NORTH CAROLINA LOCAL GOVERNMENT
PERFORMANCE MEASUREMENT PROJECT

Final Report on City Services for Fiscal Year 2006–2007

PERFORMANCE AND COST DATA

FEBRUARY 2008

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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THE NORTH CAROLINA LOCAL GOVERNMENT BUDGET ASSOCIATION

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CB# 3330 Knapp Building,
The University of North Carolina at Chapel Hill,
Chapel Hill, NC 27599-3330

Preparation and printing of this report were made possible
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Printed in the United States of America

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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, 2007, 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. Eleven 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; Robby Bibby, budget and management analyst, and Antonio Hardeman, budget and management 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, 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 Lucille Fidler and Dan Soileau in the Publications Division and Ryan Davidson who worked on this report as a research assistant.

Dale J. Roenigk
February 2008

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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 twelfth publication representing municipal services. The previous eleven 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).

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, 2007. 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 four 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

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, 2007. 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 fiscal year ended June 30, 2006, 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, 2001, report. 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 represents a new service area added in the most recent 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
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, 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.

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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, 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 pick-up 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. Pick-up 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 2006-07. 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 reflects 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

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	27,780	25,316	28	0%	1 & 3 person	14	2	7	2	6 Miles
Burlington	Curbside	17,536	14,088	25	0%	1 & 2 person	8.5	1	5	2	17 Miles
Carrboro	Curbside	3,700	2,611	9	0%	1 person	1.64	0	2	2	10 Miles
Cary	Curbside	36,500	31,808	44	0%	1 & 4 person	26	3	9	1.5	5 Miles
Charlotte	Curbside	203,297	194,384	295	21%	1 & 2 person	59	9	39	1.5	14 Miles
Concord	Curbside	25,337	24,217	40	100%	2 person	NA	NA	NA	2	8 Miles
Durham	Curbside	68,001	48,719	96	0%	1 & 3 person	57	10	14	2	27 Miles
Gastonia	Curbside	25,423	15,503	23	0%	1 person	5.45	1	4	2	8 Miles
Greensboro	Curbside	65,744	62,088	108	0%	1 & 2 person	45	9	18	2	8 Miles
Hickory	Curbside	11,600	9,422	15	0%	1 person	4.25	1	3	2	5 Miles
High Point	Curbside	35,332	36,805	40	0%	3 person	35	10	0	2	8 Miles
Matthews	Curbside	8,685	8,922	12	100%	2 person	NA	NA	NA	2	15 Miles
Raleigh	Curbside	100,464	84,538	140	0%	1 & 3 person	76	12	24	2	7 Miles
Salisbury	Curbside	10,632	9,041	15	0%	1 & 2 person	9.5	6	0	1	4 Miles
Wilmington	Curbside	28,164	28,552	48	18%	2 & 3 person	39.6	14	0	2	10 Miles
Wilson	Curbside	17,300	18,200	19	0%	1 & 3 person	11	2	5	2	3 Miles
Winston-Salem	Curbside and Backyard	73,500	49,780	128	0%	3 person	104.8	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

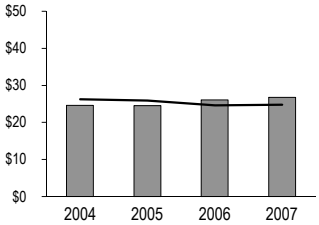
These are factors that the project found to affect residential refuse collection performance and cost in one or more of the municipalities:

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 2007

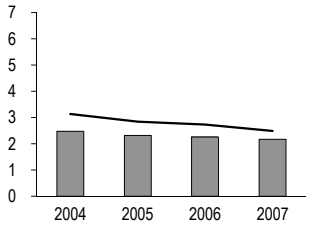
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

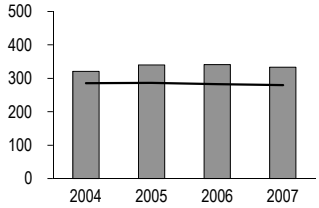
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville	2.48	2.32	2.25	2.17
Average	3.14	2.85	2.74	2.49

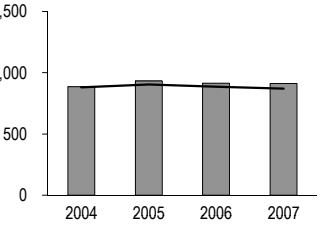
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

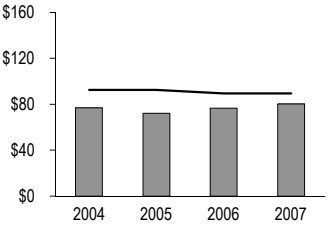
Residential Refuse Tons per 1,000 Collection Points



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

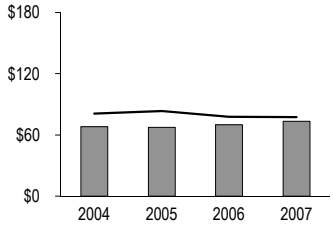
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



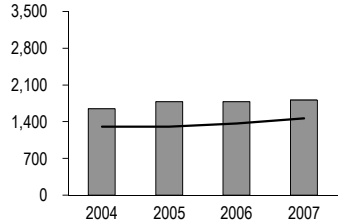
	2004	2005	2006	2007
Asheville	$77	$72	$77	$80
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

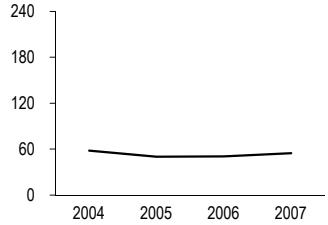
Refuse Tons Collected per Municipal Collection FTE



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

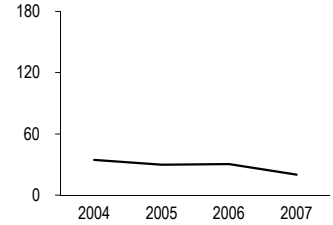
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007
Asheville				
Average	58.2	50.1	50.5	54.8

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007
Asheville				
Average	34.5	30.0	30.4	20.1

Asheville

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
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		34.8%
Operating Costs		47.5%
Capital Costs		17.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	708,469
Operating Costs	$	965,826
Capital Costs	$	360,232
TOTAL	$	2,034,527

SERVICE PROFILE

FTE Positions—Collection	14.0
FTE Positions—Other	2.5
Tons Collected	25,316
Residential Customers (number represents collection points)	27,780
Collection Location (backyard for fee and disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 and 3 person
Percentage of Service Contracted	0%
Service Fee	No
Type of Equipment	7 automated packers 2 packers

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 packers with one driver and two collectors for each truck are used from Monday to Friday for the collection of bulky items, clean-ups, and streets not accessible by automated trucks.

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 25,316 tons of residential refuse during FY 2006–07, at a cost of $80 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.

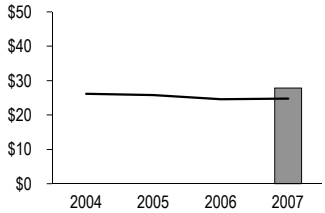
Conditions Affecting Service, Performance, and Costs
Asheville is highly automated in the area of residential refuse collection.

Burlington Residential Refuse Collection

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

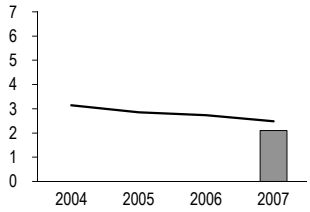
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

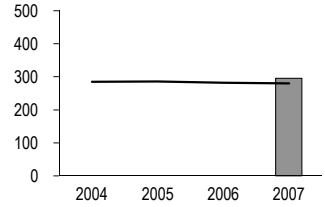
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				2.10
Average	3.14	2.85	2.74	2.49

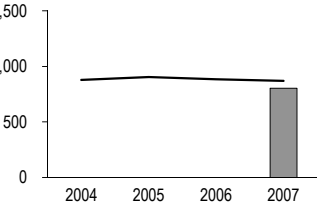
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



	2004	2005	2006	2007
Burlington				295
Average	285	286	282	280

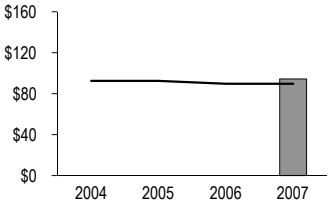
Residential Refuse Tons per 1,000 Collection Points



	2004	2005	2006	2007
Burlington				803
Average	880	904	885	870

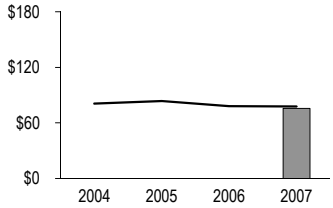
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



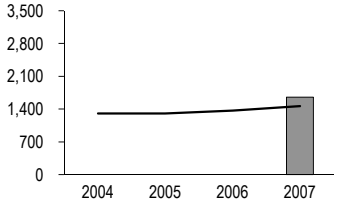
	2004	2005	2006	2007
Burlington				$94
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

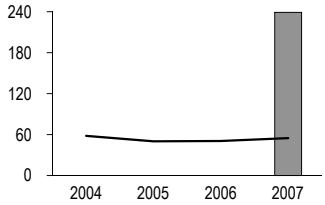
Refuse Tons Collected per Municipal Collection FTE



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

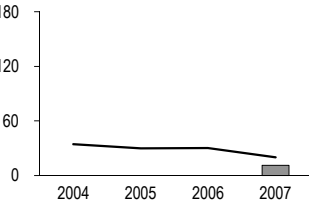
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007
Burlington				239.1
Average	58.2	50.1	50.5	54.8

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007
Burlington				11.2
Average	34.5	30.0	30.4	20.1

Burlington

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
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		31.6%
Operating Costs		39.0%
Capital Costs		29.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	419,703
Operating Costs	$	517,805
Capital Costs	$	390,413
TOTAL	$	1,327,921

SERVICE PROFILE

FTE Positions—Collection	8.50
FTE Positions—Other	1.50
Tons Collected	14,088
Residential Customers (number represents collection points)	17,536
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)	$5.80
Type of Equipment	5 automated packers 1 packer

EXPLANATORY INFORMATION

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

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

The city collected 14,088 tons of residential refuse during FY 2006–07 at a cost of $94 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 $5.80 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.

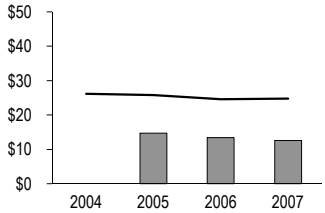
The City of Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006-07.

Carrboro — Residential Refuse Collection

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

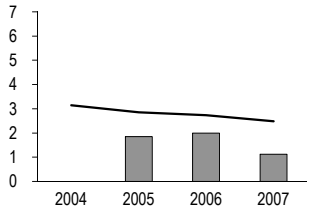
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

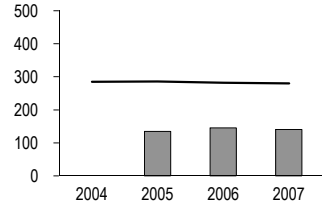
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Carrboro		1.85	1.99	1.12
Average	3.14	2.85	2.74	2.49

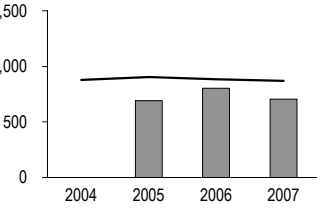
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

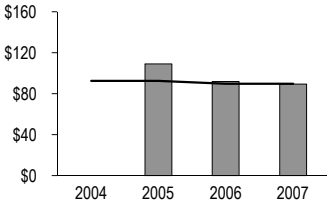
Residential Refuse Tons per 1,000 Collection Points



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

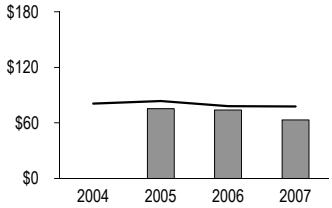
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



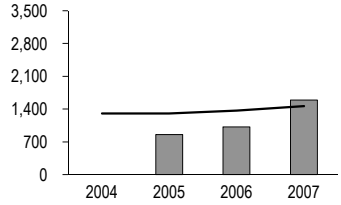
	2004	2005	2006	2007
Carrboro		$109	$92	$89
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

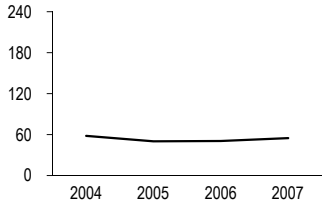
Refuse Tons Collected per Municipal Collection FTE



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

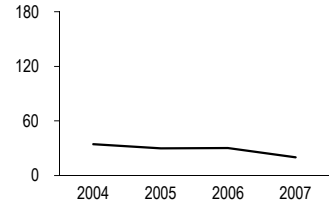
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



	2004	2005	2006	2007
Carrboro				
Average	58.2	50.1	50.5	54.8

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007
Carrboro				
Average	34.5	30.0	30.4	20.1

Carrboro

MUNICIPAL PROFILE

Population (OSBM 2006)	18,611
Land Area (Square Miles)	6.22
Persons per Square Mile	2,992
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		42.0%
Operating Costs		39.8%
Capital Costs		18.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	98,066
Operating Costs	$	92,906
Capital Costs	$	42,496
TOTAL	$	233,468

SERVICE PROFILE

FTE Positions—Collection	1.64
FTE Positions—Other	0.45
Tons Collected	2,611
Residential Customers (number represents collection points)	3,700
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	2 automated packers

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 two automated arm trucks with one driver. One truck collects five days a week while the second truck is only in operation four days per 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 2,611 tons of residential refuse during FY 2006–07 at a cost of $89 per ton. The cost per ton does not include the tipping fee at the landfill of $46.

Residents are required to purchase a ninety-five-gallon container at $47.20. Additional containers may be purchased. While there is no limit on the number of containers per household, no household has more than three.

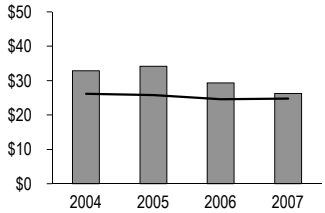
Conditions Affecting Service, Performance, and Costs
The town does not track complaints or valid complaints.

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

Key: Cary ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

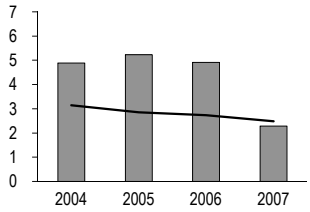
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

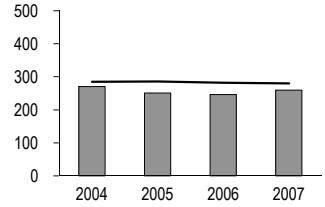
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Cary	4.89	5.24	4.92	2.29
Average	3.14	2.85	2.74	2.49

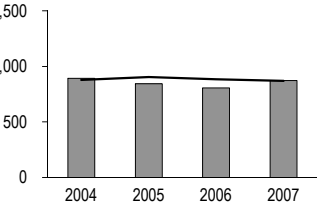
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

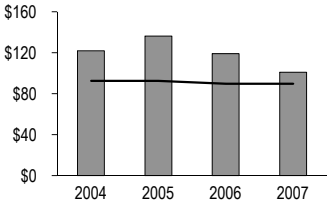
Residential Refuse Tons per 1,000 Collection Points



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

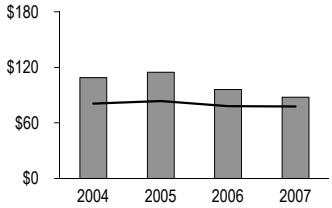
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



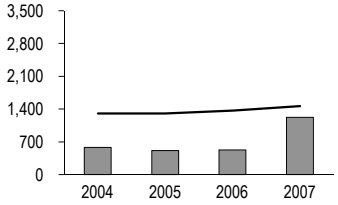
	2004	2005	2006	2007
Cary	$122	$136	$119	$101
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

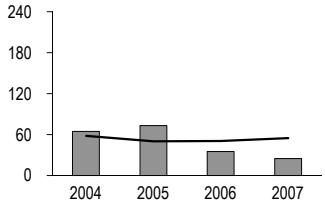
Refuse Tons Collected per Municipal Collection FTE



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

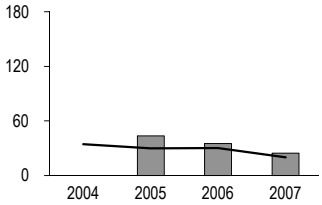
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Cary

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
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		54.0%
Operating Costs		30.6%
Capital Costs		15.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,730,908
Operating Costs	$	982,498
Capital Costs	$	494,902
TOTAL	$	3,208,308

SERVICE PROFILE

FTE Positions—Collection	26.0
FTE Positions—Other	2.0
Tons Collected	31,808
Residential Customers (number represents collection points)	36,500
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	9 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 a transition 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 used nine automated trucks with one driver, two rear loaders with one driver and three collectors, and one rear loader with two drivers and two collectors. A total of forty-four collection routes were used during FY 2006–07, with 1.5 average trips to the transfer station per day per route. The average distance to the transfer station was five miles.

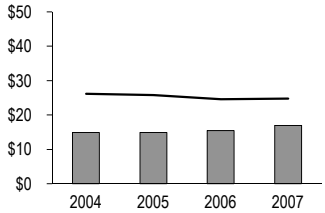
The town collected 31,808 tons of residential refuse during FY 2006–07 at a cost of $101 per ton. The cost per ton does not include the disposal cost of $35, representing the transfer station cost and the county landfill tipping fee. Residents use one ninety-five-gallon receptacle.

Conditions Affecting Service, Performance, and Costs

Key: Charlotte ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

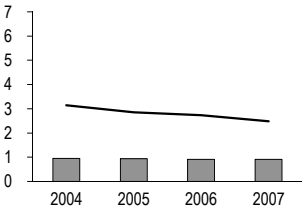
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

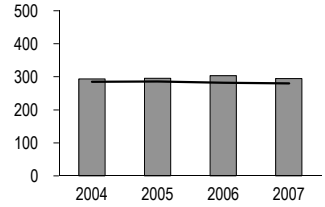
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Charlotte	0.95	0.93	0.91	0.91
Average	3.14	2.85	2.74	2.49

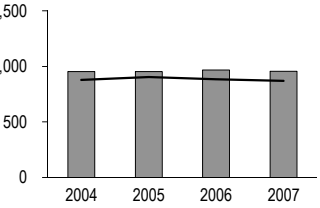
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

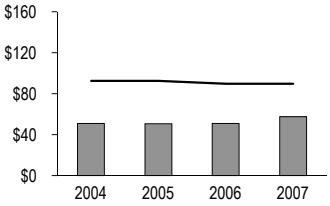
Residential Refuse Tons per 1,000 Collection Points



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

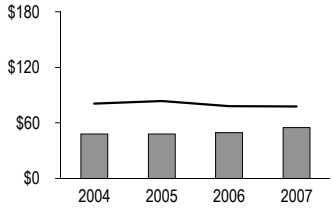
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



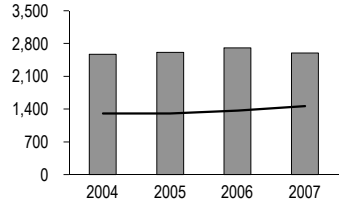
	2004	2005	2006	2007
Charlotte	$51	$51	$51	$58
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

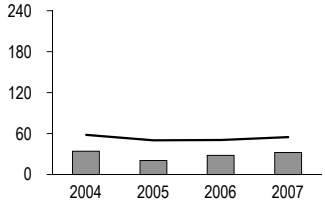
Refuse Tons Collected per Municipal Collection FTE



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

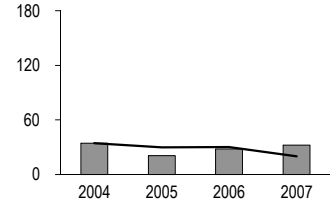
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2006)	660,930
Land Area (Square Miles)	281.98
Persons per Square Mile	2,344
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		26.9%
Operating Costs		60.0%
Capital Costs		13.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,005,803
Operating Costs	$	6,705,760
Capital Costs	$	1,467,760
TOTAL	$	11,179,323

SERVICE PROFILE

FTE Positions—Collection	59.00
FTE Positions—Other	1.35
Tons Collected	194,384
Residential Customers (number represents collection points)	203,297
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 2 person
Percentage of Service Contracted	21%
Service Fee	No
Type of Equipment	39 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 2006–07.

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 2006–07, the city provided service to three of the four zones. One zone was serviced by the private sector at a cost of $2,469,299 and covered approximately 21 percent of the collection points.

City crews are composed primarily of one driver each, operating an automated packer. There were thirty-nine of these crews for FY 2006–07. In addition, five crews composed of one driver and one laborer collected refuse using semi-automated packers. These crews are used primarily for backyard service for those citizens with disabilities and some multi-family complexes with less than thirty units. Small business garbage is collected by four crews, composed of one driver and one laborer, using rear loaders. Costs include reserve crews that were used as needed throughout the year. The contractor used eleven automated crews.

The city serviced 295 daily collection routes once each week during FY 2006–07, 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 194,384 tons of residential refuse during the fiscal year at a cost of $58 per ton. The cost per ton does not include the disposal cost of $25, representing the landfill tipping fee. Charlotte defines an automated packer as one operated by a one-person crew and having a mechanical lift that picks up the roll-out containers. Rear loaders or packers are operated by two-person crews and are equipped with tippers for loading garbage into the rear of the trucks.

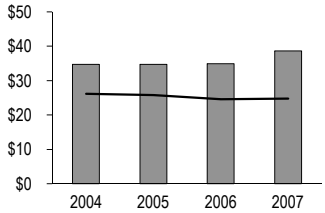
Conditions Affecting Service, Performance, and Costs
Charlotte is highly automated in the area of residential refuse collection. It also uses managed competition for this service and considers all complaints to be valid complaints.

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

Key: Concord ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

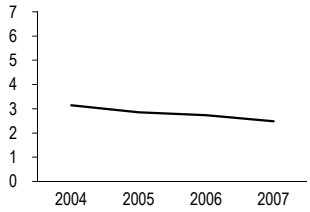
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

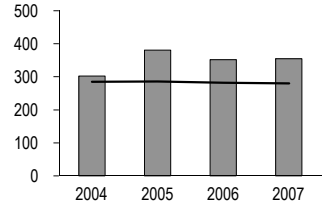
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Concord				
Average	3.14	2.85	2.74	2.49

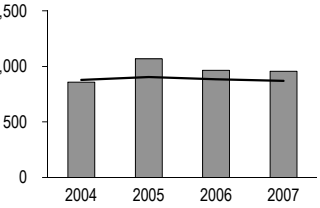
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

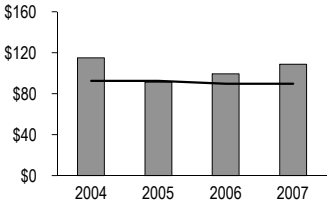
Residential Refuse Tons per 1,000 Collection Points



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

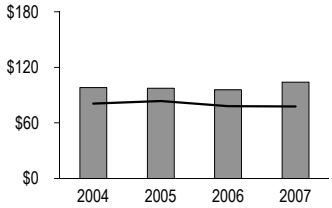
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



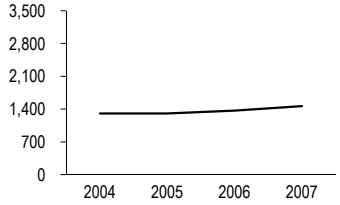
	2004	2005	2006	2007
Concord	$115	$91	$99	$109
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

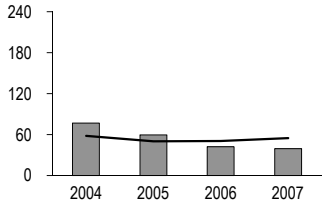
Refuse Tons Collected per Municipal Collection FTE



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

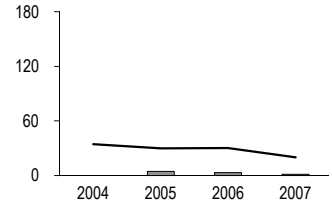
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Concord

MUNICIPAL PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
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		1.8%
Operating Costs		98.0%
Capital Costs		0.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	48,236
Operating Costs	$	2,582,024
Capital Costs	$	3,883
TOTAL	$	2,634,143

SERVICE PROFILE

FTE Positions—Collection	0.8
FTE Positions—Other	0.2
Tons Collected	24,217
Residential Customers (number represents collection points)	25,337
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 2006–07 under contract, with an annual cost of approximately $2.37 million.

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

The city serviced forty collection routes per day during FY 2006–07, 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 24,217 tons of residential refuse during the fiscal year at a cost of $109 per ton.

Concord defines automated packers as trucks with mechanical arms that lift the carts without the driver exiting the truck. Packer trucks are side-loading vehicles requiring carts to be manually moved to the truck. Rear-loaders are packer trucks that are loaded at the rear and have tippers.

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.

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

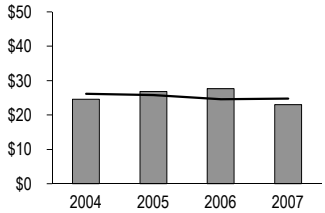
Concord defines valid complaints to mean any missed collection or request for service as determined by the city to result from contractor negligence or omission. Due to manpower shortages in FY 2006-07, city staff were unable to determine the validity of as many complaints as usual.

Durham Residential Refuse Collection

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

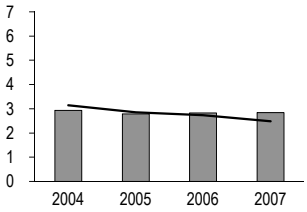
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

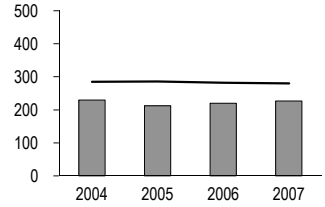
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Durham	2.93	2.78	2.82	2.84
Average	3.14	2.85	2.74	2.49

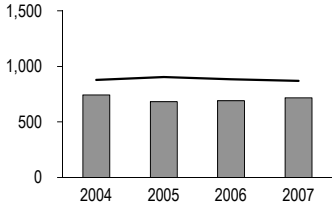
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

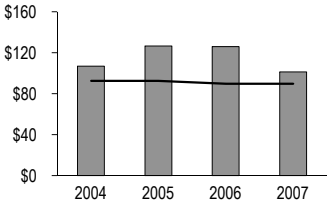
Residential Refuse Tons per 1,000 Collection Points



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

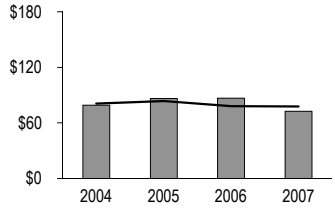
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



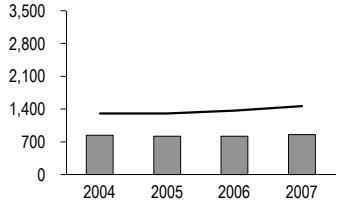
	2004	2005	2006	2007
Durham	$107	$126	$126	$101
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

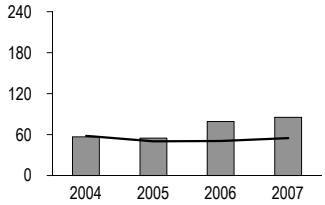
Refuse Tons Collected per Municipal Collection FTE



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

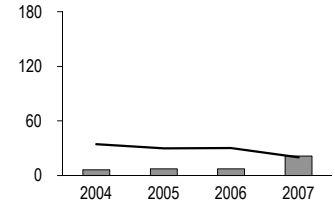
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Durham

MUNICIPAL PROFILE

Population (OSBM 2006)	214,559
Land Area (Square Miles)	103.67
Persons per Square Mile	2,070
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		53.0%
Operating Costs		32.6%
Capital Costs		14.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,619,707
Operating Costs	$	1,612,574
Capital Costs	$	707,893
TOTAL	$	4,940,174

SERVICE PROFILE

FTE Positions—Collection	57.0
FTE Positions—Other	4.0
Tons Collected	48,719
Residential Customers (number represents collection points)	68,001
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-five crews during FY 2006–07. 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. One one-person crew was used to service backdoor customers exempt from automated routes. Residents use one to four ninety-six-gallon capacity containers.

The city serviced ninety-six routes in FY 2006–07. The packers made an average of two trips to the disposal facility per day per route. The city used a transfer station during FY 2006–07.

Durham collected 48,719 tons of residential refuse during the fiscal year at a cost of $101 per ton. The cost per ton does not include the disposal cost of $39.50, representing the landfill tipping fee.

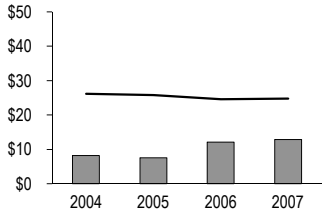
Durham defines an automated packer as a truck with cart lifts on the rear. These lifts are used to pick up the containers and dump the garbage into the rear of the truck.

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 2007

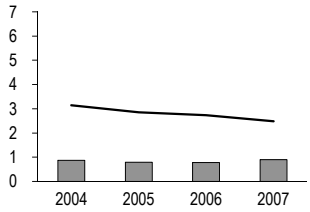
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

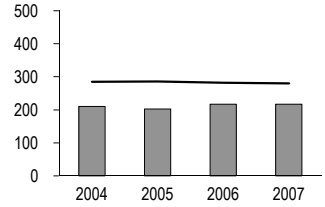
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Gastonia	0.87	0.79	0.78	0.90
Average	3.14	2.85	2.74	2.49

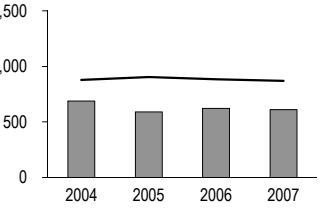
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

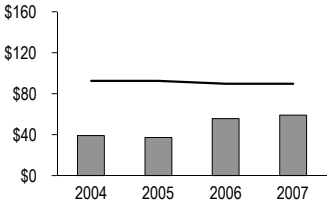
Residential Refuse Tons per 1,000 Collection Points



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

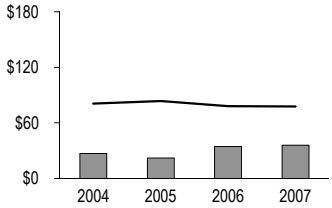
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



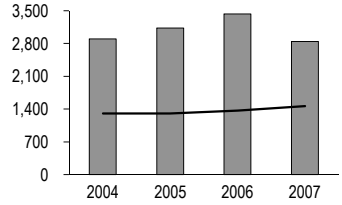
	2004	2005	2006	2007
Gastonia	$39	$37	$56	$59
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

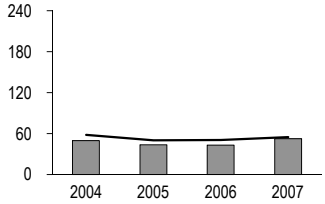
Refuse Tons Collected per Municipal Collection FTE



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

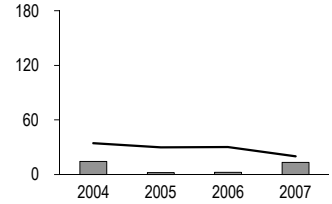
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2006)	71,376
Land Area (Square Miles)	49.65
Persons per Square Mile	1,438
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		27.0%
Operating Costs		66.9%
Capital Costs		6.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	246,938
Operating Costs	$	612,350
Capital Costs	$	55,793
TOTAL	$	915,081

SERVICE PROFILE

FTE Positions—Collection	5.45
FTE Positions—Other	1.00
Tons Collected	15,503
Residential Customers (number represents collection points)	25,423
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	4 automated packers 1 packer

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.

Four one-person crews operate automated packers to collect residential refuse. A fifth crew using a read loader with one driver and two collectors is also used half-time to help service new growth in the city. Each resident is provided with one ninety-six-gallon roll-out cart.

The city serviced twenty-two routes in FY 2006–07. For each route, crews averaged two trips per day to the disposal facility, which was an average distance of eight miles from each collection route.

Gastonia collected 15,503 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 $30.32, 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.

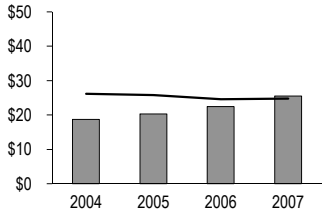
A valid complaint is one where the driver does not inform the office staff of a problem either in writing or by radio.

