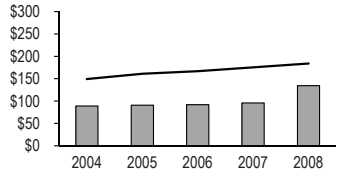
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	86.9	96.5	91.0	91.5	91.9
Average	70.5	68.9	66.0	64.1	63.2

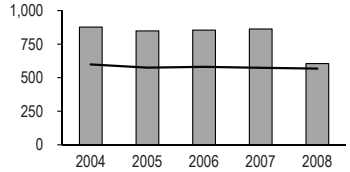
EFFICIENCY Measures

Police Services Cost per Call Dispatched



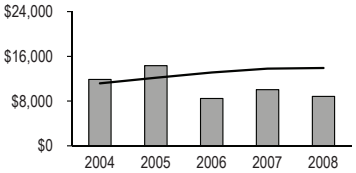
	2004	2005	2006	2007	2008
Hickory	$89	$91	$92	$96	$135
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



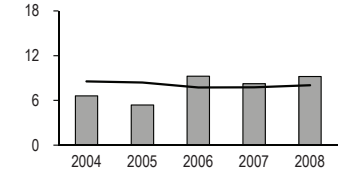
	2004	2005	2006	2007	2008
Hickory	877	848	855	863	606
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Hickory	$11,881	$14,321	$8,473	$10,042	$8,851
Average	$11,170	$12,163	$13,115	$13,811	$13,917

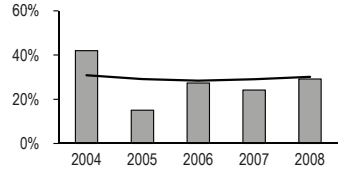
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Hickory	6.6	5.4	9.3	8.2	9.2
Average	8.5	8.4	7.7	7.7	8.0

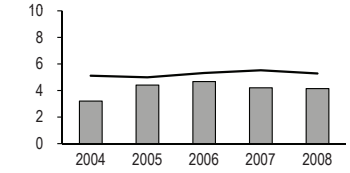
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Hickory	42.0%	15.0%	27.4%	24.2%	29.2%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Hickory	3.2	4.4	4.7	4.2	4.1
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	40,522
Land Area (Square Miles)	29.10
Persons per Square Mile	1,393
County	Catawba
Median Family Income (US Census 2000)	$47,522
Unemployment Rate (ESC-07)	5.5%
Part I Crimes Reported	
Homicide	5
Rape	19
Robbery	128
Assault	170
Burglary	786
Larceny	2,310
Auto Theft	285
Arson	20
TOTAL	3,723

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.9%
Operating Costs		21.5%
Capital Costs		9.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,626,350
Operating Costs	$	2,070,703
Capital Costs	$	923,554
TOTAL	$	9,620,607

SERVICE PROFILE

FTE Positions—Sworn	118.0
FTE Positions—Other	31.0
Part I Crimes Cleared	
Persons	156
Property	931
Total	1,087
Reporting Format	IBR
Part II Crimes Reported	3,937
Number of Calls Dispatched	71,510
Traffic Accidents	2,189
Property Damage	$7,582,241

EXPLANATORY INFORMATION

Service Level and Delivery

Hickory provides a full array of police services, including patrol, investigations, a traffic unit, a laboratory facility, a canine unit, a special response unit, bicycle patrol, a jail/holding facility, animal control, drug enforcement, and a DARE program.

The city had 118 sworn officer positions authorized for FY 2007–08, with an average length of service of 8.9 years. The police department occupies its own three-story facility, completed in January 1996. Each of the five community police areas has an office located in its respective community. These offices are not staffed. They are used for interviews, to obtain information, to store supplies, and to make phone calls.

Patrol officers work a fourteen-day, 80.5-hour cycle. During this period, officers work seven 11.5-hour days. Each of the five districts is commanded by a lieutenant who establishes schedules based on need.

Investigators work Monday through Friday, either from 8:30 a.m. to 5:00 p.m. or 3:30 p.m. to 12:00 a.m. for the second shift on-call investigators.

Hickory uses the one-officer one-car plan. Officers take vehicles home if they live in or within one mile of the city. Officers who are members of specialized units needed for emergency response such as special operations, K-9, or criminial investigations may also take their vehicles home.

Hickory defines high priority emergency calls as those situations that present an in-progress threat to life or serious property loss. Officers are authorized to utilize blue lights and sirens during response and may exceed posted speed limits by up to twenty miles per hour.

The police department was successful in clearing a total of 1,087 Part I cases in FY 2007–08.

Conditions Affecting Service, Performance, and Costs

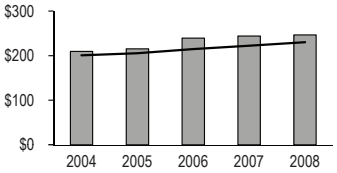
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

Beginning in FY 2007–08, Hickory was no longer including property checks and citizen contacts as part of total service calls for service or dispatches. The decline represents not a drop in service but a change in what was being counted.

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

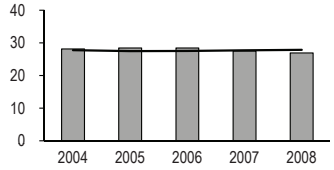
RESOURCE Measures

Police Services Costs per Capita



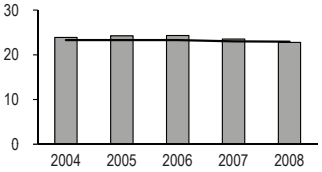
	2004	2005	2006	2007	2008
High Point	$210	$215	$239	$244	$247
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
High Point	28.1	28.4	28.4	27.5	26.9
Average	27.8	27.5	27.5	27.7	27.9

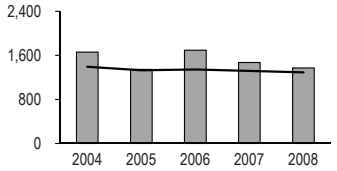
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
High Point	23.9	24.2	24.3	23.5	22.8
Average	23.3	23.3	23.3	23.0	22.9

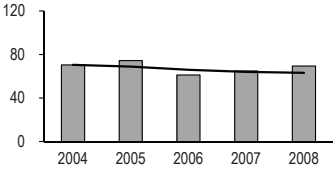
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
High Point	1,659	1,345	1,693	1,470	1,370
Average	1,393	1,328	1,345	1,317	1,292

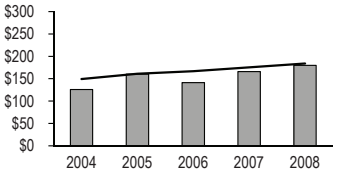
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
High Point	70.5	74.4	61.2	64.8	69.3
Average	70.5	68.9	66.0	64.1	63.2

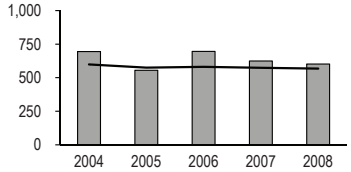
EFFICIENCY Measures

Police Services Cost per Call Dispatched



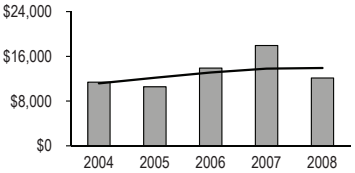
	2004	2005	2006	2007	2008
High Point	$126	$160	$141	$166	$180
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



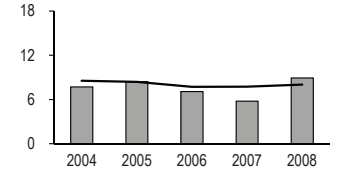
	2004	2005	2006	2007	2008
High Point	695	555	696	625	602
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
High Point	$11,373	$10,553	$13,916	$17,950	$12,131
Average	$11,170	$12,163	$13,115	$13,811	$13,917

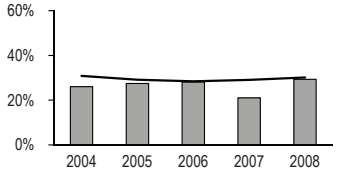
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
High Point	7.7	8.4	7.1	5.8	8.9
Average	8.5	8.4	7.7	7.7	8.0

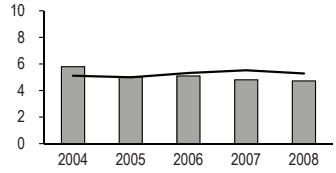
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
High Point	26.0%	27.4%	28.1%	21.0%	29.3%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
High Point	5.8	5.0	5.1	4.8	4.7
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
County	Guilford
Median Family Income (US Census 2000)	$48,057
Unemployment Rate (ESC-07)	4.7%
Part I Crimes Reported	
Homicide	15
Rape	37
Robbery	339
Assault	326
Burglary	2,027
Larceny	3,630
Auto Theft	428
Arson	50
TOTAL	6,852

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		71.0%
Operating Costs		20.9%
Capital Costs		8.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	17,290,363
Operating Costs	$	5,085,661
Capital Costs	$	1,983,494
TOTAL	$	24,359,518

SERVICE PROFILE

FTE Positions—Sworn	225.0
FTE Positions—Other	41.0
Part I Crimes Cleared	
Persons	398
Property	1,610
Total	2,008
Reporting Format	IBR
Part II Crimes Reported	4,325
Number of Calls Dispatched	135,377
Traffic Accidents	4,477
Property Damage	$12,666,498

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 225 sworn officer positions authorized for FY 2007–08, with an average length of service of 9.8 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 nighttime coverage.

Detectives work twenty-eight-day 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 2,008 Part I cases in FY 2007–08.

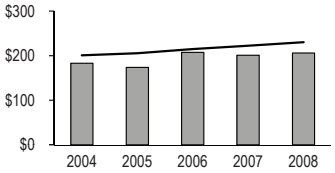
Conditions Affecting Service, Performance, and Costs

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

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

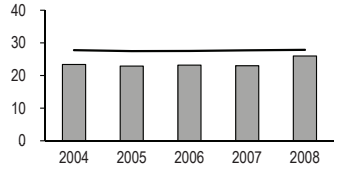
RESOURCE Measures

Police Services Costs per Capita



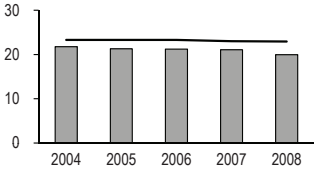
	2004	2005	2006	2007	2008
Matthews	$183	$174	$207	$201	$206
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Matthews	23.4	22.9	23.2	23.0	26.0
Average	27.8	27.5	27.5	27.7	27.9

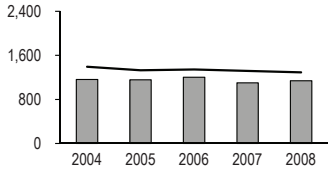
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Matthews	21.8	21.3	21.2	21.1	19.9
Average	23.3	23.3	23.3	23.0	22.9

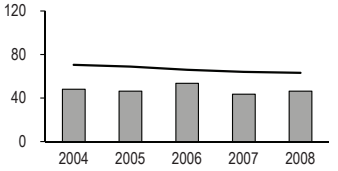
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	1,162	1,156	1,203	1,102	1,138
Average	1,393	1,328	1,345	1,317	1,292

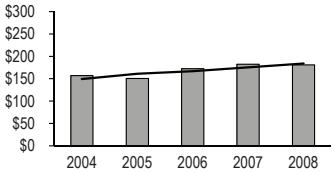
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	48.1	46.3	53.5	43.6	46.3
Average	70.5	68.9	66.0	64.1	63.2

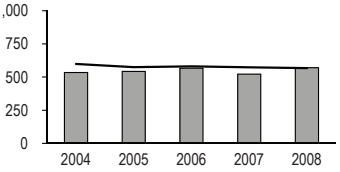
EFFICIENCY Measures

Police Services Cost per Call Dispatched



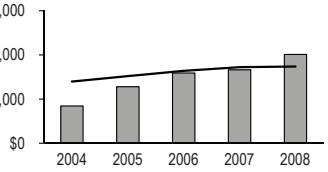
	2004	2005	2006	2007	2008
Matthews	$157	$150	$172	$182	$181
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



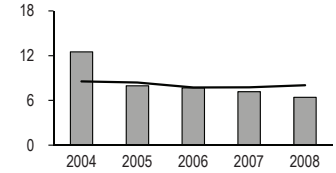
	2004	2005	2006	2007	2008
Matthews	534	542	567	522	571
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Matthews	$6,751	$10,245	$12,718	$13,297	$16,097
Average	$11,170	$12,163	$13,115	$13,811	$13,917

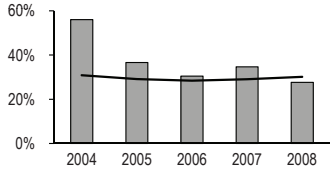
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Matthews	12.5	8.0	7.7	7.2	6.4
Average	8.5	8.4	7.7	7.7	8.0

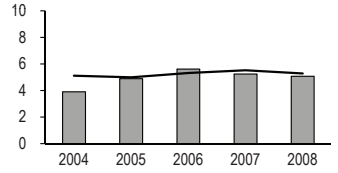
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Matthews	56.0%	36.6%	30.5%	34.7%	27.6%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Matthews	3.9	4.9	5.6	5.2	5.1
Average	5.1	5.0	5.3	5.5	5.3

Matthews

MUNICIPAL PROFILE

Population (OSBM 2007)	28,072
Land Area (Square Miles)	16.63
Persons per Square Mile	1,688
County	Mecklenburg
Median Family Income (US Census 2000)	$75,791
Unemployment Rate (ESC-07)	4.5%
Part I Crimes Reported	
Homicide	0
Rape	7
Robbery	38
Assault	31
Burglary	188
Larceny	964
Auto Theft	55
Arson	16
TOTAL	1,299

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.7%
Operating Costs		28.1%
Capital Costs		2.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,025,841
Operating Costs	$	1,621,870
Capital Costs	$	131,200
TOTAL	$	5,778,911

SERVICE PROFILE

FTE Positions—Sworn	56.0
FTE Positions—Other	17.0
Part I Crimes Cleared	
Persons	53
Property	306
Total	359
Reporting Format	UCR
Part II Crimes Reported	1,080
Number of Calls Dispatched	31,954
Traffic Accidents	1,630
Property Damage	NA

EXPLANATORY INFORMATION

Service Level and Delivery

Matthews provides an array of police services to its citizens, including patrol, investigations, a traffic safety unit, a crime scene investigator, a canine unit, a special response unit, a bicycle patrol unit, a jail/holding facility, drug enforcement, and a variety of school safety programs.

The town had fifty-six sworn officer positions authorized for FY 2007–08, with an average length of service of 11.2 years. The police department operates in a 40,000-square-foot facility, with all police operations within the same building. The building is shared with the town's emergency medical services department. It also contains an approximately 10,000 square-foot indoor recreational area managed by the parks and recreation department.

The patrol division works in four teams on twelve-hour shifts, rotating every twenty-eight days. The traffic safety unit works ten-hour shifts, scheduled for peak times and special events. School officers work school hours and special events and provide vacation and peak relief when schools are not in session. Investigators work split, eight-hour shifts, with investigators typically on duty from 8 a.m. until 10 p.m.

Patrol officers who have served at least six months past successful completion of field training and who reside within five miles of the municipal limits are assigned take-home vehicles with personal use of those vehicles within the municipal bounds. All officers in specialized units and all supervisory and command staff are authorized to take home vehicles.

The police department defines high priority emergency calls as incidents or crimes in progress that present imminent danger or potential of injury to persons.

The police department was successful in clearing a total of 359 Part I cases in FY 2007–08.

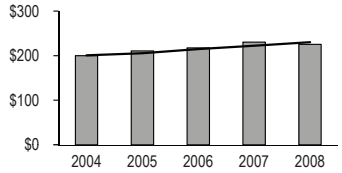
Conditions Affecting Service, Performance, and Costs

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

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

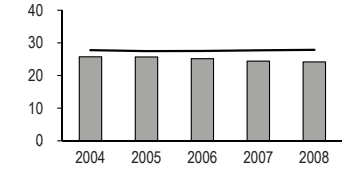
RESOURCE Measures

Police Services Costs per Capita



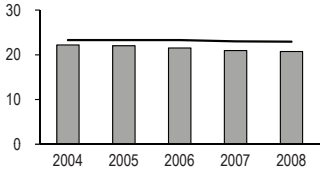
	2004	2005	2006	2007	2008
Raleigh	$200	$211	$217	$231	$225
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	25.8	25.7	25.2	24.4	24.1
Average	27.8	27.5	27.5	27.7	27.9

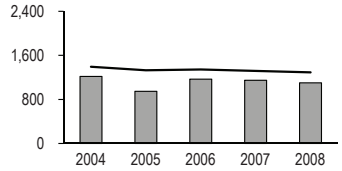
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	22.2	22.0	21.5	21.0	20.7
Average	23.3	23.3	23.3	23.0	22.9

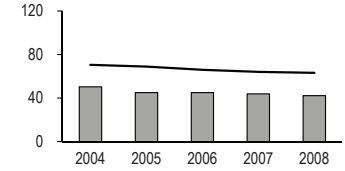
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	1,216	946	1,169	1,147	1,102
Average	1,393	1,328	1,345	1,317	1,292

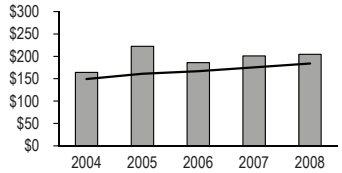
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	50.3	44.9	45.0	43.8	42.2
Average	70.5	68.9	66.0	64.1	63.2

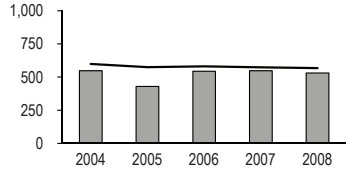
EFFICIENCY Measures

Police Services Cost per Call Dispatched



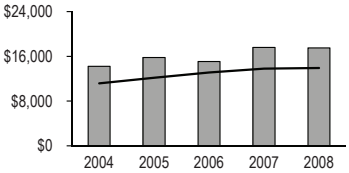
	2004	2005	2006	2007	2008
Raleigh	$164	$223	$186	$201	$205
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



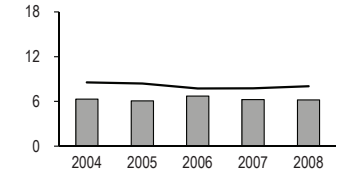
	2004	2005	2006	2007	2008
Raleigh	548	430	543	547	531
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Raleigh	$14,204	$15,779	$15,069	$17,589	$17,519
Average	$11,170	$12,163	$13,115	$13,811	$13,917

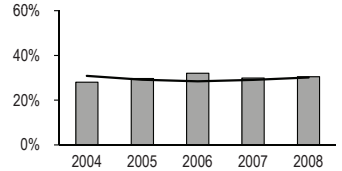
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Raleigh	6.3	6.1	6.7	6.3	6.2
Average	8.5	8.4	7.7	7.7	8.0

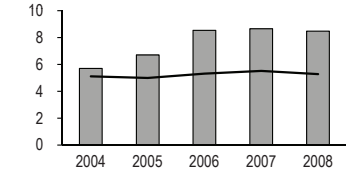
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Raleigh	28.0%	29.7%	32.1%	29.9%	30.4%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Raleigh	5.7	6.7	8.5	8.7	8.5
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	367,313
Land Area (Square Miles)	140.54
Persons per Square Mile	2,614
County	Wake
Median Family Income (US Census 2000)	$60,003
Unemployment Rate (ESC-07)	3.4%
Part I Crimes Reported	
Homicide	31
Rape	111
Robbery	1,017
Assault	1,140
Burglary	3,022
Larceny	8,928
Auto Theft	1,192
Arson	73
TOTAL	15,514

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.3%
Operating Costs		18.3%
Capital Costs		7.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	61,494,957
Operating Costs	$	15,110,240
Capital Costs	$	6,154,307
TOTAL	$	82,759,504

SERVICE PROFILE

FTE Positions—Sworn	762.0
FTE Positions—Other	125.0
Part I Crimes Cleared	
Persons	1,320
Property	3,404
Total	4,724
Reporting Format	UCR
Part II Crimes Reported	29,259
Number of Calls Dispatched	404,610
Traffic Accidents	19,256
Property Damage	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Raleigh provides an array of police services to its citizens, including patrol, investigations, a traffic unit, a telephone response unit, a canine unit, a motorcycle unit, a mounted equine unit, a special response unit, bicycle patrol, animal control, a drug enforcement unit, and numerous other units (DARE, COMPASS, and so forth).

The city had 762 sworn officer positions authorized for FY 2007–08, with an average length of service of 9.8 years. All police facilities are stand-alone. In addition to police headquarters, there are six substations located in the six sectors of the city that house both uniform patrol officers and detectives plus a special operations facility and a training center.

Primary uniformed patrol officers are assigned to ten-hour rotating shifts with flexible starting times based on need. Investigator shifts vary depending on the workload and demands of the assigned unit.

Officers who meet certain criteria, including living in the city, may get on a waiting list to take cars home. Vehicles are assigned to districts based on the number of personnel.

Raleigh defines a high priority call as one involving an in-progress or just-occurred incident in which potential danger to life or severe damage to property is imminent or an incident that is in progress but does not pose imminent danger to life or severe damage to property.

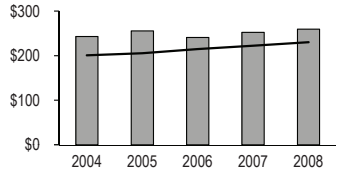
The police department was successful in clearing a total of 4,724 Part I cases in FY 2007–08.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

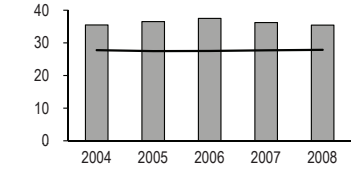
RESOURCE Measures

Police Services Costs per Capita



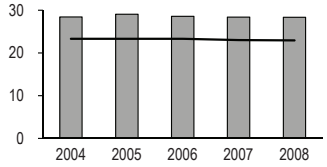
	2004	2005	2006	2007	2008
Salisbury	$243	$256	$241	$252	$259
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	35.5	36.5	37.5	36.2	35.5
Average	27.8	27.5	27.5	27.7	27.9

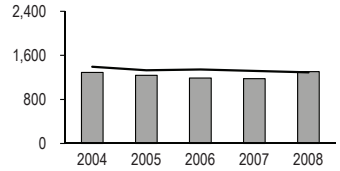
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	28.4	29.1	28.6	28.4	28.4
Average	23.3	23.3	23.3	23.0	22.9

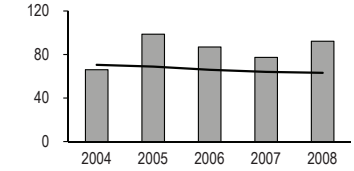
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	1,289	1,237	1,189	1,178	1,304
Average	1,393	1,328	1,345	1,317	1,292

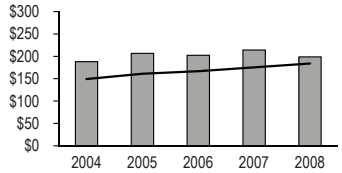
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	66.1	98.7	87.0	77.4	92.3
Average	70.5	68.9	66.0	64.1	63.2

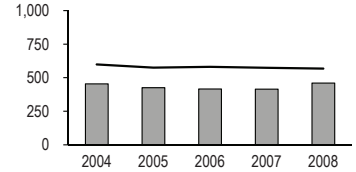
EFFICIENCY Measures

Police Services Cost per Call Dispatched



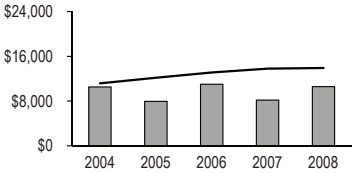
	2004	2005	2006	2007	2008
Salisbury	$188	$207	$203	$214	$199
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



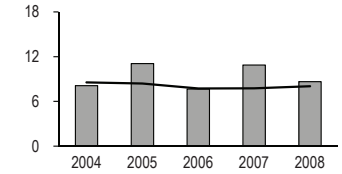
	2004	2005	2006	2007	2008
Salisbury	454	426	416	415	460
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Salisbury	$10,537	$7,944	$11,005	$8,173	$10,586
Average	$11,170	$12,163	$13,115	$13,811	$13,917

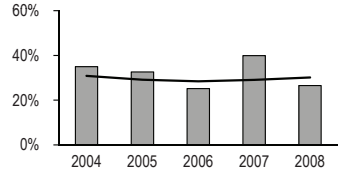
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Salisbury	8.1	11.1	7.7	10.9	8.6
Average	8.5	8.4	7.7	7.7	8.0

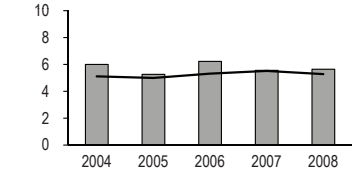
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Salisbury	35.0%	32.6%	25.2%	39.9%	26.6%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Salisbury	6.0	5.3	6.2	5.6	5.6
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
County	Rowan
Median Family Income (US Census 2000)	$41,108
Unemployment Rate (ESC-07)	5.9%
Part I Crimes Reported	
Homicide	2
Rape	11
Robbery	152
Assault	147
Burglary	629
Larceny	1,723
Auto Theft	184
Arson	14
TOTAL	2,862

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.6%
Operating Costs		27.3%
Capital Costs		9.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,119,357
Operating Costs	$	2,195,635
Capital Costs	$	730,730
TOTAL	$	8,045,722

SERVICE PROFILE

FTE Positions—Sworn	88.0
FTE Positions—Other	22.0
Part I Crimes Cleared	
Persons	154
Property	606
Total	760
Reporting Format	IBR
Part II Crimes Reported	2,533
Number of Calls Dispatched	40,442
Traffic Accidents	2,020
Property Damage	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Salisbury's police department provides an array of police services, including patrol, investigations, traffic, canine, special response, bicycle patrol, drug enforcement units, animal control, a school program, and other programs.

The city had eighty-eight sworn officer positions authorized for FY 2007–08, with an average length of service of 10.25 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.

Uniformed officers work a variety of shift schedules. The most common schedule is one twelve-hour shift, with two days on and two off, three days on and two off, and then two days on and three off. A few officers work 10.5 hour shifts, with four days on and three off. This 10.5 hour shift serves as flex coverage during the day's heaviest call volume period and can be moved according to departmental need.

Officers are assigned a vehicle when hired and are allowed to take it home if they live within Rowan County. If they live within Rowan County but beyond five miles of the city limits, they have to reimburse the city for the cost of mileage in excess of the five miles.

The police department was successful in clearing a total of 760 Part I cases in FY 2007–08.

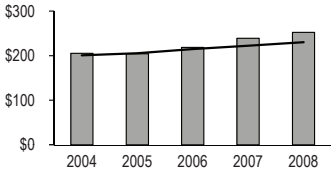
The city defines high priority emergency calls as those crimes that are in progress, life threatening, or potentially life threatening circumstances.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

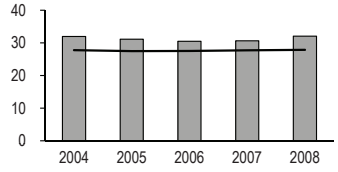
RESOURCE Measures

Police Services Costs per Capita



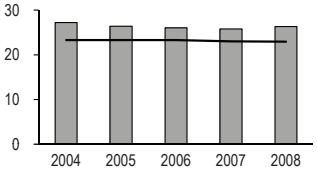
	2004	2005	2006	2007	2008
Wilmington	$205	$204	$219	$239	$252
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	32.0	31.1	30.5	30.7	32.1
Average	27.8	27.5	27.5	27.7	27.9

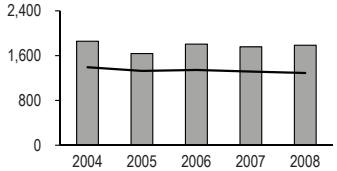
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	27.2	26.4	26.0	25.8	26.3
Average	23.3	23.3	23.3	23.0	22.9

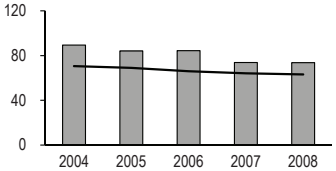
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	1,858	1,636	1,807	1,758	1,785
Average	1,393	1,328	1,345	1,317	1,292

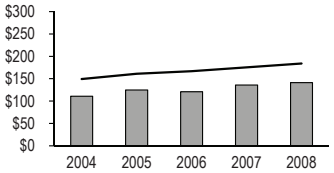
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	89.4	84.1	84.4	73.8	73.7
Average	70.5	68.9	66.0	64.1	63.2

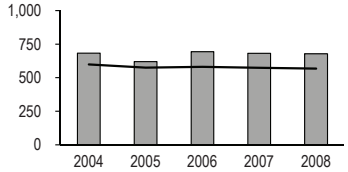
EFFICIENCY Measures

Police Services Cost per Call Dispatched



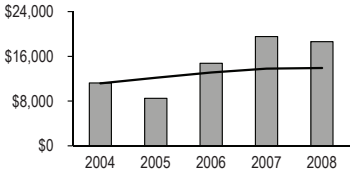
	2004	2005	2006	2007	2008
Wilmington	$111	$125	$121	$136	$141
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



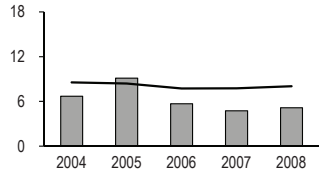
	2004	2005	2006	2007	2008
Wilmington	683	620	694	682	679
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Wilmington	$11,247	$8,495	$14,751	$19,546	$18,608
Average	$11,170	$12,163	$13,115	$13,811	$13,917

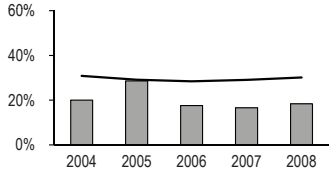
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Wilmington	6.7	9.1	5.7	4.7	5.2
Average	8.5	8.4	7.7	7.7	8.0

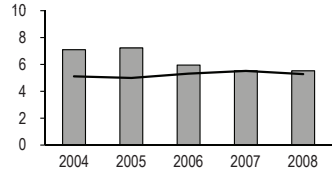
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Wilmington	20.0%	28.6%	17.6%	16.6%	18.4%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Wilmington	7.1	7.2	6.0	5.5	5.5
Average	5.1	5.0	5.3	5.5	5.3

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2007)	100,746
Land Area (Square Miles)	49.29
Persons per Square Mile	2,044
County	New Hanover
Median Family Income (US Census 2000)	$41,891
Unemployment Rate (ESC-07)	3.7%
Part I Crimes Reported	
Homicide	10
Rape	54
Robbery	338
Assault	420
Burglary	1,659
Larceny	4,258
Auto Theft	673
Arson	14
TOTAL	7,426

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.6%
Operating Costs		20.1%
Capital Costs		9.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	17,942,905
Operating Costs	$	5,117,968
Capital Costs	$	2,338,983
TOTAL	$	25,399,856

SERVICE PROFILE

FTE Positions—Sworn	265.0
FTE Positions—Other	58.0
Part I Crimes Cleared	
Persons	324
Property	1,041
Total	1,365
Reporting Format	IBR
Part II Crimes Reported	6,717
Number of Calls Dispatched	179,803
Traffic Accidents	4,118
Property Damage	$17,781,584

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 265 sworn officer positions authorized for FY 2007–08, with an average length of service of 9.8 years. The police department took occupancy of a new facility early in 2007 located on the north side of the city. The department also has one substation housing the special operations division.

There are eight shifts for patrol officers. There are two shifts for investigators, a day shift and an evening one. Wilmington employs maximum uniformed deployment (MUD) on Friday and Saturday evenings from 11 p.m. to 3 a.m., with five officers scheduled per shift. On alternate months, MUD is voluntary or mandatory for assigned personnel.

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 emergency response team (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 1,365 Part I cases in FY 2007–08.

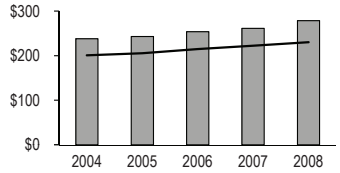
Wilmington defines high priority emergency calls as those incidents in progress and presenting the potential for injury or property damage or situations where a suspect is at the scene and will elude apprehension or create a potential for personal injury, damage, or loss if officers do not arrive rapidly.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

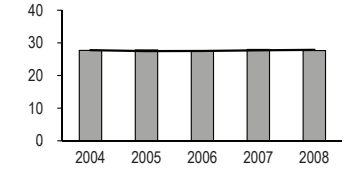
RESOURCE Measures

Police Services Costs per Capita



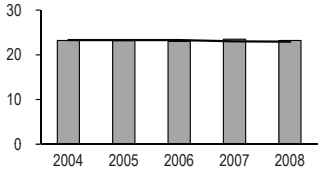
	2004	2005	2006	2007	2008
Wilson	$238	$243	$254	$261	$278
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	27.7	27.8	27.6	28.0	27.6
Average	27.8	27.5	27.5	27.7	27.9

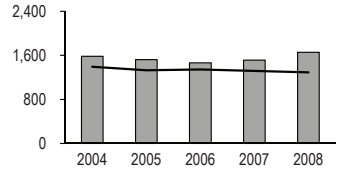
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	23.2	23.2	23.0	23.5	23.2
Average	23.3	23.3	23.3	23.0	22.9

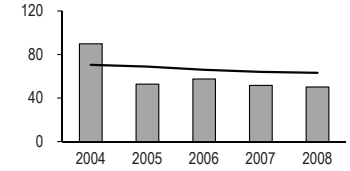
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	1,583	1,522	1,465	1,513	1,658
Average	1,393	1,328	1,345	1,317	1,292

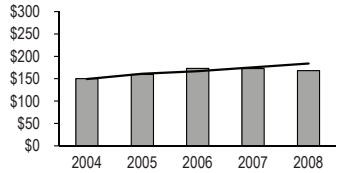
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	89.8	52.7	57.6	51.6	50.1
Average	70.5	68.9	66.0	64.1	63.2

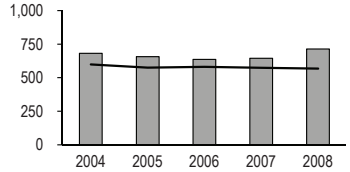
EFFICIENCY Measures

Police Services Cost per Call Dispatched



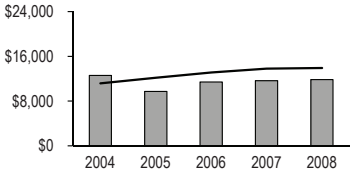
	2004	2005	2006	2007	2008
Wilson	$150	$159	$173	$173	$168
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



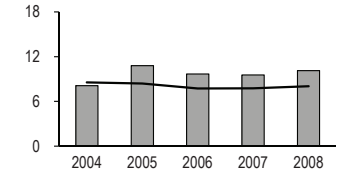
	2004	2005	2006	2007	2008
Wilson	682	657	637	645	714
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Wilson	$12,593	$9,713	$11,403	$11,652	$11,835
Average	$11,170	$12,163	$13,115	$13,811	$13,917

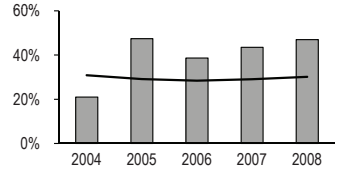
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Wilson	8.1	10.8	9.7	9.6	10.1
Average	8.5	8.4	7.7	7.7	8.0

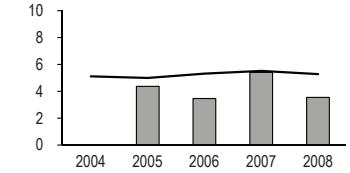
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Wilson	21.0%	47.4%	38.7%	43.5%	47.0%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Wilson		4.4	3.5	5.4	3.6
Average	5.1	5.0	5.3	5.5	5.3

Wilson

MUNICIPAL PROFILE

Population (OSBM 2007)	49,954
Land Area (Square Miles)	28.87
Persons per Square Mile	1,730
County	Wilson
Median Family Income (US Census 2000)	$41,041
Unemployment Rate (ESC-07)	6.1%
Part I Crimes Reported	
Homicide	6
Rape	9
Robbery	80
Assault	141
Burglary	620
Larceny	1,514
Auto Theft	122
Arson	10
TOTAL	2,502

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.3%
Operating Costs		29.5%
Capital Costs		7.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	8,801,164
Operating Costs	$	4,104,989
Capital Costs	$	999,659
TOTAL	$	13,905,812

SERVICE PROFILE

FTE Positions—Sworn	116.0
FTE Positions—Other	22.0
Part I Crimes Cleared	
Persons	166
Property	1,009
Total	1,175
Reporting Format	IBR
Part II Crimes Reported	5,349
Number of Calls Dispatched	82,800
Traffic Accidents	2,203
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 2007–08, with an average length of service of 7.9 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 eight substations, three of which are district stations. The other five are used for training, the street crimes unit, vice and narcotics, juvenile officers, and the public housing unit.

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 1,175 Part I cases in FY 2007–08.

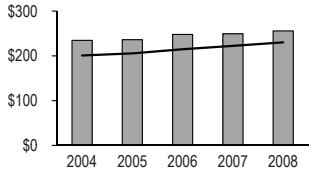
Wilson defines high priority emergency calls as calls related to crimes in progress that require immediate response: murder, rape, robbery, burglary, arson/fire, and assaults.

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.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

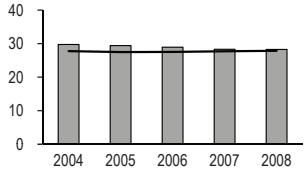
RESOURCE Measures

Police Services Costs per Capita



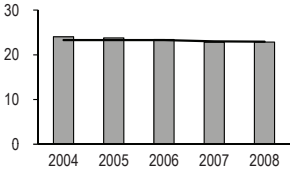
	2004	2005	2006	2007	2008
Winston-Salem	$235	$236	$248	$249	$256
Average	$201	$206	$215	$222	$230

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	29.8	29.4	29.0	28.3	28.3
Average	27.8	27.5	27.5	27.7	27.9

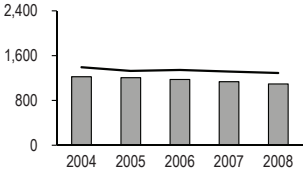
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	24.0	23.8	23.4	22.8	22.9
Average	23.3	23.3	23.3	23.0	22.9

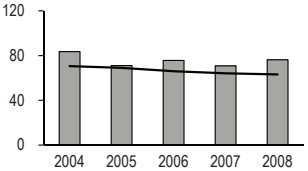
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	1,223	1,205	1,174	1,135	1,094
Average	1,393	1,328	1,345	1,317	1,292

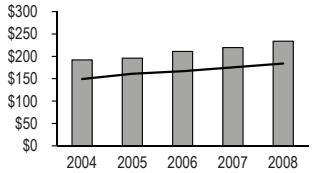
Part I Crimes per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	83.5	71.1	75.6	70.9	76.3
Average	70.5	68.9	66.0	64.1	63.2

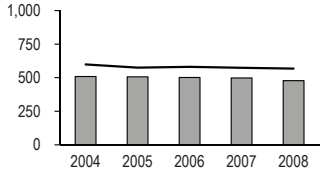
EFFICIENCY Measures

Police Services Cost per Call Dispatched



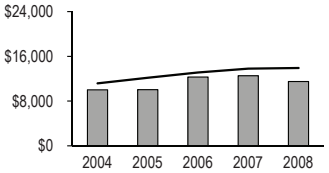
	2004	2005	2006	2007	2008
Winston-Salem	$192	$196	$211	$219	$234
Average	$149	$161	$167	$176	$184

Calls Dispatched per Sworn Officer



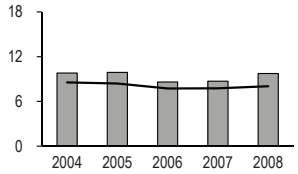
	2004	2005	2006	2007	2008
Winston-Salem	509	507	501	498	478
Average	599	575	581	574	568

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007	2008
Winston-Salem	$10,005	$10,032	$12,313	$12,538	$11,488
Average	$11,170	$12,163	$13,115	$13,811	$13,917

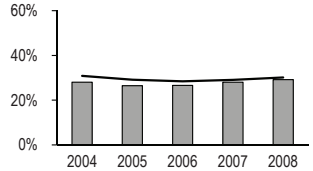
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007	2008
Winston-Salem	9.8	9.9	8.6	8.7	9.7
Average	8.5	8.4	7.7	7.7	8.0

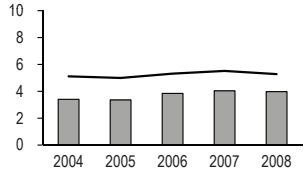
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007	2008
Winston-Salem	28.0%	26.4%	26.6%	28.0%	29.2%
Average	30.9%	29.1%	28.4%	29.1%	30.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007	2008
Winston-Salem	3.4	3.4	3.8	4.0	4.0
Average	5.1	5.0	5.3	5.5	5.3

MUNICIPAL PROFILE

Population (OSBM 2007)	224,889
Land Area (Square Miles)	132.45
Persons per Square Mile	1,698
County	Forsyth
Median Family Income (US Census 2000)	$46,595
Unemployment Rate (ESC-07)	4.4%
Part I Crimes Reported	
Homicide	18
Rape	126
Robbery	776
Assault	1,030
Burglary	4,777
Larceny	9,135
Auto Theft	1,297
Arson	NA
TOTAL	17,159

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.8%
Operating Costs		14.9%
Capital Costs		8.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	44,119,242
Operating Costs	$	8,571,048
Capital Costs	$	4,784,767
TOTAL	$	57,475,057

SERVICE PROFILE

FTE Positions—Sworn	514.0
FTE Positions—Other	122.0
Part I Crimes Cleared	
Persons	1,123
Property	3,880
Total	5,003
Reporting Format	IBR
Part II Crimes Reported	49,860
Number of Calls Dispatched	245,944
Traffic Accidents	8,624
Property Damage	$25,860,423

EXPLANATORY INFORMATION

Service Level and Delivery
Winston-Salem provides an array of police services to its citizens, including patrol, investigations, a traffic unit, a telephone response unit, a canine unit, a motorcycle unit, a special response unit, bicycle patrol, drug enforcement, a gang unit, and other crime prevention programs.

The city had 514 sworn officer positions authorized for FY 2007–08, with an average length of service of 10.7 years. The police department occupies the public safety center. It houses the police department, emergency communications, and the fire department administration. The special investigations division occupies offices in leased space in another facility. A downtown bike patrol office is maintained in the central downtown area.

The department employs a forward-rotating schedule of five shifts. Officers work five days on and four days off. Shifts are ten hours in length. The majority of investigators work Monday through Friday from 8 a.m. to 5 p.m.

Patrol vehicles are assigned to individual officers. Officers residing within Forsyth County take their vehicles home. If officers reside outside of the county, they park their vehicles in a residential or business area within the city limits.

The police department was successful in clearing a total of 5,003 Part I cases in FY 2007–08.

Winston-Salem defines highest priority emergency calls as those dealing with a significant threat of imminent injury to persons or crimes against persons that are in progress or just occurred and the suspect is still there.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

The Winston-Salem Police Department does not investigate arsons, so arsons are not included in the crimes reported here. Arson investigations are handled by the Winston-Salem Fire Department.

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

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-hour-a-day, seven-day-a-week coverage.

3. Average Number of Seconds from Initial Ring to Answer and Percentage of Calls Answered within Three Rings

These are effectiveness measures that assess how quickly telecommunicators answer calls. The time between the beginning of a ring and the beginning of the next ring is six seconds. Thus three rings equal eighteen seconds.

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

FY 2007-08

City or Town	Population Served	Equipment Shared with County?	Fee Charged?	Number of FTEs	Total Incoming Calls Handled	Total E-911 Calls Handled	Total Dispatches
Asheville	77,837	No	Yes	25	220,917	34,265	114,112
Burlington	49,343	Yes	Yes	14	199,446	22,559	85,588
Cary	132,604	No	Yes	21	220,063	53,240	126,756
Concord	71,071	Yes	Yes	23	154,545	28,749	105,801
Durham	254,740	No	Yes	80	390,739	289,852	353,790
Greensboro	460,780	Yes	Yes	89	689,733	360,935	422,681
Hickory	40,522	No	Yes	13	150,991	13,598	71,510
High Point	98,806	No	Yes	26	244,102	86,853	152,466
Matthews	28,072	Yes (with Charlotte)	Yes	11	84,612	NA	31,954
Raleigh	832,590	Yes	Yes	103	843,343	523,184	430,169
Salisbury	31,023	No	Yes	10	82,186	14,839	40,422
Winston-Salem	224,889	Yes	Yes	45	551,014	220,855	245,944

NOTES

Although fees are charged for E-911 service in every jurisdiction, the revenue generated often goes to county governments.
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

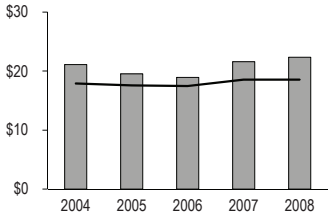
These are factors that the project found to affect emergency communication performance and cost in one or more of the municipalities:

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

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

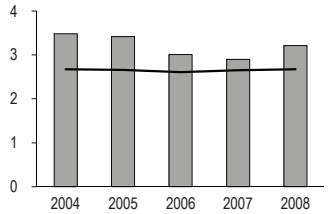
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Asheville	$21.12	$19.51	$18.95	$21.59	$22.37
Average	$17.90	$17.55	$17.45	$18.52	$18.54

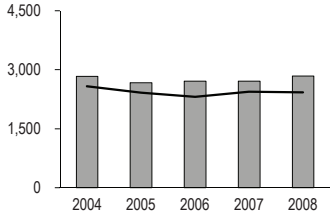
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	3.48	3.41	3.01	2.90	3.21
Average	2.67	2.66	2.61	2.66	2.67

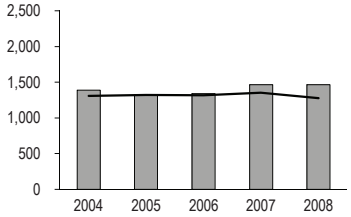
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	2,834	2,670	2,710	2,712	2,838
Average	2,579	2,412	2,310	2,441	2,422

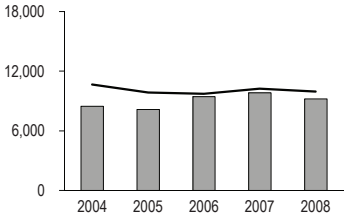
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	1,391	1,321	1,340	1,464	1,466
Average	1,307	1,323	1,319	1,354	1,276

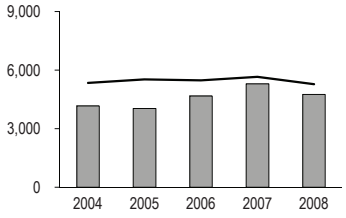
EFFICIENCY Measures

Calls Answered per Telecomunicator



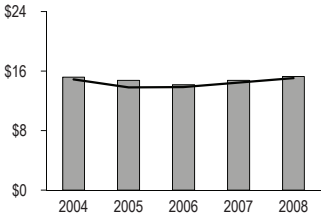
	2004	2005	2006	2007	2008
Asheville	8,471	8,149	9,445	9,807	9,205
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Asheville	4,159	4,032	4,671	5,295	4,755
Average	5,347	5,527	5,479	5,658	5,288

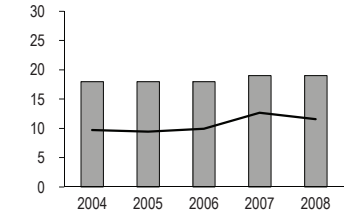
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Asheville	$15.19	$14.76	$14.14	$14.75	$15.26
Average	$14.89	$13.81	$13.84	$14.48	$15.08

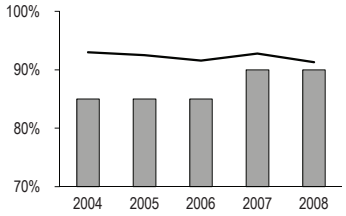
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



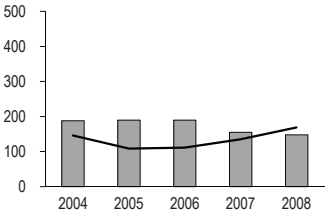
	2004	2005	2006	2007	2008
Asheville	18	18	18	19	19
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Asheville	85%	85%	85%	90%	90%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Asheville	188	190	190	155	148
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
County	Buncombe
Median Family Income (US Census 2000)	$44,029
Unemployment Rate (ESC-07)	3.5%
Population Growth (OMB 2000–2007)	13.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		52.2%
Operating Costs		45.6%
Capital Costs		2.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	908,950
Operating Costs	$	793,442
Capital Costs	$	38,923
TOTAL	$	1,741,315

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	24.0
Other	1.0
Total Incoming Calls	220,917
Total 911 Calls	34,265
Total Calls Dispatched	114,112
E-911 Fee	Yes
Revenue from Fee	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Asheville's Communication Unit handles emergency calls for police and other assistance calls coming into the center from the city. The center is organizationally located in the Support Services Division of the police department. The city handles adminstrative calls, requests for police response, and 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 that require officers/ telecommunicators to manually switch channels. The city uses the Motorola Simulcast.

Asheville's emergency communications center handled a total of 220,917 incoming calls in FY 2007–08 and dispatched 114,199 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
CAD entry is an immediate action begining when a telecommunicator hits "new call" or "new event."

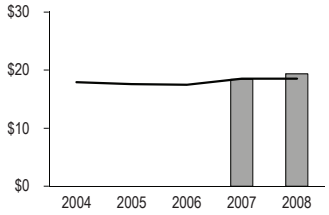
Asheville's community policing initiative encourages citizens to report criminal activity and this has generated more calls over time. The wider use of cell phones has also made it easier for citizens to respond immediately, which has probably increased calls as well.

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 and dispatch.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

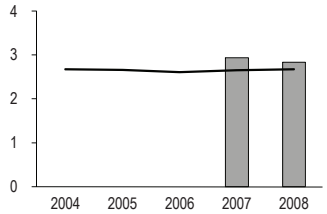
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Burlington				$18.42	$19.38
Average	$17.90	$17.55	$17.45	$18.52	$18.54

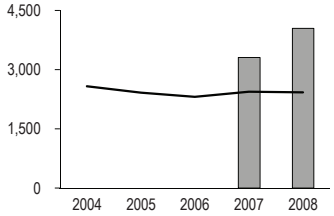
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				2.94	2.84
Average	2.67	2.66	2.61	2.66	2.67

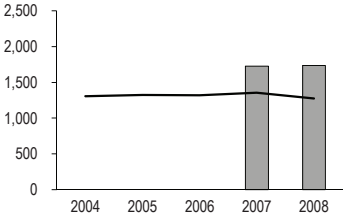
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				3,305	4,042
Average	2,579	2,412	2,310	2,441	2,422

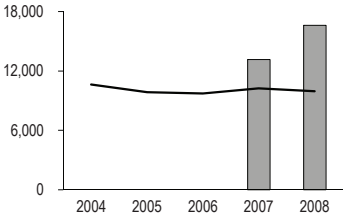
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				1,726	1,735
Average	1,307	1,323	1,319	1,354	1,276

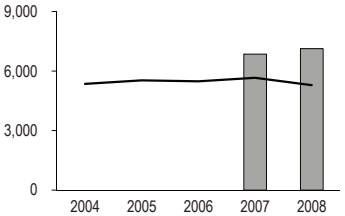
EFFICIENCY Measures

Calls Answered per Telecomunicator



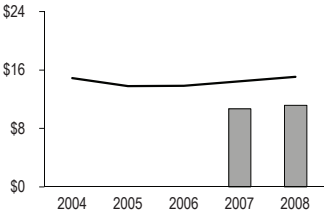
	2004	2005	2006	2007	2008
Burlington				13,137	16,621
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Burlington				6,858	7,132
Average	5,347	5,527	5,479	5,658	5,288

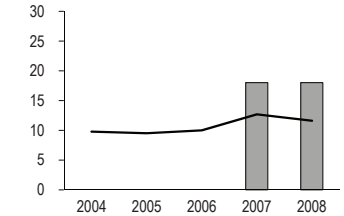
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Burlington				$10.68	$11.17
Average	$14.89	$13.81	$13.84	$14.48	$15.08

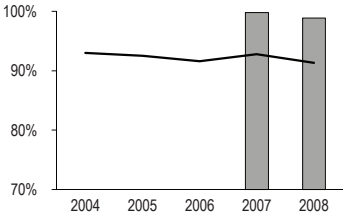
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



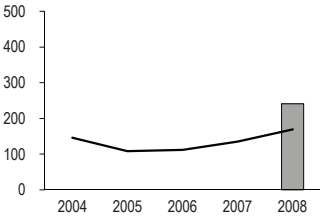
	2004	2005	2006	2007	2008
Burlington				18	18
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Burlington				100%	99%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Burlington					241
Average	146	108	112	135	169

Burlington

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
County	Alamance
Median Family Income (US Census 2000)	$45,441
Unemployment Rate (ESC-07)	5.1%
Population Growth (OMB 2000–2007)	9.9%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.1%
Operating Costs		29.2%
Capital Costs		1.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	660,956
Operating Costs	$	279,593
Capital Costs	$	15,679
TOTAL	$	956,228

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	12.0
Other	2.0
Total Incoming Calls	199,446
Total 911 Calls	22,559
Total Calls Dispatched	85,588
E-911 Fee	$0.70
Revenue from Fee	NA

EXPLANATORY INFORMATION

Service Level and Delivery
The emegency communications center is a division within the Burlington police department. The unit is responsible for dispatching police and fire personnel for the city.

Burlington uses a mixed mode analog/digital twenty-eight channel trunked system with five towers shared with Greensboro and Guilford County. The communications infrastructure is a joint venture with Guilford County and the City of Greensboro. Burlington owns the subscriber units and infrastructure on its end of the system. The system is interfaced with the original Guilford/Greensboro system.

Burlington's communication center handled a total of 199,446 incoming calls in FY 2007–08, dispatching 85,588 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.

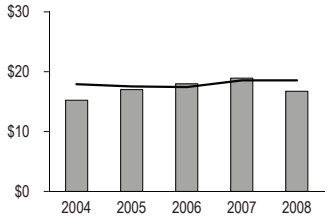
Conditions Affecting Service, Performance, and Costs
CAD entry is an immediate action with a new call or command line keystroke initiation.

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

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

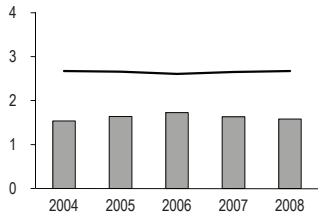
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Cary	$15.23	$16.98	$17.95	$18.91	$16.74
Average	$17.90	$17.55	$17.45	$18.52	$18.54

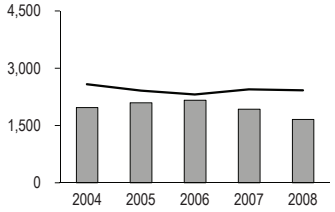
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	1.54	1.64	1.72	1.63	1.58
Average	2.67	2.66	2.61	2.66	2.67

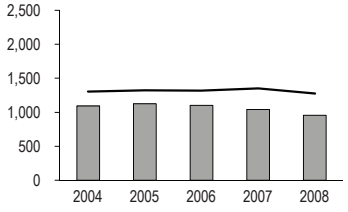
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Cary	1,968	2,096	2,160	1,928	1,660
Average	2,579	2,412	2,310	2,441	2,422

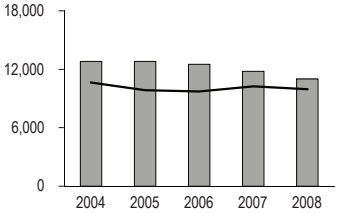
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Cary	1,092	1,126	1,104	1,041	956
Average	1,307	1,323	1,319	1,354	1,276

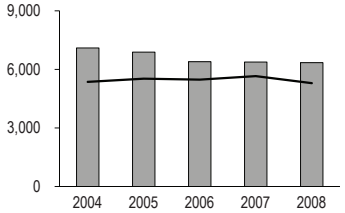
EFFICIENCY Measures

Calls Answered per Telecomunicator



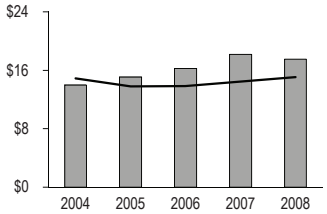
	2004	2005	2006	2007	2008
Cary	12,794	12,803	12,522	11,792	11,003
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Cary	7,097	6,877	6,401	6,370	6,338
Average	5,347	5,527	5,479	5,658	5,288

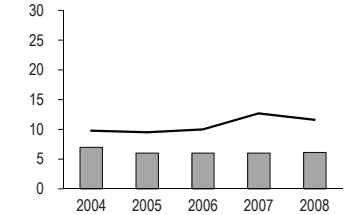
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Cary	$13.95	$15.08	$16.26	$18.16	$17.52
Average	$14.89	$13.81	$13.84	$14.48	$15.08

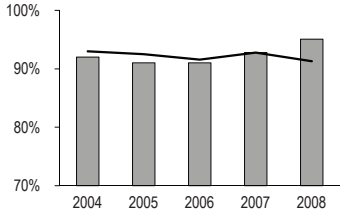
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



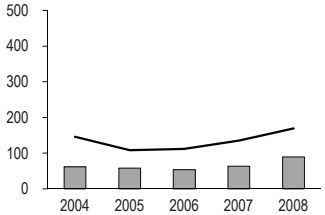
	2004	2005	2006	2007	2008
Cary	7	6	6	6	6
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Cary	92%	91%	91%	93%	95%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Cary	62	58	54	64	90
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
County	Wake
Median Family Income (US Census 2000)	$88,074
Unemployment Rate (ESC-07)	3.4%
Population Growth (OMB 2000–2007)	40.3%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		67.7%
Operating Costs		24.9%
Capital Costs		7.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,502,642
Operating Costs	$	553,068
Capital Costs	$	164,675
TOTAL	$	2,220,385

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	20.0
Other	1.0
Total Incoming Calls	220,063
Total 911 Calls	53,240
Total Calls Dispatched	126,756
E-911 Fee	$0.25
Revenue from Fee	$91,608

EXPLANATORY INFORMATION

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 backup 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.

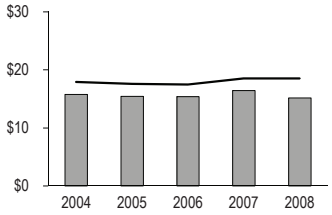
Cary's center handled a total of 220,063 calls in FY 2007–08, dispatching 126,756 of them. The city defines highest priority emergency calls as any report that relates to a significant threat of imminent injury to a person or substantial damage to property.

Conditions Affecting Service, Performance, and Costs
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.

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

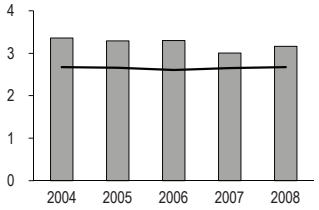
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Concord	$15.79	$15.46	$15.38	$16.45	$15.18
Average	$17.90	$17.55	$17.45	$18.52	$18.54

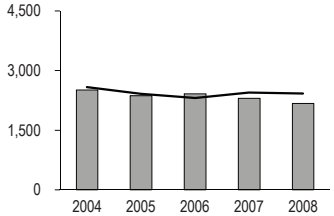
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord	3.36	3.29	3.30	3.00	3.17
Average	2.67	2.66	2.61	2.66	2.67

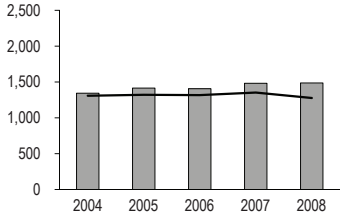
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Concord	2,509	2,367	2,412	2,301	2,175
Average	2,579	2,412	2,310	2,441	2,422

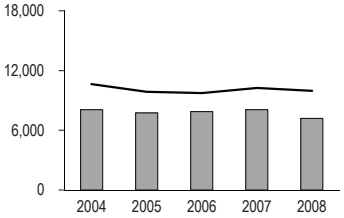
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Concord	1,345	1,414	1,406	1,482	1,489
Average	1,307	1,323	1,319	1,354	1,276

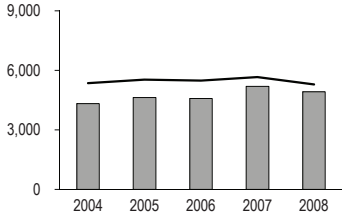
EFFICIENCY Measures

Calls Answered per Telecomunicator



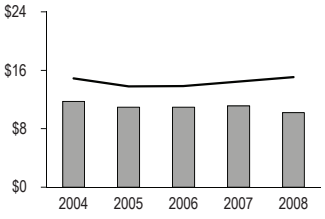
	2004	2005	2006	2007	2008
Concord	8,064	7,759	7,870	8,052	7,188
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Concord	4,324	4,636	4,587	5,186	4,921
Average	5,347	5,527	5,479	5,658	5,288

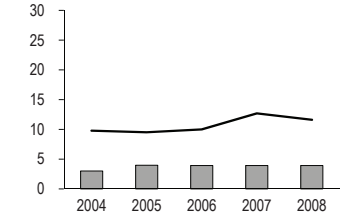
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Concord	$11.74	$10.93	$10.94	$11.10	$10.20
Average	$14.89	$13.81	$13.84	$14.48	$15.08

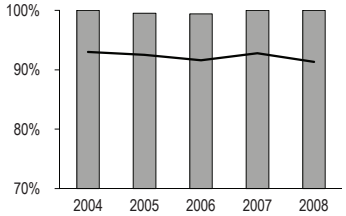
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



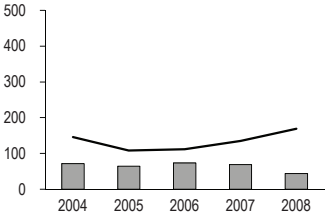
	2004	2005	2006	2007	2008
Concord	3	4	4	4	4
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Concord	100%	100%	99%	100%	100%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Concord	72	64	73	69	44
Average	146	108	112	135	169

Concord

CITY PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
County	Cabarrus
Median Family Income (US Census 2000)	$53,571
Unemployment Rate (ESC-07)	4.4%
Population Growth (OMB 2000–2007)	27.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		87.5%
Operating Costs		11.2%
Capital Costs		1.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	943,666
Operating Costs	$	121,083
Capital Costs	$	13,915
TOTAL	$	1,078,664

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	21.50
Other	1.00
Total Incoming Calls	154,545
Total 911 Calls	28,749
Total Calls Dispatched	105,801
E-911 Fee	$0.70
Revenue from Fee	NA

EXPLANATORY INFORMATION

Service Level and Delivery

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.

The city uses an 800 MHz system, which is a twelve-channel, five-site system shared with Cabarrus County and the City of Kannapolis.

Concord's center handled a total of 154,545 calls in FY 2007–08, dispatching 105,801 of them.

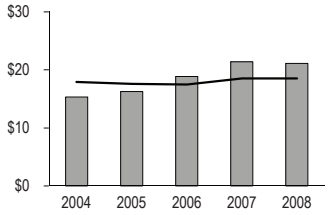
A monthly amount of $0.70 is charged for E-911 calls, but all of the collected money goes to Cabarrus County.

Conditions Affecting Service, Performance, and Costs

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

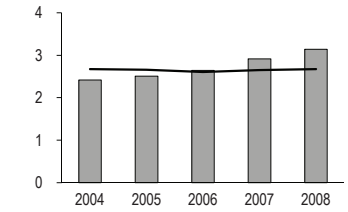
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Durham	$15.35	$16.26	$18.84	$21.39	$21.10
Average	$17.90	$17.55	$17.45	$18.52	$18.54

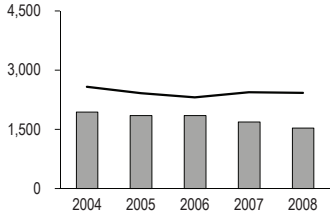
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	2.41	2.51	2.64	2.92	3.14
Average	2.67	2.66	2.61	2.66	2.67

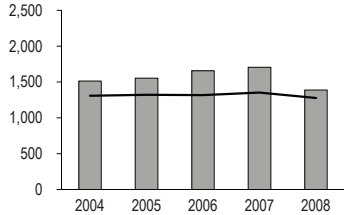
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Durham	1,939	1,851	1,851	1,688	1,534
Average	2,579	2,412	2,310	2,441	2,422

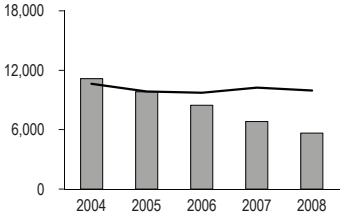
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Durham	1,515	1,552	1,656	1,706	1,389
Average	1,307	1,323	1,319	1,354	1,276

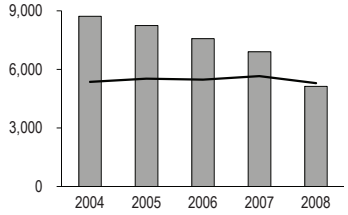
EFFICIENCY Measures

Calls Answered per Telecomunicator



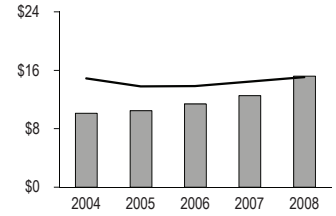
	2004	2005	2006	2007	2008
Durham	11,165	9,827	8,457	6,829	5,663
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Durham	8,726	8,238	7,569	6,905	5,127
Average	5,347	5,527	5,479	5,658	5,288

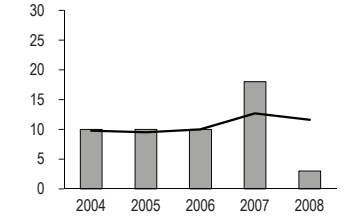
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Durham	$10.13	$10.48	$11.37	$12.53	$15.19
Average	$14.89	$13.81	$13.84	$14.48	$15.08

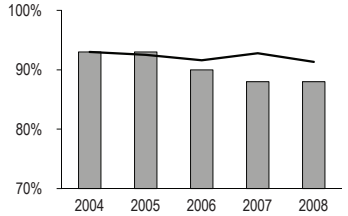
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



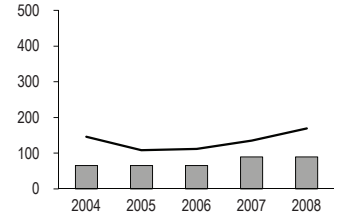
	2004	2005	2006	2007	2008
Durham	10	10	10	18	3
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Durham	93%	93%	90%	88%	88%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Durham	65	65	65	90	90
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	254,740
Land Area (Square Miles)	290.32
Persons per Square Mile	877
County	Durham
Median Family Income (US Census 2000)	$51,162
Unemployment Rate (ESC-07)	3.8%
Population Growth (OMB 2000–2007)	19.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		58.9%
Operating Costs		26.6%
Capital Costs		14.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,164,337
Operating Costs	$	1,427,283
Capital Costs	$	782,154
TOTAL	$	5,373,774

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	69.0
Other	11.0
Total Incoming Calls	390,739
Total 911 Calls	289,852
Total Calls Dispatched	353,790
E-911 Fee	$0.70
Revenue from Fee	$1,571,247

EXPLANATORY INFORMATION

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 390,739 incoming calls in FY 2007–08, dispatching 353,790 calls. The city defines highest priority emergency calls as life threatening or property threatening situations in progress or an officer needing assistance.

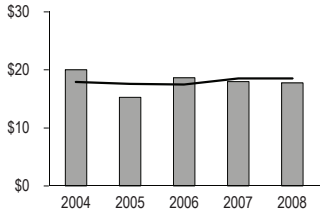
A monthly amount of $0.70 is charged for E-911 calls to telephone customers, generating $1,571,247.

Conditions Affecting Service, Performance, and Costs

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

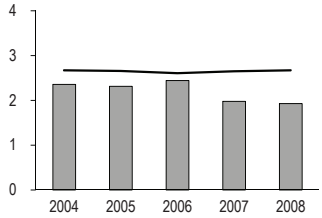
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Greensboro	$20.02	$15.27	$18.66	$17.97	$17.73
Average	$17.90	$17.55	$17.45	$18.52	$18.54

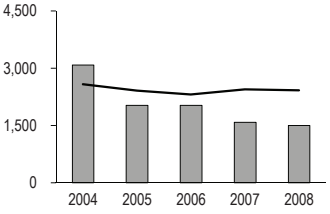
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	2.36	2.32	2.44	1.98	1.93
Average	2.67	2.66	2.61	2.66	2.67

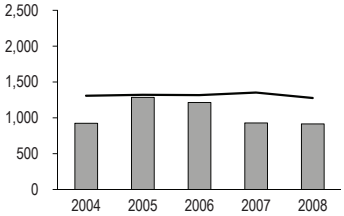
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	3,081	2,024	2,028	1,587	1,497
Average	2,579	2,412	2,310	2,441	2,422

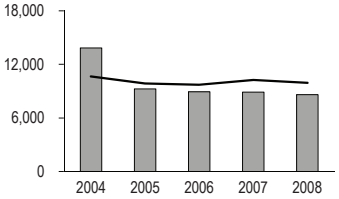
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	922	1,286	1,214	930	917
Average	1,307	1,323	1,319	1,354	1,276

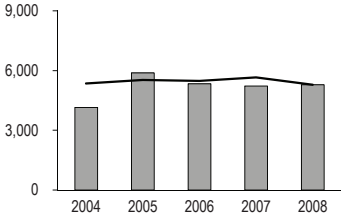
EFFICIENCY Measures

Calls Answered per Telecomunicator



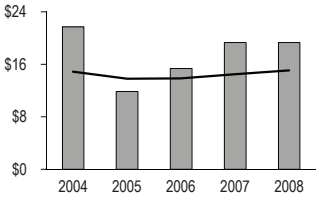
	2004	2005	2006	2007	2008
Greensboro	13,846	9,253	8,913	8,910	8,622
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Greensboro	4,143	5,879	5,335	5,222	5,284
Average	5,347	5,527	5,479	5,658	5,288

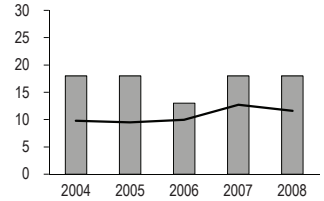
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Greensboro	$21.71	$11.87	$15.37	$19.32	$19.33
Average	$14.89	$13.81	$13.84	$14.48	$15.08

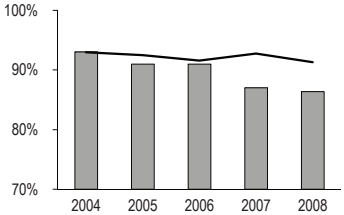
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



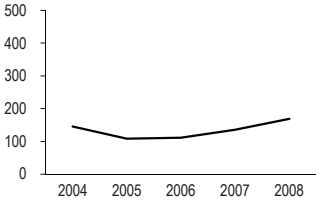
	2004	2005	2006	2007	2008
Greensboro	18	18	13	18	18
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Greensboro	93%	91%	91%	87%	86%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Greensboro					
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	460,780
Land Area (Square Miles)	649.42
Persons per Square Mile	710
County	Guilford
Median Family Income (US Census 2000)	$50,192
Unemployment Rate (ESC-07)	4.7%
Population Growth (OMB 2000–2007)	10.8%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.3%
Operating Costs		34.7%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,338,353
Operating Costs	$	2,832,386
Capital Costs	$	-
TOTAL	$	8,170,739

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	80.0
Other	9.0
Total Incoming Calls	689,733
Total 911 Calls	360,935
Total Calls Dispatched	422,681
E-911 Fee	$0.30
Revenue from Fee	$855,438

EXPLANATORY INFORMATION

Service Level and Delivery

Guilford Metro 911 is a separate department providing emergency communications for the cities of Greensboro and Gibsonville and for Guilford County except for the City of High Point. The communications center dispatches for police, fire, and 911 emergency calls. The center also handles all EMS calls for the City of High Point. Operations were consolidated during the year with Guilford County so that the center handles all services. As part of the consolidation, there were significant purchases of equipment and some transfer of employees. The consolidation process also enabled the first update of all 911 equipment in ten years and the creation of a backup 911 center to improve disaster preparedness. These changes contributed to higher operating costs.

Guilford Metro 911 uses a twenty-eight channel Motorola Smartset 800 MHz radio system. The system has five tower sites and is jointly owned with Guilford County.

Greensboro's communication center handled a total of 689,733 calls in FY 2007–08, dispatching 422,681 of them. The city defines highest priority emergency calls as call types that require the fastest response, such as shootings, robberies, and domestic violence.

Conditions Affecting Service, Performance, and Costs

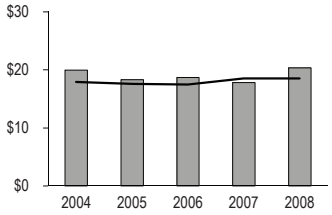
Total incoming calls in FY 2003–04 were over-reported by including associated outgoing calls. The measures "total calls per 1,000 population" and "calls answered per telecommunicator" are overstated for FY 2003–04.

The performance measure "number of seconds from initial ring to answer" was overreported in FY 2003–04 and FY 2004–05. In these two years the number reported was the department standard rather than the actual elapsed time. Improvements in the data system now support better tracking of this number.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

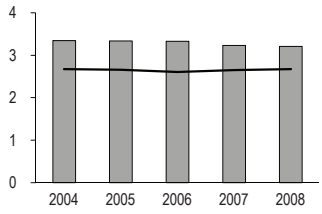
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Hickory	$19.96	$18.29	$18.68	$17.82	$20.36
Average	$17.90	$17.55	$17.45	$18.52	$18.54

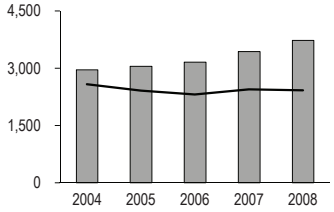
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	3.34	3.34	3.33	3.23	3.21
Average	2.67	2.66	2.61	2.66	2.67

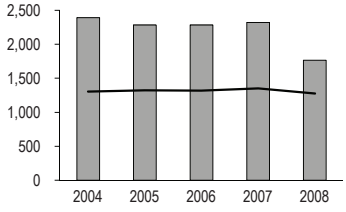
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	2,958	3,051	3,162	3,436	3,726
Average	2,579	2,412	2,310	2,441	2,422

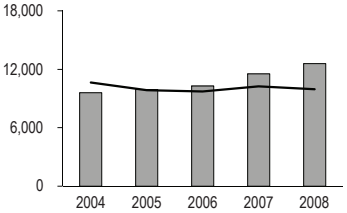
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	2,390	2,285	2,283	2,319	1,765
Average	1,307	1,323	1,319	1,354	1,276

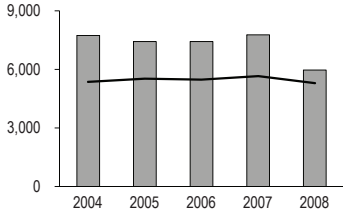
EFFICIENCY Measures

Calls Answered per Telecomunicator



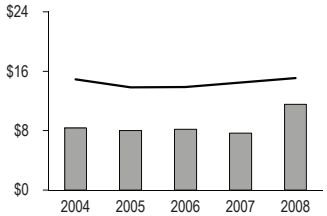
	2004	2005	2006	2007	2008
Hickory	9,583	9,910	10,280	11,515	12,583
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Hickory	7,744	7,422	7,422	7,771	5,959
Average	5,347	5,527	5,479	5,658	5,288

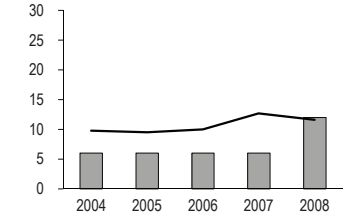
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Hickory	$8.35	$8.00	$8.18	$7.68	$11.54
Average	$14.89	$13.81	$13.84	$14.48	$15.08

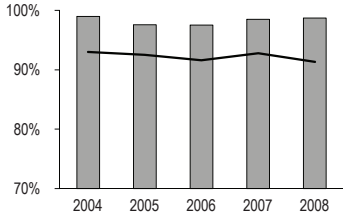
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



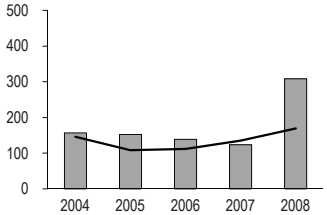
	2004	2005	2006	2007	2008
Hickory	6	6	6	6	12
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Hickory	99%	98%	98%	98%	99%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Hickory	157	152	139	124	308
Average	146	108	112	135	169

Hickory

MUNICIPAL PROFILE

Population (OSBM 2007)	40,522
Land Area (Square Miles)	29.10
Persons per Square Mile	1,393
County	Catawba
Median Family Income (US Census 2000)	$47,522
Unemployment Rate (ESC-07)	5.5%
Population Growth (OMB 2000–2007)	8.9%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		80.4%
Operating Costs		17.4%
Capital Costs		2.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	663,761
Operating Costs	$	143,671
Capital Costs	$	17,637
TOTAL	$	825,069

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	12.0
Other	1.0
Total Incoming Calls	150,991
Total 911 Calls	13,598
Total Calls Dispatched	71,510
E-911 Fee	Yes
Revenue from Fee	NA

EXPLANATORY INFORMATION

Service Level and Delivery

Hickory's emergency communications center is a secondary public safety answering point, with Catawba County being the primary answering point. Catwaba County initially receives all 911 calls and dispatches fire and EMS calls inside the city limits. All 911 calls for police services are transferred to the emergency communications center for dispatch. Any emergency calls for other city services are transferred to the emergency communications center between 3:30 p.m. and 7:00 a.m.

The city owns its communications system and infrastructure. It uses an Ericson 800 MHz radio system. There is one 1,350-foot tower and antennas at two other sites. The system serves approximately 200 users in five city departments.

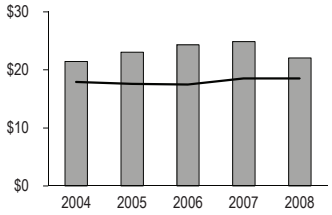
Hickory's center handled a total of 150,991 calls in FY 2007–08, dispatching 71,510 of them.

All of the money collected by the monthly fee assessed for E-911 calls goes directly to Catawba County.

Conditions Affecting Service, Performance, and Costs

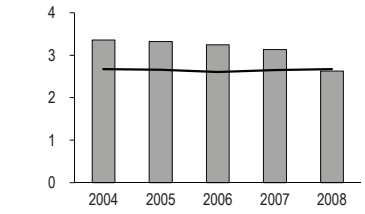
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
High Point	$21.48	$23.07	$24.32	$24.86	$22.08
Average	$17.90	$17.55	$17.45	$18.52	$18.54

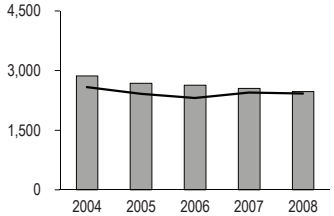
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	3.36	3.32	3.24	3.14	2.63
Average	2.67	2.66	2.61	2.66	2.67

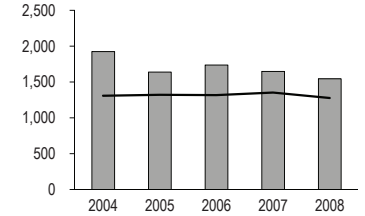
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
High Point	2,865	2,684	2,636	2,552	2,471
Average	2,579	2,412	2,310	2,441	2,422

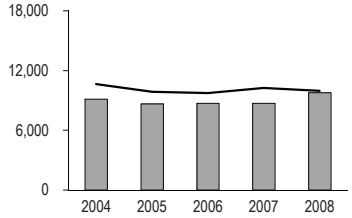
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
High Point	1,922	1,636	1,737	1,647	1,543
Average	1,307	1,323	1,319	1,354	1,276

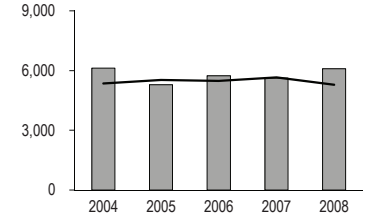
EFFICIENCY Measures

Calls Answered per Telecomunicator



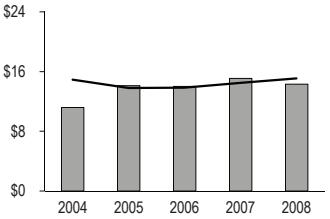
	2004	2005	2006	2007	2008
High Point	9,128	8,661	8,707	8,718	9,764
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
High Point	6,122	5,281	5,739	5,624	6,099
Average	5,347	5,527	5,479	5,658	5,288

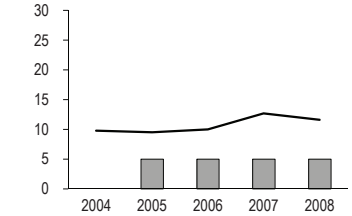
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
High Point	$11.18	$14.10	$14.00	$15.10	$14.31
Average	$14.89	$13.81	$13.84	$14.48	$15.08

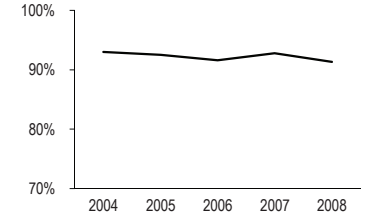
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



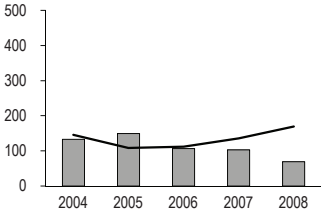
	2004	2005	2006	2007	2008
High Point		5	5	5	5
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
High Point					
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
High Point	133	149	107	103	69
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
County	Guilford
Median Family Income (US Census 2000)	$48,057
Unemployment Rate (ESC-07)	4.7%
Population Growth (OMB 2000–2007)	15.1%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		88.0%
Operating Costs		10.9%
Capital Costs		1.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,921,071
Operating Costs	$	236,863
Capital Costs	$	24,146
TOTAL	$	2,182,080

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	25.0
Other	1.0
Total Incoming Calls	244,102
Total 911 Calls	86,853
Total Calls Dispatched	152,466
E-911 Fee	$0.30
Monthly Wireless Fee	$1.00
Revenue from Fee	$394,569

EXPLANATORY INFORMATION

Service Level and Delivery
High Point's emergency communications center is a civilian-staffed and city-managed department. The center functions as a primary public safety answering point (PSAP), dispatching all police and fire calls within the city; medical calls are routed to Guilford County EMS.

The center has ten consoles, seven of which are dispatch positions. Operations are conducted by four teams of five telecommunicators and a supervisor. All telecommunicators are cross-trained in fire and police dispatch and function as call-takers and dispatchers. Personnel assigned to the center work rotating twelve-hour shifts.

The City of High Point owns its communications infrastructure. Communications utilizes an 800 MHz radio system that implements analog and digital talk groups. The city uses a Motorola SmartNet system with three towers. The city charges a $0.30 E-911 fee to offset costs. The city also charges a $1 monthly fee for wireless phones.

High Point's center handled a total of 244,102 calls in FY 2007–08, dispatching 152,466 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.

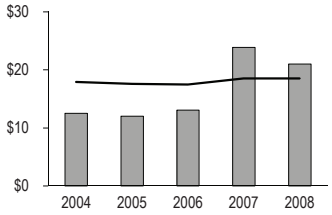
Conditions Affecting Service, Performance, and Costs
High Point was unable to provide data on certain measures given a change in technology.

High Point made a concentrated effort to reduce the time from the start of CAD entry to dispatch in FY 2007–08, including review of their performance at the end of each day. Additionally, there were several new employees in the prior year and as they have become more experienced they have become more proficient.

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

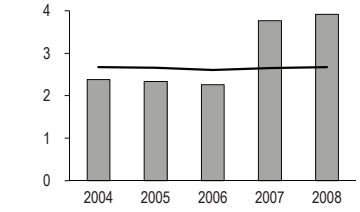
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Matthews	$12.51	$12.02	$13.05	$23.86	$20.99
Average	$17.90	$17.55	$17.45	$18.52	$18.54

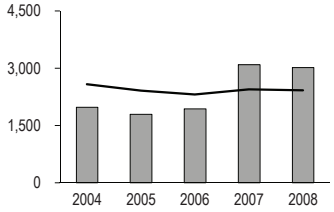
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Matthews	2.38	2.33	2.26	3.77	3.92
Average	2.67	2.66	2.61	2.66	2.67

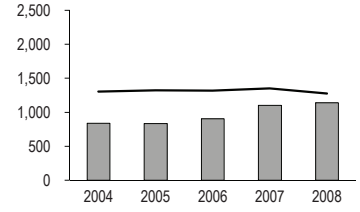
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	1,974	1,789	1,937	3,093	3,014
Average	2,579	2,412	2,310	2,441	2,422

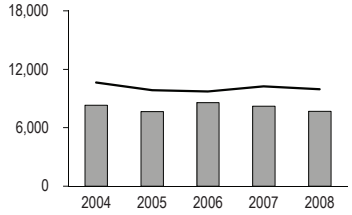
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	840	834	903	1,102	1,138
Average	1,307	1,323	1,319	1,354	1,276

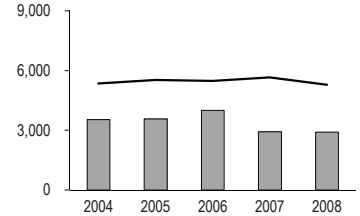
EFFICIENCY Measures

Calls Answered per Telecomunicator



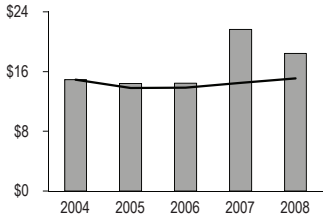
	2004	2005	2006	2007	2008
Matthews	8,300	7,665	8,570	8,213	7,692
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Matthews	3,532	3,574	3,996	2,925	2,905
Average	5,347	5,527	5,479	5,658	5,288

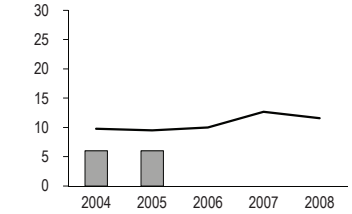
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Matthews	$14.90	$14.41	$14.45	$21.66	$18.44
Average	$14.89	$13.81	$13.84	$14.48	$15.08

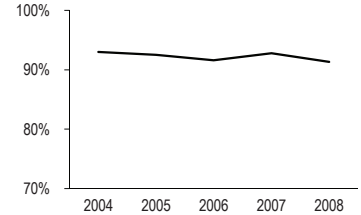
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



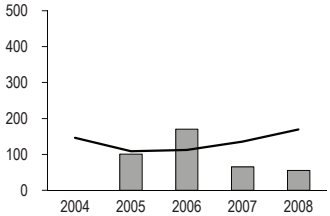
	2004	2005	2006	2007	2008
Matthews	6	6			
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Matthews					
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Matthews		101	170	65	55
Average	146	108	112	135	169

Matthews

MUNICIPAL PROFILE

Population (OSBM 2007)	28,072
Land Area (Square Miles)	16.63
Persons per Square Mile	1,688
County	Mecklenburg
Median Family Income (US Census 2000)	$75,791
Unemployment Rate (ESC-07)	4.5%
Population Growth (OMB 2000–2007)	26.9%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.7%
Operating Costs		20.3%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	469,785
Operating Costs	$	119,330
Capital Costs	$	-
TOTAL	$	589,115

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	11.0
Other	0.0
Total Incoming Calls	84,612
Total 911 Calls	NA
Total Calls Dispatched	31,954
E-911 Fee	Yes
Revenue from Fee	NA

EXPLANATORY INFORMATION

Service Level and Delivery
While the Town of Matthews does not possess its own E-911 center, the police department does maintain a full-service emergency communications center. The majority of calls are direct-dialed. Other calls are forwarded by the county's E-911 center. Fire and medical calls are transferred to the county dispatch center. All personnel serve as call-takers and complete data entry for service calls. The center is staffed twenty-four hours a day by two call-takers, with three call-takers scheduled during peak hours.

The emergency communications infrastructure is owned by the City of Charlotte. It is an 800 MHz trunking system, with one tower located adjacent to the Matthews police department. The town contracts for the use of the infrastructure through a user fee based on the number of active radios. While there is a E-911 monthly fee charged for phone users, all of the revenue goes to Mecklenburg County.

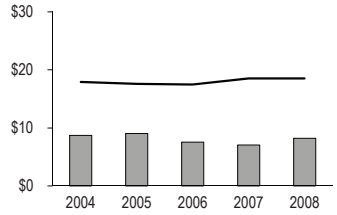
Matthews' center handled 84,612 calls in FY 2007–08, dispatching 31,954 calls. The city defines high priority emergency calls as incidents or crimes in progress that present the imminent danger or potential of injury to persons.

Conditions Affecting Service, Performance, and Costs
Matthews was unable to provide data on some of the effectiveness measures given the structure of its database.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

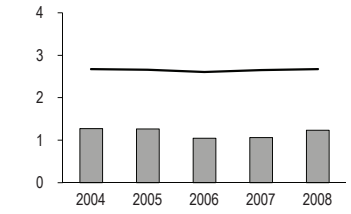
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Raleigh	$8.72	$9.02	$7.54	$7.05	$8.24
Average	$17.90	$17.55	$17.45	$18.52	$18.54

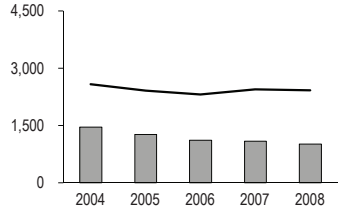
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	1.27	1.26	1.05	1.06	1.24
Average	2.67	2.66	2.61	2.66	2.67

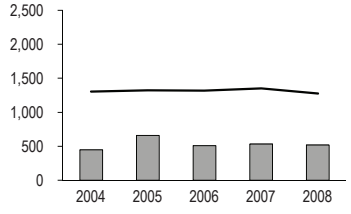
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	1,455	1,263	1,114	1,087	1,013
Average	2,579	2,412	2,310	2,441	2,422

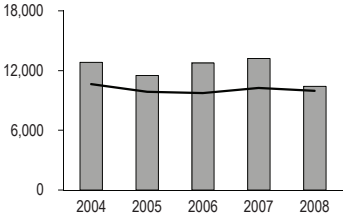
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	446	660	507	534	517
Average	1,307	1,323	1,319	1,354	1,276

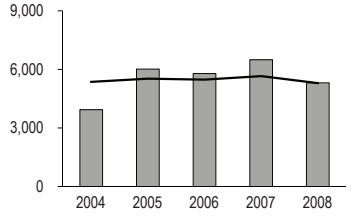
EFFICIENCY Measures

Calls Answered per Telecomunicator



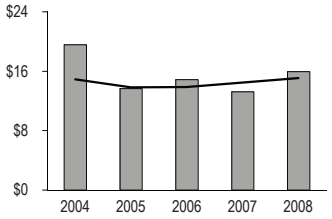
	2004	2005	2006	2007	2008
Raleigh	12,840	11,507	12,748	13,213	10,412
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Raleigh	3,934	6,016	5,795	6,485	5,311
Average	5,347	5,527	5,479	5,658	5,288

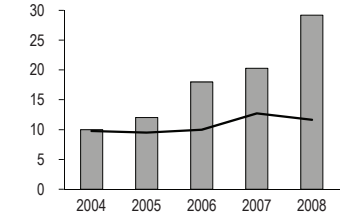
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Raleigh	$19.56	$13.67	$14.88	$13.21	$15.94
Average	$14.89	$13.81	$13.84	$14.48	$15.08

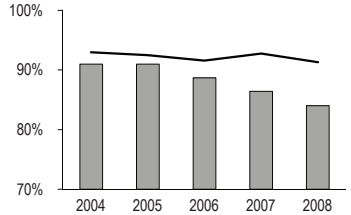
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



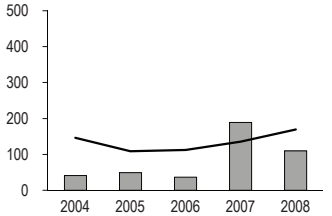
	2004	2005	2006	2007	2008
Raleigh	10	12	18	20	29
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Raleigh	91%	91%	89%	86%	84%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Raleigh	41	49	37	189	110
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	832,590
Land Area (Square Miles)	831.92
Persons per Square Mile	1,001
County	Wake
Median Family Income (US Census 2000)	$60,003
Unemployment Rate (ESC-07)	3.4%
Population Growth (OMB 2000–2007)	33.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.5%
Operating Costs		20.9%
Capital Costs		3.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,180,124
Operating Costs	$	1,432,620
Capital Costs	$	245,138
TOTAL	$	6,857,882

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	81.0
Other	22.0
Total Incoming Calls	843,343
Total 911 Calls	523,184
Total Calls Dispatched	430,169
E-911 Fee	$0.70
Revenue from Fee	$945,000

EXPLANATORY INFORMATION

Service Level and Delivery
The emergency communications center is a separate entity from the police department and is a city-managed operation. The center provides dispatch services for fifty-one law enforcement, fire, EMS, and rescue agencies in Wake County. All 911 calls throughout Wake County, with the exception of Cary, are received by the center and are processed by both call-takers and telecommunicators. Although calls are answered for the sheriff's department, they are transferred to the sheriff's communications center.

All agencies in Wake County are served by the ECC using an 800 MHz system. The center can communicate on 800 MHz with surrounding public safety agencies through an agreement with those agencies.

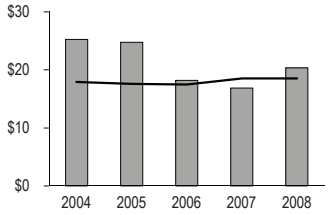
Raleigh's center handled 843,343 calls in FY 2007–08, dispatching 430,169 of them. The city defines highest priority emergency calls as in-progress incidents that may or may not be life threatening but could cause serious injury or severe damage if an immediate dispatch is not accomplished.

Conditions Affecting Service, Performance, and Costs
The system used by Raleigh automatically begins CAD entry upon answer of the calls so the performance measure "average processing time from call answer to CAD entry" is not applicable.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

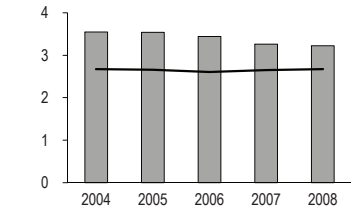
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Salisbury	$25.23	$24.78	$18.20	$16.89	$20.33
Average	$17.90	$17.55	$17.45	$18.52	$18.54

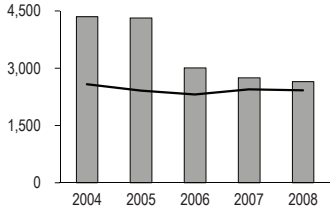
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	3.55	3.54	3.44	3.26	3.22
Average	2.67	2.66	2.61	2.66	2.67

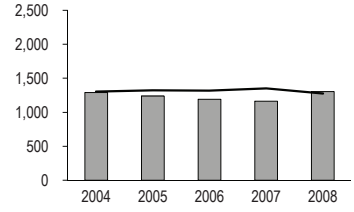
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	4,349	4,312	3,011	2,747	2,649
Average	2,579	2,412	2,310	2,441	2,422

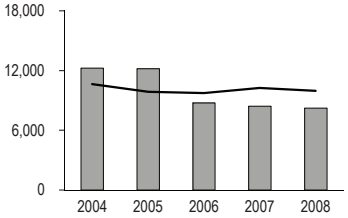
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	1,289	1,237	1,189	1,162	1,303
Average	1,307	1,323	1,319	1,354	1,276

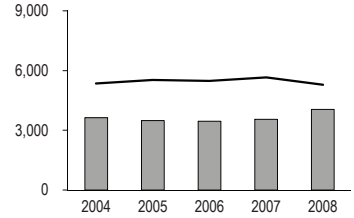
EFFICIENCY Measures

Calls Answered per Telecomunicator



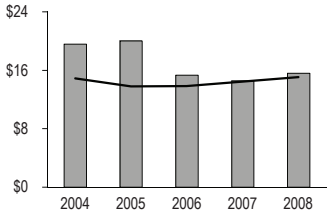
	2004	2005	2006	2007	2008
Salisbury	12,245	12,167	8,748	8,414	8,219
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Salisbury	3,629	3,490	3,456	3,559	4,042
Average	5,347	5,527	5,479	5,658	5,288

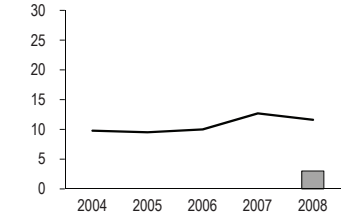
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Salisbury	$19.58	$20.03	$15.31	$14.54	$15.61
Average	$14.89	$13.81	$13.84	$14.48	$15.08

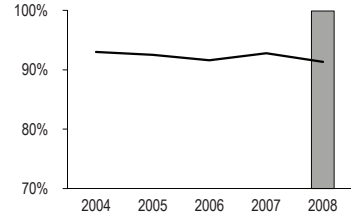
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



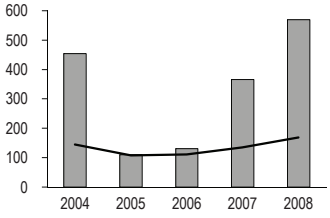
	2004	2005	2006	2007	2008
Salisbury					3
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Salisbury					100%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Salisbury	454	110	131	365	570
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
County	Rowan
Median Family Income (US Census 2000)	$41,108
Unemployment Rate (ESC-07)	5.9%
Population Growth (OMB 2000–2007)	17.2%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.3%
Operating Costs		26.4%
Capital Costs		3.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	443,609
Operating Costs	$	166,722
Capital Costs	$	20,510
TOTAL	$	630,841

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	10.0
Other	0.0
Total Incoming Calls	82,186
Total 911 Calls	14,839
Total Calls Dispatched	40,422
E-911 Fee	Yes
Revenue from Fee	NA

EXPLANATORY INFORMATION

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 82,186 for FY 2007–08, dispatching 40,422 of them. The city defines highest priority emergency calls as crimes in progress and calls involving injury or imminent injury to a person.

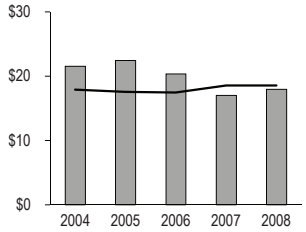
Conditions Affecting Service, Performance, and Costs
Salisbury was unable to provide data for some of the effectiveness measures given the structure of its database.

The money collected from the E-911 fee in Salisbury all goes to Rowan County.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

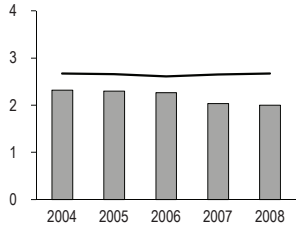
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007	2008
Winston-Salem	$21.52	$22.42	$20.36	$17.03	$17.97
Average	$17.90	$17.55	$17.45	$18.52	$18.54

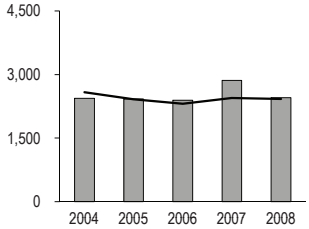
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	2.32	2.30	2.27	2.04	2.00
Average	2.67	2.66	2.61	2.66	2.67

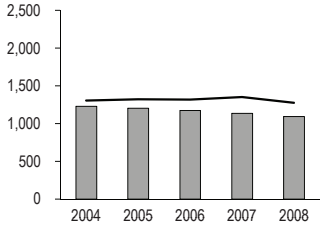
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	2,437	2,424	2,390	2,858	2,450
Average	2,579	2,412	2,310	2,441	2,422

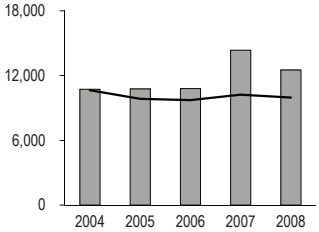
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	1,228	1,205	1,174	1,135	1,094
Average	1,307	1,323	1,319	1,354	1,276

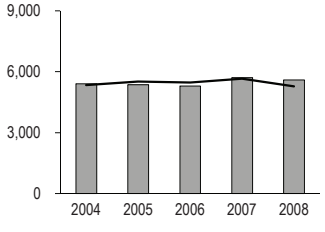
EFFICIENCY Measures

Calls Answered per Telecomunicator



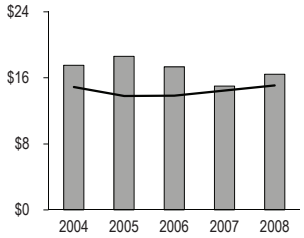
	2004	2005	2006	2007	2008
Winston-Salem	10,740	10,773	10,789	14,357	12,523
Average	10,652	9,861	9,732	10,246	9,958

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007	2008
Winston-Salem	5,411	5,355	5,299	5,703	5,590
Average	5,347	5,527	5,479	5,658	5,288

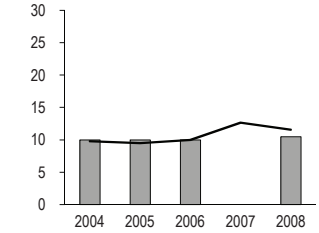
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007	2008
Winston-Salem	$17.53	$18.61	$17.34	$15.00	$16.43
Average	$14.89	$13.81	$13.84	$14.48	$15.08

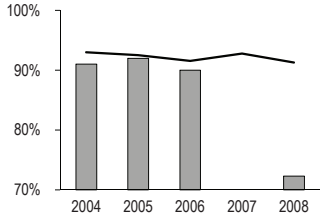
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



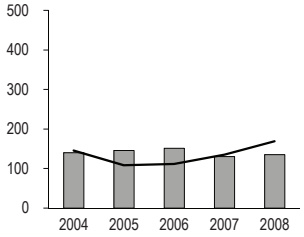
	2004	2005	2006	2007	2008
Winston-Salem	10	10	10		11
Average	10	10	10	13	12

Percent of Calls Answered within Three Rings



	2004	2005	2006	2007	2008
Winston-Salem	91%	92%	90%		72%
Average	93%	93%	92%	93%	91%

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007	2008
Winston-Salem	140	146	151	130	135
Average	146	108	112	135	169

MUNICIPAL PROFILE

Population (OSBM 2007)	224,889
Land Area (Square Miles)	132.45
Persons per Square Mile	1,698
County	Forsyth
Median Family Income (US Census 2000)	$46,595
Unemployment Rate (ESC-07)	4.4%
Population Growth (OMB 2000–2007)	21.1%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.6%
Operating Costs		21.0%
Capital Costs		2.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,096,260
Operating Costs	$	847,609
Capital Costs	$	97,275
TOTAL	$	4,041,144

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-Takers	44.0
Other	1.0
Total Incoming Calls	551,014
Total E-911 Calls	220,855
Total Calls Dispatched	245,944
E-911 Fee	$0.60
Revenue from Fee	$929,071

EXPLANATORY INFORMATION

Service Level and Delivery

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.

The city owns the infrastructure but contracts with local vendors to provide telecommuncations service. The City of Winston-Salem and Forsyth County implemented a voice radio system in October 2004. The Motoroloa ASTRO 800 MHz Trunked Simulcast system is made up of eight tower sites utilizing fifteen channels. The Winston-Salem Police Department uses a nontrunked 800 MHz system for the mobile data system with one transmitter site using three channels.

Winston-Salem's center handled a total of 551,014 calls in FY 2007–08, dispatching 245,944 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.

Conditions Affecting Service, Performance, and Costs

For FY 2006–07, Winston-Salem was not able to report the percentage of calls answered within three rings. There was a switching system discrepancy in the phone system that added an additional seven to ten seconds to the call wait time before the call even rang into the emergency communications center. As a result, the city was not able to gather valid electronic information from the system. An upgrade to the phone system was made in August 2007 which should resolve this problem for future reporting.

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

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

FY 2007-08

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	68,446	12.2	9,457	2.5	61	19.7
Burlington	511.9	41,640	98.1	60,447	1.5	15	16.5
Carrboro	77.6	7,937	0.0	0	1.50	15	0.7
Cary	827.5	103,204	14.2	7,950	1.25	15	13.0
Charlotte	4910.0	533,000	308.3	167,899	2.0 (city) 1.0 (contractor)	17	133.0
Concord	651.2	62,679	22.0	16,029	1.5	29	9.1
Durham	1731.9	162,490	5.9	3,180	1.5	46	54.0
Gastonia	1172.0	87,036	8.6	2,535	1.5	78	11.5
Greensboro	3543.0	198,430	39.9	15,731	1.25	35	53.0
Hickory	719.2	31,430	14.1	8,228	1.5	64	7.0
High Point	1471.0	59,893	39.9	19,027	1.25	28	17.2
Matthews	189.7	22,835	13.0	7,691	1.5	20	6.5
Salisbury	339.6	24,159	10.5	15,382	1.5	15	10.0
Wilmington	746.0	109,301	16.1	10,516	1.5 to 2.0	20	21.0
Wilson	450.0	39,000	1.9	944	1.5	35	5.0
Winston-Salem	2177.8	177,057	55.8	33,409	1.5	52	42.6

NOTES

EXPLANATORY FACTORS

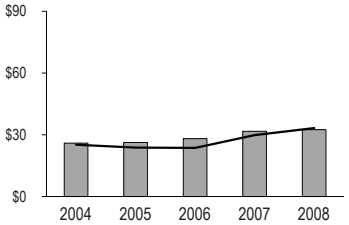
These are factors that the project found to affect asphalt maintenance and repair performance and cost in one or more of the municipalities:

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

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

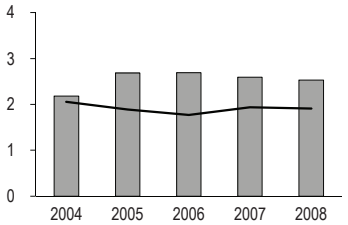
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



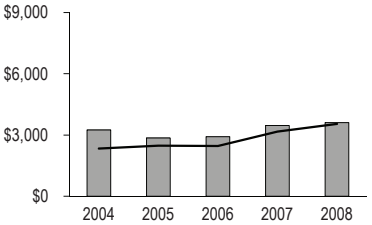
	2004	2005	2006	2007	2008
Asheville	$25.88	$26.32	$28.18	$31.68	$32.48
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	2.18	2.68	2.69	2.59	2.53
Average	2.06	1.89	1.77	1.94	1.91

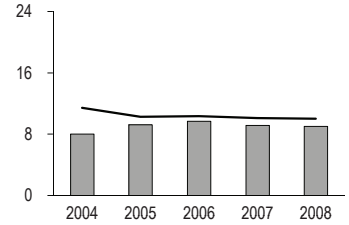
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Asheville	$3,244	$2,858	$2,910	$3,465	$3,600
Average	$2,335	$2,476	$2,460	$3,169	$3,549

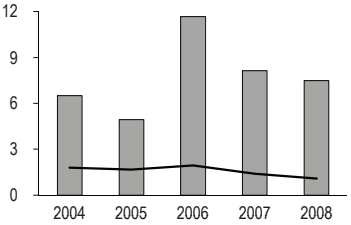
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	8.0	9.2	9.7	9.1	9.0
Average	11.4	10.3	10.4	10.1	10.0

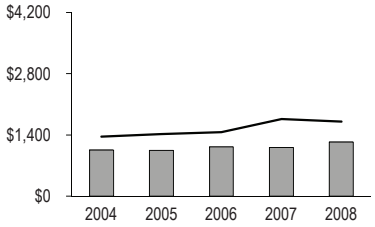
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Asheville	6.50	4.93	11.66	8.12	7.48
Average	1.82	1.68	1.95	1.42	1.09

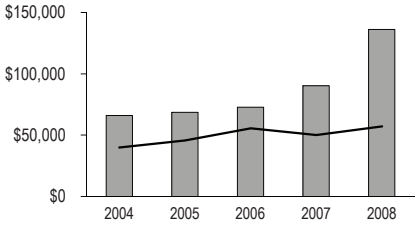
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



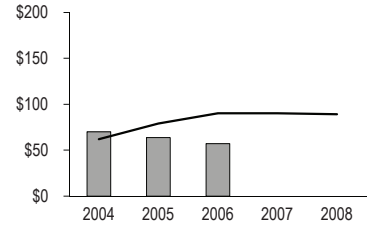
	2004	2005	2006	2007	2008
Asheville	$1,050	$1,047	$1,130	$1,112	$1,235
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Asheville	$66,056	$68,562	$72,848	$90,259	$136,074
Average	$39,930	$45,562	$55,509	$50,039	$57,196

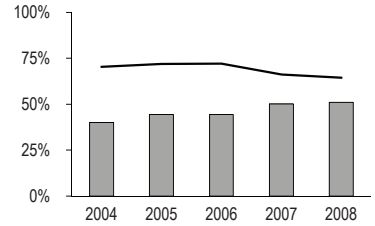
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Asheville	$70	$64	$57		
Average	$62	$79	$90	$90	$89

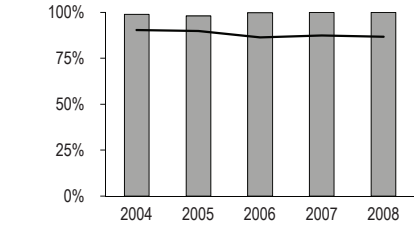
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Asheville	40%	44%	44%	50%	51%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Asheville	99%	98%	100%	100%	100%
Average	90%	90%	86%	87%	87%

Asheville

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow
Median Family Income (US Census 2000)	$44,029

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		29.0%
Operating Costs		65.5%
Capital Costs		5.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	732,603
Operating Costs	$	1,655,616
Capital Costs	$	139,819
TOTAL	$	2,528,038

SERVICE PROFILE

FTE Positions—Crews	18.58
FTE Positions—Other	1.09
Lane Miles Maintained	702.2
Lane Miles Resurfaced—Contract	0.07
Lane Miles Resurfaced—City	12.138
Total	12.20
Tons of Asphalt Used—Resurfacing	
Contractor	74
City Crews	9,383
Cost of Repaving—Contract	$4,525
Cost of Repaving—City Crews	$1,656,125
Cost of Maintenance	$867,388
Registered Vehicles	68,446
Registered Vehicles/Square Mile	1,548

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Asheville was responsible for maintaining 702.2 lane miles during FY 2007–08. The city resurfaced 12.2 lane miles, equating to approximately 1.7 percent of total lane miles. A contractor resurfaced a small section of this total representing less than one-tenth of a mile while city crews did most of the work.

A total of 9,457 tons of asphalt was used, 9,383 tons by city crews and 74 tons by the contractor. The average resurfacing depth used was 2.5 inches by city crews.

The city reported that 50.2 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 2003.

The number of potholes reported for FY 2007–08 was 5,250. The percentage of potholes repaired within twenty-four hours was approximately 100 percent. The city reported a resurfacing cycle of approximately sixty-one years.

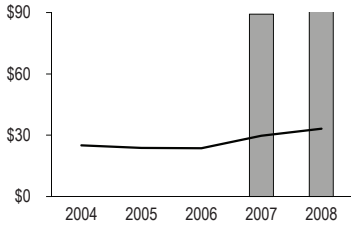
Conditions Affecting Service, Performance, and Costs
High asphalt prices kept costs high.

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.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

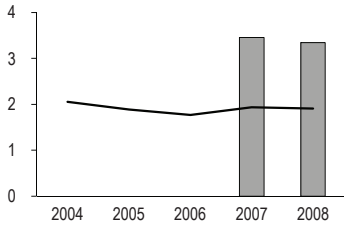
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



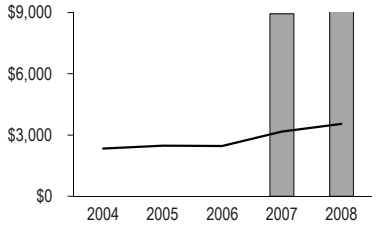
	2004	2005	2006	2007	2008
Burlington				$89.25	$124.96
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				3.46	3.34
Average	2.06	1.89	1.77	1.94	1.91

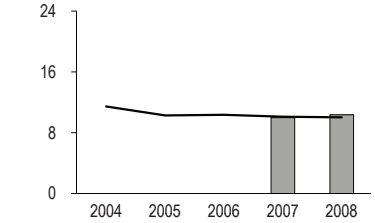
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Burlington				$8,946	$12,045
Average	$2,335	$2,476	$2,460	$3,169	$3,549

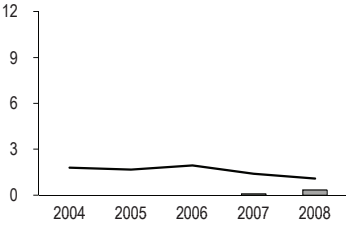
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				10.0	10.4
Average	11.4	10.3	10.4	10.1	10.0

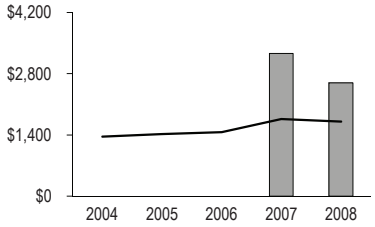
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Burlington				0.08	0.34
Average	1.82	1.68	1.95	1.42	1.09

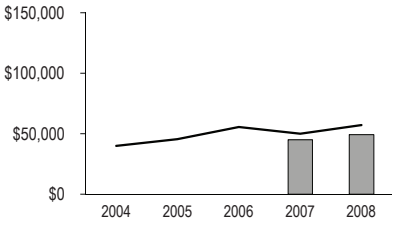
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



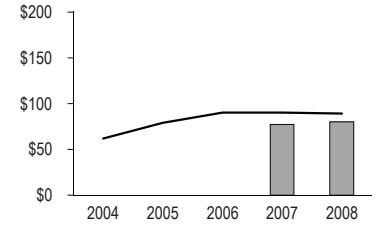
	2004	2005	2006	2007	2008
Burlington				$3,263	$2,590
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Burlington				$44,842	$49,336
Average	$39,930	$45,562	$55,509	$50,039	$57,196

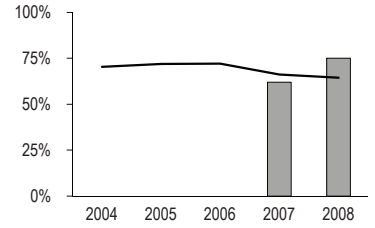
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Burlington				$77	$80
Average	$62	$79	$90	$90	$89

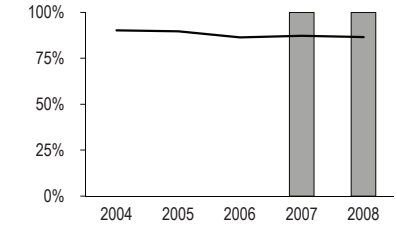
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Burlington				62%	75%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Burlington				100%	100%
Average	90%	90%	86%	87%	87%

Burlington

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
Topography	Flat; gently rolling
County	Alamance
Climate	Mild; little ice and snow
Median Family Income (US Census 2000)	$45,441

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		12.1%
Operating Costs		82.1%
Capital Costs		5.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	743,074
Operating Costs	$	5,064,568
Capital Costs	$	358,309
TOTAL	$	6,165,951

SERVICE PROFILE

FTE Positions—Crews	14.00
FTE Positions—Other	2.50
Lane Miles Maintained	511.9
Lane Miles Resurfaced—Contract	98.10
Lane Miles Resurfaced—City	0.00
Total	98.10
Tons of Asphalt Used—Resurfacing	
Contractor	60,447
City Crews	0
Cost of Repaving—Contract	$4,839,889
Cost of Repaving—City Crews	$0
Cost of Maintenance	$1,326,062
Registered Vehicles	41,640
Registered Vehicles/Square Mile	1,665

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Burlington was responsible for maintaining 511.9 lane miles during FY 2007–08. The city resurfaced a total of 98.1 lanes miles, equating to approximately 19.2 percent of total lane miles. The city is in the second year of a three-year $9.3 million transportation improvement bond passed in November 2005, with a signficant commitment to resurfacing of city streets.

All of the 98.1 lane miles resurfaced were done by contractors. A total of 60,447 tons of asphalt was used during the fiscal year for resurfacing projects. The average resurfacing depth used by contractors was 1.50 inches.

The city reported that 75 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 2006.

The city reported a resurfacing cycle of fifteen years.

The city reported a total of 176 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.

Conditions Affecting Service, Performance, and Costs

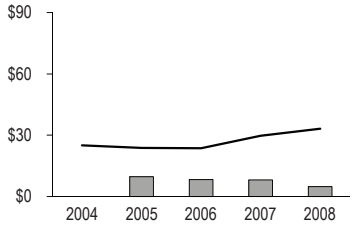
The City of Burlington began participation in the benchmarking project in 2007 with its first reporting data for FY 2006–07.

In addition to the resurfacing work being done as part of the transportation improvement bond, Burlington also performed an increased amount of patching in preparation for the contracted resurfacing projects.

Key: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

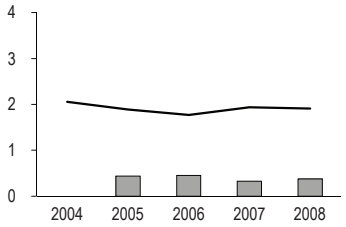
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



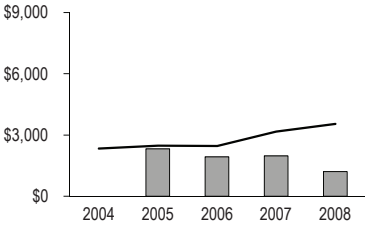
	2004	2005	2006	2007	2008
Carrboro		$9.77	$8.37	$8.21	$4.86
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		0.44	0.46	0.33	0.38
Average	2.06	1.89	1.77	1.94	1.91

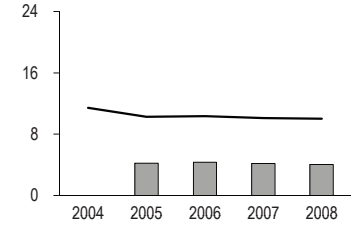
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Carrboro		$2,313	$1,925	$1,973	$1,202
Average	$2,335	$2,476	$2,460	$3,169	$3,549

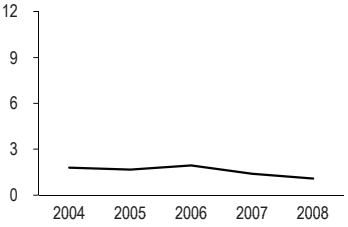
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Carrboro		4.2	4.3	4.2	4.0
Average	11.4	10.3	10.4	10.1	10.0

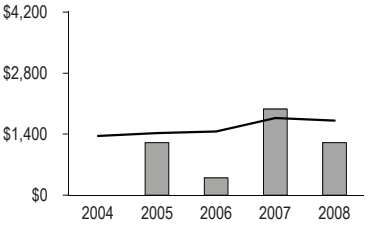
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Carrboro					
Average	1.82	1.68	1.95	1.42	1.09

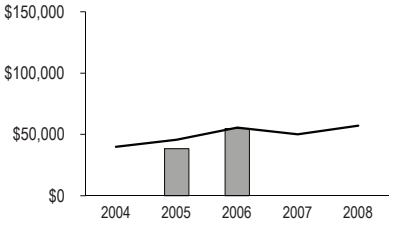
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



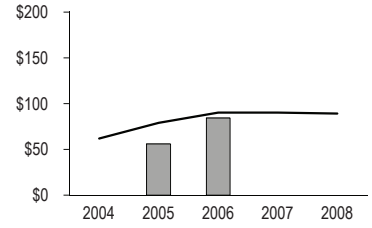
	2004	2005	2006	2007	2008
Carrboro		$1,202	$399	$1,973	$1,202
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Carrboro		$38,331	$54,669		
Average	$39,930	$45,562	$55,509	$50,039	$57,196

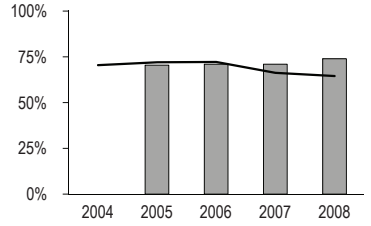
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Carrboro		$56	$84		
Average	$62	$79	$90	$90	$89

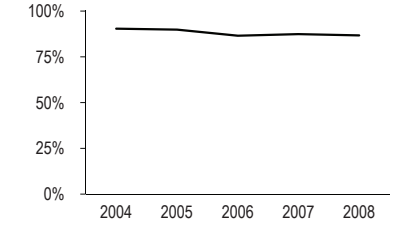
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Carrboro		71%	71%	71%	74%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Carrboro					
Average	90%	90%	86%	87%	87%

Carrboro

MUNICIPAL PROFILE

Population (OSBM 2007)	19,178
Land Area (Square Miles)	6.33
Persons per Square Mile	3,030
Topography	Flat; gently rolling
County	Orange
Climate	Mild; little ice and snow
Median Family Income (US Census 2000)	$47,330

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		36.5%
Operating Costs		54.2%
Capital Costs		9.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	34,009
Operating Costs	$	50,563
Capital Costs	$	8,703
TOTAL	$	93,275

SERVICE PROFILE

FTE Positions—Crews	0.65
FTE Positions—Other	0.07
Lane Miles Maintained	77.6
Lane Miles Resurfaced—Contract	0.00
Lane Miles Resurfaced—City	0.00
Total	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	$93,275
Registered Vehicles	7,937
Registered Vehicles/Square Mile	1,254

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Carrboro was responsible for maintaining 77.6 lane miles during FY 2007–08.

The town reported that 74 percent of its street segments rated 85 percent or above on its most recent rating. The most recent study relied on USI Total Pavement Access and was conducted in 2008.

The town reported a resurfacing cycle of fifteen years.

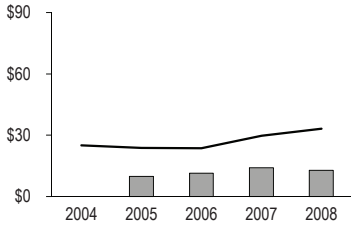
Potholes are prioritized by street classification and are addressed within forty-eight hours or sooner for severe conditions. The total number of potholes reported and repaired was not available.

Conditions Affecting Service, Performance, and Costs

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

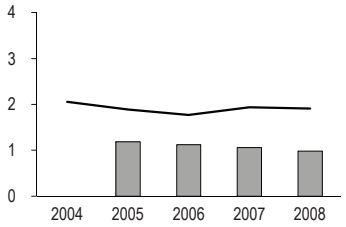
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



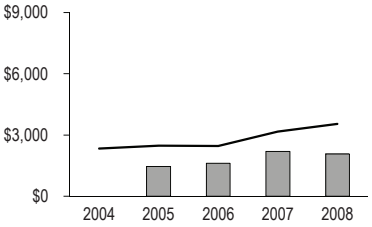
	2004	2005	2006	2007	2008
Cary		$9.83	$11.37	$14.15	$12.88
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary		1.18	1.12	1.06	0.98
Average	2.06	1.89	1.77	1.94	1.91

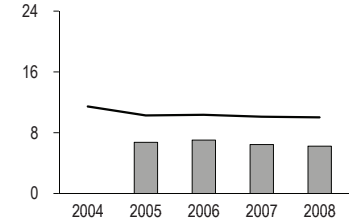
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Cary		$1,458	$1,618	$2,192	$2,065
Average	$2,335	$2,476	$2,460	$3,169	$3,549

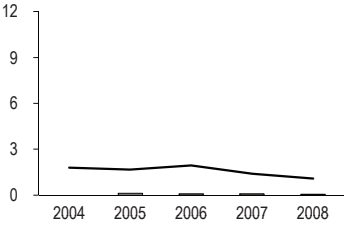
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Cary		6.7	7.0	6.5	6.2
Average	11.4	10.3	10.4	10.1	10.0

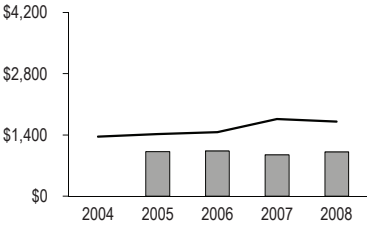
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Cary		0.12	0.08	0.08	0.06
Average	1.82	1.68	1.95	1.42	1.09

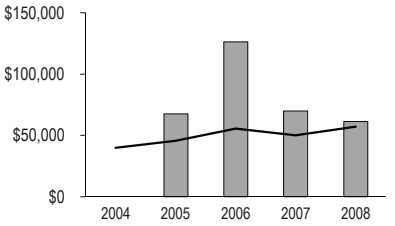
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



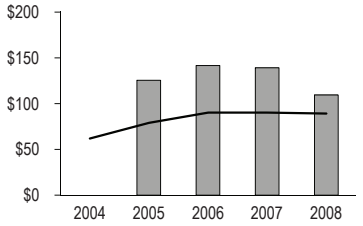
	2004	2005	2006	2007	2008
Cary		$1,021	$1,029	$945	$1,013
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Cary		$67,631	$126,20	$69,819	$61,268
Average	$39,930	$45,562	$55,509	$50,039	$57,196

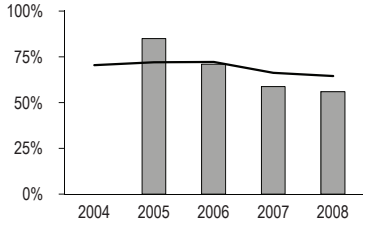
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Cary		$125	$142	$139	$109
Average	$62	$79	$90	$90	$89

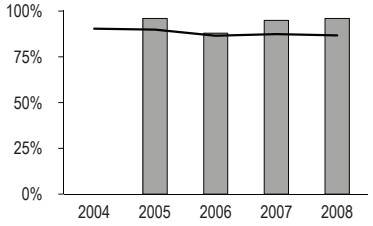
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Cary		85%	71%	59%	56%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Cary		96%	88%	95%	96%
Average	90%	90%	86%	87%	87%

Cary

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
Topography	Flat; gently rolling
County	Wake
Climate	Mild; little ice and snow
Median Family Income (US Census 2000)	$88,074

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		15.8%
Operating Costs		76.4%
Capital Costs		7.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	269,960
Operating Costs	$	1,304,672
Capital Costs	$	133,790
TOTAL	$	1,708,422

SERVICE PROFILE

FTE Positions—Crews	10.25
FTE Positions—Other	2.75
Lane Miles Maintained	827.5
Lane Miles Resurfaced—Contract	14.20
Lane Miles Resurfaced—City	0.00
Total	14.20
Tons of Asphalt Used—Resurfacing	
Contractor	7,950
City Crews	0
Cost of Repaving—Contract	$870,000
Cost of Repaving—City Crews	$0
Cost of Maintenance	$838,422
Registered Vehicles	103,204
Registered Vehicles/Square Mile	1,929

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Cary was responsible for maintaining 827.5 lane miles during FY 2007–08. Contractors resurfaced 14.2 lane miles, equating to approximately 1.7 percent of total lane miles.

A total of 7,950 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.

The town reported that 56.7 percent of its street segments rated 85 percent or above on its most recent rating. The most recent study relied on ITRE and was conducted in March 2008.

The number of potholes reported for FY 2007–08 was forty-six. The percentage of potholes repaired within twenty-four hours was 96 percent.

The town reported a resurfacing cycle of fifteen years.

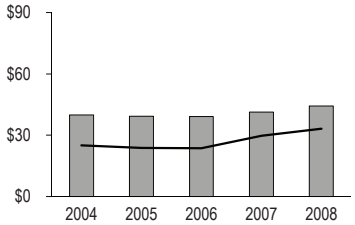
Conditions Affecting Service, Performance, and Costs

The rising price of oil increased the cost of asphalt used for resurfacing and repair work.

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2004 through 2008

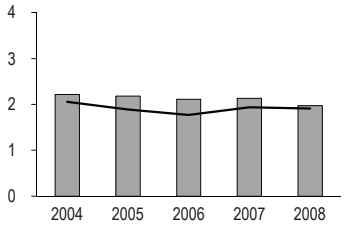
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



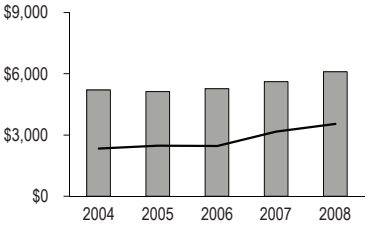
	2004	2005	2006	2007	2008
Charlotte	$39.93	$39.26	$39.17	$41.38	$44.37
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Charlotte	2.22	2.18	2.11	2.13	1.97
Average	2.06	1.89	1.77	1.94	1.91

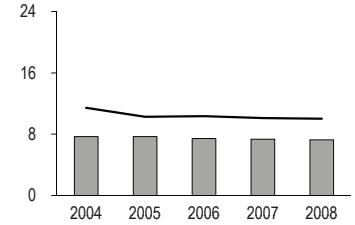
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Charlotte	$5,207	$5,121	$5,262	$5,618	$6,097
Average	$2,335	$2,476	$2,460	$3,169	$3,549

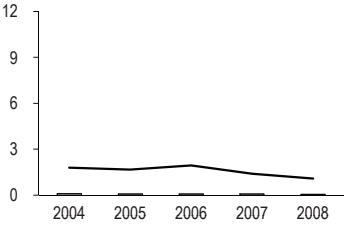
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Charlotte	7.7	7.7	7.4	7.4	7.3
Average	11.4	10.3	10.4	10.1	10.0

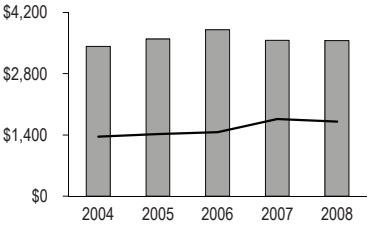
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Charlotte	0.10	0.08	0.08	0.07	0.06
Average	1.82	1.68	1.95	1.42	1.09

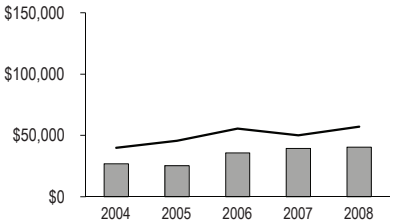
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



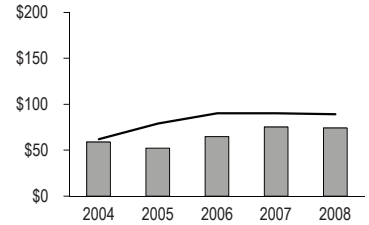
	2004	2005	2006	2007	2008
Charlotte	$3,425	$3,589	$3,803	$3,560	$3,555
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Charlotte	$26,925	$25,277	$35,722	$39,401	$40,495
Average	$39,930	$45,562	$55,509	$50,039	$57,196

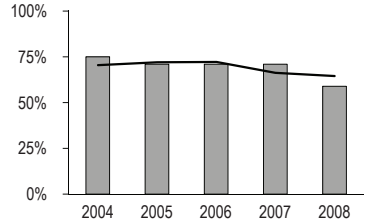
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Charlotte	$59	$52	$65	$75	$74
Average	$62	$79	$90	$90	$89

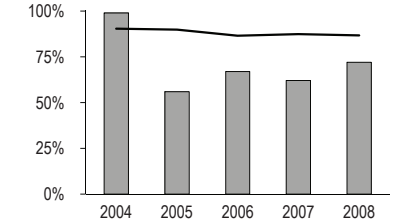
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Charlotte	75%	71%	71%	71%	59%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Charlotte	99%	56%	67%	62%	72%
Average	90%	90%	86%	87%	87%

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2007)	674,752
Land Area (Square Miles)	287.93
Persons per Square Mile	2,343
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$56,517

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		21.0%
Operating Costs		67.4%
Capital Costs		11.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,276,384
Operating Costs	$	20,187,361
Capital Costs	$	3,473,944
TOTAL	$	29,937,689

SERVICE PROFILE

FTE Positions—Crews	114.0
FTE Positions—Other	19.0
Lane Miles Maintained	4,910.0
Lane Miles Resurfaced—Contract	306.0
Lane Miles Resurfaced—City	2.3
Total	308.3
Tons of Asphalt Used—Resurfacing	
Contractor	166,900
City Crews	999
Cost of Repaving—Contract	$12,403,753
Cost of Repaving—City Crews	$78,833
Cost of Maintenance	$17,455,103
Registered Vehicles	533,000
Registered Vehicles/Square Mile	1,851

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Charlotte was responsible for maintaining 4,910 lane miles during FY 2007–08. The city resurfaced 308.25 lane miles, equating to approximately 6.3 percent of total lane miles.

A total of 167,899 tons of asphalt was used during the fiscal year for resurfacing, representing 999 tons used by the city and 166,900 tons used by contractors. The average resurfacing depth used was one inch by contractors and two inches by city crews.

The city reported that 59 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.

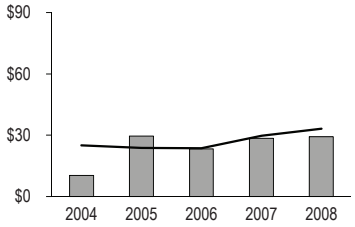
The number of potholes reported for FY 2007–08 was 288. The percentage of potholes repaired within twenty-four hours was 72 percent. The city reported a resurfacing cycle of seventeen years.

Conditions Affecting Service, Performance, and Costs

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

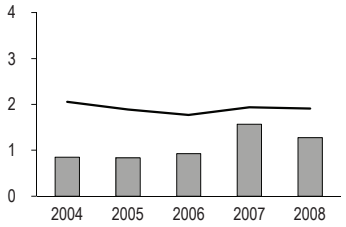
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



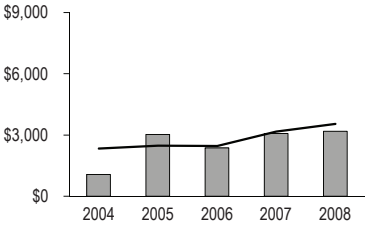
	2004	2005	2006	2007	2008
Concord	$10.34	$29.57	$23.39	$28.48	$29.21
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord	0.85	0.83	0.93	1.57	1.28
Average	2.06	1.89	1.77	1.94	1.91

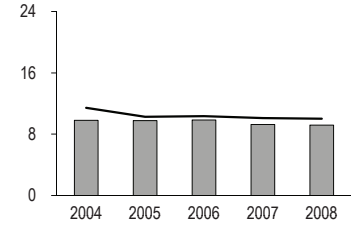
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Concord	$1,060	$3,024	$2,370	$3,073	$3,188
Average	$2,335	$2,476	$2,460	$3,169	$3,549

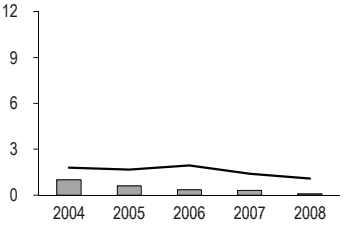
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Concord	9.8	9.8	9.9	9.3	9.2
Average	11.4	10.3	10.4	10.1	10.0

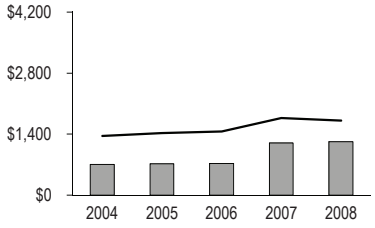
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Concord	1.00	0.61	0.36	0.31	0.09
Average	1.82	1.68	1.95	1.42	1.09

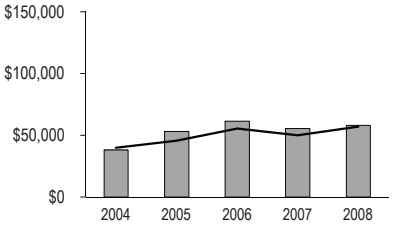
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



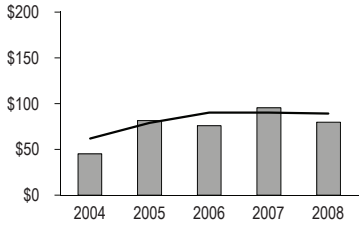
	2004	2005	2006	2007	2008
Concord	$707	$722	$725	$1,195	$1,226
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Concord	$38,196	$53,112	$61,428	$55,550	$58,029
Average	$39,930	$45,562	$55,509	$50,039	$57,196

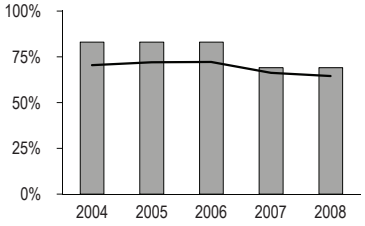
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Concord	$45	$81	$76	$96	$80
Average	$62	$79	$90	$90	$89

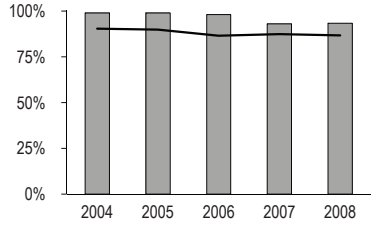
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Concord	83%	83%	83%	69%	69%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Concord	99%	99%	98%	93%	93%
Average	90%	90%	86%	87%	87%

Concord

MUNICIPAL PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
Topography	Flat; gently rolling
County	Cabarrus
Climate	Mild; some ice
Median Family Income (US Census 2000)	$53,571

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		20.6%
Operating Costs		73.6%
Capital Costs		5.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	426,848
Operating Costs	$	1,528,073
Capital Costs	$	121,316
TOTAL	$	2,076,237

SERVICE PROFILE

FTE Positions—Crews	7.20
FTE Positions—Other	1.88
Lane Miles Maintained	651.2
Lane Miles Resurfaced—Contract	22.02
Lane Miles Resurfaced—City	0.00
Total	22.02
Tons of Asphalt Used—Resurfacing	
Contractor	16,029
City Crews	0
Cost of Repaving—Contract	$1,277,798
Cost of Repaving—City Crews	$0
Cost of Maintenance	$798,439
Registered Vehicles	62,679
Registered Vehicles/Square Mile	1,059

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Concord was responsible for maintaining 6351.2 lane miles during FY 2007–08. The city resurfaced 22.02 lane miles, equating to 3.5 percent of total lane miles.

A total of 16,029 tons of asphalt was used during the fiscal year for resurfacing projects completed by contractors. The average resurfacing depth used was 1.5 inches.

The city reported that 69 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 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.

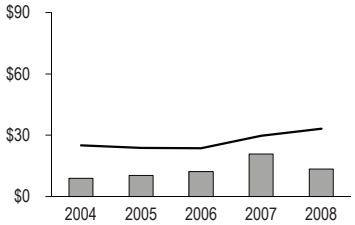
The number of potholes reported for FY 2007–08 was sixty, including those reported by citizens and the city. The percentage of potholes repaired within twenty-four hours was 93.3 percent. The city reported a resurfacing cycle of approximately twenty-nine years.

Conditions Affecting Service, Performance, and Costs
The costs associated with the maintenance and resurfacing are influenced by competition due to the location of three asphalt plants within the city limits.

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

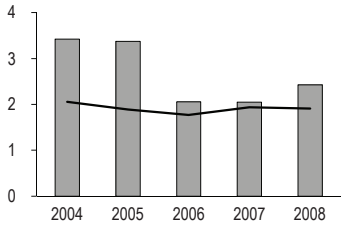
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



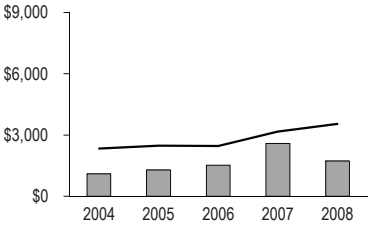
	2004	2005	2006	2007	2008
Durham	$8.89	$10.39	$12.20	$20.86	$13.44
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	3.42	3.37	2.06	2.05	2.43
Average	2.06	1.89	1.77	1.94	1.91

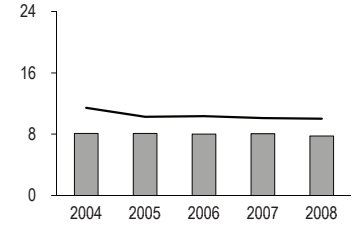
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Durham	$1,099	$1,284	$1,523	$2,590	$1,726
Average	$2,335	$2,476	$2,460	$3,169	$3,549

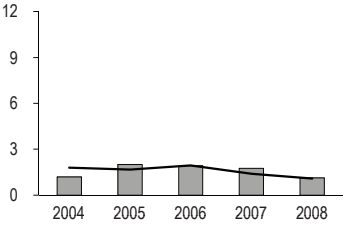
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Durham	8.1	8.1	8.0	8.1	7.8
Average	11.4	10.3	10.4	10.1	10.0

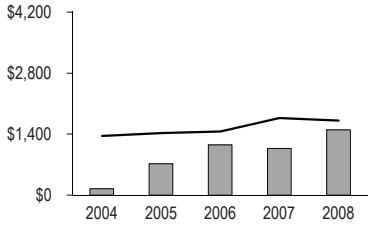
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Durham	1.20	2.01	1.91	1.75	1.14
Average	1.82	1.68	1.95	1.42	1.09

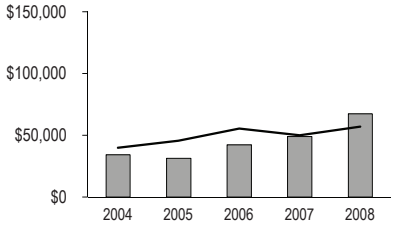
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



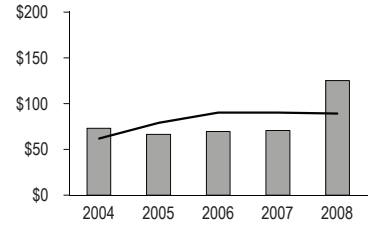
	2004	2005	2006	2007	2008
Durham	$146	$721	$1,154	$1,070	$1,497
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Durham	$34,079	$31,426	$42,125	$49,085	$67,376
Average	$39,930	$45,562	$55,509	$50,039	$57,196

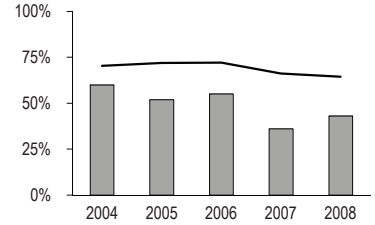
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Durham	$73	$66	$70	$71	$125
Average	$62	$79	$90	$90	$89

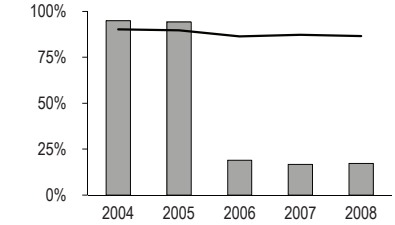
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Durham	60%	52%	55%	36%	43%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Durham	95%	94%	19%	17%	17%
Average	90%	90%	86%	87%	87%

Durham

MUNICIPAL PROFILE

Population (OSBM 2007)	222,491
Land Area (Square Miles)	105.50
Persons per Square Mile	2,109
Topography	Flat; gently rolling
County	Durham
Climate	Temperate; little ice and snow
Median Family Income (US Census 2000)	$51,162

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		37.1%
Operating Costs		38.7%
Capital Costs		24.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,109,308
Operating Costs	$	1,156,355
Capital Costs	$	723,846
TOTAL	$	2,989,509

SERVICE PROFILE

FTE Positions—Crews	47.0
FTE Positions—Other	7.0
Lane Miles Maintained	1,731.9
Lane Miles Resurfaced—Contract	5.90
Lane Miles Resurfaced—City	0.00
Total	5.90
Tons of Asphalt Used—Resurfacing	
Contractor	3,180
City Crews	0
Cost of Repaving—Contract	$397,518
Cost of Repaving—City Crews	$0
Cost of Maintenance	$2,591,991
Registered Vehicles	162,490
Registered Vehicles/Square Mile	1,540

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Durham was responsible for maintaining 1,731.9 lane miles during FY 2007–08, including 329.78 lane miles of state roads.

The city resurfaced 5.9 miles, equating to 0.3 percent of total lane miles. A total of 3,180 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.

The city reported that 43 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.

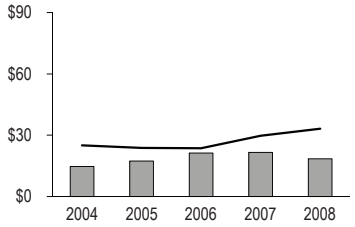
The number of potholes reported for FY 2007–08 was 1,972, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 17.3 percent. Durham reported a resurfacing cycle of forty-six years.

Conditions Affecting Service, Performance, and Costs

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

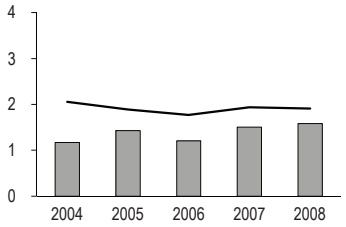
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



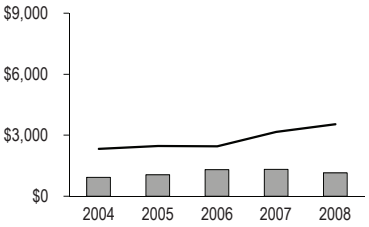
	2004	2005	2006	2007	2008
Gastonia	$14.65	$17.44	$21.24	$21.53	$18.49
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	1.17	1.43	1.21	1.50	1.58
Average	2.06	1.89	1.77	1.94	1.91

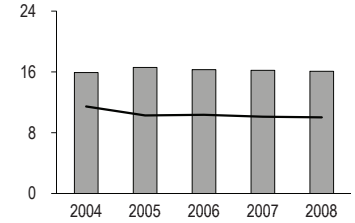
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Gastonia	$921	$1,051	$1,304	$1,327	$1,149
Average	$2,335	$2,476	$2,460	$3,169	$3,549

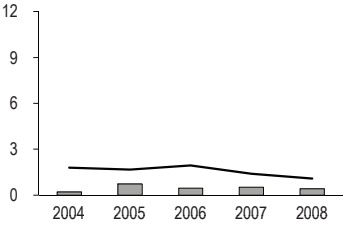
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	15.9	16.6	16.3	16.2	16.1
Average	11.4	10.3	10.4	10.1	10.0

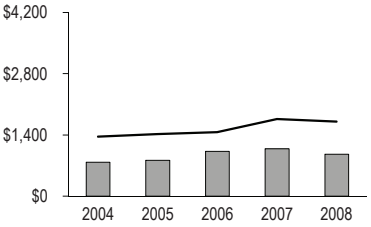
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Gastonia	0.20	0.74	0.46	0.52	0.43
Average	1.82	1.68	1.95	1.42	1.09

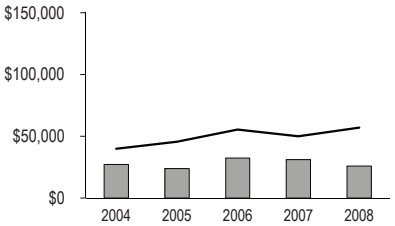
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



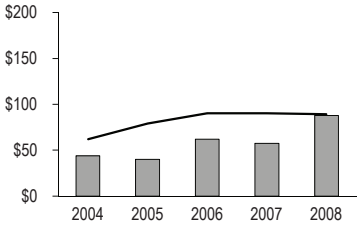
	2004	2005	2006	2007	2008
Gastonia	$777	$816	$1,026	$1,085	$959
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Gastonia	$27,078	$23,779	$32,433	$31,077	$25,904
Average	$39,930	$45,562	$55,509	$50,039	$57,196

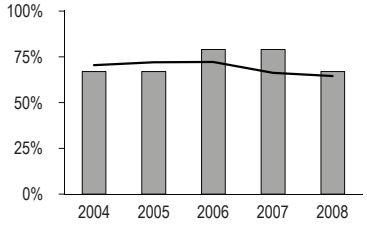
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Gastonia	$44	$40	$62	$58	$88
Average	$62	$79	$90	$90	$89

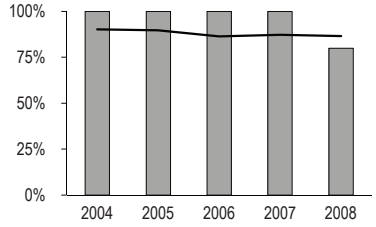
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Gastonia	67%	67%	79%	79%	67%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Gastonia	100%	100%	100%	100%	80%
Average	90%	90%	86%	87%	87%

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2007)	72,848
Land Area (Square Miles)	50.43
Persons per Square Mile	1,445
Topography	Flat; gently rolling
County	Gaston
Climate	Mild; some ice
Median Family Income (US Census 2000)	$44,873

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		35.1%
Operating Costs		52.6%
Capital Costs		12.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	472,723
Operating Costs	$	708,070
Capital Costs	$	165,965
TOTAL	$	1,346,758

SERVICE PROFILE

FTE Positions—Crews	11.0
FTE Positions—Other	0.5
Lane Miles Maintained	1,172.0
Lane Miles Resurfaced—Contract	8.60
Lane Miles Resurfaced—City	0.00
Total	8.60
Tons of Asphalt Used—Resurfacing	
Contractor	2,535
City Crews	0
Cost of Repaving—Contract	$222,771
Cost of Repaving—City Crews	$0
Cost of Maintenance	$1,123,987
Registered Vehicles	87,036
Registered Vehicles/Square Mile	1,726

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Gastonia is responsible for maintaining 1,172 lane miles, including 500 lane miles of state roads.

The city resurfaced 8.6 lane miles, equating to 0.7 percent of total lane miles. A total of 2,535 tons of asphalt was used by contractors during the fiscal year for resurfacing projects. The average resurfacing depth used by contractors was 1.5 inches.

The city reported that 67 percent of its street segments rated 85 percent or above on its most recent rating. The most recent study was conducted by ITRE in March 2006.

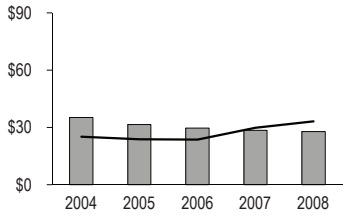
The number of potholes reported for FY 2007–08 was 499. Gastonia reported that 80 percent of potholes were repaired within twenty-four hours in FY 2007–08. This rate is based solely on those potholes reported by citizens and city crews as being road hazards and does not include routine patching of potholes that do not present such risk.