Greensboro Residential Refuse Collection

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

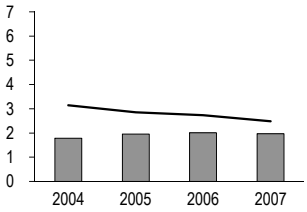
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

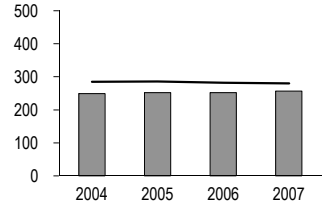
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Greensboro	1.79	1.95	2.00	1.96
Average	3.14	2.85	2.74	2.49

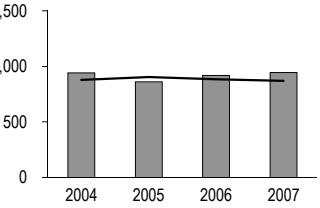
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

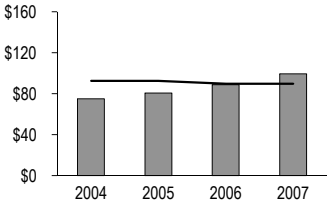
Residential Refuse Tons per 1,000 Collection Points



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

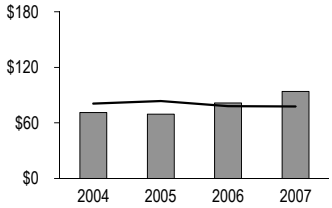
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



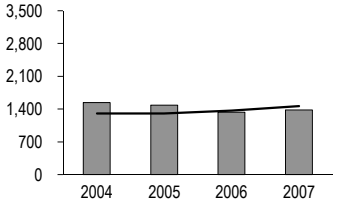
	2004	2005	2006	2007
Greensboro	$75	$81	$89	$99
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

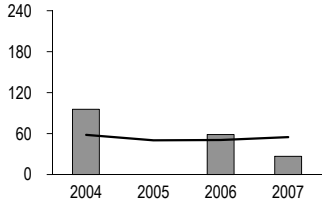
Refuse Tons Collected per Municipal Collection FTE



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

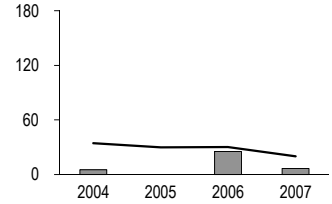
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2006)	241,767
Land Area (Square Miles)	118.06
Persons per Square Mile	2,048
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		31.6%
Operating Costs		68.4%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,951,002
Operating Costs	$	4,226,143
Capital Costs	$	-
TOTAL	$	6,177,145

SERVICE PROFILE

FTE Positions—Collection	45.0
FTE Positions—Other	2.5
Tons Collected	62,088
Residential Customers (number represents collection points)	65,744
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 9 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-nine city crews for FY 2006–07. 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. There are also two one-person crews providing scheduled appliance collection.

The city used 108 collection routes during the fiscal year, with each packer making an average of two trips per day to the disposal facility averaging about eight miles. The city does not use a solid waste transfer station.

The city collected 62,088 tons of residential refuse during FY 2006–07 at a cost of $99 per ton. Greensboro operates its own 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.

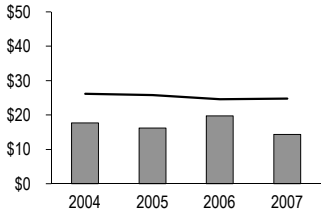
Greensboro's total tons collected includes bulk trash, which is collected along with residential refuse, and cannot be separated for reporting purposes.

Greensboro began utilizing new software which has allowed better tracking of complaints.

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

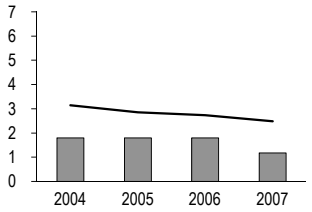
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

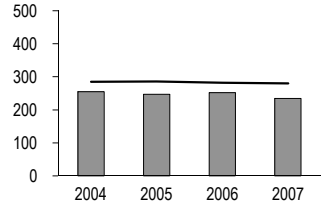
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory	1.80	1.80	1.79	1.18
Average	3.14	2.85	2.74	2.49

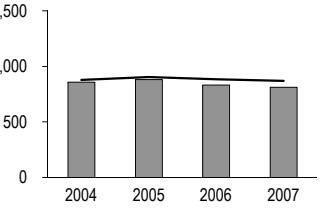
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

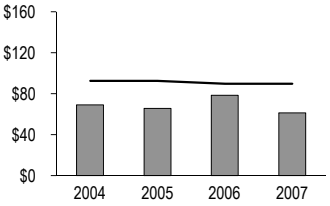
Residential Refuse Tons per 1,000 Collection Points



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

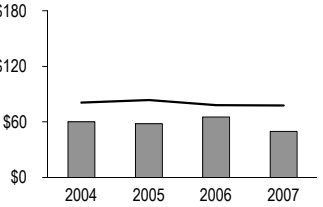
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



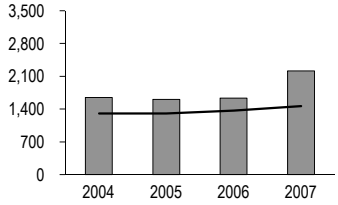
	2004	2005	2006	2007
Hickory	$69	$66	$78	$61
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

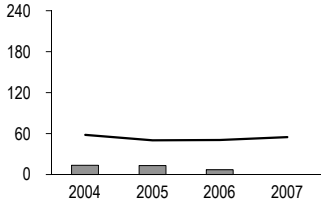
Refuse Tons Collected per Municipal Collection FTE



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

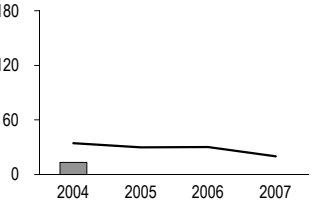
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



	2004	2005	2006	2007
Hickory	13.4			
Average	34.5	30.0	30.4	20.1

Hickory

MUNICIPAL PROFILE

Population (OSBM 2006)	40,214
Land Area (Square Miles)	28.95
Persons per Square Mile	1,389
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		31.5%
Operating Costs		38.5%
Capital Costs		30.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	182,160
Operating Costs	$	222,347
Capital Costs	$	173,020
TOTAL	$	577,527

SERVICE PROFILE

FTE Positions—Collection	4.25
FTE Positions—Other	0.5
Tons Collected	9,422
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)	$8
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 $8 per cart was charged for residential refuse collection service during FY 2006–07. 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 back yards.

Fifteen collection routes were employed during FY 2006–07, 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 9,422 tons of residential refuse during FY 2006–07 at a cost of $61 per ton. The cost per ton does not include the disposal cost of $30, representing the tipping fee at the Catawba County landfill. Hickory also used a transfer station during FY 2006–07.

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.

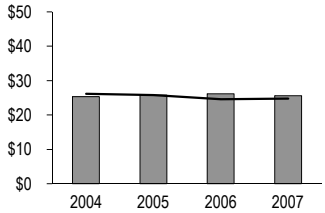
Hickory did not track complaints in FY 2005–06.

High Point — Residential Refuse Collection

Key: High Point ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

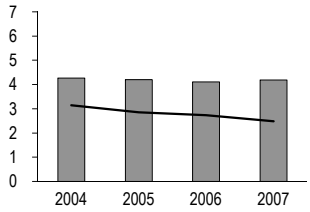
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

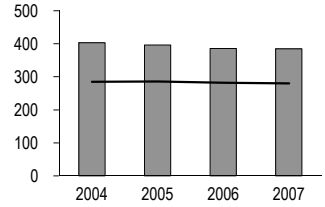
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	4.26	4.21	4.11	4.18
Average	3.14	2.85	2.74	2.49

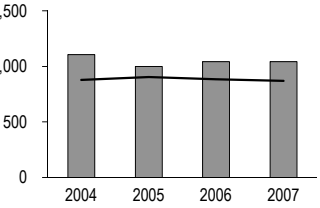
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

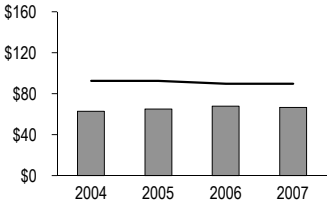
Residential Refuse Tons per 1,000 Collection Points



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

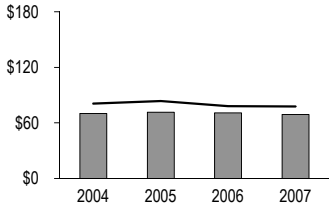
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



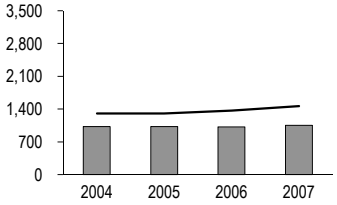
	2004	2005	2006	2007
High Point	$63	$65	$68	$66
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

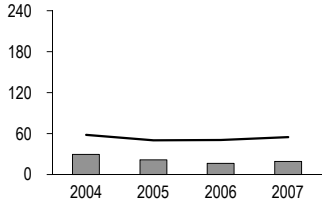
Refuse Tons Collected per Municipal Collection FTE



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

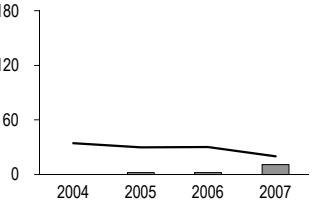
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
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		58.7%
Operating Costs		30.9%
Capital Costs		10.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,435,688
Operating Costs	$	756,957
Capital Costs	$	253,196
TOTAL	$	2,445,841

SERVICE PROFILE

FTE Positions—Collection	35.0
FTE Positions—Other	5.0
Tons Collected	36,805
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 36,805 tons of residential refuse during FY 2006–07 at a cost of $66 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.

Total tons represent 36,805 tons of residential refuse collected by city crews. The contract crews at multi-family units collected 8,833 tons. The contract totaled $446,000 for the fiscal year. These tons and costs are not included in this service reporting.

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.

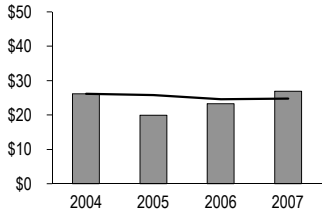
Conditions Affecting Service, Performance, and Costs
"Tons collected per collection FTE" includes only the tons collected by city crews.

Matthews Residential Refuse Collection

Key: Matthews ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

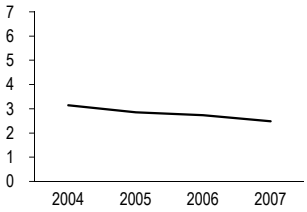
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

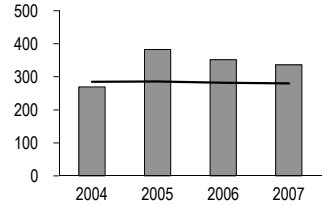
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Matthews				
Average	3.14	2.85	2.74	2.49

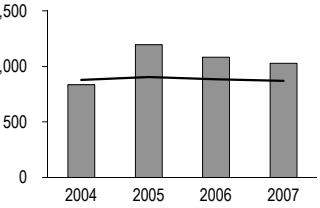
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

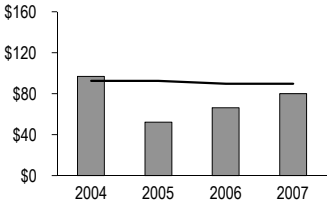
Residential Refuse Tons per 1,000 Collection Points



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

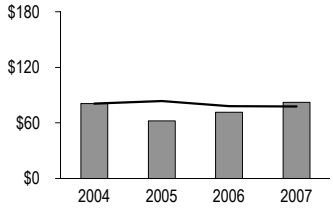
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



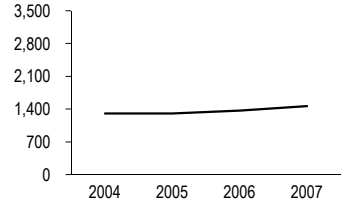
	2004	2005	2006	2007
Matthews	$97	$52	$66	$80
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

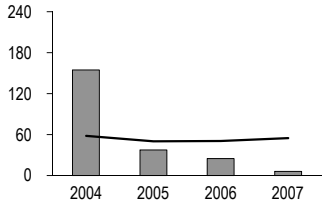
Refuse Tons Collected per Municipal Collection FTE



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

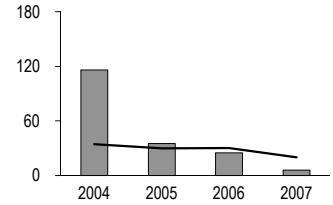
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Matthews

MUNICIPAL PROFILE

Population (OSBM 2006)	26,554
Land Area (Square Miles)	16.63
Persons per Square Mile	1,597
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	$	715,110
Capital Costs	$	-
TOTAL	$	715,110

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	8,922
Residential Customers (number represents collection points)	8,685
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 2006–07 under contract, with an estimated annual cost of $682,392 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 2006–07, 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.

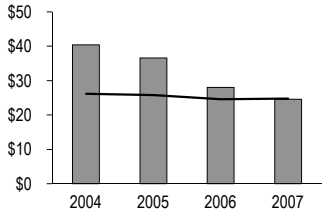
The contractor collected 8,922 tons of residential refuse during the fiscal year at a cost of $80 per ton. The cost per ton does not include the $22.50 tipping fee charged by the landfill.

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 2007

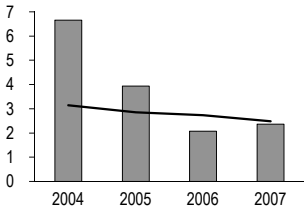
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

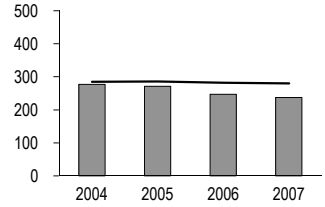
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Raleigh	6.66	3.94	2.07	2.36
Average	3.14	2.85	2.74	2.49

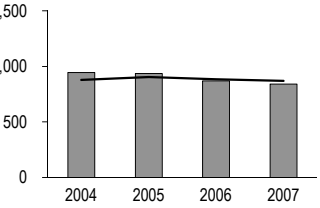
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

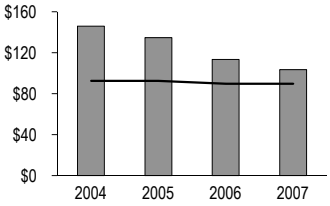
Residential Refuse Tons per 1,000 Collection Points



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

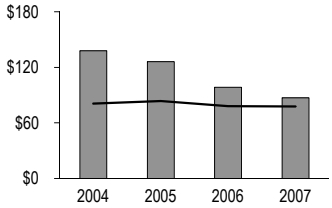
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



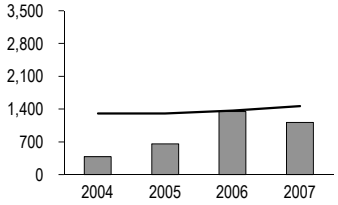
	2004	2005	2006	2007
Raleigh	$146	$135	$113	$103
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

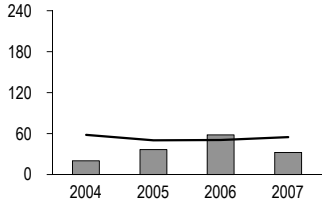
Refuse Tons Collected per Municipal Collection FTE



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

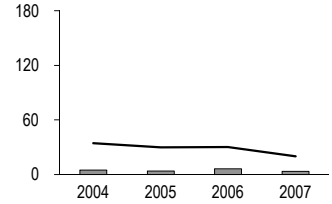
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Raleigh

MUNICIPAL PROFILE

Population (OSBM 2006)	355,902
Land Area (Square Miles)	133.91
Persons per Square Mile	2,658
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		55.8%
Operating Costs		29.1%
Capital Costs		15.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,880,493
Operating Costs	$	2,545,417
Capital Costs	$	1,319,255
TOTAL	$	8,745,165

SERVICE PROFILE

FTE Positions—Collection	76.0
FTE Positions—Other	8.0
Tons Collected	84,538
Residential Customers (number represents collection points)	100,464
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)	$8.30
Type of Equipment	24 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 $8.30 that provides revenue for all solid waste management activities, including residential refuse collection.

Forty-one crews were employed during FY 2006–07. Twenty-four crews use automated trucks with one driver, twelve crews use loaders with one driver and two collectors, four crews used one drive for collections for customers needing assistance, and one crew with one driver and one collector was used for the central business district.

One hundred forty collection routes were used during FY 2006–07, 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 84,538 tons of residential refuse during FY 2006–07, at a cost of $103 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.

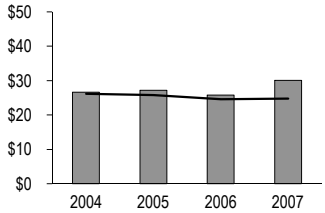
Conditions Affecting Service, Performance, and Costs
Valid complaints include incidents when garbage pickup in proper containers at the appropriate location is missed, spilled garbage, and damage to containers.

Salisbury — Residential Refuse Collection

Key: Salisbury ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

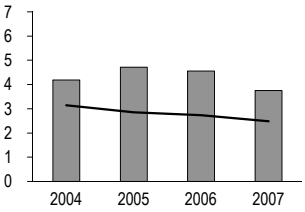
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

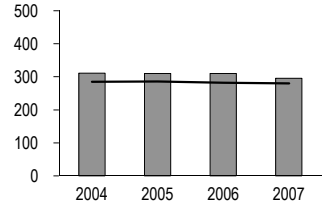
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury	4.19	4.71	4.56	3.75
Average	3.14	2.85	2.74	2.49

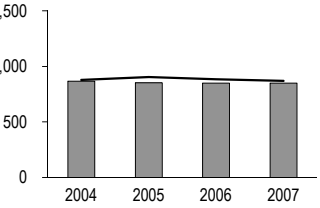
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

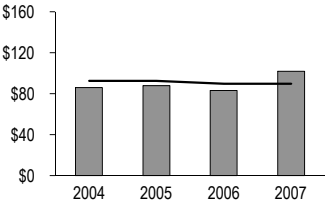
Residential Refuse Tons per 1,000 Collection Points



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

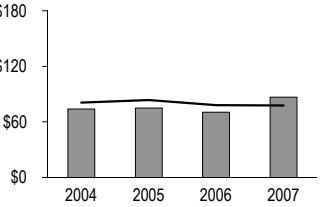
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



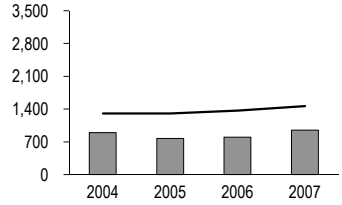
	2004	2005	2006	2007
Salisbury	$86	$88	$83	$102
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

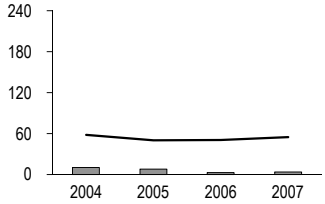
Refuse Tons Collected per Municipal Collection FTE



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

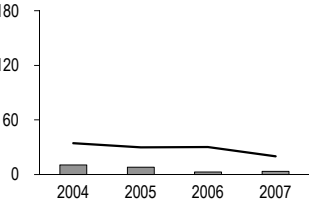
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
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		49.3%
Operating Costs		35.7%
Capital Costs		15.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	454,825
Operating Costs	$	328,832
Capital Costs	$	138,465
TOTAL	$	922,122

SERVICE PROFILE

FTE Positions—Collection	9.50
FTE Positions—Other	2.00
Tons Collected	9,041
Residential Customers (number represents collection points)	10,632
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	1 & 2 person
Percentage of Service Contracted	0%
Service Fee (monthly)	$2.98
Type of Equipment	6 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 six crews during FY 2006–07, three composed of one driver and three with two driver-operators. Six semi-automated packers were used during the fiscal year. 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 9,041 tons of residential refuse during FY 2006–07 at a cost per ton of $102. Not included in the cost per ton was a $34.50 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.

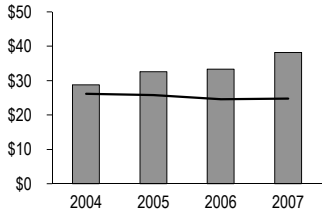
Conditions Affecting Service, Performance, and Costs
Salisbury's total tons collected includes bulk trash, which is collected along with residential refuse and cannot be separated for reporting purposes.

Wilmington — Residential Refuse Collection

Key: Wilmington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

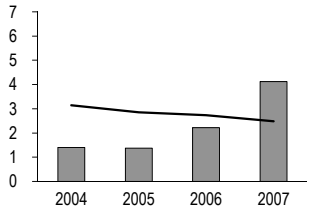
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

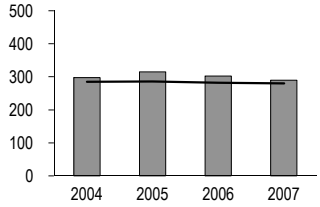
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Wilmington	1.40	1.37	2.21	4.12
Average	3.14	2.85	2.74	2.49

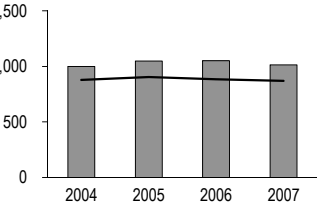
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

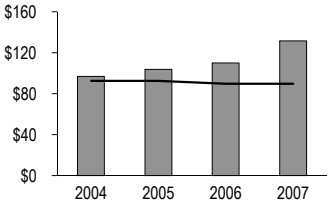
Residential Refuse Tons per 1,000 Collection Points



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

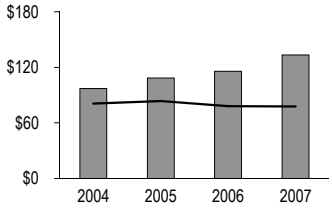
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



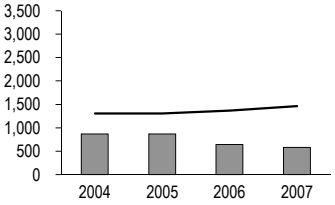
	2004	2005	2006	2007
Wilmington	$97	$104	$110	$132
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

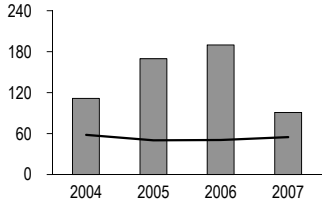
Refuse Tons Collected per Municipal Collection FTE



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

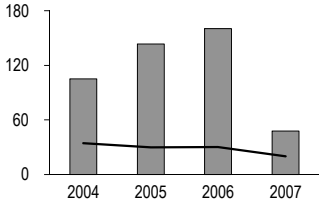
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2006)	98,529
Land Area (Square Miles)	49.20
Persons per Square Mile	2,003
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		34.3%
Operating Costs		57.3%
Capital Costs		8.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,289,650
Operating Costs	$	2,152,300
Capital Costs	$	317,495
TOTAL	$	3,759,445

SERVICE PROFILE

FTE Positions—Collection	39.6
FTE Positions—Other	1.0
Tons Collected	28,552
Residential Customers (number represents collection points)	28,164
Collection Location (backyard for disabled)	Curbside
Collection Frequency	1 x week
Size of Crews (most commonly used)	2 & 3 person
Percentage of Service Contracted	18%
Service Fee	$19.10 for maxi $16.10 for mini
Type of Equipment	13 packers 1 mini-packer

EXPLANATORY INFORMATION

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

A volume-based fee system is used to finance residential refuse collection. This is designed to encourage residents to reduce the amount of refuse they generate. The city charged a monthly fee of $19.10 for ninety-gallon carts and $16.10 for forty-gallon carts during FY 2006–07.

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

The city used the following crews during the fiscal year for residential refuse collection: ten crews of one driver and two collectors, two crews with one driver and one collector, another crew with one driver and one collector working part-time, and two crews with drivers working in the central business district. All crews use semi-automated packer trucks.

Forty-eight collection routes were used during FY 2006–07, with an average of two trips per route per day to the landfill. The average distance to the landfill was 9.5 miles. The city collected 28,552 tons of residential refuse during FY 2006–07 at a cost of $132 per ton. The cost per ton does not include the disposal cost of $46 for the landfill tipping fee.

City crews collected 23,117 tons of the total. Before bringing all of the refuse collection in house, the city contracted 18 percent of the residential refuse service to private haulers during FY 2006–07 at a cost of $348,313. While the cost and tonnage are included in the performance and cost data, the "tons collected per collection FTE" measure is based only on city workers.

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

Conditions Affecting Service, Performance, and Costs
The performance measure "tons collected per collection FTE" represents city crews only. The downtown crews provide specialized cleaning in the central business district beyond normal refuse collection.

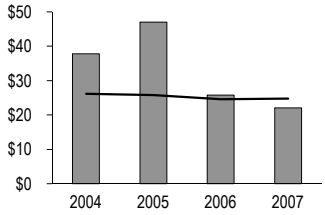
Wilmington defines a valid complaint as any complaint registered if there is no evidence to dispute it. The high level of complaints in prior years was one of the reasons for bringing back more of refuse collection under city operations.

Wilson — Residential Refuse Collection

Key: Wilson ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

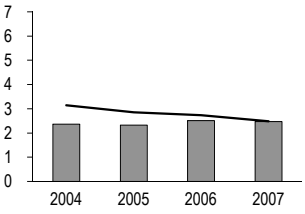
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

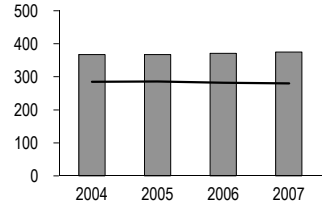
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Wilson	2.36	2.32	2.51	2.47
Average	3.14	2.85	2.74	2.49

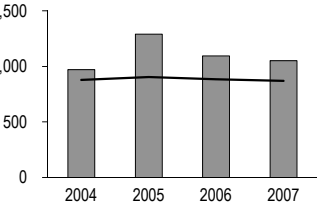
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

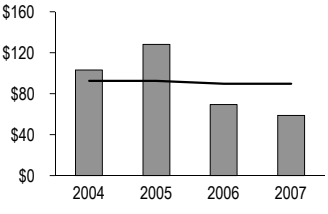
Residential Refuse Tons per 1,000 Collection Points



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

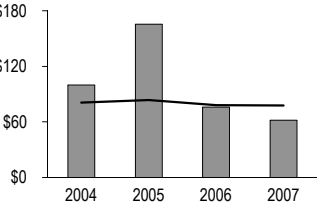
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



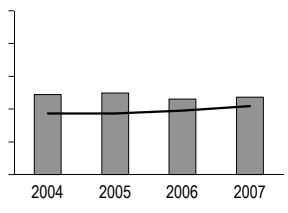
	2004	2005	2006	2007
Wilson	$103	$128	$70	$59
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

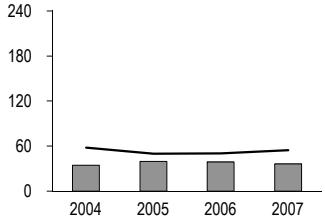
Refuse Tons Collected per Municipal Collection FTE



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

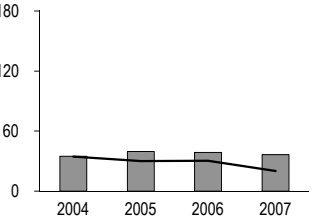
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Wilson

MUNICIPAL PROFILE

Population (OSBM 2006)	48,562
Land Area (Square Miles)	28.16
Persons per Square Mile	1,725
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		45.0%
Operating Costs		30.8%
Capital Costs		24.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	481,970
Operating Costs	$	329,753
Capital Costs	$	259,211
TOTAL	$	1,070,934

SERVICE PROFILE

FTE Positions—Collection	11.0
FTE Positions—Other	1.0
Tons Collected	18,200
Residential Customers (number represents collection points)	17,300
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)	$12.50
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 $12.50 fee per household for residential refuse collection service.

The city used five one-person crews during FY 2006–07 working from automated packers. The city also used two three-person crews composed of one driver and two collectors working from semi-automated rear loaders. Residents are required to use ninety-six-gallon roll-out containers.

The city serviced nineteen collection routes in a week during FY 2006–07. The packers made an average of two trips to the disposal facility per day per route with the distance to the transfer station being three miles.

Wilson collected 18,200 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 $34.88, 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.

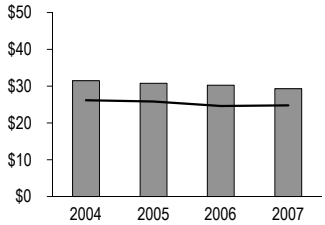
The drop in cost per ton and cost per collection point in FY 2005-06 was not due to service changes but primarily to a more accurate accounting of the costs associated with residential refuse collection in Wilson.

Winston-Salem Residential Refuse Collection

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

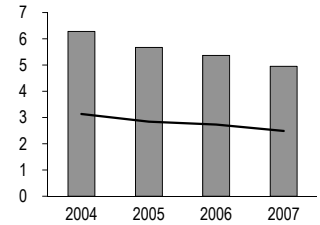
RESOURCE Measures

Residential Refuse Collection Costs per Capita



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

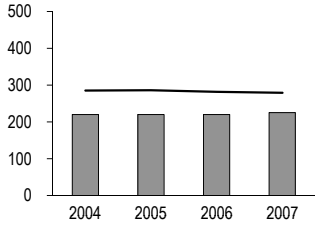
Residential Refuse Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	6.28	5.67	5.37	4.95
Average	3.14	2.85	2.74	2.49

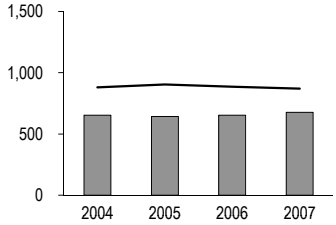
WORKLOAD Measures

Residential Refuse Tons per 1,000 Population



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

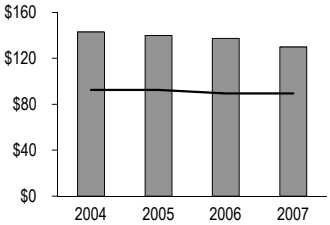
Residential Refuse Tons per 1,000 Collection Points



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

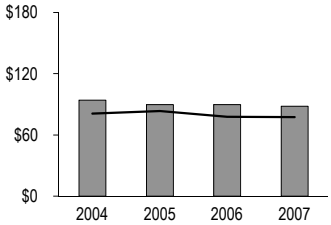
EFFICIENCY Measures

Residential Refuse Collection Cost per Ton Collected



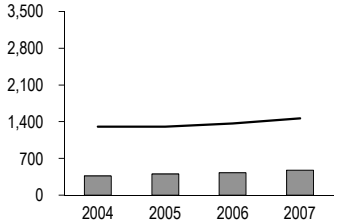
	2004	2005	2006	2007
Winston-Salem	$143	$140	$137	$130
Average	$93	$93	$90	$90

Residential Refuse Collection Cost per Collection Point



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

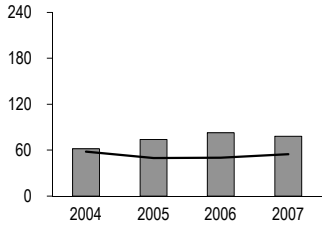
Refuse Tons Collected per Municipal Collection FTE



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

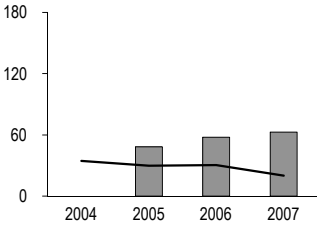
EFFECTIVENESS Measures

Complaints per 1,000 Collection Points



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

Valid Complaints per 1,000 Collection Points



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

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.22
Persons per Square Mile	1,659
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		63.9%
Operating Costs		24.4%
Capital Costs		11.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,133,342
Operating Costs	$	1,577,435
Capital Costs	$	761,288
TOTAL	$	6,472,065

SERVICE PROFILE

FTE Positions—Collection	104.80
FTE Positions—Other	4.60
Tons Collected	49,780
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	33 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 one three-person crew for special collections using smaller rear-loading packers.

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 2006–07.

The city collected 49,780 tons of residential refuse during FY 2006–07 from 73,500 collection points. The cost per ton was $130, which does not include the tipping fee of $34 per ton. The city used one hundred and twenty-eight collection routes during the fiscal year with an average of one trip per route per day to the landfill. The average distance to the landfill was ten miles.

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.

Winston-Salem annexed 19,059 residents effective September 30,2006. The annexed areas are comprised of 8,579 dwelling units, twenty square miles, and eighty-six miles of streets. As a result of the effective date, the additional costs reported for the benchmarking project only reflect nine months of service to these newly annexed areas.