Conditions Affecting Service, Performance, and Costs

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

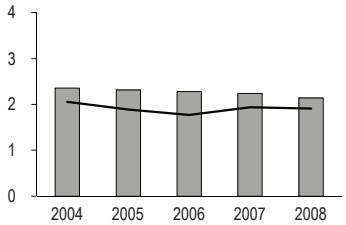
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



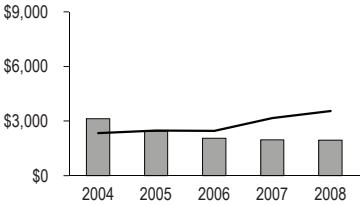
	2004	2005	2006	2007	2008
Greensboro	$35.27	$31.43	$29.71	$28.48	$27.82
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	2.36	2.32	2.28	2.23	2.14
Average	2.06	1.89	1.77	1.94	1.91

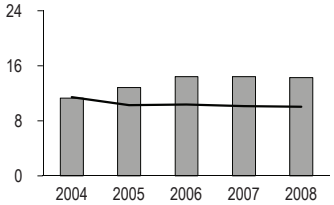
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Greensboro	$3,130	$2,446	$2,062	$1,972	$1,948
Average	$2,335	$2,476	$2,460	$3,169	$3,549

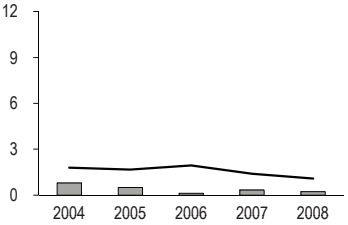
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	11.3	12.9	14.4	14.4	14.3
Average	11.4	10.3	10.4	10.1	10.0

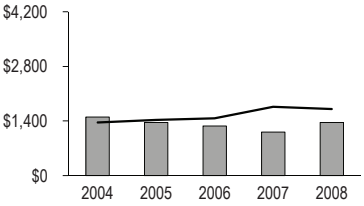
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Greensboro	0.80	0.51	0.12	0.33	0.23
Average	1.82	1.68	1.95	1.42	1.09

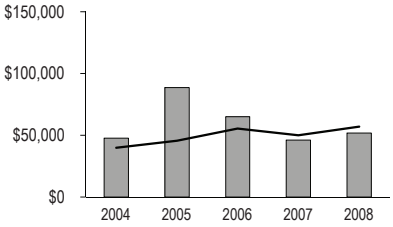
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



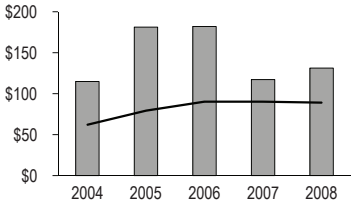
	2004	2005	2006	2007	2008
Greensboro	$1,502	$1,359	$1,272	$1,113	$1,365
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Greensboro	$47,778	$88,692	$64,904	$46,225	$51,754
Average	$39,930	$45,562	$55,509	$50,039	$57,196

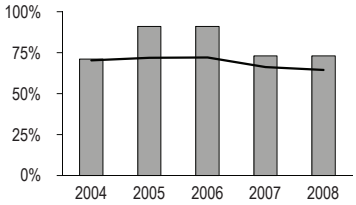
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Greensboro	$115	$181	$182	$117	$131
Average	$62	$79	$90	$90	$89

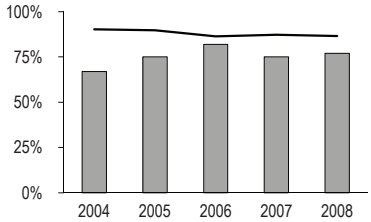
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Greensboro	71%	91%	91%	73%	73%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Greensboro	67%	75%	82%	75%	77%
Average	90%	90%	86%	87%	87%

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2007)	248,111
Land Area (Square Miles)	119.00
Persons per Square Mile	2,085
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow
Median Family Income (US Census 2000)	$50,192

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		32.0%
Operating Costs		68.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,206,419
Operating Costs	$	4,693,722
Capital Costs	$	1,078
TOTAL	$	6,901,219

SERVICE PROFILE

FTE Positions—Crews	45.0
FTE Positions—Other	8.0
Lane Miles Maintained	3,543.0
Lane Miles Resurfaced—Contract	39.90
Lane Miles Resurfaced—City	0.00
Total	39.90
Tons of Asphalt Used—Resurfacing	
Contractor	15,731
City Crews	0
Cost of Repaving—Contract	$2,065,000
Cost of Repaving—City Crews	$0
Cost of Maintenance	$4,836,219
Registered Vehicles	198,430
Registered Vehicles/Square Mile	1,667

EXPLANATORY INFORMATION

Service Level and Delivery
The city of Greensboro was responsible for maintaining 3,543 lane miles during FY 2007–08. This includes 873 lane miles of state roads.

The city resurfaced 39.9 lane miles, equating to approximately 1.1 percent of total lane miles. A total of 15,731 tons of asphalt was used during the fiscal year by contractors for resurfacing projects. The average resurfacing depth used by the contractor was 1.25 inches.

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.

The number of potholes reported for FY 2007–08 was 810. The percentage of potholes repaired within twenty-four hours was 77 percent. The city reported a resurfacing cycle of thirty-five years.

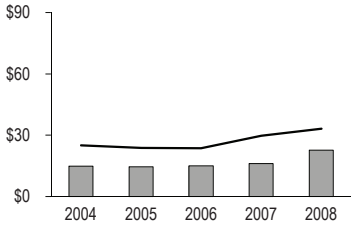
Conditions Affecting Service, Performance, and Costs
Greensboro experienced much higher asphalt and stone costs.

Changes in tracking software have improved the accuracy of potholes reported and asphalt used.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

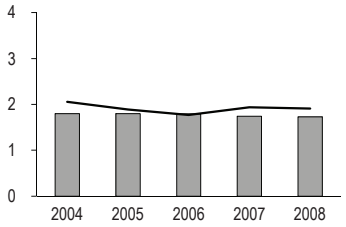
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



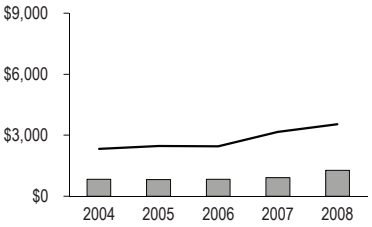
	2004	2005	2006	2007	2008
Hickory	$14.86	$14.62	$15.05	$16.16	$22.71
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	1.80	1.80	1.79	1.74	1.73
Average	2.06	1.89	1.77	1.94	1.91

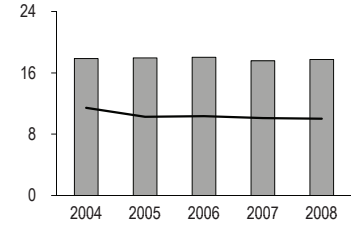
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Hickory	$832	$815	$836	$919	$1,280
Average	$2,335	$2,476	$2,460	$3,169	$3,549

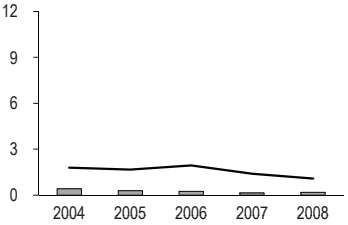
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	17.9	17.9	18.0	17.6	17.7
Average	11.4	10.3	10.4	10.1	10.0

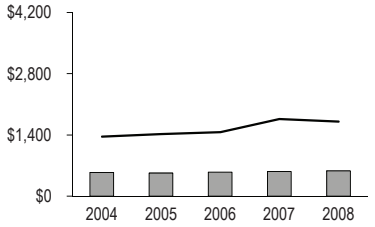
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Hickory	0.42	0.28	0.24	0.15	0.19
Average	1.82	1.68	1.95	1.42	1.09

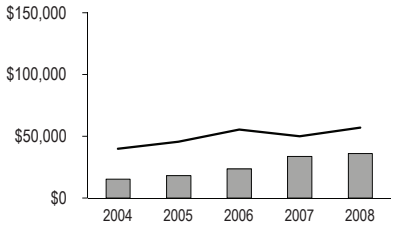
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



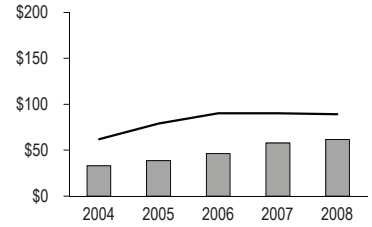
	2004	2005	2006	2007	2008
Hickory	$544	$529	$551	$565	$575
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Hickory	$15,385	$18,182	$23,529	$33,647	$35,948
Average	$39,930	$45,562	$55,509	$50,039	$57,196

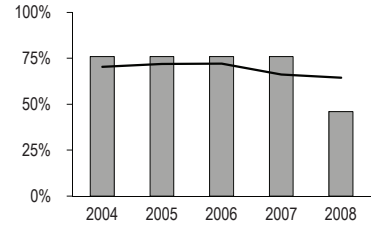
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Hickory	$33	$39	$47	$58	$62
Average	$62	$79	$90	$90	$89

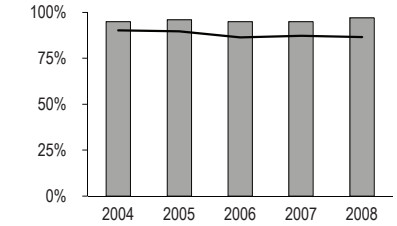
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Hickory	76%	76%	76%	76%	46%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Hickory	95%	96%	95%	95%	97%
Average	90%	90%	86%	87%	87%

Hickory

MUNICIPAL PROFILE

Population (OSBM 2007)	40,522
Land Area (Square Miles)	29.10
Persons per Square Mile	1,393
Topography	Gently rolling
County	Catawba
Climate	Moderate; some ice and snow
Median Family Income (US Census 2000)	$47,522

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		27.8%
Operating Costs		70.1%
Capital Costs		2.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	256,279
Operating Costs	$	644,958
Capital Costs	$	19,049
TOTAL	$	920,286

SERVICE PROFILE

FTE Positions—Crews	6.0
FTE Positions—Other	1.0
Lane Miles Maintained	719.2
Lane Miles Resurfaced—Contract	14.10
Lane Miles Resurfaced—City	0.00
Total	14.10
Tons of Asphalt Used—Resurfacing	
Contractor	8,228
City Crews	0
Cost of Repaving—Contract	$506,871
Cost of Repaving—City Crews	$0
Cost of Maintenance	$413,415
Registered Vehicles	31,430
Registered Vehicles/Square Mile	1,080

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Hickory was responsible for maintaining 719.23 lane miles during FY 2007–08 including 238.8 lane miles of state roads.

The city resurfaced 14.1 lane miles under contract, equating to about two percent of total lane miles. A total of 8,228 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.

The city reported that 46 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.

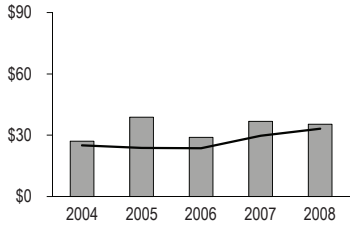
The number of potholes reported for FY 2007–08 was 135, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 97 percent. The city reported a resurfacing cycle of sixty-four years.

Conditions Affecting Service, Performance, and Costs
The high price of oil increased the cost of asphalt used for resurfacing and repair work.

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

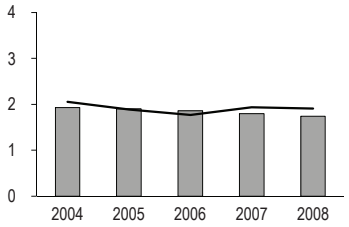
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



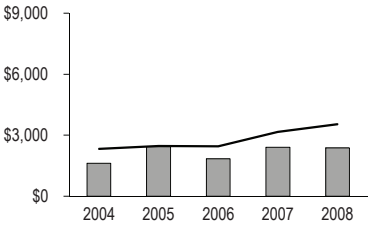
	2004	2005	2006	2007	2008
High Point	$27.04	$38.75	$28.91	$36.86	$35.32
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	1.93	1.90	1.86	1.80	1.74
Average	2.06	1.89	1.77	1.94	1.91

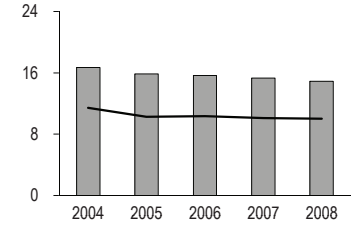
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
High Point	$1,622	$2,442	$1,845	$2,403	$2,372
Average	$2,335	$2,476	$2,460	$3,169	$3,549

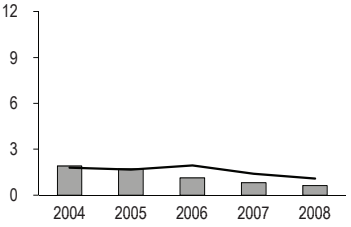
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
High Point	16.7	15.9	15.7	15.3	14.9
Average	11.4	10.3	10.4	10.1	10.0

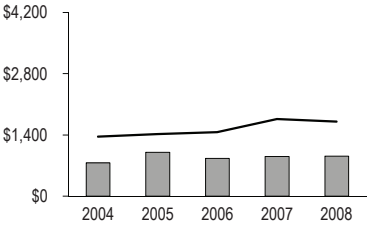
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
High Point	1.90	1.72	1.13	0.81	0.62
Average	1.82	1.68	1.95	1.42	1.09

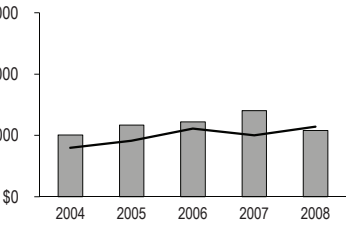
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



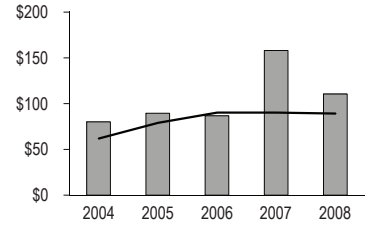
	2004	2005	2006	2007	2008
High Point	$764	$1,001	$867	$910	$911
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
High Point	$50,412	$58,392	$61,127	$70,174	$53,872
Average	$39,930	$45,562	$55,509	$50,039	$57,196

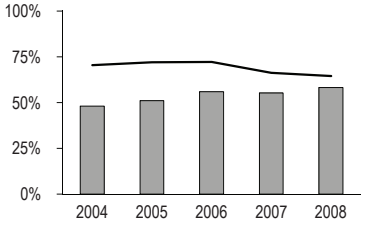
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
High Point	$80	$90	$87	$158	$110
Average	$62	$79	$90	$90	$89

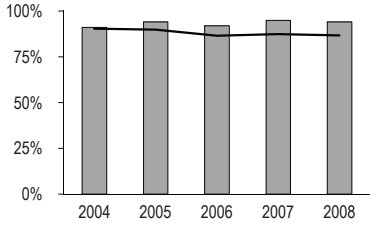
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
High Point	48%	51%	56%	55%	58%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
High Point	91%	94%	92%	95%	94%
Average	90%	90%	86%	87%	87%

High Point

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow
Median Family Income (US Census 2000)	$48,057

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		18.5%
Operating Costs		74.5%
Capital Costs		6.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	646,343
Operating Costs	$	2,601,339
Capital Costs	$	242,190
TOTAL		3,489,872

SERVICE PROFILE

FTE Positions—Crews	16.0
FTE Positions—Other	1.2
Lane Miles Maintained	1,471.0
Lane Miles Resurfaced—Contract	34.60
Lane Miles Resurfaced—City	5.30
Total	39.90
Tons of Asphalt Used—Resurfacing	
Contractor	15,951
City Crews	3,076
Cost of Repaving—Contract	$1,762,345
Cost of Repaving—City Crews	$387,155
Cost of Maintenance	$1,340,372
Registered Vehicles	59,893
Registered Vehicles/Square Mile	1,109

EXPLANATORY INFORMATION

Service Level and Delivery
The City of High Point was responsible for maintaining 1,471 lane miles during FY 2007–08. This includes 340 lane miles of state roads.

The city resurfaced 39.9 lane miles, roughly 2.7 percent of total lane miles. A total of 19,027 tons of asphalt was used during the fiscal year for resurfacing projects including 3,076 tons used by the city and 15,951 tons used by a contractor. An average resurfacing depth of 1.25 inches was used by the contractor and 1.50 inches by city crews.

The city reported that 58 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.

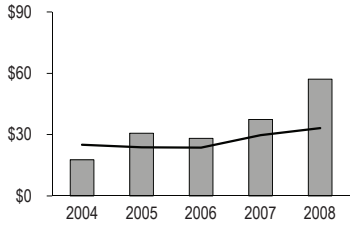
The number of potholes reported for FY 2007–08 was 909, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 94 percent. The city reported a resurfacing cycle of twenty-eight years

Conditions Affecting Service, Performance, and Costs
The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

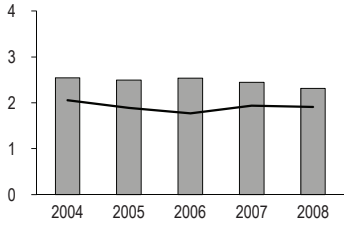
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



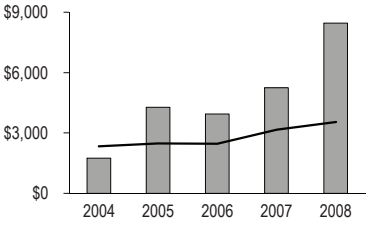
	2004	2005	2006	2007	2008
Matthews	$17.64	$30.65	$28.17	$37.45	$57.19
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Matthews	2.55	2.49	2.54	2.45	2.32
Average	2.06	1.89	1.77	1.94	1.91

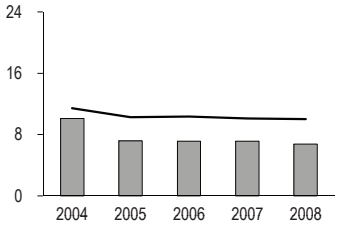
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Matthews	$1,747	$4,281	$3,942	$5,246	$8,463
Average	$2,335	$2,476	$2,460	$3,169	$3,549

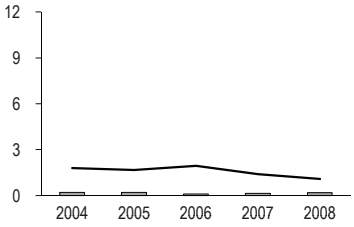
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Matthews	10.1	7.2	7.1	7.1	6.8
Average	11.4	10.3	10.4	10.1	10.0

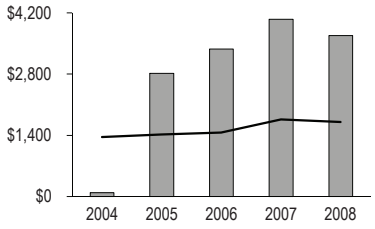
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Matthews	0.20	0.20	0.11	0.15	0.18
Average	1.82	1.68	1.95	1.42	1.09

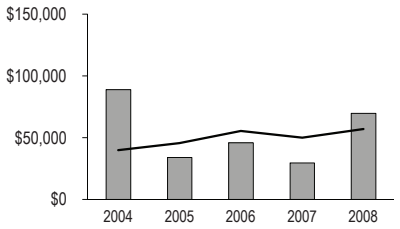
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



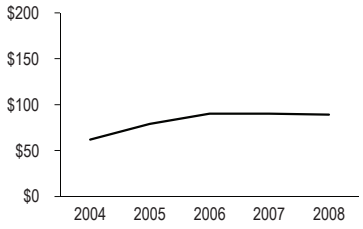
	2004	2005	2006	2007	2008
Matthews	$85	$2,820	$3,372	$4,057	$3,683
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Matthews	$88,868	$34,048	$45,877	$29,543	$69,764
Average	$39,930	$45,562	$55,509	$50,039	$57,196

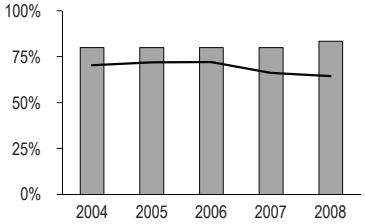
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Matthews					
Average	$62	$79	$90	$90	$89

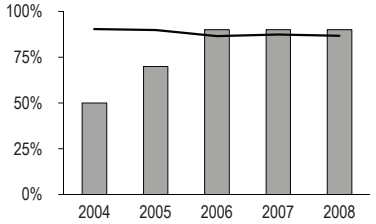
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Matthews	80%	80%	80%	80%	83%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Matthews	50%	70%	90%	90%	90%
Average	90%	90%	86%	87%	87%

Matthews

MUNICIPAL PROFILE

Population (OSBM 2007)	28,072
Land Area (Square Miles)	16.63
Persons per Square Mile	1,688
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice
Median Family Income (US Census 2000)	$75,791

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		18.9%
Operating Costs		74.0%
Capital Costs		7.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	303,248
Operating Costs	$	1,188,415
Capital Costs	$	113,902
TOTAL	$	1,605,565

SERVICE PROFILE

FTE Positions—Crews	5.25
FTE Positions—Other	1.25
Lane Miles Maintained	189.7
Lane Miles Resurfaced—Contract	6.24
Lane Miles Resurfaced—City	6.76
Total	13.00
Tons of Asphalt Used—Resurfacing	
Contractor	3,777
City Crews	3,914
Cost of Repaving—Contract	$619,365
Cost of Repaving—City Crews	$287,572
Cost of Maintenance	$698,628
Registered Vehicles	22,835
Registered Vehicles/Square Mile	1,373

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Matthews was responsible for maintaining 189.7 lane miles during FY 2007–08.

The town resurfaced thirteen lane miles, equating to approximately 6.9 percent of total lane miles. A total of 7,691 tons of asphalt was used during the fiscal year for resurfacing projects, including 3,777 tons by contractors and 3,914 by town crews. The average resurfacing depth used by both town and contractor crews was 1.5 inches. The resurfacing work done was full depth reclamation, milling the street all the way down to the subsoil, mixing in portland cement, wetting this mix, and rolling it out as a new roadway sub base before putting on a new asphalt top on the new base.

The town reported that 83 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2007. The town used ITRE to conduct its rating.

The number of potholes reported for FY 2007–08 was thirty-five, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was estimated to be 90 percent. The town reported a resurfacing cycle of twenty years.

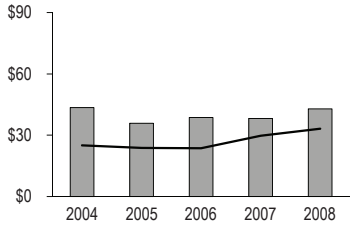
Conditions Affecting Service, Performance, and Costs
"Cost of maintenance per lane mile maintained" was high the last few years as the town had a contract for patching work above that done by city crews. This work was done in preparation for resurfacing but was counted as maintenance for this report.

The rising price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

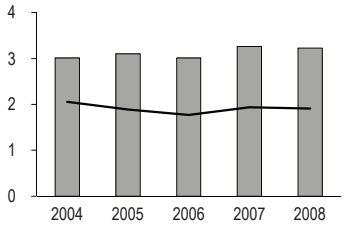
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



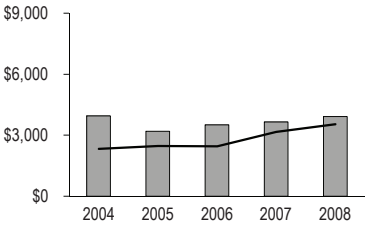
	2004	2005	2006	2007	2008
Salisbury	$43.53	$35.89	$38.71	$38.23	$42.94
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	3.01	3.10	3.01	3.26	3.22
Average	2.06	1.89	1.77	1.94	1.91

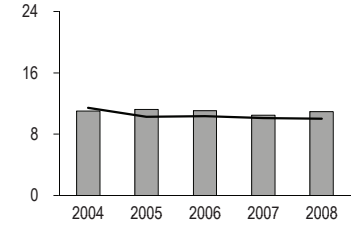
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Salisbury	$3,941	$3,194	$3,502	$3,646	$3,922
Average	$2,335	$2,476	$2,460	$3,169	$3,549

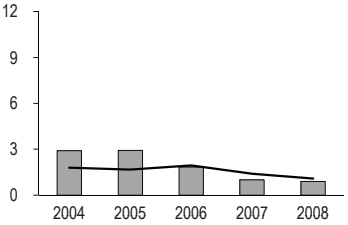
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	11.0	11.2	11.1	10.5	10.9
Average	11.4	10.3	10.4	10.1	10.0

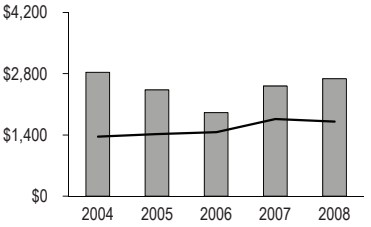
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Salisbury	2.90	2.93	1.83	1.00	0.91
Average	1.82	1.68	1.95	1.42	1.09

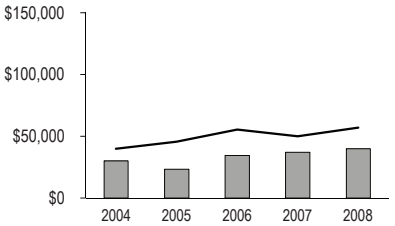
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



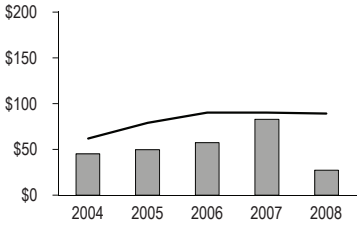
	2004	2005	2006	2007	2008
Salisbury	$2,829	$2,430	$1,913	$2,514	$2,685
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Salisbury	$30,155	$23,353	$34,511	$37,107	$40,002
Average	$39,930	$45,562	$55,509	$50,039	$57,196

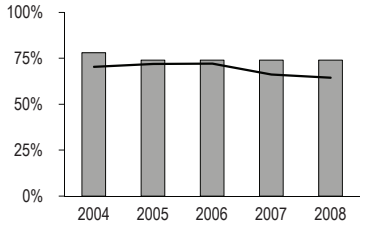
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Salisbury	$45	$50	$57	$83	$27
Average	$62	$79	$90	$90	$89

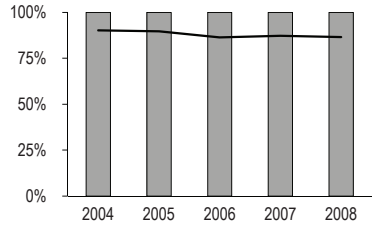
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Salisbury	78%	74%	74%	74%	74%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Salisbury	100%	100%	100%	100%	100%
Average	90%	90%	86%	87%	87%

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
Topography	Gently rolling
County	Rowan
Climate	Moderate; some ice and snow
Median Family Income (US Census 2000)	$41,108

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		29.2%
Operating Costs		45.1%
Capital Costs		25.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	388,438
Operating Costs	$	600,570
Capital Costs	$	343,057
TOTAL	$	1,332,065

SERVICE PROFILE

FTE Positions—Crews	9.00
FTE Positions—Other	1.00
Lane Miles Maintained	339.6
Lane Miles Resurfaced—Contract	10.50
Lane Miles Resurfaced—City	0.00
Total	10.50
Tons of Asphalt Used—Resurfacing	
Contractor	15,382
City Crews	0
Cost of Repaving—Contract	$420,017
Cost of Repaving—City Crews	$0
Cost of Maintenance	$912,048
Registered Vehicles	24,159
Registered Vehicles/Square Mile	1,117

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Salisbury was responsible for maintaining 339.64 lane miles during FY 2007–08.

The city resurfaced 10.5 lane miles, equating to approximately 3.1 percent of total lane miles. A total of 15,382 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.

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.

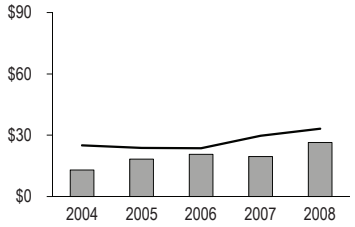
The number of potholes reported for FY 2007–08 was 308. The percentage of potholes repaired within twenty-four hours was 100 percent. The city reported a resurfacing cycle of fifteen years.

Conditions Affecting Service, Performance, and Costs
The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

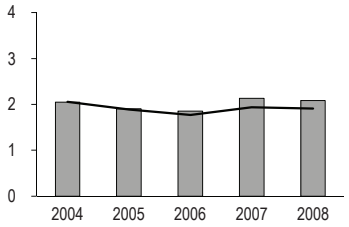
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



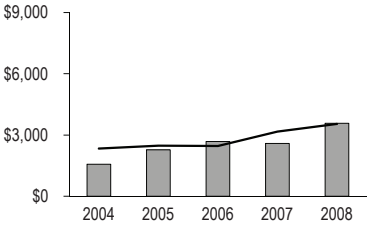
	2004	2005	2006	2007	2008
Wilmington	$12.92	$18.27	$20.59	$19.60	$26.43
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	2.05	1.90	1.85	2.13	2.08
Average	2.06	1.89	1.77	1.94	1.91

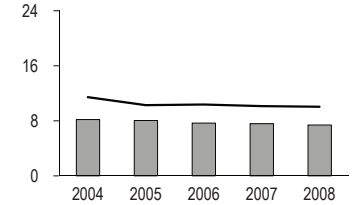
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Wilmington	$1,566	$2,270	$2,681	$2,589	$3,569
Average	$2,335	$2,476	$2,460	$3,169	$3,549

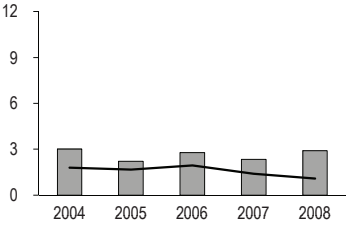
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	8.2	8.1	7.7	7.6	7.4
Average	11.4	10.3	10.4	10.1	10.0

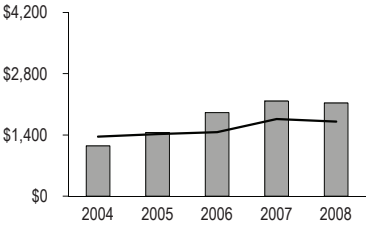
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Wilmington	3.00	2.22	2.77	2.34	2.91
Average	1.82	1.68	1.95	1.42	1.09

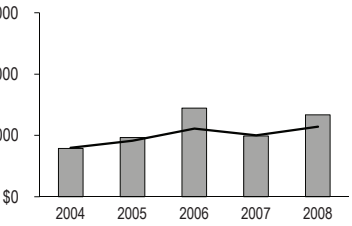
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



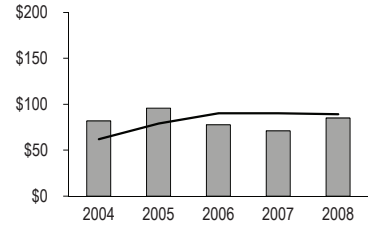
	2004	2005	2006	2007	2008
Wilmington	$1,148	$1,453	$1,912	$2,174	$2,128
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Wilmington	$39,509	$48,378	$72,292	$49,479	$66,908
Average	$39,930	$45,562	$55,509	$50,039	$57,196

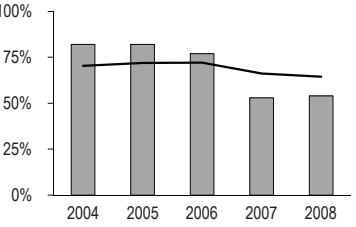
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Wilmington	$82	$96	$78	$71	$85
Average	$62	$79	$90	$90	$89

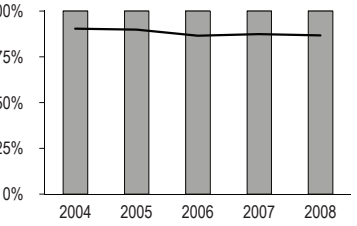
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Wilmington	82%	82%	77%	53%	54%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Wilmington	100%	100%	100%	100%	100%
Average	90%	90%	86%	87%	87%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2007)	100,746
Land Area (Square Miles)	49.29
Persons per Square Mile	2,044
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild
Median Family Income (US Census 2000)	$41,891

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		29.5%
Operating Costs		62.3%
Capital Costs		8.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	785,082
Operating Costs	$	1,658,467
Capital Costs	$	218,984
TOTAL	$	2,662,533

SERVICE PROFILE

FTE Positions—Crews	19.0
FTE Positions—Other	2.0
Lane Miles Maintained	746.0
Lane Miles Resurfaced—Contract	12.00
Lane Miles Resurfaced—City	4.07
Total	16.07
Tons of Asphalt Used—Resurfacing	
Contractor	8,655
City Crews	1,861
Cost of Repaving—Contract	$736,957
Cost of Repaving—City Crews	$338,258
Cost of Maintenance	$1,587,318
Registered Vehicles	109,301
Registered Vehicles/Square Mile	2,218

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilmington was responsible for maintaining 746 lane miles during FY 2007–08.

The city resurfaced 16.07 lane miles, equating to approximately 2.2 percent of total lane miles. A total of 10,516 tons of asphalt was used for resurfacing projects during the fiscal year, representing 1,861 tons used by city crews and 8,655 tons used by contractors. The average resurfacing depth used was 1.5 to 2.0 inches for city and contractor crews.

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.

The number of potholes reported for FY 2007–08 was 2,169. The percentage of potholes repaired within twenty-four hours was 100 percent. The city reported a resurfacing cycle of twenty years.

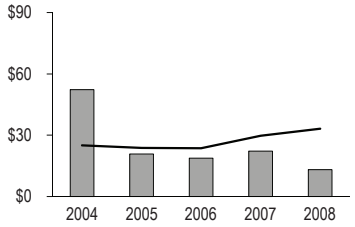
Conditions Affecting Service, Performance, and Costs
The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

Maintenance costs for FY 2006–07 included money for repair work in preparation for pavement rehabilitation activities for the next year.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

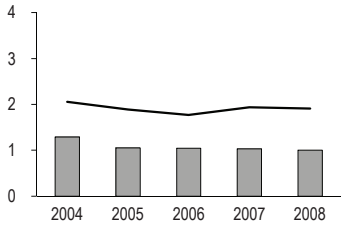
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



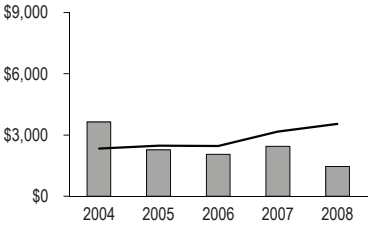
	2004	2005	2006	2007	2008
Wilson	$52.22	$20.77	$18.81	$22.25	$13.10
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	1.29	1.05	1.05	1.03	1.00
Average	2.06	1.89	1.77	1.94	1.91

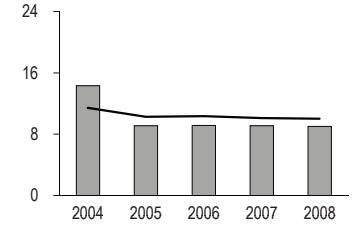
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Wilson	$3,645	$2,281	$2,054	$2,445	$1,455
Average	$2,335	$2,476	$2,460	$3,169	$3,549

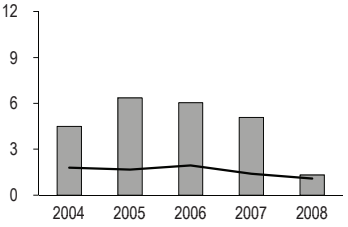
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	14.3	9.1	9.2	9.1	9.0
Average	11.4	10.3	10.4	10.1	10.0

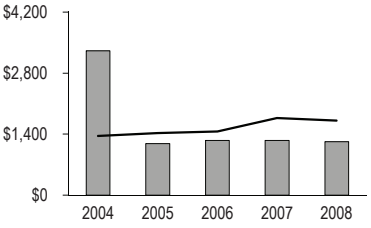
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Wilson	4.50	6.37	6.05	5.09	1.33
Average	1.82	1.68	1.95	1.42	1.09

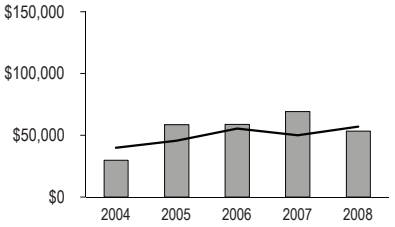
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



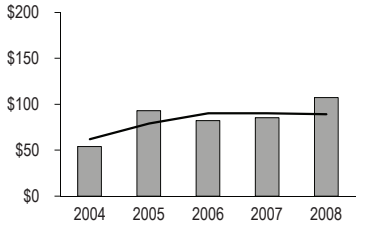
	2004	2005	2006	2007	2008
Wilson	$3,310	$1,184	$1,255	$1,255	$1,230
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Wilson	$29,807	$58,486	$58,923	$69,215	$53,330
Average	$39,930	$45,562	$55,509	$50,039	$57,196

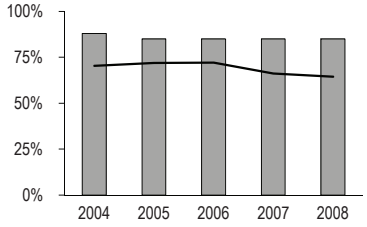
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Wilson	$54	$93	$82	$85	$107
Average	$62	$79	$90	$90	$89

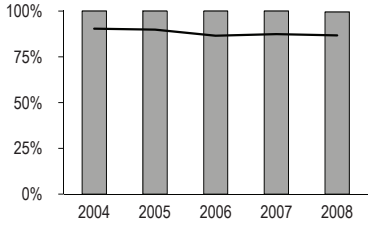
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Wilson	88%	85%	85%	85%	85%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Wilson	100%	100%	100%	100%	100%
Average	90%	90%	86%	87%	87%

Wilson

MUNICIPAL PROFILE

Population (OSBM 2007)	49,954
Land Area (Square Miles)	28.87
Persons per Square Mile	1,730
Topography	Flat
County	Wilson
Climate	Mild; little ice and snow
Median Family Income (US Census 2000)	$41,041

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		36.5%
Operating Costs		48.7%
Capital Costs		14.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	238,705
Operating Costs	$	318,759
Capital Costs	$	97,175
TOTAL	$	654,639

SERVICE PROFILE

FTE Positions—Crews	4.0
FTE Positions—Other	1.0
Lane Miles Maintained	450.0
Lane Miles Resurfaced—Contract	1.90
Lane Miles Resurfaced—City	0.00
Total	1.90
Tons of Asphalt Used—Resurfacing	
Contractor	944
City Crews	0
Cost of Repaving—Contract	$101,327
Cost of Repaving—City Crews	$0
Cost of Maintenance	$553,312
Registered Vehicles	39,000
Registered Vehicles/Square Mile	1,351

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilson was responsible for maintaining 450 lane miles of city streets during FY 2007–08.

The city resurfaced 1.9 lane miles, equating to approximately 0.4 percent of total lane miles. A total of 944 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.

The city reported that 85 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2006. The city used a customized rating based on ITRE as its rating system.

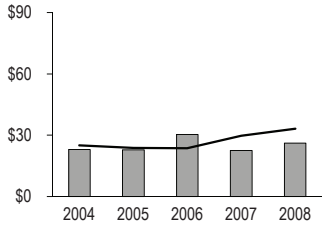
The number of potholes reported for FY 2007–08 was 597. The percentage of potholes repaired within twenty-four hours was 99.5 percent. The city reported a resurfacing cycle of thirty-five years.

Conditions Affecting Service, Performance, and Costs
The high price of oil did increase the cost of asphalt used for resurfacing and repair work as well as raise the costs for operating equipment.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

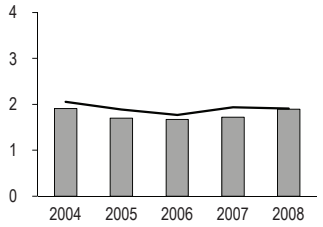
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



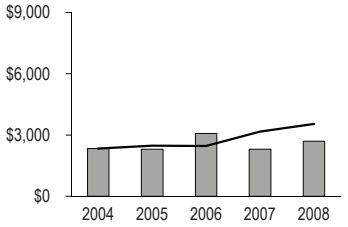
	2004	2005	2006	2007	2008
Winston-Salem	$23.06	$22.84	$30.30	$22.47	$26.10
Average	$25.10	$23.72	$23.61	$29.81	$33.27

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	1.91	1.70	1.67	1.72	1.89
Average	2.06	1.89	1.77	1.94	1.91

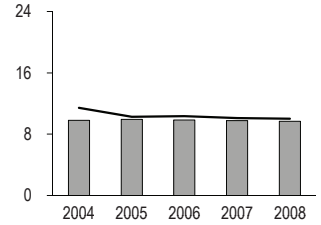
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007	2008
Winston-Salem	$2,343	$2,299	$3,072	$2,301	$2,695
Average	$2,335	$2,476	$2,460	$3,169	$3,549

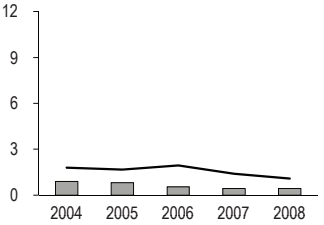
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	9.8	9.9	9.9	9.8	9.7
Average	11.4	10.3	10.4	10.1	10.0

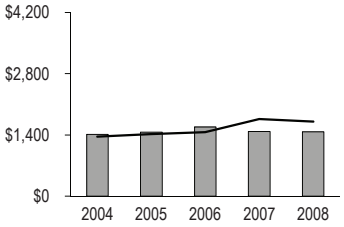
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007	2008
Winston-Salem	0.90	0.81	0.55	0.43	0.44
Average	1.82	1.68	1.95	1.42	1.09

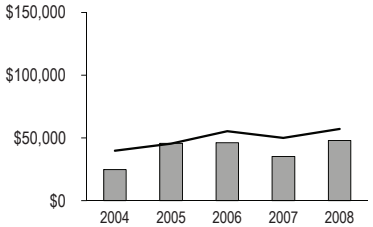
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



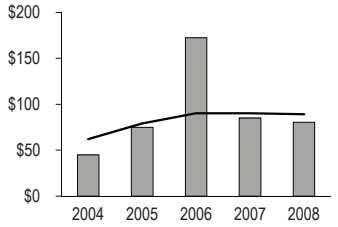
	2004	2005	2006	2007	2008
Winston-Salem	$1,412	$1,462	$1,581	$1,480	$1,468
Average	$1,361	$1,424	$1,466	$1,767	$1,708

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007	2008
Winston-Salem	$24,844	$45,779	$46,049	$35,164	$47,873
Average	$39,930	$45,562	$55,509	$50,039	$57,196

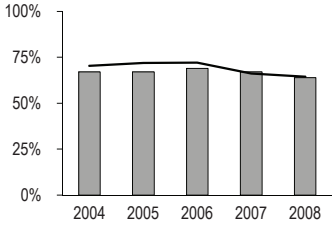
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007	2008
Winston-Salem	$45	$75	$173	$85	$80
Average	$62	$79	$90	$90	$89

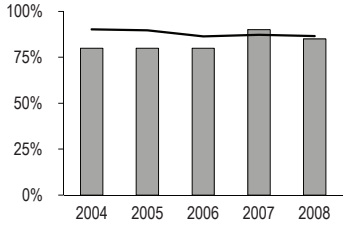
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007	2008
Winston-Salem	67%	67%	69%	67%	64%
Average	70%	72%	72%	66%	64%

Percentage of Pot Holes Repaired within 24 hours



	2004	2005	2006	2007	2008
Winston-Salem	80%	80%	80%	90%	85%
Average	90%	90%	86%	87%	87%

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2007)	224,889
Land Area (Square Miles)	132.5
Persons per Square Mile	1,698
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some ice and snow
Median Family Income (US Census 2000)	$46,595

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		21.8%
Operating Costs		73.2%
Capital Costs		5.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,281,929
Operating Costs	$	4,296,065
Capital Costs	$	290,829
TOTAL	$	5,868,823

SERVICE PROFILE

FTE Positions—Crews	38.8
FTE Positions—Other	3.8
Lane Miles Maintained	2,177.8
Lane Miles Resurfaced—Contract	46.28
Lane Miles Resurfaced—City	9.54
Total	55.82
Tons of Asphalt Used—Resurfacing	
Contractor	28,480
City Crews	4,930
Cost of Repaving—Contract	$2,288,924
Cost of Repaving—City Crews	$383,327
Cost of Maintenance	$3,196,572
Registered Vehicles	177,057
Registered Vehicles/Square Mile	1,337

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Winston-Salem was responsible for maintaining 2,177.84 lane miles of city streets during FY 2007–08.

The city resurfaced 55.82 lane miles, equating to approximately 2.6 percent of total lane miles. A total of 33,409 tons of asphalt was used during the fiscal year for resurfacing projects including 4,930 tons used by city crews and 28,480 tons used by contractors. The average resurfacing depth used by city and contract crews was 1.5 inches.

The city reported that 64 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; however, in-house personnel conducted the analysis.

The city reported 963 potholes in FY 2007–08. The percentage of potholes repaired within twenty-four hours was estimated at 85 percent. Policy is to repair within twenty-four hours but the lower level is a result of weekends and sick or vacation time of repair crews.

Conditions Affecting Service, Performance, and Costs
The high price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

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.

UNC
SCHOOL OF GOVERNMENT

Fire Services

Summary of Key Dimensions of Service

FY 2007-08

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	83,168	59.7	$10.7	13,442	3,665	11	227	3
Burlington	49,343	25.0	$3.6	6,377	2,322	5	92	3
Carrboro	24,911	24.3	$2.1	1,480	928	1	37	4-town 9-county
Cary	133,925	54.8	$19.6	6,628	3,250	7	211	3
Charlotte	674,752	287.9	$73.5	90,743	14,977	38	1,083	3
Concord	71,522	60.2	$8.5	7,347	1,608	8	181	3
Durham	222,491	105.5	$22.0	19,058	3,144	15	301	3
Gastonia	72,848	50.4	$5.1	8,810	1,021	8	141	3
Greensboro	261,927	144.0	$22.5	28,541	9,982	22	483	1
Hickory	45,523	42.1	$5.2	5,899	6,012	6	126	3
High Point	108,030	67.0	$9.1	11,038	3,309	14	224	2
Matthews	28,072	16.6	$2.9	2,755	NA	2	9	5
Raleigh	367,313	140.5	$47.9	34,324	NA	27	557	3
Salisbury	31,023	21.6	$2.9	4,237	726	4	81	2
Wilmington	100,746	49.3	$13.6	9,536	5,491	11	224	2
Wilson	49,954	28.9	$3.3	4,762	2,219	5	93	2
Winston-Salem	224,889	132.5	$19.6	23,792	10,990	19	343	3

NOTES

EXPLANATORY FACTORS

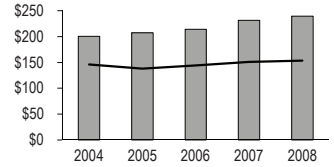
These are factors that the project found to affect fire services performance and cost in one or more of the municipalities:

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

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

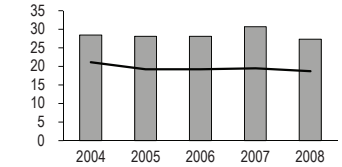
RESOURCE Measures

Fire Services Costs per Capita



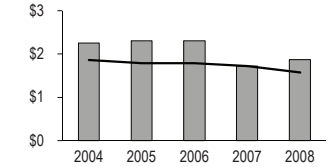
	2004	2005	2006	2007	2008
Asheville	$201	$207	$214	$231	$240
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	28.4	28.1	28.1	30.7	27.3
Average	21.1	19.2	19.2	19.5	18.7

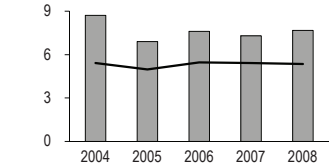
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Asheville	$2.25	$2.30	$2.31	$1.72	$1.87
Average	$1.86	$1.78	$1.78	$1.72	$1.57

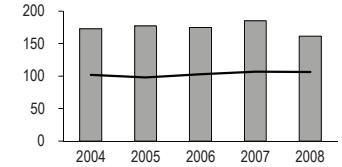
WORKLOAD Measures

Actual Fires per 1,000 Population



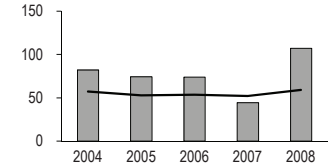
	2004	2005	2006	2007	2008
Asheville	8.72	6.91	7.60	7.29	7.67
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	173	178	175	185	162
Average	102	98	103	107	106

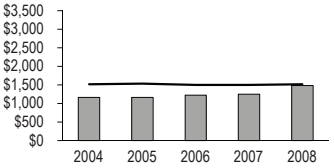
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Asheville	82	74	74	44	107
Average	57	53	54	52	59

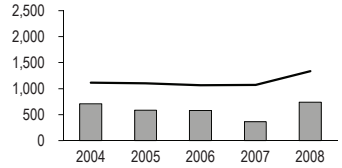
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Asheville	$1,163	$1,167	$1,225	$1,248	$1,483
Average	$1,515	$1,530	$1,501	$1,498	$1,515

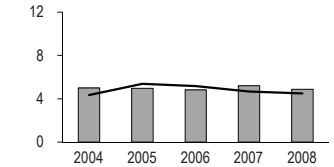
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Asheville	706	584	580	366	742
Average	1,114	1,103	1,064	1,068	1,337

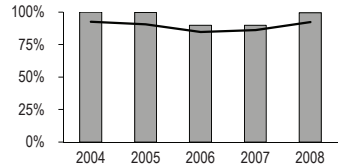
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



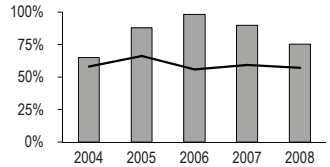
	2004	2005	2006	2007	2008
Asheville	5.0	5.0	4.8	5.2	4.9
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



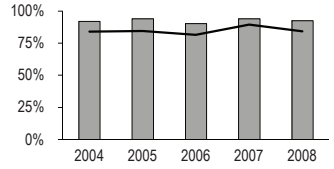
	2004	2005	2006	2007	2008
Asheville	100%	100%	90%	90%	100%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



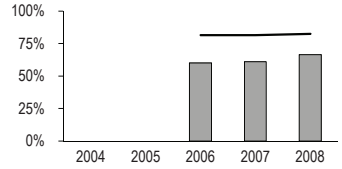
	2004	2005	2006	2007	2008
Asheville	65%	88%	98%	90%	75%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



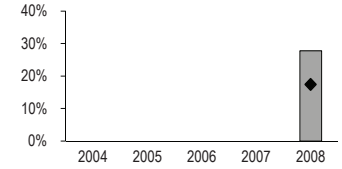
	2004	2005	2006	2007	2008
Asheville	92%	94%	90%	94%	93%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Asheville			60%	61%	67%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Asheville					27.8%
Average					17.4%

MUNICIPAL PROFILE

Population Served	83,168
Land Area Served (Square Miles)	59.7
Persons Served per Square Mile	1,392
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.3%
Operating Costs		17.5%
Capital Costs		12.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	14,016,210
Operating Costs	$	3,491,508
Capital Costs	$	2,423,763
TOTAL	$	19,931,481

SERVICE PROFILE

FTE Positions—Firefighters	201.0
FTE Positions—Other	26.0
Fire Stations	11
First-line Fire Apparatus	
Pumpers	9
Aerial Trucks	4
Quints	1
Squads	0
Rescue	1
Other	0
Fire Department Responses	13,442
All Fire Responses	638
Structural Fires Reported	97
Estimated Fire Loss	$6,826,230
Amount of Property Protected	$10,658,917,166
Number of Fire Education Programs or Events	227

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Asheville Fire and Rescue Department is to protect the lives, property, and environment of all people within Asheville and the Town of Biltmore Forest by preventing the occurrence and minimizing the adverse effects of fires, accidents, and all other emergencies.

The fire department contained the following divisions: administration, emergency response, and the fire marshal's office.

The fire department uses a modified shift schedule that includes twenty-four hours on duty and twenty-four hours off duty, averaging fifty-six hours per week. The work schedule is as follows: twenty-four hours on, twenty-four hours off; twenty-four hours on, forty-eight hours off; twenty-four hours on, twenty-four hours off; twenty-four hours on, ninety-six hours off. This works out to an average work week of fifty-six hours.

The city has an ISO rating of 3.

The Asheville Fire and Rescue Department conducted 8,900 fire maintenance, construction, and reinspections during FY 2007–08. The fire marshal's office is composed 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. Deputy fire marshals conduct fire inspections of every commercial premise located within Asheville. Most personnel work day shifts while several work twenty-four hour shifts. These DFMs are liaisons to the other divisions on matters regarding code enforcement, fire investigations, and pre-incident planning.

Conditions Affecting Service, Performance, and Costs

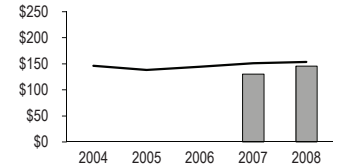
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

Fire inspections in Asheville are up markedly. For the most part this was due to new personnel being in training the prior year and now the inspections function is fully staffed. New construction pushed up inspections as well. Finally, some benchmarking project changes in how inspections were defined led to more being counted.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

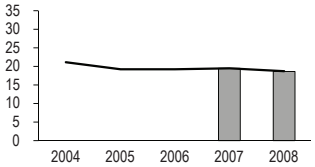
RESOURCE Measures

Fire Services Costs per Capita



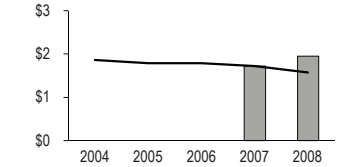
	2004	2005	2006	2007	2008
Burlington				$130	$145
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				19.5	18.6
Average	21.1	19.2	19.2	19.5	18.7

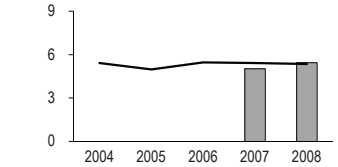
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Burlington				$1.72	$1.95
Average	$1.86	$1.78	$1.78	$1.72	$1.57

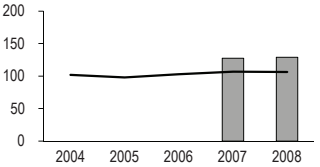
WORKLOAD Measures

Actual Fires per 1,000 Population



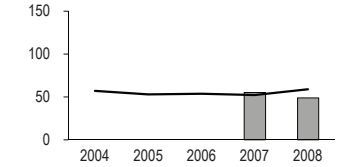
	2004	2005	2006	2007	2008
Burlington				5.01	5.43
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				128	129
Average	102	98	103	107	106

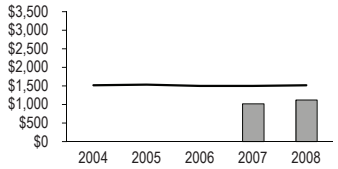
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Burlington				55	49
Average	57	53	54	52	59

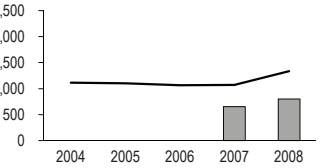
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Burlington				$1,019	$1,125
Average	$1,515	$1,530	$1,501	$1,498	$1,515

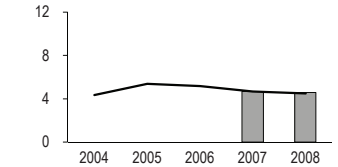
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Burlington				654	802
Average	1,114	1,103	1,064	1,068	1,337

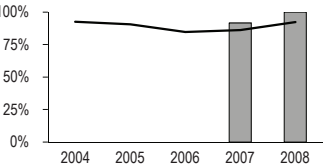
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



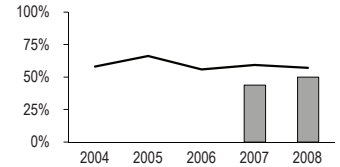
	2004	2005	2006	2007	2008
Burlington				4.7	4.6
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



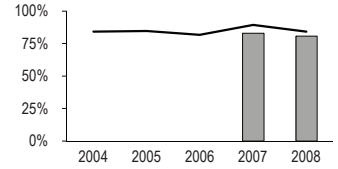
	2004	2005	2006	2007	2008
Burlington				92%	100%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



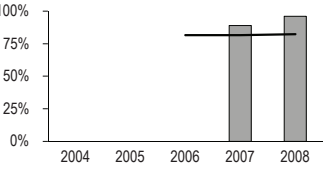
	2004	2005	2006	2007	2008
Burlington				44%	50%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



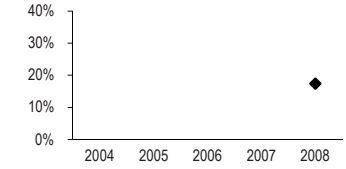
	2004	2005	2006	2007	2008
Burlington				83%	81%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Burlington				89%	96%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Burlington					
Average					17.4%

Burlington

MUNICIPAL PROFILE

Population Served	49,343
Land Area Served (Square Miles)	25.0
Persons Served per Square Mile	1,973
Topography	Flat; gently rolling
County	Alamance
Climate	Mild; little ice or snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.6%
Operating Costs		14.3%
Capital Costs		12.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,275,220
Operating Costs	$	1,024,904
Capital Costs	$	872,057
TOTAL	$	7,172,181

SERVICE PROFILE

FTE Positions—Firefighters	81.0
FTE Positions—Other	11.0
Fire Stations	5
First-line Fire Apparatus	
Pumpers	5
Aerial Trucks	1
Quints	0
Squads	1
Rescue	1
Other	1
Fire Department Responses	6,377
All Fire Responses	268
Structural Fires Reported	48
Estimated Fire Loss	$3,728,032
Amount of Property Protected	$3,569,381,880
Number of Fire Education Programs or Events	162

EXPLANATORY INFORMATION

Service Level and Delivery
The mission of the City of Burlington's Fire Department is to protect the lives, property, and environment of all people within Burlington by preventing the occurrence and minimizing the adverse effects of fires, accidents, and all other emergencies. The department is divided into three areas, 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 2,405 fire maintenance, construction, and reinspections during FY 2007–08. 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.

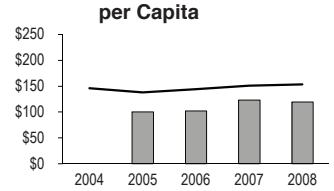
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08.

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

Key: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

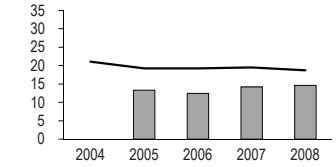
RESOURCE Measures

Fire Services Costs per Capita



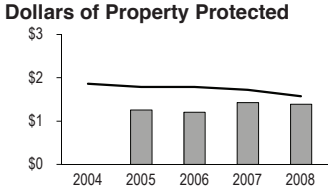
	2004	2005	2006	2007	2008
Carrboro		$100	$102	$123	$119
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		13.3	12.4	14.2	14.7
Average	21.1	19.2	19.2	19.5	18.7

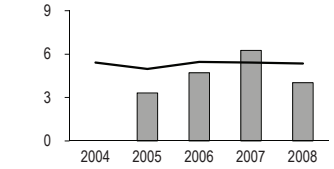
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Carrboro		$1.26	$1.20	$1.43	$1.39
Average	$1.86	$1.78	$1.78	$1.72	$1.57

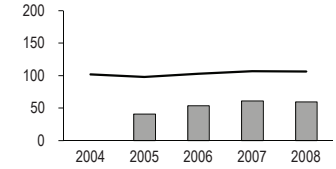
WORKLOAD Measures

Actual Fires per 1,000 Population



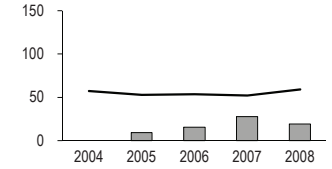
	2004	2005	2006	2007	2008
Carrboro		3.32	4.71	6.25	4.01
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Carrboro		41	53	61	59
Average	102	98	103	107	106

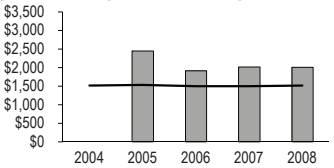
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Carrboro		9	15	28	19
Average	57	53	54	52	59

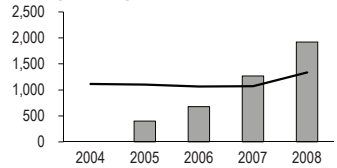
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Carrboro		$2,451	$1,913	$2,015	$2,006
Average	$1,515	$1,530	$1,501	$1,498	$1,515

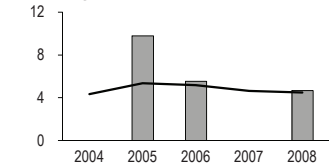
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Carrboro		400	680	1,266	1,920
Average	1,114	1,103	1,064	1,068	1,337

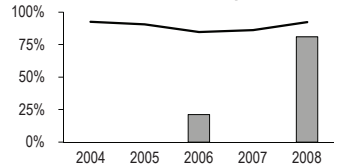
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



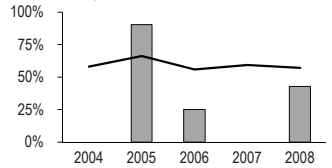
	2004	2005	2006	2007	2008
Carrboro		9.8	5.6	0.0	4.7
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



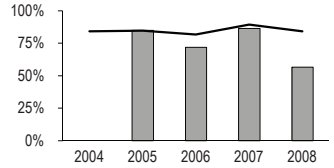
	2004	2005	2006	2007	2008
Carrboro			21%		81%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



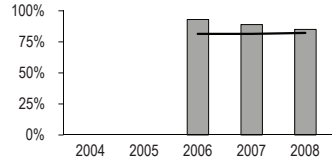
	2004	2005	2006	2007	2008
Carrboro		90%	25%		43%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



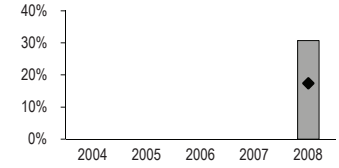
	2004	2005	2006	2007	2008
Carrboro		85%	72%	86%	57%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Carrboro			93%	89%	85%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Carrboro					30.8%
Average					17.4%

MUNICIPAL PROFILE

Population Served	24,911
Land Area Served (Square Miles)	24.3
Persons Served per Square Mile	1,024
Topography	Flat; gently rolling
County	Orange
Climate	Mild; little ice or snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.7%
Operating Costs		27.8%
Capital Costs		8.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,892,509
Operating Costs	$	826,433
Capital Costs	$	250,255
TOTAL	$	2,969,197

SERVICE PROFILE

FTE Positions—Firefighters	32.0
FTE Positions—Other	4.5
Fire Stations	1
First-line Fire Apparatus	
Pumpers	2
Aerial Trucks	1
Quints	0
Squads	1
Rescue	0
Other	1
Fire Department Responses	1,480
All Fire Responses	100
Structural Fires Reported	21
Estimated Fire Loss	$3,665,534
Amount of Property Protected	$2,141,528,067
Number of Fire Education Programs or Events	150

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Town of Carrboro's Fire Department is to protect the lives, property, and environment of all people within Carrboro by preventing the occurrence and minimizing the adverse effects of fires, accidents, and all other emergencies. The town provides fire coverage for an area outside the town boundaries roughly three times larger than the town's limits.

The Carrboro Fire Department uses a California schedule where shift members work a twenty-four hours on, twenty-four off, twenty-four on, twenty-four off, twenty-four on, and ninety-six off rotation.

The town has an ISO rating of 4 for inside of Carrboro town limits.

The fire department conducted 480 fire maintenance, construction, and reinspections during FY 2007–08. The fire marshal and suppression personnel conduct all fire inspections. One inspection is done for each apartment complex. The jurisdiction is divided into three areas (primary, secondary, and outline) with each shift assigned an area to inspect. Suppression personnel are responsible for the first inspection and the first reinspection if needed. If additional reinspections are required, they are forwarded to the fire marshal for compliance.

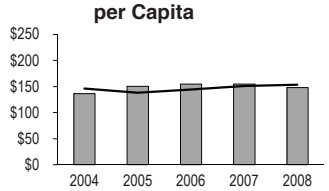
Conditions Affecting Service, Performance, and Costs

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.

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

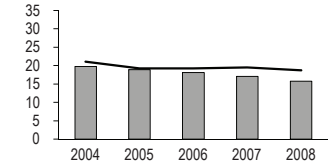
RESOURCE Measures

Fire Services Costs per Capita



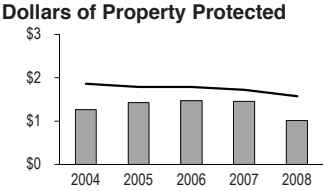
	2004	2005	2006	2007	2008
Cary	$136	$151	$155	$155	$148
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	19.8	18.9	18.1	17.1	15.7
Average	21.1	19.2	19.2	19.5	18.7

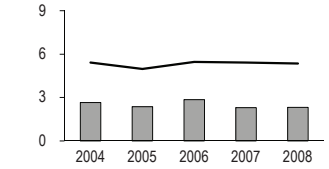
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Cary	$1.26	$1.43	$1.47	$1.46	$1.01
Average	$1.86	$1.78	$1.78	$1.72	$1.57

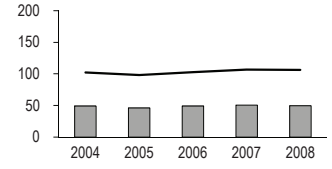
WORKLOAD Measures

Actual Fires per 1,000 Population



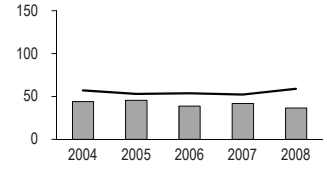
	2004	2005	2006	2007	2008
Cary	2.66	2.37	2.85	2.31	2.32
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Cary	49	46	49	51	49
Average	102	98	103	107	106

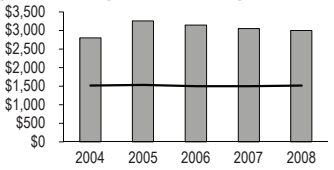
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Cary	44	45	39	42	37
Average	57	53	54	52	59

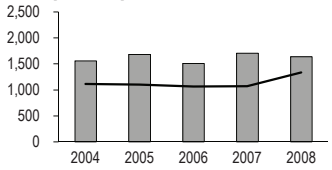
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Cary	$2,802	$3,261	$3,148	$3,049	$2,996
Average	$1,515	$1,530	$1,501	$1,498	$1,515

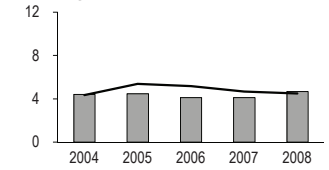
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Cary	1,559	1,682	1,506	1,706	1,638
Average	1,114	1,103	1,064	1,068	1,337

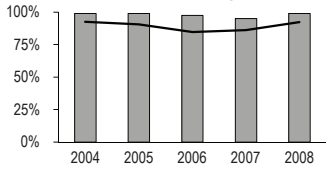
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



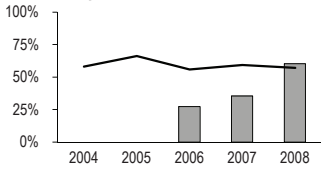
	2004	2005	2006	2007	2008
Cary	4.4	4.5	4.1	4.1	4.7
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



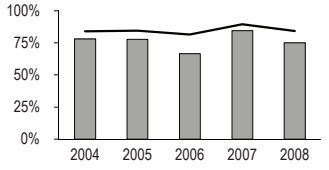
	2004	2005	2006	2007	2008
Cary	99%	99%	97%	95%	99%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



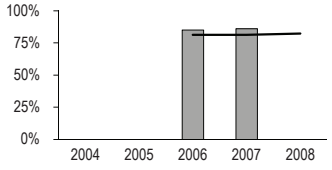
	2004	2005	2006	2007	2008
Cary			27%	35%	60%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



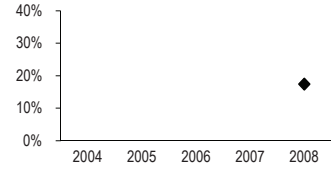
	2004	2005	2006	2007	2008
Cary	78%	78%	67%	85%	75%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Cary			85%	86%	
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Cary					
Average					17.4%

Cary

MUNICIPAL PROFILE

Population Served	133,925
Land Area Served (Square Miles)	54.8
Persons Served per Square Mile	2,443
Topography	Flat; gently rolling
County	Wake
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.5%
Operating Costs		20.9%
Capital Costs		6.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	14,389,446
Operating Costs	$	4,152,260
Capital Costs	$	1,315,151
TOTAL	$	19,856,857

SERVICE PROFILE

FTE Positions—Firefighters	191.0
FTE Positions—Other	19.7
Fire Stations	7
First-line Fire Apparatus	
Pumpers	7
Aerial Trucks	4
Quints	0
Squads	1
Rescue	2
Other	8
Fire Department Responses	6,628
All Fire Responses	311
Structural Fires Reported	63
Estimated Fire Loss	$1,933,916
Amount of Property Protected	$19,628,270,711
Number of Fire Education Programs or Events	150

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Cary Fire Department provides fire protection, emergency medical services (EMS), technical rescue (except hazmat technician and specialist level service), fire code enforcement services, and plans review.

All emergency services (shift) personnel are trained and certified as NC FFII, EMT–with defibrillator, and rescue technicians. Emergency services staff members work from seven fire stations on three twenty-four hour shifts. Each shift is divided into two battalions, each supervised by a battalion chief. Currently each battalion consists of three or four fire stations, each having an engine company and either a ladder truck or light rescue company.

The town has an ISO rating of 3.

The town conducted 4,915 fire maintenance, construction, and reinspections during FY 2007–08. 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.

All risk management personnel are certified as Standard Level 3 inspectors. The fire marshal, who currently manages the division, reviews various site, building, and systems plans and serves as the direct supervisor for the inspection staff. In addition to plans review and code enforcement services, the division provides public education services through a public educator.

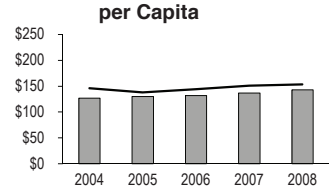
Conditions Affecting Service, Performance, and Costs

The performance measure "percentage of 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.

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2004 through 2008

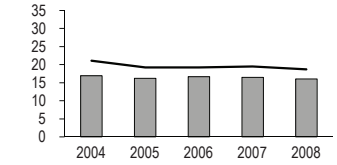
RESOURCE Measures

Fire Services Costs per Capita



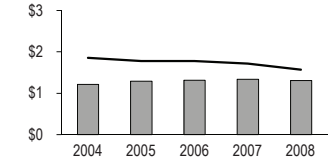
	2004	2005	2006	2007	2008
Charlotte	$127	$130	$132	$137	$143
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Charlotte	16.9	16.3	16.6	16.4	16.1
Average	21.1	19.2	19.2	19.5	18.7

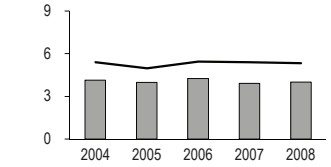
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Charlotte	$1.21	$1.29	$1.31	$1.34	$1.31
Average	$1.86	$1.78	$1.78	$1.72	$1.57

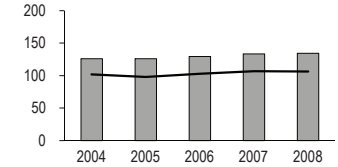
WORKLOAD Measures

Actual Fires per 1,000 Population



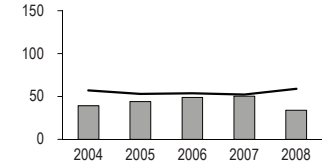
	2004	2005	2006	2007	2008
Charlotte	4.14	3.99	4.25	3.93	4.01
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Charlotte	126	126	130	133	134
Average	102	98	103	107	106

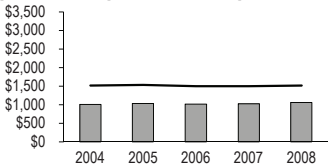
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Charlotte	39	44	49	50	34
Average	57	53	54	52	59

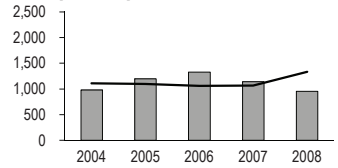
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Charlotte	$1,007	$1,031	$1,016	$1,027	$1,061
Average	$1,515	$1,530	$1,501	$1,498	$1,515

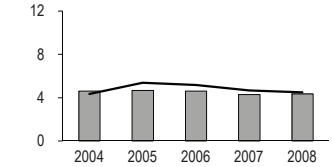
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Charlotte	981	1,194	1,331	1,143	957
Average	1,114	1,103	1,064	1,068	1,337

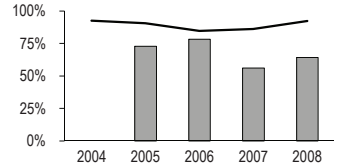
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



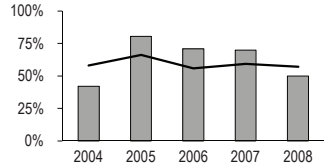
	2004	2005	2006	2007	2008
Charlotte	4.6	4.7	4.6	4.3	4.3
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



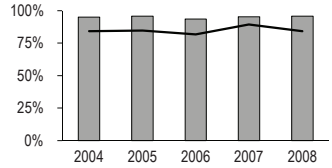
	2004	2005	2006	2007	2008
Charlotte		73%	78%	56%	64%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



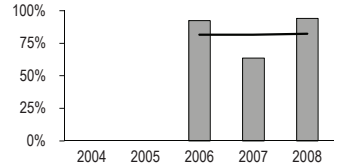
	2004	2005	2006	2007	2008
Charlotte	42%	80%	71%	70%	50%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



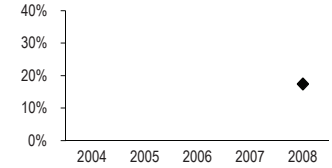
	2004	2005	2006	2007	2008
Charlotte	95%	96%	94%	95%	96%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Charlotte			92%	64%	94%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Charlotte					
Average					17.4%

Charlotte

MUNICIPAL PROFILE

Population Served	674,752
Land Area Served (Square Miles)	287.9
Persons Served per Square Mile	2,343
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		78.7%
Operating Costs		17.9%
Capital Costs		3.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	75,812,789
Operating Costs	$	17,234,026
Capital Costs	$	3,243,790
TOTAL	$	96,290,605

SERVICE PROFILE

FTE Positions—Firefighters	960.0
FTE Positions—Other	123.0
Fire Stations	38
First-line Fire Apparatus	
Pumpers	39
Aerial Trucks	0
Quints	14
Squads	0
Rescue	2
Other	32
Fire Department Responses	90,743
All Fire Responses	2,703
Structural Fires Reported	582
Estimated Fire Loss	$25,521,753
Amount of Property Protected	$73,500,000,000
Number of Fire Education Programs or Events	3923

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Charlotte Fire Department is to minimize the risk of fire and other hazards to the life and property of the citizens of Charlotte. To accomplish this mission, the department provides response to and mitigation of fires, medical emergencies, hazardous materials incidents, aircraft emergencies, technical rescues, and other emergencies as they arise. These services are provided immediately to any person who has a need anywhere within the corporate limits of Charlotte.

The divisions of the Charlotte Fire Department are operations (A, B, C), training, administration, communications, logistics, fire prevention, and fire investigation.

The city uses a modified twenty-four-hour/forty-eight-hour shift schedule, using four twenty-four-hour shifts in a twelve-day cycle. The cycle is on one day, off one day, on one day, off two days, on one day, off one day, on one day, off four days. In addition, firefighters receive a Kelley day (ten hours) off and a Kelley night (fourteen hours) off every seven weeks to maintain the number of hours worked per week at fifty-two.

The city has an ISO rating of 3.

The fire department conducted 22,958 fire maintenance, construction, and reinspections during FY 2006–07. 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.

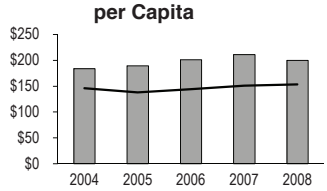
Conditions Affecting Service, Performance, and Costs

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.

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

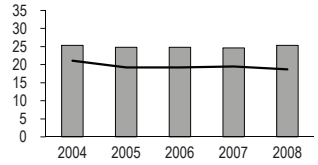
RESOURCE Measures

Fire Services Costs per Capita



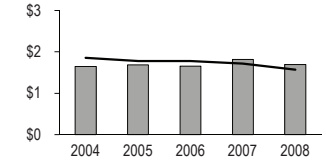
	2004	2005	2006	2007	2008
Concord	$184	$189	$201	$211	$200
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord	25.3	24.8	24.8	24.6	25.3
Average	21.1	19.2	19.2	19.5	18.7

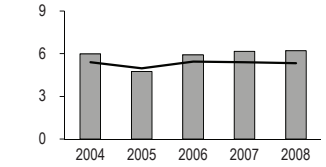
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Concord	$1.65	$1.69	$1.65	$1.82	$1.69
Average	$1.86	$1.78	$1.78	$1.72	$1.57

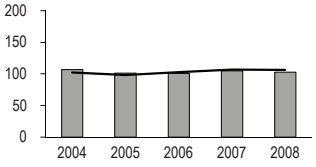
WORKLOAD Measures

Actual Fires per 1,000 Population



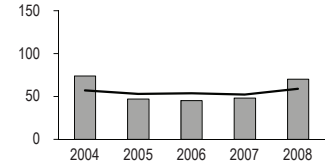
	2004	2005	2006	2007	2008
Concord	5.98	4.75	5.91	6.16	6.21
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Concord	107	101	101	105	103
Average	102	98	103	107	106

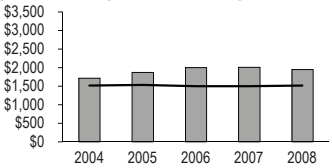
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Concord	74	47	45	48	70
Average	57	53	54	52	59

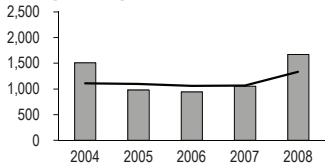
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Concord	$1,718	$1,873	$1,996	$2,007	$1,947
Average	$1,515	$1,530	$1,501	$1,498	$1,515

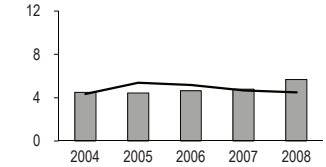
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Concord	1,508	976	938	1,053	1,674
Average	1,114	1,103	1,064	1,068	1,337

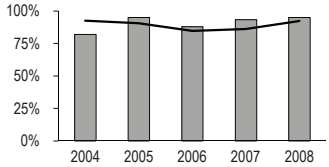
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



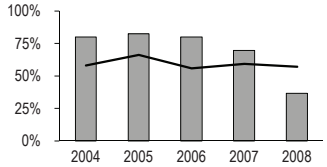
	2004	2005	2006	2007	2008
Concord	4.5	4.4	4.6	4.8	5.7
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



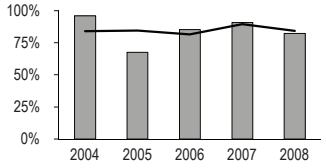
	2004	2005	2006	2007	2008
Concord	82%	95%	88%	93%	95%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



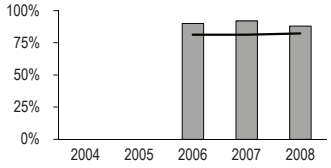
	2004	2005	2006	2007	2008
Concord	80%	83%	80%	70%	37%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



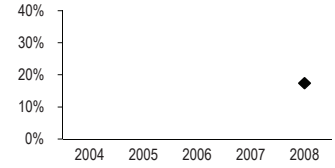
	2004	2005	2006	2007	2008
Concord	96%	68%	85%	91%	82%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Concord			90%	92%	88%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Concord					
Average					17.4%

Concord

MUNICIPAL PROFILE

Population Served	71,522
Land Area Served (Square Miles)	60.2
Persons Served per Square Mile	1,188
Topography	Flat; gently rolling
County	Cabarrus
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		64.8%
Operating Costs		21.6%
Capital Costs		13.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	9,271,143
Operating Costs	$	3,084,191
Capital Costs	$	1,951,106
TOTAL	$	14,306,440

SERVICE PROFILE

FTE Positions—Firefighters	162.0
FTE Positions—Other	19.0
Fire Stations	9
First-line Fire Apparatus	
Pumpers	5
Aerial Trucks	2
Quints	3
Squads	3
Rescue	0
Other	9
Fire Department Responses	7,347
All Fire Responses	444
Structural Fires Reported	109
Estimated Fire Loss	$4,107,154
Amount of Property Protected	$8,455,271,231
Number of Fire Education Programs or Events	389

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Concord's Fire Department is committed to providing a positive work environment to enable the department and personnel to strive for and achieve excellence in fire protection services.

The department is committed to the following: providing leadership through a management/employee team organizational concept that is dedicated to modern-day management principles and practices; providing the citizens with the best possible modern-day fire protection and life safety services in a courteous, professional, and cost-effective manner; providing equal opportunity for all employees to excel in their job performance and career development; striving to continually increase the public's awareness through fire prevention activities, public education, and community-based services; maintaining and striving to improve on an open, informative flow of correct information so that all employees and employee teams reach their goals and objectives; subscribing to departmental values of honesty, professionalism, teamwork, loyalty, dedication, and commitment to serving the public; and accepting and planning for change to develop and prepare the department to always strive for excellence.

The fire department in Concord contained the following divisions in FY 2007–08: administration, suppression, operations, training and career development, fire-risk management, and emergency management.

The fire department utilizes a shift schedule that includes twenty-four hours on and forty-eight hours off.

The city has an ISO rating of 3.

The fire department conducted 5,021 fire maintenance, construction,and reinspections during FY 2007–08. Inspections are conducted by the fire-risk management division. Each inspector has an assigned area of the city and a specific number of inspections to complete. Each occupancy is counted separately in the inspections number. An apartment complex would be considered as one occupancy. Reinspections are conducted within forty-five days to confirm corrections.

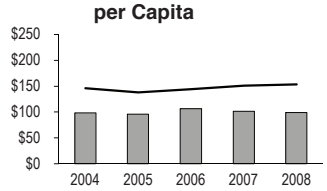
Conditions Affecting Service, Performance, and Costs

The performance measure "percentage of 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.

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

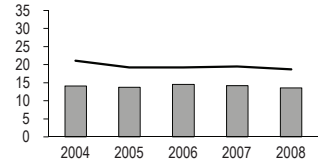
RESOURCE Measures

Fire Services Costs per Capita



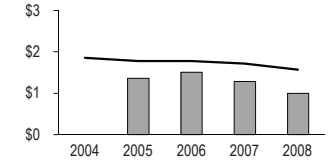
	2004	2005	2006	2007	2008
Durham	$98	$96	$106	$102	$99
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	14.1	13.7	14.5	14.2	13.5
Average	21.1	19.2	19.2	19.5	18.7

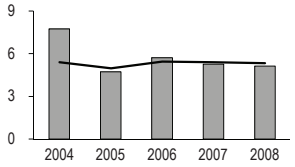
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Durham		$1.36	$1.51	$1.28	$1.00
Average	$1.86	$1.78	$1.78	$1.72	$1.57

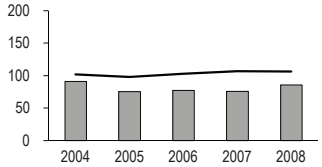
WORKLOAD Measures

Actual Fires per 1,000 Population



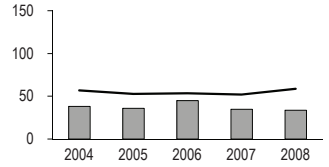
	2004	2005	2006	2007	2008
Durham	7.73	4.72	5.71	5.25	5.12
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Durham	91	75	77	76	86
Average	102	98	103	107	106

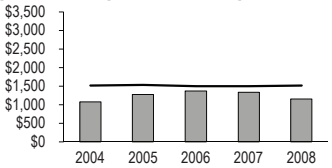
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Durham	38	36	45	35	34
Average	57	53	54	52	59

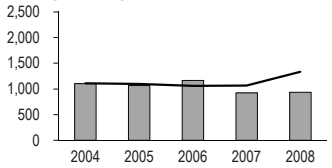
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Durham	$1,080	$1,273	$1,375	$1,338	$1,153
Average	$1,515	$1,530	$1,501	$1,498	$1,515

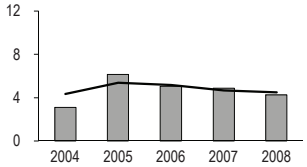
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Durham	1,105	1,069	1,167	920	935
Average	1,114	1,103	1,064	1,068	1,337

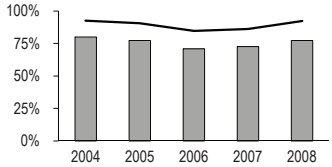
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



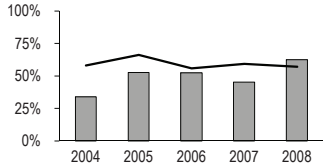
	2004	2005	2006	2007	2008
Durham	3.1	6.2	5.1	4.9	4.3
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



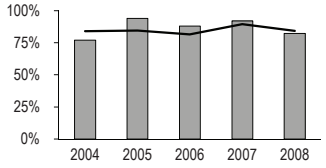
	2004	2005	2006	2007	2008
Durham	80%	77%	71%	73%	77%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



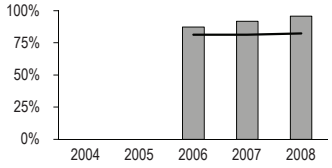
	2004	2005	2006	2007	2008
Durham	34%	53%	52%	45%	62%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



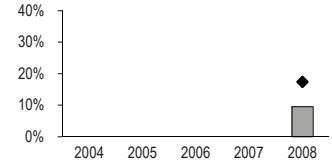
	2004	2005	2006	2007	2008
Durham	77%	94%	88%	92%	82%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Durham			87%	92%	96%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Durham					9.6%
Average					17.4%

Durham

MUNICIPAL PROFILE

Population Served	222,491
Land Area Served (Square Miles)	105.5
Persons Served per Square Mile	2,109
Topography	Flat; gently rolling
County	Durham
Climate	Temperate; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.4%
Operating Costs		16.8%
Capital Costs		9.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	16,131,152
Operating Costs	$	3,688,445
Capital Costs	$	2,159,242
TOTAL	$	21,978,839

SERVICE PROFILE

FTE Positions—Firefighters	275.0
FTE Positions—Other	26.0
Fire Stations	15
First-line Fire Apparatus	
Pumpers	14
Aerial Trucks	4
Quints	1
Squads	3
Rescue	1
Other	4
Fire Department Responses	19,058
All Fire Responses	1,139
Structural Fires Reported	237
Estimated Fire Loss	$10,116,717
Amount of Property Protected	$22,027,592,873
Number of Fire Education Programs or Events	318

EXPLANATORY INFORMATION

Service Level and Delivery
The mission of the Durham Fire Department is to prevent harm, stay safe, and seek opportunities to provide quality service.

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.

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.

The city has an ISO rating of 3.

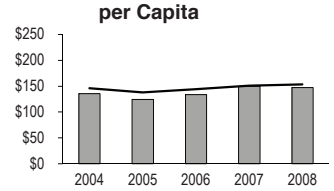
The fire department conducted 7,479 fire maintenance inspections and reinspections during FY 2007–08. The fire prevention division handles fire inspections. Fire inspections are conducted on an annual basis, and each business is notified at least ten days prior to a fire inspection. A fee is assessed to each business for a permit. Each apartment complex is assigned one file number.

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.

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

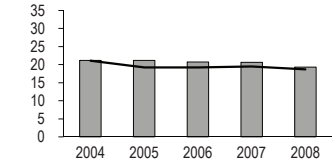
RESOURCE Measures

Fire Services Costs per Capita



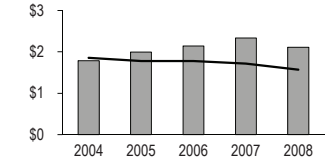
	2004	2005	2006	2007	2008
Gastonia	$136	$125	$134	$150	$147
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	21.2	21.2	20.8	20.6	19.4
Average	21.1	19.2	19.2	19.5	18.7

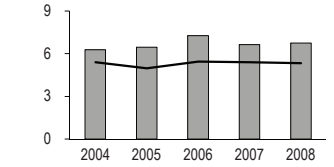
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Gastonia	$1.79	$2.00	$2.14	$2.34	$2.11
Average	$1.86	$1.78	$1.78	$1.72	$1.57

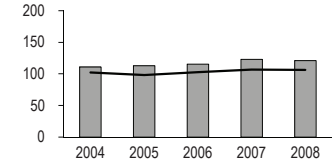
WORKLOAD Measures

Actual Fires per 1,000 Population



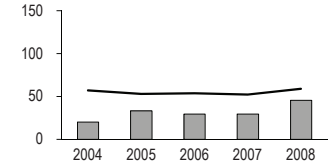
	2004	2005	2006	2007	2008
Gastonia	6.28	6.47	7.27	6.65	6.74
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	111	113	115	123	121
Average	102	98	103	107	106

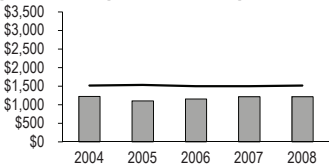
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Gastonia	20	33	29	29	46
Average	57	53	54	52	59

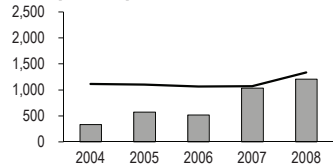
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Gastonia	$1,221	$1,101	$1,158	$1,219	$1,218
Average	$1,515	$1,530	$1,501	$1,498	$1,515

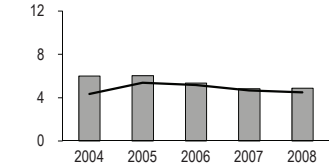
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Gastonia	334	570	517	1,035	1,209
Average	1,114	1,103	1,064	1,068	1,337

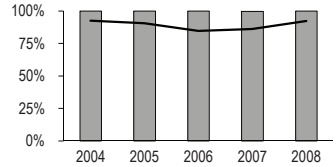
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



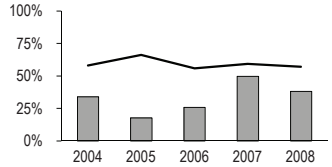
	2004	2005	2006	2007	2008
Gastonia	6.0	6.0	5.3	4.8	4.9
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



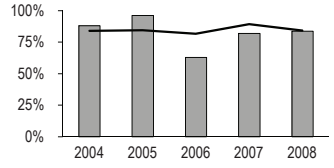
	2004	2005	2006	2007	2008
Gastonia	100%	100%	100%	100%	100%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



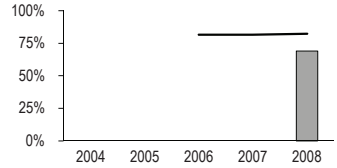
	2004	2005	2006	2007	2008
Gastonia	34%	18%	26%	50%	38%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



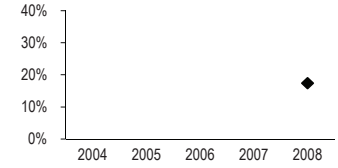
	2004	2005	2006	2007	2008
Gastonia	88%	96%	63%	82%	84%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Gastonia					69%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Gastonia					
Average					17.4%

Gastonia

MUNICIPAL PROFILE

Population Served	72,848
Land Area Served (Square Miles)	50.4
Persons Served per Square Mile	1,445
Topography	Flat; gently rolling
County	Gaston
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.8%
Operating Costs		19.0%
Capital Costs		5.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	8,130,047
Operating Costs	$	2,036,627
Capital Costs	$	562,248
TOTAL	$	10,728,922

SERVICE PROFILE

FTE Positions—Firefighters	130.0
FTE Positions—Other	11.0
Fire Stations	8
First-line Fire Apparatus	
Pumpers	6
Aerial Trucks	1
Quints	2
Squads	0
Rescue	1
Other	0
Fire Department Responses	8,810
All Fire Responses	491
Structural Fires Reported	110
Estimated Fire Loss	$2,946,595
Amount of Property Protected	$5,089,893,878
Number of Fire Education Programs or Events	403

EXPLANATORY INFORMATION

Service Level and Delivery

The Gastonia Fire Department is dedicated to providing outstanding fire, rescue, and life safety services to the residents of Gastonia. The department offers comprehensive programs for fire suppression, an emergency medical service, a hazardous materials response team, a specialized technical rescue team, fire code enforcement, fire prevention, life safety education, and involvement in various community relations programs. Nonemergency support functions include target hazard preplanning, hydrant inspections, and smoke detector installations.

The fire department contains the following divisions: administration, operations, life safety, special operations, and training/risk management.

Firefighters work a twenty-four-hour shift followed by forty-eight hours off. They receive one Kelley day (twelve hours) per twenty-eight-day work cycle.

The city has an ISO rating of 3.

The fire department conducted 3,326 fire maintenance, construction, and reinspections during FY 2007–08. General inspections are conducted by the Life Safety Division. The fire marshal performs plan reviews for fire suppression equipment installations.

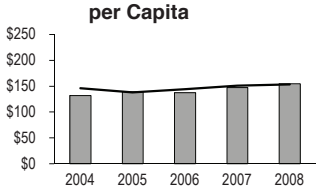
Conditions Affecting Service, Performance, and Costs

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.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

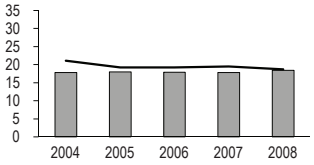
RESOURCE Measures

Fire Services Costs per Capita



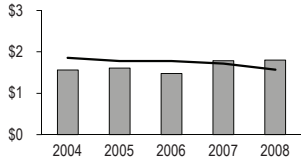
	2004	2005	2006	2007	2008
Greensboro	$132	$139	$137	$147	$154
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	17.8	18.0	17.9	17.8	18.4
Average	21.1	19.2	19.2	19.5	18.7

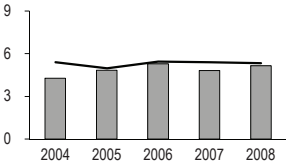
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Greensboro	$1.56	$1.61	$1.48	$1.78	$1.80
Average	$1.86	$1.78	$1.78	$1.72	$1.57

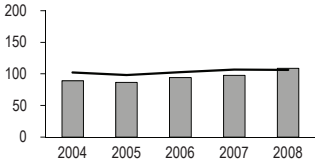
WORKLOAD Measures

Actual Fires per 1,000 Population



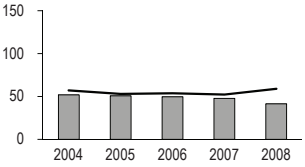
	2004	2005	2006	2007	2008
Greensboro	4.28	4.84	5.29	4.81	5.15
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	89	87	94	98	109
Average	102	98	103	107	106

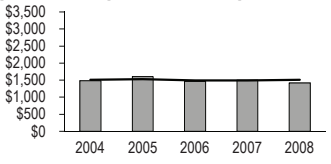
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Greensboro	52	51	50	48	41
Average	57	53	54	52	59

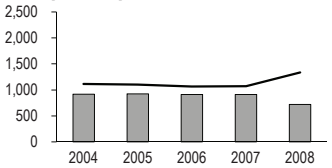
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Greensboro	$1,486	$1,609	$1,460	$1,503	$1,417
Average	$1,515	$1,530	$1,501	$1,498	$1,515

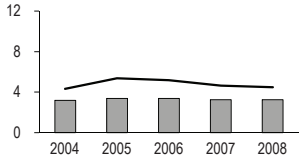
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Greensboro	920	921	910	912	721
Average	1,114	1,103	1,064	1,068	1,337

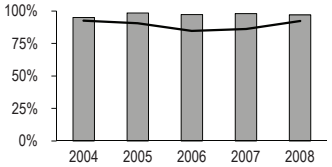
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



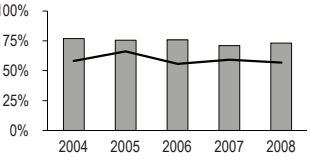
	2004	2005	2006	2007	2008
Greensboro	3.2	3.4	3.4	3.3	3.3
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



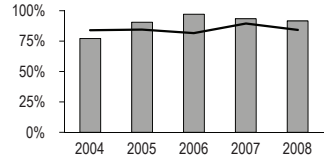
	2004	2005	2006	2007	2008
Greensboro	95%	98%	97%	98%	97%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



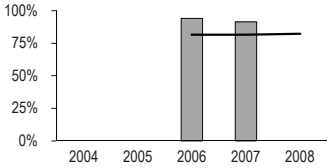
	2004	2005	2006	2007	2008
Greensboro	77%	76%	76%	71%	73%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



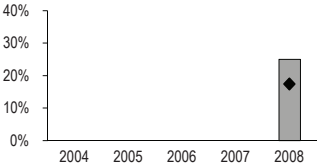
	2004	2005	2006	2007	2008
Greensboro	77%	90%	97%	93%	92%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Greensboro			94%	91%	
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Greensboro					25.0%
Average					17.4%

Greensboro

MUNICIPAL PROFILE

Population Served	261,927
Land Area Served (Square Miles)	144.0
Persons Served per Square Mile	1,819
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.2%
Operating Costs		23.8%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	30,809,005
Operating Costs	$	9,621,878
Capital Costs	$	18,488
TOTAL	$	40,449,371

SERVICE PROFILE

FTE Positions—Firefighters	429.0
FTE Positions—Other	54.0
Fire Stations	22
First-line Fire Apparatus	
Pumpers	22
Aerial Trucks	0
Quints	7
Squads	0
Rescue	1
Other	1
Fire Department Responses	28,541
All Fire Responses	1,350
Structural Fires Reported	307
Estimated Fire Loss	$6,216,057
Amount of Property Protected	$22,495,000,000
Number of Fire Education Programs or Events	3,341

EXPLANATORY INFORMATION

Service Level and Delivery

The mission of the Greensboro Fire Department is to provide the public the best possible service in a courteous, professional, and cost-effective manner; to provide leadership through a well-defined management team committed to the departmental management philosophy; to provide equal opportunity for all employees in job performance and career development; to enhance public awareness through education, activities, and services; to maintain an open, informative flow of information so that all municipal departments may reach their goals and objectives; and to subscribe to honesty, integrity, and fairness.

The fire department contains the following divisions: administrative services, resource management, and emergency services.

The fire department utilizes a shift schedule that includes twenty-four hours on and forty-eight hours off. For FLSA purposes, the department utilizes a twenty-seven-day cycle.

The city has an ISO rating of 1, the highest rating possible.

The fire department in Greensboro conducted 10,808 fire maintenance, construction, and reinspections during FY 2007–08. 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.

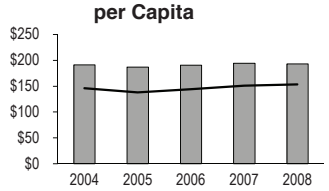
Conditions Affecting Service, Performance, and Costs

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.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

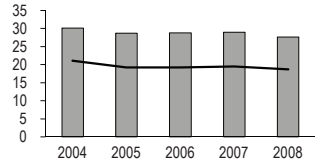
RESOURCE Measures

Fire Services Costs per Capita



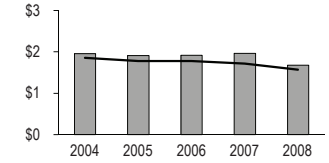
	2004	2005	2006	2007	2008
Hickory	$192	$187	$190	$194	$193
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	30.2	28.7	28.8	29.0	27.6
Average	21.1	19.2	19.2	19.5	18.7

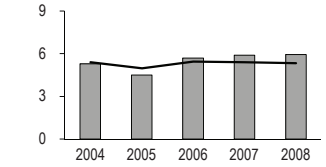
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Hickory	$1.95	$1.91	$1.91	$1.97	$1.68
Average	$1.86	$1.78	$1.78	$1.72	$1.57

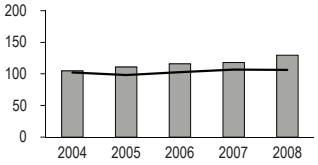
WORKLOAD Measures

Actual Fires per 1,000 Population



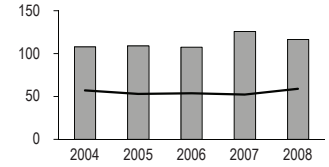
	2004	2005	2006	2007	2008
Hickory	5.28	4.50	5.68	5.90	5.93
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	105	111	116	118	130
Average	102	98	103	107	106

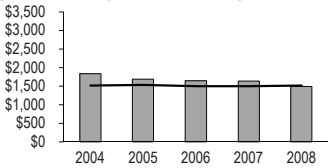
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Hickory	108	109	107	126	116
Average	57	53	54	52	59

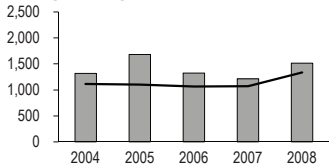
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Hickory	$1,832	$1,690	$1,645	$1,642	$1,491
Average	$1,515	$1,530	$1,501	$1,498	$1,515

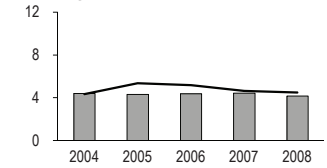
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Hickory	1,315	1,681	1,322	1,215	1,512
Average	1,114	1,103	1,064	1,068	1,337

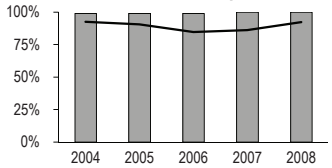
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



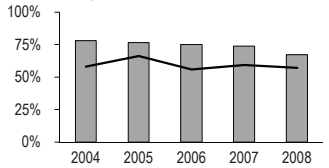
	2004	2005	2006	2007	2008
Hickory	4.4	4.3	4.4	4.4	4.2
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



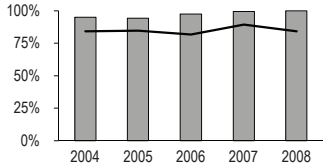
	2004	2005	2006	2007	2008
Hickory	99%	99%	99%	100%	100%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



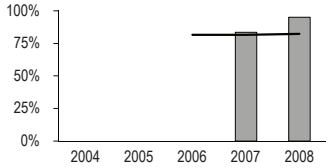
	2004	2005	2006	2007	2008
Hickory	78%	77%	75%	74%	67%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



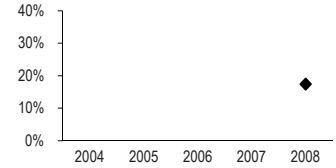
	2004	2005	2006	2007	2008
Hickory	95%	94%	98%	100%	100%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Hickory				84%	95%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Hickory					
Average					17.4%

Hickory

MUNICIPAL PROFILE

Population Served	45,523
Land Area Served (Square Miles)	42.1
Persons Served per Square Mile	1,080
Topography	gently rolling
County	Catawba
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		81.6%
Operating Costs		14.9%
Capital Costs		3.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,177,043
Operating Costs	$	1,312,192
Capital Costs	$	307,296
TOTAL	$	8,796,531

SERVICE PROFILE

FTE Positions—Firefighters	105.0
FTE Positions—Other	20.8
Fire Stations	7
First-line Fire Apparatus	
Pumpers	6
Aerial Trucks	1
Quints	0
Squads	1
Rescue	1
Other	3
Fire Department Responses	5,899
All Fire Responses	270
Structural Fires Reported	58
Estimated Fire Loss	$2,274,105
Amount of Property Protected	$5,246,279,227
Number of Fire Education Programs or Events	509

EXPLANATORY INFORMATION

Service Level and Delivery
The primary goals of the Hickory Fire Department are to prevent fires, save lives and property, and protect the environment by providing vast amounts of training and planning for the formulation of a successful fire service delivery system.

The fire department contained the following divisions: administration, fire prevention, public education, training, maintenance, and fire suppression. There also was one volunteer fire company.

Fire suppression personnel work a twenty-four-hour shift with forty-eight hours off between shifts. The twenty-four-hour shift begins at 8 a.m.

The city has an ISO rating of 3.

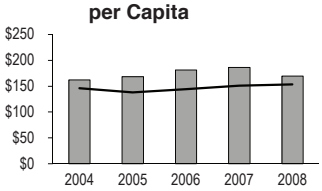
The fire department in Hickory conducted 5,293 fire maintenance, construction, and reinspections during FY 2007–08. Fire prevention inspectors are assigned Level I, Level II, and Level III inspections. They also review construction and fire protection plans and inspect the installation of fire protection systems. The inspectors also accompany building inspectors during certificate of occupancy inspections and are responsible for conducting fire investigations, fire hydrant flow tests, occupancy and site visits, and other activities as assigned.

Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of 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

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

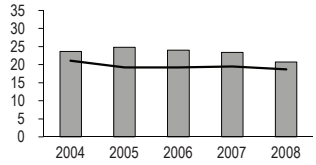
RESOURCE Measures

Fire Services Costs per Capita



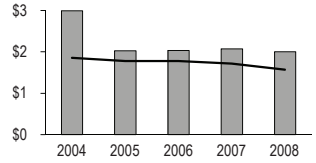
	2004	2005	2006	2007	2008
High Point	$162	$168	$182	$186	$169
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	23.7	24.8	24.0	23.4	20.7
Average	21.1	19.2	19.2	19.5	18.7

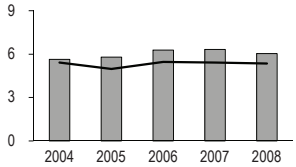
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
High Point	$2.99	$2.02	$2.03	$2.07	$2.00
Average	$1.86	$1.78	$1.78	$1.72	$1.57

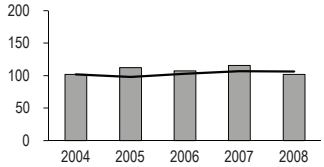
WORKLOAD Measures

Actual Fires per 1,000 Population



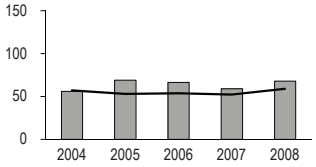
	2004	2005	2006	2007	2008
High Point	5.64	5.79	6.29	6.33	6.04
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
High Point	102	112	107	116	102
Average	102	98	103	107	106

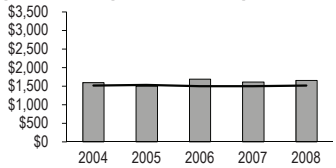
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
High Point	56	69	66	59	68
Average	57	53	54	52	59

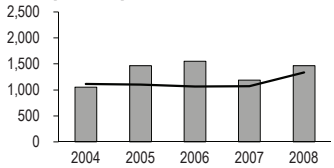
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
High Point	$1,597	$1,497	$1,692	$1,610	$1,657
Average	$1,515	$1,530	$1,501	$1,498	$1,515

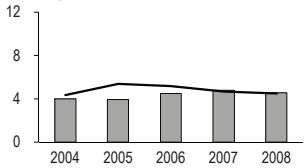
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
High Point	1,055	1,464	1,552	1,188	1,465
Average	1,114	1,103	1,064	1,068	1,337

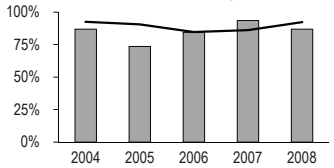
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



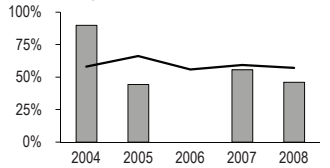
	2004	2005	2006	2007	2008
High Point	4.0	3.9	4.5	4.8	4.6
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



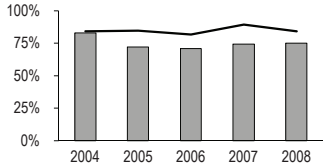
	2004	2005	2006	2007	2008
High Point	87%	74%	84%	94%	87%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



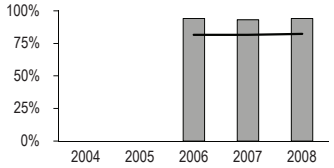
	2004	2005	2006	2007	2008
High Point	90%	44%		56%	46%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



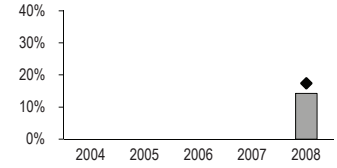
	2004	2005	2006	2007	2008
High Point	83%	72%	71%	74%	75%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
High Point			94%	93%	94%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
High Point					14.3%
Average					17.4%

High Point

MUNICIPAL PROFILE

Population Served	108,030
Land Area Served (Square Miles)	67.0
Persons Served per Square Mile	1,612
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.8%
Operating Costs		16.7%
Capital Costs		9.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	13,497,054
Operating Costs	$	3,063,945
Capital Costs	$	1,733,257
TOTAL	$	18,294,256

SERVICE PROFILE

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	11,038
All Fire Responses	653
Structural Fires Reported	139
Estimated Fire Loss	$1,360,450
Amount of Property Protected	$9,124,474,032
Number of Fire Education Programs or Events	414

EXPLANATORY INFORMATION

Service Level and Delivery
The High Point Fire Department provides the following functions: firefighting, emergency medical response, rescue response, hazardous material technician response, inspection, fleet/vehicle maintenance, departmental technical services, and public life safety education and community relations.

The fire department 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.

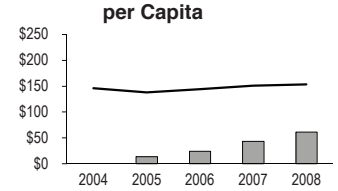
The fire department in High Point conducted 7,327 fire maintenance, construction, and reinspections during FY 2007–08. All Level I inspections are conducted by fire suppression personnel. They are responsible for making the first inspection on an occupancy as well as conducting the first reinspection 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

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

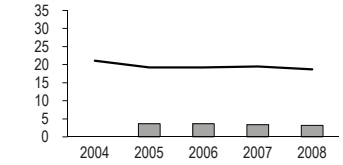
RESOURCE Measures

Fire Services Costs per Capita



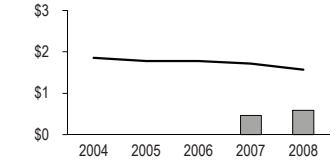
	2004	2005	2006	2007	2008
Matthews		$13	$24	$43	$61
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Matthews		3.6	3.6	3.4	3.2
Average	21.1	19.2	19.2	19.5	18.7

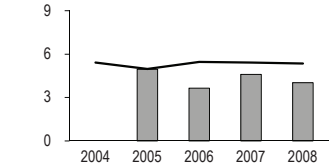
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Matthews				$0.47	$0.59
Average	$1.86	$1.78	$1.78	$1.72	$1.57

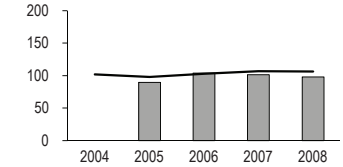
WORKLOAD Measures

Actual Fires per 1,000 Population



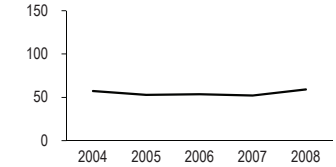
	2004	2005	2006	2007	2008
Matthews		4.94	3.66	4.59	4.03
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Matthews		90	104	102	98
Average	102	98	103	107	106

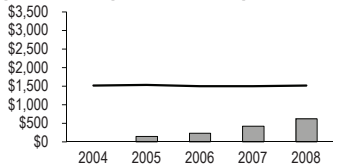
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Matthews					
Average	57	53	54	52	59

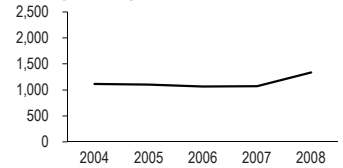
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Matthews		$150	$229	$424	$623
Average	$1,515	$1,530	$1,501	$1,498	$1,515

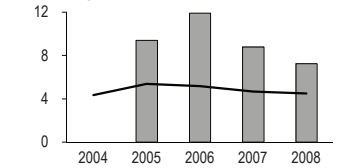
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Matthews					
Average	1,114	1,103	1,064	1,068	1,337

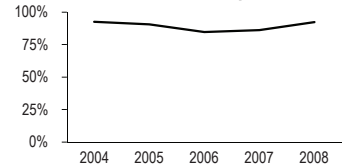
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



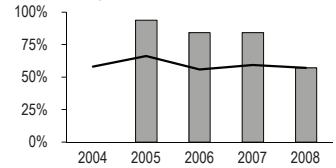
	2004	2005	2006	2007	2008
Matthews		9.4	11.9	8.8	7.2
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



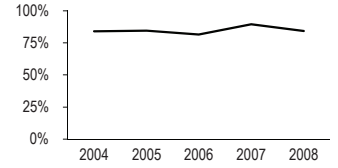
	2004	2005	2006	2007	2008
Matthews					
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



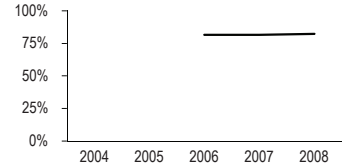
	2004	2005	2006	2007	2008
Matthews		94%	84%	84%	57%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



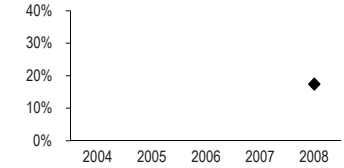
	2004	2005	2006	2007	2008
Matthews					
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Matthews					
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Matthews					0.0%
Average					17.4%

Matthews

MUNICIPAL PROFILE

Population Served	28,072
Land Area Served (Square Miles)	16.6
Persons Served per Square Mile	1,688
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		33.7%
Operating Costs		35.9%
Capital Costs		30.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	578,948
Operating Costs	$	615,265
Capital Costs	$	521,630
TOTAL	$	1,715,843

SERVICE PROFILE

FTE Positions—Firefighters	9.0
FTE Positions—Other	0.0
Fire Stations	2
First-line Fire Apparatus	
Pumpers	2
Aerial Trucks	1
Quints	0
Squads	1
Rescue	2
Other	6
Fire Department Responses	2,755
All Fire Responses	113
Structural Fires Reported	21
Estimated Fire Loss	$464,597
Amount of Property Protected	$2,917,114,703
Number of Fire Education Programs or Events	110

EXPLANATORY INFORMATION

Service Level and Delivery
The fire department exists to provide fire suppression and rescue while demonstrating to the citizens of Matthews courage, pride, loyalty, and professionalism and to reduce mortality and the severity and duration of disability related to emergency medical incidents arising in the community due to acute illness and/or traumatic injury in a cost-effective manner.

The Town of Matthews and the Matthews-Morningstar Fire Department are in a multiyear transitional period. The Matthews-Morningstar Fire Department provides fire protection. The town's Rescue and EMS Department provides first responder service. These departments will merge into one town department. The Town of Matthews is currently providing nine paid positions for fire services. The town will assume all responsibility for fire services within its jurisdiction over the next fiscal year.

The town currently provides EMS first response to its citizens with three paid EMTs, two of whom are currently cross trained to the Firefighter II level. Volunteers provide most of the staffing for both fire and EMS services. Paid personnel work three twelve-hour shifts and one eight-hour shift per week.

The city has an ISO rating of 5.

The town does not handle fire inspections. The county fire marshal's office is responsible for inspections in the jurisdiction.

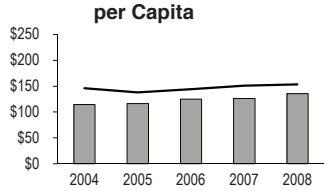
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. The performance measure "percentage of lost pulse cases recovered pulse at transfer of care" is a new measure as of FY 2007–08

Because the town is transitioning from a volunteer service, the total cost for fire services in Matthews is artificially low when compared to the other municipalities. Many of the costs, such as the capital associated with vehicles and fire stations, are currently paid by the volunteer department. As the transtion proceeds, the costs will increase as more paid personnel are hired and the town assumes capital costs.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

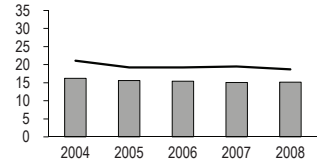
RESOURCE Measures

Fire Services Costs per Capita



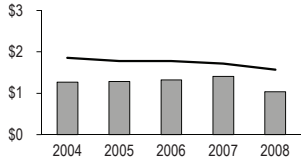
	2004	2005	2006	2007	2008
Raleigh	$114	$117	$125	$126	$136
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	16.2	15.6	15.5	15.0	15.2
Average	21.1	19.2	19.2	19.5	18.7

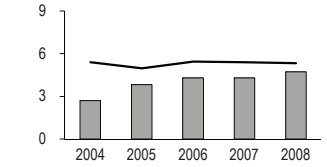
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Raleigh	$1.27	$1.28	$1.32	$1.41	$1.04
Average	$1.86	$1.78	$1.78	$1.72	$1.57

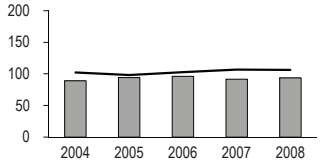
WORKLOAD Measures

Actual Fires per 1,000 Population



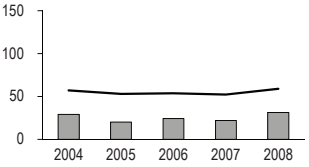
	2004	2005	2006	2007	2008
Raleigh	2.69	3.84	4.29	4.30	4.73
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	89	94	96	92	93
Average	102	98	103	107	106

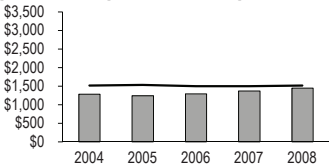
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Raleigh	29	20	24	22	31
Average	57	53	54	52	59

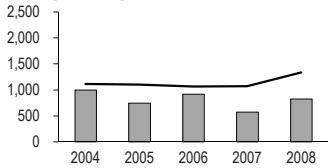
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Raleigh	$1,284	$1,238	$1,294	$1,374	$1,450
Average	$1,515	$1,530	$1,501	$1,498	$1,515

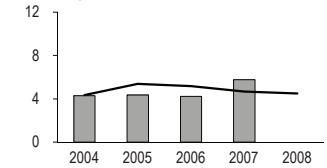
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Raleigh	995	748	916	574	823
Average	1,114	1,103	1,064	1,068	1,337

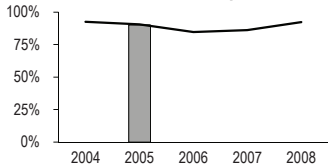
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



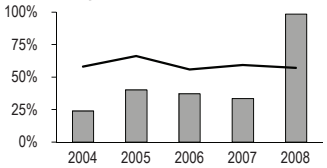
	2004	2005	2006	2007	2008
Raleigh	4.3	4.3	4.2	5.8	0.0
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



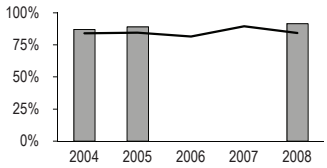
	2004	2005	2006	2007	2008
Raleigh		90%			
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



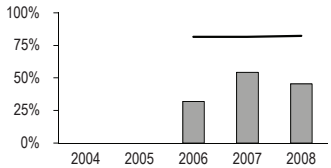
	2004	2005	2006	2007	2008
Raleigh	24%	40%	37%	34%	99%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



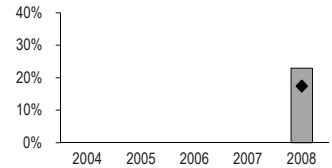
	2004	2005	2006	2007	2008
Raleigh	87%	89%			92%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Raleigh			32%	54%	45%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Raleigh					23.0%
Average					17.4%

Raleigh

MUNICIPAL PROFILE

Population Served	367,313
Land Area Served (Square Miles)	140.5
Persons Served per Square Mile	2,614
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.0%
Operating Costs		14.3%
Capital Costs		6.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	39,319,285
Operating Costs	$	7,112,209
Capital Costs	$	3,347,058
TOTAL	$	49,778,552

SERVICE PROFILE

FTE Positions—Firefighters	509.0
FTE Positions—Other	48.0
Fire Stations	27
First-line Fire Apparatus	
Pumpers	28
Aerial Trucks	6
Quints	0
Squads	0
Rescue	3
Other	7
Fire Department Responses	34,324
All Fire Responses	1,739
Structural Fires Reported	277
Estimated Fire Loss	NA
Amount of Property Protected	$47,872,692,000
Number of Fire Education Programs or Events	419

EXPLANATORY INFORMATION

Service Level and Delivery
The Raleigh Fire Department provides the following services in carrying out its mission: fire protection, emergency medical first response, extrication, confined space and high angle rescue, hazardous materials response, fire inspections, and fire education.

The fire department contained the following divisions: fire administration, fire prevention, fire operations, and support services.

The shift schedule for the fire department is a nine-day cycle as follows: twenty-four hours on, twenty-four off; twenty-four on, twenty-four off; twenty-four on, and four twenty-four off.

The city has an ISO rating of 3 .

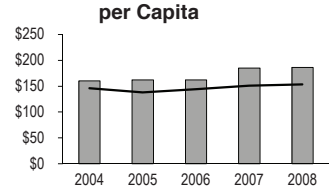
The fire department in Raleigh conducted 11,521 fire maintenance, construction, and reinspections during FY 2007–08. Fire inspections are conducted by the fire prevention division. Reinspections are not counted as an inspection. Apartment complexes and high rises are considered as one inspection with 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

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

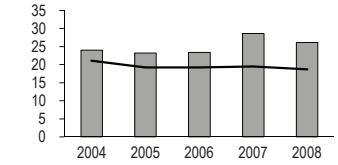
RESOURCE Measures

Fire Services Costs per Capita



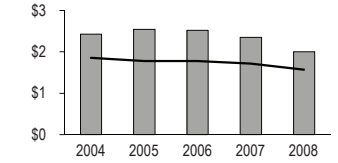
	2004	2005	2006	2007	2008
Salisbury	$160	$162	$162	$185	$186
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	24.0	23.2	23.4	28.7	26.1
Average	21.1	19.2	19.2	19.5	18.7

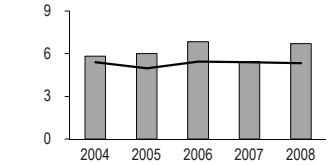
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Salisbury	$2.42	$2.54	$2.52	$2.35	$2.00
Average	$1.86	$1.78	$1.78	$1.72	$1.57

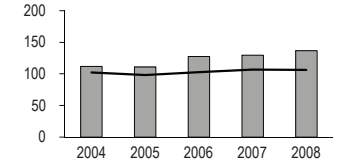
WORKLOAD Measures

Actual Fires per 1,000 Population



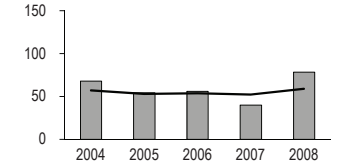
	2004	2005	2006	2007	2008
Salisbury	5.82	6.02	6.84	5.44	6.70
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	112	111	128	130	137
Average	102	98	103	107	106

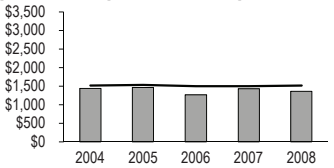
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Salisbury	68	54	56	40	78
Average	57	53	54	52	59

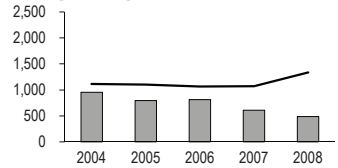
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Salisbury	$1,438	$1,465	$1,271	$1,428	$1,363
Average	$1,515	$1,530	$1,501	$1,498	$1,515

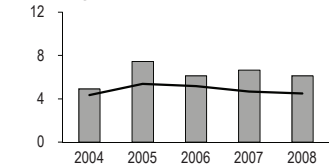
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Salisbury	953	794	815	610	486
Average	1,114	1,103	1,064	1,068	1,337

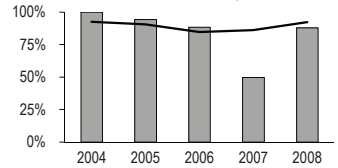
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



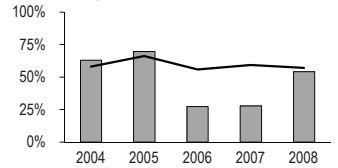
	2004	2005	2006	2007	2008
Salisbury	4.9	7.5	6.1	6.7	6.1
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



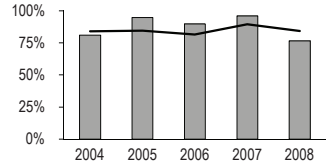
	2004	2005	2006	2007	2008
Salisbury	100%	94%	88%	50%	88%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



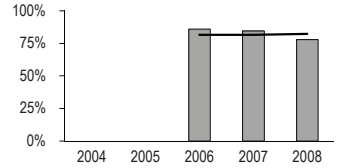
	2004	2005	2006	2007	2008
Salisbury	63%	70%	27%	28%	54%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



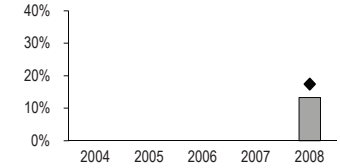
	2004	2005	2006	2007	2008
Salisbury	81%	95%	90%	96%	77%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Salisbury			86%	85%	78%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Salisbury					13.3%
Average					17.4%

Salisbury

MUNICIPAL PROFILE

Population Served	31,023
Land Area Served (Square Miles)	21.6
Persons Served per Square Mile	1,435
Topography	Gently rolling
County	Rowan
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.8%
Operating Costs		24.8%
Capital Costs		11.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,685,453
Operating Costs	$	1,434,659
Capital Costs	$	656,745
TOTAL	$	5,776,857

SERVICE PROFILE

FTE Positions—Firefighters	69.0
FTE Positions—Other	12.0
Fire Stations	4
First-line Fire Apparatus	
Pumpers	1
Aerial Trucks	0
Quints	4
Squads	1
Rescue	0
Other	2
Fire Department Responses	4,237
All Fire Responses	208
Structural Fires Reported	59
Estimated Fire Loss	$4,789,550
Amount of Property Protected	$2,884,000,000
Number of Fire Education Programs or Events	53

EXPLANATORY INFORMATION

Service Level and Delivery

The statement of purpose for the Salisbury Fire Department is to provide capable, well-trained personnel and necessary equipment to suppress fires and effectively manage hazardous chemical accidents that may occur in the community related to transportation or industry; to provide rescue services as needed and basic life support through an updated First Responder Program; and to work toward a more fire safe community through loss prevention activities, including inspections, code enforcement, minimum housing activities, and public education programs.

The fire department contained the following divisions: fire control, loss prevention, training, and logistics.

The shift schedule for the fire department is twenty-four hours on and forty-eight hours off for three cycles. There are three shifts. Captains and firefighters get a twenty-four hour Kelley day plus four hours off for any twenty-eight-day cycle exceeding 212 hours worked. The city has some part-time personnel working to fill vacant spots on the shifts due to Kelley days. Salisbury now is a quint system of deployment and duty. The quint trucks combine the duties of an engine and a truck company into a single company.

The city has an ISO rating of 2.

The fire department in Salisbury reported 2,432 fire maintenance, construction, and reinspections conducted in FY 2007–08. The city follows or exceeds the state guidelines for frequency of inspections for all occupancies. Apartment buildings have one file number. Reinspections are performed at thirty-day intervals. Fees are assessed at the third inspection.

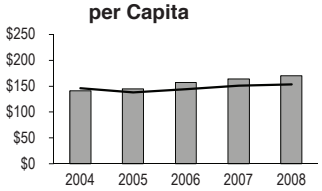
Conditions Affecting Service, Performance, and Costs

The performance measure "percentage of 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

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

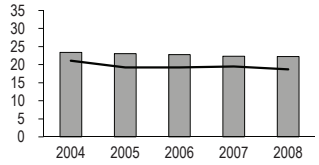
RESOURCE Measures

Fire Services Costs per Capita



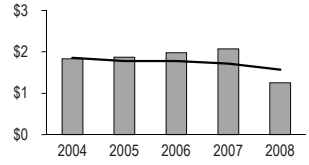
	2004	2005	2006	2007	2008
Wilmington	$141	$145	$157	$164	$170
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	23.4	23.0	22.8	22.3	22.2
Average	21.1	19.2	19.2	19.5	18.7

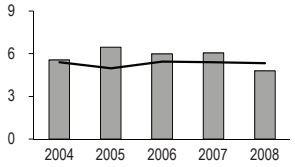
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Wilmington	$1.83	$1.87	$1.98	$2.08	$1.26
Average	$1.86	$1.78	$1.78	$1.72	$1.57

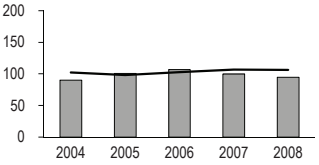
WORKLOAD Measures

Actual Fires per 1,000 Population



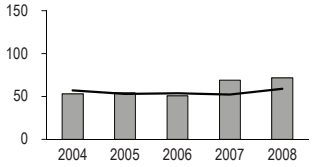
	2004	2005	2006	2007	2008
Wilmington	5.57	6.47	5.98	6.06	4.78
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	90	101	107	100	95
Average	102	98	103	107	106

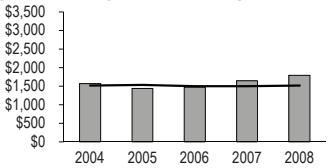
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Wilmington	53	54	51	69	72
Average	57	53	54	52	59

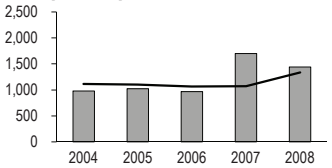
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Wilmington	$1,569	$1,440	$1,475	$1,648	$1,797
Average	$1,515	$1,530	$1,501	$1,498	$1,515

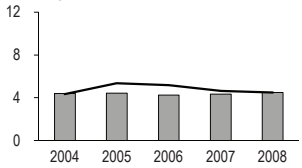
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Wilmington	980	1,021	965	1,698	1,442
Average	1,114	1,103	1,064	1,068	1,337

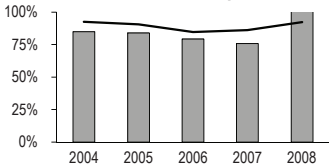
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



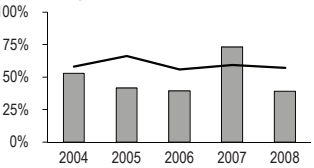
	2004	2005	2006	2007	2008
Wilmington	4.4	4.4	4.3	4.3	4.5
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



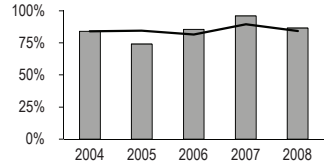
	2004	2005	2006	2007	2008
Wilmington	85%	84%	79%	76%	108%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



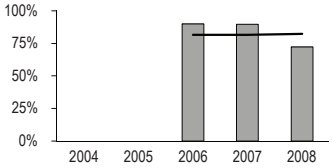
	2004	2005	2006	2007	2008
Wilmington	53%	42%	39%	73%	39%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



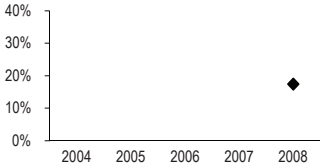
	2004	2005	2006	2007	2008
Wilmington	84%	74%	86%	96%	87%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Wilmington			90%	90%	72%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Wilmington					
Average					17.4%

Wilmington

MUNICIPAL PROFILE

Population Served	100,746
Land Area Served (Square Miles)	49.3
Persons Served per Square Mile	2,044
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.0%
Operating Costs		18.1%
Capital Costs		9.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	12,336,843
Operating Costs	$	3,106,571
Capital Costs	$	1,692,230
TOTAL	$	17,135,644

SERVICE PROFILE

FTE Positions—Firefighters	198.0
FTE Positions—Other	26.0
Fire Stations	11
First-line Fire Apparatus	
Pumpers	8
Aerial Trucks	2
Quints	3
Squads	3
Rescue	0
Other	12
Fire Department Responses	9,536
All Fire Responses	482
Structural Fires Reported	115
Estimated Fire Loss	$4,819,331
Amount of Property Protected	$13,643,490,563
Number of Fire Education Programs or Events	236

EXPLANATORY INFORMATION

Service Level and Delivery
The Wilmington Fire Department provides the following services in addition to fire suppression and fire prevention for the city of Wilmington: EMS/First Response, hazardous materials, high angle and confined rescue, scuba diving, and fire inspection.

The fire department contained the following divisions: fire suppression, fire prevention, and support services.

The city uses a rotating shift consisting of three shifts of twenty-four hours, with a day off between shifts. This is followed by four days off before the cycle repeats itself.

The city has an ISO rating of 2.

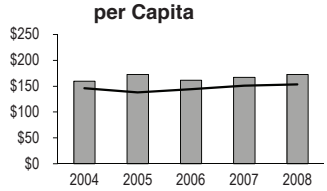
The fire department in Wilmington conducted 7,211 fire maintenance, construction, and reinspections during FY 2007–08. The Wilmington Fire Prevention Bureau follows the required inspection schedule for all occupancies within the corporate limits of the city. Each building in an apartment complex is counted as an inspection. Reinspections also are counted as inspections for tracking purposes.

Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of 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.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

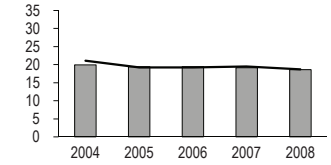
RESOURCE Measures

Fire Services Costs per Capita



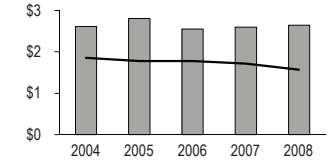
	2004	2005	2006	2007	2008
Wilson	$160	$173	$162	$167	$173
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	20.0	19.4	19.4	19.2	18.6
Average	21.1	19.2	19.2	19.5	18.7

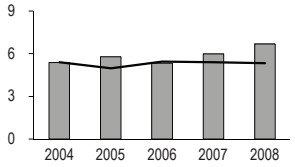
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Wilson	$2.62	$2.81	$2.55	$2.60	$2.65
Average	$1.86	$1.78	$1.78	$1.72	$1.57

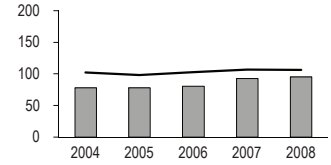
WORKLOAD Measures

Actual Fires per 1,000 Population



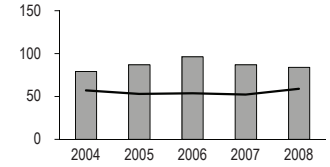
	2004	2005	2006	2007	2008
Wilson	5.37	5.78	5.32	5.99	6.69
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	78	78	80	93	95
Average	102	98	103	107	106

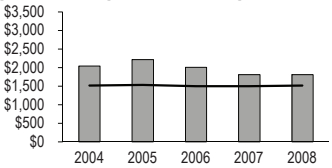
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Wilson	79	87	96	87	84
Average	57	53	54	52	59

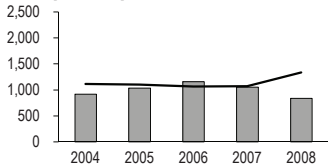
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Wilson	$2,047	$2,214	$2,009	$1,807	$1,814
Average	$1,515	$1,530	$1,501	$1,498	$1,515

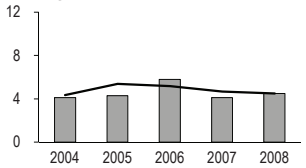
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Wilson	918	1,033	1,155	1,056	839
Average	1,114	1,103	1,064	1,068	1,337

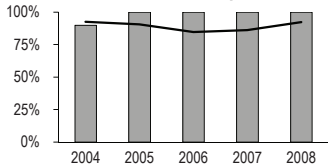
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



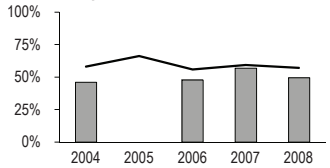
	2004	2005	2006	2007	2008
Wilson	4.1	4.3	5.8	4.1	4.5
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



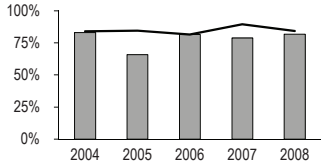
	2004	2005	2006	2007	2008
Wilson	90%	100%	100%	100%	100%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



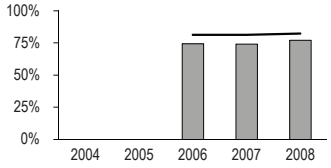
	2004	2005	2006	2007	2008
Wilson	46%		48%	57%	49%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



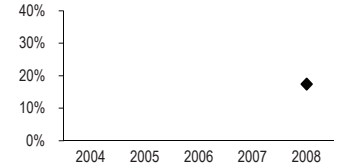
	2004	2005	2006	2007	2008
Wilson	83%	66%	81%	79%	82%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Wilson			74%	74%	77%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Wilson					
Average					17.4%

Wilson

MUNICIPAL PROFILE

Population Served	49,954
Land Area Served (Square Miles)	28.9
Persons Served per Square Mile	1,731
Topography	Flat
County	Wilson
Climate	Mild; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.6%
Operating Costs		23.5%
Capital Costs		7.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,921,980
Operating Costs	$	2,028,440
Capital Costs	$	686,235
TOTAL	$	8,636,655

SERVICE PROFILE

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	4,762
All Fire Responses	334
Structural Fires Reported	80
Estimated Fire Loss	$4,473,520
Amount of Property Protected	$3,263,551,803
Number of Fire Education Programs or Events	368

EXPLANATORY INFORMATION

Service Level and Delivery
Wilson Fire/Rescue Services is a public safety organization whose mission is to assist the public in the protection of life and property by minimizing the impact of fire, medical emergencies, and potential disasters or events that affect the community and the environment.

Wilson Fire/Rescue Services has two major divisions. Operations handles emergency responses and equipment maintenance. Support Services handles fire prevention and education, facility maintenance, IM/GIS, and budget.

Firefighters work twenty-four hours on and twenty-four hours off. Each work cycle consists of three twenty-four-hour shifts with a day off between shifts. A four-day break is then provided before the cycle repeats itself.

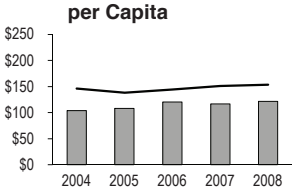
The city has an ISO rating of 2.

The fire department in Wilson conducted 4,193 fire maintenance, construction, and reinspections during FY 2007–08. Fire inspections are conducted by the fire prevention bureau on a daily basis. Inspectors are assigned a district to handle all inspections. A charge is made on the third reinspection.

Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of 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

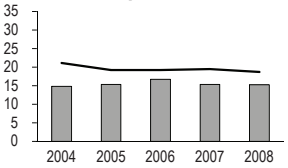
RESOURCE Measures

Fire Services Costs per Capita



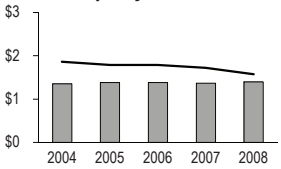
	2004	2005	2006	2007	2008
Winston-Salem	$104	$108	$120	$117	$122
Average	$146	$138	$144	$151	$153

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	14.9	15.3	16.8	15.4	15.3
Average	21.1	19.2	19.2	19.5	18.7

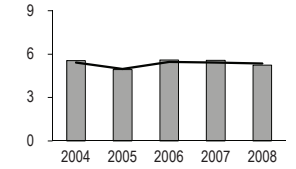
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007	2008
Winston-Salem	$1.35	$1.38	$1.38	$1.37	$1.39
Average	$1.86	$1.78	$1.78	$1.72	$1.57

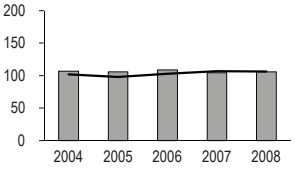
WORKLOAD Measures

Actual Fires per 1,000 Population



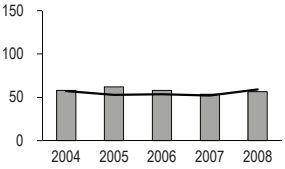
	2004	2005	2006	2007	2008
Winston-Salem	5.54	4.93	5.60	5.58	5.25
Average	5.41	4.98	5.45	5.40	5.34

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	107	106	109	104	106
Average	102	98	103	107	106

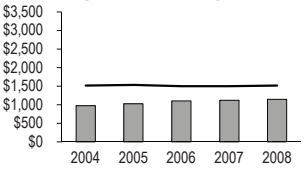
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	58	62	58	53	56
Average	57	53	54	52	59

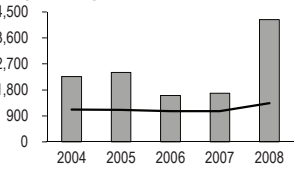
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007	2008
Winston-Salem	$971	$1,022	$1,102	$1,118	$1,151
Average	$1,515	$1,530	$1,501	$1,498	$1,515

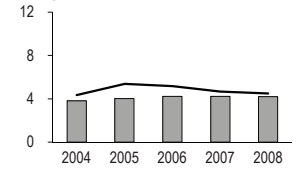
Inspections Completed per Inspector FTE



	2004	2005	2006	2007	2008
Winston-Salem	2,261	2,405	1,610	1,688	4,230
Average	1,114	1,103	1,064	1,068	1,337

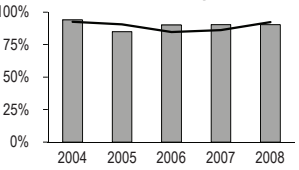
EFFECTIVENESS Measures

Average Response Time to Priority One Calls In Minutes



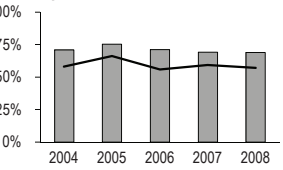
	2004	2005	2006	2007	2008
Winston-Salem	3.8	4.0	4.2	4.2	4.2
Average	4.3	5.4	5.2	4.7	4.5

Percentage of Fire Code Violations Cleared within 90 Days



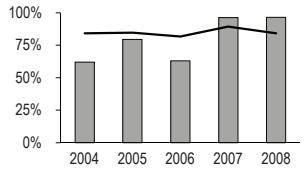
	2004	2005	2006	2007	2008
Winston-Salem	94%	85%	90%	90%	90%
Average	93%	91%	85%	86%	92%

Percentage of Fires Confined to Rooms or Objects Involved on Arrival



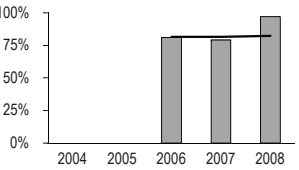
	2004	2005	2006	2007	2008
Winston-Salem	71%	75%	71%	69%	69%
Average	58%	66%	56%	59%	57%

Percentage of Fires for Which Cause Was Determined



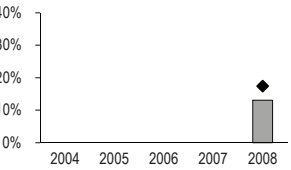
	2004	2005	2006	2007	2008
Winston-Salem	62%	79%	63%	96%	97%
Average	84%	85%	82%	89%	84%

Percentage of Full Response Within 8 Minutes Travel Time



	2004	2005	2006	2007	2008
Winston-Salem			81%	79%	97%
Average			81%	81%	82%

Percentage of Lost Pulse Cases Recovered Pulse at Transfer of Care



	2004	2005	2006	2007	2008
Winston-Salem					13.1%
Average					17.4%

Winston-Salem

MUNICIPAL PROFILE

Population Served	224,889
Land Area Served (Square Miles)	132.5
Persons Served per Square Mile	1,698
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.4%
Operating Costs		13.3%
Capital Costs		7.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	21,745,320
Operating Costs	$	3,634,429
Capital Costs	$	1,995,683
TOTAL	$	27,375,432

SERVICE PROFILE

FTE Positions—Firefighters	316.0
FTE Positions—Other	27.0
Fire Stations	19
First-line Fire Apparatus	
Pumpers	18
Aerial Trucks	5
Quints	0
Squads	0
Rescue	1
Other	10
Fire Department Responses	23,792
All Fire Responses	1,180
Structural Fires Reported	345
Estimated Fire Loss	$7,554,152
Amount of Property Protected	$19,626,501,030
Number of Fire Education Programs or Events	1721

EXPLANATORY INFORMATION

Service Level and Delivery
The mission of the Winston-Salem Fire Department is to protect the lives and property of all people within Winston-Salem by reducing the occurrence and minimizing the effects of fires.

The Winston-Salem Fire Department 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 12,690 fire maintenance, construction,and reinspections during FY 2007–08. 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.

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Performance and Cost Data

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 FY 2007–08 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 in FY 2007–08, 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.

UNC
SCHOOL OF GOVERNMENT

Building Inspections

Summary of Key Dimensions of Service

FY 2007-08

City or Town	Area Served (in square miles)	Population Growth from 2000 to 2007	Building Inspections by Trade					Number of Plan Reviews	Building Inspector FTEs	Plan Reviewer FTEs
			Building	Electrical	Mechanical	Plumbing	Total			
Asheville	65.3	13.0%	15,477	8,941	7,731	7,707	39,856	2,987	17.0	7.0
Burlington	45.3	9.9%	5,209	6,526	5,859	4,690	22,284	288	7.50	0.50
Carrboro	12.0	14.3%	1,711	990	860	854	4,415	896	1.5	1.0
Cary	65.5	40.3%	39,013	19,289	18,723	18,942	95,967	3,392	24.0	4.0
Durham	298.2	19.0%	27,774	20,125	13,001	15,690	76,590	3,393	27.0	4.0
Gastonia	63.3	9.8%	5,147	3,451	3,640	3,983	16,221	1,342	5.0	1.0
Greensboro	131.4	10.8%	35,238	22,611	20,615	19,172	97,636	1,141	23.0	4.5
High Point	59.0	15.1%	9,302	6,485	6,231	5,297	27,315	978	13.5	1.5
Raleigh	183.7	33.0%	35,105	30,097	22,514	28,567	116,283	4,006	53.0	17.0
Wilson	57.6	32.8%	3,261	2,846	2,747	2,597	11,451	364	3.2	0.8
Winston-Salem	413.0	21.1%	25,464	17,065	17,331	14,744	74,604	1,314	26.2	3.0

NOTES

EXPLANATORY FACTORS

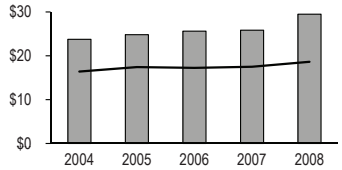
These are factors that the project found to affect building inspection performance and cost in one or more of the municipalities:

Rate of growth and development in city
Size and complexity of construction projects
Geographic area served by county building inspections
Inspectors' enforcement of local development regulations
Emphasis given to plan review in each jurisdiction
Inspector specialization
Organization of the building inspection function

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

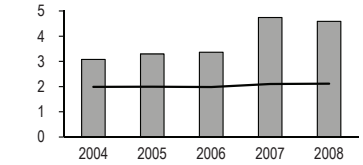
RESOURCE Measures

Building Inspections Services Costs per Capita



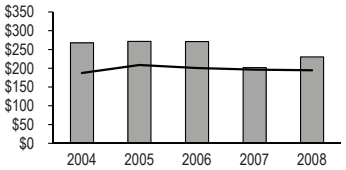
	2004	2005	2006	2007	2008
Asheville	$23.77	$24.82	$25.63	$25.83	$29.49
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	3.08	3.29	3.36	4.74	4.59
Average	1.98	1.99	1.98	2.11	2.12

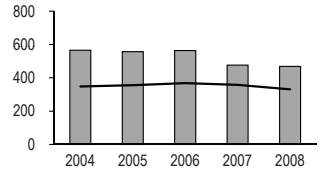
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Asheville	$268	$272	$271	$202	$230
Average	$188	$209	$201	$197	$195

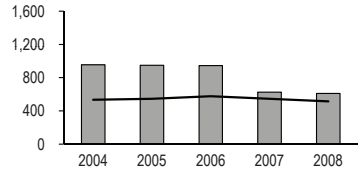
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



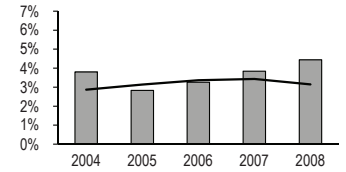
	2004	2005	2006	2007	2008
Asheville	566	557	564	476	469
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



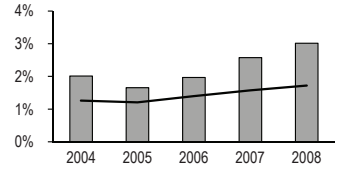
	2004	2005	2006	2007	2008
Asheville	955	949	946	626	610
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



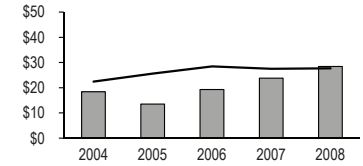
	2004	2005	2006	2007	2008
Asheville	3.80%	2.83%	3.26%	3.84%	4.44%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Asheville	2.01%	1.65%	1.97%	2.57%	3.02%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

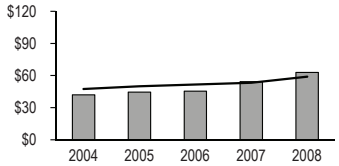
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Asheville	$18.4	$13.5	$19.3	$23.8	$28.4
Average	$22.5	$25.6	$28.5	$27.6	$27.7

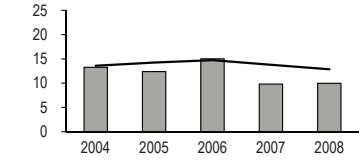
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



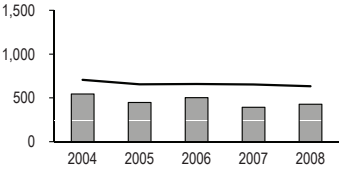
	2004	2005	2006	2007	2008
Asheville	$42.00	$44.58	$45.45	$54.22	$62.91
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Asheville	13.3	12.4	15.0	9.8	10.0
Average	13.6	14.3	14.7	13.8	12.9

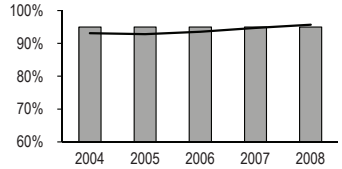
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Asheville	544	448	502	392	427
Average	707	656	659	653	634

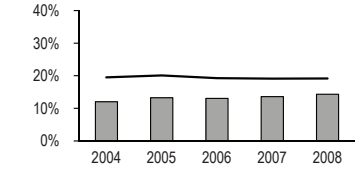
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Asheville	95.0%	95.0%	95.0%	95.0%	95.0%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Asheville	12.0%	13.3%	13.0%	13.6%	14.3%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

Asheville

MUNICIPAL PROFILE

Population Served	85,008
Land Area Served (Square Miles)	65.29
Persons Served per Square Mile	1,302
Topography	Hills, mountains
Tax Base Served (Assessed Value)	$10,881,235,538
County	Buncombe

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.7%
Operating Costs		20.0%
Capital Costs		5.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,872,762
Operating Costs	$	502,458
Capital Costs	$	131,947
TOTAL	$	2,507,167

SERVICE PROFILE

Number of Inspections by Type	
Building	15,477
Electrical	8,941
Mechanical	7,731
Plumbing	7,707
Total	39,856
Building Permit Values	
Residential	$106,014,870
Multifamily	$48,522,740
Commercial	$328,400,880
Total	$482,938,490
FTE Inspectors	
Building	2.0
Electrical	2.0
Mechanical	1.0
Plumbing	1.0
All Trades	11.0
Total Inspectors	17.0
FTE Plan Reviewers	7.0
Other FTE Positions	15
Inspection Fee Revenue	$2,793,651

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.

Inspectors include those who function in all trades and those who are certified in one of the following four trades: building, electrical, plumbing, or mechanical. The city is divided into two geographic areas for commericial inspections with an inspector from each trade assigned to each area. The city is divided into six areas for inspection of one- and two-family dwellings with one inspector assigned for each area performing all trades. The department enforces the North Carolina State Building Code and the Asheville Minimum Housing Code. The costs and the positions associated with enforcing the housing code are excluded from the project's performance and cost data.

The department has a goal of twelve training days per inspector per year. Inspectors are required to obtain certification in their primary trade plus two others. A career ladder encourages inspectors to work toward obtaining Level III certification in their primary trade and Level II certification in two other trades. Training is a high priority for the department, with an emphasis on code consistency. Training for contractors and designers also is a high priority for the department.

Asheville's policy is that all calls received for inspection before 7:30 a.m. receive same-day inspection.

Total revenue received from inspection fees amounted to $2,793,651 for FY 2007–08. 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.