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

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	26,022	80%	7,114	22%	98%	0
Burlington	0	3	1 x 2 weeks	Yes	16,966	58%	2,035	13%	94%	0
Cary	1	0	1 x week	Yes	37,521	71%	8,405	21%	0%	17
Charlotte	0	0	1 x week	Yes	199,488	43%	30,977	14%	13%	38
Concord	0	1	1 x week	No	25,337	61%	2,497	9%	93%	0.8
Durham	1	6	1 x week	Yes	67,000	50%	9,646	17%	100%	0
Gastonia	0	1	1 x week	Yes	3,387	8%	404	3%	90%	0
Greensboro	5	4	1 x week	No	65,744	37%	17,149	22%	0%	13
Hickory	2	18	1 x week	Yes	11,207	66%	1,888	17%	75%	0.6
High Point	13	0	1 x week	Yes	35,332	51%	6,089	14%	0%	10.25
Matthews	0	2	1 x week	Yes	8,435	52%	1,233	12%	100%	0
Raleigh	3	3	1 x week	Yes	100,464	48%	18,939	18%	1%	78
Salisbury	0	0	1 x week	Yes	11,400	20%	1,532	14%	100%	0
Wilmington	0	0	1 x week	Yes	14,260	48%	4,454	13%	23%	10.4
Wilson	0	0	1 x week	No	19,300	30%	1,419	7%	0%	6
Winston-Salem	9	0	1 x week	Yes	73,500	48%	10,308	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:

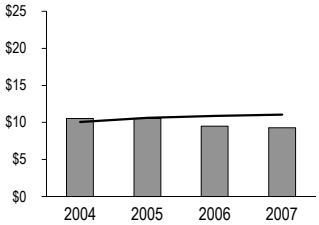
Types of items eligible for recycling
Landfill tipping fees for solid waste
Commitment of city officials to recycling
Number of drop-off centers
Community education
Market prices for recyclable materials
Demographic makeup of community

Asheville — Household Recycling

Key: Asheville ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

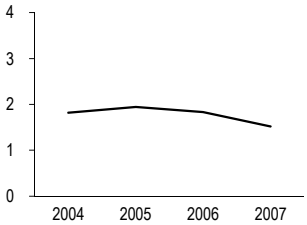
RESOURCE Measures

Recycling Services Cost per Capita



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

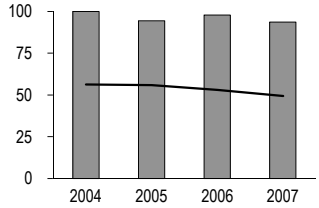
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville				
Average	1.82	1.95	1.83	1.52

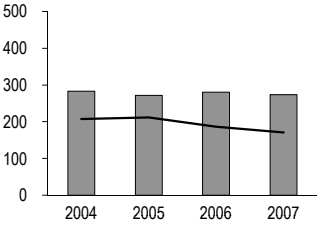
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



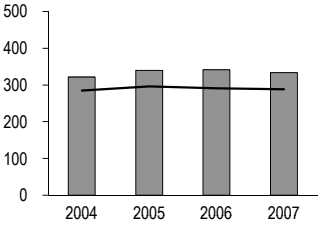
	2004	2005	2006	2007
Asheville	100	95	98	94
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

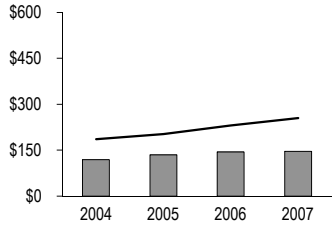
Tons Solid Waste Landfilled per 1,000 Population



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

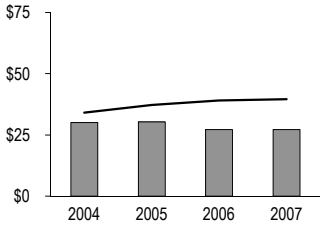
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



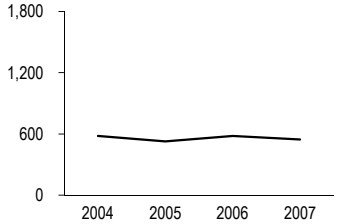
	2004	2005	2006	2007
Asheville	$119	$135	$144	$146
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

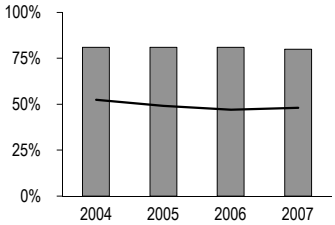
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Asheville				
Average	580	528	580	547

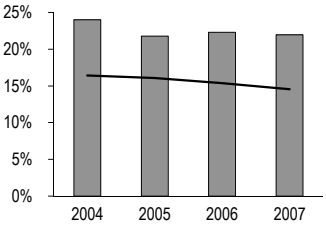
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Asheville

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
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	$	705,613
Capital Costs	$	-
TOTAL	$	705,613

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	7,114
Collection Points	26,022
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 2006–07.

Asheville charges a $2.63 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 and no. 2 plastic bottles
- aluminum and steel cans
- telephone books (seasonal)

Residents living within the city of Asheville are encouraged to participate in the curbside recycling program. The program serves 26,022 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 Curbside Management Incorporated is paid for by Buncombe County through an intergovernmental agreement. 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."

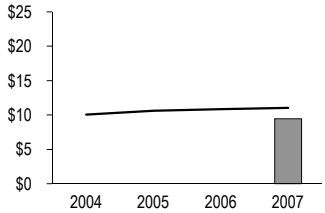
The set-out rate is based on the contractor's estimate in monthly reports.

Burlington Household Recycling

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

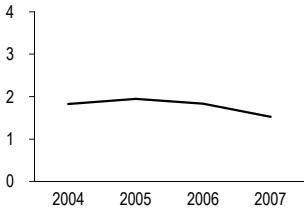
RESOURCE Measures

Recycling Services Cost per Capita



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

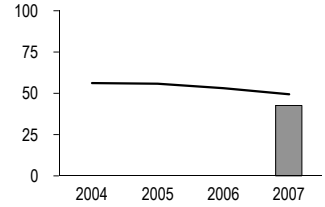
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				
Average	1.82	1.95	1.83	1.52

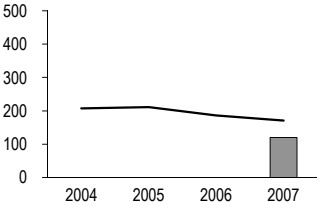
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



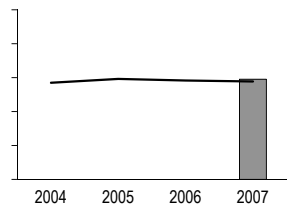
	2004	2005	2006	2007
Burlington				43
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



	2004	2005	2006	2007
Burlington				120
Average	207	212	187	171

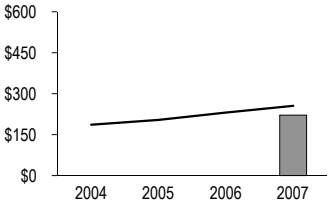
Tons Solid Waste Landfilled per 1,000 Population



	2004	2005	2006	2007
Burlington				295
Average	285	296	291	289

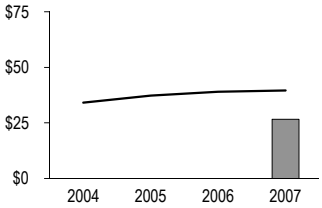
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



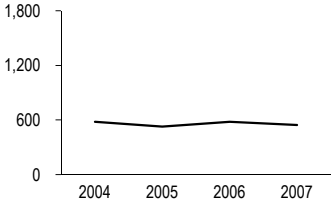
	2004	2005	2006	2007
Burlington				$222
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

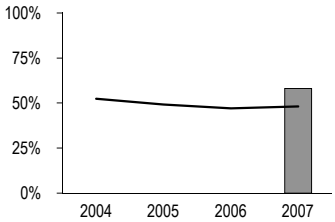
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Burlington				
Average	580	528	580	547

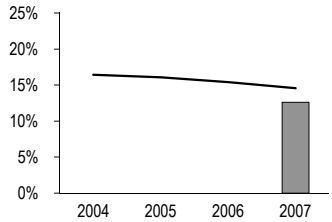
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Burlington

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
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	$	451,722
Capital Costs	$	-
TOTAL	$	451,722

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	2,035
Collection Points	16,966
Collection Location	Curbside
Collection Frequency	1 x 2 weeks
Number of City Drop-off Centers	0
Percentage of Service Contracted	94%
Revenue from Recycling	$0
Revenue as Percentage of Cost	NA

EXPLANATORY INFORMATION

Service Level and Delivery
Burlington offers curbside recycling to city residents. The service was contracted through Tidewater Fibre Corporation in FY 2006-07 who began a 59 month contract at the start of the year.

The city charges a monthly fee of $2.23 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 125 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.

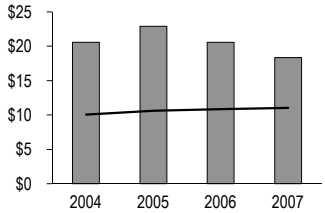
Conditions Affecting Service, Performance, and Costs
The set-out rate is provided annually by the contractor.

The City of Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006-07.

Key: Cary ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

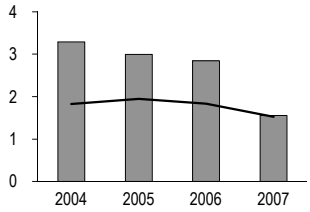
RESOURCE Measures

Recycling Services Cost per Capita



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

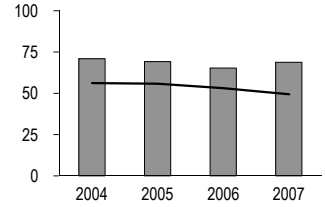
Recycling Services FTEs per 10,000 Population



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

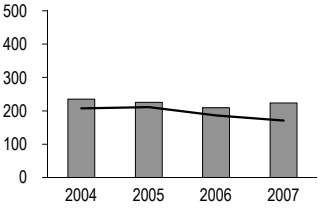
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



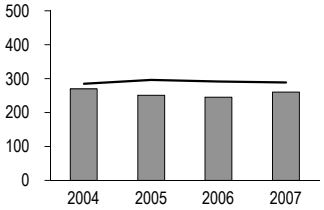
	2004	2005	2006	2007
Cary	71	69	65	69
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

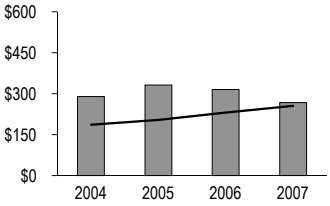
Tons Solid Waste Landfilled per 1,000 Population



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

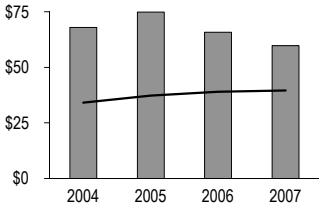
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



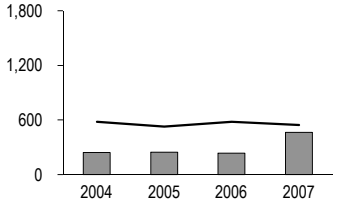
	2004	2005	2006	2007
Cary	$289	$332	$315	$267
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

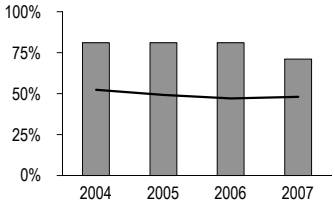
Tons Collected Curbside per Municipal FTE



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

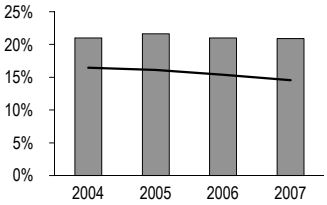
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Cary

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
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		36.7%
Capital Costs		11.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,162,027
Operating Costs	$	821,839
Capital Costs	$	257,527
TOTAL	$	2,241,393

SERVICE PROFILE

FTE Positions—Collection	17.0
FTE Positions—Other	2.0
Tons Collected	8,405
Collection Points	37,521
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	1
Percentage of Service Contracted	0%
Revenue from Recycling	$318,861
Revenue as Percentage of Cost	14.2%

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 2006–07. In addition to collecting 7,905 tons from the curbside collection, Cary gathered 500 tons at its drop off site. The town changed to comingled recycling at the curb during the fiscal year eliminating curbside sorting. Cary received $318,861 in revenue from the sale of recyclables during FY 2006–07.

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

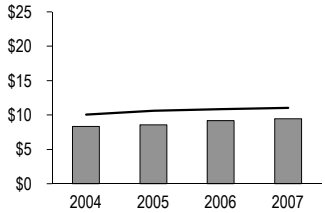
Conditions Affecting Service, Performance, and Costs
The set-out rate is calculated annually.

Charlotte Household Recycling

Key: Charlotte ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

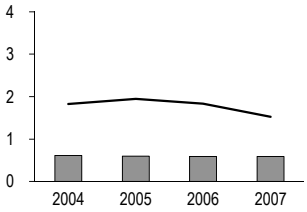
RESOURCE Measures

Recycling Services Cost per Capita



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

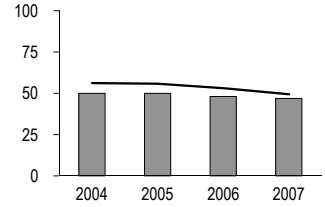
Recycling Services FTEs per 10,000 Population



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

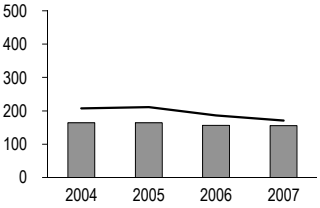
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



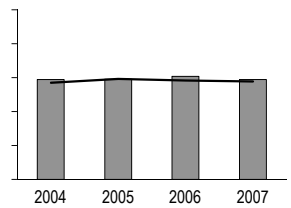
	2004	2005	2006	2007
Charlotte	50	50	48	47
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

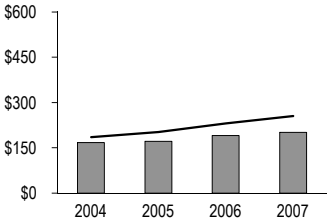
Tons Solid Waste Landfilled per 1,000 Population



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

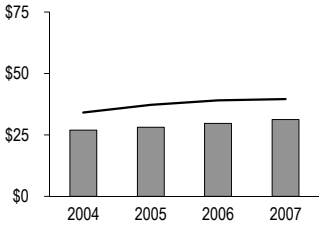
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



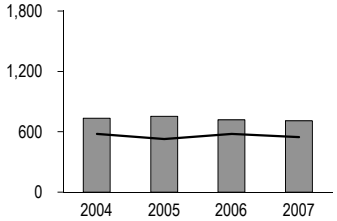
	2004	2005	2006	2007
Charlotte	$167	$171	$191	$201
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

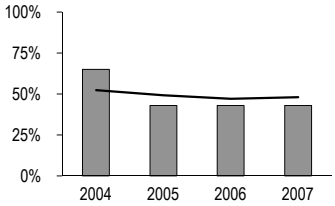
Tons Collected Curbside per Municipal FTE



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

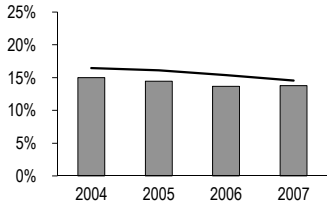
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2006)	660,930
Land Area (Square Miles)	281.98
Persons per Square Mile	2,344
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		33.1%
Operating Costs		54.2%
Capital Costs		12.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,064,098
Operating Costs	$	3,377,809
Capital Costs	$	790,899
TOTAL	$	6,232,806

SERVICE PROFILE

FTE Positions—Collection	38.00
FTE Positions—Other	0.75
Tons Collected	30,977
Collection Points	199,488
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	0
Percentage of Service Contracted	12.9%
Revenue from Recycling	$114,922
Revenue as Percentage of Cost	1.8%

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 2006–07. 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 2006–07 the city of Charlotte provided service to three of the four zones. One zone was serviced by the private sector at a cost of $1,285,928.

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.

The city reported 2,676 total complaints during FY 2006–07, with 95 percent of complaints resolved within one working day.

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.

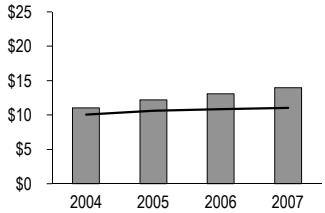
The set-out rate is calculated bi-annually.

Concord — Household Recycling

Key: Concord ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

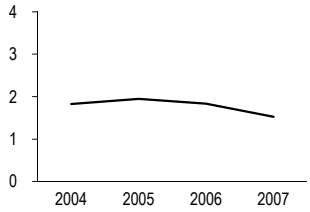
RESOURCE Measures

Recycling Services Cost per Capita



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

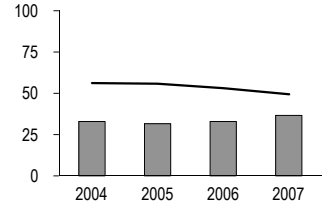
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Concord				
Average	1.82	1.95	1.83	1.52

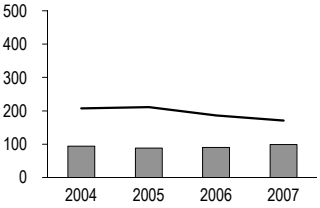
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



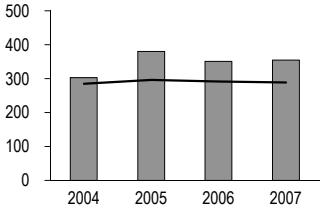
	2004	2005	2006	2007
Concord	33	32	33	37
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

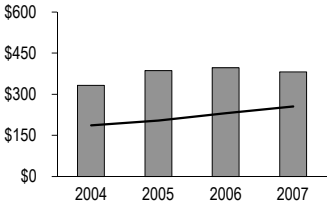
Tons Solid Waste Landfilled per 1,000 Population



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

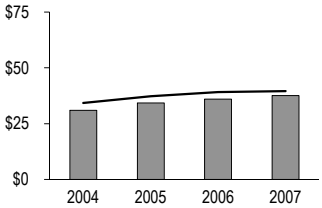
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



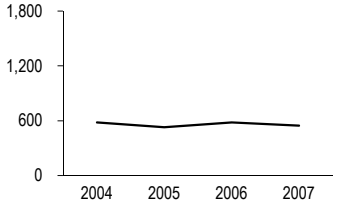
	2004	2005	2006	2007
Concord	$333	$387	$397	$382
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

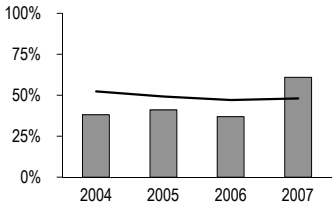
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Concord				
Average	580	528	580	547

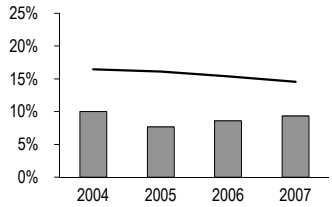
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Concord

MUNICIPAL PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
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		2.8%
Operating Costs		96.9%
Capital Costs		0.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	26,718
Operating Costs	$	923,959
Capital Costs	$	2,944
TOTAL	$	953,621

SERVICE PROFILE

FTE Positions—Collection	0.8
FTE Positions—Other	0.2
Tons Collected	2,497
Collection Points	25,337
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	0
Percentage of Service Contracted	93%
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.

Concord defines a valid complaint as any missed request for service or collection determined by the city to be the result of contractor negligence or omission.

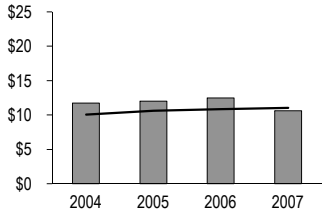
Conditions Affecting Service, Performance, and Costs
The city did not report on how the set-out rate was calculated.

Durham Household Recycling

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

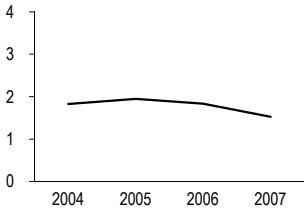
RESOURCE Measures

Recycling Services Cost per Capita



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

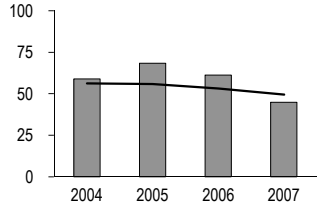
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Durham				
Average	1.82	1.95	1.83	1.52

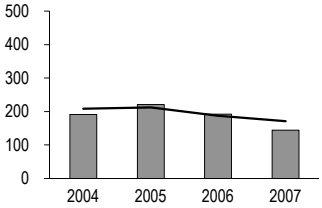
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



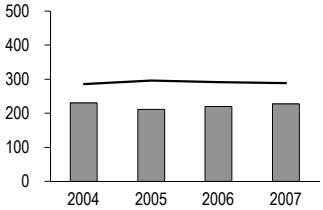
	2004	2005	2006	2007
Durham	59	68	61	45
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

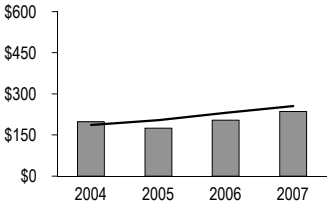
Tons Solid Waste Landfilled per 1,000 Population



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

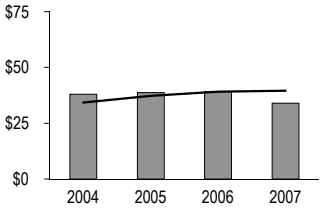
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



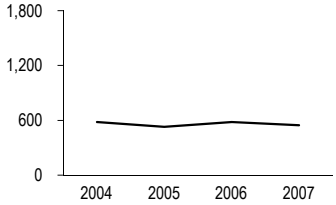
	2004	2005	2006	2007
Durham	$198	$176	$204	$236
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

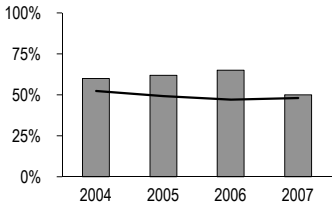
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Durham				
Average	580	528	580	547

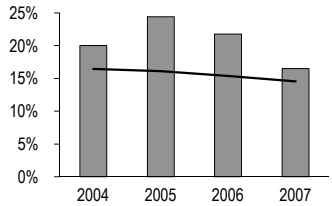
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Durham

MUNICIPAL PROFILE

Population (OSBM 2006)	214,559
Land Area (Square Miles)	103.67
Persons per Square Mile	2,070
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		6.2%
Operating Costs		93.6%
Capital Costs		0.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	142,136
Operating Costs	$	2,128,528
Capital Costs	$	3,788
TOTAL	$	2,274,452

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	9,646
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 2006–07. 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

Durham defines a valid complaint as one where a collection is missed but the household met the city's requirements of placing the bin out by 7 a.m. at curbside or where recycling bins were not delivered to a household within five business days of request.

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.

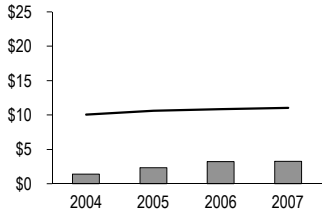
The set-out rate for the city of Durham is an estimate provided by the contractor.

Gastonia — Household Recycling

Key: Gastonia ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

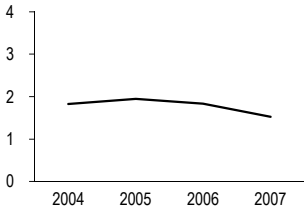
RESOURCE Measures

Recycling Services Cost per Capita



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

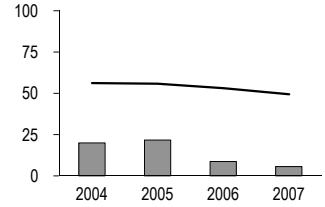
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Gastonia				
Average	1.82	1.95	1.83	1.52

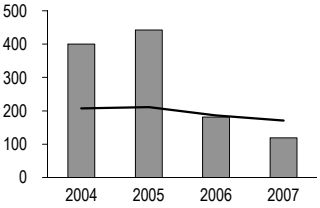
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



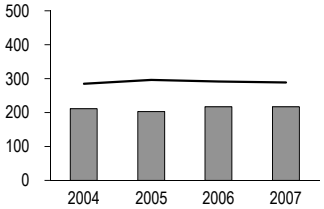
	2004	2005	2006	2007
Gastonia	20	22	9	6
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

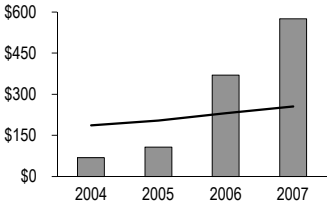
Tons Solid Waste Landfilled per 1,000 Population



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

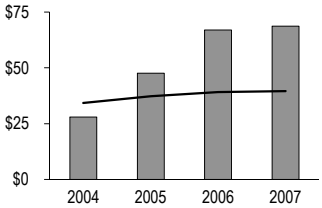
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



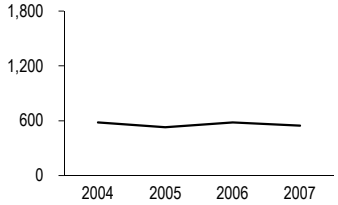
	2004	2005	2006	2007
Gastonia	$69	$108	$370	$576
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

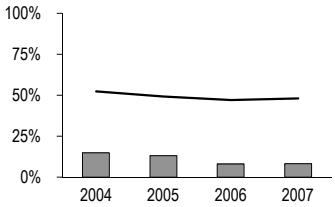
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Gastonia				
Average	580	528	580	547

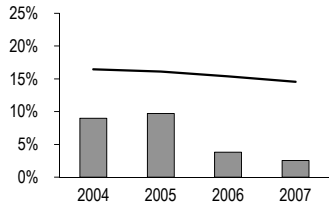
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2006)	71,376
Land Area (Square Miles)	49.65
Persons per Square Mile	1,438
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		1.3%
Operating Costs		96.3%
Capital Costs		2.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,132
Operating Costs	$	223,956
Capital Costs	$	5,391
TOTAL	$	232,479

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.5
Tons Collected	404
Collection Points	3,387
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	0
Percentage of Service Contracted	90%
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 was provided by a private contractor during FY 2006–07. Households that participate in this service pay $1 per month.

Recyclables are sorted at the curb and transported to a processing center in Charlotte. The following materials are collected at curbside:

- newspaper (including all inserts)
- green, clear, and brown glass
- plastic soft drink bottles
- milk jugs
- aluminum cans
- steel cans

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

Gastonia defines a valid complaint as one where numerous complaints are received during the same day.

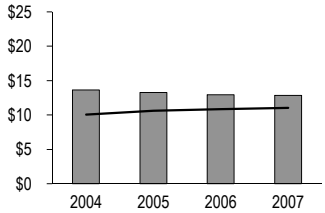
Conditions Affecting Service, Performance, and Costs
Of the potential 25,423 households who could join in the voluntary program, 13.3 percent or 3,387 households choose to participate. Of these participating households, 62 percent set out their recycling bins for a typical collection. The city calculated the set-out rate on an annual basis.

Greensboro Household Recycling

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

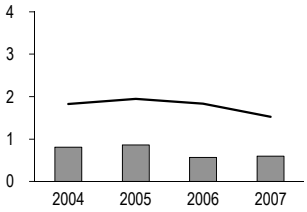
RESOURCE Measures

Recycling Services Cost per Capita



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

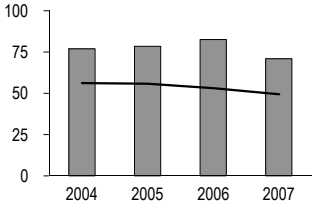
Recycling Services FTEs per 10,000 Population



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

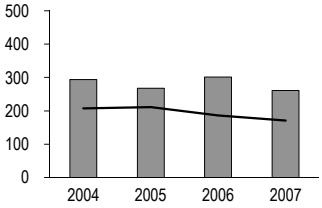
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



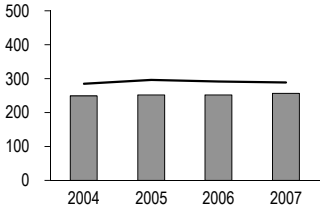
	2004	2005	2006	2007
Greensboro	77	78	83	71
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

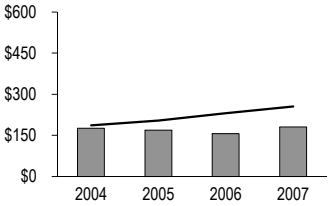
Tons Solid Waste Landfilled per 1,000 Population



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

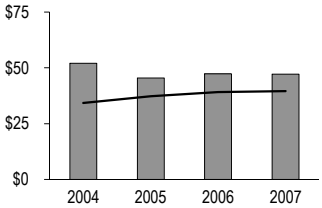
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



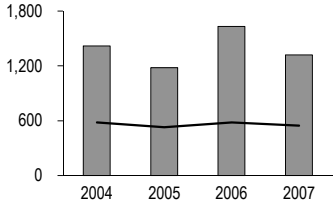
	2004	2005	2006	2007
Greensboro	$176	$169	$157	$181
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

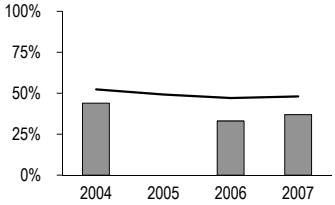
Tons Collected Curbside per Municipal FTE



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

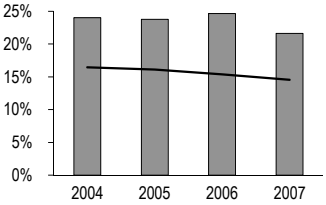
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2006)	241,767
Land Area (Square Miles)	118.06
Persons per Square Mile	2,048
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		18.7%
Operating Costs		81.3%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	581,080
Operating Costs	$	2,523,685
Capital Costs	$	-
TOTAL	$	3,104,765

SERVICE PROFILE

FTE Positions—Collection	13.0
FTE Positions—Other	1.5
Tons Collected	17,149
Collection Points	65,744
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	5
Percentage of Service Contracted	0%
Revenue from Recycling	$645,185
Revenue as Percentage of Cost	20.8%

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 nine drop-off sites in the city, with five being owned by the city.

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 2006–07 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 $645,185 from the sale of recyclables from residential collection for FY 2006–07.

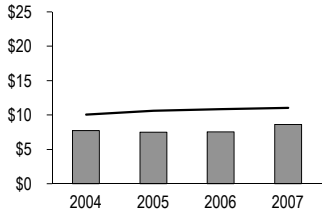
Conditions Affecting Service, Performance, and Costs
Greensboro is highly automated in gathering materials from its recycling program.

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

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

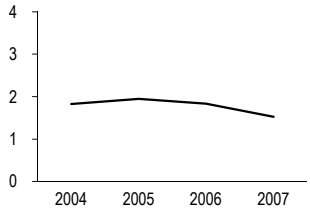
RESOURCE Measures

Recycling Services Cost per Capita



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

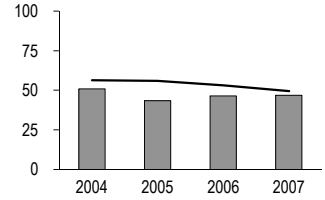
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory				
Average	1.82	1.95	1.83	1.52

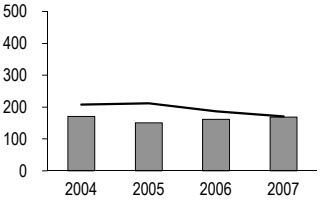
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



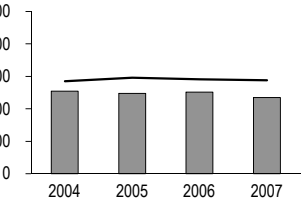
	2004	2005	2006	2007
Hickory	51	43	46	47
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

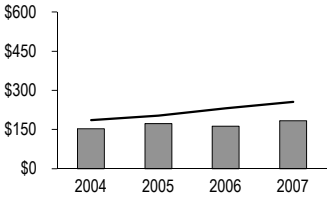
Tons Solid Waste Landfilled per 1,000 Population



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

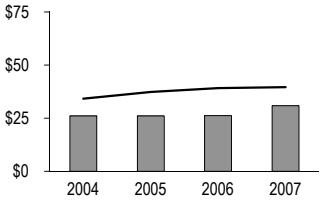
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



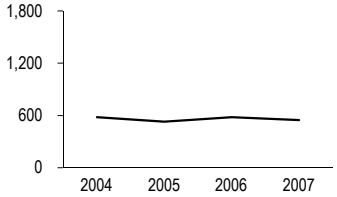
	2004	2005	2006	2007
Hickory	$153	$172	$162	$183
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

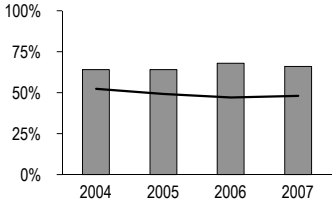
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Hickory				
Average	580	528	580	547

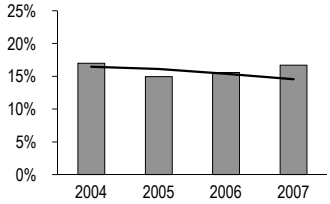
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Hickory

MUNICIPAL PROFILE

Population (OSBM 2006)	40,214
Land Area (Square Miles)	28.95
Persons per Square Mile	1,389
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		7.8%
Operating Costs		91.4%
Capital Costs		0.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	26,931
Operating Costs	$	315,748
Capital Costs	$	2,943
TOTAL	$	345,622

SERVICE PROFILE

FTE Positions—Collection	0.6
FTE Positions—Other	0.1
Tons Collected	1,888
Collection Points	11,207
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	2
Percentage of Service Contracted	75%
Revenue from Recycling	$43,229
Revenue as Percentage of Cost	12.5%

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 2006–07, the city collected $43,229 in revenue from the sale of recyclables.

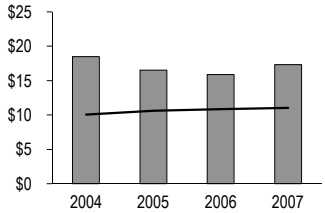
Conditions Affecting Service, Performance, and Costs
The set-out rate is calculated on a monthly basis by the contractor.

High Point — Household Recycling

Key: High Point ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

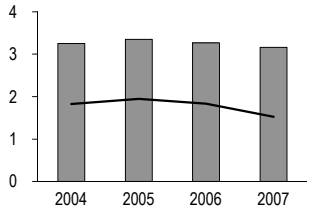
RESOURCE Measures

Recycling Services Cost per Capita



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

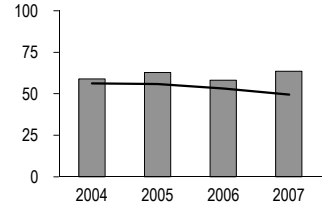
Recycling Services FTEs per 10,000 Population



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

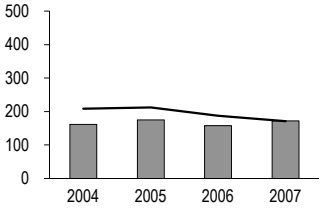
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



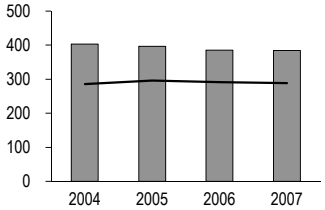
	2004	2005	2006	2007
High Point	59	63	58	64
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

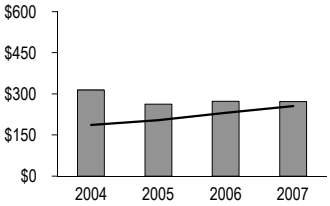
Tons Solid Waste Landfilled per 1,000 Population



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

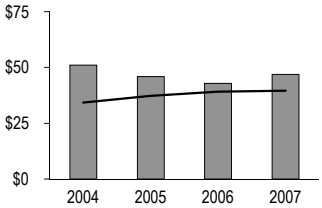
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



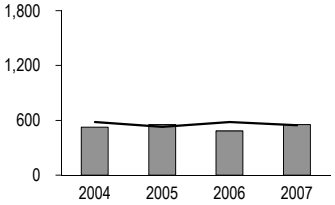
	2004	2005	2006	2007
High Point	$314	$263	$273	$272
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

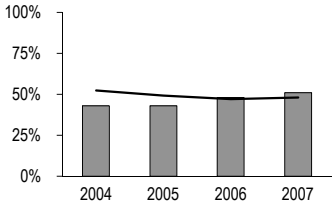
Tons Collected Curbside per Municipal FTE



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

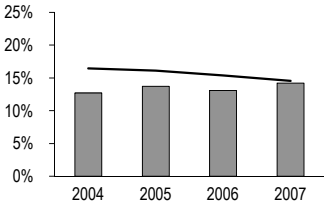
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

High Point

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
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		25.1%
Operating Costs		70.8%
Capital Costs		4.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	415,946
Operating Costs	$	1,174,369
Capital Costs	$	67,803
TOTAL	$	1,658,118

SERVICE PROFILE

FTE Positions—Collection	10.25
FTE Positions—Other	20.00
Tons Collected	6,089
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	$358,600
Revenue as Percentage of Cost	21.6%

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.

High Point defines valid complaints as items not being picked up due to an oversight by the city. One hundred percent of the complaints were resolved within two working days.

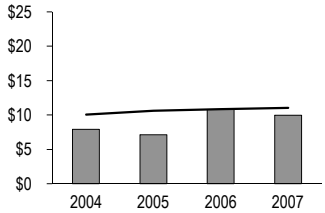
Conditions Affecting Service, Performance, and Costs
The city used a random sample to determine the set-out rate.

Matthews — Household Recycling

Key: Matthews ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

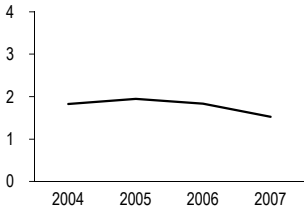
RESOURCE Measures

Recycling Services Cost per Capita



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

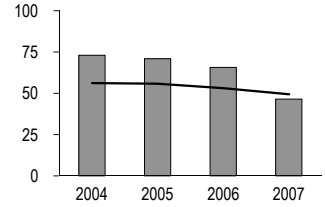
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Matthews				
Average	1.82	1.95	1.83	1.52

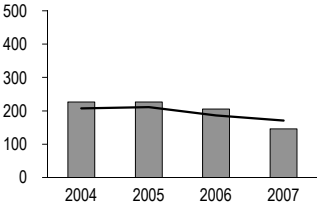
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



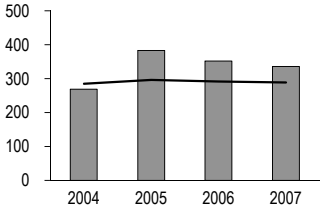
	2004	2005	2006	2007
Matthews	73	71	66	46
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

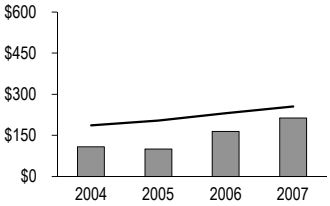
Tons Solid Waste Landfilled per 1,000 Population



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

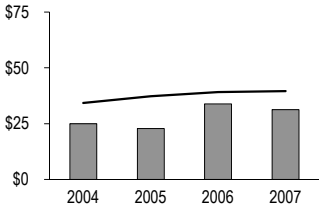
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



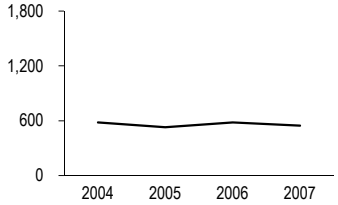
	2004	2005	2006	2007
Matthews	$108	$101	$165	$214
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

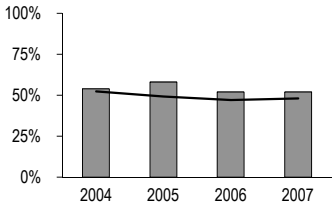
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Matthews				
Average	580	528	580	547

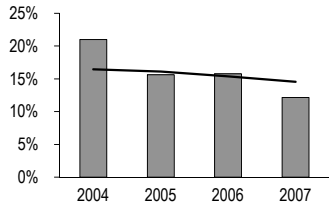
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Matthews

MUNICIPAL PROFILE

Population (OSBM 2006)	26,554
Land Area (Square Miles)	16.63
Persons per Square Mile	1,597
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	$	264,107
Capital Costs	$	-
TOTAL	$	264,107

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	1,233
Collection Points	8,435
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 2006–07. Residents place materials into bins.

The recyclable materials collected include

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

Matthews defines a valid complaint as missed collections that required a truck to return or were due to equipment failures.

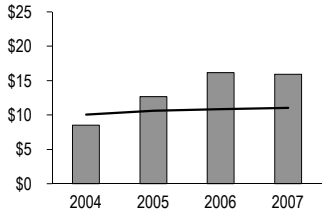
Conditions Affecting Service, Performance, and Costs
The set-out rate was calculated monthly.

Raleigh Household Recycling

Key: Raleigh ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

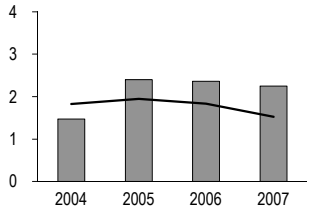
RESOURCE Measures

Recycling Services Cost per Capita



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

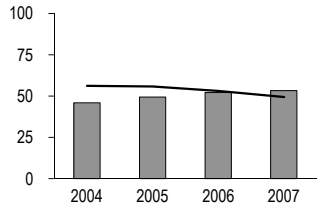
Recycling Services FTEs per 10,000 Population



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

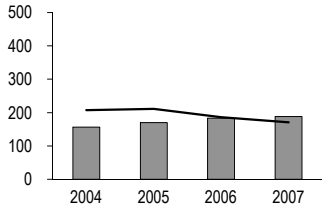
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



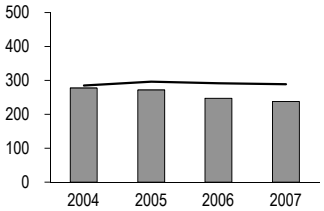
	2004	2005	2006	2007
Raleigh	46	49	52	53
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

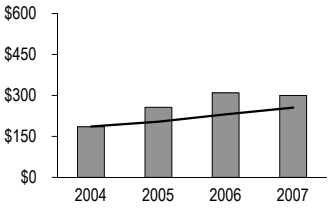
Tons Solid Waste Landfilled per 1,000 Population



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

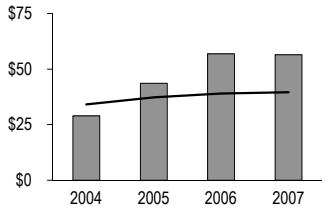
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



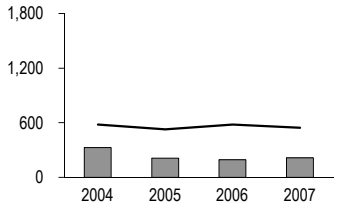
	2004	2005	2006	2007
Raleigh	$185	$257	$310	$299
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

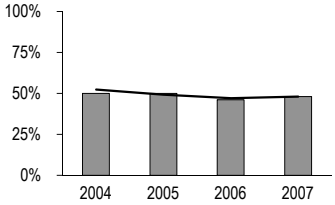
Tons Collected Curbside per Municipal FTE



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

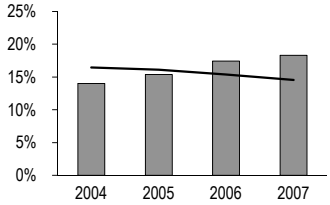
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Raleigh

MUNICIPAL PROFILE

Population (OSBM 2006)	355,902
Land Area (Square Miles)	133.91
Persons per Square Mile	2,658
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		57.8%
Operating Costs		28.8%
Capital Costs		13.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,279,618
Operating Costs	$	1,632,449
Capital Costs	$	759,383
TOTAL	$	5,671,450

SERVICE PROFILE

FTE Positions—Collection	78.0
FTE Positions—Other	2.0
Tons Collected	18,939
Collection Points	100,464
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	3
Percentage of Service Contracted	0.92%
Revenue from Recycling	$528,052
Revenue as Percentage of Cost	9.3%

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 $8.30 monthly fee for all solid waste services. The city reported revenue from the sale of recyclables of $528,052 for FY 2006–07.

Raleigh defines valid complaints as those where collections were missed on the appropriate day with proper placement of the recycling bin.

The city had a contract for collecting office paper and cardboard from city offices for $6,421.

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.

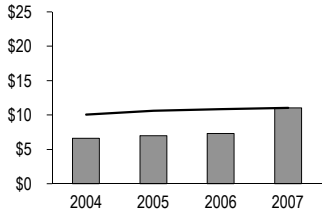
The city calculated the set-out rate on a monthly basis.

Salisbury Household Recycling

Key: Salisbury ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

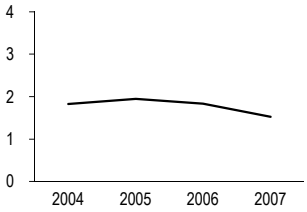
RESOURCE Measures

Recycling Services Cost per Capita



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

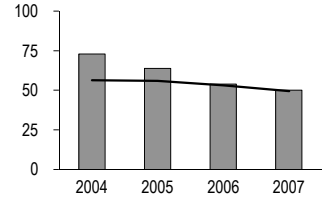
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury				
Average	1.82	1.95	1.83	1.52

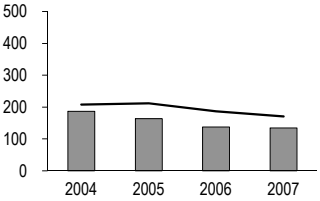
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



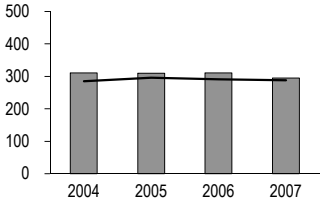
	2004	2005	2006	2007
Salisbury	73	64	54	50
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

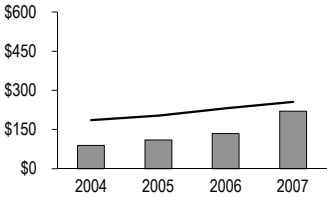
Tons Solid Waste Landfilled per 1,000 Population



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

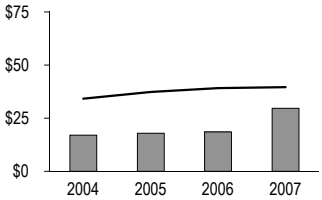
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



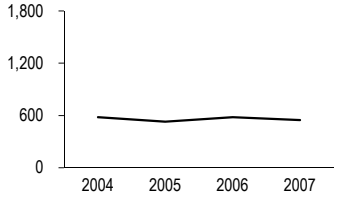
	2004	2005	2006	2007
Salisbury	$90	$110	$135	$221
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

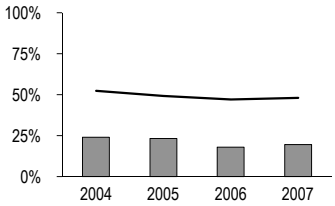
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Salisbury				
Average	580	528	580	547

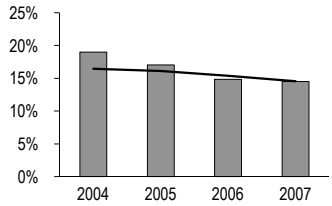
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
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	$	337,978
Capital Costs	$	-
TOTAL	$	337,978

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Tons Collected	1,532
Collection Points	11,400
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 2006–07. The city provides and pays for the fourteen-gallon recycling bins that residents use. The city contracts 100 percent of its recycling program. Recyclables are sorted at the curb by the contractor and taken to the county recycling site.

The recyclable materials collected include

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

Salisbury defines all complaints as valid complaints. The contractor missing a bin is the usual complaint.

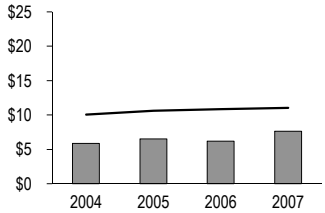
Conditions Affecting Service, Performance, and Costs
The set-out rate was reported monthly by the contractor. The city reserves the right to conduct unannounced follow-up inspections of the collection process.

Wilmington — Household Recycling

Key: Wilmington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

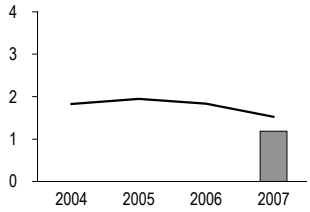
RESOURCE Measures

Recycling Services Cost per Capita



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

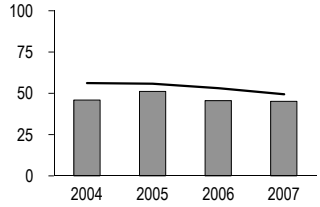
Recycling Services FTEs per 10,000 Population



	2004	2005	2006	2007
Wilmington				1.18
Average	1.82	1.95	1.83	1.52

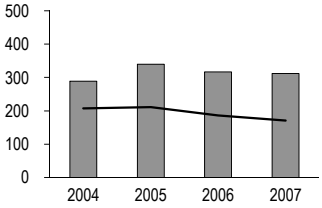
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



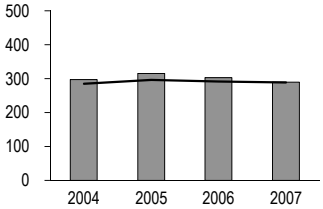
	2004	2005	2006	2007
Wilmington	46	51	46	45
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

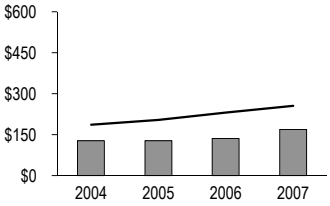
Tons Solid Waste Landfilled per 1,000 Population



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

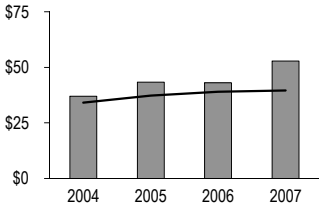
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



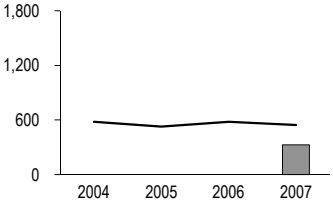
	2004	2005	2006	2007
Wilmington	$128	$128	$136	$169
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

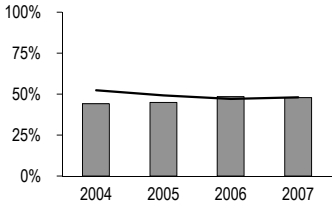
Tons Collected Curbside per Municipal FTE



	2004	2005	2006	2007
Wilmington				328
Average	580	528	580	547

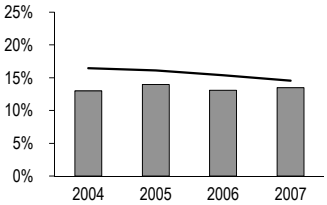
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2006)	98,529
Land Area (Square Miles)	49.20
Persons per Square Mile	2,003
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		25.3%
Operating Costs		64.5%
Capital Costs		10.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	190,824
Operating Costs	$	486,212
Capital Costs	$	76,558
TOTAL	$	753,594

SERVICE PROFILE

FTE Positions—Collection	10.40
FTE Positions—Other	1.25
Tons Collected	4,454
Collection Points	14,260
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	0
Percentage of Service Contracted	23%
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 2006-07, city crews gathered 77 percent of the tons of recyclables collected over the year. The transition from a contracted service to a wholly city run collection program entailed a significant amount of one-time costs such as for purchasing equipment and collection bins.

Materials collected by Wilmington's recycling program include

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

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

Wilmington defines valid complaints as those where there is no evidence to dispute it or if the customer insists he or she is correct.

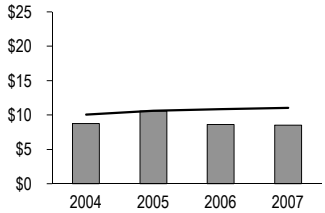
Conditions Affecting Service, Performance, and Costs
Of the potential 27,178 eligible households who could join in the voluntary program, 52 percent or 14,260 households chose to participate. Of these participating households, 92 percent set out their recycling on average. Thus, approximately 48 percent 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 2007

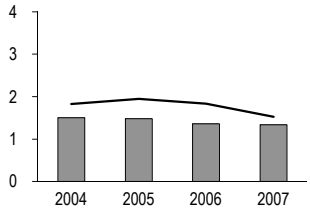
RESOURCE Measures

Recycling Services Cost per Capita



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

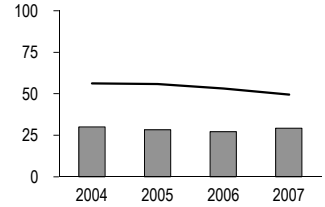
Recycling Services FTEs per 10,000 Population



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

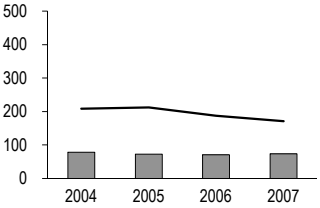
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



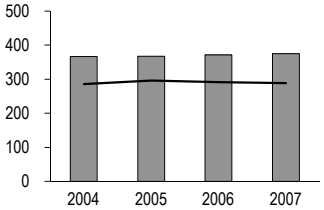
	2004	2005	2006	2007
Wilson	30	28	27	29
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

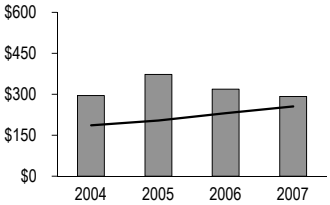
Tons Solid Waste Landfilled per 1,000 Population



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

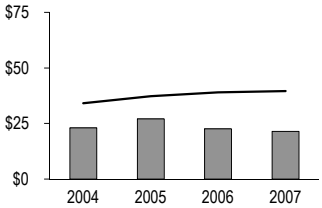
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



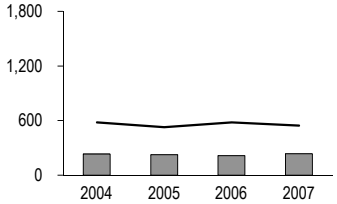
	2004	2005	2006	2007
Wilson	$295	$373	$318	$292
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

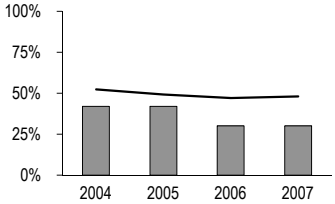
Tons Collected Curbside per Municipal FTE



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

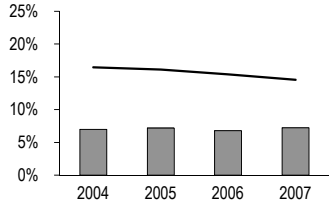
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Wilson

MUNICIPAL PROFILE

Population (OSBM 2006)	48,562
Land Area (Square Miles)	28.16
Persons per Square Mile	1,725
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		35.3%
Operating Costs		43.5%
Capital Costs		21.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	146,209
Operating Costs	$	180,284
Capital Costs	$	87,911
TOTAL	$	414,404

SERVICE PROFILE

FTE Positions—Collection	6.0
FTE Positions—Other	0.5
Tons Collected	1,419
Collection Points	19,300
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 2006–07, consisting of one driver and two collectors each.

Wilson defines all complaints as valid complaints. All complaints were resolved within one working day during FY 2006–07.

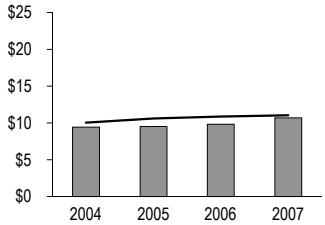
Conditions Affecting Service, Performance, and Costs
The set-out rate was calculated on a monthly basis with drivers on the recycling trucks using counters.

Winston-Salem Household Recycling

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

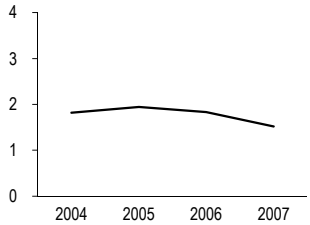
RESOURCE Measures

Recycling Services Cost per Capita



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

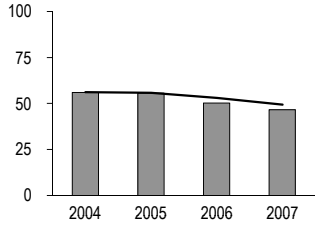
Recycling Services FTEs per 10,000 Population



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

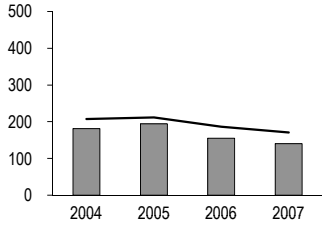
WORKLOAD Measures

Tons Recyclables Collected per 1,000 Population



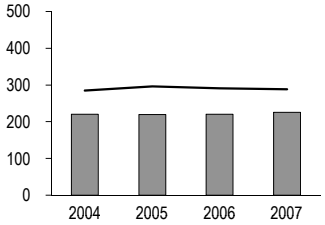
	2004	2005	2006	2007
Winston-Salem	56	56	50	47
Average	56	56	53	49

Tons Recyclables Collected per 1,000 Collection Points



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

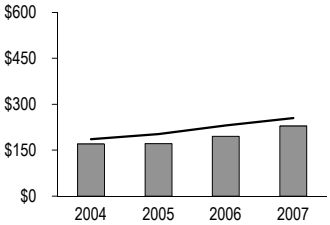
Tons Solid Waste Landfilled per 1,000 Population



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

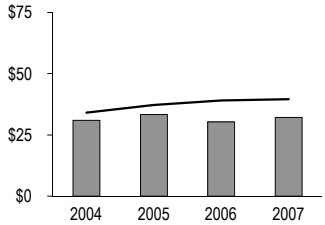
EFFICIENCY Measures

Recycling Services Cost per Ton Collected



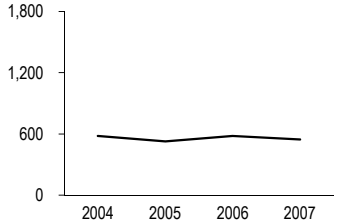
	2004	2005	2006	2007
Winston-Salem	$170	$172	$195	$229
Average	$186	$203	$231	$256

Recycling Services Cost per Collection Point



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

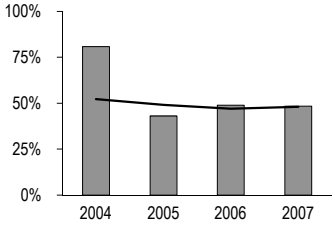
Tons Collected Curbside per Municipal FTE



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

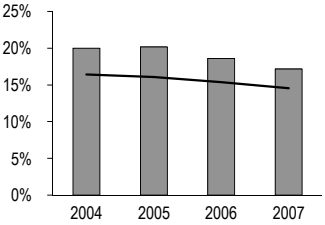
EFFECTIVENESS Measures

Community Set-out Rate



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

Tons Recycled as Percentage of Tons Refuse and Recyclables Collected



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

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.22
Persons per Square Mile	1,659
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		3.2%
Operating Costs		96.8%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	75,372
Operating Costs	$	2,288,206
Capital Costs	$	888
TOTAL	$	2,364,466

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	1.0
Tons Collected	10,308
Collection Points	73,500
Collection Location	Curbside
Collection Frequency	1 x week
Number of City Drop-off Centers	9
Percentage of Service Contracted	100%
Revenue from Recycling	$277,541
Revenue as Percentage of Cost	11.7%

EXPLANATORY INFORMATION

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

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

The city contracts for 100 percent of its curbside household recycling program. The contractor separates recyclables at the curb, placing paper products in one compartment on the truck and non-paper products in another. The contractor takes the recyclables to a processing facility where commodities are further separated. The city does not charge a recycling fee. Revenue to the city for the sale of recyclables was $277,541 during FY 2006–07.

Conditions Affecting Service, Performance, and Costs
Winston-Salem annexed 19,059 residents effective September 30,2006. The annexed areas are comprised of 8,579 dwelling units, twenty square miles, and eighty-six miles of streets. As a result of the effective date, the additional costs reported for the benchmarking project only reflect nine months of service to these newly annexed areas.

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 2006–07. This number includes temporary, permanent, full-time, and part-time workers. Such workers can be sanitation, street, or other municipal employees. One FTE equals 2,080 hours of work per year. Any combination of employees providing 2,080 hours of work per year is one FTE.

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

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

Yard Waste/Leaf Collection

Summary of Key Dimensions of Service

City or Town	Yard Waste Collection		Seasonal Loose Leaf Collection	Collection Points	Tons Collected		FTE Collection Positions
	Location	Frequency			Yard Waste	Loose Leaves	
Asheville	Curbside	2 x month	2 sweeps	27,780	8,694	3,852	19.8
Burlington	Curbside	1 x week	4 sweeps	17,536	3,728	85	14.8
Carrboro	Curbside	2 x month	2 x month	3,700	567	315	1.4
Cary	Curbside	1 x week	3 sweeps	36,500	11,150	4,587	25.4
Charlotte	Curbside	1 x week	NA	199,488	44,803	NA	51
Concord	Curbside	1 x week	4 sweeps	25,337	6,036	1,432	16
Durham	Curbside	1 x week	NA	17,028	8,961	NA	15
Gastonia	Curbside	1 x week	1 x week	25,423	6,037	1,821	10.18
Greensboro	Curbside	1 x week	2 sweeps	65,744	14,160	10,360	28.62
Hickory	Curbside	1 x week	2 sweeps	11,600	4,304	3,243	11.5
High Point	Curbside	1 x week	2 sweeps	35,332	10,119	1,854	18
Matthews	Curbside	1 x week	NA	8,435	2,888	NA	0
Raleigh	Curbside	1 x week	2 sweeps	100,464	21,042	4,758	56
Salisbury	Curbside	1 x week	1 x 3 weeks	10,632	7,140	2,988	11
Wilmington	Curbside	1 x week	NA	27,178	10,826	NA	19
Wilson	Curbside	1 x week	1 x 3 weeks	19,300	5,535	1,920	14
Winston-Salem	Curbside	yard waste cart 1 x week brush every 10 days	2 to 3 sweeps	14,179 for yard waste 71,250 for brush and leaves	20,565	11,728	76

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

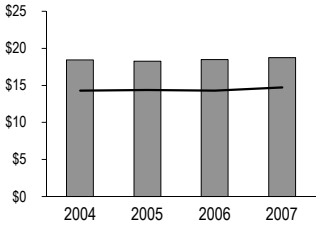
These are factors that the project found to affect yard waste and leaf collection performance and cost in one or more of the municipalities:

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 2007

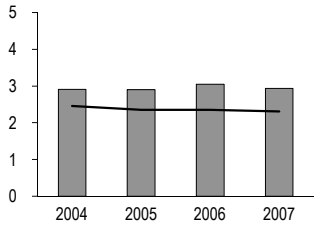
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

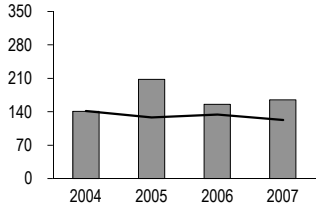
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

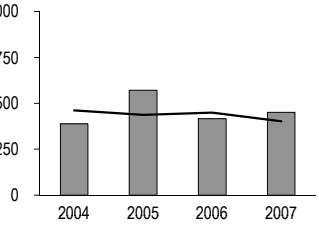
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Asheville	141	208	156	165
Average	141	128	134	123

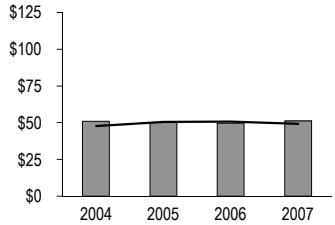
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Asheville	388	571	417	452
Average	463	438	451	403

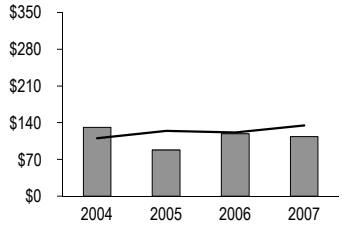
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



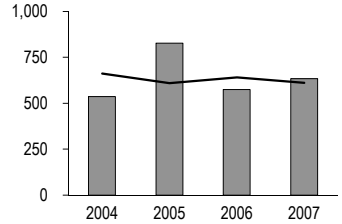
	2004	2005	2006	2007
Asheville	$51	$50	$50	$51
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Asheville	$131	$88	$119	$113
Average	$110	$124	$122	$135

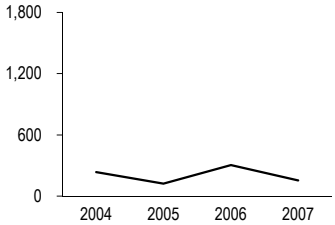
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Asheville	537	827	575	634
Average	663	610	642	612

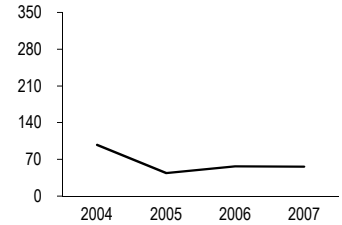
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Asheville				
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Asheville				
Average	98	44	57	56

Asheville

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
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		43.1%
Operating Costs		46.0%
Capital Costs		10.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	613,497
Operating Costs	$	655,289
Capital Costs	$	154,385
TOTAL	$	1,423,171

SERVICE PROFILE

FTE Positions—Collection	19.8
FTE Positions—Other	2.0
Collection Points	
Yard Waste	27,780
Leaves	27,780
Tons Collected	
Yard Waste	8,694
Leaves	3,852
Total	12,546
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 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. None of the yard waste program was contracted during FY 2006–07.

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.