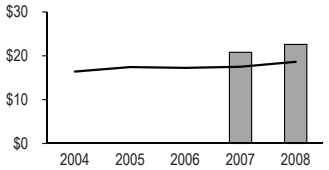
Conditions Affecting Service, Performance, and Costs
The population served is calculated by adding the population of Asheville with the population of the extraterritorial jurisdiction (ETJ). The tax base served is calculated by adding the tax base of Asheville with the tax base of the ETJ. The population 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.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

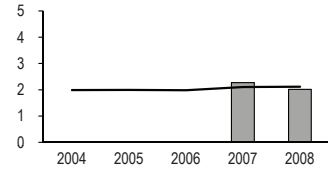
RESOURCE Measures

Building Inspections Services Costs per Capita



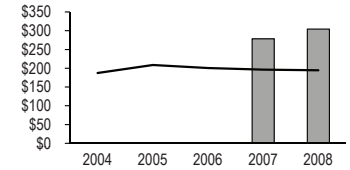
	2004	2005	2006	2007	2008
Burlington				$20.80	$22.58
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				2.27	2.01
Average	1.98	1.99	1.98	2.11	2.12

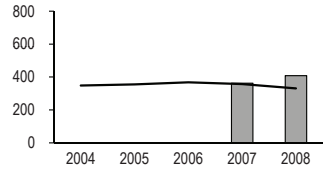
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Burlington				$279	$304
Average	$188	$209	$201	$197	$195

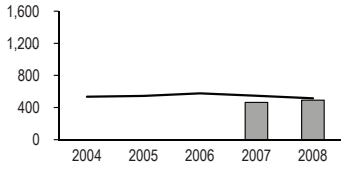
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



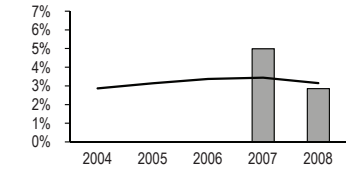
	2004	2005	2006	2007	2008
Burlington				363	408
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



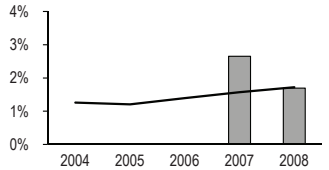
	2004	2005	2006	2007	2008
Burlington				464	492
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



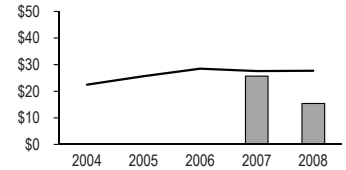
	2004	2005	2006	2007	2008
Burlington				4.98%	2.85%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Burlington				2.65%	1.70%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

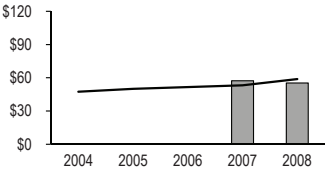
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Burlington				$25.7	$15.4
Average	$22.5	$25.6	$28.5	$27.6	$27.7

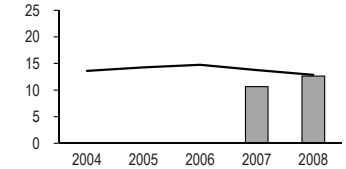
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



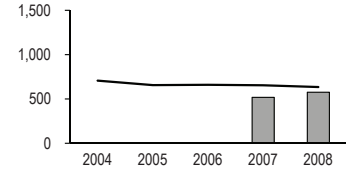
	2004	2005	2006	2007	2008
Burlington				$57.39	$55.34
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Burlington				10.6	12.6
Average	13.6	14.3	14.7	13.8	12.9

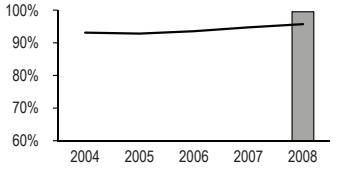
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Burlington				518	576
Average	707	656	659	653	634

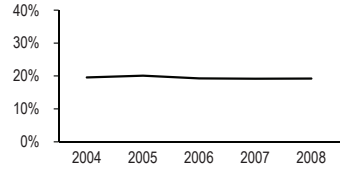
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Burlington					99.5%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Burlington					
Average	19.5%	20.1%	19.3%	19.1%	19.2%

Burlington

MUNICIPAL PROFILE

Population Served	54,603
Land Area Served (Square Miles)	45.30
Persons Served per Square Mile	1,205
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$3,970,218,008
County	Alamance

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.7%
Operating Costs		24.5%
Capital Costs		6.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	846,651
Operating Costs	$	302,632
Capital Costs	$	83,878
TOTAL	$	1,233,161

SERVICE PROFILE

Number of Inspections by Type	
Building	5,209
Electrical	6,526
Mechanical	5,859
Plumbing	4,690
Total	22,284
Building Permit Values	
Residential	$46,727,749
Multifamily	included below
Commercial	$68,676,355
Total	$115,404,104
FTE Inspectors	
Building	2.8
Electrical	1.9
Mechanical	1.9
Plumbing	1.0
All Trades	0.0
Total Inspectors	7.5
FTE Plan Reviewers	0.5
Other FTE Positions	3.0
Inspection Fee Revenue	$943,586

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Burlington Building Inspections Department is under the overall branch of Planning and Community Development. The department provides commercial and residential inspections within the city limits and the extraterritorial zoning district properties covering about sixteen square miles outside the city boundaries.

The inspections department uses inspectors certified in individual building trades. Training meets the state requirement of six hours a year for each trade.

Burlington does not currently have any standards for the length of time between a request for an inspection and the actual inspection.

Total revenue received from inspection fees amounted to $943,586 for FY 2007–08. The fee schedule separates fees for the type of work. Burlington charges $50 for a third reinspection, $75 for a fourth reinspection, and $100 for any additional reinspections. The number of reinspections for the year was not available.

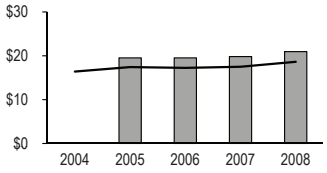
Conditions Affecting Service, Performance, and Costs
The population served is calculated by adding the population of Burlington with the population of the extraterritorial jurisdiction (ETJ). The tax base served is calculated by adding the tax base of Burlington with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Alamance County and multiplying them by the square miles of the ETJ.

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

Key: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

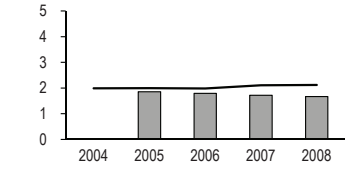
RESOURCE Measures

Building Inspections Services Costs per Capita



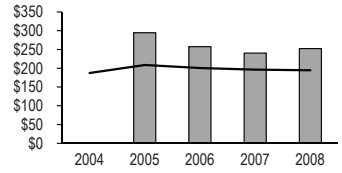
	2004	2005	2006	2007	2008
Carrboro		$19.53	$19.53	$19.81	$20.95
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		1.85	1.79	1.72	1.67
Average	1.98	1.99	1.98	2.11	2.12

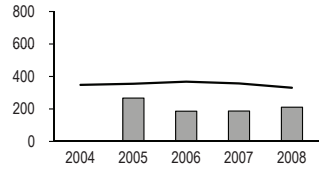
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Carrboro		$295	$257	$240	$252
Average	$188	$209	$201	$197	$195

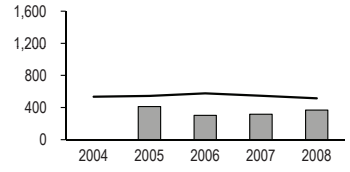
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



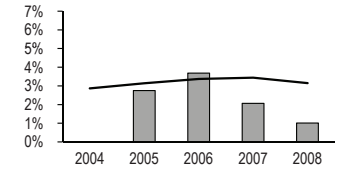
	2004	2005	2006	2007	2008
Carrboro		267	186	187	211
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



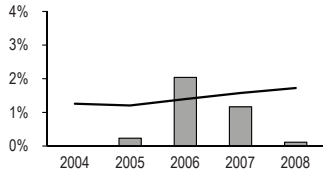
	2004	2005	2006	2007	2008
Carrboro		412	303	317	368
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



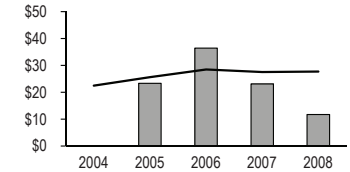
	2004	2005	2006	2007	2008
Carrboro		2.75%	3.69%	2.07%	1.01%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Carrboro		0.23%	2.04%	1.17%	0.11%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

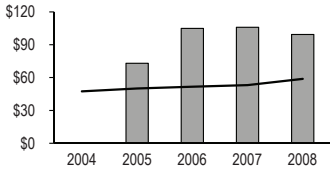
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Carrboro		$23.3	$36.4	$23.1	$11.7
Average	$22.5	$25.6	$28.5	$27.6	$27.7

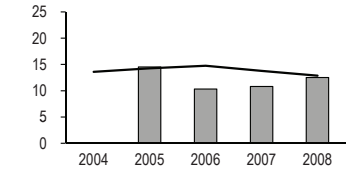
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



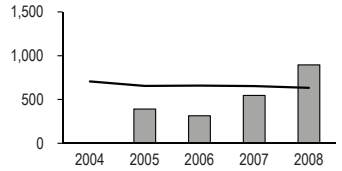
	2004	2005	2006	2007	2008
Carrboro		$73.15	$104.93	$105.92	$99.44
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Carrboro		14.5	10.3	10.8	12.5
Average	13.6	14.3	14.7	13.8	12.9

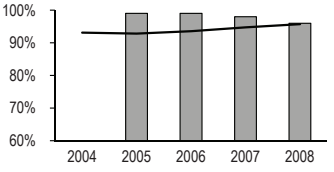
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Carrboro		391	314	547	896
Average	707	656	659	653	634

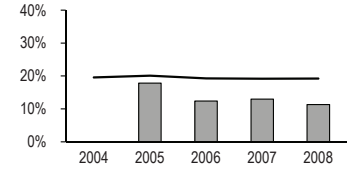
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Carrboro		99.0%	99.0%	98.0%	96.0%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Carrboro		17.8%	12.4%	13.0%	11.3%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

MUNICIPAL PROFILE

Population Served	20,952
Land Area Served (Square Miles)	12.00
Persons Served per Square Mile	1,746
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$1,740,529,237
County	Orange

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		56.1%
Operating Costs		40.5%
Capital Costs		3.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	246,269
Operating Costs	$	177,773
Capital Costs	$	14,997
TOTAL	$	439,039

SERVICE PROFILE

Number of Inspections by Type	
Building	1,711
Electrical	990
Mechanical	860
Plumbing	854
Total	4,415
Building Permit Values	
Residential	$14,844,025
Multifamily	$790,000
Commercial	$1,967,000
Total	$17,601,025
FTE Inspectors	
Building	0.0
Electrical	0.0
Mechanical	0.0
Plumbing	0.0
All Trades	1.5
Total Inspectors	1.5
FTE Plan Reviewers	1.0
Other FTE Positions	1.0
Inspection Fee Revenue	$157,986

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Carrboro Inspections Division provides building inspection and permitting services to all areas within Carrboro's planning jurisdiction, about half of which is within the town's incorporated area.

The Inspections Division is administered by the code enforcement supervisor and is one of three divisions within Carrboro's Planning Department. Inspectors function in all trades.

The division averages eleven days of training per inspector per year, including state required classroom instruction, field inspections during the initial six months of employement, continuing education, contact hours, and ongoing field instruction.

Carrboro's policy is to respond to 97 to 99 percent of inspection requests within twenty-four hours.

Total revenue received from inspection fees amounted to $157,986 for FY 2007–08. The fee schedule separates fees for the type of work. Generally a charge for reinspection is assessed if the work is not ready for an inspection or if code violations exist that must be corrected and reinspected.

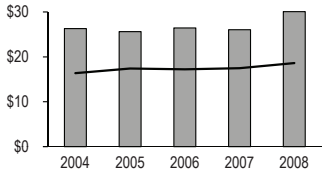
Conditions Affecting Service, Performance, and Costs

The population served is calculated by adding the population of Carrboro with the population of the extraterritorial jurisdiction (ETJ). The tax base served is calculated by adding the tax base of Carrboro 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 Orange County and multiplying them by the square miles of the ETJ.

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

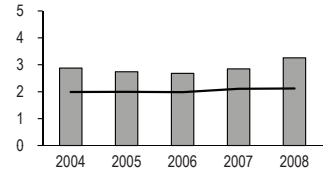
RESOURCE Measures

Building Inspections Services Costs per Capita



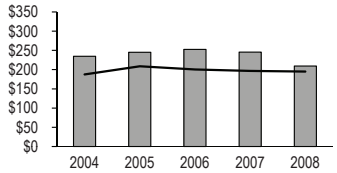
	2004	2005	2006	2007	2008
Cary	$26.28	$25.59	$26.44	$26.03	$30.06
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	2.88	2.74	2.68	2.85	3.26
Average	1.98	1.99	1.98	2.11	2.12

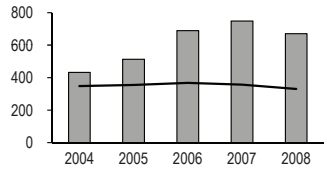
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Cary	$235	$245	$253	$246	$209
Average	$188	$209	$201	$197	$195

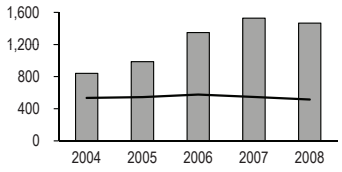
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



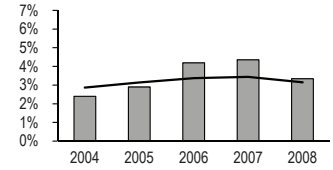
	2004	2005	2006	2007	2008
Cary	433	513	690	749	671
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



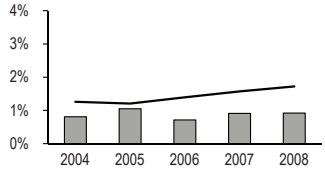
	2004	2005	2006	2007	2008
Cary	841	986	1,350	1,527	1,466
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



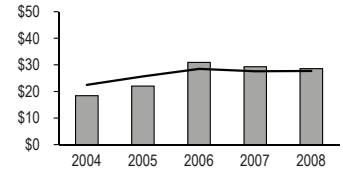
	2004	2005	2006	2007	2008
Cary	2.40%	2.89%	4.19%	4.35%	3.34%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Cary	0.81%	1.05%	0.71%	0.91%	0.92%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

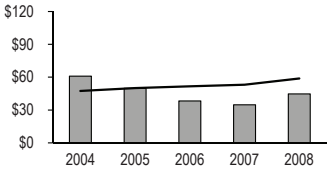
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Cary	$18.4	$22.0	$30.9	$29.3	$28.6
Average	$22.5	$25.6	$28.5	$27.6	$27.7

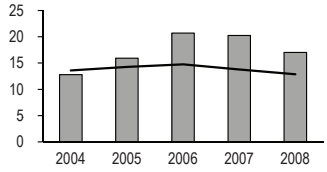
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



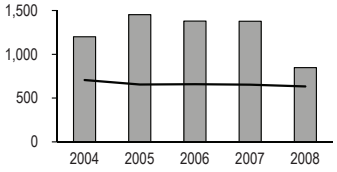
	2004	2005	2006	2007	2008
Cary	$61.00	$49.88	$38.34	$34.76	$44.80
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Cary	12.8	15.9	20.7	20.2	17.0
Average	13.6	14.3	14.7	13.8	12.9

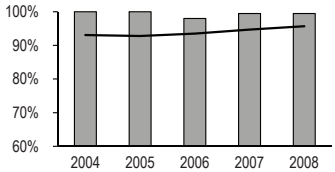
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Cary	1,201	1,452	1,380	1,379	848
Average	707	656	659	653	634

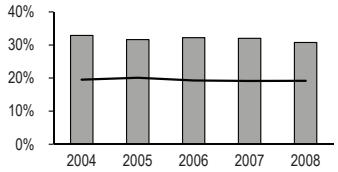
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Cary	100.0%	100.0%	98.0%	99.5%	99.5%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Cary	32.9%	31.6%	32.2%	32.0%	30.8%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

MUNICIPAL PROFILE

Population Served	143,032
Land Area Served (Square Miles)	65.47
Persons Served per Square Mile	2,185
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$20,527,141,882
County	Wake

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.3%
Operating Costs		23.0%
Capital Costs		4.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,106,662
Operating Costs	$	987,917
Capital Costs	$	204,453
TOTAL	$	4,299,032

SERVICE PROFILE

Number of Inspections by Type	
Building	39,013
Electrical	19,289
Mechanical	18,723
Plumbing	18,942
Total	95,967
Building Permit Values	
Residential	$426,919,636
Multifamily	$70,876,740
Commercial	$188,547,527
Total	$686,343,903
FTE Inspectors	
Building	9.0
Electrical	5.0
Mechanical	4.0
Plumbing	3.0
All Trades	3.0
Total Inspectors	24.0
FTE Plan Reviewers	4.0
Other FTE Positions	18.6
Inspection Fee Revenue	$3,935,559

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Cary provides building inspection services within its corporate limits and extraterritorial jurisdiction (ETJ) through its inspections and permits department. The department is a full service function, meeting all requirements mandated by the N.C. General Statutes. The department consists of two main divisions. The 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 $3,935,559 for FY 2007–08. 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.

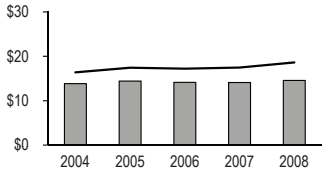
Conditions Affecting Service, Performance, and Costs

The population served is calculated by adding the population of Cary with the population of the extraterritorial jurisdiction (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.

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

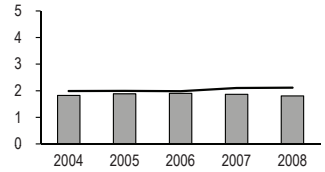
RESOURCE Measures

Building Inspections Services Costs per Capita



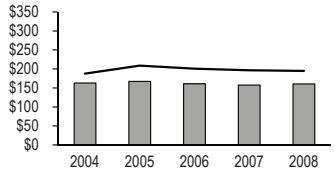
	2004	2005	2006	2007	2008
Durham	$13.83	$14.42	$14.14	$14.08	$14.56
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	1.82	1.88	1.90	1.86	1.81
Average	1.98	1.99	1.98	2.11	2.12

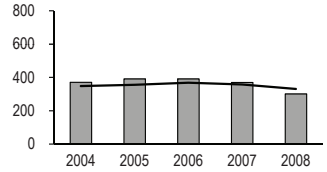
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Durham	$163	$167	$161	$158	$160
Average	$188	$209	$201	$197	$195

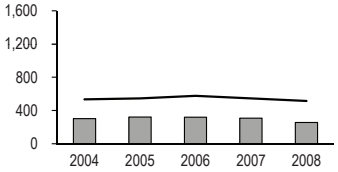
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



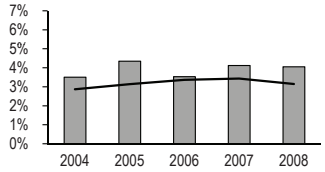
	2004	2005	2006	2007	2008
Durham	371	390	390	369	301
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



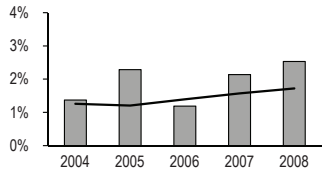
	2004	2005	2006	2007	2008
Durham	302	321	319	307	257
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



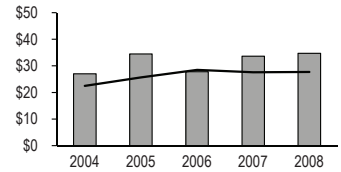
	2004	2005	2006	2007	2008
Durham	3.50%	4.35%	3.53%	4.12%	4.05%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Durham	1.37%	2.29%	1.19%	2.14%	2.53%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

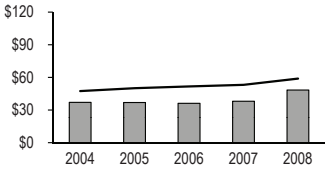
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Durham	$27.0	$34.5	$27.8	$33.6	$34.7
Average	$22.5	$25.6	$28.5	$27.6	$27.7

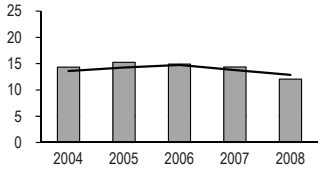
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



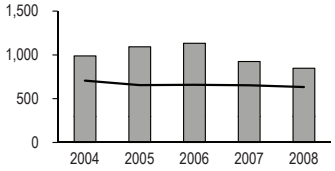
	2004	2005	2006	2007	2008
Durham	$37.00	$36.93	$36.20	$38.14	$48.42
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Durham	14.3	15.3	14.9	14.4	12.1
Average	13.6	14.3	14.7	13.8	12.9

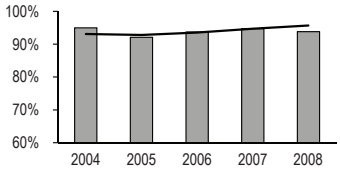
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Durham	988	1,092	1,132	924	848
Average	707	656	659	653	634

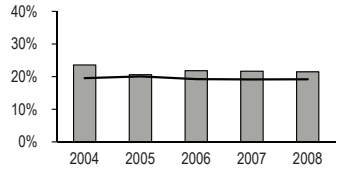
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Durham	95.0%	92.1%	93.7%	94.8%	93.8%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Durham	23.6%	20.6%	21.8%	21.7%	21.5%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

Durham

MUNICIPAL PROFILE

Population Served	254,740
Land Area Served (Square Miles)	298.20
Persons Served per Square Mile	854
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$23,136,584,132
County	Durham

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.9%
Operating Costs		21.6%
Capital Costs		3.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,778,992
Operating Costs	$	801,737
Capital Costs	$	128,127
TOTAL	$	3,708,856

SERVICE PROFILE

Number of Inspections by Type	
Building	27,774
Electrical	20,125
Mechanical	13,001
Plumbing	15,690
Total	76,590
Building Permit Values	
Residential	$351,927,080
Multifamily	included above
Commercial	$585,236,384
Total	$937,163,464
FTE Inspectors	
Building	8.0
Electrical	10.0
Mechanical	4.0
Plumbing	5.0
All Trades	0.0
Total Inspectors	27.0
FTE Plan Reviewers	4.0
Other FTE Positions	15.0
Inspection Fee Revenue	$3,701,151

EXPLANATORY INFORMATION

Service Level and Delivery

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.

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.

Durham's policy is that 90 percent of inspections are to be conducted within one working day of request.

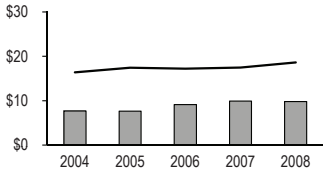
Total revenue received from inspection fees amounted to $3,701,151 for FY 2007–08. The fee schedule separates fees for each type of permit, with specific fees depending on type of facility, cost, square footage, and other factors. If an inspection has been disapproved and the contractor calls for a reinspection 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.

Conditions Affecting Service, Performance, and Costs

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

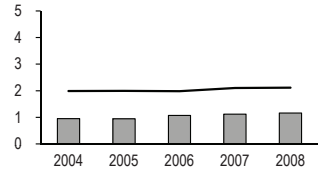
RESOURCE Measures

Building Inspections Services Costs per Capita



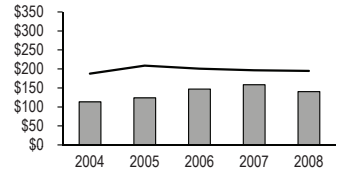
	2004	2005	2006	2007	2008
Gastonia	$7.68	$7.64	$9.11	$9.90	$9.81
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	0.95	0.95	1.07	1.12	1.16
Average	1.98	1.99	1.98	2.11	2.12

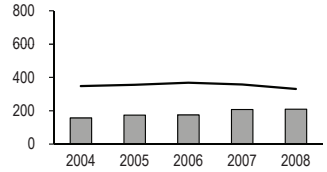
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Gastonia	$113	$124	$147	$158	$140
Average	$188	$209	$201	$197	$195

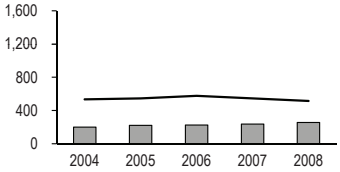
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



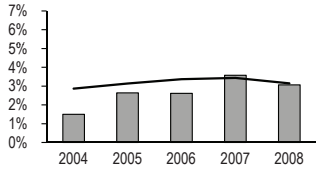
	2004	2005	2006	2007	2008
Gastonia	157	174	175	208	209
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



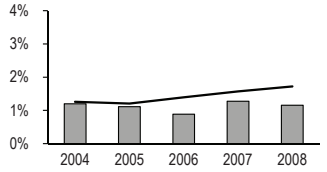
	2004	2005	2006	2007	2008
Gastonia	200	221	225	237	256
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



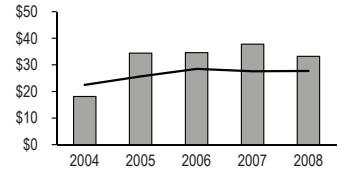
	2004	2005	2006	2007	2008
Gastonia	1.50%	2.64%	2.62%	3.58%	3.06%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Gastonia	1.20%	1.11%	0.88%	1.27%	1.16%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

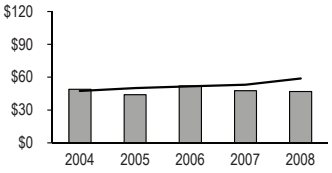
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Gastonia	$18.1	$34.4	$34.6	$37.8	$33.2
Average	$22.5	$25.6	$28.5	$27.6	$27.7

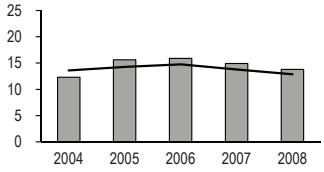
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



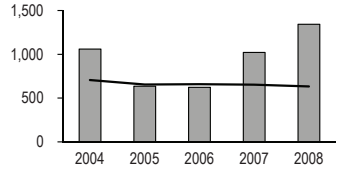
	2004	2005	2006	2007	2008
Gastonia	$49.00	$44.00	$52.07	$47.66	$46.85
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Gastonia	12.3	15.6	15.9	14.9	13.8
Average	13.6	14.3	14.7	13.8	12.9

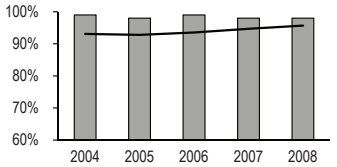
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Gastonia	1,060	637	623	1,022	1,342
Average	707	656	659	653	634

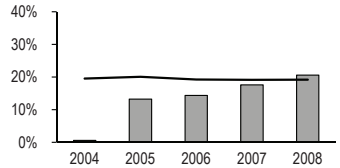
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Gastonia	99.0%	98.0%	99.0%	98.0%	98.0%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Gastonia	0.6%	13.2%	14.4%	17.6%	20.6%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

Gastonia

MUNICIPAL PROFILE

Population Served	77,474
Land Area Served (Square Miles)	63.25
Persons Served per Square Mile	1,225
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$5,424,532,579
County	Gaston

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.3%
Operating Costs		25.4%
Capital Costs		6.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	518,693
Operating Costs	$	192,717
Capital Costs	$	48,518
TOTAL	$	759,928

SERVICE PROFILE

Number of Inspections by Type	
Building	5,147
Electrical	3,451
Mechanical	3,640
Plumbing	3,983
Total	16,221
Building Permit Values	
Residential	$94,769,252
Multifamily	$8,594,864
Commercial	$62,785,364
Total	$166,149,480
FTE Inspectors	
Building	0.0
Electrical	0.0
Mechanical	0.0
Plumbing	0.0
All Trades	5.0
Total Inspectors	5.0
FTE Plan Reviewers	1.0
Other FTE Positions	3.0
Inspection Fee Revenue	$806,428

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Gastonia's Building Inspections Division provides building, electrical, mechanical, and plumbing inspection services to residents within the city limits of Gastonia and those within an 8.2 square mile extraterritorial jurisdiction (ETJ).

The Inspections Division is part of the city's Planning Department. Inspectors are listed as all trades.

Gastonia's policy is that all calls received for inspection by 7:45 a.m. receive same-day inspection.

Total revenue received from inspection fees amounted to $806,428 for FY 2007–08. The City of Gastonia issues a master permit with all of the trades for building permits. The city uses the current table as provided by the ICC Building Safety Journal to arrive at the valuation of the work for new construction. For renovation work, the city uses the contract amount. An inspection trip fee is added to each permit, as well as a technology surcharge of 5 percent of the permit. Reinspections are charged at an increasing rate from $20 to $40 from the first to the third reinspection.

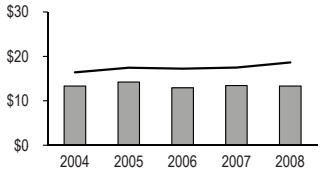
Conditions Affecting Service, Performance, and Costs

The population served is calculated by adding the population of Gastonia with the population of the ETJ. The tax base served is calculated by adding the tax base of Gastonia 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 Gaston County and multiplying them by the square miles of the ETJ.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

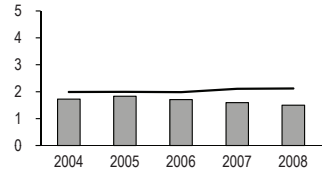
RESOURCE Measures

Building Inspections Services Costs per Capita



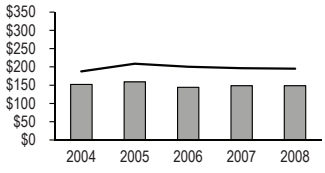
	2004	2005	2006	2007	2008
Greensboro	$13.33	$14.24	$12.93	$13.44	$13.34
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	1.72	1.83	1.71	1.59	1.50
Average	1.98	1.99	1.98	2.11	2.12

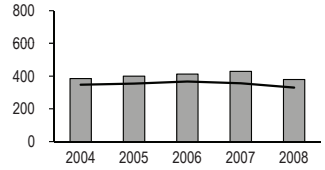
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Greensboro	$152	$159	$144	$148	$148
Average	$188	$209	$201	$197	$195

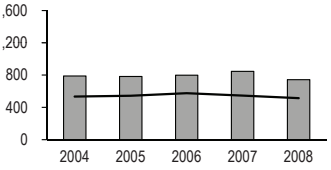
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



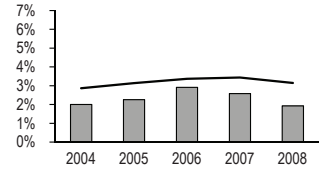
	2004	2005	2006	2007	2008
Greensboro	385	400	412	429	380
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



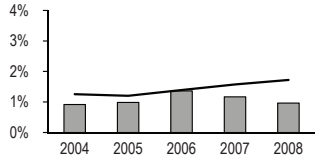
	2004	2005	2006	2007	2008
Greensboro	790	782	798	847	743
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



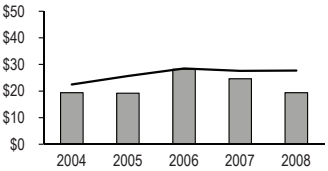
	2004	2005	2006	2007	2008
Greensboro	2.00%	2.26%	2.92%	2.58%	1.93%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Greensboro	0.92%	0.99%	1.36%	1.17%	0.97%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

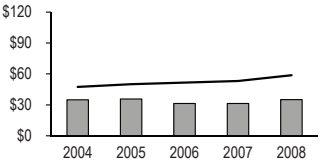
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Greensboro	$19.4	$19.2	$28.2	$24.6	$19.4
Average	$22.5	$25.6	$28.5	$27.6	$27.7

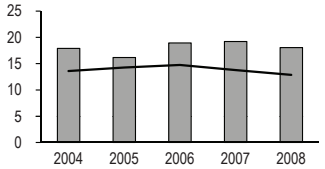
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



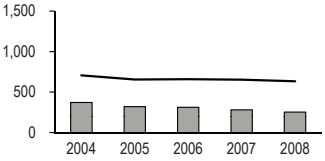
	2004	2005	2006	2007	2008
Greensboro	$35.00	$35.63	$31.33	$31.31	$35.14
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Greensboro	17.9	16.2	18.9	19.2	18.1
Average	13.6	14.3	14.7	13.8	12.9

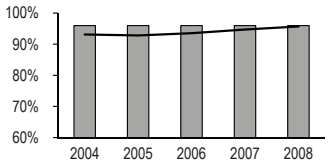
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Greensboro	372	321	312	280	254
Average	707	656	659	653	634

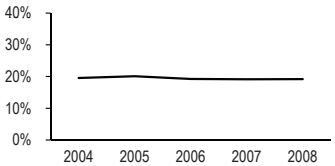
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Greensboro	96.0%	96.0%	96.0%	96.0%	96.0%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Greensboro					
Average	19.5%	20.1%	19.3%	19.1%	19.2%

MUNICIPAL PROFILE

Population Served	248,111
Land Area Served (Square Miles)	131.35
Persons Served per Square Mile	1,889
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$23,119,000,000
County	Guilford

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		78.6%
Operating Costs		21.4%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,697,936
Operating Costs	$	733,034
Capital Costs	$	-
TOTAL	$	3,430,970

SERVICE PROFILE

Number of Inspections by Type	
Building	35,238
Electrical	22,611
Mechanical	20,615
Plumbing	19,172
Total	97,636
Building Permit Values	
Residential	$187,465,444
Multifamily	$35,023,104
Commercial	$223,434,858
Total	$445,923,406
FTE Inspectors	
Building	8.0
Electrical	7.0
Mechanical	4.0
Plumbing	4.0
All Trades	0.0
Total Inspectors	23.0
FTE Plan Reviewers	4.5
Other FTE Positions	11.0
Inspection Fee Revenue	$2,608,420

EXPLANATORY INFORMATION

Service Level and Delivery

Inspections is a division of the Engineering and Inspections Department of the City of Greensboro. The inspections division consists of plans review, building inspections, plumbing inspections, mechanical inspections, electrical inspections, and local code enforcement. The city services the incorporated portion of the city but not the extraterritorial jurisdiction areas.

Trade inspectors are required to attain a Level III certification of their primary building trade within two years. Mechanical and plumbing inspectors are required to attain a secondary certification. Local ordinance inspectors are required to attain a Level I certification. All certified inspectors are required to take and pass a law and administrative course.

All requests for inspections are responded to within forty-eight hours or less. Nearly all requests, 96 percent, are called into the city's automated system or entered onto its website.

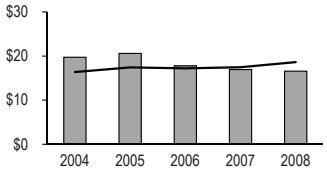
Total revenue received from inspection fees amounted to $2,608,420 for FY 2007–08. If a request for inspection is made and the job is not ready or corrections have not been made, a $45 fee for each reinspection is assessed.

Conditions Affecting Service, Performance, and Costs

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

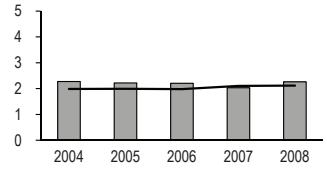
RESOURCE Measures

Building Inspections Services Costs per Capita



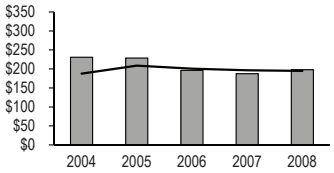
	2004	2005	2006	2007	2008
High Point	$19.74	$20.60	$17.79	$16.96	$16.58
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	2.27	2.22	2.21	2.03	2.26
Average	1.98	1.99	1.98	2.11	2.12

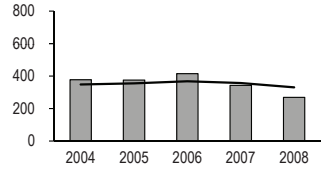
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
High Point	$231	$229	$196	$187	$198
Average	$188	$209	$201	$197	$195

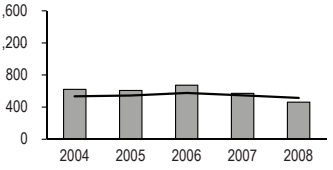
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



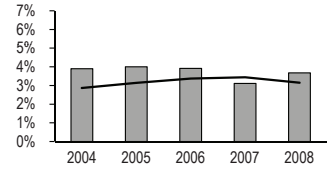
	2004	2005	2006	2007	2008
High Point	377	376	415	343	269
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



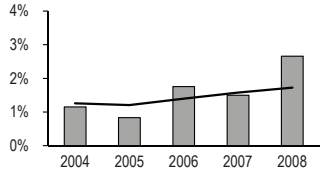
	2004	2005	2006	2007	2008
High Point	621	607	673	572	463
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



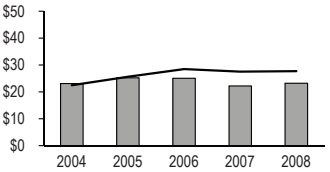
	2004	2005	2006	2007	2008
High Point	3.90%	4.00%	3.92%	3.11%	3.68%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
High Point	1.15%	0.83%	1.75%	1.50%	2.66%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

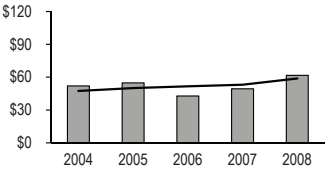
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
High Point	$23.1	$25.2	$25.1	$22.2	$23.2
Average	$22.5	$25.6	$28.5	$27.6	$27.7

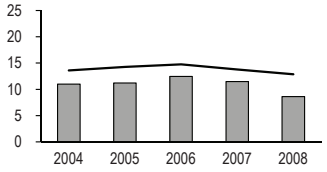
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



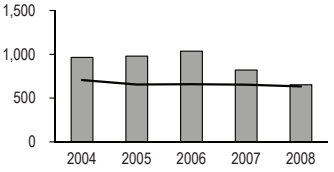
	2004	2005	2006	2007	2008
High Point	$52.00	$54.84	$42.83	$49.45	$61.68
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
High Point	11.0	11.2	12.5	11.5	8.6
Average	13.6	14.3	14.7	13.8	12.9

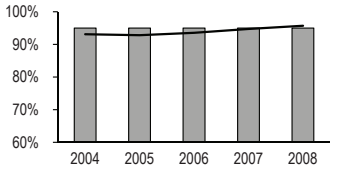
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
High Point	964	979	1,035	821	652
Average	707	656	659	653	634

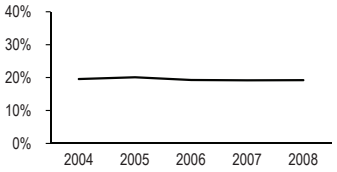
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
High Point	95.0%	95.0%	95.0%	95.0%	95.0%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
High Point					
Average	19.5%	20.1%	19.3%	19.1%	19.2%

High Point

MUNICIPAL PROFILE

Population Served	101,644
Land Area Served (Square Miles)	59.02
Persons Served per Square Mile	1,722
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$8,511,867,919
County	Guilford

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.5%
Operating Costs		22.1%
Capital Costs		5.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,222,236
Operating Costs	$	372,211
Capital Costs	$	90,357
TOTAL	$	1,684,804

SERVICE PROFILE

Number of Inspections by Type	
Building	9,302
Electrical	6,485
Mechanical	6,231
Plumbing	5,297
Total	27,315
Building Permit Values	
Residential	$86,935,915
Multifamily	NA
Commercial	$226,228,067
Total	$313,163,982
FTE Inspectors	
Building	4.5
Electrical	3.0
Mechanical	3.0
Plumbing	3.0
All Trades	0.0
Total Inspectors	13.5
FTE Plan Reviewers	1.5
Other FTE Positions	8.0
Inspection Fee Revenue	$1,146,431

EXPLANATORY INFORMATION

Service Level and Delivery
The inspections department of High Point provides building, plumbing, electrical, and mechanical code enforcement services to the incorporated area of the city in addition to a small portion of 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.

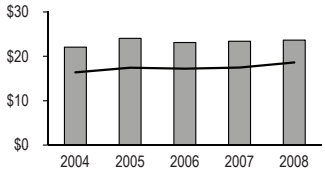
Total revenue received from inspection fees amounted to $1,146,431 for FY 2007–08. Inspection and permit fees depend on the type of construction or work, value of construction, and other factors.

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.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

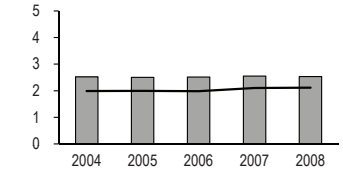
RESOURCE Measures

Building Inspections Services Costs per Capita



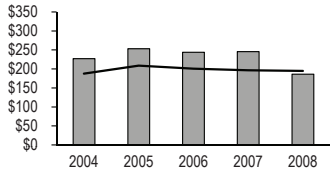
	2004	2005	2006	2007	2008
Raleigh	$22.06	$24.07	$23.11	$23.42	$23.66
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	2.52	2.50	2.51	2.55	2.53
Average	1.98	1.99	1.98	2.11	2.12

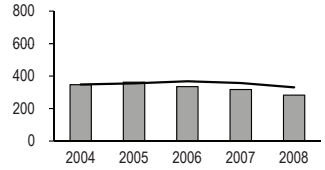
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Raleigh	$227	$253	$244	$246	$186
Average	$188	$209	$201	$197	$195

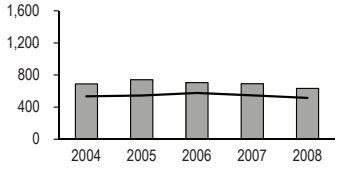
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



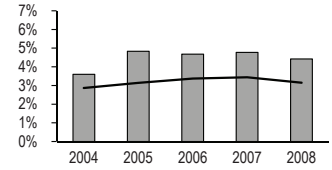
	2004	2005	2006	2007	2008
Raleigh	347	363	335	317	283
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



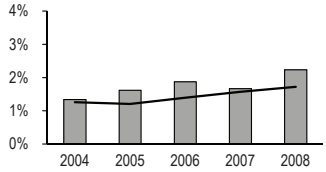
	2004	2005	2006	2007	2008
Raleigh	690	742	705	691	633
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



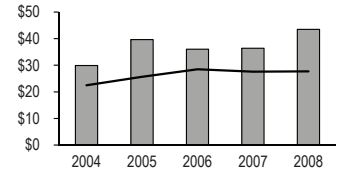
	2004	2005	2006	2007	2008
Raleigh	3.60%	4.83%	4.68%	4.77%	4.42%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Raleigh	1.34%	1.62%	1.87%	1.67%	2.23%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

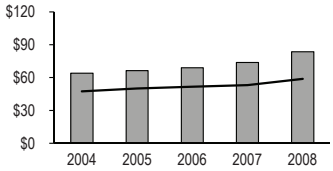
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Raleigh	$29.9	$39.7	$36.1	$36.4	$43.5
Average	$22.5	$25.6	$28.5	$27.6	$27.7

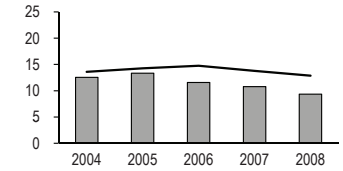
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



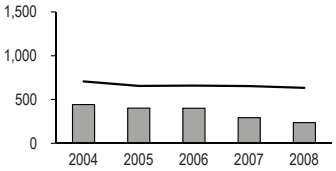
	2004	2005	2006	2007	2008
Raleigh	$64.00	$66.39	$69.01	$73.81	$83.60
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Raleigh	12.6	13.3	11.6	10.8	9.3
Average	13.6	14.3	14.7	13.8	12.9

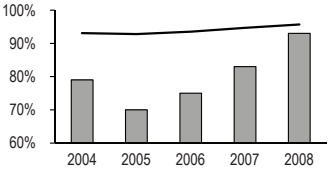
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Raleigh	442	402	400	292	236
Average	707	656	659	653	634

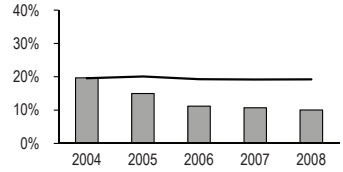
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Raleigh	79.0%	70.0%	75.0%	83.0%	93.0%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Raleigh	19.7%	15.0%	11.2%	10.7%	10.1%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

MUNICIPAL PROFILE

Population Served	410,848
Land Area Served (Square Miles)	183.68
Persons Served per Square Mile	2,237
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$52,169,493,751
County	Wake

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.0%
Operating Costs		27.9%
Capital Costs		4.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,612,226
Operating Costs	$	2,712,205
Capital Costs	$	396,794
TOTAL	$	9,721,225

SERVICE PROFILE

Number of Inspections by Type	
Building	35,105
Electrical	30,097
Mechanical	22,514
Plumbing	28,567
Total	116,283
Building Permit Values	
Residential	$951,168,146
Multifamily	$188,792,922
Commercial	$1,165,721,863
Total	$2,305,682,931
FTE Inspectors	
Building	14.0
Electrical	15.0
Mechanical	10.0
Plumbing	11.0
All Trades	3.0
Total Inspectors	53.0
FTE Plan Reviewers	17.0
Other FTE Positions	34.0
Inspection Fee Revenue	$8,423,960

EXPLANATORY INFORMATION

Service Level and Delivery

The inspections department of the City of Raleigh is responsible for providing services to all land area within the city limits and to extraterritorial jurisdiction (ETJ) that varies from one to three miles beyond the city limits. Reporting directly to the city manager, the department is responsible for the enforcement of the North Carolina Building Code and the zoning, soil erosion, sedimentation, minimum housing, public nuisance, and abandoned vehicle codes of the city. Within the development area of the city's jurisdiction, the department is divided into two divisions: permits and construction inspections. The permit area is the receiving and reviewing function for the city, providing plans review of all associated state and local codes. The inspections department moves the plan documents throughout the other city departments as appropriate for review. Once all has been reviewed and comments noted, a total review listing is transmitted to the developer or the assigned representative. Likewise, once the total review is complete and necessary corrections have been made to the documents, the project is permitted, with all fees being collected at one time.

The project is then passed to the construction division for follow-through inspections. Other departments provide their own field inspections if necessary. When the project is completed and inspections have been approved by all applicable departments, the inspections department issues a certificate of occupancy. At this point, the project is forwarded to the fire prevention division of the fire department for maintenance inspection on a one- to three-year schedule. It is the goal of the inspections department to make all inspections on the day the contractor wants the inspection made.

Total revenue received from inspection fees amounted to $8,423,960 for FY 2007–08. Inspection and permit fees depend on the type of construction or work, value of construction, and other factors. A reinspection fee of $60 is assessed per trade for any inspection that is rejected.

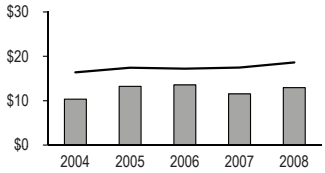
Conditions Affecting Service, Performance, and Costs

The population served is calculated by adding the population of Raleigh with the population of the ETJ. The tax base served is calculated by adding the tax base of Raleigh 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.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

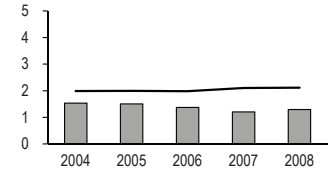
RESOURCE Measures

Building Inspections Services Costs per Capita



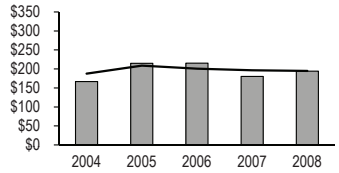
	2004	2005	2006	2007	2008
Wilson	$10.33	$13.23	$13.55	$11.55	$12.93
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	1.53	1.51	1.37	1.20	1.30
Average	1.98	1.99	1.98	2.11	2.12

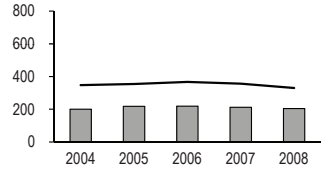
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Wilson	$167	$215	$215	$180	$194
Average	$188	$209	$201	$197	$195

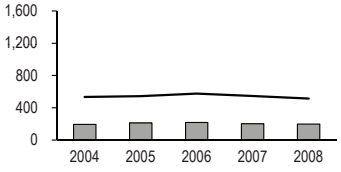
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



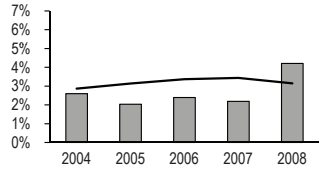
	2004	2005	2006	2007	2008
Wilson	200	218	219	212	205
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



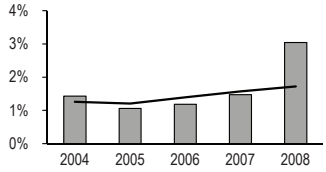
	2004	2005	2006	2007	2008
Wilson	194	212	219	202	199
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



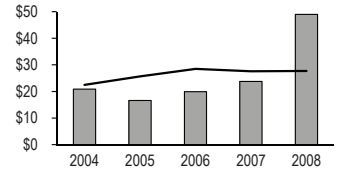
	2004	2005	2006	2007	2008
Wilson	2.60%	2.03%	2.39%	2.19%	4.21%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Wilson	1.43%	1.06%	1.19%	1.47%	3.04%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

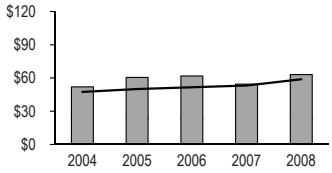
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Wilson	$20.9	$16.6	$19.9	$23.8	$49.0
Average	$22.5	$25.6	$28.5	$27.6	$27.7

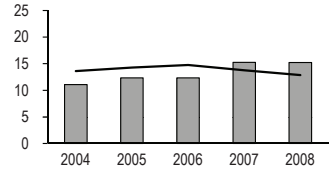
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



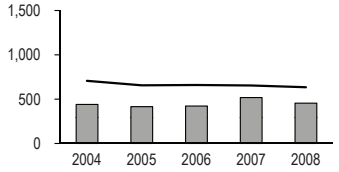
	2004	2005	2006	2007	2008
Wilson	$52.00	$60.58	$61.75	$54.51	$63.13
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Wilson	11.1	12.3	12.3	15.2	15.2
Average	13.6	14.3	14.7	13.8	12.9

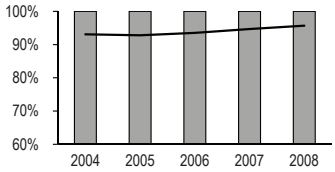
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Wilson	441	415	423	518	455
Average	707	656	659	653	634

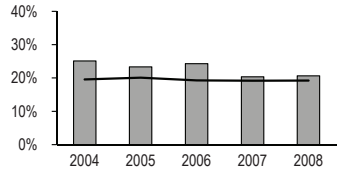
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Wilson	100.0%	100.0%	100.0%	100.0%	100.0%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Wilson	25.1%	23.3%	24.3%	20.3%	20.6%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

Wilson

MUNICIPAL PROFILE

Population Served	55,920
Land Area Served (Square Miles)	57.62
Persons Served per Square Mile	970
Topography	Flat
Tax Base Served (Assessed Value)	$3,726,163,532
County	Wilson

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		66.8%
Operating Costs		28.1%
Capital Costs		5.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	482,952
Operating Costs	$	202,847
Capital Costs	$	37,081
TOTAL	$	722,880

SERVICE PROFILE

Number of Inspections by Type	
Building	3,261
Electrical	2,846
Mechanical	2,747
Plumbing	2,597
Total	11,451
Building Permit Values	
Residential	$32,460,053
Multifamily	$10,954,940
Commercial	$113,376,012
Total	$156,791,005
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	3.25
Inspection Fee Revenue	$592,012

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilson's inspection team serves an area consisting of the area within the corporate limits and the extraterritorial zoning jurisdiction (ETJ) that is approximately one mile beyond the city limits.

Inspection services are currently provided by three inspectors, one field supervisor, and the inspections divisions manager. Two permit technicians provide support to this function. For commercial jobs, each inspector is assigned a primary inspection field. For residential jobs, inspectors hold certificates in all trade areas. Fire inspections are handled by certified inspectors in the fire department but are occasionally conducted by building inspectors who have fire inspection certification.

It is the policy of the inspection work team to respond to an inspection request on the same working day if the request is made prior to 8:30 a.m. and to respond to an inspection request by the following working day if the request is made after 8:30 a.m. Most inspections are completed the same day as the request.

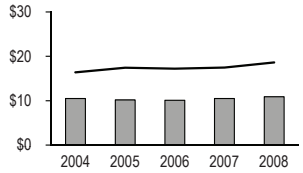
Total revenue received from inspection fees amounted to $592,012 for FY 2007–08. Building inspection fees had been increased in FY 2007–08. Inspection and permit fees depend on the type of construction or work, the value of construction, and other factors. A reinspection fee is assessed when making an inspection for the same trade that had been previously rejected.

Conditions Affecting Service, Performance, and Costs
The population served is calculated by adding the population of Wilson with the population of the ETJ. The tax base served is calculated by adding the tax base of Wilson with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Wilson County and multiplying them by the square miles of the ETJ.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

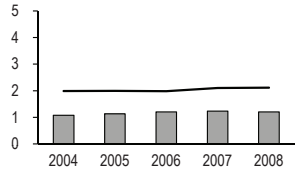
RESOURCE Measures

Building Inspections Services Costs per Capita



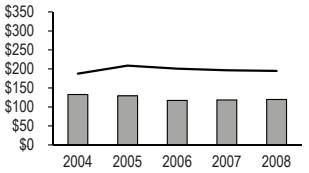
	2004	2005	2006	2007	2008
Winston-Salem	$10.50	$10.17	$10.10	$10.49	$10.89
Average	$16.39	$17.43	$17.23	$17.48	$18.62

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	1.08	1.13	1.21	1.23	1.20
Average	1.98	1.99	1.98	2.11	2.12

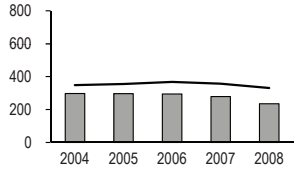
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007	2008
Winston-Salem	$132	$130	$117	$118	$120
Average	$188	$209	$201	$197	$195

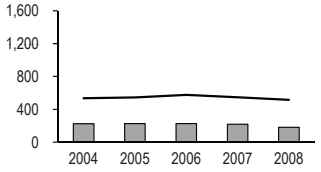
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



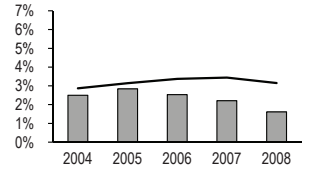
	2004	2005	2006	2007	2008
Winston-Salem	297	297	294	279	236
Average	348	355	368	357	331

Inspections per Square Mile in Service Area



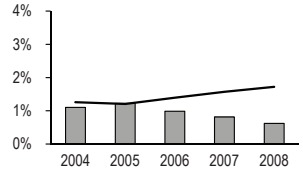
	2004	2005	2006	2007	2008
Winston-Salem	224	225	226	218	181
Average	535	546	576	546	515

Value of Building Permits as Percentage of Tax Base of Area Served



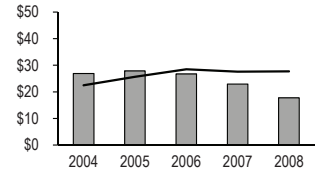
	2004	2005	2006	2007	2008
Winston-Salem	2.50%	2.84%	2.53%	2.21%	1.61%
Average	2.87%	3.14%	3.37%	3.44%	3.15%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007	2008
Winston-Salem	1.10%	1.22%	0.98%	0.81%	0.62%
Average	1.26%	1.21%	1.40%	1.58%	1.72%

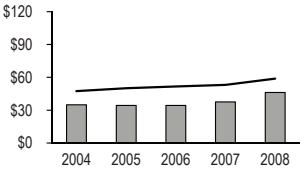
Value of Building Permits Per Inspector FTE In Millions of Dollars



	2004	2005	2006	2007	2008
Winston-Salem	$26.9	$27.9	$26.7	$22.9	$17.8
Average	$22.5	$25.6	$28.5	$27.6	$27.7

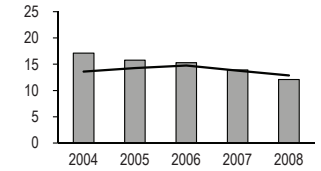
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



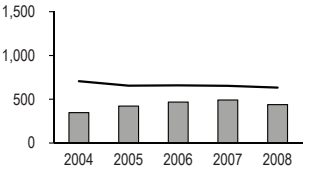
	2004	2005	2006	2007	2008
Winston-Salem	$35.00	$34.30	$34.31	$37.59	$46.21
Average	$47.44	$50.03	$51.62	$53.16	$58.87

Inspections per Day per Inspector FTE



	2004	2005	2006	2007	2008
Winston-Salem	17.1	15.8	15.3	13.9	12.1
Average	13.6	14.3	14.7	13.8	12.9

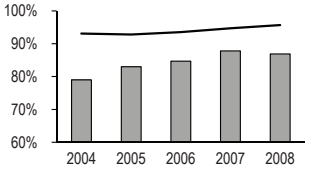
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007	2008
Winston-Salem	347	422	468	491	438
Average	707	656	659	653	634

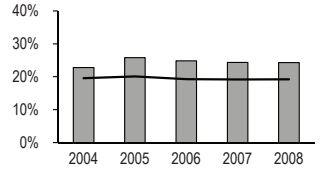
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007	2008
Winston-Salem	79.0%	83.0%	84.7%	87.8%	86.9%
Average	93.1%	92.8%	93.5%	94.7%	95.7%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007	2008
Winston-Salem	22.8%	25.8%	24.8%	24.4%	24.3%
Average	19.5%	20.1%	19.3%	19.1%	19.2%

MUNICIPAL PROFILE

Population Served	316,643
Land Area Served (Square Miles)	413.00
Persons Served per Square Mile	767
Topography	Gently rolling
Tax Base Served (Assessed Value)	$28,849,139,850
County	Forsyth

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		61.7%
Operating Costs		29.6%
Capital Costs		8.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,126,960
Operating Costs	$	1,021,378
Capital Costs	$	299,422
TOTAL	$	3,447,760

SERVICE PROFILE

Number of Inspections by Type	
Building	25,464
Electrical	17,065
Mechanical	17,331
Plumbing	14,744
Total	74,604
Building Permit Values	
Residential	$286,264,366
Multifamily	included above
Commercial	$179,357,632
Total	$465,621,998
FTE Inspectors	
Building	7.2
Electrical	7.0
Mechanical	7.0
Plumbing	5.0
All Trades	0.0
Total Inspectors	26.2
FTE Plan Reviewers	3.0
Other FTE Positions	8.9
Inspection Fee Revenue	$2,919,354

EXPLANATORY INFORMATION

Service Level and Delivery

The Inspections Division of the Winston-Salem Public Works Department is a combined program for Winston-Salem and Forsyth County, providing building inspection services for all areas of the county with the exception of the Town of Kernersville.

Inspectors are certified in one of the following four trades: building, electrical, mechanical, or plumbing. Inspectors drive to and from inspection sites in city-owned vehicles. Besides the North Carolina State Building Code, the Inspections Division enforces zoning codes and soil and sedimentation control regulations. Full-time equivalent positions and costs for these responsibilities are excluded from the project's figures for building inspections.

It is the policy of the Inspections Division to respond to inspection requests within one working day 90 percent of the time.

Total revenue received from inspection fees amounted to $2,919,354 for FY 2007–08. Inspection and permit fees depend on the type of construction or work, value of the construction, and other factors. An extra trip charge of $40 is assessed for each reinspection due to a second and subsequent failed inspection on each permit.

Conditions Affecting Service, Performance, and Costs

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

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 Fiscal Year 2007–08.

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, 2008, 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, 2008.

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, 2008.

5. Hours Billed as a Percentage of Total Hours
The total number of billable hours includes all hours for technicians available for work during the fiscal year. Billable hours are calculated by multiplying 2,080 (hours in a normal working year) by the number of full-time equivalent (FTE) positions for technicians as defined above. However, this number of FTEs is adjusted for vacancies. Hours billed represents actual hours billed during the fiscal year by the central garage to departments, divisions, and programs.

6. Preventive Maintenances (PMs) as a Percentage of All Work Orders
This measure is based on the total number of preventive maintenance jobs (PMs) (done in-house or by outside contractors) completed during the fiscal year divided by the total number of work orders (including contractual work) completed during the fiscal year for that jurisdiction.

7. Percentage of PMs Completed on Schedule
Based on the total number of PMs as defined above, this measure represents the percentage of PMs completed as scheduled as defined by the respective jurisdiction's standards.

8. Percentage of Work Orders Completed within Twenty-Four Hours
Based on the total number of work orders as defined above, this measure represents the percentage of work orders completed during the fiscal year within twenty-four hours of being received.

9. Percentage of Rolling Stock Available per Day
Based on the total number of rolling stock units as defined above, this measure represents the average percentage of rolling stock available for use per working day of the jurisdiction.

10. Percentage of Work Orders Requiring Repeat Repair within Thirty Days
Based on the total number of work orders as defined above, this measure represents the percentage of works orders (completed work on a unit of rolling stock) requiring repeat repair for the same problem within thirty days.

UNC
SCHOOL OF GOVERNMENT

Fleet Maintenance

Summary of Key Dimensions of Service

FY 2007-08

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	785	7.8	5,914	1,582	16	9.0	$60-Cars and Small Trucks $70-Large Truck and Off-Road	2.5	General Fund
Burlington	445	10.4	4,282	3,222	19	11.0	$55-Heavy Equipment $45 Auto/Light Truck $35-Small Engine/Mowers	0.8	General Fund
Carrboro	121	5.9	1,226	776	3	2.0	NA	NA	General Fund
Cary	787	6.0	5,102	1,738	7	8.0	$60.00	NA	Internal Service
Charlotte	3,251	6.3	33,814	15,024	73	60.5	$50.00	4.0	General Fund
Concord	797	7.7	5,361	1,429	8	8.0	$21.00	5.6	Internal Service
Durham	1,493	6.3	11,608	6,340	33	24.0	$59-Heavy Equp $47-Others	3.1	General Fund
Gastonia	791	8.2	6,216	1,637	24	13.0	$35.00	NA	General Fund
Greensboro	1,630	5.0	11,848	5,013	33	32.0	$52.00	3.9	Internal Service
Hickory	539	9.1	6,946	1,377	14	7.0	$44.50	4.0	Internal Service
High Point	933	8.4	4,911	2,130	18	13.0	$60.00	4.0	Internal Service
Matthews	166	8.2	2,404	642	7	2.0	NA	3.0	General Fund
Raleigh	2,381	5.3	13,633	4,544	37	38.0	$65.00	2.4	Internal Service
Salisbury	489	9.5	4,008	978	14	8.0	NA	2.5	General Fund
Wilmington	699	5.7	4,424	1,754	20	11.0	$49.50	4.6	Internal Service
Wilson	725	7.1	5,265	1,054	15	12.0	$44.00	2.0	General Fund
Winston-Salem	1,741	6.8	11,605	5,111	35	18.0	$50.00	3.5	General Fund

NOTES

EXPLANATORY FACTORS

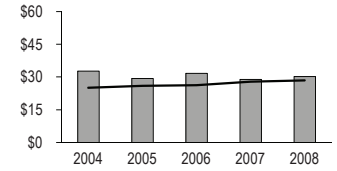
These are factors that the project found to affect fleet maintenance performance and cost in one or more of the municipalities:

Number of vehicles maintained
Types of vehicles maintained
Fleet replacement plan
Average age of vehicles by type
Average miles driven for each type of vehicle
Preventive maintenance classification system
Preventive maintenance schedule

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

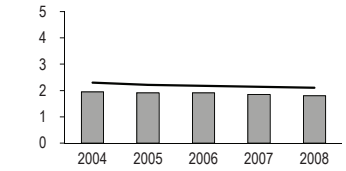
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



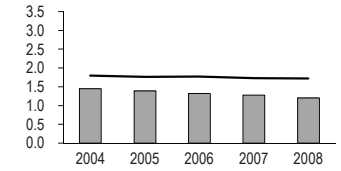
	2004	2005	2006	2007	2008
Asheville	$32.75	$29.33	$31.72	$28.97	$30.29
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	1.95	1.91	1.91	1.84	1.80
Average	2.30	2.21	2.18	2.14	2.10

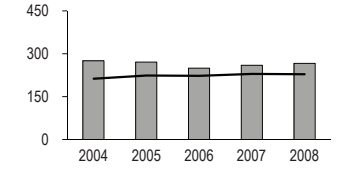
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Asheville	1.44	1.39	1.32	1.28	1.20
Average	1.79	1.76	1.77	1.73	1.72

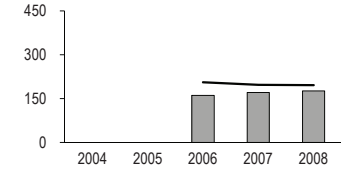
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Asheville	276	271	250	259	266
Average	213	224	222	230	228

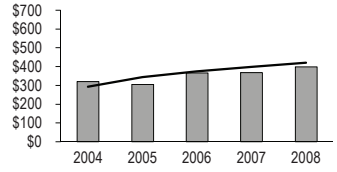
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Asheville			161	170	176
Average			206	197	196

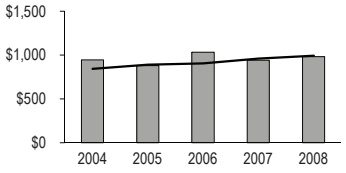
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



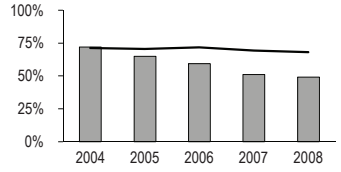
	2004	2005	2006	2007	2008
Asheville	$320	$305	$366	$368	$399
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Asheville	$947	$880	$1,033	$943	$983
Average	$843	$891	$906	$958	$992

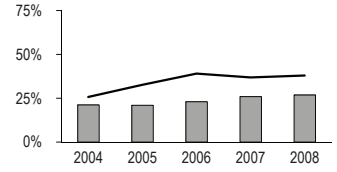
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Asheville	72%	65%	59%	51%	49%
Average	71%	71%	72%	69%	68%

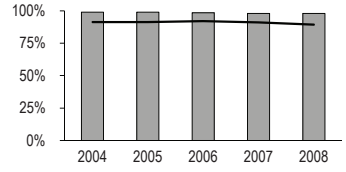
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



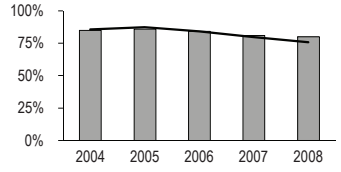
	2004	2005	2006	2007	2008
Asheville	21%	21%	23%	26%	27%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



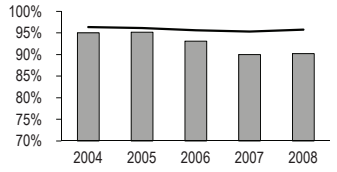
	2004	2005	2006	2007	2008
Asheville	99%	99%	98%	98%	98%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



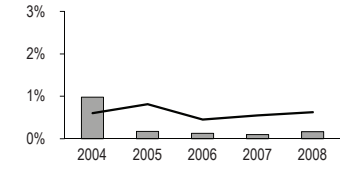
	2004	2005	2006	2007	2008
Asheville	85%	86%	84%	81%	80%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Asheville	95%	95%	93%	90%	90%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Asheville	0.98%	0.17%	0.13%	0.10%	0.17%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Asheville

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
County	Buncombe
Topography	Hills, mountains
Climate	Moderate; ice and snow

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	65	6.7 Years
Cars—Severe Usage	144	3.9 Years
Light Vehicles	278	7.7 Years
Medium Vehicles	17	13.9 Years
Heavy—Sanitation	13	7.2 Years
Heavy—Sewer	2	1.5 Years
Heavy—Fire Apparatus	28	9.6 Years
Heavy—Other	42	7.0 Years
Trailed Equipment	111	11.6 Years
Off-road/Construction/Tractors	82	8.5 Years
Buses	3	20.2 Years
Total	785	

Vehicle Equivalent Units (VEUs)	2,397

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	29.3%
Operating Costs	67.6%
Capital Costs	3.1%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	690,478
Operating Costs	$	1,593,421
Capital Costs	$	73,475
TOTAL	$	2,357,374

SERVICE PROFILE

FTE Positions—Technician	9.0
FTE Positions—Other	5.0
Work Bays	16
Average Rolling Stock Units Available per Day	708
Hours Billed	8,167
Work Orders	5,914
Repeat Repairs within 30 Days	10
Work Orders Completed within 24 hours	4,731
Preventive Maintence (PMs)	1,582

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 for FY 2007–08.

Charges for maintenance services included a $60-an-hour labor rate for passenger cars and light trucks up to one ton in weight and a $70-an-hour labor rate for vehicles over one ton in weight and off-road vehicles, a 30 percent markup on parts, and a 5 percent markup on sublet work. Parts inventory turned over 2.5 times during the fiscal year.

The following services were contracted out during FY 2007–08:

- 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.

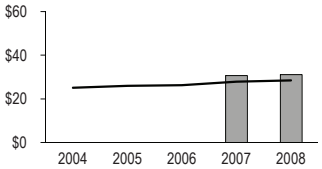
In Asheville the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month as the scheduled date.

In addition to rolling stock, Asheville's fleet services has maintenance responsibilities for fifty-two other pieces of equipment including snow plows, sand spreaders, emergency generators, water pumps, chainsaws, a pressure washer, a curb builder, and other city equipment.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

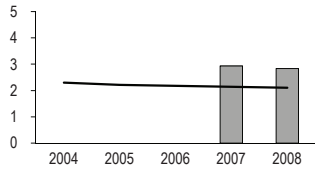
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



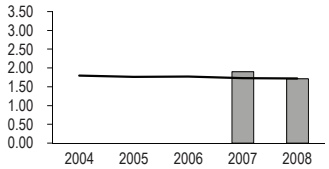
	2004	2005	2006	2007	2008
Burlington				$30.69	$31.10
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				2.94	2.84
Average	2.30	2.21	2.18	2.14	2.10

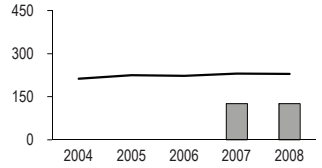
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Burlington				1.90	1.71
Average	1.79	1.76	1.77	1.73	1.72

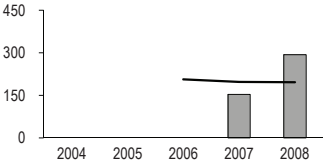
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Burlington				125	126
Average	213	224	222	230	228

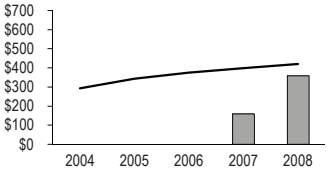
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Burlington				154	293
Average			206	197	196

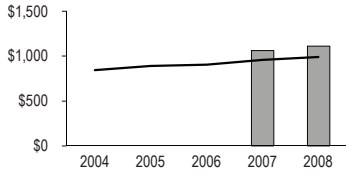
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



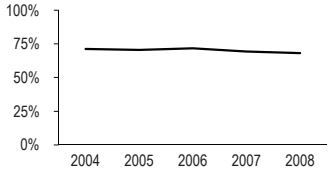
	2004	2005	2006	2007	2008
Burlington				$159	$358
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Burlington				$1,062	$1,110
Average	$843	$891	$906	$958	$992

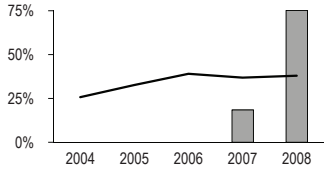
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Burlington					
Average	71%	71%	72%	69%	68%

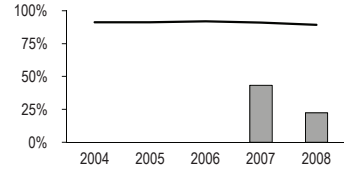
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



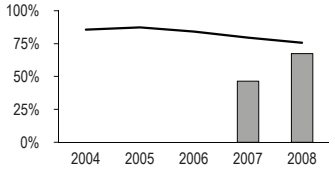
	2004	2005	2006	2007	2008
Burlington				18%	75%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



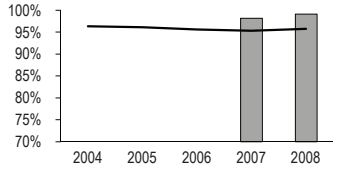
	2004	2005	2006	2007	2008
Burlington				43%	23%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



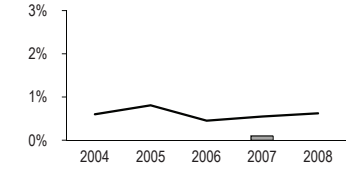
	2004	2005	2006	2007	2008
Burlington				47%	67%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Burlington				98%	99%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Burlington				0.10%	0.00%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
County	Alamance
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	34	6.0 Years
Cars—Severe Usage	86	5.6 Years
Light Vehicles	120	8.1 Years
Medium Vehicles	42	10.9 Years
Heavy—Sanitation	18	6.1 Years
Heavy—Sewer	2	18.9 Years
Heavy—Fire Apparatus	9	12.9 Years
Heavy—Other	3	8.1 Years
Trailed Equipment	82	15.1 Years
Off-road/Construction/Tractors	47	20.6 Years
Buses	2	7.6 Years
Total	445	

Vehicle Equivalent Units (VEUs)	1,382

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	42.4%
Operating Costs	55.9%
Capital Costs	1.7%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	650,517
Operating Costs	$	857,417
Capital Costs	$	26,492
TOTAL	$	1,534,426

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	3.0
Work Bays	19
Average Rolling Stock Units Available per Day	441
Hours Billed	9,099
Work Orders	4,282
Repeat Repairs within 30 Days	0
Work Orders Completed within 24 hours	2,889
Preventive Maintence (PMs)	3,222
PMs Completed as Scheduled	725

EXPLANATORY INFORMATION

Service Level and Delivery
Burlington's fleet mantenance is performed by the Equipment Services Division of the Public Works Department. The activities for this operation were accounted for in the general fund for FY 2007–08.

There are no charges for hourly labor but a tracking fee is used for internal purposes. There is a 5 percent markup on parts but no markup on sublet work.

The following services were contracted out during FY 2007–08:

- bodywork
- alignments
- major transmission repairs
- machine work
- windshield replacement
- upholster work
- aerial inspections
- wrecker service
- two-way radio work

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

In Burlington the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is based on mileage parameters. While most PMs are done within twenty-four hours of arrival at the fleet shop, not all vehicles are brought in by departments on time to allow completion on schedule.

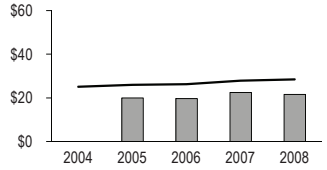
In addition to rolling stock, Burlington's Equipment Services Division has maintenance responsibility for bush hogs, edgers, pavers, pressure washers, riding mowers, generators, chain saws, push mowers, grinders, paint machines, spreaders, aerators, directional signs, and other city equipment.