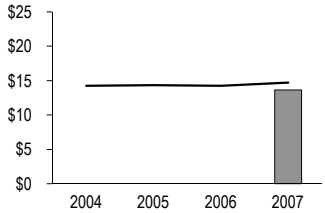
Conditions Affecting Service, Performance, and Costs

Burlington — Yard Waste/Leaf Collection

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

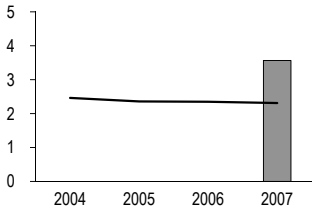
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

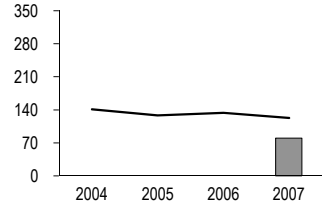
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				3.6
Average	2.5	2.4	2.4	2.3

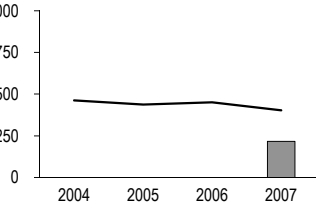
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Burlington				80
Average	141	128	134	123

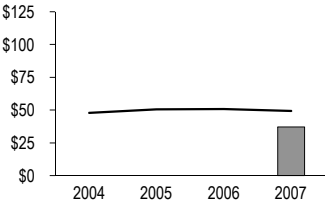
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Burlington				217
Average	463	438	451	403

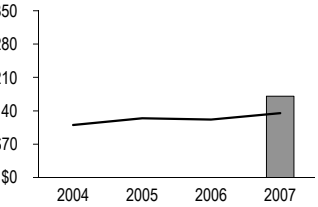
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



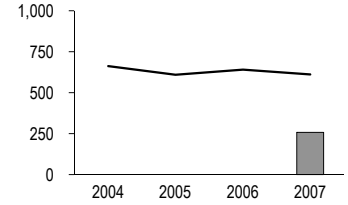
	2004	2005	2006	2007
Burlington				$37
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Burlington				$171
Average	$110	$124	$122	$135

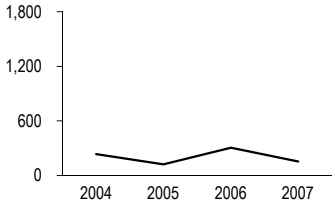
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Burlington				258
Average	663	610	642	612

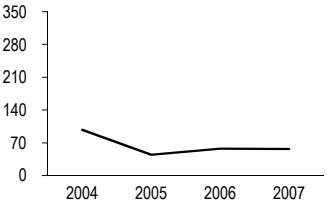
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Burlington				
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Burlington				
Average	98	44	57	56

Burlington

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
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		71.9%
Operating Costs		14.2%
Capital Costs		13.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	467,873
Operating Costs	$	92,471
Capital Costs	$	90,728
TOTAL	$	651,072

SERVICE PROFILE

FTE Positions—Collection	14.80
FTE Positions—Other	2.20
Collection Points	
Yard Waste	17,536
Leaves	17,536
Tons Collected	
Yard Waste	3,728
Leaves	85
Total	3,813
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.

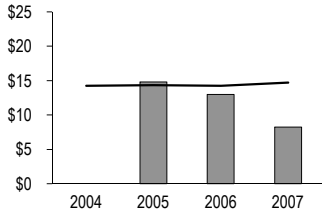
Conditions Affecting Service, Performance, and Costs
The city does not track complaints or valid complaints.

Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006-07.

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

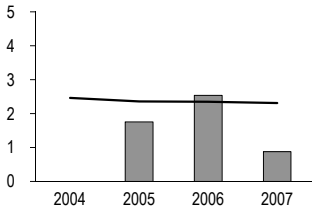
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

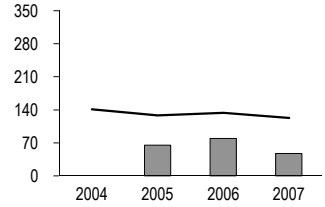
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

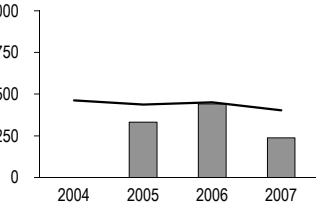
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Carrboro		65	79	47
Average	141	128	134	123

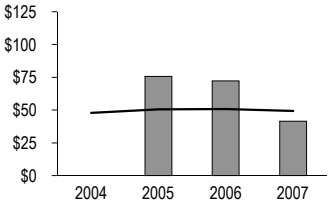
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Carrboro		333	441	238
Average	463	438	451	403

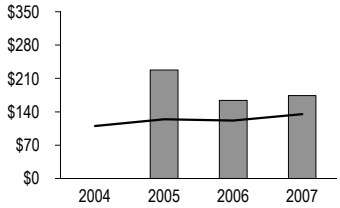
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



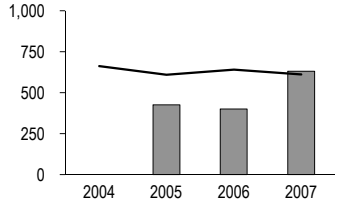
	2004	2005	2006	2007
Carrboro		$76	$72	$41
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Carrboro		$228	$164	$174
Average	$110	$124	$122	$135

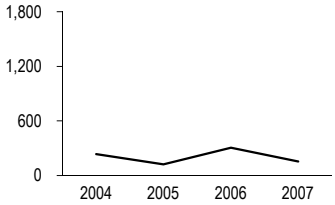
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Carrboro		425	401	630
Average	663	610	642	612

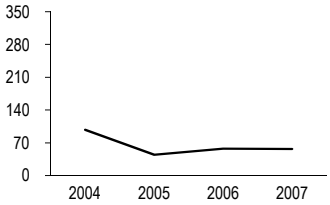
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Carrboro				
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Carrboro				
Average	98	44	57	56

MUNICIPAL PROFILE

Population (OSBM 2006)	18,611
Land Area (Square Miles)	6.22
Persons per Square Mile	2,992
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		39.2%
Operating Costs		40.9%
Capital Costs		19.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	60,096
Operating Costs	$	62,777
Capital Costs	$	30,532
TOTAL	$	153,405

SERVICE PROFILE

FTE Positions—Collection	1.40
FTE Positions—Other	0.24
Collection Points	
Yard Waste	3,700
Leaves	3,700
Tons Collected	
Yard Waste	567
Leaves	315
Total	882
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.

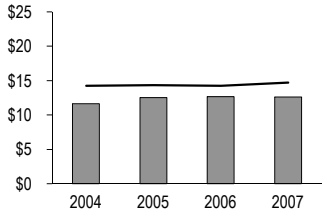
The town does not charge a regular fee for yard waste collection. The town code specifies that volume equal to a pickup truck is picked up free but that after that a fee may be charged. Residents have the option of buying a ninety-five-gallon yard waste cart for $46 that can be placed curbside.

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

Key: Cary ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

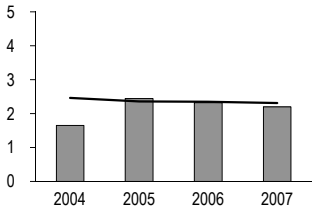
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

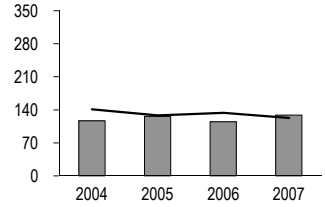
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

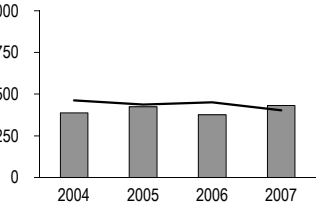
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Cary	117	126	115	129
Average	141	128	134	123

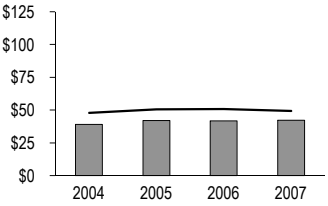
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Cary	387	425	377	431
Average	463	438	451	403

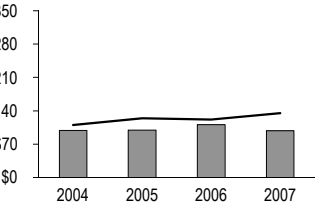
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



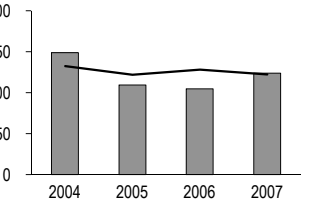
	2004	2005	2006	2007
Cary	$39	$42	$42	$42
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Cary	$99	$99	$111	$98
Average	$110	$124	$122	$135

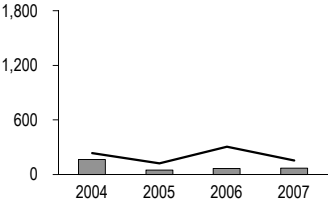
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Cary	745	547	523	620
Average	663	610	642	612

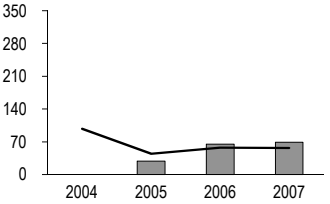
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



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

Valid Complaints per 10,000 Collection Points



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

Cary

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
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		56.5%
Operating Costs		34.3%
Capital Costs		9.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	873,018
Operating Costs	$	530,667
Capital Costs	$	141,954
TOTAL	$	1,545,639

SERVICE PROFILE

FTE Positions—Collection	25.4
FTE Positions—Other	1.5
Collection Points	
Yard Waste	36,500
Leaves	36,500
Tons Collected	
Yard Waste	11,150
Leaves	4,587
Total	15,737
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 collects at curbside weekly on the same day as the customer's regular trash is collected. The yard waste program includes the collection of grass clippings, pine straw, fallen leaves, shrubbery, twigs, small tree limbs, and Christmas trees. Branches must be shorter than four feet in length and less than four inches in diameter. The total volume to be picked up at a household cannot exceed 240 cubic feet. There is no separate fee charged for yard waste collection.

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.

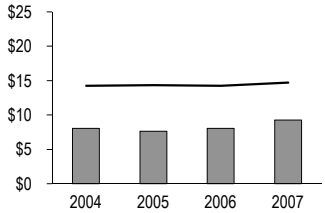
Cary defines valid complaints as those that have been verified in the field by a supervisor.

Conditions Affecting Service, Performance, and Costs

Key: Charlotte ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

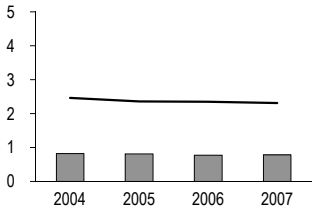
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

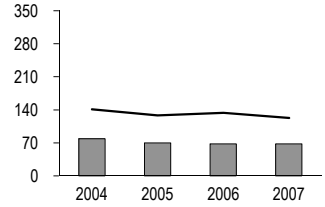
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

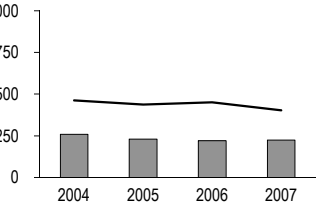
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Charlotte	79	70	68	68
Average	141	128	134	123

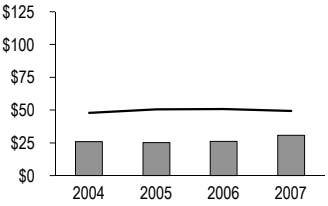
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Charlotte	260	230	221	225
Average	463	438	451	403

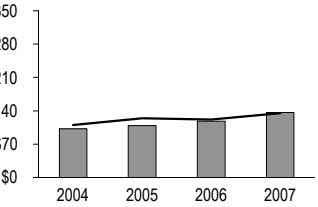
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



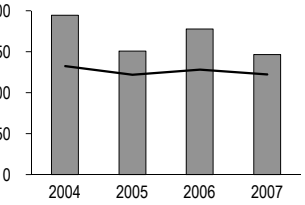
	2004	2005	2006	2007
Charlotte	$26	$25	$26	$31
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Charlotte	$102	$109	$118	$137
Average	$110	$124	$122	$135

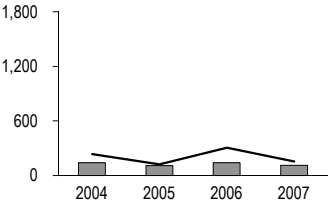
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Charlotte	972	753	890	732
Average	663	610	642	612

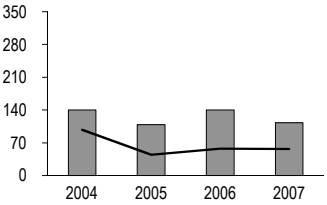
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



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

Valid Complaints per 10,000 Collection Points



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

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2006)	660,930
Land Area (Square Miles)	281.98
Persons per Square Mile	2,344
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		35.0%
Operating Costs		55.6%
Capital Costs		9.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,143,217
Operating Costs	$	3,402,403
Capital Costs	$	574,029
TOTAL	$	6,119,649

SERVICE PROFILE

FTE Positions—Collection	51.00
FTE Positions—Other	0.75
Collection Points	
Yard Waste	199,488
Leaves	199,488
Tons Collected	
Yard Waste	44,803
Leaves	included above
Total	44,803
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 2006–07, the city of Charlotte provided service to three of the four zones. One zone was serviced by the private sector at a cost of $976,507. The city collected 83.36 percent of the total tonnage reported.

Yard waste includes leaves, stems, grass, limbs, and other residential organic matter. Limbs should be separated in piles small enough for one individual to handle. Leaves and grass clippings must be placed in untied plastic bags or in uncovered trash cans. 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.

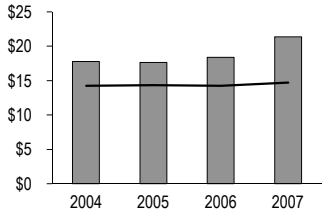
Conditions Affecting Service, Performance, and Costs
Charlotte used managed competition to provide this service. Therefore, the performance measure "Tons Collected per Collection FTE" represents city crews only.

Concord — Yard Waste/Leaf Collection

Key: Concord ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

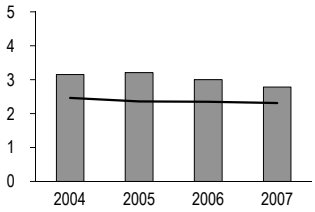
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

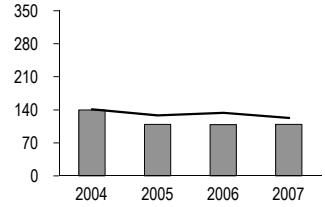
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

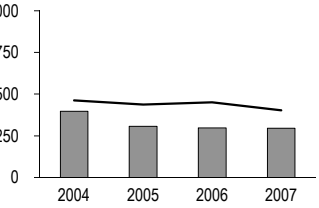
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Concord	140	109	108	109
Average	141	128	134	123

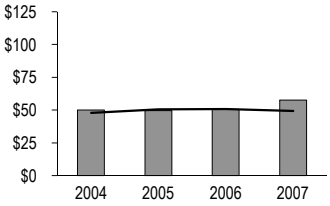
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Concord	397	306	298	295
Average	463	438	451	403

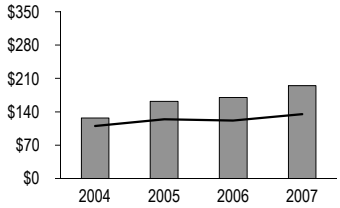
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



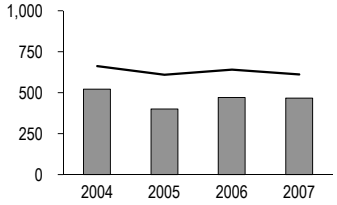
	2004	2005	2006	2007
Concord	$50	$50	$51	$58
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Concord	$127	$162	$170	$195
Average	$110	$124	$122	$135

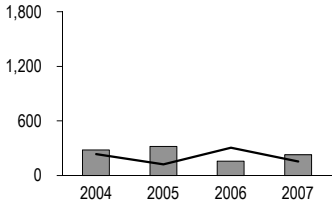
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Concord	521	400	470	467
Average	663	610	642	612

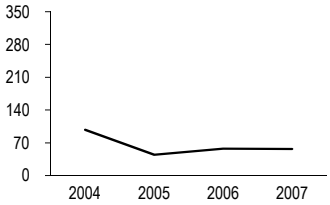
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



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

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Concord				
Average	98	44	57	56

Concord

MUNICIPAL PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
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		63.6%
Operating Costs		23.9%
Capital Costs		12.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	927,162
Operating Costs	$	347,688
Capital Costs	$	182,247
TOTAL	$	1,457,097

SERVICE PROFILE

FTE Positions—Collection	16.00
FTE Positions—Other	3.00
Collection Points	
Yard Waste	25,337
Leaves	25,337
Tons Collected	
Yard Waste	6,036
Leaves	1,432
Total	7,468
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 2006–07. 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 and continues through mid-February. Each street is serviced following a publicized schedule a minimum of four times for loose leaf collection during this period. Residents who bag their leaves receive weekly collection along with the normal yard waste collection program. The city provides biodegradable bags free of charge to encourage bagging.

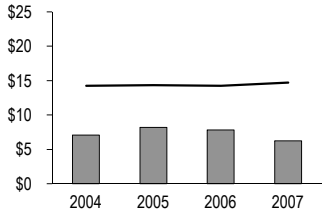
Conditions Affecting Service, Performance, and Costs

Durham — Yard Waste/Leaf Collection

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

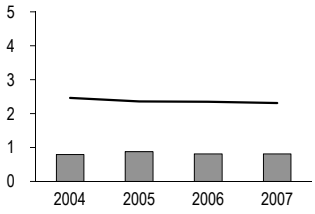
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

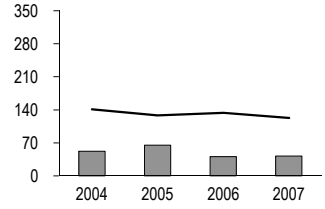
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

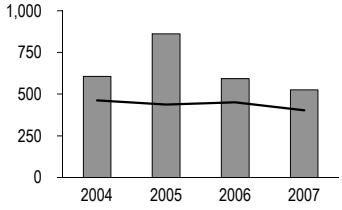
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Durham	52	65	41	42
Average	141	128	134	123

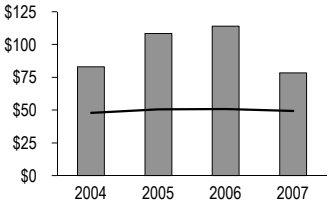
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Durham	606	862	593	526
Average	463	438	451	403

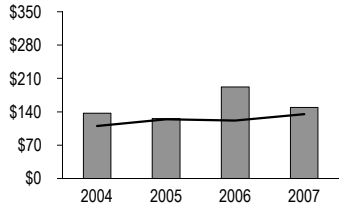
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



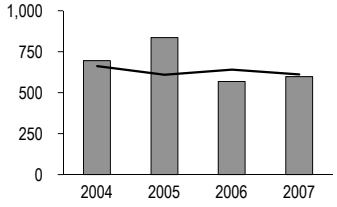
	2004	2005	2006	2007
Durham	$83	$108	$114	$78
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Durham	$137	$126	$192	$149
Average	$110	$124	$122	$135

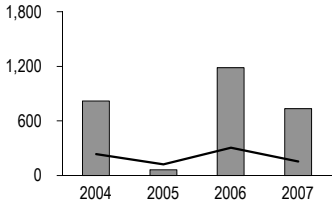
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Durham	696	835	569	597
Average	663	610	642	612

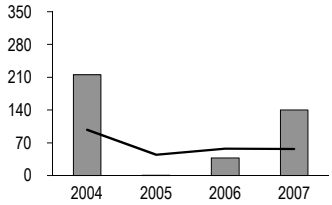
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



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

Valid Complaints per 10,000 Collection Points



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

Durham

MUNICIPAL PROFILE

Population (OSBM 2006)	214,559
Land Area (Square Miles)	103.67
Persons per Square Mile	2,070
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		55.1%
Operating Costs		28.6%
Capital Costs		16.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	735,098
Operating Costs	$	382,237
Capital Costs	$	217,251
TOTAL	$	1,334,586

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	8,961
Leaves	included above
Total	8,961
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 that pay an annual fee of $60 plus $44 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.

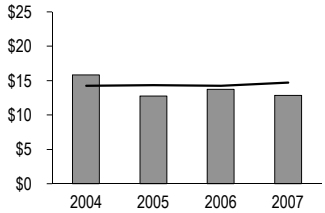
Conditions Affecting Service, Performance, and Costs

Gastonia — Yard Waste/Leaf Collection

Key: Gastonia ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

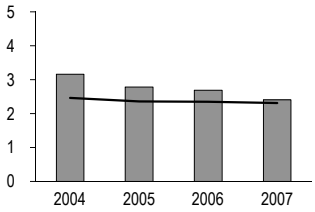
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

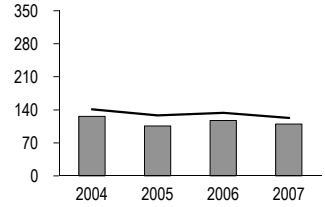
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

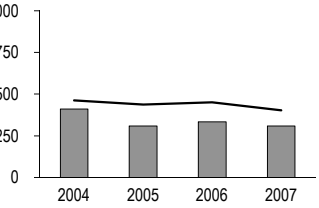
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Gastonia	126	106	117	110
Average	141	128	134	123

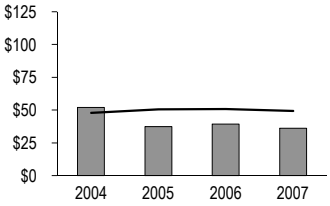
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Gastonia	410	309	335	309
Average	463	438	451	403

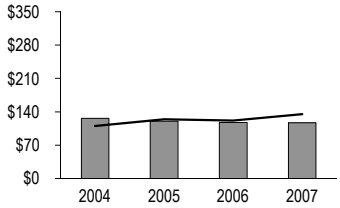
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



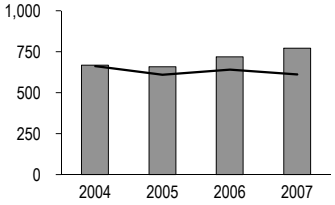
	2004	2005	2006	2007
Gastonia	$52	$37	$39	$36
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Gastonia	$126	$120	$117	$117
Average	$110	$124	$122	$135

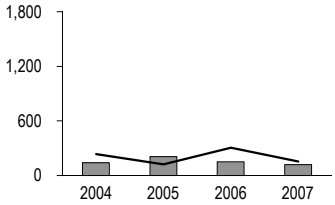
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Gastonia	668	658	719	772
Average	663	610	642	612

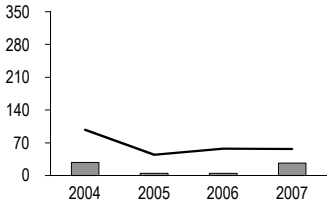
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



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

Valid Complaints per 10,000 Collection Points



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

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2006)	71,376
Land Area (Square Miles)	49.65
Persons per Square Mile	1,438
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		69.7%
Operating Costs		24.1%
Capital Costs		6.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	640,389
Operating Costs	$	221,072
Capital Costs	$	57,130
TOTAL	$	918,591

SERVICE PROFILE

FTE Positions—Collection	10.18
FTE Positions—Other	7.00
Collection Points	
Yard Waste	25,423
Leaves	25,423
Tons Collected	
Yard Waste	6,037
Leaves	1,821
Total	7,858
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 collection year round.

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

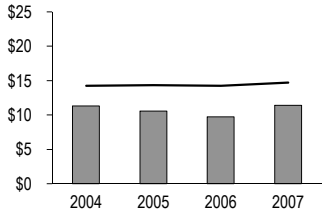
Conditions Affecting Service, Performance, and Costs

Greensboro Yard Waste/Leaf Collection

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

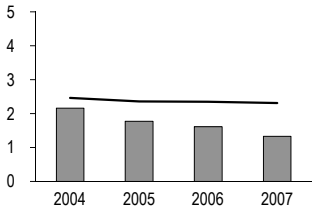
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



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

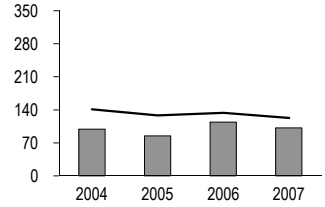
Yard Waste and Leaf Collection FTEs per 10,000 Population



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

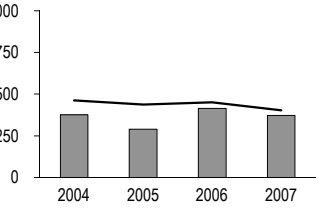
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Greensboro	99	85	114	101
Average	141	128	134	123

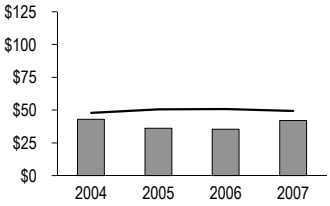
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Greensboro	376	290	415	373
Average	463	438	451	403

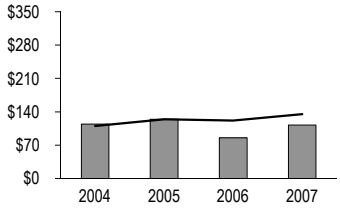
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



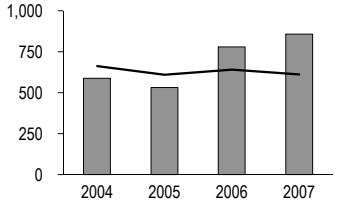
	2004	2005	2006	2007
Greensboro	$43	$36	$35	$42
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Greensboro	$114	$125	$85	$112
Average	$110	$124	$122	$135

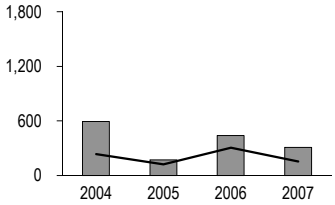
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Greensboro	587	532	780	857
Average	663	610	642	612

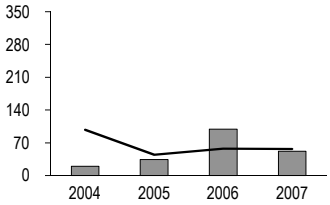
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



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

Valid Complaints per 10,000 Collection Points



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

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2006)	241,767
Land Area (Square Miles)	118.06
Persons per Square Mile	2,048
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		37.3%
Operating Costs		62.7%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,027,895
Operating Costs	$	1,726,825
Capital Costs	$	-
TOTAL	$	2,754,720

SERVICE PROFILE

FTE Positions—Collection	28.62
FTE Positions—Other	3.58
Collection Points	
Yard Waste	65,744
Leaves	65,744
Tons Collected	
Yard Waste	14,160
Leaves	10,360
Total	24,520
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 Department of Transportation. Leaves are picked up a minimum of three times from November until mid-January by vacuuming the leaves from the curb.

The city uses twelve crews during seasonal leaf collection that are made-up of one crew leader, one relay driver, and two temporary employees. The city also uses three one-arm leaf trucks with one permanent employee and one temporary employee.

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.

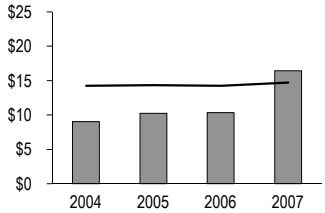
Greensboro began utilizing new software which has allowed better tracking of complaints.

Hickory — Yard Waste/Leaf Collection

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

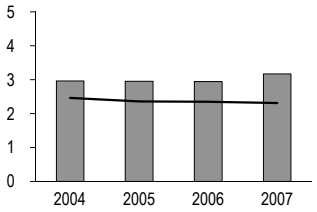
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
Hickory	$9.01	$10.26	$10.34	$16.42
Average	$14.26	$14.35	$14.27	$14.71

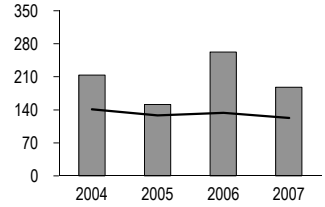
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory	3.0	3.0	2.9	3.2
Average	2.5	2.4	2.4	2.3

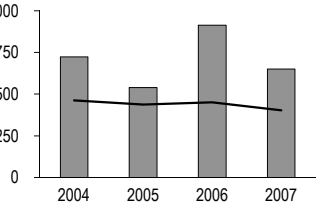
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Hickory	214	151	262	188
Average	141	128	134	123

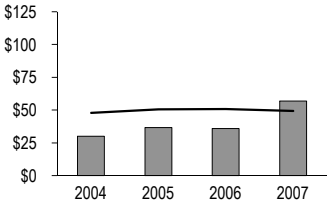
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Hickory	724	539	913	651
Average	463	438	451	403

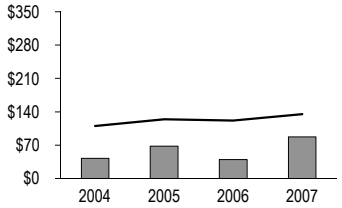
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



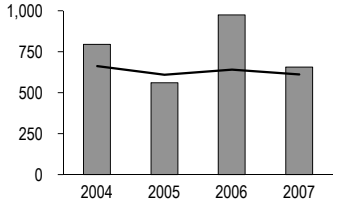
	2004	2005	2006	2007
Hickory	$30	$37	$36	$57
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Hickory	$42	$68	$39	$87
Average	$110	$124	$122	$135

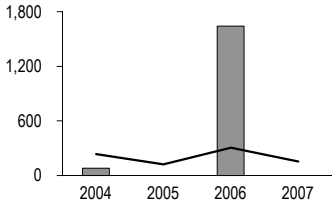
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Hickory	794	561	975	656
Average	663	610	642	612

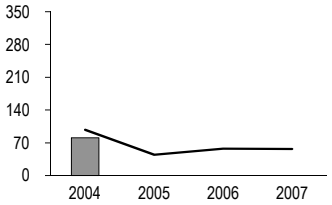
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Hickory	81		1641	
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Hickory	81			
Average	98	44	57	56

Hickory

MUNICIPAL PROFILE

Population (OSBM 2006)	40,214
Land Area (Square Miles)	28.95
Persons per Square Mile	1,389
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		43.7%
Operating Costs		45.8%
Capital Costs		10.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	288,574
Operating Costs	$	302,488
Capital Costs	$	69,296
TOTAL	$	660,358

SERVICE PROFILE

FTE Positions—Collection	11.5
FTE Positions—Other	1.25
Collection Points	
Yard Waste	11,600
Leaves	11,600
Tons Collected	
Yard Waste	4,304
Leaves	3,243
Total	7,547
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 comprised of one driver and one laborer each. Large piles are collected with a knuckle-boom loader with one driver on a scheduled basis working about half-time.

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. There were four seasonal crews during FY 2006–07, each consisting of one driver and three collectors. 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 which significantly increased the yard waste tonnage collected for FY 2005-06. With 4,000 tons of limbs to remove from the streets, it took six weeks for the city to clear the backlog. As a consequence, the number of calls for service increased, which is reflected in the complaint section.

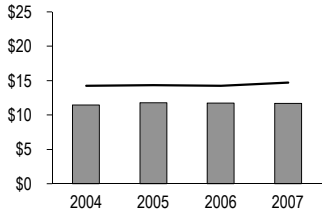
Hickory does not allocate the resources it would take to differentiate between valid and non-valid complaints. Complaints for FY 2006-07 were not available.

High Point — Yard Waste/Leaf Collection

Key: High Point ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

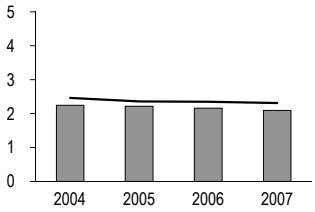
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
High Point	$11.44	$11.79	$11.74	$11.69
Average	$14.26	$14.35	$14.27	$14.71

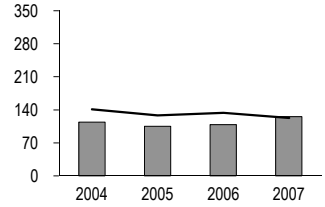
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	2.2	2.2	2.2	2.1
Average	2.5	2.4	2.4	2.3

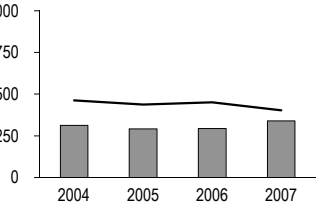
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
High Point	114	105	108	125
Average	141	128	134	123

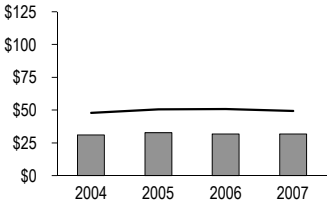
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
High Point	313	292	293	339
Average	463	438	451	403

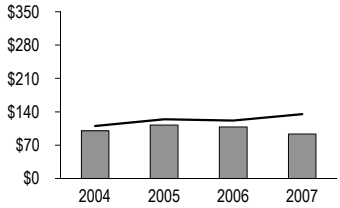
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



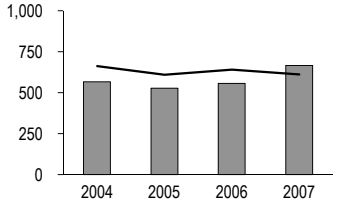
	2004	2005	2006	2007
High Point	$31	$33	$32	$32
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
High Point	$100	$112	$108	$93
Average	$110	$124	$122	$135

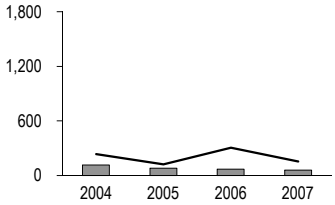
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
High Point	566	528	556	665
Average	663	610	642	612

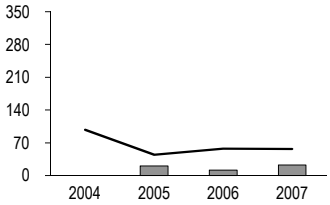
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
High Point	115	81	72	60
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
High Point		20	12	22
Average	98	44	57	56

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
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		68.6%
Operating Costs		24.0%
Capital Costs		7.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	767,269
Operating Costs	$	268,678
Capital Costs	$	82,100
TOTAL	$	1,118,047

SERVICE PROFILE

FTE Positions—Collection	18.0
FTE Positions—Other	2.0
Collection Points	
Yard Waste	35,332
Leaves	35,332
Tons Collected	
Yard Waste	10,119
Leaves	1,854
Total	11,973
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.

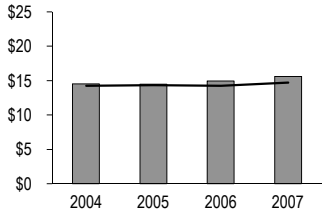
Conditions Affecting Service, Performance, and Costs

Matthews — Yard Waste/Leaf Collection

Key: Matthews ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

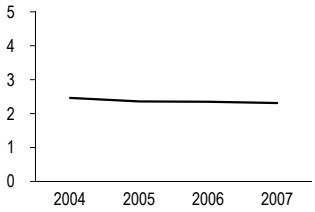
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
Matthews	$14.51	$14.50	$14.93	$15.58
Average	$14.26	$14.35	$14.27	$14.71

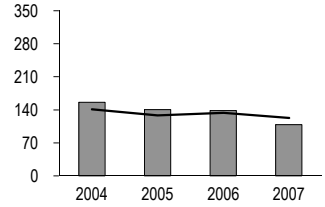
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Matthews				
Average	2.5	2.4	2.4	2.3

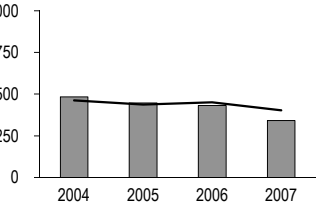
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Matthews	156	140	138	109
Average	141	128	134	123

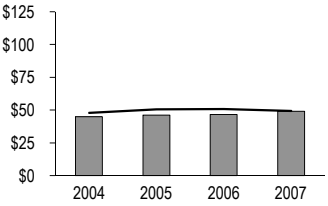
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Matthews	483	447	433	342
Average	463	438	451	403

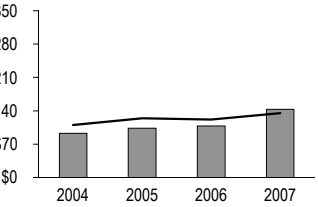
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



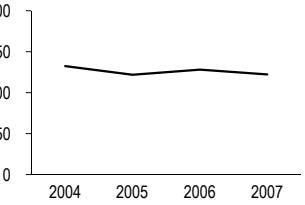
	2004	2005	2006	2007
Matthews	$45	$46	$47	$49
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Matthews	$93	$104	$108	$143
Average	$110	$124	$122	$135

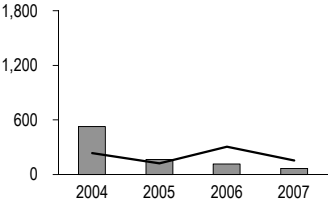
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Matthews				
Average	663	610	642	612

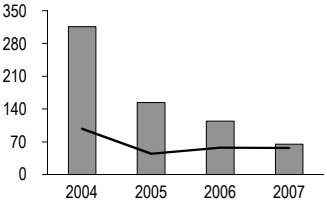
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Matthews	528	164	114	65
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Matthews	316	154	114	65
Average	98	44	57	56

Matthews

MUNICIPAL PROFILE

Population (OSBM 2006)	26,554
Land Area (Square Miles)	16.63
Persons per Square Mile	1,597
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	$	413,771
Capital Costs	$	-
TOTAL	$	413,771

SERVICE PROFILE

FTE Positions—Collection	0.0
FTE Positions—Other	0.0
Collection Points	
Yard Waste	8,435
Leaves	8,435
Tons Collected	
Yard Waste	2,888
Leaves	included above
Total	2,888
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 2006–07 in the amount of $398,737. 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.

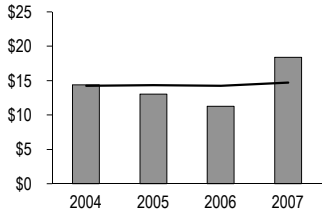
Conditions Affecting Service, Performance, and Costs
Matthews is the only jurisdiction that contracts 100 percent of its yard waste/leaf collection program.

Raleigh — Yard Waste/Leaf Collection

Key: Raleigh ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

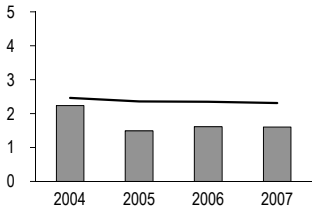
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
Raleigh	$14.41	$13.03	$11.26	$18.38
Average	$14.26	$14.35	$14.27	$14.71

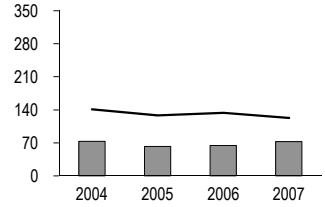
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Raleigh	2.2	1.5	1.6	1.6
Average	2.5	2.4	2.4	2.3

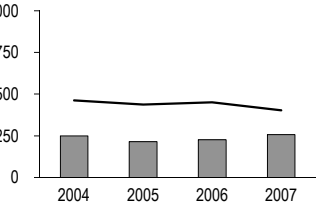
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Raleigh	73	62	64	72
Average	141	128	134	123

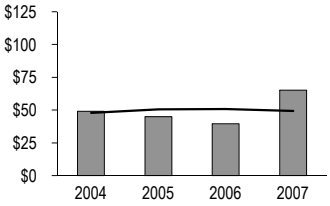
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Raleigh	249	214	227	257
Average	463	438	451	403

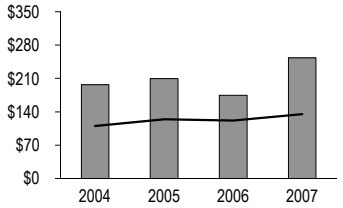
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



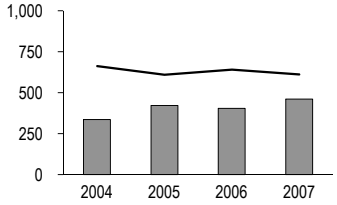
	2004	2005	2006	2007
Raleigh	$49	$45	$40	$65
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Raleigh	$197	$210	$175	$254
Average	$110	$124	$122	$135

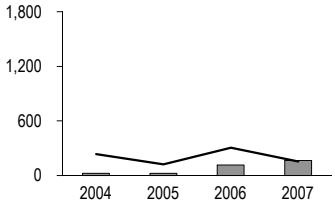
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Raleigh	336	421	404	461
Average	663	610	642	612

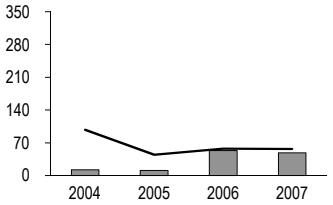
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Raleigh	26	26	114	164
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Raleigh	12	11	53	49
Average	98	44	57	56

MUNICIPAL PROFILE

Population (OSBM 2006)	355,902
Land Area (Square Miles)	133.91
Persons per Square Mile	2,658
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		54.2%
Operating Costs		32.6%
Capital Costs		13.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,541,839
Operating Costs	$	2,133,119
Capital Costs	$	865,376
TOTAL	$	6,540,334

SERVICE PROFILE

FTE Positions—Collection	56.0
FTE Positions—Other	1.0
Collection Points	
Yard Waste	100,464
Leaves	100,464
Tons Collected	
Yard Waste	21,042
Leaves	4,758
Total	25,800
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

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 $8.30 per month which also covers yard waste.

Raleigh used twelve three-person crews to collect yard waste during FY 2006–07. 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 contains one equipment operator and two collectors. Crews for the seasonal leaf collection are located in street maintenance.

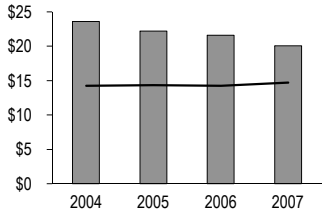
Conditions Affecting Service, Performance, and Costs

Salisbury Yard Waste/Leaf Collection

Key: Salisbury ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

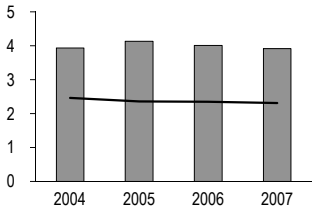
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
Salisbury	$23.61	$22.18	$21.60	$20.07
Average	$14.26	$14.35	$14.27	$14.71

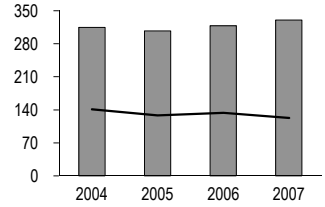
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury	3.9	4.1	4.0	3.9
Average	2.5	2.4	2.4	2.3

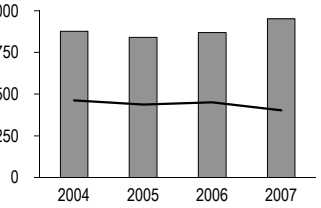
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Salisbury	315	307	318	331
Average	141	128	134	123

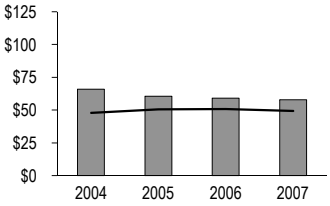
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Salisbury	878	840	869	953
Average	463	438	451	403

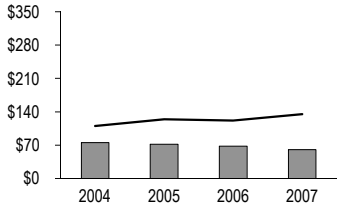
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



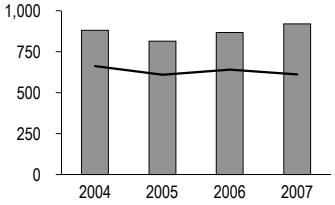
	2004	2005	2006	2007
Salisbury	$66	$61	$59	$58
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Salisbury	$75	$72	$68	$61
Average	$110	$124	$122	$135

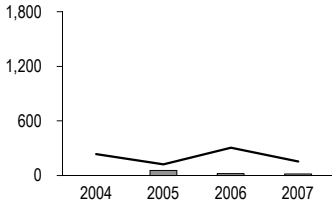
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Salisbury	880	815	868	921
Average	663	610	642	612

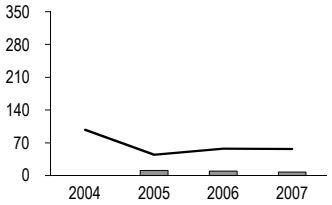
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Salisbury		56	23	17
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Salisbury		11	9	8
Average	98	44	57	56

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
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		66.6%
Operating Costs		21.7%
Capital Costs		11.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	409,318
Operating Costs	$	133,642
Capital Costs	$	71,751
TOTAL	$	614,711

SERVICE PROFILE

FTE Positions—Collection	11.00
FTE Positions—Other	1.00
Collection Points	
Yard Waste	10,632
Leaves	10,632
Tons Collected	
Yard Waste	7,140
Leaves	2,988
Total	10,128
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 pick-ups, 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 2006–07.

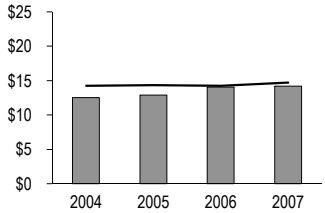
Conditions Affecting Service, Performance, and Costs

Wilmington — Yard Waste/Leaf Collection

Key: Wilmington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

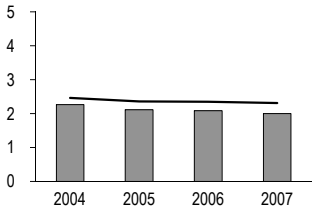
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
Wilmington	$12.51	$12.90	$14.08	$14.19
Average	$14.26	$14.35	$14.27	$14.71

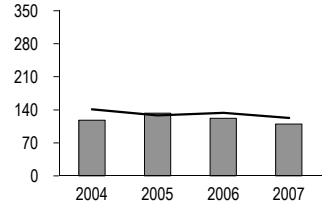
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Wilmington	2.3	2.1	2.1	2.0
Average	2.5	2.4	2.4	2.3

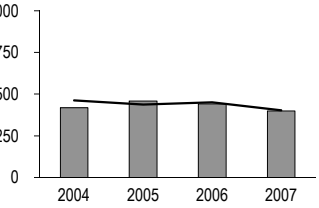
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Wilmington	118	133	122	110
Average	141	128	134	123

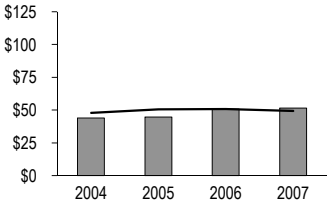
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Wilmington	419	459	441	398
Average	463	438	451	403

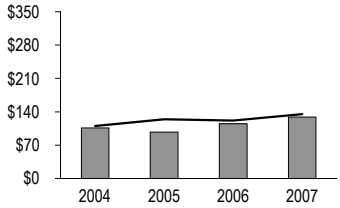
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



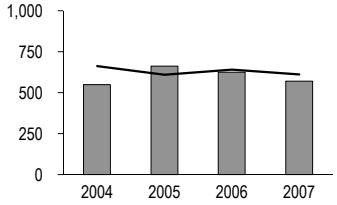
	2004	2005	2006	2007
Wilmington	$44	$45	$51	$51
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Wilmington	$106	$97	$115	$129
Average	$110	$124	$122	$135

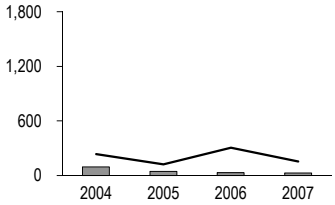
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Wilmington	549	662	625	570
Average	663	610	642	612

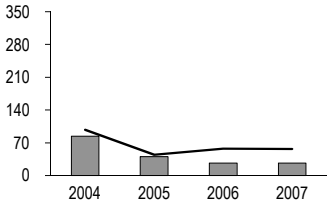
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Wilmington	95	46	32	29
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Wilmington	84	41	26	27
Average	98	44	57	56

MUNICIPAL PROFILE

Population (OSBM 2006)	98,529
Land Area (Square Miles)	49.20
Persons per Square Mile	2,003
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		54.6%
Operating Costs		34.0%
Capital Costs		11.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	763,463
Operating Costs	$	474,644
Capital Costs	$	159,927
TOTAL	$	1,398,034

SERVICE PROFILE

FTE Positions—Collection	19.00
FTE Positions—Other	0.75
Collection Points	
Yard Waste	27,178
Leaves	27,178
Tons Collected	
Yard Waste	10,826
Leaves	included above
Total	10,826
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 pick up, but the amount of crew time spent at each household is limited to fifteen minutes. Yard waste is picked up by eight crews using packer trucks staffed by two-person crews consisting of one driver and one laborer working four ten-hour days each week.

There was no separate fee for yard waste collection in FY 2006–07, including bulky items. However, the cost is included in the fee for solid waste collection.

Leaf collection is not a separate function for the city of Wilmington. Leaves are collected throughout the year with the regular yard waste program.

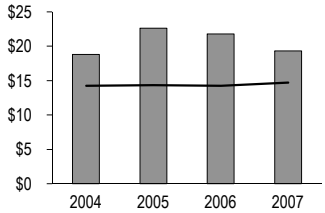
Conditions Affecting Service, Performance, and Costs

Wilson — Yard Waste/Leaf Collection

Key: Wilson ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

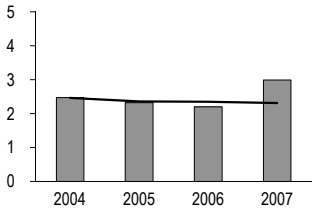
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
Wilson	$18.83	$22.63	$21.77	$19.33
Average	$14.26	$14.35	$14.27	$14.71

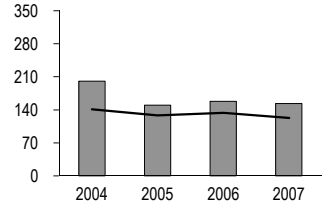
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Wilson	2.5	2.3	2.2	3.0
Average	2.5	2.4	2.4	2.3

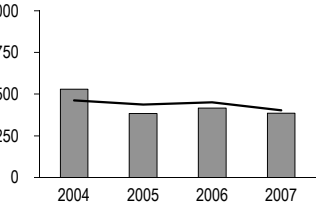
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Wilson	201	150	158	154
Average	141	128	134	123

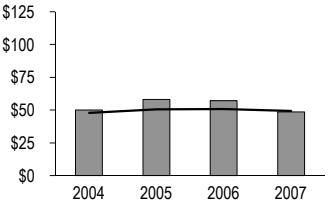
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Wilson	531	384	416	386
Average	463	438	451	403

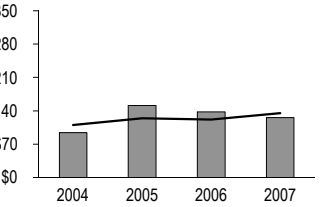
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



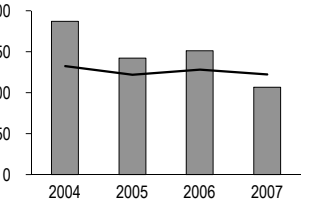
	2004	2005	2006	2007
Wilson	$50	$58	$57	$49
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Wilson	$94	$151	$138	$126
Average	$110	$124	$122	$135

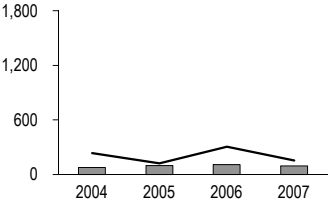
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Wilson	936	711	757	533
Average	663	610	642	612

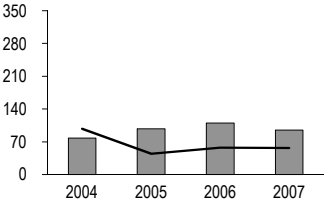
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Wilson	78	98	110	95
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Wilson	78	98	110	95
Average	98	44	57	56

MUNICIPAL PROFILE

Population (OSBM 2006)	48,562
Land Area (Square Miles)	28.16
Persons per Square Mile	1,725
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		45.5%
-Operating Costs		31.1%
-Capital Costs		23.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	427,211
Operating Costs	$	292,209
Capital Costs	$	219,202
TOTAL	$	938,622

SERVICE PROFILE

FTE Positions—Collection	14.0
FTE Positions—Other	0.5
Collection Points	
Yard Waste	19,300
Leaves	19,300
Tons Collected	
Yard Waste	5,535
Leaves	1,920
Total	7,455
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 containerized in bags, sheets, rollout containers, or other container types for collection by rear-loader packers. Yard waste is collected once per week by compost crews on the same day as residential refuse collection.

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.

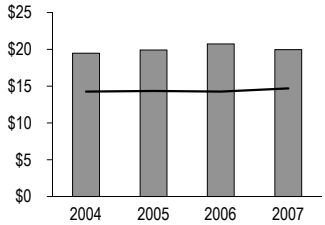
Conditions Affecting Service, Performance, and Costs

Winston-Salem Yard Waste/Leaf Collection

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

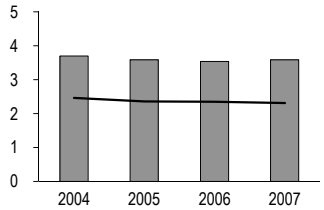
RESOURCE Measures

Yard Waste and Leaf Collection Costs per Capita



	2004	2005	2006	2007
Winston-Salem	$19.48	$19.90	$20.72	$19.97
Average	$14.26	$14.35	$14.27	$14.71

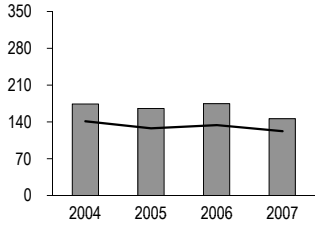
Yard Waste and Leaf Collection FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	3.7	3.6	3.5	3.6
Average	2.5	2.4	2.4	2.3

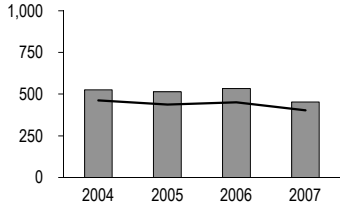
WORKLOAD Measures

Yard Waste and Leaf Tons Collected per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	174	166	175	146
Average	141	128	134	123

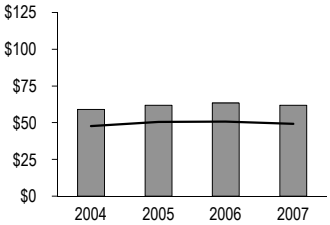
Yard Waste and Leaf Tons Collected per 1,000 Collection Points



	2004	2005	2006	2007
Winston-Salem	527	514	534	453
Average	463	438	451	403

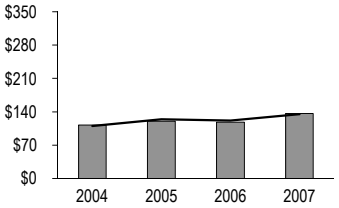
EFFICIENCY Measures

Yard Waste and Leaf Collection Cost per Collection Point



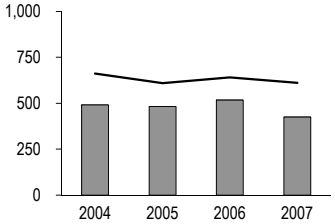
	2004	2005	2006	2007
Winston-Salem	$59	$62	$63	$62
Average	$48	$51	$51	$49

Yard Waste and Leaf Collection Cost per Ton Collected



	2004	2005	2006	2007
Winston-Salem	$112	$120	$118	$137
Average	$110	$124	$122	$135

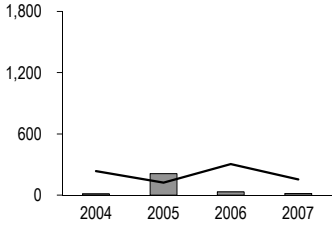
Yard Waste and Leaf Tons Collected per Collection FTE



	2004	2005	2006	2007
Winston-Salem	491	483	517	425
Average	663	610	642	612

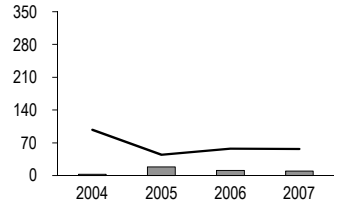
EFFECTIVENESS Measures

Collection Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Winston-Salem	14	209	30	15
Average	237	123	305	155

Valid Complaints per 10,000 Collection Points



	2004	2005	2006	2007
Winston-Salem	3	18	11	10
Average	98	44	57	56

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.22
Persons per Square Mile	1,659
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		58.0%
Operating Costs		26.9%
Capital Costs		15.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,559,430
Operating Costs	$	1,185,234
Capital Costs	$	669,318
TOTAL	$	4,413,982

SERVICE PROFILE

FTE Positions—Collection	76.00
FTE Positions—Other	3.13
Collection Points	
Brush Collection	71,250
Yard Waste	14,179
Leaves	71,250
Tons Collected	
Yard and Brush Waste	20,565
Leaves	11,728
Total	32,293
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

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 in FY 2006–07.

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 14,179 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 can have up to three carts.

The city's seasonal leaf collection program picks up leaves that are deposited at the curb between November 1 and January 15. Loose leaves are vacuumed two to three times during this time period. Containerized leaves are collected throughout the year as part of the yard waste program. The city uses thirty-two crews for seasonal leaf collection, with a combination of equipment operators, maintenance workers, and both permanent and seasonal workers.

Conditions Affecting Service, Performance, and Costs
The performance measure "cost per collection point" is based on 71,250 collection points.

Winston-Salem annexed 19,059 residents effective September 30,2006. The annexed areas are comprised of 8,579 dwelling units, twenty square miles, and eighty-six miles of streets. As a result of the effective date, the additional costs reported for the benchmarking project only reflect nine months of service to these newly annexed areas.

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 2006–07.

5. Response Time to High Priority Calls

Each police department defines high priority calls somewhat differently. The definitions generally refer to crimes in progress or situations where there are risks of injury or threats to life or property. Response time commences with the dispatch of an officer and ends with the arrival of the officer at the scene of the incident. The officer may be dispatched while on patrol or from the police station.

Police Services

Summary of Key Dimensions of Service

City or Town	Police Department Accredited?	Number of Sworn Officers	Average Length of Service for Sworn Officers (years)	Number of Patrol Vehicles	Reporting Format	Part 1 Crimes			Part 2 Crimes	Dispatched Calls	Number of Traffic Accidents
						Against Persons	Against Property	Total			
Asheville	Yes	190	9.5	181	UCR	521	4,227	4,748	4,905	102,281	3,738
Burlington	Yes	112	10.3	135	IBR	411	3,569	3,980	5,125	75,940	1,619
Carrboro	No	39	8.0	40	UCR/IBR	81	1,118	1,199	906	18,486	224
Cary	Yes	157	6.5	111	IBR	148	2,293	2,441	2,348	109,731	4,049
Concord	No	148	8.3	175	IBR	272	3,203	3,475	5,078	81,714	3,271
Durham	Yes	500	9.3	403	IBR	1,893	11,903	13,796	9,688	239,993	4,188
Gastonia	No	167	11.2	210	UCR	802	5,786	6,588	7,749	72,162	1,671
Greensboro	Yes	592	10.0	196	UCR	2,263	14,873	17,136	17,203	274,135	9,788
Hickory	No	108	9.0	132	IBR	295	3,383	3,678	3,821	93,249	2,294
High Point	No	225	5.0	202	IBR	704	5,494	6,198	3,285	140,613	4,613
Matthews	No	56	7.8	60	UCR	81	1,076	1,157	1,078	29,251	1,720
Raleigh	Yes	746	9.2	341	UCR	2,250	13,355	15,605	20,487	408,391	19,257
Salisbury	Yes	87	10.3	101	IBR	318	2,053	2,371	2,427	36,091	1,940
Wilmington	No	254	9.1	263	IBR	840	6,431	7,271	5,353	173,235	4,408
Wilson	Yes	114	9.0	112	IBR	237	2,268	2,505	5,310	73,474	2,056
Winston-Salem	Yes	504	10.5	339	IBR	1,699	13,964	15,663	44,485	250,916	8,671

NOTES

EXPLANATORY FACTORS

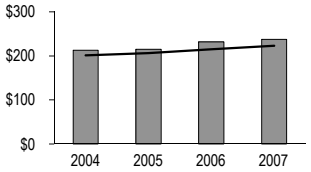
These are factors that the project found to affect police services performance and cost in one or more of the municipalities:

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 2007

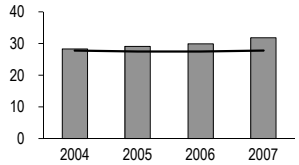
RESOURCE Measures

Police Services Costs per Capita



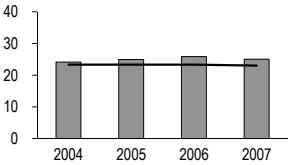
	2004	2005	2006	2007
Asheville	$213	$215	$232	$237
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Asheville	28.3	29.1	29.9	31.9
Average	27.8	27.5	27.5	27.7

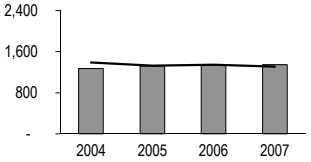
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Asheville	24.1	25.0	25.8	25.0
Average	23.3	23.3	23.3	23.0

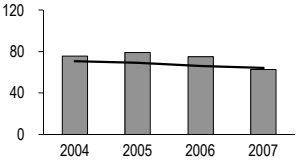
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Asheville	1,271	1,321	1,340	1,347
Average	1,393	1,328	1,345	1,307

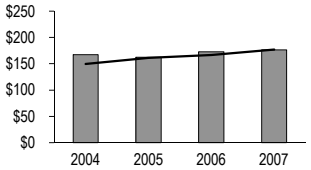
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Asheville	75.6	78.9	75.0	62.5
Average	70.5	68.9	66.0	64.1

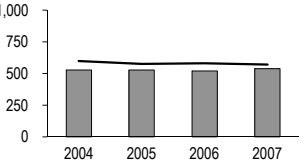
EFFICIENCY Measures

Police Services Cost per Call Dispatched



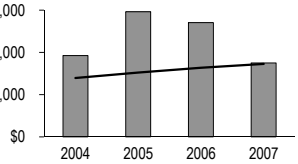
	2004	2005	2006	2007
Asheville	$167	$163	$173	$176
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



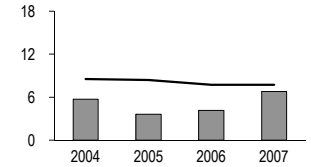
	2004	2005	2006	2007
Asheville	527	529	519	538
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Asheville	$15,381	$23,675	$21,653	$13,987
Average	$11,170	$12,163	$13,115	$13,811

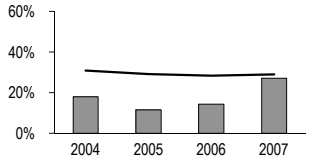
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Asheville	5.7	3.6	4.1	6.8
Average	8.5	8.4	7.7	7.7

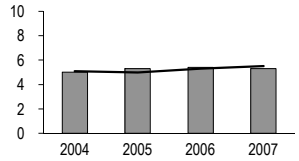
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Asheville	18.0%	11.5%	14.3%	27.1%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Asheville	5.0	5.3	5.4	5.3
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
County	Buncombe
Median Family Income (US Census 2000)	$44,029
Unemployment Rate (ESC-06)	3.8%
Part I Crimes Reported	
Homicide	7
Rape	33
Robbery	239
Assault	242
Burglary	884
Larceny	2,830
Auto Theft	463
Arson	50
TOTAL	4,748

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.8%
Operating Costs		19.6%
Capital Costs		9.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	12,752,814
Operating Costs	$	3,539,332
Capital Costs	$	1,722,540
TOTAL	$	18,014,686

SERVICE PROFILE

FTE Positions—Sworn	190.0
FTE Positions—Other	52.0
Part I Crimes Cleared	
Persons	263
Property	1,025
Total	1,288
Reporting Format	UCR
Part II Crimes Reported	4,905
Number of Calls Dispatched	102,281
Traffic Accidents	3,738
Property Damage	$14,632,000

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 190 sworn officer positions authorized for FY 2006–07, with an average length of service of nine and a half 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 Monday and the other half off on Fridays. Detective supervisors work five eight-hour days.

Specialty units such as traffic, SWAT, and detectives have assigned take home cars. Additionally, sergeants and higher ranked officers also have assigned vehicles. Patrol cars have multiple users.

The police department was successful in clearing a total of 1,288 Part I cases in FY 2006–07.

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.

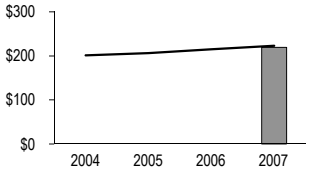
Conditions Affecting Service, Performance, and Costs
Significant efforts have been made in the last year to reduce drug crime in Asheville. The number of drug violations has doubled over the prior year. However, the number of Part 1 crimes has declined, which is believed to be due in part to the focus on reducing drug crime.

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.

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

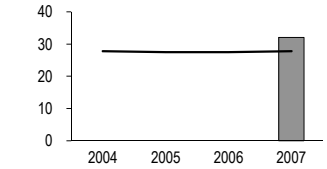
RESOURCE Measures

Police Services Costs per Capita



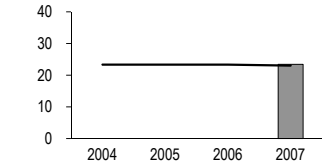
	2004	2005	2006	2007
Burlington				$220
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Burlington				32.1
Average	27.8	27.5	27.5	27.7

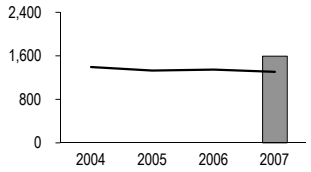
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Burlington				23.5
Average	23.3	23.3	23.3	23.0

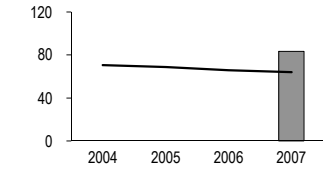
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Burlington				1,592
Average	1,393	1,328	1,345	1,307

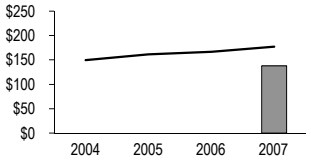
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Burlington				83.5
Average	70.5	68.9	66.0	64.1

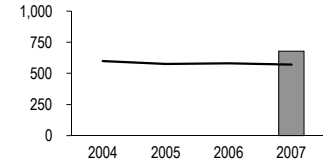
EFFICIENCY Measures

Police Services Cost per Call Dispatched



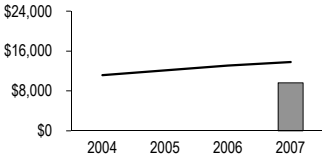
	2004	2005	2006	2007
Burlington				$138
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



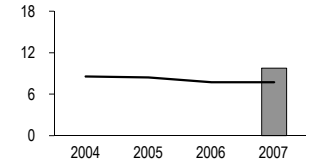
	2004	2005	2006	2007
Burlington				678
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Burlington				$9,601
Average	$11,170	$12,163	$13,115	$13,811

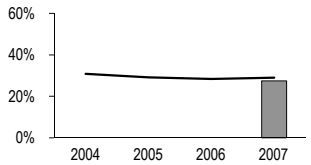
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Burlington				9.7
Average	8.5	8.4	7.7	7.7

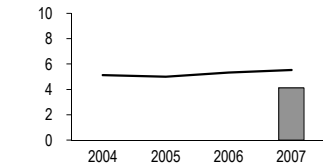
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Burlington				27.4%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Burlington				4.1
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
County	Alamance
Median Family Income (US Census 2000)	$45,441
Unemployment Rate (ESC-06)	5.5%
Part I Crimes Reported	
Homicide	3
Rape	19
Robbery	108
Assault	281
Burglary	760
Larceny	2,621
Auto Theft	173
Arson	15
TOTAL	3,980

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.8%
Operating Costs		15.0%
Capital Costs		11.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,726,571
Operating Costs	$	1,567,104
Capital Costs	$	1,180,796
TOTAL	$	10,474,471

SERVICE PROFILE

FTE Positions—Sworn	112.0
FTE Positions—Other	41.0
Part I Crimes Cleared	
Persons	274
Property	817
Total	1,091
Reporting Format	IBR
Part II Crimes Reported	5,125
Number of Calls Dispatched	75,940
Traffic Accidents	1,619
Property Damage	$7,100,000

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 2006–07, with an average length of service of 10.3 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 uniform patrol officers work a permanent day or night shift with four days on, four days off, for 10.75 hours each day for a total of 2,080 hours per year. The schedule includes eighty-four court hours and forty training hours. Investigators work a forty-hour week of four ten-hour days.