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

Key: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

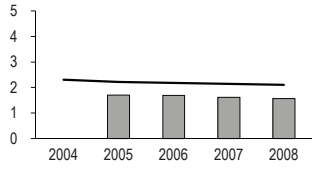
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



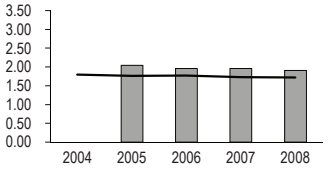
	2004	2005	2006	2007	2008
Carrboro		$20.00	$19.63	$22.38	$21.55
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		1.70	1.69	1.61	1.56
Average	2.30	2.21	2.18	2.14	2.10

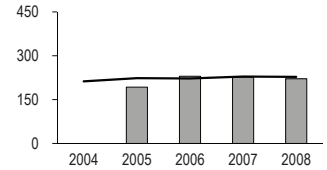
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Carrboro		2.04	1.96	1.96	1.91
Average	1.79	1.76	1.77	1.73	1.72

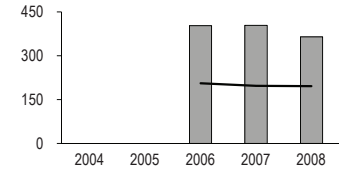
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Carrboro		192	230	226	221
Average	213	224	222	230	228

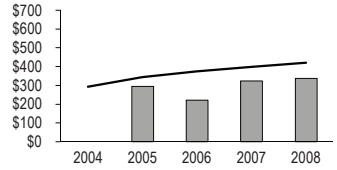
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Carrboro			403	404	365
Average			206	197	196

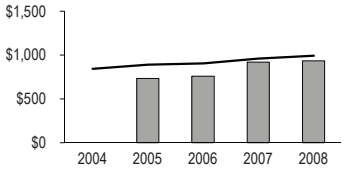
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



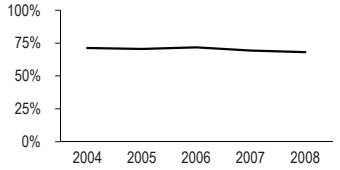
	2004	2005	2006	2007	2008
Carrboro		$295	$222	$323	$337
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Carrboro		$735	$759	$920	$935
Average	$843	$891	$906	$958	$992

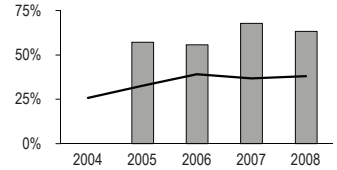
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Carrboro					
Average	71%	71%	72%	69%	68%

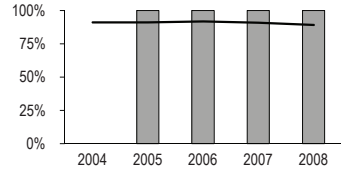
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



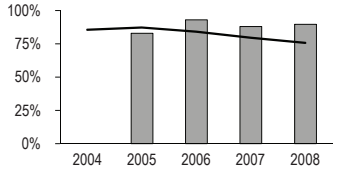
	2004	2005	2006	2007	2008
Carrboro		57%	56%	68%	63%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



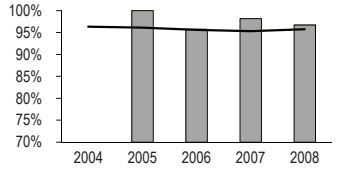
	2004	2005	2006	2007	2008
Carrboro		100%	100%	100%	100%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



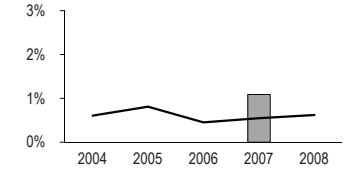
	2004	2005	2006	2007	2008
Carrboro		83%	93%	88%	90%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Carrboro		100%	96%	98%	97%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Carrboro			0.00%	1.09%	0.00%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

MUNICIPAL PROFILE

Population (OSBM 2007)	19,178
Land Area (Square Miles)	6.33
Persons per Square Mile	3,030
County	Orange
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	10	4.4 Years
Cars—Severe Usage	31	2.6 Years
Light Vehicles	31	7.4 Years
Medium Vehicles	8	5.1 Years
Heavy—Sanitation	7	5.6 Years
Heavy—Sewer	0	NA
Heavy—Fire Apparatus	4	10.0 Years
Heavy—Other	0	NA
Trailed Equipment	9	9.6 Years
Off-road/Construction/Tractors	21	7.4 Years
Buses	0	NA
Total	121	

Vehicle Equivalent Units (VEUs)	442

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	36.3%
Operating Costs	60.2%
Capital Costs	3.5%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	150,097
Operating Costs	$	248,634
Capital Costs	$	14,575
TOTAL	$	413,306

SERVICE PROFILE

FTE Positions—Technician	2.0
FTE Positions—Other	1.0
Work Bays	3
Average Rolling Stock Units Available per Day	117
Hours Billed	1,186
Work Orders	1,226
Repeat Repairs within 30 Days	0
Work Orders Completed within 24 hours	1,100
Preventive Maintence (PMs)	776
PMs Completed as Scheduled	776

EXPLANATORY INFORMATION

Service Level and Delivery
Carrboro's fleet mantenance is a division of the 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 for FY 2007–08.

There are no charges for hourly labor or parts markup.

The following services were contracted out during FY 2007–08:

- some state inspections
- body repairs
- aluminum tire repair
- hydraulic 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.

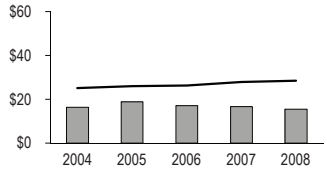
In Carrboro the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month or within mileage parameters.

In addition to rolling stock, Carrboro's fleet services has maintenance responsibility for mowers, saws, blowers, generators, and other town equipment.

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

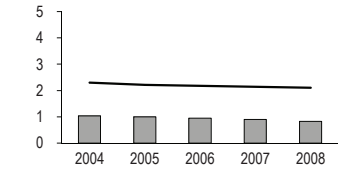
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



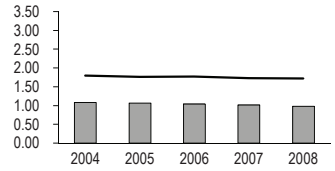
	2004	2005	2006	2007	2008
Cary	$16.39	$18.86	$17.05	$16.64	$15.47
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	1.03	1.00	0.95	0.90	0.83
Average	2.30	2.21	2.18	2.14	2.10

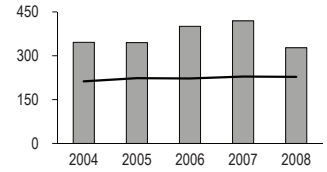
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Cary	1.08	1.06	1.04	1.01	0.98
Average	1.79	1.76	1.77	1.73	1.72

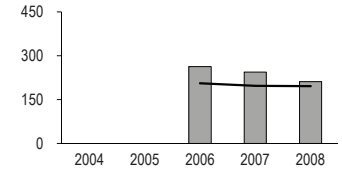
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Cary	346	344	400	420	327
Average	213	224	222	230	228

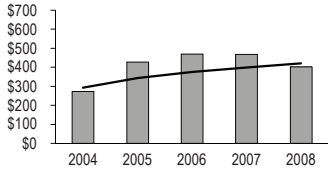
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Cary			263	244	211
Average			206	197	196

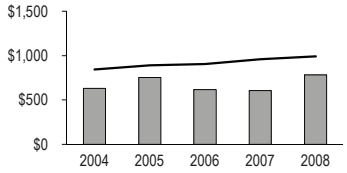
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



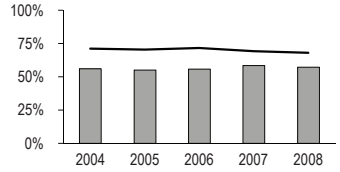
	2004	2005	2006	2007	2008
Cary	$272	$427	$469	$468	$402
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Cary	$630	$753	$617	$606	$784
Average	$843	$891	$906	$958	$992

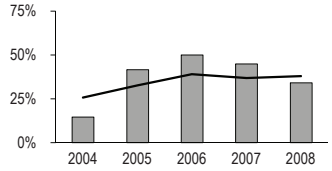
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Cary	56%	55%	56%	58%	57%
Average	71%	71%	72%	69%	68%

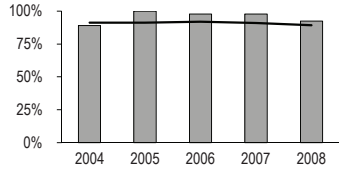
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



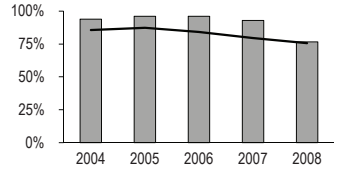
	2004	2005	2006	2007	2008
Cary	15%	42%	50%	45%	34%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



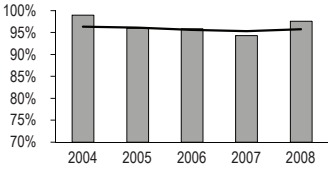
	2004	2005	2006	2007	2008
Cary	89%	100%	98%	98%	92%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



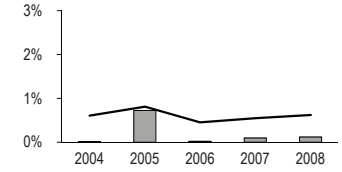
	2004	2005	2006	2007	2008
Cary	94%	96%	96%	93%	77%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Cary	99%	96%	96%	94%	98%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Cary	0.02%	0.72%	0.02%	0.09%	0.12%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	29	8.7 Years
Cars—Severe Usage	111	3.7 Years
Light Vehicles	285	6.8 Years
Medium Vehicles	81	5.4 Years
Heavy—Sanitation	22	4.3 Years
Heavy—Sewer	4	3.8 Years
Heavy—Fire Apparatus	17	7.0 Years
Heavy—Other	11	6.4 Years
Trailed Equipment	55	6.0 Years
Off-road/Construction/Tractors	172	6.2 Years
Buses	0	NA
Total	787	

Vehicle Equivalent Units (VEUs)	2,618

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	29.3%
Operating Costs	65.6%
Capital Costs	5.1%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	600,491
Operating Costs	$	1,346,631
Capital Costs	$	104,368
TOTAL	$	2,051,490

SERVICE PROFILE

FTE Positions—Technician	8.0
FTE Positions—Other	3.0
Work Bays	7
Average Rolling Stock Units Available per Day	768
Hours Billed	9,523
Work Orders	5,102
Repeat Repairs within 30 Days	6
Work Orders Completed within 24 hours	3,909
Preventive Maintence (PMs)	1,738
PMs Completed as Scheduled	1,605

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 2007–08:

- body work
- tire replacement (tires over 16 inches)
- some major transmission work
- some engine overhaul
- striping/decal work for law enforcement and fire vehicles only

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore, this percentage should not be expected to be near 100 percent.

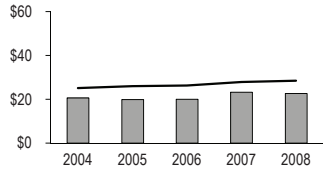
In Cary the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month as the scheduled date or within mileage parameters.

In addition to rolling stock, Cary's fleet services has maintenance responsibilities for riding mowers, weed whackers, 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.

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2004 through 2008

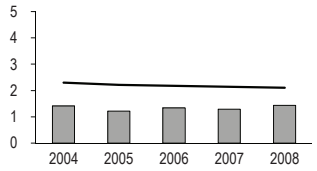
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



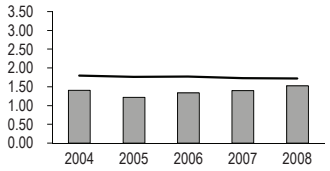
	2004	2005	2006	2007	2008
Charlotte	$20.63	$19.92	$19.95	$23.21	$22.56
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Charlotte	1.41	1.21	1.34	1.29	1.43
Average	2.30	2.21	2.18	2.14	2.10

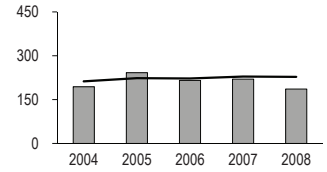
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Charlotte	1.41	1.22	1.34	1.40	1.52
Average	1.79	1.76	1.77	1.73	1.72

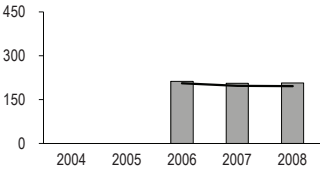
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Charlotte	194	242	215	220	186
Average	213	224	222	230	228

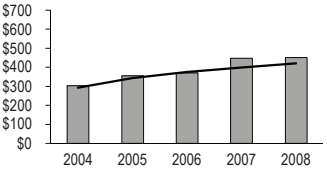
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Charlotte			213	206	207
Average			206	197	196

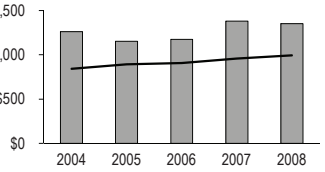
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



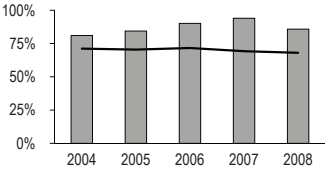
	2004	2005	2006	2007	2008
Charlotte	$303	$355	$370	$448	$450
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Charlotte	$1,261	$1,154	$1,174	$1,382	$1,353
Average	$843	$891	$906	$958	$992

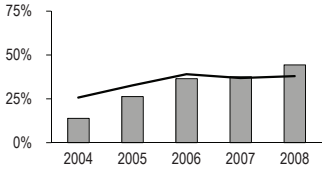
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Charlotte	81%	84%	90%	94%	86%
Average	71%	71%	72%	69%	68%

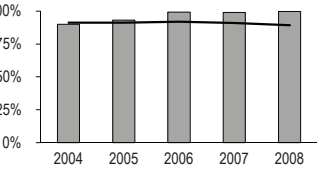
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



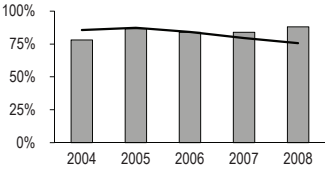
	2004	2005	2006	2007	2008
Charlotte	14%	26%	36%	38%	44%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



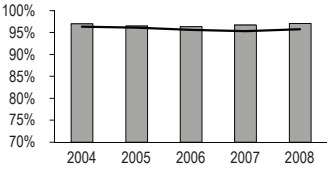
	2004	2005	2006	2007	2008
Charlotte	90%	93%	99%	99%	100%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



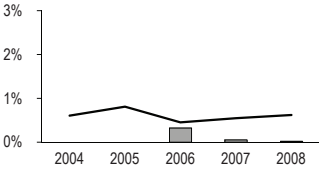
	2004	2005	2006	2007	2008
Charlotte	78%	87%	84%	84%	88%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Charlotte	97%	97%	96%	97%	97%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Charlotte			0.32%	0.05%	0.02%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

MUNICIPAL PROFILE

Population (OSBM 2007)	674,752
Land Area (Square Miles)	287.9
Persons per Square Mile	2,343
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	374	4.8 Years
Cars—Severe Usage	764	3.9 Years
Light Vehicles	1025	5.7 Years
Medium Vehicles	166	8.2 Years
Heavy—Sanitation	163	4.8 Years
Heavy—Sewer	22	8.0 Years
Heavy—Fire Apparatus	100	8.5 Years
Heavy—Other	108	8.2 Years
Trailed Equipment	250	11.7 Years
Off-road/Construction/Tractors	276	10.6 Years
Buses	3	11.1 Years
Total	3,251	

Vehicle Equivalent Units (VEUs)	11,251

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	35.7%
Operating Costs	63.3%
Capital Costs	1.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	5,428,803
Operating Costs	$	9,638,742
Capital Costs	$	158,110
TOTAL	$	15,225,655

SERVICE PROFILE

FTE Positions—Technician	60.5
FTE Positions—Other	36.0
Work Bays	73
Average Rolling Stock Units Available per Day	3,157
Hours Billed	90,399
Work Orders	33,814
Repeat Repairs within 30 Days	7
Work Orders Completed within 24 hours	29,755
Preventive Maintence (PMs)	15,024
PMs Completed as Scheduled	14,988

EXPLANATORY INFORMATION

Service Level and Delivery
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 for FY 2007–08.

Charges for maintenance services included a $50 per hour labor rate, a 20 percent markup charge on parts sold, and a 14 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 2007–08: 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 50.6 technician FTEs were actually available for work during FY 2007–08 for this calculation.

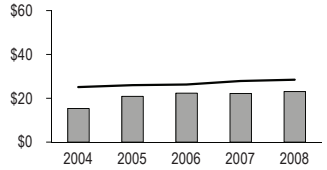
In Charlotte the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date and within mileage parameters.

In addition to rolling stock, Charlotte's fleet services had maintenance responsibilities for generators, mowers, weed whackers, compressors, saws, blowers, fans, asphalt-tar/kettles, edgers, snow plows, spreaders, tamps, mixers, chippers, posthole diggers, grinders, pressure washers, and other city equipment.

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

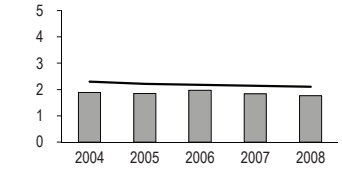
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



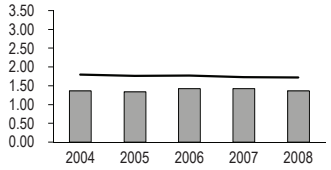
	2004	2005	2006	2007	2008
Concord	$15.29	$20.83	$22.29	$22.20	$23.09
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord	1.88	1.85	1.97	1.83	1.76
Average	2.30	2.21	2.18	2.14	2.10

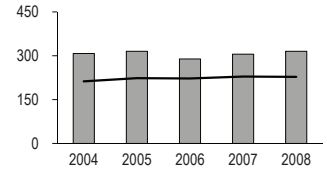
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Concord	1.36	1.34	1.43	1.42	1.36
Average	1.79	1.76	1.77	1.73	1.72

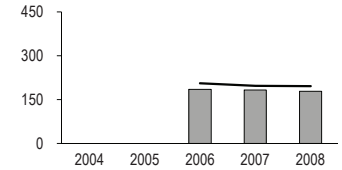
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Concord	308	315	289	305	315
Average	213	224	222	230	228

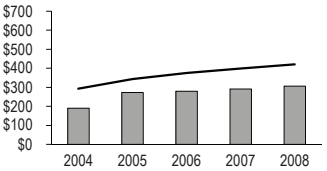
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Concord			185	183	179
Average			206	197	196

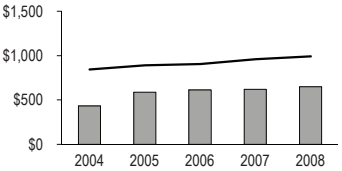
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



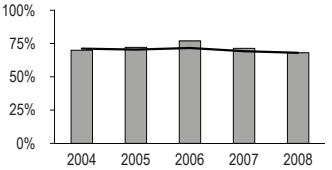
	2004	2005	2006	2007	2008
Concord	$190	$272	$279	$291	$306
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Concord	$433	$589	$611	$621	$651
Average	$843	$891	$906	$958	$992

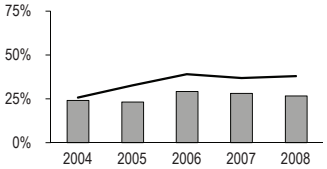
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Concord	70%	72%	77%	71%	68%
Average	71%	71%	72%	69%	68%

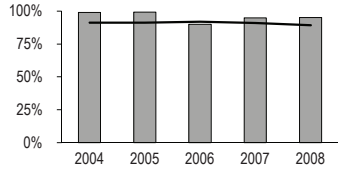
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



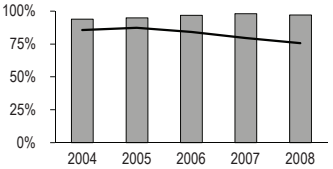
	2004	2005	2006	2007	2008
Concord	24%	23%	29%	28%	27%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



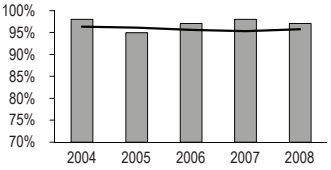
	2004	2005	2006	2007	2008
Concord	99%	99%	90%	95%	95%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



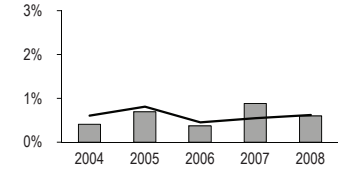
	2004	2005	2006	2007	2008
Concord	94%	95%	97%	98%	97%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Concord	98%	95%	97%	98%	97%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Concord	0.41%	0.69%	0.38%	0.88%	0.60%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Concord

MUNICIPAL PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
County	Cabarrus
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	17	8.9 Years
Cars—Severe Usage	166	5.1 Years
Light Vehicles	227	7.3 Years
Medium Vehicles	54	10.5 Years
Heavy—Sanitation	12	5.8 Years
Heavy—Sewer	3	5.3 Years
Heavy—Fire Apparatus	25	11.3 Years
Heavy—Other	44	7.1 Years
Trailed Equipment	155	9.5 Years
Off-road/Construction/Tractors	82	8.3 Years
Buses	12	8.7 Years
Total	797	

Vehicle Equivalent Units (VEUs)	2,523

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	42.3%
Operating Costs	54.0%
Capital Costs	3.7%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	694,308
Operating Costs	$	885,779
Capital Costs	$	61,169
TOTAL	$	1,641,256

SERVICE PROFILE

FTE Positions—Technician	8.0
FTE Positions—Other	4.5
Work Bays	8
Average Rolling Stock Units Available per Day	774
Hours Billed	10,612
Work Orders	5,361
Repeat Repairs within 30 Days	32
Work Orders Completed within 24 hours	5,202
Preventive Maintence (PMs)	1,429
PMs Completed as Scheduled	1,358

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 $21 per hour is charged for all maintenance services. There is no markup charge for parts or sublet work. Parts inventory turned over 5.64 times during the fiscal year.

The following services were contracted out during FY 2007–08:

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 7.7 technician FTEs were actually working during FY 2007–08 for this calculation.

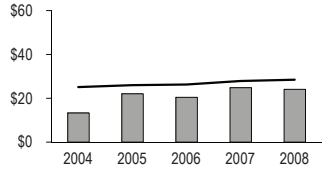
In Concord the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date.

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.

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

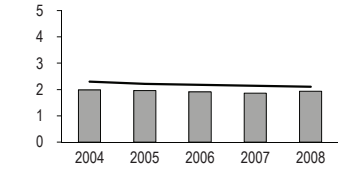
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



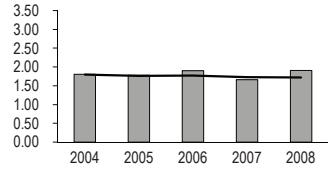
	2004	2005	2006	2007	2008
Durham	$13.32	$22.08	$20.37	$24.82	$24.05
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	1.98	1.95	1.91	1.86	1.93
Average	2.30	2.21	2.18	2.14	2.10

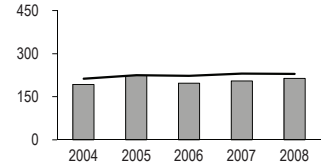
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Durham	1.81	1.78	1.90	1.66	1.91
Average	1.79	1.76	1.77	1.73	1.72

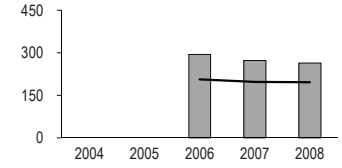
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Durham	193	224	197	205	214
Average	213	224	222	230	228

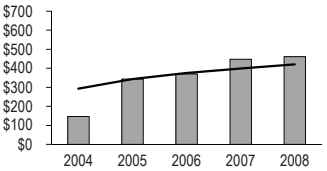
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Durham			295	272	263
Average			206	197	196

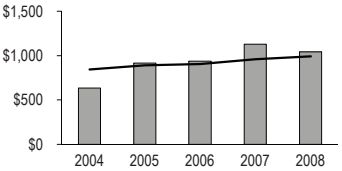
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



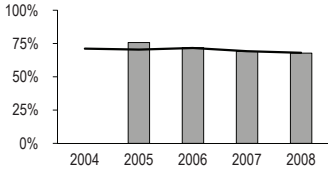
	2004	2005	2006	2007	2008
Durham	$147	$344	$370	$448	$461
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Durham	$634	$917	$939	$1,129	$1,043
Average	$843	$891	$906	$958	$992

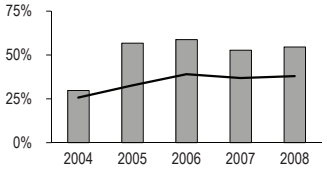
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Durham		76%	72%	69%	68%
Average	71%	71%	72%	69%	68%

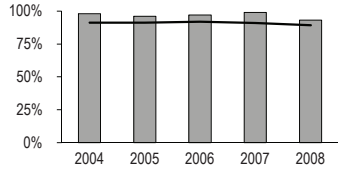
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



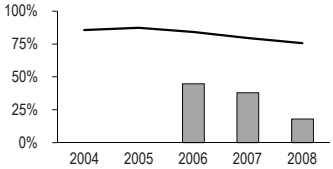
	2004	2005	2006	2007	2008
Durham	30%	57%	59%	53%	55%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



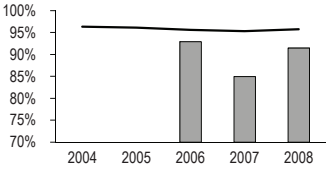
	2004	2005	2006	2007	2008
Durham	98%	96%	97%	99%	93%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



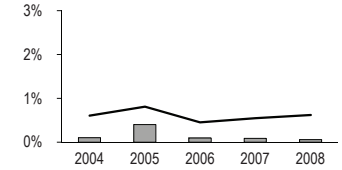
	2004	2005	2006	2007	2008
Durham			45%	38%	18%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Durham			93%	85%	91%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Durham	0.10%	0.40%	0.10%	0.08%	0.06%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

MUNICIPAL PROFILE

Population (OSBM 2007)	222,491
Land Area (Square Miles)	105.50
Persons per Square Mile	2,109
County	Durham
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	118	6.7 Years
Cars—Severe Usage	366	3.9 Years
Light Vehicles	434	4.9 Years
Medium Vehicles	26	5.7 Years
Heavy—Sanitation	80	4.6 Years
Heavy—Sewer	9	6.5 Years
Heavy—Fire Apparatus	34	9.4 Years
Heavy—Other	87	4.7 Years
Trailed Equipment	203	13.5 Years
Off-road/Construction/Tractors	126	8.6 Years
Buses	10	4.2 Years
Total	1,493	

Vehicle Equivalent Units (VEUs)	5,129

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	38.0%
Operating Costs	58.6%
Capital Costs	3.3%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	2,035,118
Operating Costs	$	3,136,509
Capital Costs	$	178,391
TOTAL	$	5,350,018

SERVICE PROFILE

FTE Positions—Technician	24.0
FTE Positions—Other	19.0
Work Bays	33
Average Rolling Stock Units Available per Day	1,366
Hours Billed	33,831
Work Orders	11,608
Repeat Repairs within 30 Days	7
Work Orders Completed within 24 hours	2,085
Preventive Maintence (PMs)	6,340
PMs Completed as Scheduled	5,905

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 in FY 2007–08. 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 2007–08:

- 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.

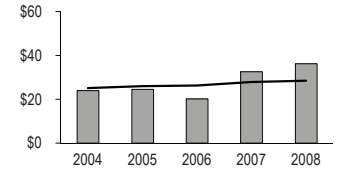
In Durham the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month and by mileage parameters.

In addition to rolling stock, Durham's fleet services has maintenance responsibilities for tractors, mowers, generators, compressors, pumps, jack hammers, and other city equipment.

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

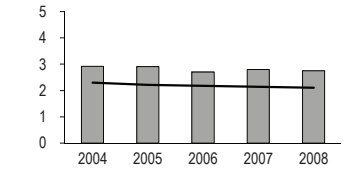
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



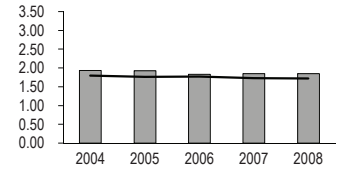
	2004	2005	2006	2007	2008
Gastonia	$23.99	$24.47	$20.12	$32.61	$36.21
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	2.92	2.91	2.70	2.80	2.75
Average	2.30	2.21	2.18	2.14	2.10

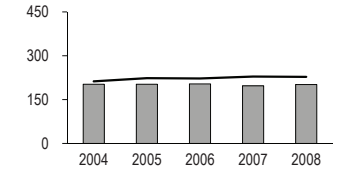
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Gastonia	1.93	1.93	1.83	1.85	1.85
Average	1.79	1.76	1.77	1.73	1.72

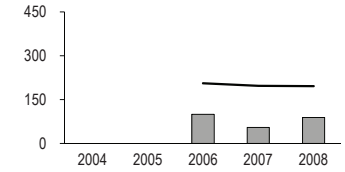
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Gastonia	203	203	203	197	201
Average	213	224	222	230	228

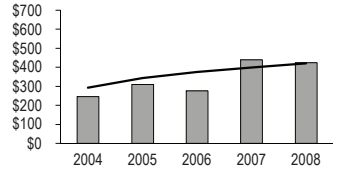
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Gastonia			100	55	88
Average			206	197	196

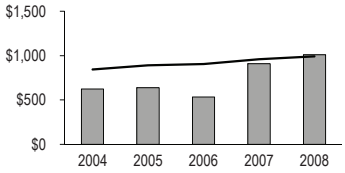
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



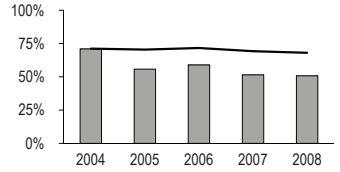
	2004	2005	2006	2007	2008
Gastonia	$245	$310	$276	$439	$424
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Gastonia	$623	$638	$535	$907	$1,009
Average	$843	$891	$906	$958	$992

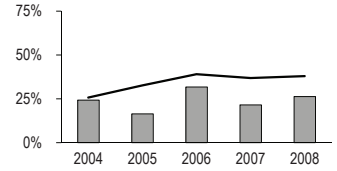
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Gastonia	71%	56%	59%	51%	51%
Average	71%	71%	72%	69%	68%

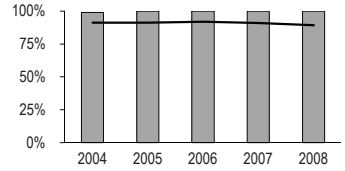
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



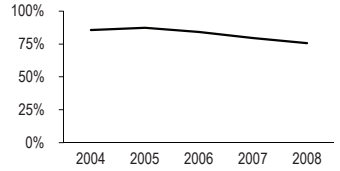
	2004	2005	2006	2007	2008
Gastonia	24%	16%	32%	21%	26%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



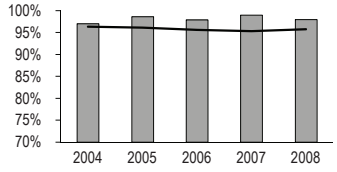
	2004	2005	2006	2007	2008
Gastonia	99%	100%	100%	100%	100%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



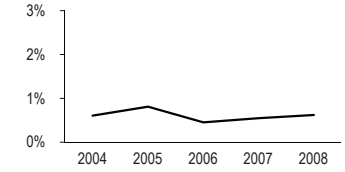
	2004	2005	2006	2007	2008
Gastonia					
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Gastonia	97%	99%	98%	99%	98%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Gastonia					
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2007)	72,848
Land Area (Square Miles)	50.43
Persons per Square Mile	1,445
County	Gaston
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	42	8.4 Years
Cars—Severe Usage	166	5.2 Years
Light Vehicles	188	7.3 Years
Medium Vehicles	56	9.2 Years
Heavy—Sanitation	23	6.2 Years
Heavy—Sewer	2	7.5 Years
Heavy—Fire Apparatus	18	12.3 Years
Heavy—Other	13	9.1 Years
Trailed Equipment	100	13.4 Years
Off-road/Construction/Tractors	175	8.8 Years
Buses	8	4.5 Years
Total	791	

Vehicle Equivalent Units (VEUs)	2,614

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	44.6%
Operating Costs	52.6%
Capital Costs	2.8%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	1,175,755
Operating Costs	$	1,387,733
Capital Costs	$	74,512
TOTAL	$	2,638,000

SERVICE PROFILE

FTE Positions—Technician	13.0
FTE Positions—Other	7.0
Work Bays	24
Average Rolling Stock Units Available per Day	775
Hours Billed	13,718
Work Orders	6,216
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	1,637
PMs Completed as Scheduled	1,637

EXPLANATORY INFORMATION

Service Level and Delivery
Equipment Services (fleet) is a separate division within Fleet Services that consists of transit, garage parts, and equipment services. The activities for this operation were accounted for in the city's general fund for fiscal year 2007–08.

The labor rate for FY 2007–08 was $35 per hour. There was no markup on sublet work. There is a percentage markup on parts that does not exceed 8 percent.

The following services were contracted out during FY 2007–08:

body work
exhaust and muffler repairs
alignment

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.

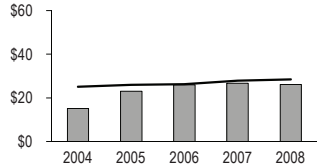
In Gastonia the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is based on mileage parameters.

In addition to rolling stock, maintenance is performed on fixed and portable generators and zero turn mowers.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

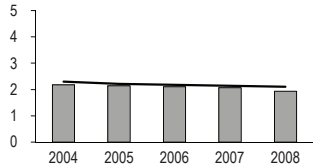
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



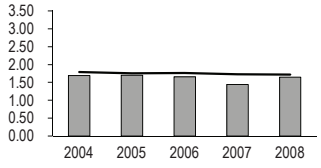
	2004	2005	2006	2007	2008
Greensboro	$15.16	$23.09	$25.93	$26.65	$26.10
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	2.18	2.14	2.11	2.07	1.93
Average	2.30	2.21	2.18	2.14	2.10

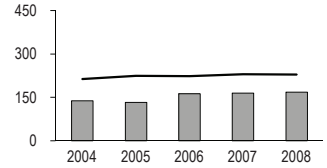
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Greensboro	1.69	1.70	1.66	1.44	1.65
Average	1.79	1.76	1.77	1.73	1.72

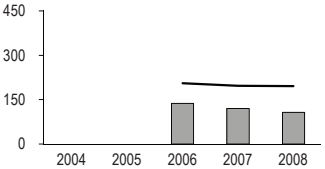
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Greensboro	138	133	163	164	169
Average	213	224	222	230	228

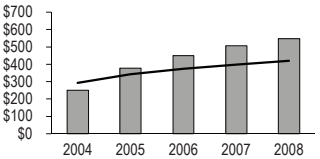
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Greensboro			137	120	107
Average			206	197	196

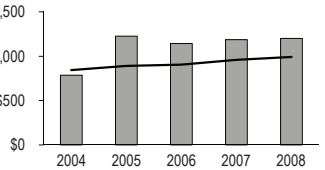
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



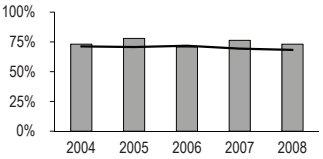
	2004	2005	2006	2007	2008
Greensboro	$250	$378	$449	$507	$546
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Greensboro	$785	$1,225	$1,145	$1,188	$1,200
Average	$843	$891	$906	$958	$992

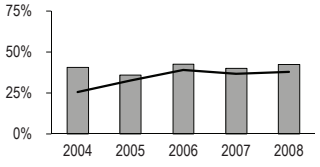
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Greensboro	73%	78%	71%	76%	73%
Average	71%	71%	72%	69%	68%

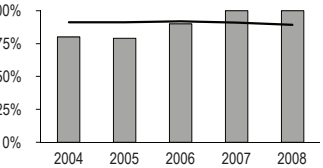
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



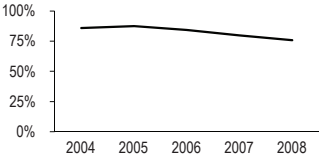
	2004	2005	2006	2007	2008
Greensboro	41%	36%	43%	40%	42%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



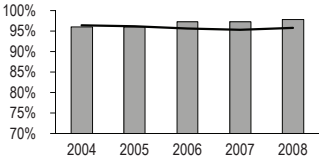
	2004	2005	2006	2007	2008
Greensboro	80%	79%	90%	100%	100%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



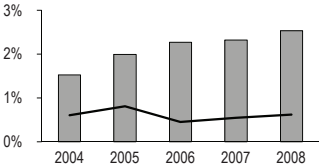
	2004	2005	2006	2007	2008
Greensboro					
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Greensboro	96%	96%	97%	97%	98%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Greensboro	1.53%	2.00%	2.27%	2.32%	2.53%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2007)		248,111
Land Area (Square Miles)		119.00
Persons per Square Mile		2,085
County		Guilford
Topography		Flat; gently rolling
Climate		Temperate
Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	247	4.7 Years
Cars—Severe Usage	233	2.6 Years
Light Vehicles	439	4.1 Years
Medium Vehicles	176	6.8 Years
Heavy—Sanitation	96	5.8 Years
Heavy—Sewer	6	7.4 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	22	NA
Trailed Equipment	97	6.7 Years
Off-road/Construction/Tractors	314	7.0 Years
Buses	0	NA
Total	1,630	
Vehicle Equivalent Units (VEUs)		5,395

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		47.1%
Operating Costs		52.3%
Capital Costs		0.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,052,466
Operating Costs	$	3,383,769
Capital Costs	$	38,344
TOTAL	$	6,474,579

SERVICE PROFILE

FTE Positions—Technician	32.0
FTE Positions—Other	16.0
Work Bays	33
Average Rolling Stock Units Available per Day	1,594
Hours Billed	44,479
Work Orders	11,848
Repeat Repairs within 30 Days	300
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	5,013
PMs Completed as Scheduled	5,013

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 2007–08 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 2007–08:

- body work
- glass repair
- upholstery repair
- most automotive and light duty oil changes
- other repairs when workload exceeded in-house capacity

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.

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 29.2 technician FTE positions were actually filled during FY 2007–08 for this calculation.

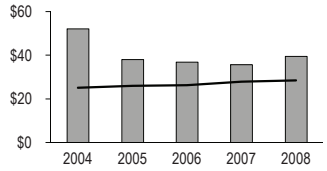
In Greensboro the preventive maintenance completion standard for "percentage of PMs completed as scheduled" uses mileage parameters and scheduled dates within the calendar month or within thirty days of schedule.

The tracking software used by Greensboro includes routine maintenance and adjustments as repeat repairs within thirty days which raises the measure "percentage of work orders requiring repeat repairs within thirty days".

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

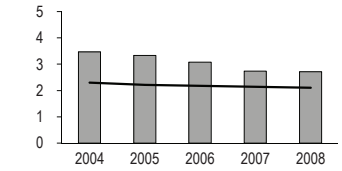
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



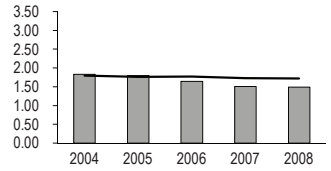
	2004	2005	2006	2007	2008
Hickory	$52.11	$37.97	$36.84	$35.62	$39.49
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	3.47	3.34	3.08	2.74	2.71
Average	2.30	2.21	2.18	2.14	2.10

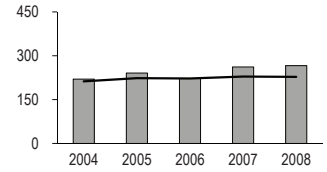
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Hickory	1.83	1.80	1.64	1.51	1.49
Average	1.79	1.76	1.77	1.73	1.72

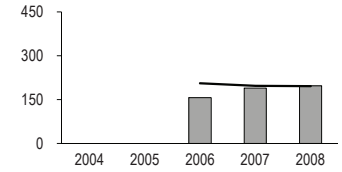
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Hickory	221	241	222	262	266
Average	213	224	222	230	228

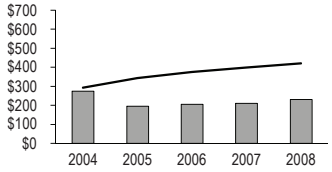
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Hickory			157	190	197
Average			206	197	196

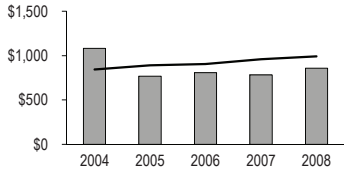
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



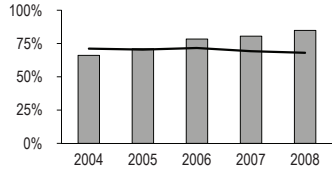
	2004	2005	2006	2007	2008
Hickory	$274	$195	$205	$210	$230
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Hickory	$1,080	$767	$808	$782	$859
Average	$843	$891	$906	$958	$992

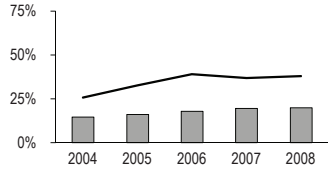
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Hickory	66%	71%	78%	81%	85%
Average	71%	71%	72%	69%	68%

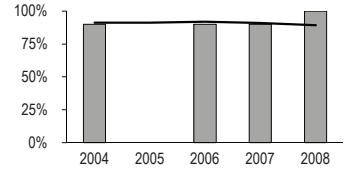
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



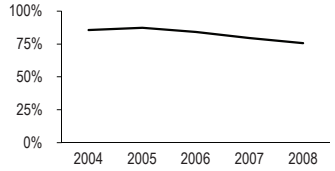
	2004	2005	2006	2007	2008
Hickory	15%	16%	18%	19%	20%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



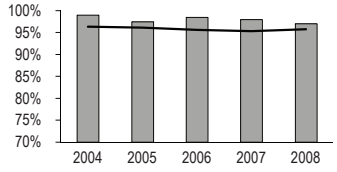
	2004	2005	2006	2007	2008
Hickory	90%		90%	90%	100%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



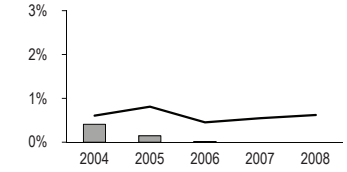
	2004	2005	2006	2007	2008
Hickory					
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Hickory	99%	97%	98%	98%	97%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Hickory	0.41%	0.14%	0.01%		
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Hickory

MUNICIPAL PROFILE

Population (OSBM 2007)		40,522
Land Area (Square Miles)		29.10
Persons per Square Mile		1,393
County		Catawba
Topography		Gently rolling
Climate		Moderate
Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	26	6.9 Years
Cars—Severe Usage	142	4.8 Years
Light Vehicles	108	8.2 Years
Medium Vehicles	34	13.3 Years
Heavy—Sanitation	27	8.3 Years
Heavy—Sewer	6	9.7 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	22	12.7 Years
Trailed Equipment	48	12.0 Years
Off-road/Construction/Tractors	126	12.4 Years
Buses	0	NA
Total	539	
Vehicle Equivalent Units (VEUs)		1,863

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		33.5%
Operating Costs		61.1%
Capital Costs		5.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	535,390
Operating Costs	$	978,276
Capital Costs	$	86,522
TOTAL	$	1,600,188

SERVICE PROFILE

FTE Positions—Technician	7.0
FTE Positions—Other	4.0
Work Bays	14
Average Rolling Stock Units Available per Day	523
Hours Billed	12,353
Work Orders	6,946
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	1,377
PMs Completed as Scheduled	1,377

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet Maintenance is a division of Hickory's Public Services Department and consists of a garage office, a parts warehouse, a welding shop, a maintenance shop, fleet wash, a fuel station, and a compressed natural gas station. All activities for this operation were accounted for in an internal service fund.

The division charges a $44.50 per hour labor rate for maintenance services and a 25 percent markup charge on parts sold. There is no markup charge for sublet work.

The following services were contracted out for FY 2007–08:

alignments
body work
large wrecker service
special machine work
starter/alternator repair
glass repair or replacement
transmission repairs

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore, this percentage should not be expected to be near 100 percent.

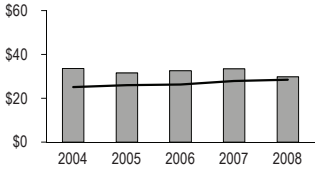
In Hickory the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date.

In addition to rolling stock, Hickory's fleet services has maintenance responsibilities for electronic signs, saws, 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.

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

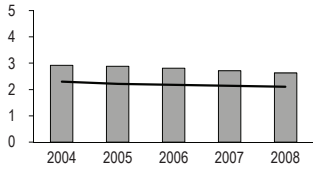
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



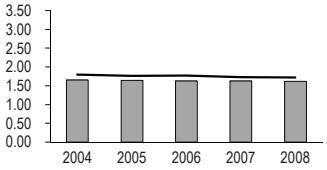
	2004	2005	2006	2007	2008
High Point	$33.62	$31.48	$32.59	$33.42	$29.79
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	2.91	2.88	2.81	2.72	2.63
Average	2.30	2.21	2.18	2.14	2.10

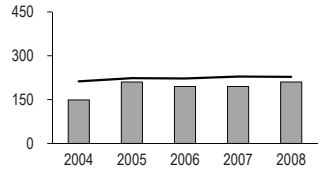
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
High Point	1.65	1.64	1.63	1.63	1.62
Average	1.79	1.76	1.77	1.73	1.72

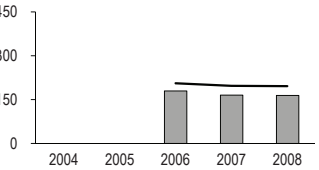
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
High Point	149	210	195	195	210
Average	213	224	222	230	228

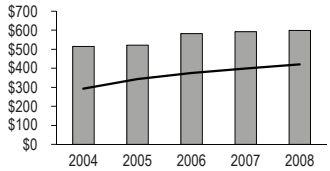
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
High Point			180	166	164
Average			206	197	196

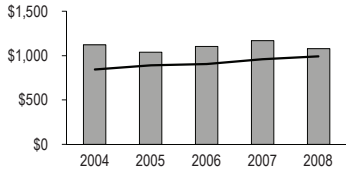
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



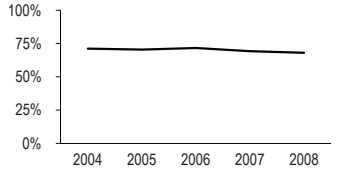
	2004	2005	2006	2007	2008
High Point	$515	$522	$582	$593	$599
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
High Point	$1,120	$1,040	$1,102	$1,169	$1,077
Average	$843	$891	$906	$958	$992

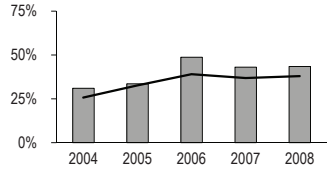
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
High Point					
Average	71%	71%	72%	69%	68%

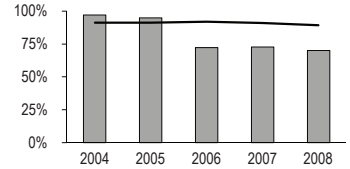
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



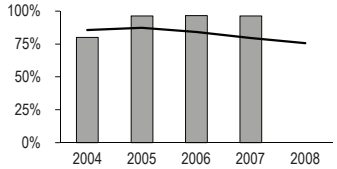
	2004	2005	2006	2007	2008
High Point	31%	34%	49%	43%	43%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



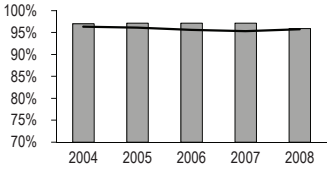
	2004	2005	2006	2007	2008
High Point	97%	95%	72%	73%	70%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



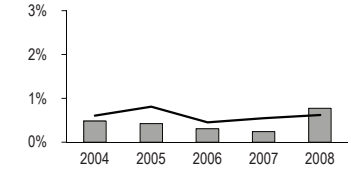
	2004	2005	2006	2007	2008
High Point	80%	96%	97%	96%	
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
High Point	97%	97%	97%	97%	96%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
High Point	0.48%	0.42%	0.31%	0.24%	0.77%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

High Point

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	82	8.0 Years
Cars—Severe Usage	199	6.0 Years
Light Vehicles	240	8.0 Years
Medium Vehicles	39	10.0 Years
Heavy—Sanitation	24	8.0 Years
Heavy—Sewer	5	7.0 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	54	10.0 Years
Trailed Equipment	118	10.0 Years
Off-road/Construction/Tractors	172	10.0 Years
Buses	0	NA
Total	933	

Vehicle Equivalent Units (VEUs)	2,733

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	46.2%
Operating Costs	45.4%
Capital Costs	8.4%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	1,361,081
Operating Costs	$	1,336,416
Capital Costs	$	246,075
TOTAL	$	2,943,572

SERVICE PROFILE

FTE Positions—Technician	13.0
FTE Positions—Other	13.0
Work Bays	18
Average Rolling Stock Units Available per Day	895
Hours Billed	18,928
Work Orders	4,911
Repeat Repairs within 30 Days	38
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	2,130
PMs Completed as Scheduled	1,491

EXPLANATORY INFORMATION

Service Level and Delivery
High Point's Fleet Maintenance Department is a separate entity, consisting of a director, administrative staff, support staff, 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 over twenty-two times during the fiscal year.

The following services were contracted out during FY 2007–08:

- 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

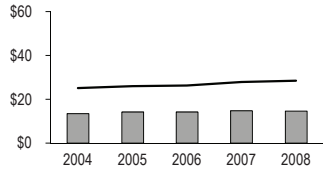
Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting 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.

Key: Matthews ■ Benchmarking Average — Fiscal Years 2004 through 2008

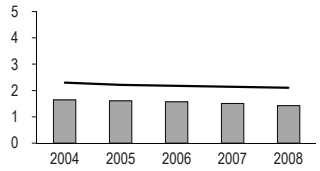
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



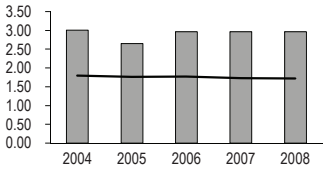
	2004	2005	2006	2007	2008
Matthews	$13.38	$14.16	$14.14	$14.72	$14.61
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Matthews	1.64	1.61	1.57	1.51	1.42
Average	2.30	2.21	2.18	2.14	2.10

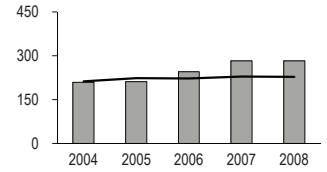
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Matthews	3.01	2.65	2.96	2.96	2.96
Average	1.79	1.76	1.77	1.73	1.72

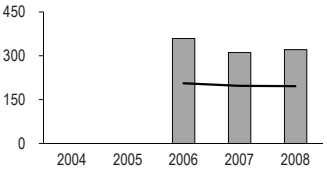
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Matthews	209	211	245	283	283
Average	213	224	222	230	228

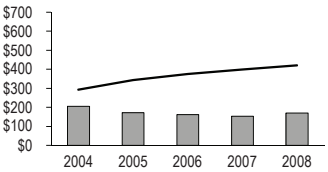
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Matthews			360	311	321
Average			206	197	196

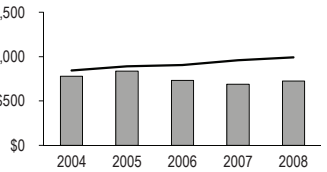
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



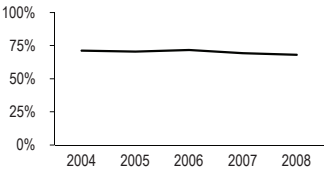
	2004	2005	2006	2007	2008
Matthews	$205	$172	$161	$152	$171
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Matthews	$780	$835	$733	$690	$726
Average	$843	$891	$906	$958	$992

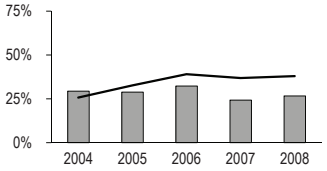
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Matthews					
Average	71%	71%	72%	69%	68%

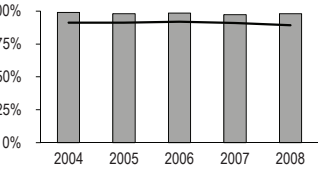
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



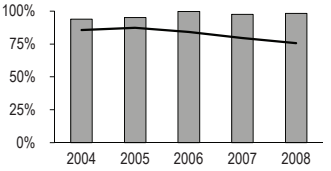
	2004	2005	2006	2007	2008
Matthews	29%	29%	32%	24%	27%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



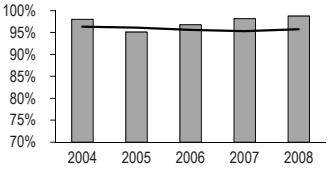
	2004	2005	2006	2007	2008
Matthews	99%	98%	99%	97%	98%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



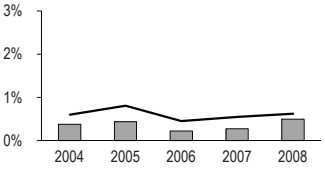
	2004	2005	2006	2007	2008
Matthews	94%	95%	100%	98%	98%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Matthews	98%	95%	97%	98%	99%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Matthews	0.38%	0.44%	0.22%	0.27%	0.50%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Matthews

MUNICIPAL PROFILE

Population (OSBM 2007)	28,072
Land Area (Square Miles)	16.63
Persons per Square Mile	1,688
County	Mecklenburg
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	5	9.0 Years
Cars—Severe Usage	70	4.0 Years
Light Vehicles	24	10.0 Years
Medium Vehicles	6	9.0 Years
Heavy—Sanitation	0	NA
Heavy—Sewer	0	NA
Heavy—Fire Apparatus	8	15.0 Years
Heavy—Other	12	13.0 Years
Trailed Equipment	16	14.0 Years
Off-road/Construction/Tractors	25	10.0 Years
Buses	0	NA
Total	166	

Vehicle Equivalent Units (VEUs)	565

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	58.6%
Operating Costs	30.9%
Capital Costs	10.6%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	240,322
Operating Costs	$	126,595
Capital Costs	$	43,310
TOTAL	$	410,227

SERVICE PROFILE

FTE Positions—Technician	2.0
FTE Positions—Other	2.0
Work Bays	7
Average Rolling Stock Units Available per Day	164
Hours Billed	NA
Work Orders	2,404
Repeat Repairs within 30 Days	12
Work Orders Completed within 24 hours	2,363
Preventive Maintence (PMs)	642
PMs Completed as Scheduled	630

EXPLANATORY INFORMATION

Service Level and Delivery
Matthews' Fleet Maintenance Division is part of the Public Works Department. All activities in this operation are accounted for in the general fund.

Fleet maintenance does not charge for labor and there is no markup charge on sublet work. However, there is a flat fee markup of $5.00 on parts to cover the cost of shop supplies.

During FY 2007–08 work that was contracted out included warranty work, alignments, tires and tire repairs, and some specialized hydraulic work on heavy 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.

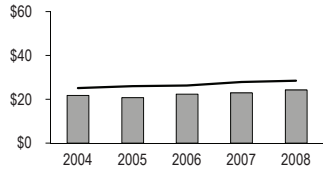
In Matthews the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of scheduled date or mileage parameters.

In addition to rolling stock, Matthews' fleet services has maintenance responsibilities for a welder, three building generators, four other generators, two tillers, three hedge trimmers, three concrete saws, two salt spreaders, five snow plows, two water pumps, one air blower, two pressure washers, one concrete mixer, three tamps, one jack hammer, one paint sprayer, and other equipment.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

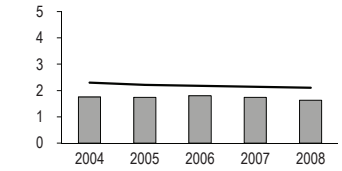
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



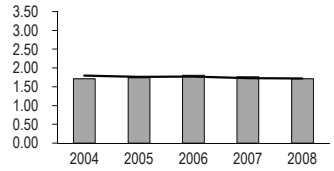
	2004	2005	2006	2007	2008
Raleigh	$21.72	$20.67	$22.34	$22.89	$24.16
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	1.76	1.74	1.80	1.74	1.63
Average	2.30	2.21	2.18	2.14	2.10

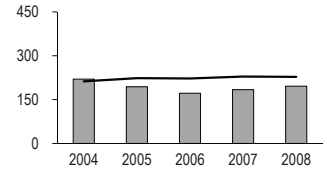
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Raleigh	1.71	1.74	1.80	1.76	1.71
Average	1.79	1.76	1.77	1.73	1.72

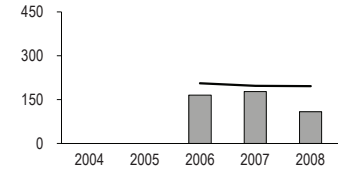
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Raleigh	220	194	172	184	196
Average	213	224	222	230	228

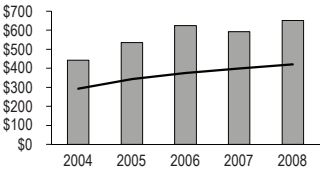
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Raleigh			165	177	109
Average			206	197	196

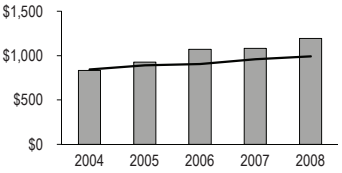
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



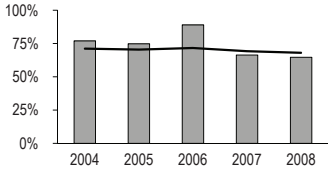
	2004	2005	2006	2007	2008
Raleigh	$442	$535	$625	$593	$651
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Raleigh	$834	$926	$1,070	$1,082	$1,193
Average	$843	$891	$906	$958	$992

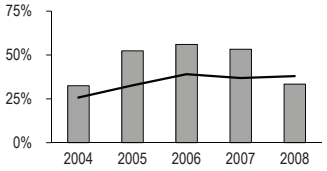
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Raleigh	77%	75%	89%	66%	65%
Average	71%	71%	72%	69%	68%

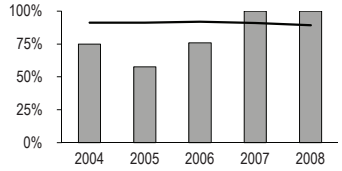
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



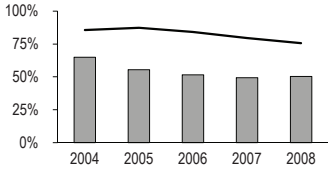
	2004	2005	2006	2007	2008
Raleigh	33%	52%	56%	53%	33%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



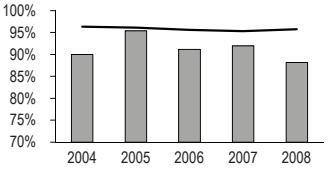
	2004	2005	2006	2007	2008
Raleigh	75%	58%	76%	100%	100%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



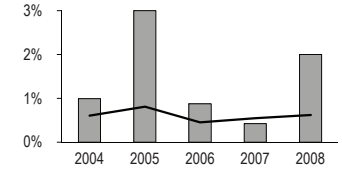
	2004	2005	2006	2007	2008
Raleigh	65%	55%	52%	49%	50%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Raleigh	90%	95%	91%	92%	88%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Raleigh	0.99%	3.00%	0.88%	0.42%	2.00%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

MUNICIPAL PROFILE

Population (OSBM 2007)	367,313
Land Area (Square Miles)	140.54
Persons per Square Mile	2,614
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	54	6.2 Years
Cars—Severe Usage	693	4.3 Years
Light Vehicles	751	4.5 Years
Medium Vehicles	149	6.4 Years
Heavy—Sanitation	90	4.9 Years
Heavy—Sewer	35	3.7 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	69	6.4 Years
Trailed Equipment	246	8.4 Years
Off-road/Construction/Tractors	274	6.7 Years
Buses	20	8.3 Years
Total	2,381	

Vehicle Equivalent Units (VEUs)	7,440

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	38.2%
Operating Costs	57.3%
Capital Costs	4.5%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	3,389,712
Operating Costs	$	5,088,268
Capital Costs	$	398,117
TOTAL	$	8,876,097

SERVICE PROFILE

FTE Positions—Technician	38.0
FTE Positions—Other	22.0
Work Bays	37
Average Rolling Stock Units Available per Day	2,099
Hours Billed	51,107
Work Orders	13,633
Repeat Repairs within 30 Days	273
Work Orders Completed within 24 hours	6,859
Preventive Maintence (PMs)	4,544
PMs Completed as Scheduled	4,544

EXPLANATORY INFORMATION

Service Level and Delivery
Vehicle Fleet Services (VFS) is a division of Raleigh's Public Works Department and provides maintenance, repair, and routine service for all city vehicles and motorized equipment, except fire equipment. The division is made up of five shops at two locations with maintenance control and parts support at both locations. 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.

Charges for maintenance services included a $65 per hour labor rate for heavy equipment, a $55 per hour labor rate for motor equipment, a $40 per hour labor rate for senior auto service technicians, and a $27 per hour labor rate for preventive maintenance work. The division charges a 25 percent markup on parts sold and a 15 percent markup on sublet work. Parts inventory turned over 2.2 times during the fiscal year.

The following services were contracted out during FY 2007–08: all body work, engine overhauls, transmission overhauls, hydraulic cylinder overhauls, pump overhauls, valve overhauls, some transmission and engine repairs, and some 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.

In Raleigh the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days or the calendar month of the scheduled date or within 10 percent of specified mileage parameters.

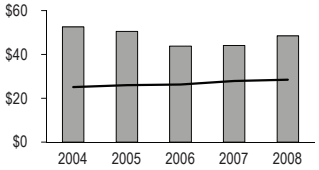
In addition to Raleigh's rolling stock, VFS has maintenance responsibilities for some mowers, generators, lawn equipment, pumps, chainsaws, and other city equipment.

Salisbury — Fleet Maintenance

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

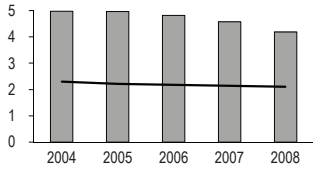
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



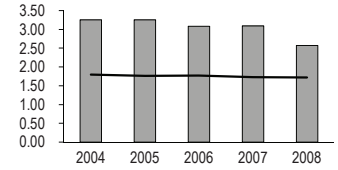
	2004	2005	2006	2007	2008
Salisbury	$52.60	$50.44	$43.84	$44.13	$48.47
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	4.97	4.96	4.82	4.57	4.19
Average	2.30	2.21	2.18	2.14	2.10

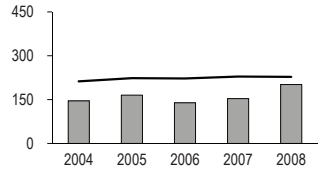
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Salisbury	3.26	3.26	3.08	3.09	2.57
Average	1.79	1.76	1.77	1.73	1.72

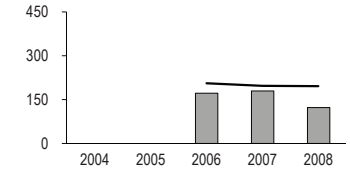
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Salisbury	145	166	139	153	202
Average	213	224	222	230	228

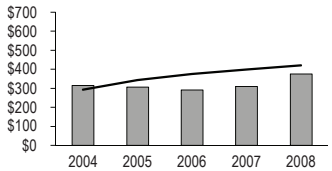
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Salisbury			172	180	122
Average			206	197	196

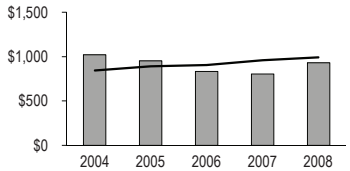
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



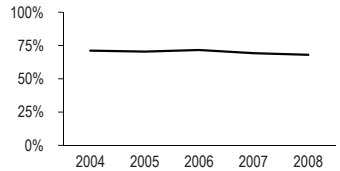
	2004	2005	2006	2007	2008
Salisbury	$315	$306	$291	$309	$375
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Salisbury	$1,020	$954	$834	$804	$932
Average	$843	$891	$906	$958	$992

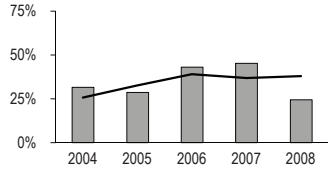
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Salisbury					
Average	71%	71%	72%	69%	68%

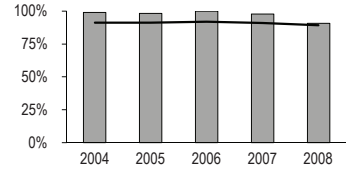
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



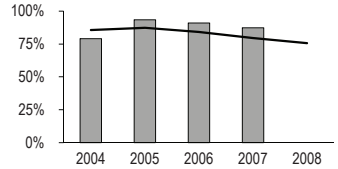
	2004	2005	2006	2007	2008
Salisbury	32%	29%	43%	45%	24%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



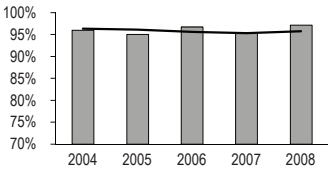
	2004	2005	2006	2007	2008
Salisbury	99%	98%	100%	98%	91%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



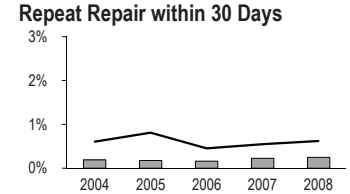
	2004	2005	2006	2007	2008
Salisbury	79%	93%	91%	87%	
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Salisbury	96%	95%	97%	95%	97%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Salisbury	0.19%	0.17%	0.16%	0.23%	0.25%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
County	Rowan
Topography	Gently rolling
Climate	Moderate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	12	8.4 Years
Cars—Severe Usage	93	4.7 Years
Light Vehicles	134	8.2 Years
Medium Vehicles	20	8.7 Years
Heavy—Sanitation	10	5.5 Years
Heavy—Sewer	2	5.5 Years
Heavy—Fire Apparatus	14	16.8 Years
Heavy—Other	27	11.9 Years
Trailed Equipment	85	13.6 Years
Off-road/Construction/Tractors	82	11.6 Years
Buses	10	11.3 Years
Total	489	

Vehicle Equivalent Units (VEUs)	1,614

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	49.4%
Operating Costs	46.7%
Capital Costs	4.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	742,287
Operating Costs	$	701,777
Capital Costs	$	59,466
TOTAL	$	1,503,530

SERVICE PROFILE

FTE Positions—Technician	8.0
FTE Positions—Other	5.0
Work Bays	14
Average Rolling Stock Units Available per Day	475
Hours Billed	NA
Work Orders	4,008
Repeat Repairs within 30 Days	10
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	978
PMs Completed as Scheduled	887

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 2007–08:

body work
exhaust system repairs
towing

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.

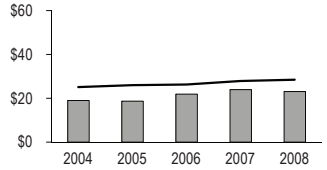
In Salisbury the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of scheduled maintenance or within defined mileage parameters.

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.

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

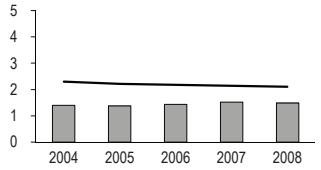
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



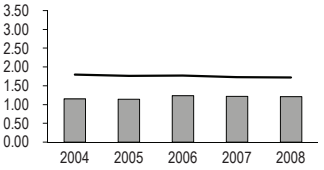
	2004	2005	2006	2007	2008
Wilmington	$18.99	$18.76	$21.97	$23.94	$23.01
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	1.40	1.37	1.44	1.52	1.49
Average	2.30	2.21	2.18	2.14	2.10

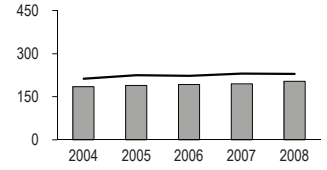
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilmington	1.15	1.14	1.24	1.21	1.21
Average	1.79	1.76	1.77	1.73	1.72

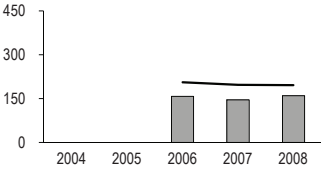
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Wilmington	185	189	193	195	204
Average	213	224	222	230	228

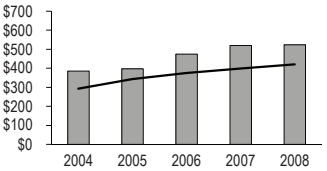
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Wilmington			158	146	159
Average			206	197	196

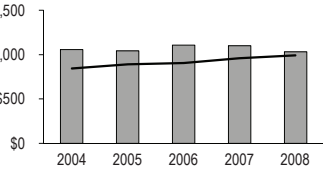
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



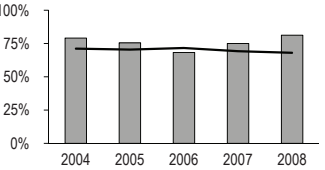
	2004	2005	2006	2007	2008
Wilmington	$385	$396	$475	$519	$524
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Wilmington	$1,056	$1,044	$1,105	$1,100	$1,032
Average	$843	$891	$906	$958	$992

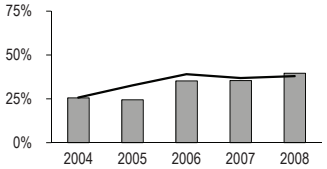
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Wilmington	79%	75%	68%	75%	81%
Average	71%	71%	72%	69%	68%

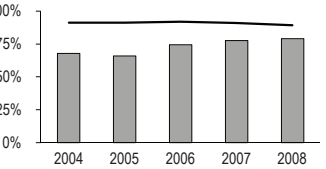
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



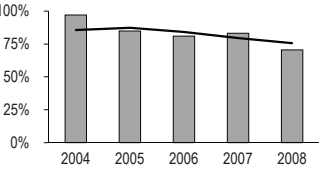
	2004	2005	2006	2007	2008
Wilmington	26%	24%	35%	35%	40%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



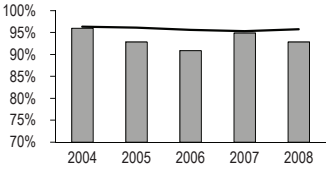
	2004	2005	2006	2007	2008
Wilmington	68%	66%	74%	78%	79%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



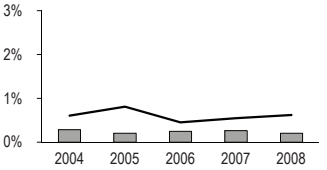
	2004	2005	2006	2007	2008
Wilmington	97%	85%	81%	83%	71%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Wilmington	96%	93%	91%	95%	93%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Wilmington	0.28%	0.20%	0.24%	0.26%	0.20%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2007)	100,746
Land Area (Square Miles)	49.29
Persons per Square Mile	2,044
County	New Hanover
Topography	Flat; coastal plain
Climate	Mild

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	98	5.3 Years
Cars—Severe Usage	185	3.2 Years
Light Vehicles	210	6.4 Years
Medium Vehicles	62	7.7 Years
Heavy—Sanitation	34	3.8 Years
Heavy—Sewer	8	5.6 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	24	8.9 Years
Trailed Equipment	16	10.7 Years
Off-road/Construction/Tractors	60	8.4 Years
Buses	2	1.0 Years
Total	699	

Vehicle Equivalent Units (VEUs)	2,246

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	32.4%
Operating Costs	64.7%
Capital Costs	2.9%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	750,022
Operating Costs	$	1,499,592
Capital Costs	$	68,146
TOTAL	$	2,317,760

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	4.0
Work Bays	20
Average Rolling Stock Units Available per Day	649
Hours Billed	15,184
Work Orders	4,424
Repeat Repairs within 30 Days	9
Work Orders Completed within 24 hours	3,124
Preventive Maintence (PMs)	1,754
PMs Completed as Scheduled	1,389

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.

The division charged a $49.50 per hour labor rate for all services. There was no markup for parts sold or sublet work.

The following services were contracted out during FY 2007–08:

- wrecker service
- body repairs
- trasmission repairs
- engine overhauls
- exhaust repairs
- front-end alignments on medium and heavy trucks
- some tire repairs
- some hydraulic repairs
- vehicle washes
- other miscellaneous work when workload was too heavy

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 have 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 2007–08 for this calculation.

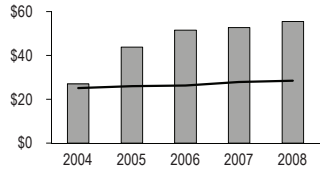
In Wilmington the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty calendar days of scheduled date or within mileage parameters.

In addition to maintenance responsibilities for rolling stock, the Fleet Management Division in Wilmington maintains some nonrolling pieces of equipment and does some fabrication and welding as needed. Equipment maintained includes small portable generators, pumps, saws, mowers, and other city equipment.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

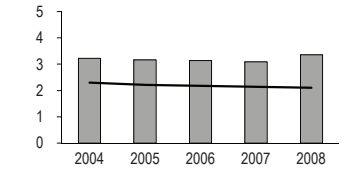
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



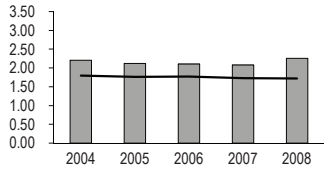
	2004	2005	2006	2007	2008
Wilson	$27.03	$43.85	$51.55	$52.74	$55.50
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	3.22	3.16	3.14	3.09	3.36
Average	2.30	2.21	2.18	2.14	2.10

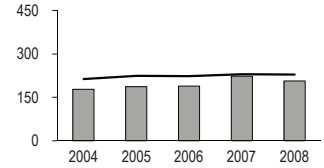
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilson	2.21	2.12	2.10	2.07	2.26
Average	1.79	1.76	1.77	1.73	1.72

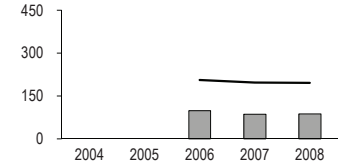
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Wilson	178	187	189	223	207
Average	213	224	222	230	228

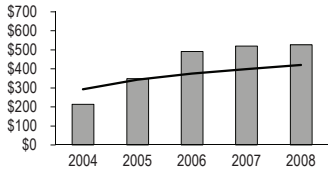
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Wilson			98	86	88
Average			206	197	196

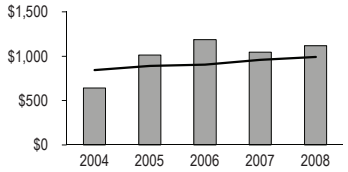
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



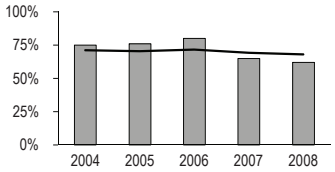
	2004	2005	2006	2007	2008
Wilson	$213	$348	$491	$520	$527
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Wilson	$644	$1,014	$1,187	$1,044	$1,117
Average	$843	$891	$906	$958	$992

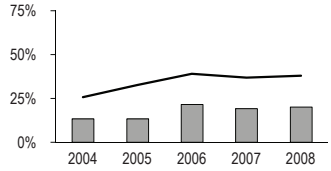
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Wilson	75%	76%	80%	65%	62%
Average	71%	71%	72%	69%	68%

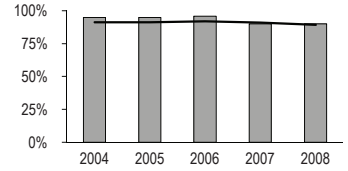
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



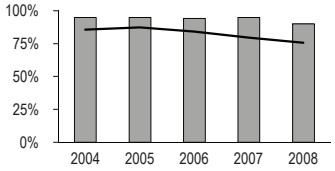
	2004	2005	2006	2007	2008
Wilson	13%	13%	21%	19%	20%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



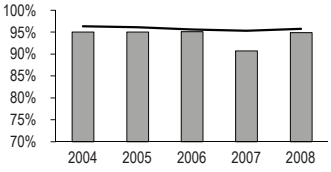
	2004	2005	2006	2007	2008
Wilson	95%	95%	96%	90%	90%
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



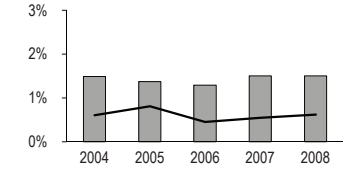
	2004	2005	2006	2007	2008
Wilson	95%	95%	94%	95%	90%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Wilson	95%	95%	95%	91%	95%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Wilson	1.49%	1.37%	1.29%	1.50%	1.50%
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Wilson

MUNICIPAL PROFILE

Population (OSBM 2007)	49,954
Land Area (Square Miles)	28.87
Persons per Square Mile	1,730
County	Wilson
Topography	Flat
Climate	Mild

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	34	7.8 Years
Cars—Severe Usage	117	5.2 Years
Light Vehicles	152	6.0 Years
Medium Vehicles	37	7.5 Years
Heavy—Sanitation	29	5.0 Years
Heavy—Sewer	4	13.2 Years
Heavy—Fire Apparatus	8	13.4 Years
Heavy—Other	67	8.5 Years
Trailed Equipment	137	8.0 Years
Off-road/Construction/Tractors	133	8.2 Years
Buses	7	3.6 Years
Total	725	

Vehicle Equivalent Units (VEUs)	2,482

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	35.0%
Operating Costs	59.9%
Capital Costs	5.1%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	969,404
Operating Costs	$	1,662,023
Capital Costs	$	141,227
TOTAL	$	2,772,654

SERVICE PROFILE

FTE Positions—Technician	12.0
FTE Positions—Other	4.8
Work Bays	15
Average Rolling Stock Units Available per Day	688
Hours Billed	15,475
Work Orders	5,265
Repeat Repairs within 30 Days	79
Work Orders Completed within 24 hours	4,738
Preventive Maintence (PMs)	1,054
PMs Completed as Scheduled	948

EXPLANATORY INFORMATION

Service Level and Delivery
Fleet maintenance is a division housed within the Department of Public Services. All activities in this operation were accounted for in the general fund.

Charges for maintenance services included a $44 per hour labor rate, a 25 percent markup charge on parts sold, and a 5 percent markup charge on sublet work.