Vehicles are assigned following a take home policy. All sworn employees with the exception of the Chief, Deputy Chief, and Major have take home vehicles.

The definition of a high priority call in Burlington is any call requiring immediate police response. These include crimes in progress where there is a threat to life and officers responding to traffic crashes or other incidents creating a life threatening situation.

The police department was successful in clearing a total of 1,091 Part I cases in FY 2006–07.

Conditions Affecting Service, Performance, and Costs

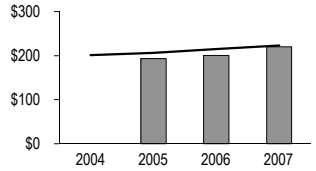
The average response time to high priority calls in FY 2006–07 reflects the response time of the first arriving unit. Self-initiated calls are not included in the response time.

Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006-07.

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

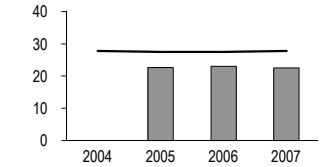
RESOURCE Measures

Police Services Costs per Capita



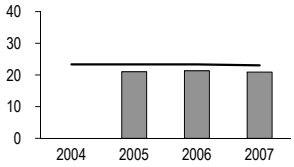
	2004	2005	2006	2007
Carrboro		$193	$201	$220
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Carrboro		22.7	23.0	22.6
Average	27.8	27.5	27.5	27.7

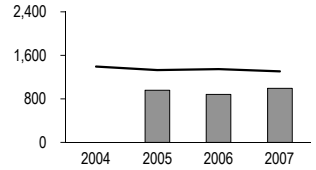
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Carrboro		21.0	21.4	21.0
Average	23.3	23.3	23.3	23.0

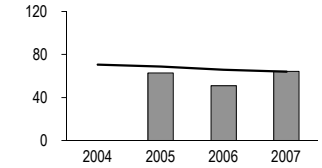
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Carrboro		958	881	993
Average	1,393	1,328	1,345	1,307

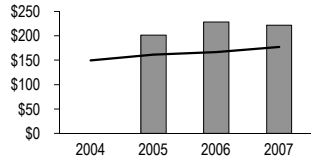
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Carrboro		62.9	51.0	64.4
Average	70.5	68.9	66.0	64.1

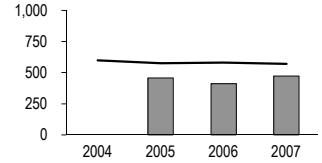
EFFICIENCY Measures

Police Services Cost per Call Dispatched



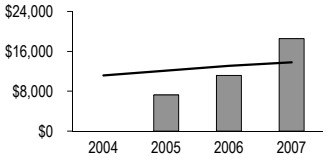
	2004	2005	2006	2007
Carrboro		$201	$228	$222
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



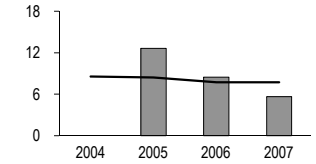
	2004	2005	2006	2007
Carrboro		457	412	474
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Carrboro		$7,274	$11,135	$18,546
Average	$11,170	$12,163	$13,115	$13,811

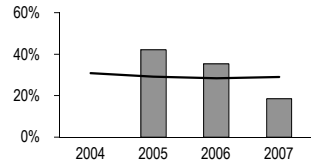
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Carrboro		12.6	8.4	5.7
Average	8.5	8.4	7.7	7.7

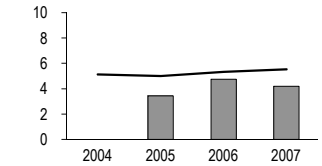
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Carrboro		42.2%	35.4%	18.4%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Carrboro		3.4	4.8	4.2
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	18,611
Land Area (Square Miles)	6.22
Persons per Square Mile	2,992
County	Orange
Median Family Income (US Census 2000)	$47,330
Unemployment Rate (ESC-06)	3.3%
Part I Crimes Reported	
Homicide	0
Rape	7
Robbery	28
Assault	46
Burglary	216
Larceny	866
Auto Theft	34
Arson	2
TOTAL	1,199

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.7%
Operating Costs		34.3%
Capital Costs		8.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,363,791
Operating Costs	$	1,404,399
Capital Costs	$	330,572
TOTAL	$	4,098,762

SERVICE PROFILE

FTE Positions—Sworn	39.0
FTE Positions—Other	3.0
Part I Crimes Cleared	
Persons	27
Property	194
Total	221
Reporting Format	UCR-IBR
Part II Crimes Reported	906
Number of Calls Dispatched	18,486
Traffic Accidents	224
Property Damage	NA

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 2006–07, with an average length of service of eight years. Police services occupies part of a shared facility located in the downtown area of Carrboro.

Carrboro's uniform patrol officers work 168 hours in a twenty-eight-day cycle. The uniform 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 just occurred, a suspect still in the vicinity, potential violence, or imminent danger.

The police department was successful in clearing a total of 221 Part I cases in FY 2006–07.

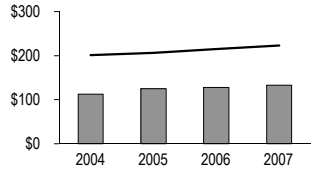
Conditions Affecting Service, Performance, and Costs

The average response time to high priority calls in FY 2005–06 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 2007

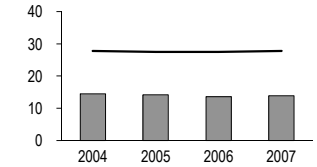
RESOURCE Measures

Police Services Costs per Capita



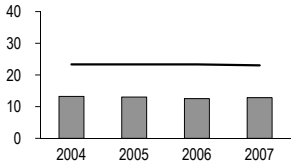
	2004	2005	2006	2007
Cary	$113	$125	$128	$133
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Cary	14.5	14.2	13.6	13.9
Average	27.8	27.5	27.5	27.7

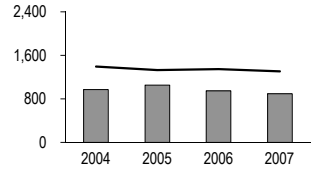
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Cary	13.3	13.0	12.5	12.8
Average	23.3	23.3	23.3	23.0

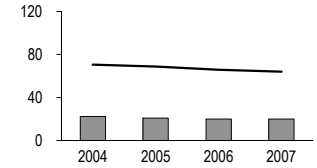
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Cary	972	1,051	947	897
Average	1,393	1,328	1,345	1,307

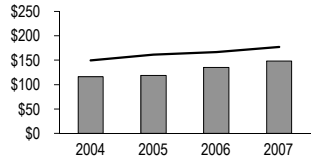
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Cary	22.3	20.8	20.1	20.0
Average	70.5	68.9	66.0	64.1

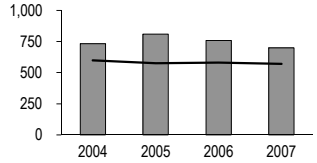
EFFICIENCY Measures

Police Services Cost per Call Dispatched



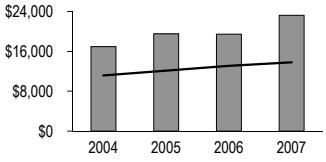
	2004	2005	2006	2007
Cary	$116	$119	$135	$148
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



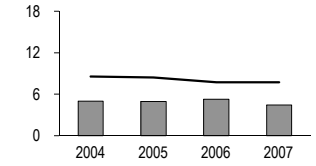
	2004	2005	2006	2007
Cary	733	809	758	699
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Cary	$16,951	$19,533	$19,469	$23,235
Average	$11,170	$12,163	$13,115	$13,811

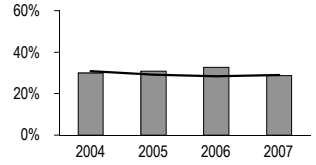
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Cary	5.0	4.9	5.3	4.5
Average	8.5	8.4	7.7	7.7

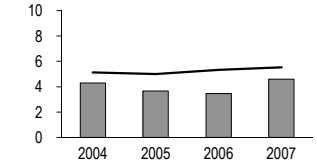
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Cary	30.0%	30.8%	32.7%	28.7%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Cary	4.3	3.7	3.5	4.6
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
County	Wake
Median Family Income (US Census 2000)	$88,074
Unemployment Rate (ESC-06)	3.6%
Part I Crimes Reported	
Homicide	1
Rape	19
Robbery	58
Assault	70
Burglary	541
Larceny	1,608
Auto Theft	123
Arson	21
TOTAL	2,441

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		71.6%
Operating Costs		22.2%
Capital Costs		6.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	11,668,266
Operating Costs	$	3,617,607
Capital Costs	$	1,001,637
TOTAL	$	16,287,510

SERVICE PROFILE

FTE Positions—Sworn	157.0
FTE Positions—Other	13.0
Part I Crimes Cleared	
Persons	78
Property	623
Total	701
Reporting Format	IBR
Part II Crimes Reported	2,348
Number of Calls Dispatched	109,731
Traffic Accidents	4,049
Property Damage	$12,509,516

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 157 sworn officer positions authorized for FY 2006–07, with an average length of service of 6.5 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 which is life threatening in nature.

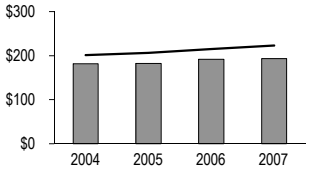
The police department was successful in clearing a total of 701 Part I cases in FY 2006–07.

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 2007

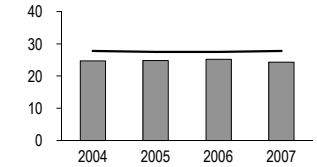
RESOURCE Measures

Police Services Costs per Capita



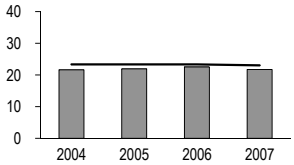
	2004	2005	2006	2007
Concord	$181	$182	$192	$193
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Concord	24.7	24.8	25.2	24.3
Average	27.8	27.5	27.5	27.7

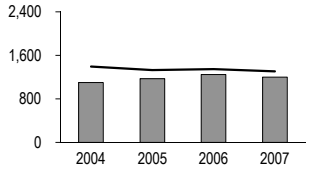
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Concord	21.6	21.9	22.5	21.7
Average	23.3	23.3	23.3	23.0

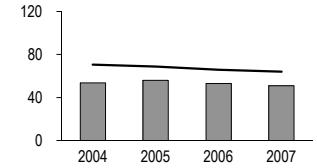
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Concord	1,100	1,169	1,246	1,197
Average	1,393	1,328	1,345	1,307

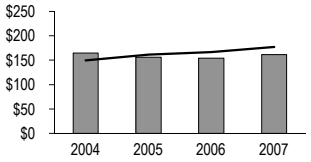
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Concord	53.7	55.9	53.1	50.9
Average	70.5	68.9	66.0	64.1

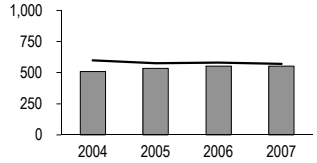
EFFICIENCY Measures

Police Services Cost per Call Dispatched



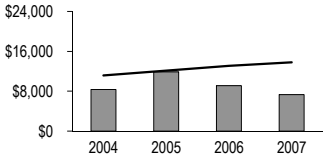
	2004	2005	2006	2007
Concord	$165	$156	$154	$161
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



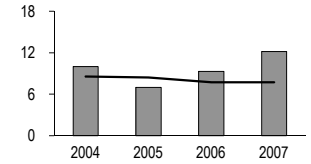
	2004	2005	2006	2007
Concord	509	534	553	552
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Concord	$8,355	$11,879	$9,136	$7,323
Average	$11,170	$12,163	$13,115	$13,811

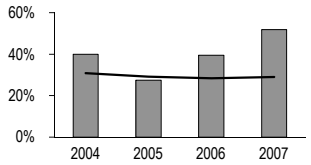
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Concord	10.0	7.0	9.3	12.2
Average	8.5	8.4	7.7	7.7

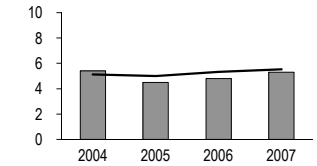
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Concord	40.0%	27.4%	39.5%	51.8%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Concord	5.4	4.5	4.8	5.3
Average	5.1	5.0	5.3	5.5

Concord

MUNICIPAL PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
County	Cabarrus
Median Family Income (US Census 2000)	$53,571
Unemployment Rate (ESC-06)	4.1%
Part I Crimes Reported	
Homicide	4
Rape	17
Robbery	115
Assault	136
Burglary	436
Larceny	2,429
Auto Theft	323
Arson	15
TOTAL	3,475

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.7%
Operating Costs		18.0%
Capital Costs		12.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	9,190,012
Operating Costs	$	2,369,460
Capital Costs	$	1,629,911
TOTAL	$	13,189,383

SERVICE PROFILE

FTE Positions—Sworn	148.0
FTE Positions—Other	18.0
Part I Crimes Cleared	
Persons	181
Property	1,620
Total	1,801
Reporting Format	IBR
Part II Crimes Reported	5,078
Number of Calls Dispatched	81,714
Traffic Accidents	3,271
Property Damage	$10,085,980

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 148 sworn officer positions authorized for FY 2006–07, with an average length of service of 8.25 years. The police headquarters is in a newly opened 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.

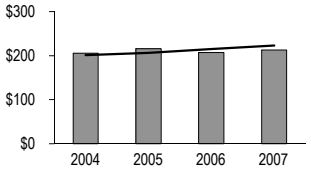
The police department was successful in clearing a total of 1,801 Part I cases in FY 2006–07.

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 2007

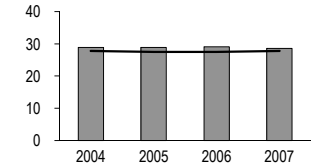
RESOURCE Measures

Police Services Costs per Capita



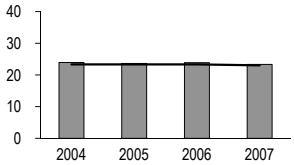
	2004	2005	2006	2007
Durham	$206	$216	$207	$213
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Durham	28.9	28.9	29.1	28.6
Average	27.8	27.5	27.5	27.7

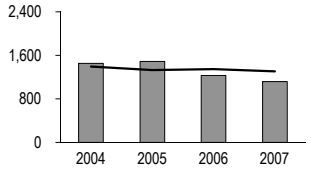
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Durham	23.9	23.6	23.9	23.3
Average	23.3	23.3	23.3	23.0

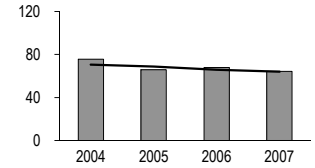
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Durham	1,454	1,487	1,230	1,119
Average	1,393	1,328	1,345	1,307

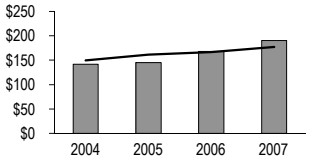
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Durham	75.5	65.9	68.0	64.3
Average	70.5	68.9	66.0	64.1

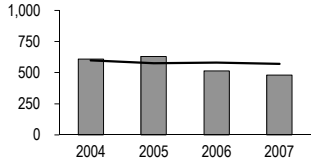
EFFICIENCY Measures

Police Services Cost per Call Dispatched



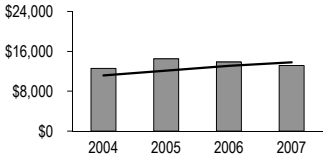
	2004	2005	2006	2007
Durham	$142	$145	$168	$190
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



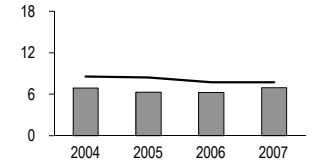
	2004	2005	2006	2007
Durham	608	631	515	480
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Durham	$12,554	$14,519	$13,878	$13,138
Average	$11,170	$12,163	$13,115	$13,811

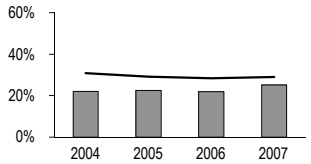
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Durham	6.9	6.3	6.2	7.0
Average	8.5	8.4	7.7	7.7

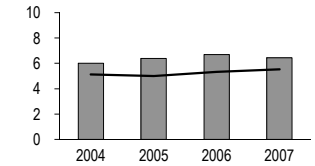
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Durham	22.0%	22.5%	21.9%	25.2%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Durham	6.0	6.4	6.7	6.4
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	214,559
Land Area (Square Miles)	103.67
Persons per Square Mile	2,070
County	Durham
Median Family Income (US Census 2000)	$51,162
Unemployment Rate (ESC-06)	3.9%
Part I Crimes Reported	
Homicide	19
Rape	113
Robbery	925
Assault	836
Burglary	3,333
Larceny	7,362
Auto Theft	1,165
Arson	43
TOTAL	13,796

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.2%
Operating Costs		16.9%
Capital Costs		7.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	34,350,089
Operating Costs	$	7,738,972
Capital Costs	$	3,592,344
TOTAL	$	45,681,405

SERVICE PROFILE

FTE Positions—Sworn	500.0
FTE Positions—Other	114.0
Part I Crimes Cleared	
Persons	920
Property	2,557
Total	3,477
Reporting Format	IBR
Part II Crimes Reported	9,688
Number of Calls Dispatched	239,993
Traffic Accidents	4,188
Property Damage	$15,774,052

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 500 sworn officer positions authorized for FY 2006–07, with an average length of service of 9.3 years. Police headquarters is in a five-story building located in the downtown area that houses administrative offices, training and recruitment, personnel services, crime analysis, fiscal services, information and technology, special operations, criminal investigations, records, community services, telephone response, and warrants. The city also maintains five substations, each staffed with a captain, a lieutenant, sergeants, corporals, master patrol officers, investigators, and a secretary.

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

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

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

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

The police department was successful in clearing a total of 3,477 Part I cases in FY 2006–07.

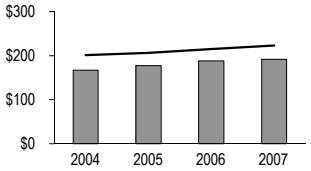
Conditions Affecting Service, Performance, and Costs

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 2007

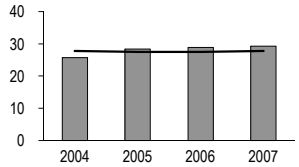
RESOURCE Measures

Police Services Costs per Capita



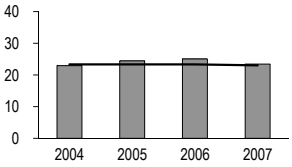
	2004	2005	2006	2007
Gastonia	$167	$177	$188	$192
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Gastonia	25.7	28.3	28.9	29.3
Average	27.8	27.5	27.5	27.7

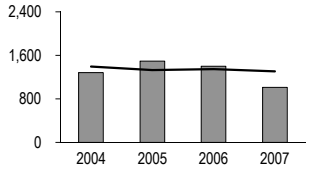
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Gastonia	22.9	24.4	25.1	23.4
Average	23.3	23.3	23.3	23.0

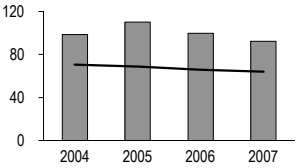
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Gastonia	1,281	1,493	1,400	1,011
Average	1,393	1,328	1,345	1,307

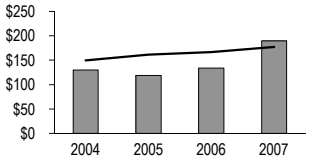
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Gastonia	98.7	110.2	99.7	92.3
Average	70.5	68.9	66.0	64.1

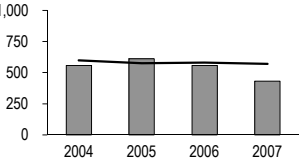
EFFICIENCY Measures

Police Services Cost per Call Dispatched



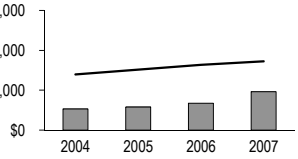
	2004	2005	2006	2007
Gastonia	$130	$119	$134	$190
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



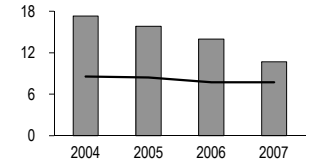
	2004	2005	2006	2007
Gastonia	559	612	559	432
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Gastonia	$4,216	$4,589	$5,364	$7,669
Average	$11,170	$12,163	$13,115	$13,811

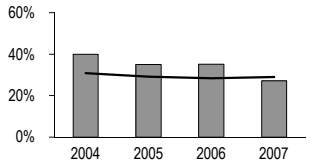
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Gastonia	17.3	15.8	14.0	10.7
Average	8.5	8.4	7.7	7.7

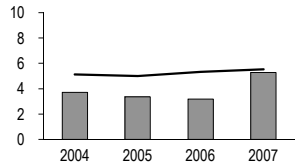
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Gastonia	40.0%	35.0%	35.1%	27.1%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Gastonia	3.7	3.4	3.2	5.3
Average	5.1	5.0	5.3	5.5

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2006)	71,376
Land Area (Square Miles)	49.65
Persons per Square Mile	1,438
County	Gaston
Median Family Income (US Census 2000)	$44,873
Unemployment Rate (ESC-06)	5.5%
Part I Crimes Reported	
Homicide	5
Rape	55
Robbery	277
Assault	465
Burglary	1,269
Larceny	3,886
Auto Theft	557
Arson	74
TOTAL	6,588

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.5%
Operating Costs		17.2%
Capital Costs		3.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	10,887,238
Operating Costs	$	2,358,465
Capital Costs	$	443,176
TOTAL	$	13,688,879

SERVICE PROFILE

FTE Positions—Sworn	167.0
FTE Positions—Other	42.0
Part I Crimes Cleared	
Persons	385
Property	1,400
Total	1,785
Reporting Format	UCR
Part II Crimes Reported	7,749
Number of Calls Dispatched	72,162
Traffic Accidents	1,671
Property Damage	NA

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 2006–07, with an average length of service of 11.2 years. Police services shares a central facility with the city's emergency communications back-up 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 extra territorial 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 1,785 cases in FY 2006–07.

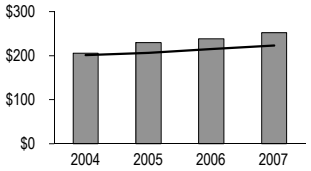
Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

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 numbers or reported calls.

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

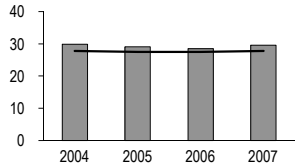
RESOURCE Measures

Police Services Costs per Capita



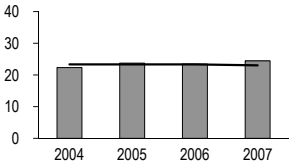
	2004	2005	2006	2007
Greensboro	$206	$230	$238	$252
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Greensboro	29.9	29.0	28.4	29.6
Average	27.8	27.5	27.5	27.7

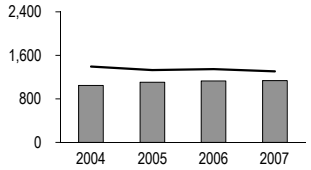
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Greensboro	22.3	23.8	23.4	24.5
Average	23.3	23.3	23.3	23.0

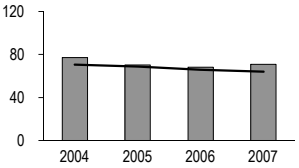
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Greensboro	1,049	1,108	1,129	1,134
Average	1,393	1,328	1,345	1,307

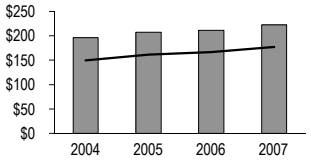
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Greensboro	77.1	70.4	68.2	70.9
Average	70.5	68.9	66.0	64.1

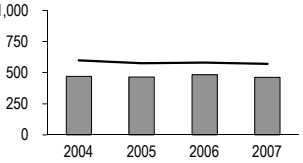
EFFICIENCY Measures

Police Services Cost per Call Dispatched



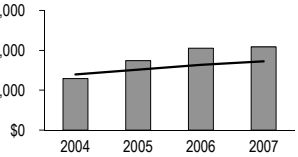
	2004	2005	2006	2007
Greensboro	$196	$207	$211	$222
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



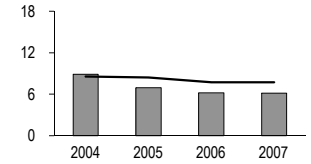
	2004	2005	2006	2007
Greensboro	470	466	483	463
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Greensboro	$10,327	$13,899	$16,436	$16,683
Average	$11,170	$12,163	$13,115	$13,811

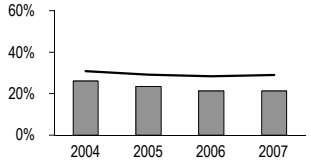
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Greensboro	8.9	7.0	6.2	6.2
Average	8.5	8.4	7.7	7.7

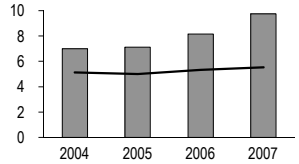
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Greensboro	26.0%	23.5%	21.3%	21.3%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Greensboro	7.0	7.1	8.2	9.8
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	241,767
Land Area (Square Miles)	118.06
Persons per Square Mile	2,048
County	Guilford
Median Family Income (US Census 2000)	$50,192
Unemployment Rate (ESC-06)	4.7%
Part I Crimes Reported	
Homicide	30
Rape	77
Robbery	923
Assault	1,233
Burglary	4,578
Larceny	9,035
Auto Theft	1,163
Arson	97
TOTAL	17,136

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.8%
Operating Costs		24.2%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	46,236,546
Operating Costs	$	14,757,113
Capital Costs	$	-
TOTAL	$	60,993,659

SERVICE PROFILE

FTE Positions—Sworn	592.0
FTE Positions—Other	123.0
Part I Crimes Cleared	
Persons	751
Property	2,905
Total	3,656
Reporting Format	UCR
Part II Crimes Reported	17,203
Number of Calls Dispatched	274,135
Traffic Accidents	9,788
Property Damage	$12,938,418

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 2006–07, 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 3,656 cases in FY 2006–07.

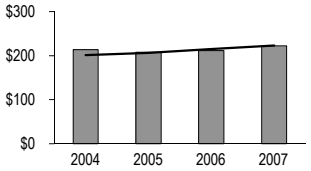
Conditions Affecting Service, Performance, and Costs

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.

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

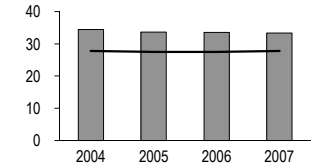
RESOURCE Measures

Police Services Costs per Capita



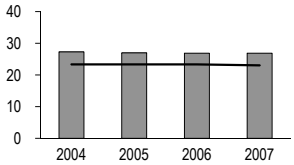
	2004	2005	2006	2007
Hickory	$213	$208	$211	$222
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Hickory	34.5	33.6	33.6	33.3
Average	27.8	27.5	27.5	27.7

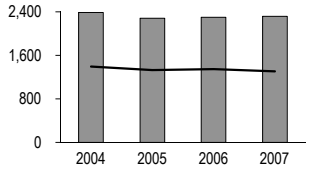
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Hickory	27.3	26.9	26.9	26.9
Average	23.3	23.3	23.3	23.0

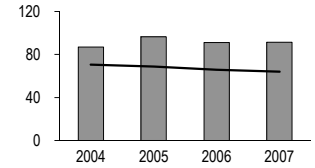
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Hickory	2,390	2,285	2,301	2,319
Average	1,393	1,328	1,345	1,307

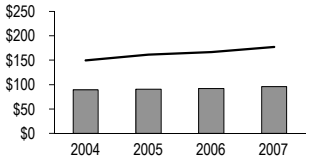
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Hickory	86.9	96.5	91.0	91.5
Average	70.5	68.9	66.0	64.1

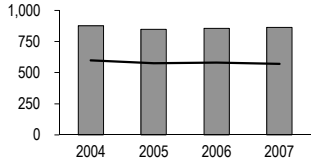
EFFICIENCY Measures

Police Services Cost per Call Dispatched



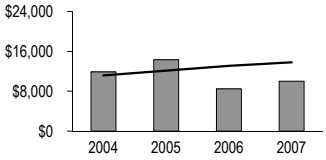
	2004	2005	2006	2007
Hickory	$89	$91	$92	$96
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



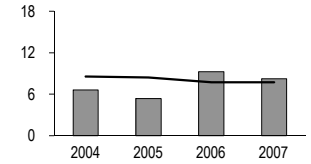
	2004	2005	2006	2007
Hickory	877	848	855	863
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Hickory	$11,881	$14,321	$8,473	$10,042
Average	$11,170	$12,163	$13,115	$13,811

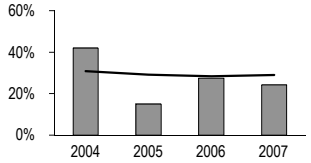
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Hickory	6.6	5.4	9.3	8.2
Average	8.5	8.4	7.7	7.7

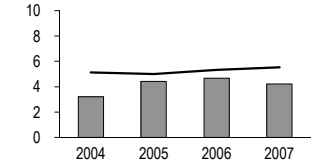
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Hickory	42.0%	15.0%	27.4%	24.2%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Hickory	3.2	4.4	4.7	4.2
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	40,214
Land Area (Square Miles)	28.95
Persons per Square Mile	1,389
County	Catawba
Median Family Income (US Census 2000)	$47,522
Unemployment Rate (ESC-06)	5.4%
Part I Crimes Reported	
Homicide	0
Rape	22
Robbery	109
Assault	164
Burglary	770
Larceny	2,314
Auto Theft	281
Arson	18
TOTAL	3,678

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.1%
Operating Costs		21.4%
Capital Costs		10.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,077,655
Operating Costs	$	1,909,764
Capital Costs	$	939,882
TOTAL	$	8,927,301

SERVICE PROFILE

FTE Positions—Sworn	108.0
FTE Positions—Other	26.0
Part I Crimes Cleared	
Persons	154
Property	735
Total	889
Reporting Format	IBR
Part II Crimes Reported	3,821
Number of Calls Dispatched	93,249
Traffic Accidents	2,294
Property Damage	$8,009,574

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 108 sworn officer positions authorized for FY 2006–07, with an average length of service of 9.02 years. The police department occupies its own three-story facility, completed in January 1996. Each of the five community police areas has an office located in their respective communities. These offices are not staffed. They are used for interviews, to obtain information, to store supplies, and to make phone calls.

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.

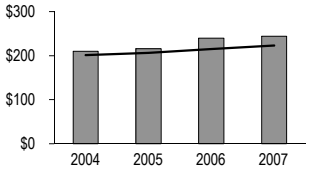
The police department was successful in clearing a total of 889 Part I cases in FY 2006–07.

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.