The following services were contracted out during FY 2007–08:

- body repairs
- paint work
- wrecker service
- radiator repairs
- alignment
- muffler 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.

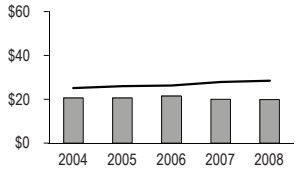
In Wilson the preventive maintenance completion standard for "percentage of PMs completed as scheduled" varies, including both calendar and mileage standards.

In addition to rolling stock, Wilson's fleet services has maintenance responsibilities for generators, mowers, tamps, leaf machines, water pumps, and other city equipment.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

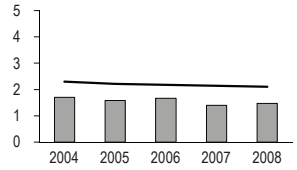
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



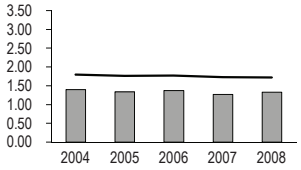
	2004	2005	2006	2007	2008
Winston-Salem	$20.58	$20.52	$21.43	$20.02	$19.89
Average	$25.17	$26.03	$26.36	$27.98	$28.55

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	1.70	1.59	1.66	1.40	1.47
Average	2.30	2.21	2.18	2.14	2.10

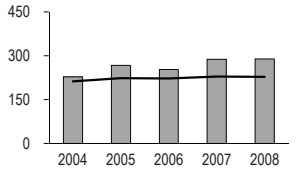
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007	2008
Winston-Salem	1.40	1.34	1.37	1.27	1.33
Average	1.79	1.76	1.77	1.73	1.72

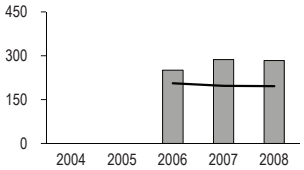
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007	2008
Winston-Salem	227	267	253	288	289
Average	213	224	222	230	228

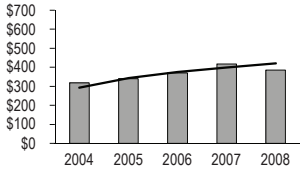
Preventive Maintenances (PMs) Completed In-House per Tech FTE



	2004	2005	2006	2007	2008
Winston-Salem			251	287	283
Average			206	197	196

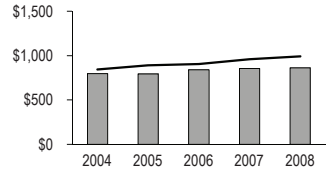
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



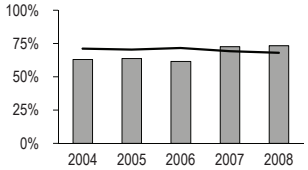
	2004	2005	2006	2007	2008
Winston-Salem	$318	$340	$370	$418	$385
Average	$293	$344	$375	$398	$420

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007	2008
Winston-Salem	$797	$792	$840	$854	$861
Average	$843	$891	$906	$958	$992

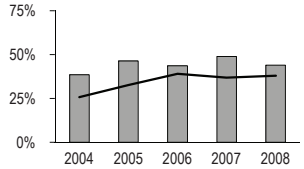
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007	2008
Winston-Salem	63%	64%	62%	73%	73%
Average	71%	71%	72%	69%	68%

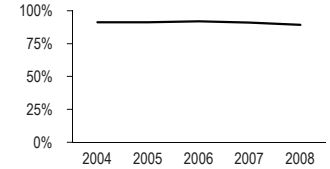
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



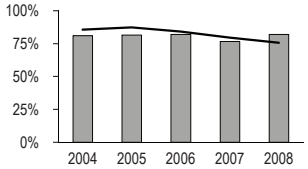
	2004	2005	2006	2007	2008
Winston-Salem	38%	46%	44%	49%	44%
Average	26%	33%	39%	37%	38%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



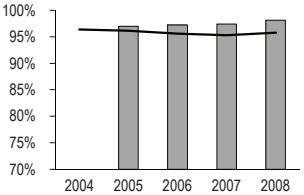
	2004	2005	2006	2007	2008
Winston-Salem					
Average	91%	91%	92%	91%	89%

Percentage of Work Orders Completed within 24 Hours



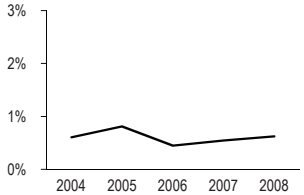
	2004	2005	2006	2007	2008
Winston-Salem	81%	81%	82%	77%	82%
Average	86%	87%	84%	80%	76%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007	2008
Winston-Salem		97%	97%	97%	98%
Average	96%	96%	96%	95%	96%

Percentage of Work Orders Requiring Repeat Repair within 30 Days



	2004	2005	2006	2007	2008
Winston-Salem					
Average	0.60%	0.81%	0.45%	0.55%	0.62%

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2007)		224,889
Land Area (Square Miles)		132.45
Persons per Square Mile		1,698
County		Forsyth
Topography		Gently rolling
Climate		Moderate
Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	265	5.4 Years
Cars—Severe Usage	403	5.1 Years
Light Vehicles	427	5.4 Years
Medium Vehicles	124	7.7 Years
Heavy—Sanitation	65	6.8 Years
Heavy—Sewer	7	8.3 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	51	5.0 Years
Trailed Equipment	126	13.5 Years
Off-road/Construction/Tractors	273	9.6 Years
Buses	0	NA
Total	1,741	
Vehicle Equivalent Units (VEUs)		5,195

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		33.1%
Operating Costs		64.4%
Capital Costs		2.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,481,218
Operating Costs	$	2,881,168
Capital Costs	$	110,534
TOTAL	$	4,472,920

SERVICE PROFILE

FTE Positions—Technician	18.0
FTE Positions—Other	15.0
Work Bays	35
Average Rolling Stock Units Available per Day	1,708
Hours Billed	25,929
Work Orders	11,605
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	9,516
Preventive Maintence (PMs)	5,111
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 2007–08:

- body work
- welding
- hydraulic cylinder and pump repair
- glass repair
- towing
- transmission repair

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.

In addition to rolling stock, Winston-Salem's Fleet Services has maintenance responsibilities for mowers, weed eaters, water pumps, chain saws, tamps, pavement stripers, tractor implements, leaf blowers, power trimmers, salt spreaders, snow plows, and other city equipment.

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

HUMAN RESOURCES

PERFORMANCE MEASURES FOR HUMAN RESOURCES

SERVICE DEFINITION

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 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, 2008, 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 FTEs in the jurisdictional workforce.

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 FY 2007–08.

7. Employee Turnover Rate
The employee turnover rate is calculated by dividing the total number of separated FTEs during FY 2007–08 by the total number of authorized FTEs.

8. 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 FY 2007–08.

9. 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 FY 2007–08. This measure excludes recruitment of temporary workers.

UNC
SCHOOL OF GOVERNMENT

Human Resources

Summary of Key Dimensions of Service

FY 2007-08

City or Town	Total Number of Authorized Municipal Employees	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	1,162.0	11.0	221	5,385	304	6 months	9.3%	13.0
Burlington	819.0	10.8	18	1,240	63	6 & 12 months	4.5%	6.8
Carrboro	157.0	8.8	24	678	20	6 & 12 months	10.2%	2.0
Cary	1,123.4	8.4	235	5,013	97	6 & 12 months	6.4%	11.6
Charlotte	6,342.0	9.8	758	65,973	1,883	6 & 12 months	9.3%	32.3
Concord	916.9	8.2	112	6,149	102	6 & 12 months	9.6%	5.8
Durham	2,257.0	8.8	470	14,003	150	6 months	9.7%	30.0
Gastonia	1,084.0	10.2	167	9,735	178	6 & 12 months	8.9%	9.0
Greensboro	2,912.0	11.4	243	5,852	910	6 & 9 months	8.7%	31.0
Hickory	739.0	9.7	98	2,662	48	12 months	10.8%	6.6
High Point	1,607.0	9.8	340	3,717	114	12 months	9.0%	20.3
Raleigh	3,512.0	9.4	747	14,326	NA	6 & 12 months	8.0%	23.0
Salisbury	506.0	NA	60	2,676	16	6 months	6.1%	6.0
Wilmington	1,237.0	6.4	175	1,042	107	12 & 18 months	13.3%	8.0
Wilson	745.0	12.5	113	3,000	326	12 months	7.9%	6.0
Winston-Salem	2,484.0	12.0	280	35,649	2,210	none	7.1%	16.8

NOTES

Among municipalities with varying probationary periods, fire and or police personnel typically have longer probationary periods.

EXPLANATORY FACTORS

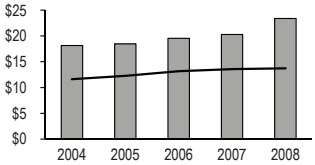
These are factors that the project found to affect human resources performance and cost in one or more of the municipalities:

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

Key: Asheville ■ Benchmarking Average — Fiscal Years 2004 through 2008

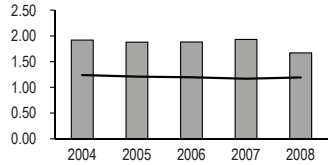
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Asheville	$18.15	$18.45	$19.53	$20.28	$23.39
Average	$11.61	$12.25	$13.17	$13.57	$13.73

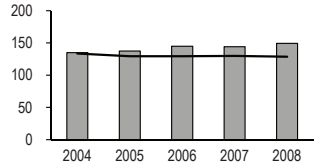
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Asheville	1.92	1.88	1.88	1.93	1.67
Average	1.24	1.21	1.20	1.17	1.19

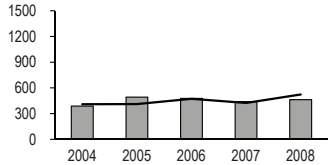
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



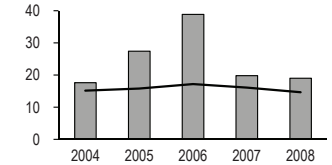
	2004	2005	2006	2007	2008
Asheville	135	137	145	144	149
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Asheville	388	493	478	440	463
Average	411	412	473	426	523

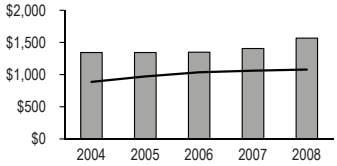
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Asheville	17.6	27.4	38.8	19.8	19.0
Average	15.1	15.8	17.2	16.1	14.6

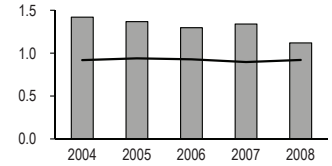
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Asheville	$1,343	$1,343	$1,347	$1,406	$1,567
Average	$888	$973	$1,036	$1,061	$1,079

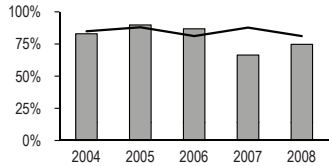
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Asheville	1.42	1.37	1.30	1.34	1.12
Average	0.92	0.94	0.93	0.90	0.92

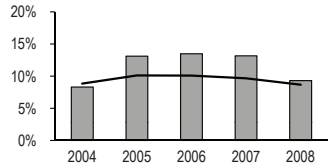
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



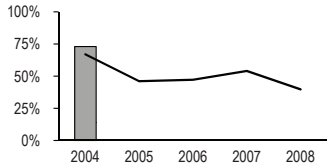
	2004	2005	2006	2007	2008
Asheville	83%	90%	87%	66%	75%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



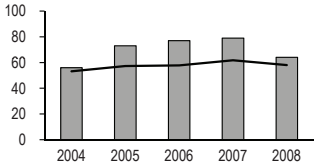
	2004	2005	2006	2007	2008
Asheville	8.3%	13.1%	13.5%	13.2%	9.3%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Asheville	73%				
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Asheville	56	73	77	79	64
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	77,837
Land Area (Square Miles)	44.23
Persons per Square Mile	1,760
Unemployment Rate (ESC-07)	3.5%
County	Buncombe
Topography	Hills, mountains
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.5%
Operating Costs		40.6%
Capital Costs		1.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,047,814
Operating Costs	$	739,076
Capital Costs	$	34,094
TOTAL	$	1,820,984

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	7.50
Staff Support (Clerical)	2.50
Total Authorized Workforce	1,162
Number of Position Requisitions	221
Number of Recruitment Cycles	250
Employment Applications Processed	5,385
Employee Turnover	
Voluntary Separations	81
Involuntary Separations	27
Total Separations	108
Average Length of Service (Months)	132.0
Formal Grievances Filed by Employees	NA
EEOC Complaints Filed	0
Length of Probationary Employment Period	6 months
Compensation Studies Completed	95

EXPLANATORY INFORMATION

Service Level and Delivery
The Human Resources Department is divided into the following units: administration, employment, health services, compensation and benefits management, and training. Employee relation issues are resolved through administration.

During FY 2007–08 Asheville was in the middle of a five-year implementation plan for a new pay plan for fire and police based on market-based assements as part of its compensation studies. A total of ninety-five compensation studies were completed during the year.

The city's probationary period for new employees was six months.

Conditions Affecting Service, Performance, and Costs
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: wellness coordinator, safety claims administrator, and risk manager (50 percent).

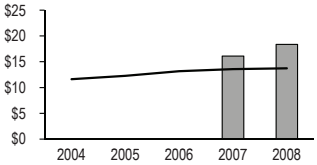
Employee relations issues are resolved through the city's administration.

All advertising costs for vacant positions are now paid for out of the Human Resources budget. Priori to FY 2007–08, departments in Asheville paid for advertising individually. This has raised costs in HR somewhat.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2004 through 2008

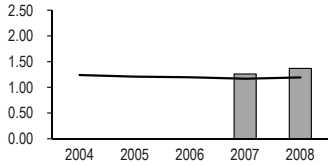
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Burlington				$16.10	$18.36
Average	$11.61	$12.25	$13.17	$13.57	$13.73

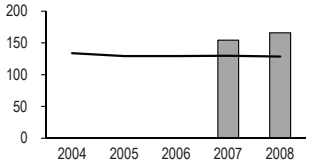
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Burlington				1.26	1.37
Average	1.24	1.21	1.20	1.17	1.19

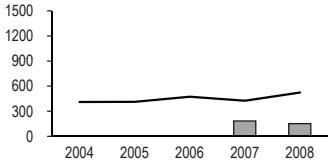
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



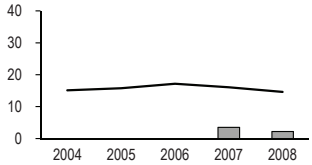
	2004	2005	2006	2007	2008
Burlington				155	166
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Burlington				184	151
Average	411	412	473	426	523

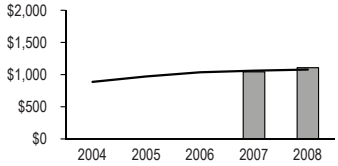
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Burlington				3.5	2.2
Average	15.1	15.8	17.2	16.1	14.6

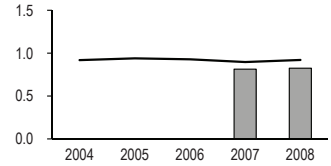
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Burlington				$1,042	$1,106
Average	$888	$973	$1,036	$1,061	$1,079

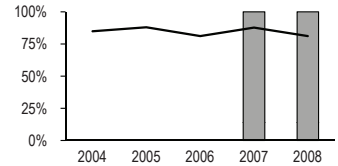
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Burlington				0.81	0.82
Average	0.92	0.94	0.93	0.90	0.92

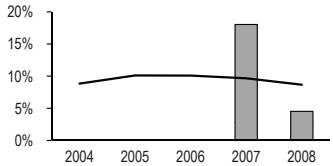
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



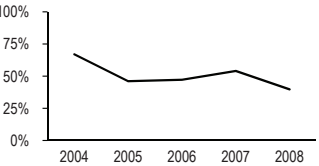
	2004	2005	2006	2007	2008
Burlington				100%	100%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



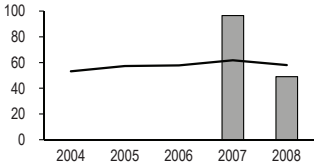
	2004	2005	2006	2007	2008
Burlington				18.0%	4.5%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Burlington				0%	
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Burlington				97	49
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	49,343
Land Area (Square Miles)	25.01
Persons per Square Mile	1,973
Unemployment Rate (ESC-07)	5.1%
County	Alamance
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.5%
Operating Costs		46.2%
Capital Costs		0.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	484,194
Operating Costs	$	418,611
Capital Costs	$	3,071
TOTAL	$	905,876

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	2.00
Staff Support (Clerical)	1.00
Total Authorized Workforce	819
Number of Position Requisitions	18
Number of Recruitment Cycles	52
Employment Applications Processed	1,240
Employee Turnover	
Voluntary Separations	30
Involuntary Separations	7
Total Separations	37
Average Length of Service (Months)	130.0
Formal Grievances Filed by Employees	0
EEOC Complaints Filed	2
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	0

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Burlington's Human Resources Department is a separate department consisting of six full-time positions and four part-time positions. The full-time positions include an HR director, two HR specialists, one safety director, one occupational health nurse, and one public information director. The part-time positions include two clerical support employees, a contract physician who works on-site twenty hours per week, and a contracted registered nurse who works thirty-five hours per week.

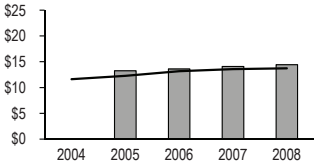
The city's probationary period for new employees was twelve months for police and six months for all other employees.

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: Carrboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

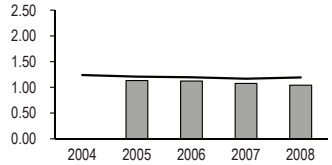
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Carrboro		$13.25	$13.58	$14.09	$14.43
Average	$11.61	$12.25	$13.17	$13.57	$13.73

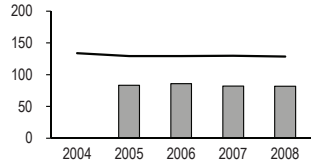
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Carrboro		1.13	1.12	1.07	1.04
Average	1.24	1.21	1.20	1.17	1.19

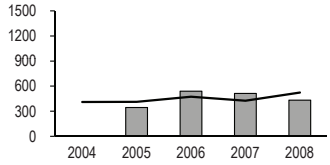
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



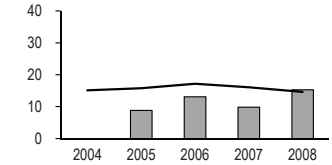
	2004	2005	2006	2007	2008
Carrboro		83	86	82	82
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Carrboro		345	539	513	432
Average	411	412	473	426	523

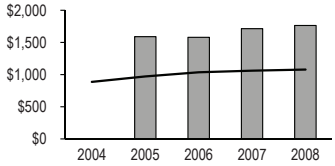
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Carrboro		8.8	13.1	9.8	15.3
Average	15.1	15.8	17.2	16.1	14.6

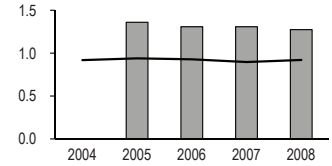
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Carrboro		$1,590	$1,580	$1,713	$1,762
Average	$888	$973	$1,036	$1,061	$1,079

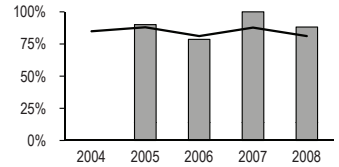
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Carrboro		1.36	1.31	1.31	1.27
Average	0.92	0.94	0.93	0.90	0.92

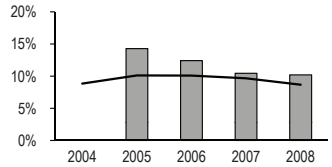
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



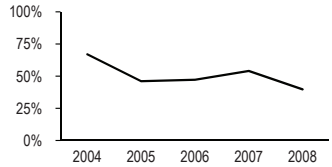
	2004	2005	2006	2007	2008
Carrboro		90%	79%	100%	88%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



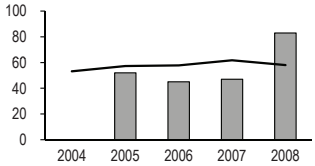
	2004	2005	2006	2007	2008
Carrboro		14.3%	12.4%	10.5%	10.2%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Carrboro					
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Carrboro		52	45	47	83
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	19,178
Land Area (Square Miles)	6.33
Persons per Square Mile	3,030
Unemployment Rate (ESC-07)	3.2%
County	Orange
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		61.8%
Operating Costs		37.3%
Capital Costs		0.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	171,048
Operating Costs	$	103,215
Capital Costs	$	2,445
TOTAL	$	276,708

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	1.00
Staff Support (Clerical)	0.00
Total Authorized Workforce	157
Number of Position Requisitions	24
Number of Recruitment Cycles	17
Employment Applications Processed	678
Employee Turnover	
Voluntary Separations	14
Involuntary Separations	2
Total Separations	16
Average Length of Service (Months)	106.0
Formal Grievances Filed by Employees	0
EEOC Complaints Filed	0
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	0

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Carrboro's Human Resources Department is a separate department consisting of two full-time positions.

No compensation studies were done during FY 2007–08.

The town's probationary period was twelve months for police and fire employees and six months for all other new employees.

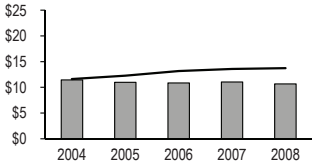
The town is not self-insured.

Conditions Affecting Service, Performance, and Costs

Key: Cary ■ Benchmarking Average — Fiscal Years 2004 through 2008

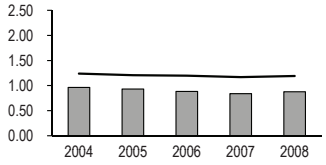
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Cary	$11.45	$10.98	$10.86	$11.04	$10.65
Average	$11.61	$12.25	$13.17	$13.57	$13.73

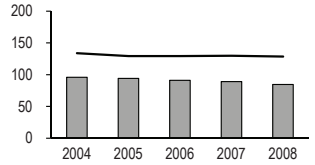
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Cary	0.96	0.93	0.88	0.84	0.88
Average	1.24	1.21	1.20	1.17	1.19

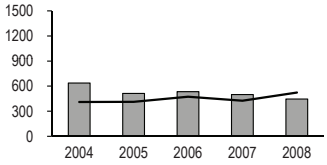
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



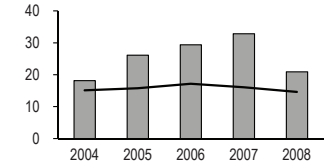
	2004	2005	2006	2007	2008
Cary	96	94	91	89	85
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Cary	637	514	534	499	446
Average	411	412	473	426	523

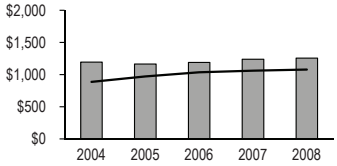
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Cary	18.1	26.1	29.4	32.8	20.9
Average	15.1	15.8	17.2	16.1	14.6

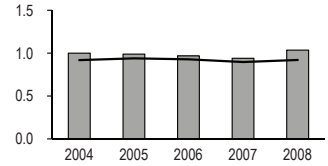
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Cary	$1,194	$1,165	$1,190	$1,239	$1,257
Average	$888	$973	$1,036	$1,061	$1,079

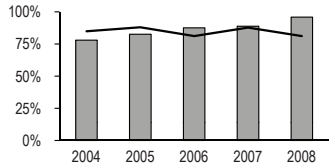
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Cary	1.00	0.99	0.97	0.94	1.03
Average	0.92	0.94	0.93	0.90	0.92

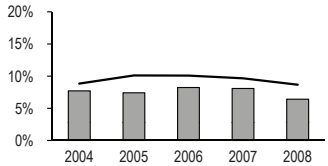
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



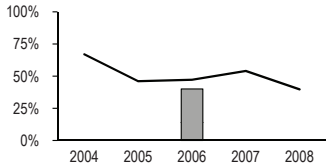
	2004	2005	2006	2007	2008
Cary	78%	83%	88%	89%	96%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



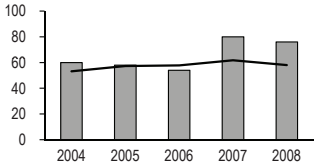
	2004	2005	2006	2007	2008
Cary	7.7%	7.4%	8.2%	8.1%	6.4%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Cary			40%	0%	0%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Cary	60	58	54	80	76
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	132,604
Land Area (Square Miles)	53.51
Persons per Square Mile	2,478
Unemployment Rate (ESC-07)	3.4%
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		56.8%
Operating Costs		41.0%
Capital Costs		2.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	802,547
Operating Costs	$	579,231
Capital Costs	$	30,752
TOTAL	$	1,412,530

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	5.00
Staff Support (Clerical)	3.63
Total Authorized Workforce	1,123
Number of Position Requisitions	235
Number of Recruitment Cycles	190
Employment Applications Processed	5,013
Employee Turnover	
Voluntary Separations	60
Involuntary Separations	12
Total Separations	72
Average Length of Service (Months)	101.0
Formal Grievances Filed by Employees	6
EEOC Complaints Filed	2
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	1

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Cary's Human Resources Department includes the following: a director, an employee relations manager, an employee benefits manager, a training and development program administrator, an employee safety coordinator, three human resources consultants who handle all recruitment and day-to-day employee issues, two human resources assistants who support each of the consultants, and two administrative secretaries.

The town conducted one compensation study during FY 2007–08 that involved the study of 120 classes of jobs and 250 positions.

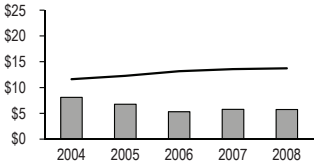
The town's probationary period for new employees was six months for non–public safety employees and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2004 through 2008

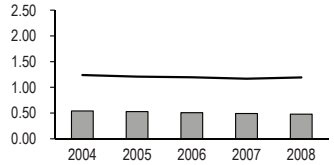
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Charlotte	$8.09	$6.76	$5.31	$5.76	$5.75
Average	$11.61	$12.25	$13.17	$13.57	$13.73

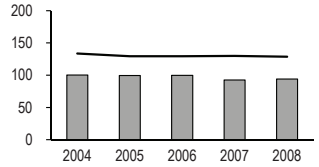
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Charlotte	0.54	0.53	0.51	0.49	0.48
Average	1.24	1.21	1.20	1.17	1.19

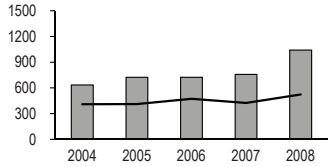
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



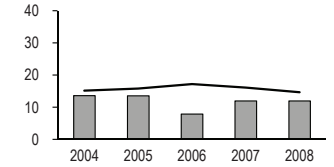
	2004	2005	2006	2007	2008
Charlotte	100	100	100	92	94
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Charlotte	635	724	725	758	1040
Average	411	412	473	426	523

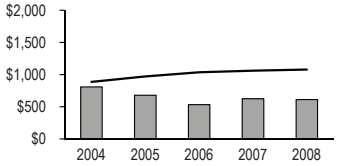
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Charlotte	13.6	13.6	7.8	11.9	12.0
Average	15.1	15.8	17.2	16.1	14.6

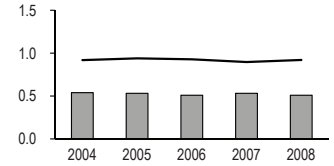
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Charlotte	$808	$679	$533	$623	$611
Average	$888	$973	$1,036	$1,061	$1,079

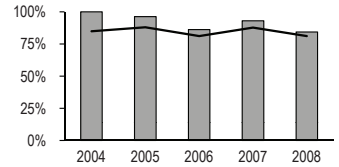
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Charlotte	0.54	0.53	0.51	0.53	0.51
Average	0.92	0.94	0.93	0.90	0.92

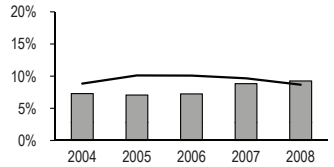
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



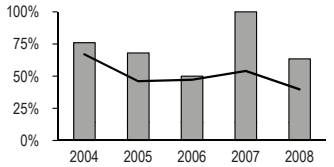
	2004	2005	2006	2007	2008
Charlotte	100%	96%	86%	93%	84%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



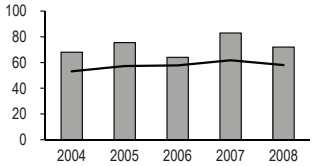
	2004	2005	2006	2007	2008
Charlotte	7.3%	7.1%	7.2%	8.8%	9.3%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Charlotte	76%	68%	50%	100%	63%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Charlotte	68	76	64	83	72
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	674,752
Land Area (Square Miles)	287.93
Persons per Square Mile	2,343
Unemployment Rate (ESC-07)	4.5%
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.8%
Operating Costs		29.7%
Capital Costs		0.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,705,391
Operating Costs	$	1,153,172
Capital Costs	$	19,030
TOTAL	$	3,877,593

SERVICE PROFILE

FTE Positions	
Administration	6.00
Generalist/Specialist	24.50
Staff Support (Clerical)	1.75
Total Authorized Workforce	6,342
Number of Position Requisitions	758
Number of Recruitment Cycles	56
Employment Applications Processed	65,973
Employee Turnover	
Voluntary Separations	456
Involuntary Separations	131
Total Separations	587
Average Length of Service (Months)	117.0
Formal Grievances Filed by Employees	63
EEOC Complaints Filed	31
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	11

EXPLANATORY INFORMATION

Service Level and Delivery

Charlotte's Human Resources Business Unit is structured with three lines of business. Business Unit Services includes recruitment and selection, compensation, benefits, and automated systems. Organizational Development and Learning includes technology training and e-learning, workforce development, and organization development consulting. Strategic and Business Planning focuses on workforce planning.

The city conducted eleven compensation studies during FY 2007–08. Surveys were done on the basis of national, regional, and other larger city comparisons.

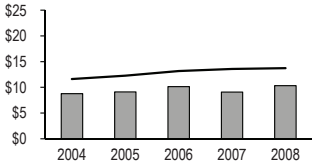
The city's probationary period for new employees was six months for nonpublic safety employees and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Concord ■ Benchmarking Average — Fiscal Years 2004 through 2008

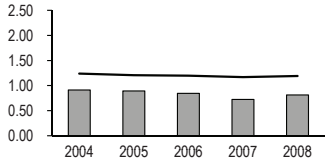
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Concord	$8.76	$9.11	$10.15	$9.07	$10.31
Average	$11.61	$12.25	$13.17	$13.57	$13.73

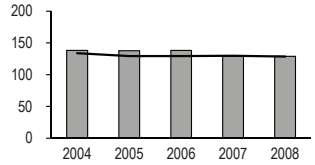
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Concord	0.91	0.89	0.84	0.72	0.81
Average	1.24	1.21	1.20	1.17	1.19

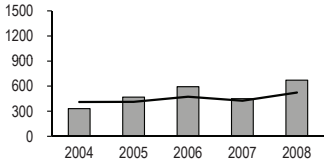
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



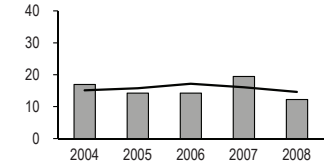
	2004	2005	2006	2007	2008
Concord	138	138	138	129	129
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Concord	330	469	593	450	671
Average	411	412	473	426	523

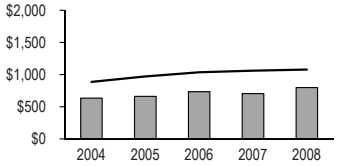
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Concord	16.9	14.2	14.3	19.4	12.2
Average	15.1	15.8	17.2	16.1	14.6

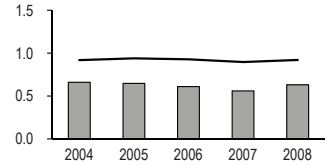
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Concord	$634	$661	$734	$704	$799
Average	$888	$973	$1,036	$1,061	$1,079

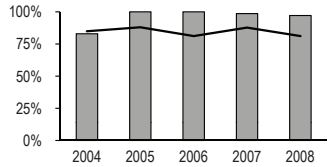
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Concord	0.66	0.65	0.61	0.56	0.63
Average	0.92	0.94	0.93	0.90	0.92

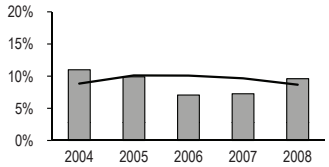
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



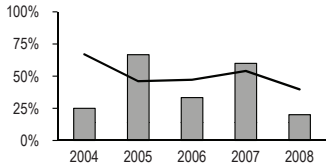
	2004	2005	2006	2007	2008
Concord	83%	100%	100%	99%	97%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



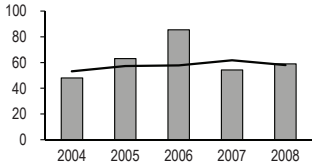
	2004	2005	2006	2007	2008
Concord	11.0%	9.9%	7.1%	7.3%	9.6%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Concord	25%	67%	33%	60%	20%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Concord	48	63	85	54	59
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	71,071
Land Area (Square Miles)	59.18
Persons per Square Mile	1,201
Unemployment Rate (ESC-07)	4.4%
County	Cabarrus
Topography	Flat; gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		48.8%
Operating Costs		50.2%
Capital Costs		1.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	357,521
Operating Costs	$	368,075
Capital Costs	$	7,369
TOTAL	$	732,965

SERVICE PROFILE

FTE Positions	
Administration	2.87
Generalist/Specialist	2.92
Staff Support (Clerical)	0.00
Total Authorized Workforce	917
Number of Position Requisitions	112
Number of Recruitment Cycles	86
Employment Applications Processed	6,149
Employee Turnover	
Voluntary Separations	78
Involuntary Separations	10
Total Separations	88
Average Length of Service (Months)	98.4
Formal Grievances Filed by Employees	5
EEOC Complaints Filed	3
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	9

EXPLANATORY INFORMATION

Service Level and Delivery

The Human Resources Department for the City of Concord is responsible for the following functions: departmental management, policy design and administration, classification and compensation design and administration, benefits plan design and administration, employee relations, grievance and disciplinary actions, and employee rewards.

During FY 2007–08 the department conducted nine compensation studies. These studies covered the police, fire, engineering, human resources, and parks and recreation departments

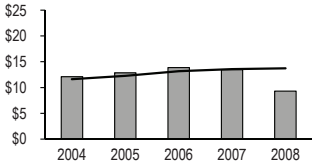
The city's probationary period for new employees was six months for nonpublic safety employees and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Durham ■ Benchmarking Average — Fiscal Years 2004 through 2008

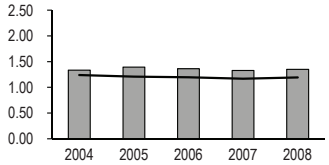
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Durham	$12.10	$12.83	$13.86	$13.46	$9.31
Average	$11.61	$12.25	$13.17	$13.57	$13.73

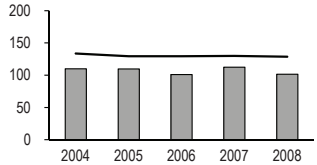
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Durham	1.33	1.39	1.36	1.33	1.35
Average	1.24	1.21	1.20	1.17	1.19

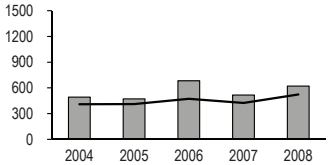
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



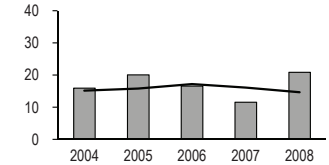
	2004	2005	2006	2007	2008
Durham	110	110	101	112	101
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Durham	493	473	682	517	620
Average	411	412	473	426	523

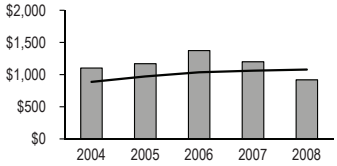
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Durham	15.9	20.1	16.6	11.5	20.8
Average	15.1	15.8	17.2	16.1	14.6

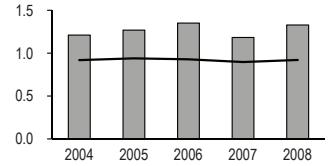
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Durham	$1,102	$1,168	$1,374	$1,198	$917
Average	$888	$973	$1,036	$1,061	$1,079

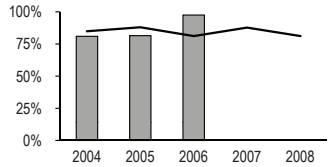
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Durham	1.21	1.27	1.35	1.18	1.33
Average	0.92	0.94	0.93	0.90	0.92

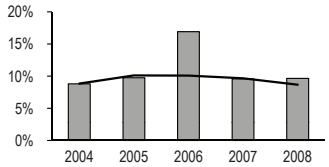
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



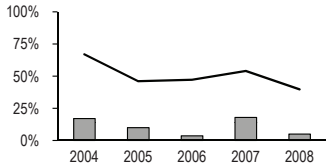
	2004	2005	2006	2007	2008
Durham	81%	82%	97%		
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



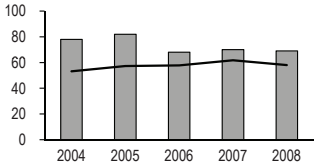
	2004	2005	2006	2007	2008
Durham	8.8%	9.7%	16.9%	9.6%	9.7%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Durham	17%	10%	4%	18%	5%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Durham	78	82	68	70	69
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	222,491
Land Area (Square Miles)	105.50
Persons per Square Mile	2,109
Unemployment Rate (ESC-07)	3.8%
County	Durham
Topography	Flat; gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.5%
Operating Costs		42.1%
Capital Costs		0.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,189,665
Operating Costs	$	870,966
Capital Costs	$	10,013
TOTAL	$	2,070,644

SERVICE PROFILE

FTE Positions	
Administration	6.00
Generalist/Specialist	19.00
Staff Support (Clerical)	5.00
Total Authorized Workforce	2,257
Number of Position Requisitions	470
Number of Recruitment Cycles	50
Employment Applications Processed	14,003
Employee Turnover	
Voluntary Separations	203
Involuntary Separations	15
Total Separations	218
Average Length of Service (Months)	105.7
Formal Grievances Filed by Employees	20
EEOC Complaints Filed	4
Length of Probationary Employment Period	6 months
Compensation Studies Completed	453

EXPLANATORY INFORMATION

Service Level and Delivery
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. In addition, the safety and health program for the City of Durham is a function of the Risk Management Division, which is part of the Finance Department.

During FY2007–08, the department conducted 453 compensation studies. Studies looked at pay for pay band changes, extra duty pay, and classification changes.

The city's probationary period was six months for new employees during FY 2007–08.

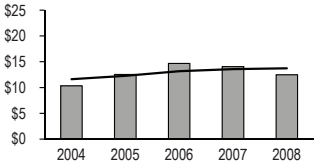
Conditions Affecting Service, Performance, and Costs
Durham's staff includes ten positions in the Risk Management office that are dedicated to employee health, wellness, and safety. These positions are counted in the costs and in the employee counts for this service area.

Durham's definition of recruitment cycle is the weekly period for the posting of open jobs. Each week with any jobs open counts as one cycle regardless of the number of job openings.

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2004 through 2008

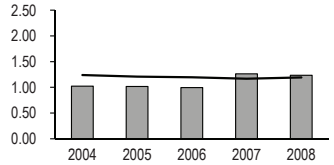
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Gastonia	$10.34	$12.53	$14.68	$14.06	$12.47
Average	$11.61	$12.25	$13.17	$13.57	$13.73

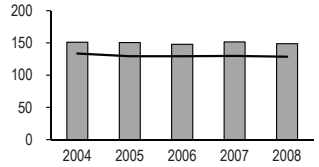
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Gastonia	1.02	1.02	1.00	1.26	1.24
Average	1.24	1.21	1.20	1.17	1.19

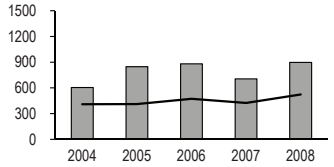
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



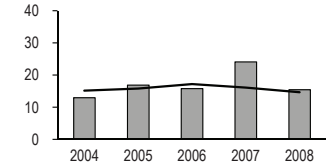
	2004	2005	2006	2007	2008
Gastonia	151	151	148	152	149
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Gastonia	605	848	881	706	898
Average	411	412	473	426	523

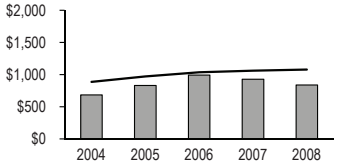
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Gastonia	12.9	16.9	15.8	24.1	15.4
Average	15.1	15.8	17.2	16.1	14.6

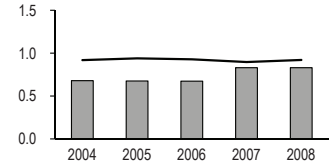
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Gastonia	$684	$831	$992	$927	$838
Average	$888	$973	$1,036	$1,061	$1,079

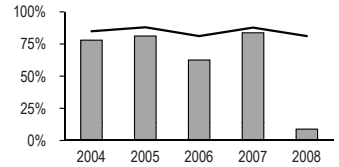
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Gastonia	0.68	0.68	0.67	0.83	0.83
Average	0.92	0.94	0.93	0.90	0.92

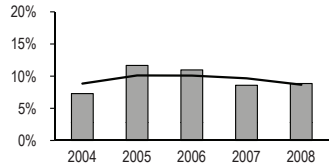
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



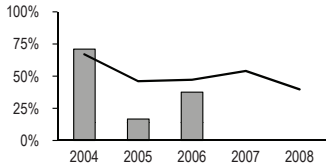
	2004	2005	2006	2007	2008
Gastonia	78%	81%	63%	84%	9%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



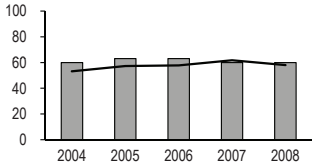
	2004	2005	2006	2007	2008
Gastonia	7.3%	11.7%	11.0%	8.6%	8.9%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Gastonia	71%	17%	38%		
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Gastonia	60	63	63	60	60
Average	53	57	58	62	58

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2007)	72,848
Land Area (Square Miles)	50.43
Persons per Square Mile	1,445
Unemployment Rate (ESC-07)	5.5%
County	Gaston
Topography	Flat; gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		64.0%
Operating Costs		35.4%
Capital Costs		0.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	581,028
Operating Costs	$	321,714
Capital Costs	$	5,519
TOTAL	$	908,261

SERVICE PROFILE

FTE Positions	
Administration	2.00
Generalist/Specialist	5.00
Staff Support (Clerical)	2.00
Total Authorized Workforce	1,084
Number of Position Requisitions	167
Number of Recruitment Cycles	132
Employment Applications Processed	9,735
Employee Turnover	
Voluntary Separations	79
Involuntary Separations	17
Total Separations	96
Average Length of Service (Months)	122.0
Formal Grievances Filed by Employees	3
EEOC Complaints Filed	1
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	2

EXPLANATORY INFORMATION

Service Level and Delivery

Gastonia's Human Resources Department is composed of a human resources director, an assistant director of human resources, a human resources analyst, an insurance administrator, an employment administrator, an office assistant, an HR customer service specialist, a safety administration position, and a city nurse.

The Human Resources Department completed two compensation study during FY 2007–08 to determine if certain city positions remained competitive with the market.

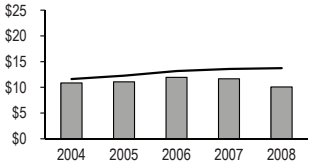
The city's probationary period for new employees was six months for non–public safety employees and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2004 through 2008

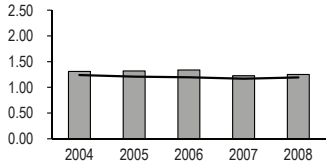
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Greensboro	$10.85	$11.06	$11.94	$11.66	$10.07
Average	$11.61	$12.25	$13.17	$13.57	$13.73

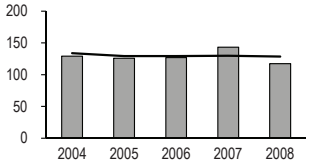
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Greensboro	1.31	1.32	1.34	1.23	1.25
Average	1.24	1.21	1.20	1.17	1.19

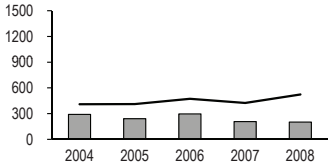
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



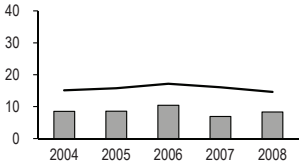
	2004	2005	2006	2007	2008
Greensboro	129	126	127	143	117
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Greensboro	290	241	297	207	201
Average	411	412	473	426	523

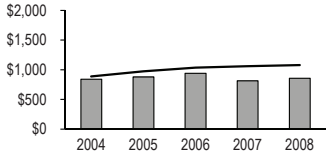
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Greensboro	8.5	8.6	10.4	6.9	8.3
Average	15.1	15.8	17.2	16.1	14.6

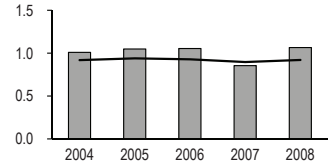
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Greensboro	$841	$879	$940	$814	$858
Average	$888	$973	$1,036	$1,061	$1,079

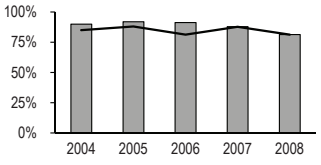
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Greensboro	1.01	1.05	1.05	0.86	1.06
Average	0.92	0.94	0.93	0.90	0.92

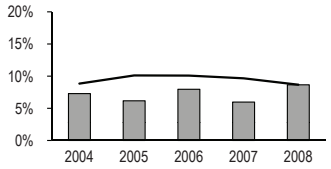
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



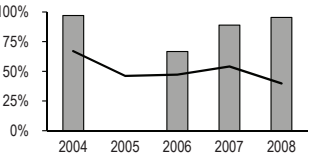
	2004	2005	2006	2007	2008
Greensboro	90%	92%	91%	88%	81%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



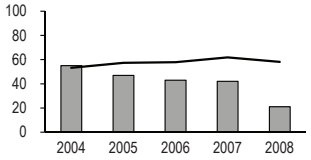
	2004	2005	2006	2007	2008
Greensboro	7.3%	6.2%	8.0%	6.0%	8.7%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Greensboro	97%		67%	89%	95%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Greensboro	55	47	43	42	21
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	248,111
Land Area (Square Miles)	119.00
Persons per Square Mile	2,085
Unemployment Rate (ESC-07)	4.7%
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		77.6%
Operating Costs		22.4%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,939,846
Operating Costs	$	559,501
Capital Costs	$	-
TOTAL	$	2,499,347

SERVICE PROFILE

FTE Positions	
Administration	5.00
Generalist/Specialist	23.00
Staff Support (Clerical)	3.00
Total Authorized Workforce	2,912
Number of Position Requisitions	243
Number of Recruitment Cycles	243
Employment Applications Processed	5,852
Employee Turnover	
Voluntary Separations	197
Involuntary Separations	55
Total Separations	252
Average Length of Service (Months)	136.4
Formal Grievances Filed by Employees	22
EEOC Complaints Filed	34
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	4

EXPLANATORY INFORMATION

Service Level and Delivery

The Human Resources Department for the City of Greensboro provides comprehensive personnel services, including recruitment and selection, compensation, benefits, employee relations, training, safety, and occupational health and wellness.

During FY 2007–08 the department completed four compensation studies. Market reviews were done for select groups, affecting over 1,500 positions.

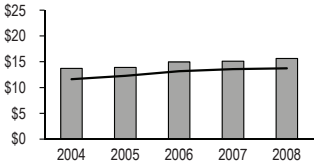
The city's probationary period for new employees was six months for general employees and fire department hires. For police and Guilford 911, the probationary period is nine months.

Conditions Affecting Service, Performance, and Costs

Key: Hickory ■ Benchmarking Average — Fiscal Years 2004 through 2008

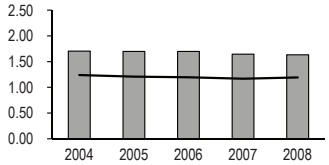
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Hickory	$13.71	$13.89	$14.95	$15.10	$15.64
Average	$11.61	$12.25	$13.17	$13.57	$13.73

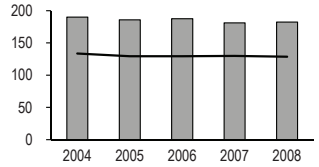
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Hickory	1.70	1.70	1.70	1.65	1.63
Average	1.24	1.21	1.20	1.17	1.19

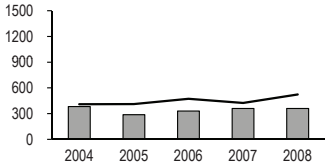
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



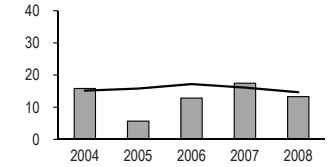
	2004	2005	2006	2007	2008
Hickory	190	186	188	181	182
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Hickory	383	287	331	361	360
Average	411	412	473	426	523

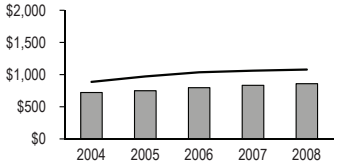
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Hickory	15.8	5.7	12.8	17.4	13.3
Average	15.1	15.8	17.2	16.1	14.6

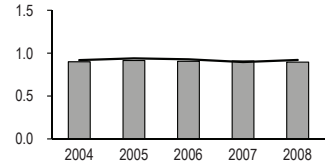
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Hickory	$721	$748	$797	$834	$858
Average	$888	$973	$1,036	$1,061	$1,079

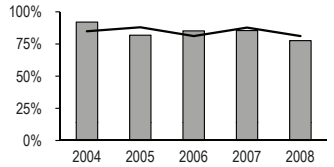
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Hickory	0.90	0.91	0.90	0.91	0.90
Average	0.92	0.94	0.93	0.90	0.92

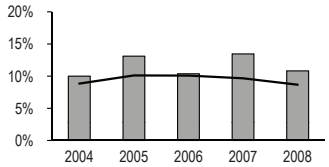
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



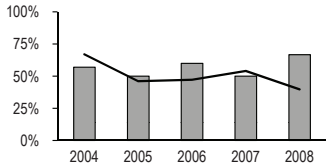
	2004	2005	2006	2007	2008
Hickory	92%	82%	85%	85%	78%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



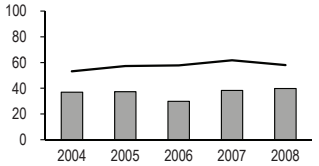
	2004	2005	2006	2007	2008
Hickory	10.0%	13.1%	10.4%	13.5%	10.8%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Hickory	57%	50%	60%	50%	67%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Hickory	37	37	30	38	40
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	40,522
Land Area (Square Miles)	29.10
Persons per Square Mile	1,393
Unemployment Rate (ESC-07)	5.5%
County	Catawba
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.9%
Operating Costs		34.0%
Capital Costs		0.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	417,590
Operating Costs	$	215,402
Capital Costs	$	774
TOTAL	$	633,766

SERVICE PROFILE

FTE Positions	
Administration	0.94
Generalist/Specialist	4.00
Staff Support (Clerical)	1.68
Total Authorized Workforce	739
Number of Position Requisitions	98
Number of Recruitment Cycles	98
Employment Applications Processed	2,662
Employee Turnover	
Voluntary Separations	66
Involuntary Separations	14
Total Separations	80
Average Length of Service (Months)	116.9
Formal Grievances Filed by Employees	3
EEOC Complaints Filed	0
Length of Probationary Employment Period	12 months
Compensation Studies Completed	0

EXPLANATORY INFORMATION

Service Level and Delivery

The human resources function for the City of Hickory is composed of a director, an organizational development coordinator, a city nurse, two human resources analysts (one oversees benefits administration and the other oversees general employment), and one clerical position. Risk Management is a division of the human resources function, which includes a risk manager and a clerical support position.

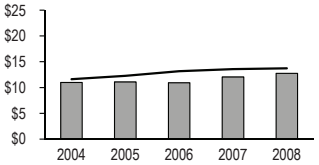
The city's probationary period was twelve months for all new city employees.

Conditions Affecting Service, Performance, and Costs

Key: High Point ■ Benchmarking Average — Fiscal Years 2004 through 2008

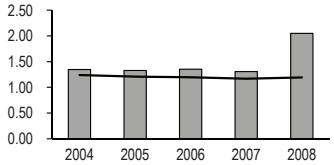
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
High Point	$10.98	$11.09	$10.92	$12.02	$12.74
Average	$11.61	$12.25	$13.17	$13.57	$13.73

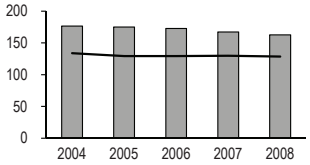
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
High Point	1.35	1.33	1.35	1.31	2.05
Average	1.24	1.21	1.20	1.17	1.19

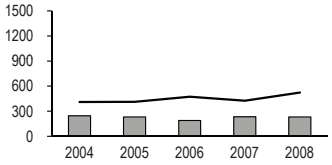
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



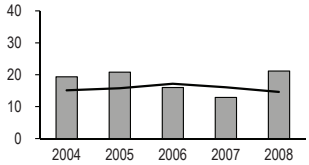
	2004	2005	2006	2007	2008
High Point	177	175	173	167	163
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
High Point	245	231	190	234	231
Average	411	412	473	426	523

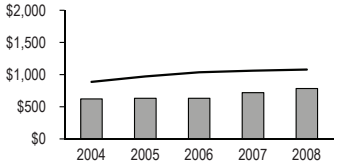
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
High Point	19.4	20.8	16.0	12.9	21.2
Average	15.1	15.8	17.2	16.1	14.6

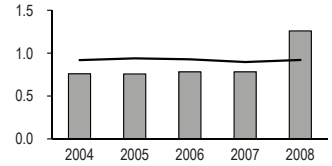
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
High Point	$622	$633	$631	$719	$784
Average	$888	$973	$1,036	$1,061	$1,079

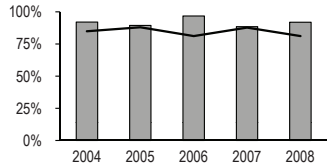
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
High Point	0.76	0.76	0.78	0.78	1.26
Average	0.92	0.94	0.93	0.90	0.92

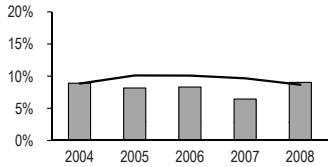
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



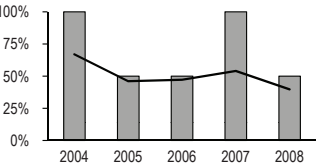
	2004	2005	2006	2007	2008
High Point	92%	89%	97%	88%	92%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



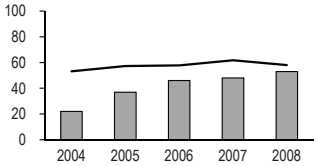
	2004	2005	2006	2007	2008
High Point	8.9%	8.1%	8.3%	6.4%	9.0%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
High Point	100%	50%	50%	100%	50%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
High Point	22	37	46	48	53
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	98,806
Land Area (Square Miles)	54.00
Persons per Square Mile	1,830
Unemployment Rate (ESC-07)	4.7%
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.9%
Operating Costs		25.2%
Capital Costs		1.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	917,653
Operating Costs	$	317,329
Capital Costs	$	24,234
TOTAL	$	1,259,216

SERVICE PROFILE

FTE Positions	
Administration	5.00
Generalist/Specialist	14.25
Staff Support (Clerical)	1.00
Total Authorized Workforce	1,607
Number of Position Requisitions	340
Number of Recruitment Cycles	26
Employment Applications Processed	3,717
Employee Turnover	
Voluntary Separations	101
Involuntary Separations	44
Total Separations	145
Average Length of Service (Months)	117.0
Formal Grievances Filed by Employees	10
EEOC Complaints Filed	3
Length of Probationary Employment Period	12 months
Compensation Studies Completed	1

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 and selection; EEO, ADA, FMLA, FLSA and HIPPA compliance; fringe benefit competitiveness and cost containment; employee benefits education and awaremess; 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.

One compensation study was conducted in FY 2007–08 that included the review of multiple job classifications. Position classifications were reviewed for 158 different postitions in fire, engineering, informations technologies, legal services, community development, economic development, financial services, human resources, facilities services, library, planning, public information, transportation, and theater.

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.

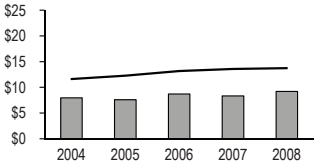
Conditions Affecting Service, Performance, and Costs

High Point's definition of recruitment cycle is the biweekly period for the posting of open jobs. Each two-week period with any jobs open counts as one cycle regardless of the number of job openings.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2004 through 2008

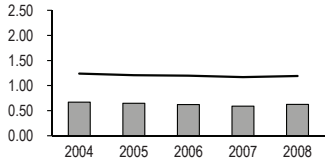
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Raleigh	$7.97	$7.57	$8.72	$8.32	$9.20
Average	$11.61	$12.25	$13.17	$13.57	$13.73

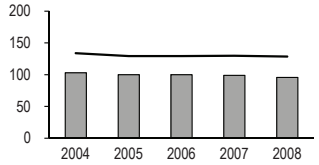
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Raleigh	0.67	0.65	0.62	0.59	0.63
Average	1.24	1.21	1.20	1.17	1.19

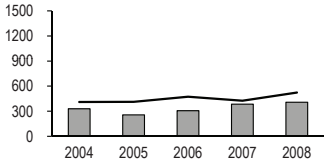
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



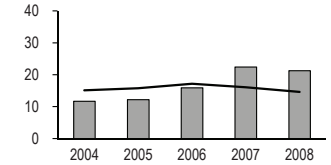
	2004	2005	2006	2007	2008
Raleigh	103	100	100	99	96
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Raleigh	330	256	305	384	408
Average	411	412	473	426	523

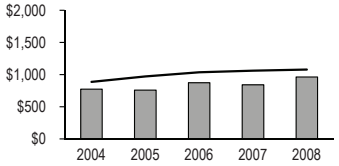
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Raleigh	11.7	12.2	15.9	22.4	21.3
Average	15.1	15.8	17.2	16.1	14.6

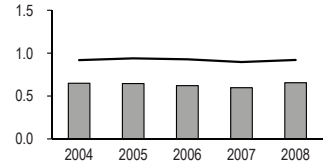
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Raleigh	$774	$758	$873	$841	$962
Average	$888	$973	$1,036	$1,061	$1,079

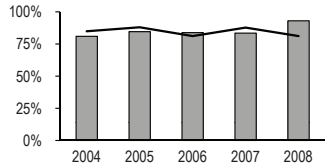
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Raleigh	0.65	0.65	0.62	0.60	0.65
Average	0.92	0.94	0.93	0.90	0.92

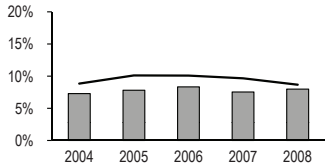
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



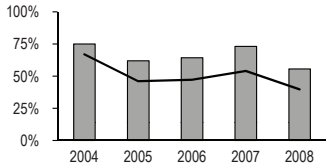
	2004	2005	2006	2007	2008
Raleigh	81%	85%	84%	83%	93%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



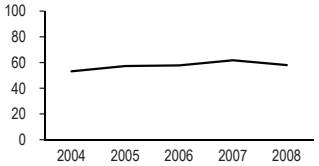
	2004	2005	2006	2007	2008
Raleigh	7.3%	7.8%	8.3%	7.5%	8.0%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Raleigh	75%	62%	64%	73%	56%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Raleigh					
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	367,313
Land Area (Square Miles)	140.54
Persons per Square Mile	2,614
Unemployment Rate (ESC-07)	3.4%
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.1%
Operating Costs		45.3%
Capital Costs		1.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,796,197
Operating Costs	$	1,532,424
Capital Costs	$	50,874
TOTAL	$	3,379,495

SERVICE PROFILE

FTE Positions	
Administration	10.00
Generalist/Specialist	10.00
Staff Support (Clerical)	3.00
Total Authorized Workforce	3,512
Number of Position Requisitions	747
Number of Recruitment Cycles	51
Employment Applications Processed	14,326
Employee Turnover	
Voluntary Separations	211
Involuntary Separations	69
Total Separations	280
Average Length of Service (Months)	112.6
Formal Grievances Filed by Employees	27
EEOC Complaints Filed	1
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	3

EXPLANATORY INFORMATION

Service Level and Delivery
Raleigh's Personnel Department is one of several units in the General Government category and is directly under the jurisdiction of the city manager. The safety, health, and wellness functions come under the employee services manager, who along with the class and pay manager, the employee relations and recruitment manager, and the benefits manager, all report to the deputy personnel director. The deputy director, organizational development and training manager, and the personnel technology manager report to the personnel director.

The Personnel Department completed three comprehensive classification and compensation studies during FY 2007–08. One study was a budgetary process review, the second included off-cycle reviews, and the third was an annual one-third job class review.

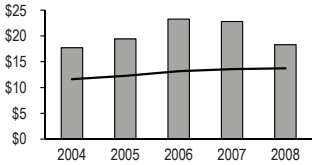
The city's probationary period for new employees was six months for non–public safety employees and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs
Raleigh's definition of recruitment cycle is the weekly period for the posting of open jobs. Each one-week period with any jobs open counts as one cycle regardless of the number of job openings.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2004 through 2008

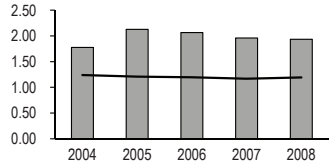
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Salisbury	$17.71	$19.42	$23.25	$22.79	$18.29
Average	$11.61	$12.25	$13.17	$13.57	$13.73

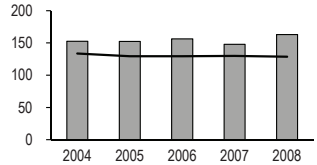
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Salisbury	1.78	2.13	2.06	1.96	1.93
Average	1.24	1.21	1.20	1.17	1.19

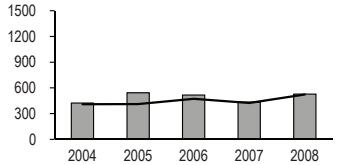
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



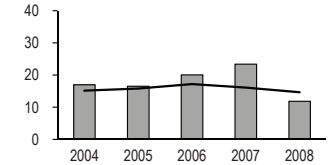
	2004	2005	2006	2007	2008
Salisbury	153	152	156	148	163
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Salisbury	424	542	516	435	529
Average	411	412	473	426	523

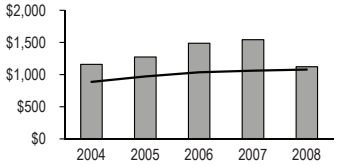
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Salisbury	17.0	16.5	20.0	23.4	11.9
Average	15.1	15.8	17.2	16.1	14.6

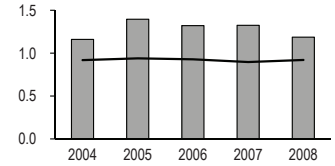
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Salisbury	$1,160	$1,274	$1,488	$1,541	$1,121
Average	$888	$973	$1,036	$1,061	$1,079

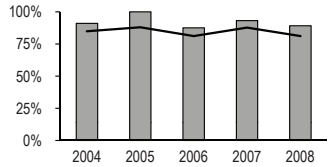
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Salisbury	1.16	1.40	1.32	1.32	1.19
Average	0.92	0.94	0.93	0.90	0.92

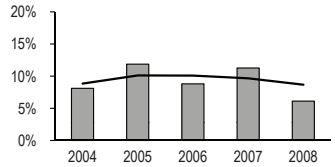
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



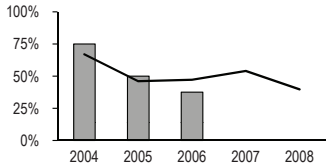
	2004	2005	2006	2007	2008
Salisbury	91%	100%	88%	93%	89%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



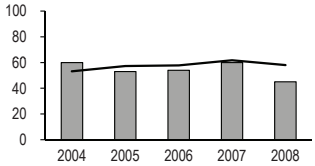
	2004	2005	2006	2007	2008
Salisbury	8.1%	11.9%	8.8%	11.3%	6.1%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Salisbury	75%	50%	38%		
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Salisbury	60	53	54	60	45
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	31,023
Land Area (Square Miles)	21.62
Persons per Square Mile	1,435
Unemployment Rate (ESC-07)	5.9%
County	Rowan
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		61.7%
Operating Costs		38.0%
Capital Costs		0.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	350,329
Operating Costs	$	215,413
Capital Costs	$	1,641
TOTAL	$	567,383

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	4.00
Staff Support (Clerical)	1.00
Total Authorized Workforce	506
Number of Position Requisitions	60
Number of Recruitment Cycles	NA
Employment Applications Processed	2,676
Employee Turnover	
Voluntary Separations	21
Involuntary Separations	10
Total Separations	31
Average Length of Service (Months)	NA
Formal Grievances Filed by Employees	NA
EEOC Complaints Filed	NA
Length of Probationary Employment Period	6 months
Compensation Studies Completed	NA

EXPLANATORY INFORMATION

Service Level and Delivery

The human resources function in Salisbury is a centralized unit that provides internal support and assistance with six staff members, 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).

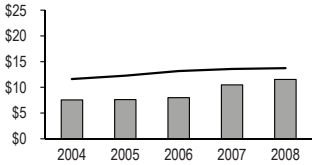
The city's probationary period for new employees was six months for employees during FY 2007–08.

Conditions Affecting Service, Performance, and Costs

Key: Wilmington ■ Benchmarking Average — Fiscal Years 2004 through 2008

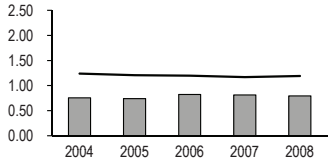
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Wilmington	$7.56	$7.62	$8.00	$10.49	$11.55
Average	$11.61	$12.25	$13.17	$13.57	$13.73

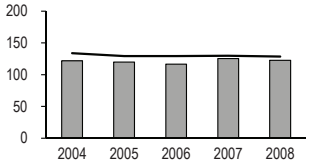
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilmington	0.76	0.74	0.82	0.81	0.79
Average	1.24	1.21	1.20	1.17	1.19

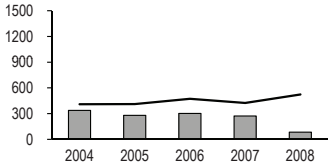
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



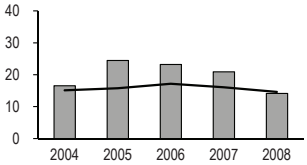
	2004	2005	2006	2007	2008
Wilmington	122	120	117	125	123
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilmington	339	280	303	273	84
Average	411	412	473	426	523

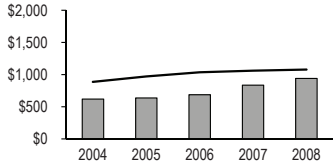
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilmington	16.5	24.5	23.2	20.9	14.1
Average	15.1	15.8	17.2	16.1	14.6

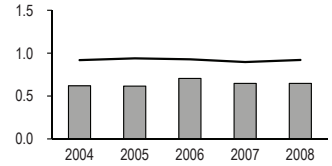
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Wilmington	$619	$636	$685	$837	$941
Average	$888	$973	$1,036	$1,061	$1,079

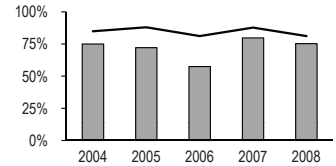
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilmington	0.62	0.62	0.71	0.65	0.65
Average	0.92	0.94	0.93	0.90	0.92

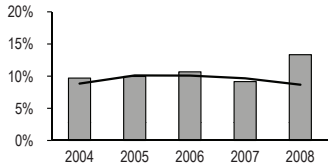
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



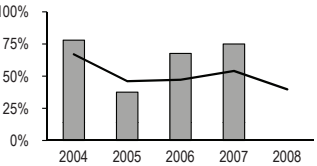
	2004	2005	2006	2007	2008
Wilmington	75%	72%	57%	80%	75%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



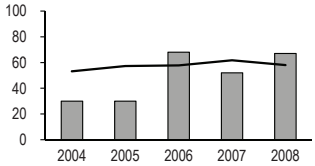
	2004	2005	2006	2007	2008
Wilmington	9.7%	9.9%	10.7%	9.1%	13.3%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Wilmington	78%	38%	68%	75%	0%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Wilmington	30	30	68	52	67
Average	53	57	58	62	58

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2007)	100,746
Land Area (Square Miles)	49.29
Persons per Square Mile	2,044
Unemployment Rate (ESC-07)	3.7%
County	New Hanover
Topography	Flat; coastal plain
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.3%
Operating Costs		43.6%
Capital Costs		3.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	620,600
Operating Costs	$	506,953
Capital Costs	$	36,051
TOTAL	$	1,163,604

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	4.00
Staff Support (Clerical)	3.00
Total Authorized Workforce	1,237
Number of Position Requisitions	175
Number of Recruitment Cycles	52
Employment Applications Processed	1,042
Employee Turnover	
Voluntary Separations	134
Involuntary Separations	31
Total Separations	165
Average Length of Service (Months)	77.0
Formal Grievances Filed by Employees	3
EEOC Complaints Filed	1
Length of Probationary Employment Period	12 or 18 months
Compensation Studies Completed	1

EXPLANATORY INFORMATION

Service Level and Delivery

Wilmington had eight employees during FY 2007–08 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 resources services to city departments. Three senior human resources analysts were assigned specific departments to assist with recruitment, retention, position selection, compensation, classification, and benefits issues. The safety programs manager was responsible for safety programs and training, inspections, site visits, OSHA compliance and reviews, Workers' Compensation, security, and property and casualty claims. Other human resources staff members include an administrative support specialist and two personnel technicians.

Wilimington hired an outside consultant to conduct a compensation study in FY 2007–08 that involved a complete job rewrite, market analysis, and a new pay and class system implementation.

The city's probationary period for new employees was twelve months for non–public safety employees and eighteen months for public safety employees.

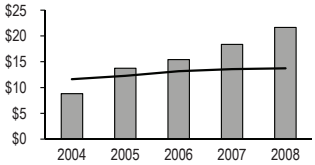
Conditions Affecting Service, Performance, and Costs

The employee turnover data does not include 203 positions that were transferred from the city to the new consolidated city-county Cape Fear Public Utility Authority on the last day of the fiscal year. These positions are counted in the total authorized workforce for FY 2007–08 but will not be in the employee counts for the next fiscal year.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2004 through 2008

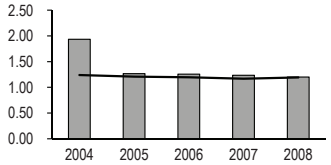
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Wilson	$8.82	$13.73	$15.41	$18.36	$21.64
Average	$11.61	$12.25	$13.17	$13.57	$13.73

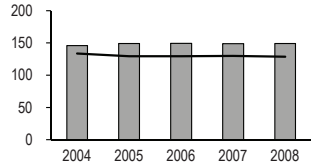
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Wilson	1.93	1.26	1.25	1.24	1.20
Average	1.24	1.21	1.20	1.17	1.19

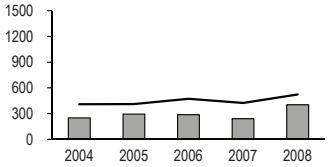
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



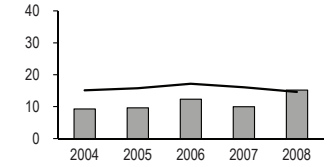
	2004	2005	2006	2007	2008
Wilson	146	149	149	149	149
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilson	250	294	288	240	403
Average	411	412	473	426	523

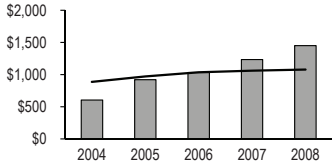
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilson	9.3	9.6	12.3	10.0	15.2
Average	15.1	15.8	17.2	16.1	14.6

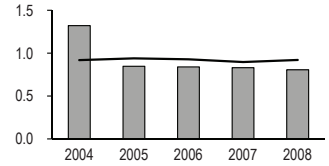
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Wilson	$604	$920	$1,032	$1,233	$1,451
Average	$888	$973	$1,036	$1,061	$1,079

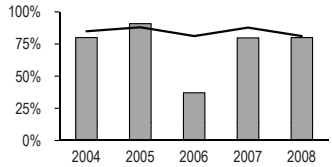
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Wilson	1.32	0.85	0.84	0.83	0.81
Average	0.92	0.94	0.93	0.90	0.92

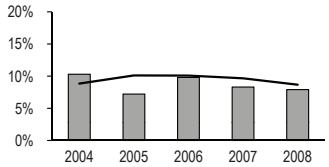
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



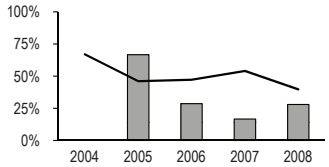
	2004	2005	2006	2007	2008
Wilson	80%	91%	37%	80%	80%
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



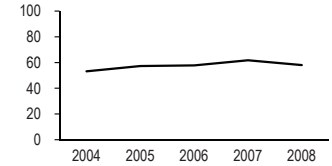
	2004	2005	2006	2007	2008
Wilson	10.3%	7.2%	9.8%	8.3%	7.9%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Wilson		67%	29%	17%	28%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Wilson					
Average	53	57	58	62	58

MUNICIPAL PROFILE

Population (OSBM 2007)	49,954
Land Area (Square Miles)	28.87
Persons per Square Mile	1,730
Unemployment Rate (ESC-07)	6.1%
County	Wilson
Topography	Flat
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		40.1%
Operating Costs		59.4%
Capital Costs		0.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	433,985
Operating Costs	$	641,740
Capital Costs	$	5,261
TOTAL	$	1,080,986

SERVICE PROFILE

FTE Positions	
Administration	2.00
Generalist/Specialist	2.00
Staff Support (Clerical)	2.00
Total Authorized Workforce	745
Number of Position Requisitions	113
Number of Recruitment Cycles	102
Employment Applications Processed	3,000
Employee Turnover	
Voluntary Separations	46
Involuntary Separations	13
Total Separations	59
Average Length of Service (Months)	149.8
Formal Grievances Filed by Employees	25
EEOC Complaints Filed	0
Length of Probationary Employment Period	12 months
Compensation Studies Completed	3

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Wilson has a centralized Human Resources Department composed of the following functions: classification and compensation, recruitment and selection, employee relations, and policy development. The safety and health program is a function of the Risk Management Division under another department. Occupational health needs are met through a contract with the Wilson Medical Center.

The city conducted three compensation studies during FY 2007–08.

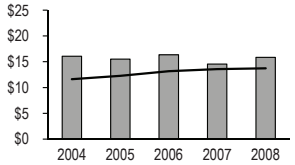
The city's probationary period was twelve months for new city employees .

Conditions Affecting Service, Performance, and Costs

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2004 through 2008

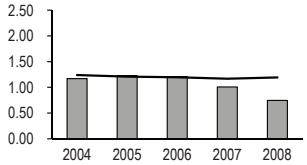
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007	2008
Winston-Salem	$16.06	$15.52	$16.35	$14.54	$15.86
Average	$11.61	$12.25	$13.17	$13.57	$13.73

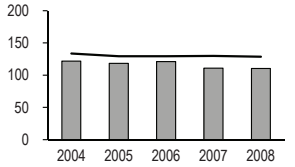
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007	2008
Winston-Salem	1.17	1.23	1.21	1.01	0.75
Average	1.24	1.21	1.20	1.17	1.19

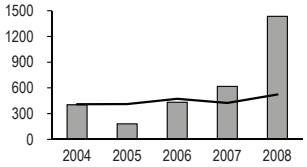
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



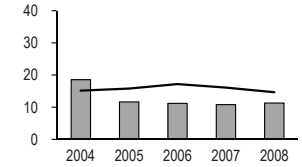
	2004	2005	2006	2007	2008
Winston-Salem	122	118	121	111	110
Average	134	129	129	130	129

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007	2008
Winston-Salem	402	181	432	618	1435
Average	411	412	473	426	523

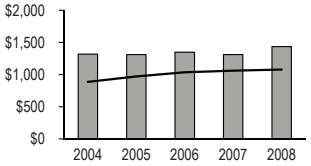
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007	2008
Winston-Salem	18.5	11.6	11.2	10.8	11.3
Average	15.1	15.8	17.2	16.1	14.6

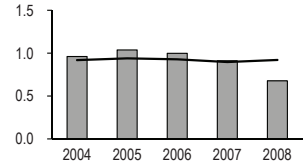
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007	2008
Winston-Salem	$1,319	$1,311	$1,349	$1,312	$1,436
Average	$888	$973	$1,036	$1,061	$1,079

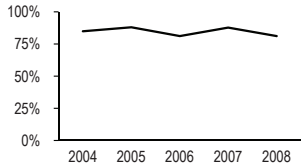
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007	2008
Winston-Salem	0.96	1.04	1.00	0.91	0.68
Average	0.92	0.94	0.93	0.90	0.92

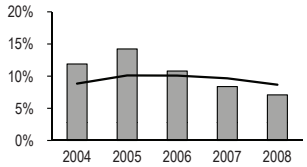
EFFECTIVENESS Measures

Probationary Period Completion Rate (New Hires)



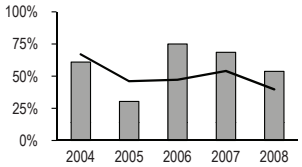
	2004	2005	2006	2007	2008
Winston-Salem					
Average	85%	88%	81%	88%	81%

Employee Turnover Rate (All Separations)



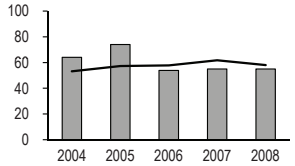
	2004	2005	2006	2007	2008
Winston-Salem	11.9%	14.2%	10.8%	8.4%	7.1%
Average	8.9%	10.1%	10.1%	9.7%	8.7%

Percentage of Grievances Resolved at Department Level



	2004	2005	2006	2007	2008
Winston-Salem	61%	30%	75%	69%	54%
Average	67%	46%	47%	54%	40%

Average Days from Post Date to Hire Date (First Day of Employment)



	2004	2005	2006	2007	2008
Winston-Salem	64	74	54	55	55
Average	53	57	58	62	58

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2007)	224,889
Land Area (Square Miles)	132.45
Persons per Square Mile	1,698
Unemployment Rate (ESC-07)	4.4%
County	Forsyth
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		27.2%
Operating Costs		64.1%
Capital Costs		8.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	970,655
Operating Costs	$	2,287,699
Capital Costs	$	309,207
TOTAL	$	3,567,561

SERVICE PROFILE

FTE Positions	
Administration	4.00
Generalist/Specialist	9.80
Staff Support (Clerical)	3.00
Total Authorized Workforce	2,484
Number of Position Requisitions	280
Number of Recruitment Cycles	NA
Employment Applications Processed	35,649
Employee Turnover	
Voluntary Separations	125
Involuntary Separations	51
Total Separations	176
Average Length of Service (Months)	144.0
Formal Grievances Filed by Employees	67
EEOC Complaints Filed	7
Length of Probationary Employment Period	No Probationary Period
Compensation Studies Completed	1

EXPLANATORY INFORMATION

Service Level and Delivery

The human resources function is housed under three separate departments: finance, employee health and safety, and human resources and employee training. The portion included in the Finance Department is responsible for benefits administration. The Human Resources Department has two separate sections: one for general human resources management and another for employee training.

The city conducted one compensation study during FY 2007–08. This study was a yearly classification study examining one-third of all positions.

Winston-Salem did not use a probationary period. As a result, no data are available for the measure "probationary period completion rate (new hires)."

Conditions Affecting Service, Performance, and Costs

Winston-Salem has added the alternative 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. The slump in the economy and layoffs have also generated more applications for city jobs.

The Human Resources Department and Budget and Evaluation Office reviewed the FTE count to ensure that it captured the functions described in the service definition. Staff determined that the city allocated too many FTEs from the Finance Department in previous years. These FTEs, orginally considered a significant part of benefits administration, were involved with the processing and accounting of benefit payments.

UNC
SCHOOL OF GOVERNMENT

Performance and Cost Data

WATER RESOURCES

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.

UNC
SCHOOL OF GOVERNMENT

Water Services

Summary of Key Dimensions of Service

Fy 2007-08

City or Town	Estimated Residential Population in Service Area	Service Area (in square miles)	Average Daily Demand for Water in MGD	Treatment Plants	Total Treatment Capacity for Finished Water in MGD	Miles of Water Main Lines	Number of Water Meters	Water System FTE Positions
Asheville	123,750	183.0	21.0	3	44.0	1,643.0	54,274	153.0
Burlington	45,500	40.9	12.3	2	34.0	424.8	20,703	48.0
Charlotte	871,432	544.8	105.7	3	242.0	3,929.0	241,594	403.0
Concord	68,253	170.0	10.3	2	24.0	658.0	33,456	82.0
Durham	225,714	143.0	26.3	2	52.0	1,227.0	81,582	135.0
Gastonia	84,232	56.1	12.4	1	25.1	547.1	27,931	76.0
Greensboro	252,000	137.2	32.0	2	54.0	1,460.1	104,650	173.0
Hickory	95,046	326.0	13.3	1	32.0	874.0	27,220	60.0
High Point	103,000	64.0	12.1	1	24.0	676.0	42,466	73.0
Raleigh	456,041	189.5	47.0	2	88.0	2,085.0	180,501	356.0
Salisbury	47,000	40.4	8.3	1	25.0	369.8	17,085	47.0
Wilson	48,600	106.0	9.2	2	22.0	390.0	23,000	49.0
Winston-Salem	286,028	325.0	40.5	3	97.0	2,068.4	119,148	217.0

NOTES

MGD stands for millions of gallons per day.

EXPLANATORY FACTORS

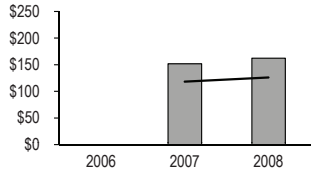
These are factors that the project found to affect water services performance and cost in one or more of the municipalities:

Topography
Water quality of source water
Size of service area
Population density
Age of infrastructure
Growth of population and businesses

Key: Asheville ■ Benchmarking Average — Fiscal Years 2007 through 2008

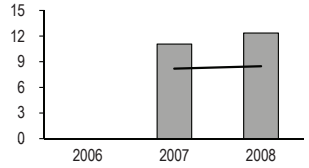
RESOURCE Measures

Water Services Cost per Capita



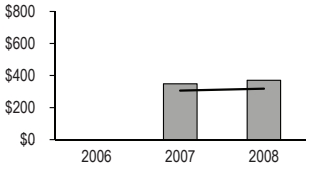
	2006	2007	2008
Asheville		$151.73	$162.40
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Asheville		11.1	12.4
Average		8.2	8.5

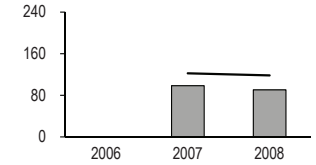
Water Services Cost per Meter



	2006	2007	2008
Asheville		$348	$370
Average		$306	$318

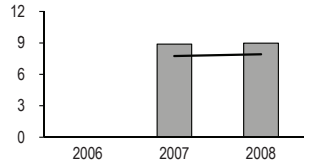
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Asheville		98.4	90.4
Average		122.3	118.1

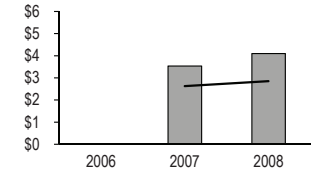
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Asheville		8.9	9.0
Average		7.8	7.9

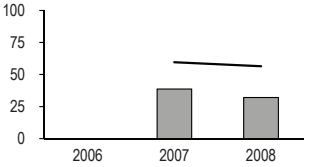
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



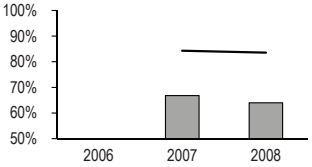
	2006	2007	2008
Asheville		$3.54	$4.10
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Asheville		38.7	32.1
Average		59.7	56.5

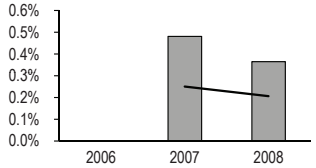
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Asheville		67%	64%
Average		84%	84%

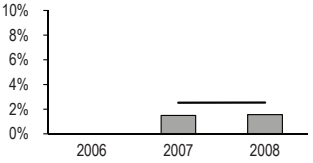
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



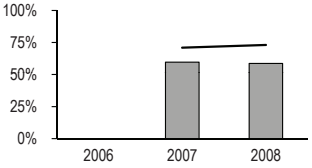
	2006	2007	2008
Asheville		0.48%	0.36%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



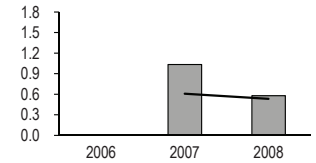
	2006	2007	2008
Asheville		1.49%	1.56%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



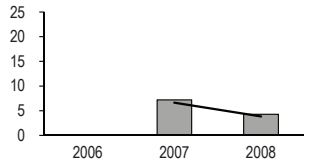
	2006	2007	2008
Asheville		60%	59%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Asheville		1.03	0.58
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Asheville		7.205703883	4.29
Average		6.64	3.85

Asheville

MUNICIPAL PROFILE

Estimated Service Population	123,750
Service Land Area (Square Miles)	183.0
Persons per Square Mile	676
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		35.3%
Operating Costs		40.1%
Capital Costs		24.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,086,848
Operating Costs	$	8,056,530
Capital Costs	$	4,953,803
TOTAL	$	20,097,181

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	41.0
Line Crews	56.0
Meter Readers	10.0
Billing/Collection	22.0
Other	24.0
Number of Treatment Plants	3
Total Treatment Capacity	44.0 MG
Average Daily Demand	21.0 MG
Miles of Mainline Pipe	1,643
Average Age of Mainline Pipe	50 years
Number of Breaks/Leaks	950
Number of Water Meters	54,274
Percent of Meters Read Automatically	15.5%
Total Revenues Collected	$32,627,659

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Asheville Water Resources Department is a publicly owned water utility that produces and supplies water for residential, business, industrial, and wholesale bulk customers. The utility serves the city of Asheville, approximately 27 percent of Buncombe County, and approximately 2 percent of Henderson County.

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 30 million gallons per day. The utilility has three treatment plants.

Asheville has an asset management program in place to assist with identifying replacement and refurbishment needs. The goal is for water main lines to be replaced every eighty years.

Currently about 15.5 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 installations at 100 percent.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07. The costs of water service as captured here do not include debt service but do capture depreciation.

The topography and climate in Asheville creates a number of problems for water systems operation. The mountainous terrain makes it difficult to install water lines. The utility has thirty-eight pressure zones, ranging from 20 to 643 psi, with an average from 180 to 200 psi. Colder temperatures can also make maintenance harder to complete and lead to breaks due to freezing.

The number of breaks and leaks in the system has declined over the prior year. The Water Resources Department has worked actively to better determine situations with repeated leaks and, when identified, to replace pipe for a more permanent solution.

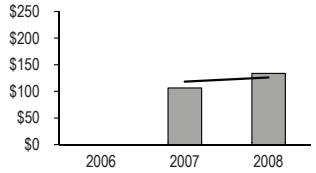
Water quality complaints in FY 2006–07 were higher than normal because of the drought. Low levels in the city's reservoirs required more pumping which can have the side effect of leaving some water with a slight color. The return of water supplies to more normal levels has significantly reduced this problem.

The department has an active water conservation program that reaches approximately 6,000 students annually.

Key: Burlington ■ Benchmarking Average — Fiscal Years 2007 through 2008

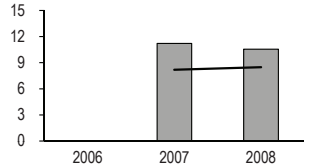
RESOURCE Measures

Water Services Cost per Capita



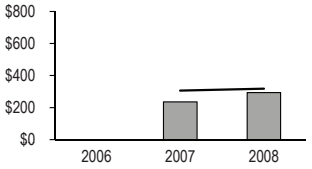
	2007	2008
Burlington	$106.37	$133.79
Average	$118.23	$126.20

Water Services FTEs per 10,000 Population



	2007	2008
Burlington	11.2	10.5
Average	8.2	8.5

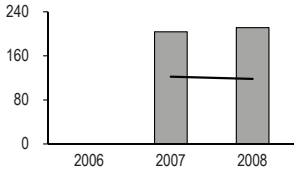
Water Services Cost per Meter



	2007	2008
Burlington	$236	$294
Average	$306	$318

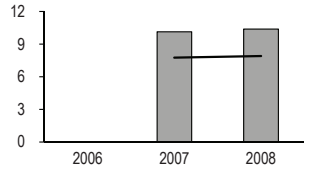
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007	2008
Burlington	203.8	211.1
Average	122.3	118.1

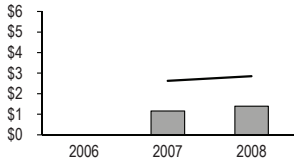
Miles of Main Line Pipe per Square Mile of Service Area



	2007	2008
Burlington	10.1	10.4
Average	7.8	7.9

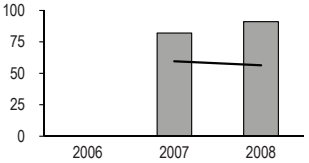
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



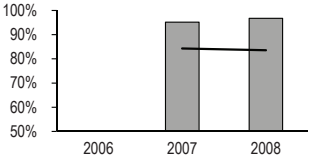
	2007	2008
Burlington	$1.16	$1.39
Average	$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2007	2008
Burlington	82.0	91.1
Average	59.7	56.5

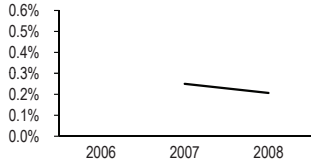
Billed Water as a Percentage of Finished Water



	2007	2008
Burlington	95%	97%
Average	84%	84%

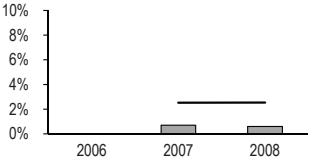
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



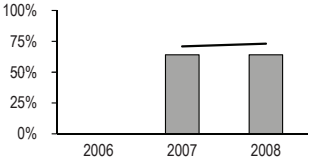
	2007	2008
Burlington	0.00%	0.00%
Average	0.25%	0.21%

Percentage of Water Bills Not Collected



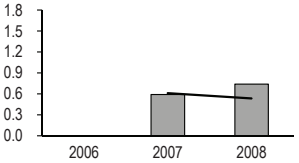
	2007	2008
Burlington	0.70%	0.59%
Average	2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



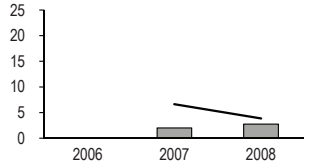
	2007	2008
Burlington	64%	64%
Average	71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2007	2008
Burlington	0.59	0.74
Average	0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2007	2008
Burlington	2.00	2.75
Average	6.64	3.85

Burlington

MUNICIPAL PROFILE

Estimated Service Population	45,500
Service Land Area (Square Miles)	40.9
Persons per Square Mile	1,112
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		32.0%
Operating Costs		48.7%
Capital Costs		19.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,949,976
Operating Costs	$	2,967,406
Capital Costs	$	1,170,135
TOTAL	$	6,087,517

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	17.0
Line Crews	14.0
Meter Readers	4.0
Billing/Collection	5.0
Other	8.0
Number of Treatment Plants	2
Total Treatment Capacity	34.0 MG
Average Daily Demand	12.3 MG
Miles of Mainline Pipe	425
Average Age of Mainline Pipe	51 years
Number of Breaks/Leaks	314
Number of Water Meters	20,703
Percent of Meters Read Automatically	NA
Total Revenues Collected	$10,297,142

EXPLANATORY INFORMATION

Service Level and Delivery
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.

The City of Burlington gets its water from two city-owned reservoirs in the upper Cape Fear River basin. The city also owns a third water storage reservoir. The estimated safe yield of the system is forty-eight million gallons per day.

The city has two treatment plants with a total treatment capacity of thirty-four million gallons per day. The plants use conventional treatment with alum coagulation, dual media filtration, and chlorine disinfection.

The city sells small amounts of water to several other systems including Greensboro, Gibsonville, Elon, the Village of Alamanace, and Haw River. The city has emergency connections with Greensboro and Graham.

The city reads meters on a monthly basis with most meters being read manually. Meters are replaced approximately every twelve to fifteen years.

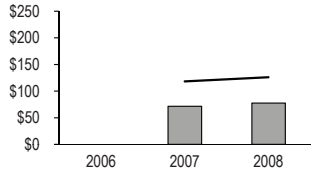
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Charlotte ■ Benchmarking Average — Fiscal Years 2007 through 2008

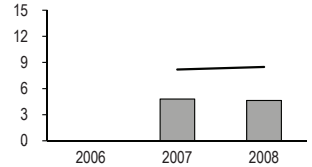
RESOURCE Measures

Water Services Cost per Capita



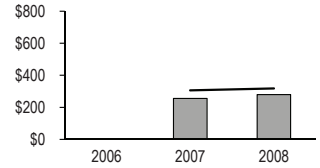
	2006	2007	2008
Charlotte		$71.49	$77.58
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Charlotte		4.8	4.6
Average		8.2	8.5

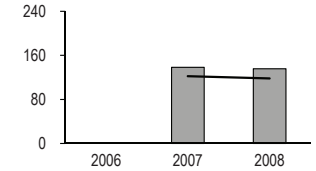
Water Services Cost per Meter



	2006	2007	2008
Charlotte		$255	$280
Average		$306	$318

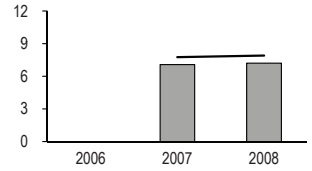
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Charlotte		138.3	135.7
Average		122.3	118.1

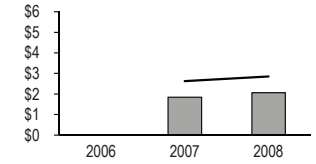
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Charlotte		7.1	7.2
Average		7.8	7.9

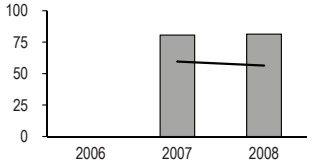
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



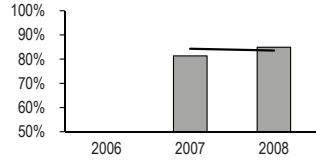
	2006	2007	2008
Charlotte		$1.85	$2.06
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Charlotte		80.6	81.4
Average		59.7	56.5

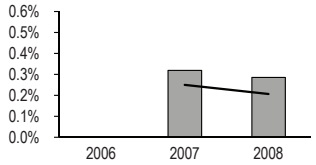
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Charlotte		81%	85%
Average		84%	84%

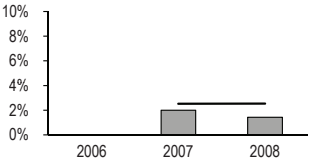
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



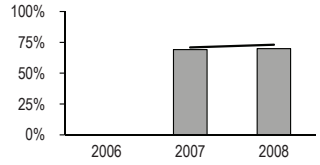
	2006	2007	2008
Charlotte		0.32%	0.29%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



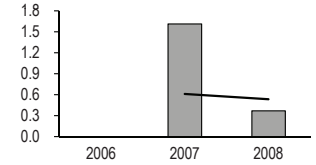
	2006	2007	2008
Charlotte		2.00%	1.42%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



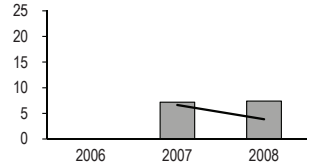
	2006	2007	2008
Charlotte		69%	70%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Charlotte		1.61	0.37
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Charlotte		7.19	7.40
Average		6.64	3.85

Charlotte

MUNICIPAL PROFILE

Estimated Service Population	871,432
Service Land Area (Square Miles)	544.8
Persons per Square Mile	1,600
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		22.5%
Operating Costs		37.4%
Capital Costs		40.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	15,186,237
Operating Costs	$	25,281,513
Capital Costs	$	27,136,430
TOTAL	$	67,604,180

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	70.0
Line Crews	130.0
Meter Readers	3.0
Billing/Collection	28.0
Other	172.0
Number of Treatment Plants	3
Total Treatment Capacity	242.0 MG
Average Daily Demand	105.7 MG
Miles of Mainline Pipe	3,929
Average Age of Mainline Pipe	20 years
Number of Breaks/Leaks	1,448
Number of Water Meters	241,594
Percent of Meters Read Automatically	98.5%
Total Revenues Collected	$101,276,521

EXPLANATORY INFORMATION

Service Level and Delivery
Charlotte-Mecklenburg Utilities (CMU) is a combined water and sewer operation. The utility is a consolidated business unit of Mecklenburg County and the City of Charlotte. The utility is an official City of Charlotte Key Business Unit, Charlotte's term for city department.

The area served is generally considered to be Mecklenburg County but also includes a small number of metered drinking water interconnections with the City of Concord and the counties of Union in North Carolina and Lancaster and York in South Carolina. The service area covers approximately 545 square miles and serves approximately 871,000 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.

Nearly all of the meters are read automatically. CMU uses a system that allows vans traveling the city to read meters as they drive by. The replacement standard is every fifteen years for water meters.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

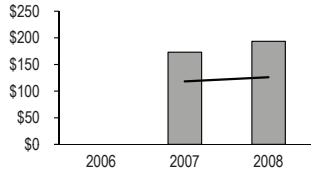
The costs of water service as captured here do not include debt service but do capture depreciation.

The reduction in reported leaks and breaks is in large part due to improvements in tracking and data reporting. CMU staff worked on improving how the work order system is used to determine the number of leaks or breaks in the water system.

Key: Concord ■ Benchmarking Average — Fiscal Years 2007 through 2008

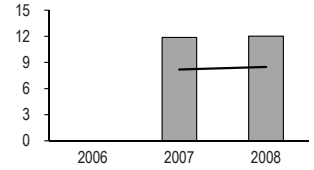
RESOURCE Measures

Water Services Cost per Capita



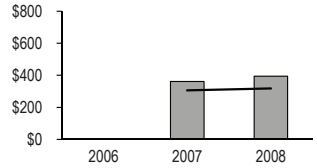
	2006	2007	2008
Concord		$172.95	$193.45
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Concord		11.9	12.0
Average		8.2	8.5

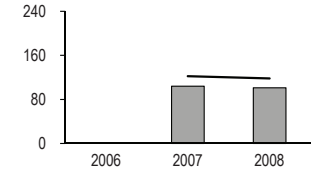
Water Services Cost per Meter



	2006	2007	2008
Concord		$362	$395
Average		$306	$318

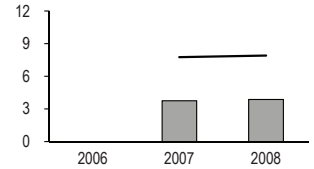
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Concord		104.0	101.1
Average		122.3	118.1

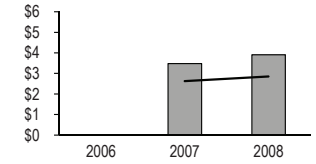
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Concord		3.8	3.9
Average		7.8	7.9

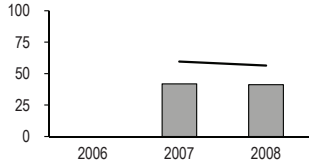
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



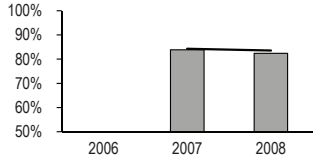
	2006	2007	2008
Concord		$3.48	$3.90
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Concord		41.9	41.3
Average		59.7	56.5

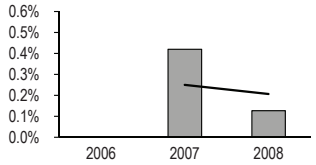
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Concord		84%	82%
Average		84%	84%

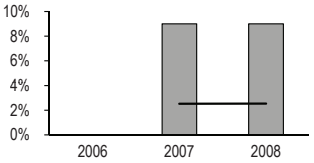
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



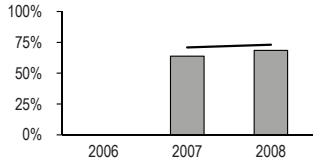
	2006	2007	2008
Concord		0.42%	0.13%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



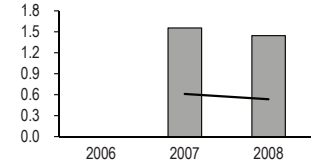
	2006	2007	2008
Concord		9.00%	9.00%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



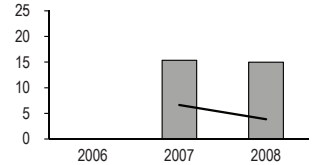
	2006	2007	2008
Concord		64%	69%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Concord		1.56	1.45
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Concord		15.35	14.97
Average		6.64	3.85

Concord

MUNICIPAL PROFILE

Estimated Service Population	68,253
Service Land Area (Square Miles)	170.0
Persons per Square Mile	401
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		27.1%
Operating Costs		51.5%
Capital Costs		21.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,577,945
Operating Costs	$	6,803,612
Capital Costs	$	2,821,913
TOTAL	$	13,203,470

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	30.0
Line Crews	34.0
Meter Readers	8.0
Billing/Collection	5.0
Other	5.0
Number of Treatment Plants	2
Total Treatment Capacity	24.0 MG
Average Daily Demand	10.3 MG
Miles of Mainline Pipe	658
Average Age of Mainline Pipe	25 years
Number of Breaks/Leaks	951
Number of Water Meters	33,456
Percent of Meters Read Automatically	75.9%
Total Revenues Collected	$19,665,072

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Concord Water Resources Department is a water-only utility. The department has three divisions, one for operations and maintenance, and one for each of the two treatment plants. Meter reading, billing, and collections are handled by the city Finance Department.

Concord's system serves approximately 68,000 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 twenty-five years. Water meters are read monthly and three-quarters of the meters are read using automatic means. The replacement standard for water meters is fifteen years.

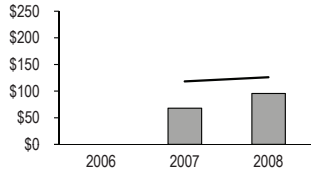
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Durham ■ Benchmarking Average — Fiscal Years 2007 through 2008

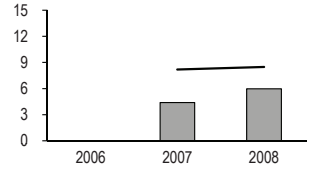
RESOURCE Measures

Water Services Cost per Capita



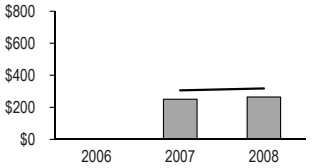
	2006	2007	2008
Durham		$68.00	$95.70
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Durham		4.4	6.0
Average		8.2	8.5

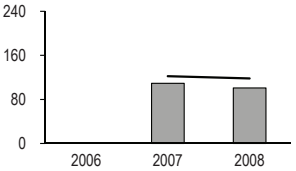
Water Services Cost per Meter



	2006	2007	2008
Durham		$251	$265
Average		$306	$318

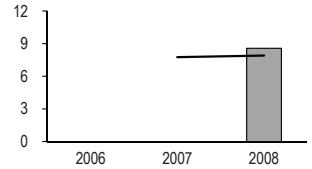
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Durham		109.2	100.7
Average		122.3	118.1

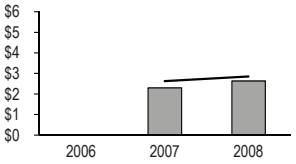
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Durham			8.6
Average		7.8	7.9

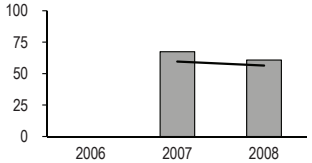
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



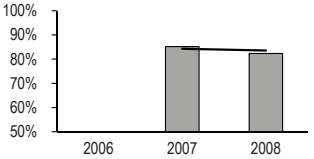
	2006	2007	2008
Durham		$2.30	$2.63
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Durham		67.5	60.9
Average		59.7	56.5

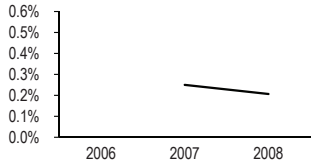
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Durham		85%	82%
Average		84%	84%

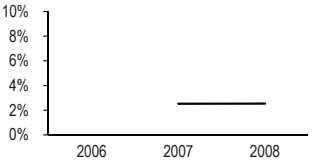
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



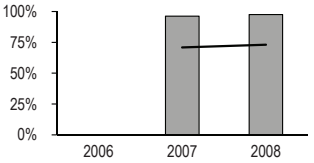
	2006	2007	2008
Durham		0.00%	0.00%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



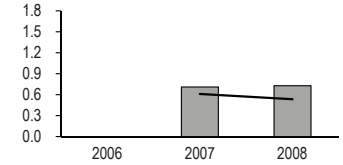
	2006	2007	2008
Durham			
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



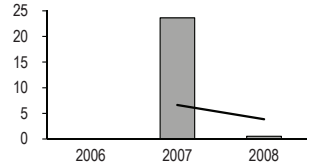
	2006	2007	2008
Durham		96%	98%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Durham		0.71	0.73
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Durham		23.63	0.54
Average		6.64	3.85

Durham

MUNICIPAL PROFILE

Estimated Service Population	225,714
Service Land Area (Square Miles)	143.0
Persons per Square Mile	1,578
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		34.6%
Operating Costs		35.7%
Capital Costs		29.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,477,855
Operating Costs	$	7,720,301
Capital Costs	$	6,402,959
TOTAL	$	21,601,115

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	40.0
Line Crews	37.2
Meter Readers	14.4
Billing/Collection	10.2
Other	33.2
Number of Treatment Plants	2
Total Treatment Capacity	52.0 MG
Average Daily Demand	26.3 MG
Miles of Mainline Pipe	1,227
Average Age of Mainline Pipe	22 years
Number of Breaks/Leaks	894
Number of Water Meters	81,582
Percent of Meters Read Automatically	0.5%
Total Revenues Collected	$28,458,973

EXPLANATORY INFORMATION

Service Level and Delivery
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 Divison.

Durham's system provides water to all water customers in the City of Durham and to additional customers in Durham County. Approximately 225,000 people are served by the system.

The water sources for the system are two city-owned reservoirs, the Little River reservoir and Lake Michie in the Neuse River basin. The estimated safe yield of the system is fifty-two million gallons per day based on a fifty-year safe yield estimate as certified by engineers. Durham also has emergency connections with Cary, OWASA, Hillsborough, Chatham County, Orange-Alamance, and Morrisville.

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.

Larger meters are read monthly and smaller meters are read every two months. Currently Durham has less than 1 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.

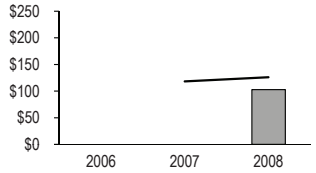
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Gastonia ■ Benchmarking Average — Fiscal Years 2007 through 2008

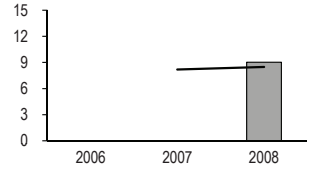
RESOURCE Measures

Water Services Cost per Capita



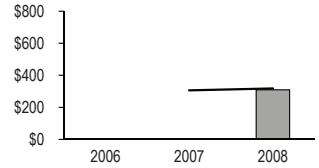
	2006	2007	2008
Gastonia			$102.72
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Gastonia			9.0
Average		8.2	8.5

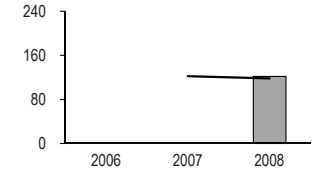
Water Services Cost per Meter



	2006	2007	2008
Gastonia			$310
Average		$306	$318

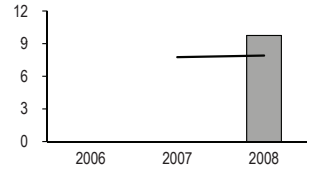
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Gastonia			121.9
Average		122.3	118.1

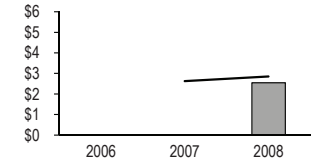
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Gastonia			9.7
Average		7.8	7.9

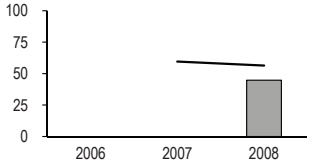
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



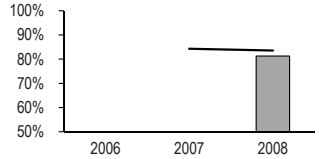
	2006	2007	2008
Gastonia			$2.54
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Gastonia			44.8
Average		59.7	56.5

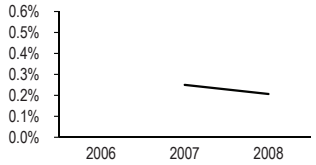
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Gastonia			81%
Average		84%	84%

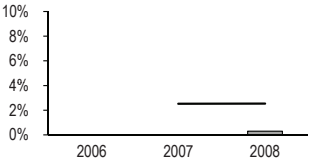
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



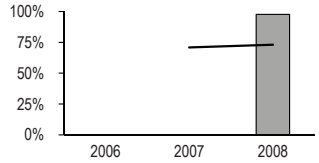
	2006	2007	2008
Gastonia			0.00%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



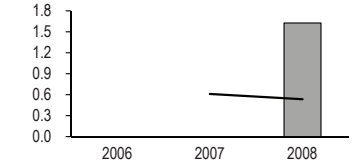
	2006	2007	2008
Gastonia			0.30%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



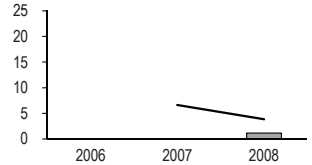
	2006	2007	2008
Gastonia			98%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Gastonia			1.63
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Gastonia			1.15
Average		6.64	3.85

Gastonia

MUNICIPAL PROFILE

Estimated Service Population	84,232
Service Land Area (Square Miles)	56.1
Persons per Square Mile	1,501
County	Gaston
Topography	Flat, gently rolling
Climate	Mild; some ice and snow
Median Family Income (US Census 2000)	$44,873

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		43.0%
Operating Costs		34.9%
Capital Costs		22.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,722,718
Operating Costs	$	3,019,837
Capital Costs	$	1,909,522
TOTAL	$	8,652,077

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	21.0
Line Crews	26.0
Meter Readers	6.0
Billing/Collection	13.0
Other	10.0
Number of Treatment Plants	1
Total Treatment Capacity	25.1 MG
Average Daily Demand	12.4 MG
Miles of Mainline Pipe	547
Average Age of Mainline Pipe	55 years
Number of Breaks/Leaks	890
Number of Water Meters	27,931
Percent of Meters Read Automatically	5.7%
Total Revenues Collected	$13,975,137

EXPLANATORY INFORMATION

Service Level and Delivery
The Water Supply and Treatment Division and the Field Operations Division are part of the Gastonia Public Works and Utilities Department. Billing and collections for water services is handled by a separate division under the Gastonia Finance Department.

Gastonia's system covers all of the city limits and portions of southern and eastern Gaston County. Approximately 84,000 people are served by the system.

The water system has two supply sources. The primary supply is Mountain Island Lake on the Catawba River. The secondary source is the South Fork of the Catawba River. The estimated safe yield for the primary source is seventy-five million gallons per day. Gastonia makes small water sales to several nearby communities.

Gastonia has one treatment plant with a treatment capacity of 25.1 million gallons per day. The estimated average age of mainline pipes in the system is approximately fifty-five years.

Meters are read monthly and currently Gastonia has 5.7 percent of its meters read by automatic means. Meters are generally replaced every fifteen years.

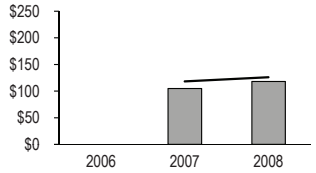
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07. Gastonia began participating in benchmarking water services in FY 2007–08.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Greensboro ■ Benchmarking Average — Fiscal Years 2007 through 2008

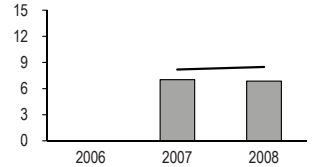
RESOURCE Measures

Water Services Cost per Capita



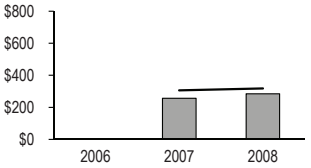
	2006	2007	2008
Greensboro		$104.80	$118.24
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Greensboro		7.0	6.9
Average		8.2	8.5

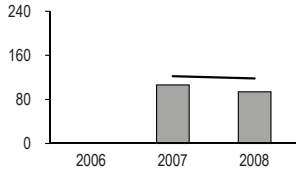
Water Services Cost per Meter



	2006	2007	2008
Greensboro		$257	$285
Average		$306	$318

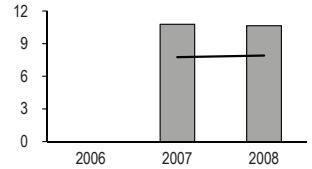
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Greensboro		106.3	93.8
Average		122.3	118.1

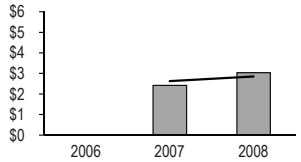
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Greensboro		10.8	10.6
Average		7.8	7.9

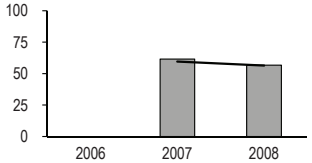
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



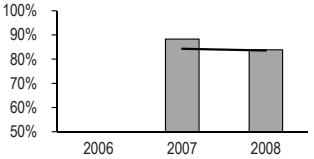
	2006	2007	2008
Greensboro		$2.42	$3.04
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Greensboro		61.6	56.7
Average		59.7	56.5

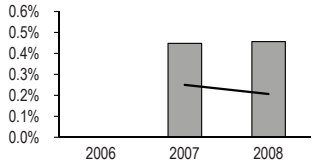
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Greensboro		88%	84%
Average		84%	84%

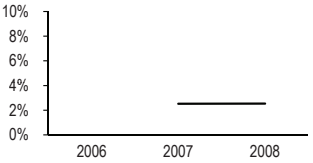
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



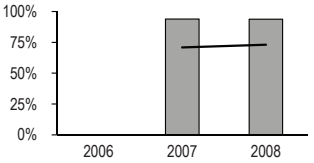
	2006	2007	2008
Greensboro		0.45%	0.46%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



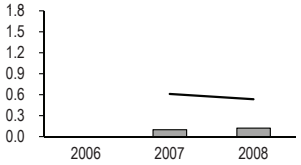
	2006	2007	2008
Greensboro		0.02%	0.03%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



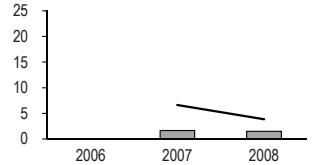
	2006	2007	2008
Greensboro		94%	94%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Greensboro		0.10	0.12
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Greensboro		1.66	1.50
Average		6.64	3.85

Greensboro

MUNICIPAL PROFILE

Estimated Service Population	252,000
Service Land Area (Square Miles)	137.2
Persons per Square Mile	1,837
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		66.4%
Capital Costs		10.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,958,399
Operating Costs	$	19,791,976
Capital Costs	$	3,045,269
TOTAL	$	29,795,644

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	45.0
Line Crews	57.0
Meter Readers	16.0
Billing/Collection	28.5
Other	26.5
Number of Treatment Plants	2
Total Treatment Capacity	54.0 MG
Average Daily Demand	32.0 MG
Miles of Mainline Pipe	1,460
Average Age of Mainline Pipe	37 years
Number of Breaks/Leaks	178
Number of Water Meters	104,650
Percent of Meters Read Automatically	66.6%
Total Revenues Collected	$41,498,443

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro's drinking water is provided by the Water Supply Division, which is part of the Water Resources Department that also includes wastewater and stormwater services. The director of Water Resources reports directly to the city manager. The water system serves approximately 252,000 people in an area covering about 137 square miles. In addition to City of Greensboro residents, the system serves many addresses in Guilford County in areas adjacent to the city limits.

Water sources for the system are three city-owned reservoirs in the Haw River basin, which is part of the Upper Cape Fear River basin. The estimated safe yield of the system is thirty-six million gallons per day based on a fifty-year esimate as certified by engineers. The system has emergency connections with High Point, Burlington, Reidsville, and Winston-Salem.

The city runs two treatment plants with a combined capacity of fifty-four million gallons. Both plants use conventional surface water treatment.

The estimated average age of main line pipes in the system is thirty-seven years. Greensboro has begun a spending program on water line rehabilitation and plans to increase funding for this activity for the next several years. Approximately $1.5 million was spent in FY 2007–08.

Residential water meters inside the city limits are read quarterly, and all other meters are read monthly. Greensboro is one of only a few utilities in North Carolina that bills most accounts quarterly. Approximately two-third of all meters are read automatically using a radio system. Greensboro started the conversion to radio-read meters in 2006 and plans to convert all meters by June 2009.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

Greensboro has a very high collection rate for water bills. The city has a lien law so that very little of billed amounts goes unpaid.

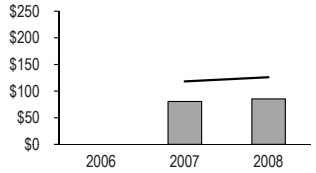
Greensboro has a $300,000 per year public education program to encourage water conservation.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Hickory ■ Benchmarking Average — Fiscal Years 2007 through 2008

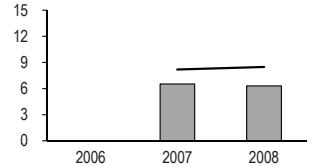
RESOURCE Measures

Water Services Cost per Capita



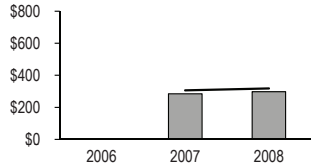
	2006	2007	2008
Hickory		$80.47	$85.37
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Hickory		6.5	6.3
Average		8.2	8.5

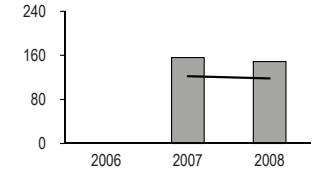
Water Services Cost per Meter



	2006	2007	2008
Hickory		$284	$298
Average		$306	$318

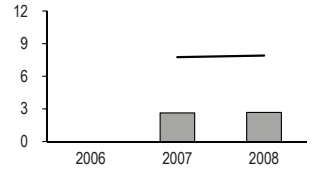
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Hickory		156.1	148.7
Average		122.3	118.1

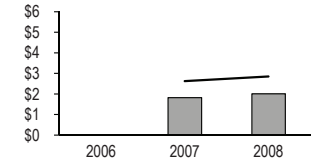
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Hickory		2.6	2.7
Average		7.8	7.9

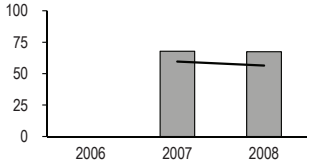
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



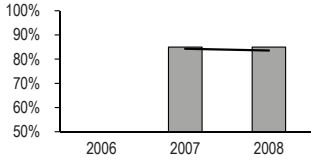
	2006	2007	2008
Hickory		$1.82	$2.01
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Hickory		67.8	67.5
Average		59.7	56.5

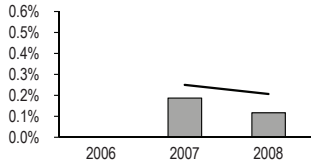
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Hickory		85%	85%
Average		84%	84%

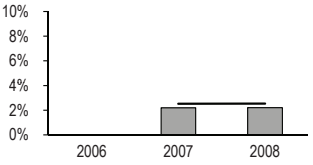
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



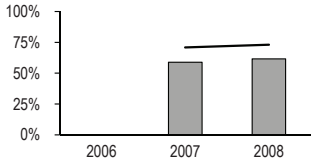
	2006	2007	2008
Hickory		0.19%	0.12%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



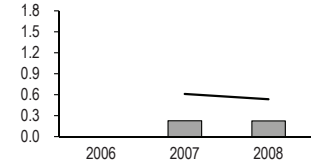
	2006	2007	2008
Hickory		2.19%	2.20%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



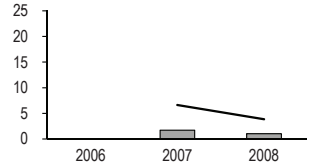
	2006	2007	2008
Hickory		59%	62%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Hickory		0.23	0.22
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Hickory		1.73	1.03
Average		6.64	3.85

Hickory

MUNICIPAL PROFILE

Estimated Service Population	95,046
Service Land Area (Square Miles)	326.0
Persons per Square Mile	292
County	Catawba
Topography	Gently rolling
Climate	Moderate; Some ice and snow
Median Family Income (US Census 2000)	$47,522

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		29.0%
Operating Costs		33.6%
Capital Costs		37.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,349,865
Operating Costs	$	2,723,724
Capital Costs	$	3,040,950
TOTAL	$	8,114,539

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	12.0
Line Crews	35.0
Meter Readers	6.0
Billing/Collection	5.0
Other	2.0
Number of Treatment Plants	1
Total Treatment Capacity	32.0 MG
Average Daily Demand	13.3 MG
Miles of Mainline Pipe	874
Average Age of Mainline Pipe	40 years
Number of Breaks/Leaks	196
Number of Water Meters	27,220
Percent of Meters Read Automatically	0.3%
Total Revenues Collected	$12,173,952

EXPLANATORY INFORMATION

Service Level and Delivery
Water services in Hickory are provided by a combined water distribution division under the Public Services Department. The water system services an area covering roughly 326 square miles and serves approximately 95,000 people. Water is provided for the city of Hickory and also for the towns of Hildebran, Brookford, and Catawba; the Sherrill's Ford, Mountain View, and Cooksville communities of Catawba County; and the Bethlehem, Sugarloaf, and Highway 16 communities of Alexander County.

Source water is from the Catawba River basin with an estimated safe yield of fifty-four million gallons per day. Hickory sells water to the systems in Conover, Claremont, and Icard Township. The system has one treatment plant with a capacity of thirty-two million gallons per day.

Water meters are read monthly. Hickory's replacement standard for water meters is twenty years. Less than one percent of water meters in the system are read by automatic means.

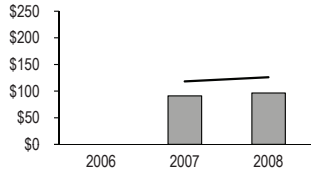
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: High Point ■ Benchmarking Average — Fiscal Years 2007 through 2008

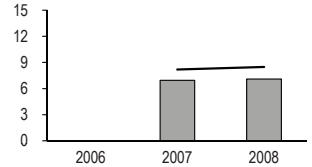
RESOURCE Measures

Water Services Cost per Capita



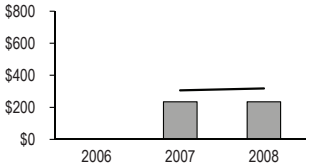
	2006	2007	2008
High Point		$91.02	$96.59
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
High Point		7.0	7.1
Average		8.2	8.5

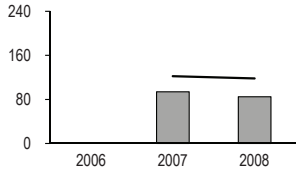
Water Services Cost per Meter



	2006	2007	2008
High Point		$235	$234
Average		$306	$318

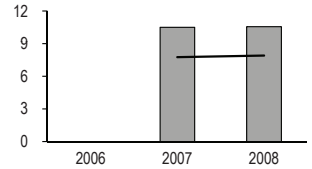
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
High Point		93.8	84.8
Average		122.3	118.1

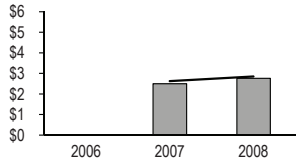
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
High Point		10.5	10.6
Average		7.8	7.9

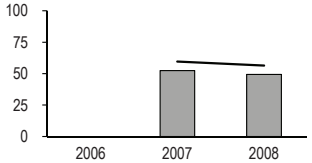
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



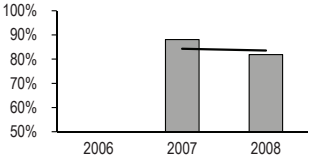
	2006	2007	2008
High Point		$2.50	$2.76
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
High Point		52.4	49.3
Average		59.7	56.5

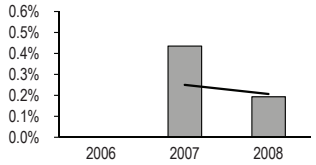
Billed Water as a Percentage of Finished Water



	2006	2007	2008
High Point		88%	82%
Average		84%	84%

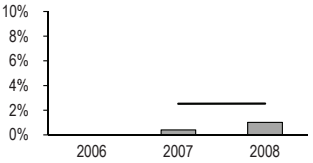
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



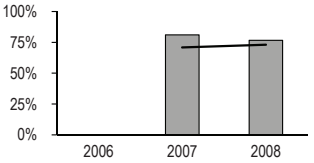
	2006	2007	2008
High Point		0.43%	0.19%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



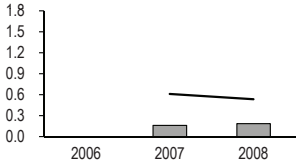
	2006	2007	2008
High Point		0.41%	1.01%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



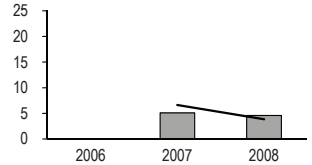
	2006	2007	2008
High Point		81%	77%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
High Point		0.16	0.18
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
High Point		5.07	4.59
Average		6.64	3.85

MUNICIPAL PROFILE

Estimated Service Population	103,000
Service Land Area (Square Miles)	64.0
Persons per Square Mile	1,609
County	Guilford
Topography	Flat, gently rolling
Climate	Temperate; some ice and snow
Median Family Income (US Census 2000)	$48,057

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		30.3%
Operating Costs		36.0%
Capital Costs		33.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,015,163
Operating Costs	$	3,579,644
Capital Costs	$	3,353,728
TOTAL	$	9,948,535

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	13.0
Line Crews	37.0
Meter Readers	6.0
Billing/Collection	5.0
Other	12.0
Number of Treatment Plants	1
Total Treatment Capacity	24.0 MG
Average Daily Demand	12.1 MG
Miles of Mainline Pipe	676
Average Age of Mainline Pipe	50 years
Number of Breaks/Leaks	125
Number of Water Meters	42,466
Percent of Meters Read Automatically	0.0%
Total Revenues Collected	$14,845,773

EXPLANATORY INFORMATION

Service Level and Delivery
The City of High Point's drinking water services are part of a combined Water/Sewer Division under the Public Services Department. The system covers sixty-four square miles and serves approximately 103,000 people.

The water sources for the system are two city-owned reservoirs located in the Deep River basin. The estimated safe yield of the system is twenty-five million gallons per day. The system has one treatment plant and uses an upflow clarification process and a super "U" pulsator with a treatment capacity of twenty-four million gallons per day.

Water meters are read monthly. Currently no meters are read by automatic means. The city has a standard to replace water meters every ten years on average.

Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

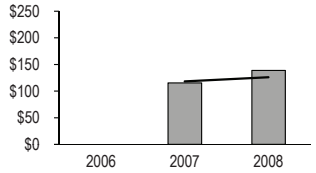
High Point has a very high collection rate for water bills. The city participates in the State of North Carolina's debt setoff program. The program is in place to garnish a person's state tax return if the person does not pay his or her bill. In addition, High Point performs a credit check based on the customer's payment history with Equifax.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Raleigh ■ Benchmarking Average — Fiscal Years 2007 through 2008

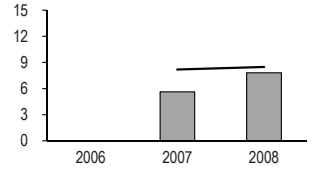
RESOURCE Measures

Water Services Cost per Capita



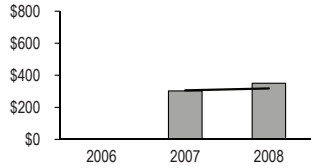
	2006	2007	2008
Raleigh		$115.45	$138.86
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Raleigh		5.6	7.8
Average		8.2	8.5

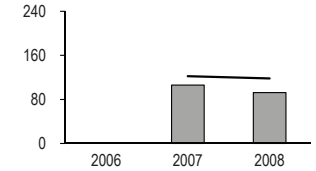
Water Services Cost per Meter



	2006	2007	2008
Raleigh		$302	$351
Average		$306	$318

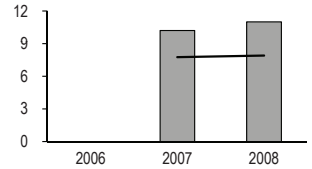
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Raleigh		106.0	92.4
Average		122.3	118.1

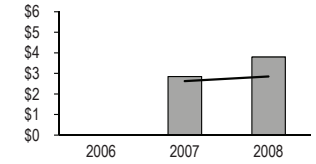
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Raleigh		10.2	11.0
Average		7.8	7.9

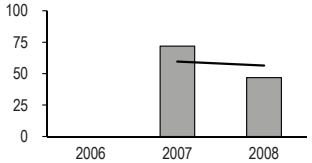
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



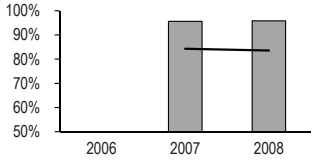
	2006	2007	2008
Raleigh		$2.85	$3.80
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Raleigh		71.9	46.8
Average		59.7	56.5

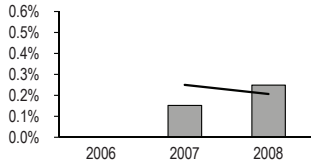
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Raleigh		96%	96%
Average		84%	84%

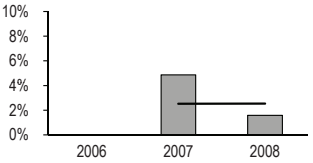
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



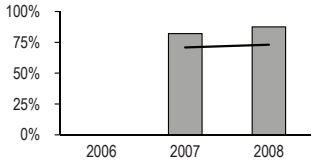
	2006	2007	2008
Raleigh		0.15%	0.25%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



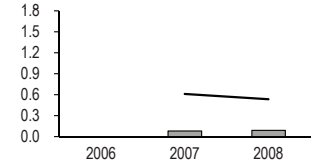
	2006	2007	2008
Raleigh		4.87%	1.58%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



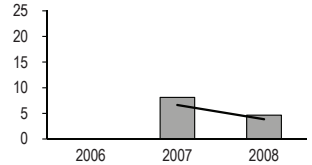
	2006	2007	2008
Raleigh		82%	88%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Raleigh		0.08	0.09
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Raleigh		8.12	4.65
Average		6.64	3.85

MUNICIPAL PROFILE

Estimated Service Population	456,041
Service Land Area (Square Miles)	189.5
Persons per Square Mile	2,407
County	Wake
Topography	Flat, gently rolling
Climate	Temperate; little ice and snow
Median Family Income (US Census 2000)	$60,003

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	23.1%
Operating Costs	54.6%
Capital Costs	22.3%
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	$ 14,609,890
Operating Costs	$ 34,576,630
Capital Costs	$ 14,137,404
TOTAL	$ 63,323,924

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	81.0
Line Crews	99.0
Meter Readers	75.0
Billing/Collection	60.0
Other	41.0
Number of Treatment Plants	2
Total Treatment Capacity	88.0 MG
Average Daily Demand	47.0 MG
Miles of Mainline Pipe	2,085
Average Age of Mainline Pipe	35 years
Number of Breaks/Leaks	184
Number of Water Meters	180,501
Percent of Meters Read Automatically	94.8%
Total Revenues Collected	$112,957,755

EXPLANATORY INFORMATION

Service Level and Delivery
Raleigh's water services are provided by a combined water and sewer system under Public Utilities. The system serves approximately 456,000 people over 189 square miles.

The water source for the system is Falls Lake. In addition, there are two other water sources owned by the city that will serve as a source for water starting in 2010. The estimated safe yield for the water sources is sixty-seven million gallons per day.

The system is served by two treatment plants with a finished water capacity of eighty-eight million gallons per day. The water system also sold water to Fuquay-Varina and Holly Springs.

Most water meters in the system are read by automatic means. The system's water meter replacement program was discontinuted as a result of working on and recently completing a comprehensive system-wide automated meter reading replacement project. Nearly all meters have been replaced with new water meters.

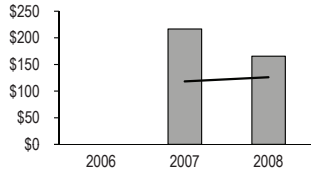
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Salisbury ■ Benchmarking Average — Fiscal Years 2007 through 2008

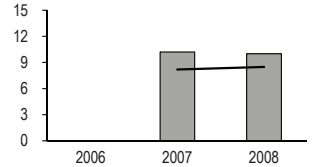
RESOURCE Measures

Water Services Cost per Capita



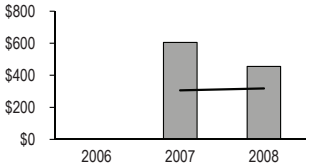
	2006	2007	2008
Salisbury		$216.62	$165.55
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Salisbury		10.2	10.0
Average		8.2	8.5

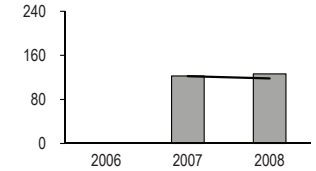
Water Services Cost per Meter



	2006	2007	2008
Salisbury		$605	$455
Average		$306	$318

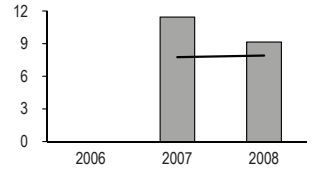
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Salisbury		122.6	126.5
Average		122.3	118.1

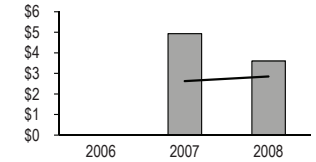
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Salisbury		11.4	9.2
Average		7.8	7.9

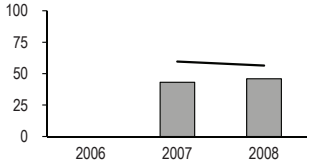
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



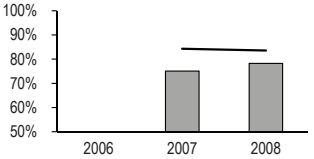
	2006	2007	2008
Salisbury		$4.93	$3.60
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Salisbury		43.1	46.0
Average		59.7	56.5

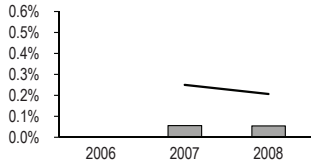
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Salisbury		75%	78%
Average		84%	84%

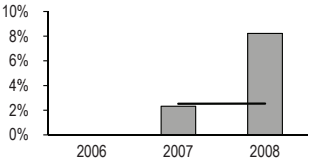
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



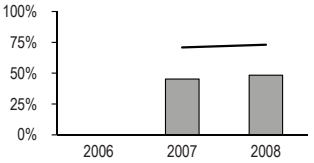
	2006	2007	2008
Salisbury		0.06%	0.05%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



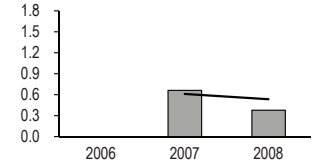
	2006	2007	2008
Salisbury		2.32%	8.22%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



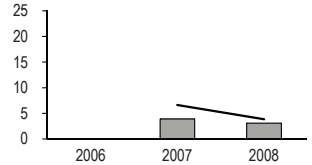
	2006	2007	2008
Salisbury		45%	48%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Salisbury		0.66	0.38
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Salisbury		3.89	3.10
Average		6.64	3.85

Salisbury

MUNICIPAL PROFILE

Estimated Service Population	47,000
Service Land Area (Square Miles)	40.4
Persons per Square Mile	1,163
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		27.0%
Operating Costs		50.0%
Capital Costs		23.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,098,800
Operating Costs	$	3,889,267
Capital Costs	$	1,792,784
TOTAL	$	7,780,851

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	8.3 MG
Miles of Mainline Pipe	370
Average Age of Mainline Pipe	41 years
Number of Breaks/Leaks	140
Number of Water Meters	17,085
Percent of Meters Read Automatically	0.0%
Total Revenues Collected	$10,400,000

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Salisbury provides water service through an enterprise fund department. This department is known as Salisbury-Rowan Utilities. The system covers 40.4 square miles and covers much of Rowan County. Approximately 47,000 people are served. The system was assembled during the late 1990s and early 2000s as the City of Salisbury assumed ownership of the water and sewer systems of the towns of Spencer, Granite Quarry, and Rockwell. Rowan County turned over its water assets to Salisbury in 2004. Salisbury also sells bulk water to the towns of East Spencer, China Grove, Landis, and the City of Kannapolis.

The water source for the system is the Yadkin River. The estimated safe yield for the system is 108 million gallons per day. The system has one treatment plant with a capacity of twenty-five million gallons per day. The plant uses an Actiflo pretreatment process followed by a conventional sedimentation and filtration treatment process.

Water meters are read once per month. The system currently does not have any automatic remote-read meters. The standard for meter replacement is fifteen years.

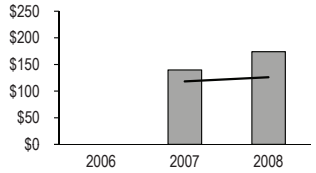
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Wilson ■ Benchmarking Average — Fiscal Years 2007 through 2008

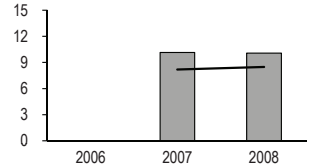
RESOURCE Measures

Water Services Cost per Capita



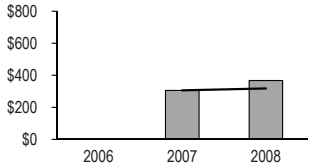
	2006	2007	2008
Wilson		$139.58	$174.11
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Wilson		10.1	10.1
Average		8.2	8.5

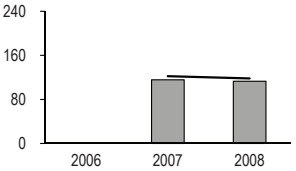
Water Services Cost per Meter



	2006	2007	2008
Wilson		$306	$368
Average		$306	$318

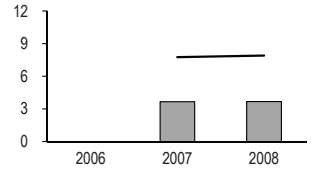
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Wilson		115.6	113.0
Average		122.3	118.1

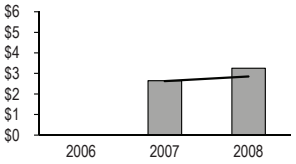
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Wilson		3.7	3.7
Average		7.8	7.9

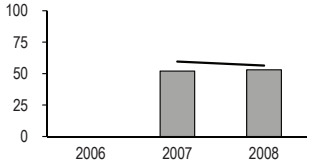
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



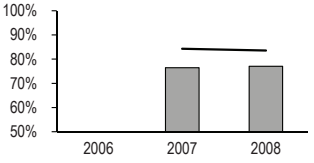
	2006	2007	2008
Wilson		$2.65	$3.25
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Wilson		52.0	53.1
Average		59.7	56.5

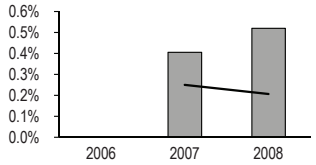
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Wilson		76%	77%
Average		84%	84%

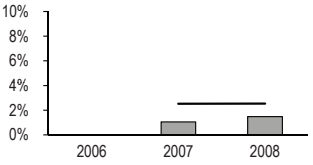
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



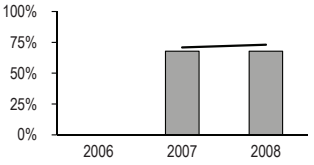
	2006	2007	2008
Wilson		0.41%	0.52%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



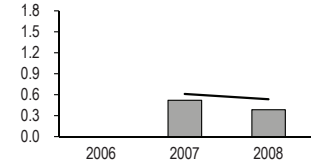
	2006	2007	2008
Wilson		1.05%	1.48%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



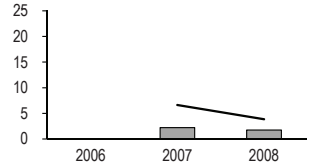
	2006	2007	2008
Wilson		68%	68%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Wilson		0.52	0.38
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Wilson		2.22	1.74
Average		6.64	3.85

Wilson

MUNICIPAL PROFILE

Estimated Service Population	48,600
Service Land Area (Square Miles)	106.0
Persons per Square Mile	458
County	Wilson
Topography	Flat
Climate	Mild; little ice and snow
Median Family Income (US Census 2000)	$41,041

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		32.4%
Operating Costs		40.7%
Capital Costs		26.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,737,475
Operating Costs	$	3,446,502
Capital Costs	$	2,277,634
TOTAL	$	8,461,611

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	19.0
Line Crews	21.0
Meter Readers	3.0
Billing/Collection	3.0
Other	3.0
Number of Treatment Plants	2
Total Treatment Capacity	22.0 MG
Average Daily Demand	9.2 MG
Miles of Mainline Pipe	390
Average Age of Mainline Pipe	40 years
Number of Breaks/Leaks	150
Number of Water Meters	23,000
Percent of Meters Read Automatically	9.8%
Total Revenues Collected	$9,731,000

EXPLANATORY INFORMATION

Service Level and Delivery
Water services are handled by a combined water/sewer division under the Department of Public Works. Billing services are handled by the Wilson Finance Department. The water system serves approximately 49,000 people over 106 square miles.

The water sources for the system are 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 thirty million gallons per day.

The system has two treatment plants with a combined treatment capacity of twenty-two million gallons per day. The plants use conventional surface water treatment with flocculation, sedimentation, and filtration.

Water meters are read once per month in Wilson. Approximately 10 percent of the water meters in the system are read by automatic remote means using a radio system by Itron.

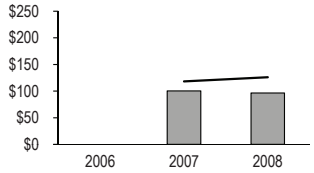
Conditions Affecting Service, Performance, and Costs
Water Services is a new service area for the benchmarking project beginning with Fiscal Year 2006–07.

The costs of water service as captured here do not include debt service but do capture depreciation.

Key: Winston-Salem ■ Benchmarking Average — Fiscal Years 2007 through 2008

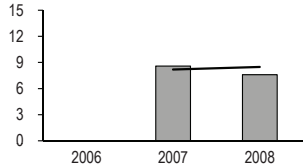
RESOURCE Measures

Water Services Cost per Capita



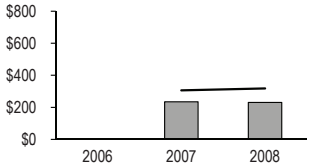
	2006	2007	2008
Winston-Salem		$100.27	$96.31
Average		$118.23	$126.20

Water Services FTEs per 10,000 Population



	2006	2007	2008
Winston-Salem		8.6	7.6
Average		8.2	8.5

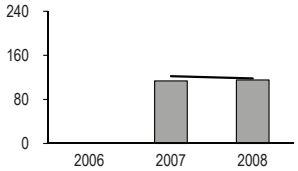
Water Services Cost per Meter



	2006	2007	2008
Winston-Salem		$235	$231
Average		$306	$318

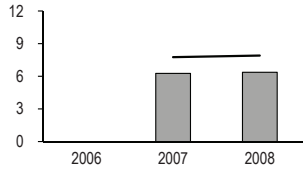
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2006	2007	2008
Winston-Salem		113.7	115.4
Average		122.3	118.1

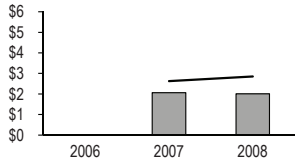
Miles of Main Line Pipe per Square Mile of Service Area



	2006	2007	2008
Winston-Salem		6.3	6.4
Average		7.8	7.9

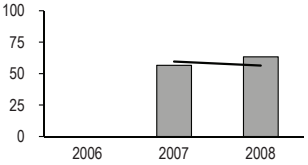
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



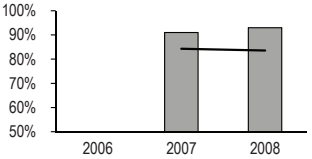
	2006	2007	2008
Winston-Salem		$2.06	$2.00
Average		$2.63	$2.85

Million Gallons of Billed Water per Water Services FTEs



	2006	2007	2008
Winston-Salem		56.6	63.4
Average		59.7	56.5

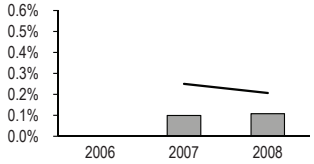
Billed Water as a Percentage of Finished Water



	2006	2007	2008
Winston-Salem		91%	93%
Average		84%	84%

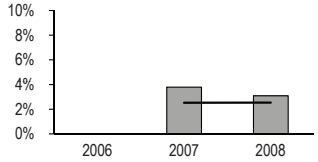
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



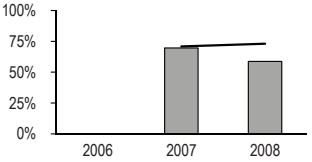
	2006	2007	2008
Winston-Salem		0.10%	0.11%
Average		0.25%	0.21%

Percentage of Water Bills Not Collected



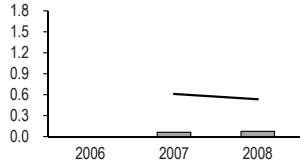
	2006	2007	2008
Winston-Salem		3.79%	3.08%
Average		2.53%	2.54%

Peak Daily Demand as a Percentage of Treatment Capacity



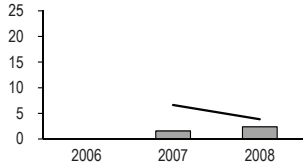
	2006	2007	2008
Winston-Salem		70%	59%
Average		71%	73%

Breaks and Leaks per Mile of Main Line Pipe



	2006	2007	2008
Winston-Salem		0.06	0.07
Average		0.61	0.53

Customer Complaints about Water Quality per 1,000 Meters



	2006	2007	2008
Winston-Salem		1.56	2.38
Average		6.64	3.85

Winston-Salem

MUNICIPAL PROFILE

Estimated Service Population	286,028
Service Land Area (Square Miles)	325.0
Persons per Square Mile	880
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		27.8%
Operating Costs		44.9%
Capital Costs		27.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,670,676
Operating Costs	$	12,365,612
Capital Costs	$	7,511,658
TOTAL	$	27,547,946

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	52.0
Line Crews	123.0
Meter Readers	10.0
Billing/Collection	20.0
Other	12.0
Number of Treatment Plants	3
Total Treatment Capacity	97.0 MG
Average Daily Demand	40.5 MG
Miles of Mainline Pipe	2,068
Average Age of Mainline Pipe	50-75 years
Number of Breaks/Leaks	154
Number of Water Meters	119,148
Percent of Meters Read Automatically	0.0%
Total Revenues Collected	$35,892,203

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 286,000 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 in 1976. 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 or to adopt a budget. The City Council adopts the water and sewer budget.

The 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 with a combined capacity of ninety-seven million gallons per day. 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 between fifty and seventy-five years. The replacement goal for pipes is seventy-five years.

Water meters are read both monthly and bimonthly depending on the account type. Currently the system has no meters read by automatic means. The replacement standard for water meters is approximately every 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.

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North Carolina Local Government Performance Measurement Project

A Guide to the North Carolina Local Government Performance Measurement Project

February 2001

Edited by William C. Rivenbark for the North Carolina Local Government Performance Measurement Project

Presenting the methods developed and used by the North Carolina Performance Measurement Project, this guidebook is an effort to encourage the use of performance measurement and benchmarking, to produce comparable performance and cost data, and to promote data use for the purpose of service or process improvement. It represents the work of public officials in North Carolina who are committed to improving the numerous services provided by local government.

*For more information on the North Carolina Local Government Performance Measurement Project, please see www.sog.unc.edu/programs/perfmeas/index.html.

Development Review in Local Government: Benchmarking Best Practices

Forthcoming in Spring 2009.

David N. Ammons

Approving or denying building permits and other land-use applications is an important role of local governments but one that often draws criticism from developers and citizens alike. This volume identifies an array of proven practices for bringing greater fairness, thoroughness, and speed to the development review process. The authors and a team of planning and development review professionals benchmarked with three national leaders and discovered seventy-eight distinctive practices accounting for the leaders' success. In doing so, the benchmarking team not only produced helpful advice for improving development review processes but also demonstrated the value to local governments of a type of benchmarking fairly common in the private sector but rarely used in the public sector.

Tools for Decision Making: A Practical Guide for Local Government

Second edition, 2008

David N. Ammons

Tools for Decision Making: A Practical Guide for Local Government contains a valuable assortment of analytical tools to help local government officials make everyday decisions that will maximize efficiency and service quality. Whether utilizing performance standards, making adjustments for inflation, or choosing to contract out a service, decision makers will use this book to apply field-tested techniques to the analysis of a wide variety of issues and opportunities.

The second edition updates the original content with new local government examples. New chapters explore techniques such as sampling analysis, sensitivity analysis, financial condition analysis, and forecasting via trend analysis. Through a number of instructional techniques, the author shows the reader how to apply these tools in their work, making this book an important reference in the office of any practitioner.

Leading Performance Management in Local Government

Published by the International City/County Management Association (ICMA)

Edited by David N. Ammons

This book walks readers through a brief overview of performance measurement and delves into successful performance management practices. It includes impressive results of performance management efforts by local governments of many large U.S. cities, a step-by-step guide for establishing a system designed to get results, what was learned in a North Carolina benchmarking study, the importance of tying performance measures to the nuts and bolts of service delivery systems, the growth of gainsharing as an approach to rewarding employees for achieving results, the success of Compstat—a statistical approach to performance management, success factors in CitiStat, and key options for local governments wishing to adopt this promising approach to performance management. This title is packed with strategies and guidance from noted experts on leadership in government and is a must-read for every local government manager and student of public administration who seeks solid guidance to develop an effective performance management program and to understand its objectives, rewards, challenges, and pitfalls. This is a completely new edition of the 1995 ICMA title, Accountability for Performance: Measurement and Monitoring in Local Government, edited by David Ammons.

Managing Local Government Services: A Practical Guide

2007, published by the International City/County Management Association

Edited by Carl Stenberg and Susan Austin

This comprehensive text on the subject of local government services is relevant to local governments of all sizes. It includes demographic, economic, technological, and cultural trends that affect the management of service delivery. New chapters discuss the shift from "government" to "governance," alternative methods of service delivery, community development, and the five management practices that are fast becoming the standard for professional local government management.

Capital Budgeting and Finance: A Guide for Local Governments

2004, a joint venture of the School of Government and the International City/County Management Association

A. John "Jack" Vogt

This publication is a comprehensive how-to manual for planning and financing capital projects. It clearly explains capital budgeting approaches and methods, especially for local jurisdictions under 200,000 in population, and is a valuable resource for city and county managers, finance and budget officials, planning directors, public works administrators, and other officials involved in decisions to meet public infrastructure and facility needs.

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