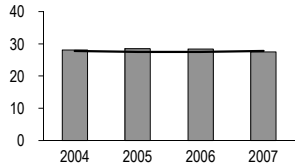
RESOURCE Measures

Police Services Costs per Capita



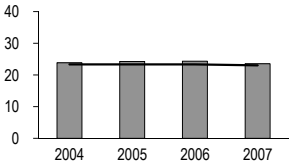
	2004	2005	2006	2007
High Point	$210	$215	$239	$244
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
High Point	28.1	28.4	28.4	27.5
Average	27.8	27.5	27.5	27.7

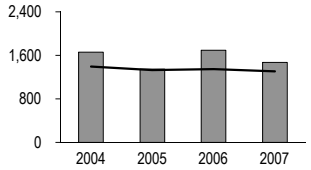
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
High Point	23.9	24.2	24.3	23.5
Average	23.3	23.3	23.3	23.0

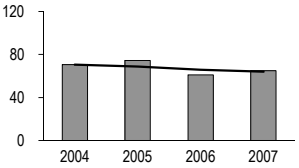
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
High Point	1,659	1,345	1,693	1,470
Average	1,393	1,328	1,345	1,307

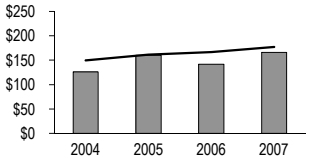
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
High Point	70.5	74.4	61.2	64.8
Average	70.5	68.9	66.0	64.1

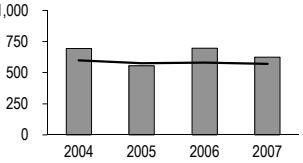
EFFICIENCY Measures

Police Services Cost per Call Dispatched



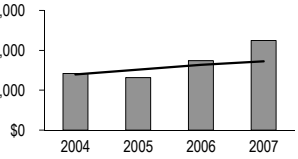
	2004	2005	2006	2007
High Point	$126	$160	$141	$166
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



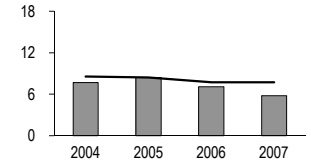
	2004	2005	2006	2007
High Point	695	555	696	625
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
High Point	$11,373	$10,553	$13,916	$17,950
Average	$11,170	$12,163	$13,115	$13,811

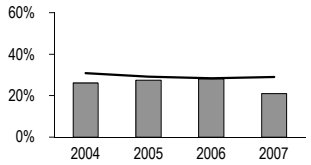
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
High Point	7.7	8.4	7.1	5.8
Average	8.5	8.4	7.7	7.7

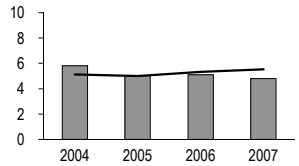
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
High Point	26.0%	27.4%	28.1%	21.0%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
High Point	5.8	5.0	5.1	4.8
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
County	Guilford
Median Family Income (US Census 2000)	$48,057
Unemployment Rate (ESC-06)	4.7%
Part I Crimes Reported	
Homicide	7
Rape	29
Robbery	304
Assault	364
Burglary	1,672
Larceny	3,333
Auto Theft	457
Arson	32
TOTAL	6,198

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.6%
Operating Costs		19.4%
Capital Costs		8.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	16,946,781
Operating Costs	$	4,526,386
Capital Costs	$	1,879,660
TOTAL	$	23,352,827

SERVICE PROFILE

FTE Positions—Sworn	225.0
FTE Positions—Other	38.0
Part I Crimes Cleared	
Persons	249
Property	1,052
Total	1,301
Reporting Format	IBR
Part II Crimes Reported	3,285
Number of Calls Dispatched	140,613
Traffic Accidents	4,613
Property Damage	$12,111,671

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 2006–07, with an average length of service of five years. The police department is located in a separate building from city hall.

Patrol officers work a 10.5-hour shift on either the first, second, or third shift. Officers are assigned to separate teams and alternate four days on and four days off. In order to provide coverage for peak hours, half the team reports early and the other half reports late. This applies to both daytime and night coverage.

Detectives work 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 1,301 Part I cases in FY 2006–07.

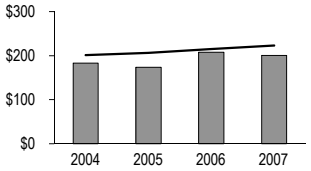
Conditions Affecting Service, Performance, and Costs

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 2007

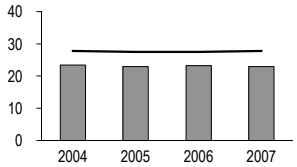
RESOURCE Measures

Police Services Costs per Capita



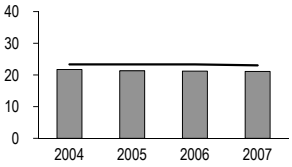
	2004	2005	2006	2007
Matthews	$183	$174	$207	$201
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Matthews	23.4	22.9	23.2	23.0
Average	27.8	27.5	27.5	27.7

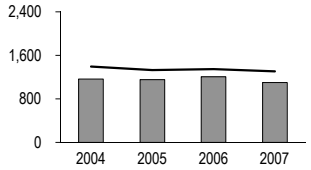
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Matthews	21.8	21.3	21.2	21.1
Average	23.3	23.3	23.3	23.0

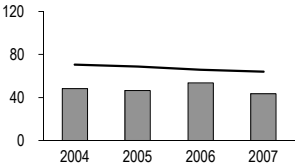
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Matthews	1,162	1,156	1,203	1,102
Average	1,393	1,328	1,345	1,307

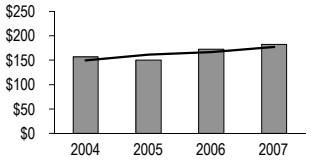
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Matthews	48.1	46.3	53.5	43.6
Average	70.5	68.9	66.0	64.1

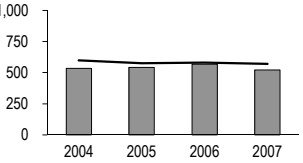
EFFICIENCY Measures

Police Services Cost per Call Dispatched



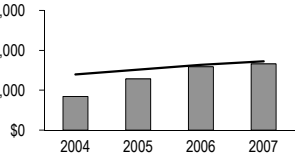
	2004	2005	2006	2007
Matthews	$157	$150	$172	$182
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



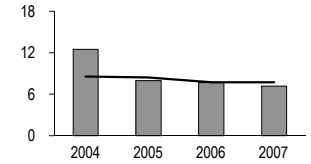
	2004	2005	2006	2007
Matthews	534	542	567	522
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Matthews	$6,751	$10,245	$12,718	$13,297
Average	$11,170	$12,163	$13,115	$13,811

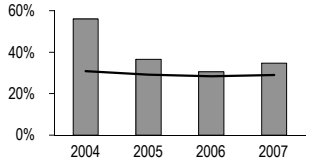
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Matthews	12.5	8.0	7.7	7.2
Average	8.5	8.4	7.7	7.7

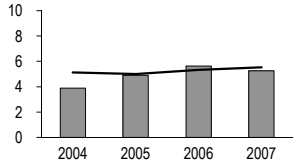
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Matthews	56.0%	36.6%	30.5%	34.7%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Matthews	3.9	4.9	5.6	5.2
Average	5.1	5.0	5.3	5.5

Matthews

MUNICIPAL PROFILE

Population (OSBM 2006)	26,554
Land Area (Square Miles)	16.63
Persons per Square Mile	1,597
County	Mecklenburg
Median Family Income (US Census 2000)	$75,791
Unemployment Rate (ESC-06)	4.5%
Part I Crimes Reported	
Homicide	0
Rape	7
Robbery	32
Assault	30
Burglary	174
Larceny	824
Auto Theft	68
Arson	15
TOTAL	1,150

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.9%
Operating Costs		23.7%
Capital Costs		5.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,780,848
Operating Costs	$	1,262,744
Capital Costs	$	288,422
TOTAL	$	5,332,014

SERVICE PROFILE

FTE Positions—Sworn	56.0
FTE Positions—Other	5.0
Part I Crimes Cleared	
Persons	41
Property	360
Total	401
Reporting Format	UCR
Part II Crimes Reported	1,078
Number of Calls Dispatched	29,251
Traffic Accidents	1,720
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 2006–07, with an average length of service of 7.8 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.

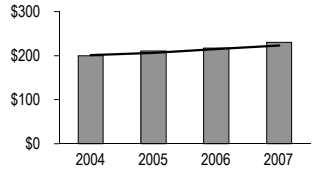
The police department was successful in clearing a total of 401 Part I cases in FY 2006–07.

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 2007

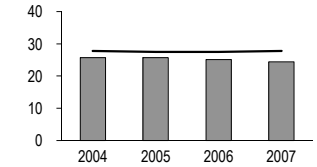
RESOURCE Measures

Police Services Costs per Capita



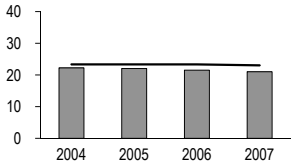
	2004	2005	2006	2007
Raleigh	$200	$211	$217	$231
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Raleigh	25.8	25.7	25.2	24.4
Average	27.8	27.5	27.5	27.7

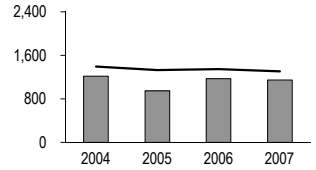
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Raleigh	22.2	22.0	21.5	21.0
Average	23.3	23.3	23.3	23.0

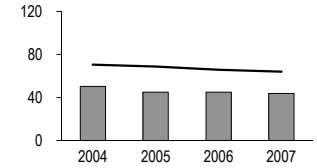
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Raleigh	1,216	946	1,169	1,147
Average	1,393	1,328	1,345	1,307

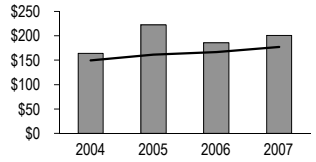
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Raleigh	50.3	44.9	45.0	43.8
Average	70.5	68.9	66.0	64.1

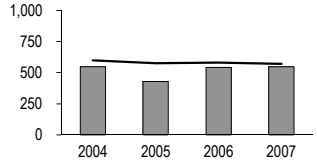
EFFICIENCY Measures

Police Services Cost per Call Dispatched



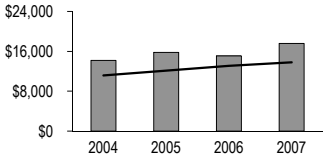
	2004	2005	2006	2007
Raleigh	$164	$223	$186	$201
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



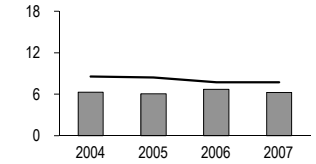
	2004	2005	2006	2007
Raleigh	548	430	543	547
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Raleigh	$14,204	$15,779	$15,069	$17,589
Average	$11,170	$12,163	$13,115	$13,811

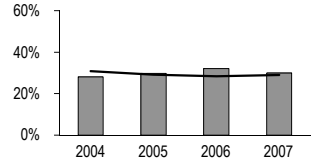
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Raleigh	6.3	6.1	6.7	6.3
Average	8.5	8.4	7.7	7.7

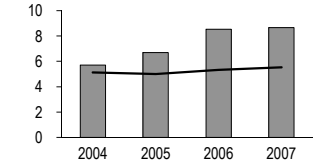
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Raleigh	28.0%	29.7%	32.1%	29.9%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Raleigh	5.7	6.7	8.5	8.7
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	355,902
Land Area (Square Miles)	133.91
Persons per Square Mile	2,658
County	Wake
Median Family Income (US Census 2000)	$60,003
Unemployment Rate (ESC-06)	3.6%
Part I Crimes Reported	
Homicide	16
Rape	128
Robbery	871
Assault	1,235
Burglary	3,199
Larceny	8,933
Auto Theft	1,154
Arson	69
TOTAL	15,605

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.6%
Operating Costs		17.1%
Capital Costs		7.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	62,055,094
Operating Costs	$	13,992,557
Capital Costs	$	6,005,899
TOTAL	$	82,053,550

SERVICE PROFILE

FTE Positions—Sworn	746.0
FTE Positions—Other	123.0
Part I Crimes Cleared	
Persons	1,255
Property	3,410
Total	4,665
Reporting Format	UCR
Part II Crimes Reported	20,487
Number of Calls Dispatched	408,391
Traffic Accidents	19,257
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 746 sworn officer positions authorized for FY 2006–07, with an average length of service of 9.2 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 uniform 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.

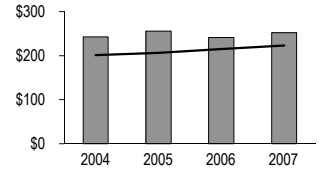
The police department was successful in clearing a total of 4,665 Part I cases in FY 2006–07.

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 2007

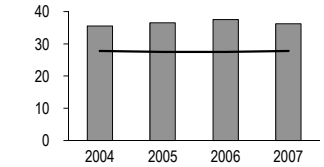
RESOURCE Measures

Police Services Costs per Capita



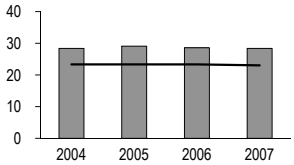
	2004	2005	2006	2007
Salisbury	$243	$256	$241	$252
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Salisbury	35.5	36.5	37.5	36.2
Average	27.8	27.5	27.5	27.7

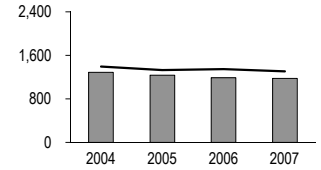
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Salisbury	28.4	29.1	28.6	28.4
Average	23.3	23.3	23.3	23.0

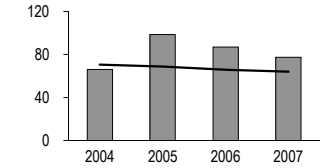
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Salisbury	1,289	1,237	1,189	1,178
Average	1,393	1,328	1,345	1,307

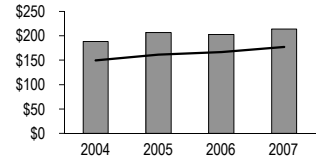
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Salisbury	66.1	98.7	87.0	77.4
Average	70.5	68.9	66.0	64.1

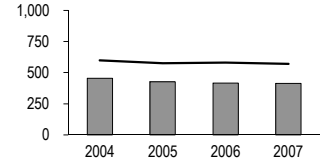
EFFICIENCY Measures

Police Services Cost per Call Dispatched



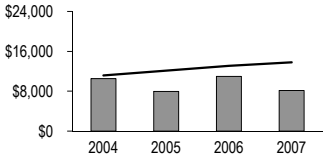
	2004	2005	2006	2007
Salisbury	$188	$207	$203	$214
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



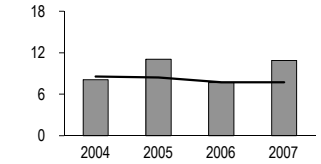
	2004	2005	2006	2007
Salisbury	454	426	416	415
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Salisbury	$10,537	$7,944	$11,005	$8,173
Average	$11,170	$12,163	$13,115	$13,811

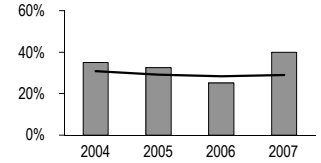
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Salisbury	8.1	11.1	7.7	10.9
Average	8.5	8.4	7.7	7.7

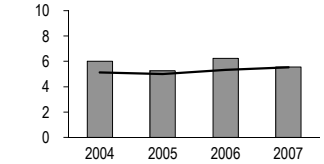
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Salisbury	35.0%	32.6%	25.2%	39.9%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Salisbury	6.0	5.3	6.2	5.6
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
County	Rowan
Median Family Income (US Census 2000)	$41,108
Unemployment Rate (ESC-06)	5.0%
Part I Crimes Reported	
Homicide	5
Rape	14
Robbery	144
Assault	155
Burglary	469
Larceny	1,381
Auto Theft	192
Arson	11
TOTAL	2,371

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.2%
Operating Costs		28.9%
Capital Costs		8.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,884,763
Operating Costs	$	2,231,189
Capital Costs	$	616,081
TOTAL	$	7,732,033

SERVICE PROFILE

FTE Positions—Sworn	87.0
FTE Positions—Other	24.0
Part I Crimes Cleared	
Persons	250
Property	696
Total	946
Reporting Format	IBR
Part II Crimes Reported	2,427
Number of Calls Dispatched	36,091
Traffic Accidents	1,940
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-seven sworn officer positions authorized for FY 2006–07, 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 946 Part I cases in FY 2006–07.

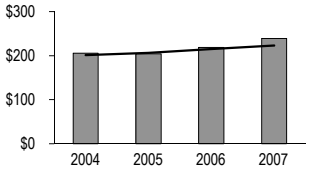
The city defines high priority emergency calls as those crimes that are in progress, life threatening, or potentially life threatening circumstances.

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 2007

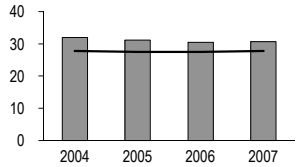
RESOURCE Measures

Police Services Costs per Capita



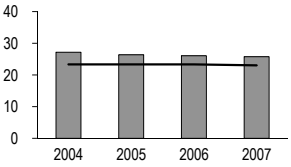
	2004	2005	2006	2007
Wilmington	$205	$204	$219	$239
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Wilmington	32.0	31.1	30.5	30.7
Average	27.8	27.5	27.5	27.7

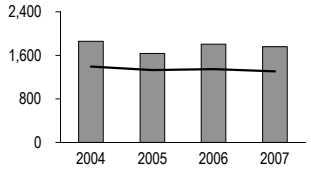
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Wilmington	27.2	26.4	26.0	25.8
Average	23.3	23.3	23.3	23.0

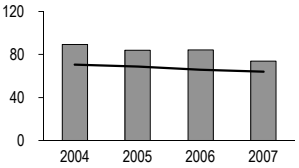
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Wilmington	1,858	1,636	1,807	1,758
Average	1,393	1,328	1,345	1,307

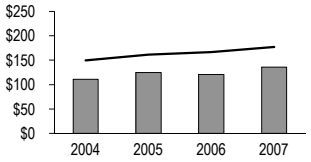
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Wilmington	89.4	84.1	84.4	73.8
Average	70.5	68.9	66.0	64.1

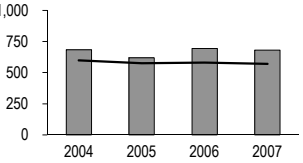
EFFICIENCY Measures

Police Services Cost per Call Dispatched



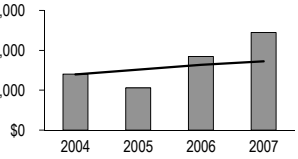
	2004	2005	2006	2007
Wilmington	$111	$125	$121	$136
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



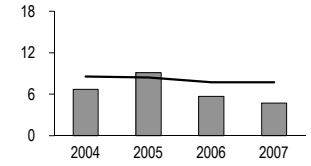
	2004	2005	2006	2007
Wilmington	683	620	694	682
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Wilmington	$11,247	$8,495	$14,751	$19,546
Average	$11,170	$12,163	$13,115	$13,811

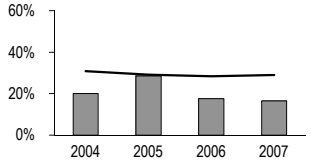
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Wilmington	6.7	9.1	5.7	4.7
Average	8.5	8.4	7.7	7.7

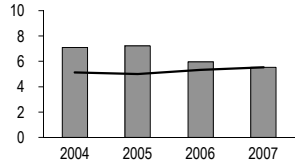
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Wilmington	20.0%	28.6%	17.6%	16.6%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Wilmington	7.1	7.2	6.0	5.5
Average	5.1	5.0	5.3	5.5

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2006)	98,529
Land Area (Square Miles)	49.20
Persons per Square Mile	2,003
County	New Hanover
Median Family Income (US Census 2000)	$41,891
Unemployment Rate (ESC-06)	3.7%
Part I Crimes Reported	
Homicide	11
Rape	67
Robbery	419
Assault	343
Burglary	1,511
Larceny	4,251
Auto Theft	647
Arson	22
TOTAL	7,271

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.9%
Operating Costs		20.4%
Capital Costs		9.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	16,446,508
Operating Costs	$	4,791,429
Capital Costs	$	2,296,019
TOTAL	$	23,533,956

SERVICE PROFILE

FTE Positions—Sworn	254.0
FTE Positions—Other	48.0
Part I Crimes Cleared	
Persons	305
Property	899
Total	1,204
Reporting Format	IBR
Part II Crimes Reported	535
Number of Calls Dispatched	173,235
Traffic Accidents	4,408
Property Damage	$18,438,243

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 254 sworn officer positions authorized for FY 2006–07, with an average length of service of 9.1 years. The police department took occupancy of a new facility early in the first quarter of 2007 located on the northside 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 uniform 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 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 1,204 Part I cases in FY 2006–07.

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.

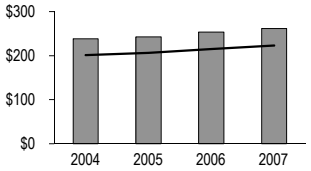
Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first arriving unit. Self-initiated calls with a response time of zero are included in the average response time to high priority calls.

Wilson — Police Services

Key: Wilson ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

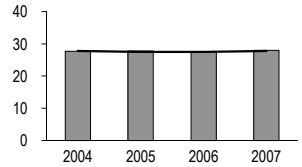
RESOURCE Measures

Police Services Costs per Capita



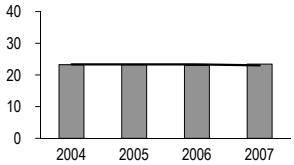
	2004	2005	2006	2007
Wilson	$238	$243	$254	$261
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Wilson	27.7	27.8	27.6	28.0
Average	27.8	27.5	27.5	27.7

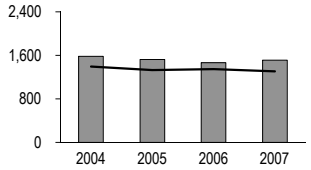
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Wilson	23.2	23.2	23.0	23.5
Average	23.3	23.3	23.3	23.0

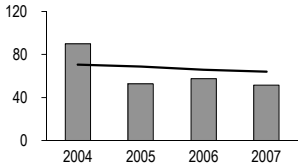
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Wilson	1,583	1,522	1,465	1,513
Average	1,393	1,328	1,345	1,307

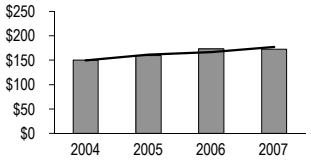
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Wilson	89.8	52.7	57.6	51.6
Average	70.5	68.9	66.0	64.1

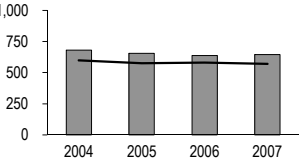
EFFICIENCY Measures

Police Services Cost per Call Dispatched



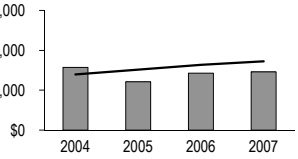
	2004	2005	2006	2007
Wilson	$150	$159	$173	$173
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



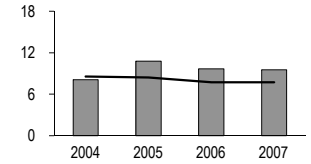
	2004	2005	2006	2007
Wilson	682	657	637	645
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Wilson	$12,593	$9,713	$11,403	$11,652
Average	$11,170	$12,163	$13,115	$13,811

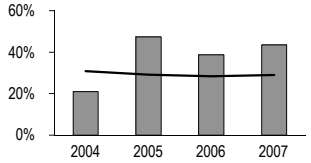
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Wilson	8.1	10.8	9.7	9.6
Average	8.5	8.4	7.7	7.7

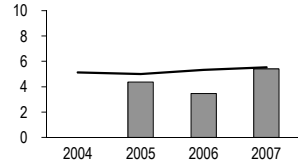
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Wilson	21.0%	47.4%	38.7%	43.5%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Wilson		4.4	3.5	5.4
Average	5.1	5.0	5.3	5.5

Wilson

MUNICIPAL PROFILE

Population (OSBM 2006)	48,562
Land Area (Square Miles)	28.16
Persons per Square Mile	1,725
County	Wilson
Median Family Income (US Census 2000)	$41,041
Unemployment Rate (ESC-06)	7.2%
Part I Crimes Reported	
Homicide	4
Rape	8
Robbery	92
Assault	133
Burglary	483
Larceny	1,623
Auto Theft	142
Arson	20
TOTAL	2,505

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.7%
Operating Costs		28.7%
Capital Costs		7.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	8,088,476
Operating Costs	$	3,636,013
Capital Costs	$	964,445
TOTAL	$	12,688,934

SERVICE PROFILE

FTE Positions—Sworn	114.0
FTE Positions—Other	22.0
Part I Crimes Cleared	
Persons	179
Property	910
Total	1,089
Reporting Format	IBR
Part II Crimes Reported	5,310
Number of Calls Dispatched	73,474
Traffic Accidents	2,056
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 114 sworn officer positions authorized for FY 2006–07, with an average length of service of 8.98 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.

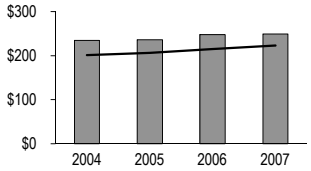
The police department was successful in clearing a total of 1,089 Part I cases in FY 2006–07.

Wilson defines high priority emergency calls as calls related to crimes in progress that require immediate response: murder, rape, robbery, burglary, arson/fire, and assaults.

Conditions Affecting Service, Performance, and Costs
The average response time to high priority calls reflects the response time of the first unit to arrive. Self-initiated calls with a response time of zero are not included in the average response time to high priority calls.

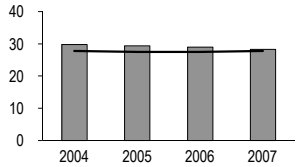
RESOURCE Measures

Police Services Costs per Capita



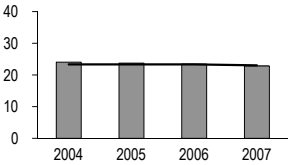
	2004	2005	2006	2007
Winston-Salem	$235	$236	$248	$249
Average	$201	$206	$215	$222

Total Police Services Personnel per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	29.8	29.4	29.0	28.3
Average	27.8	27.5	27.5	27.7

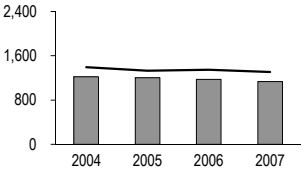
Sworn Police Officers per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	24.0	23.8	23.4	22.8
Average	23.3	23.3	23.3	23.0

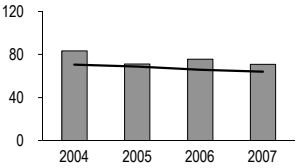
WORKLOAD Measures

Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	1,223	1,205	1,174	1,135
Average	1,393	1,328	1,345	1,307

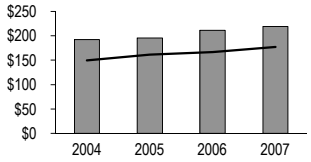
Part I Crimes per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	83.5	71.1	75.6	70.9
Average	70.5	68.9	66.0	64.1

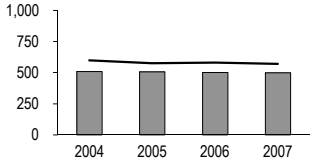
EFFICIENCY Measures

Police Services Cost per Call Dispatched



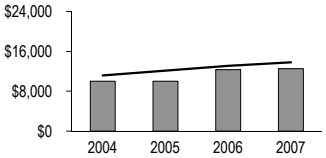
	2004	2005	2006	2007
Winston-Salem	$192	$196	$211	$219
Average	$149	$161	$167	$177

Calls Dispatched per Sworn Officer



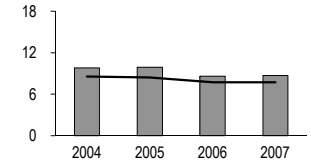
	2004	2005	2006	2007
Winston-Salem	509	507	501	498
Average	599	575	581	570

Police Services Cost per Part I Case Cleared



	2004	2005	2006	2007
Winston-Salem	$10,005	$10,032	$12,313	$12,538
Average	$11,170	$12,163	$13,115	$13,811

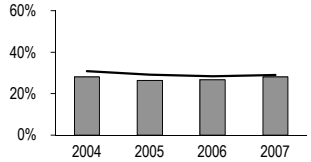
Part I Cases Cleared per Sworn Officer



	2004	2005	2006	2007
Winston-Salem	9.8	9.9	8.6	8.7
Average	8.5	8.4	7.7	7.7

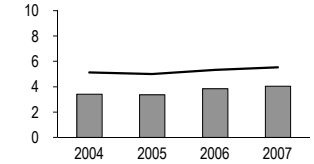
EFFECTIVENESS Measures

Percentage of Part I Cases Cleared of Those Reported



	2004	2005	2006	2007
Winston-Salem	28.0%	26.4%	26.6%	28.0%
Average	30.9%	29.1%	28.4%	29.1%

Response Time to High Priority Calls in Minutes



	2004	2005	2006	2007
Winston-Salem	3.4	3.4	3.8	4.0
Average	5.1	5.0	5.3	5.5

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.22
Persons per Square Mile	1,659
County	Forsyth
Median Family Income (US Census 2000)	$46,595
Unemployment Rate (ESC-06)	4.3%
Part I Crimes Reported	
Homicide	22
Rape	138
Robbery	685
Assault	854
Burglary	4,371
Larceny	8,427
Auto Theft	1,166
Arson	NA
TOTAL	15,663

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		77.8%
Operating Costs		13.8%
Capital Costs		8.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	42,858,563
Operating Costs	$	7,591,682
Capital Costs	$	4,606,254
TOTAL	$	55,056,499

SERVICE PROFILE

FTE Positions—Sworn	504.0
FTE Positions—Other	122.0
Part I Crimes Cleared	
Persons	1,027
Property	3,364
Total	4,391
Reporting Format	IBR
Part II Crimes Reported	44,485
Number of Calls Dispatched	250,916
Traffic Accidents	8,671
Property Damage	$25,052,459

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 504 sworn officer positions authorized for FY 2006–07, with an average length of service of 10.5 years. The police department occupies the public safety center. It houses the police department, emergency communications, and the fire department administration. The special investigations division occupies offices in leased space in another facility. A downtown bike patrol office is maintained in the central downtown area.

The department employs a forward-rotating schedule of five shifts. Officers work five days on and four days off. Shifts are ten hours in length. The majority of investigators work Monday through Friday from 8 a.m. to 5 p.m.

Patrol vehicles are assigned to individual officers. Officers residing within Forsyth County take their vehicles home. If officers reside outside of the county, they park their vehicles in a residential or business area within the city limits.

The police department was successful in clearing a total of 4,391 Part I cases in FY 2006–07.

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.

Winston-Salem annexed 19,059 residents effective September 30,2006. The annexed areas are comprised of 8,579 dwelling units, twenty square miles, and eighty-six miles of streets. As a result of the effective date, the additional costs reported for the benchmarking project only reflect nine months of service to these newly annexed areas.

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

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	75,948	No	Yes	22	205,942	32,139	111,199
Burlington	47,692	Yes	Yes	14	157,638	23,375	82,297
Cary	122,333	No	Yes	20	235,845	41,516	127,396
Concord	68,249	Yes	Yes	21	157,014	31,074	101,130
Durham	246,824	No	Yes	72	416,543	304,837	421,186
Greensboro	449,078	Yes	Yes	89	712,768	337,003	417,729
Hickory	40,214	No	Yes	13	138,175	10,821	93,249
High Point	95,638	No	Yes	30	244,102	86,853	157,480
Matthews	26,554	Yes (with Charlotte)	Yes	10	82,127	NA	29,251
Raleigh	790,007	Yes	Yes	84	858,840	502,492	421,514
Salisbury	30,634	No	Yes	10	84,142	14,343	35,588
Winston-Salem	221,014	Yes	Yes	45	631,693	214,000	250,916

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:

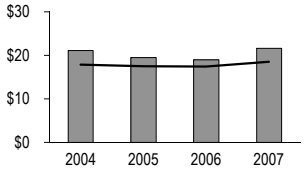
Types of emergency response units dispatched, such as police, fire, and EMS
Number and proportion of nonemergency calls received by center
Types of assistance or advice, such as medical, that telecommunicators provide over the phone
Technology available to telecommunication centers
City's definition 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

Asheville Emergency Communications

Key: Asheville ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

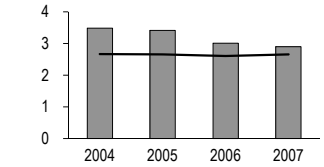
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Asheville	$21.12	$19.51	$18.95	$21.59
Average	$17.90	$17.55	$17.45	$18.52

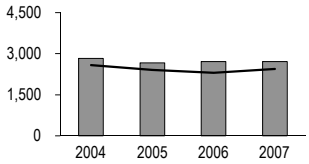
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville	3.48	3.41	3.01	2.90
Average	2.67	2.66	2.61	2.66

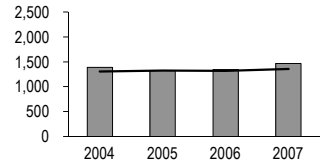
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Asheville	2,834	2,670	2,710	2,712
Average	2,579	2,412	2,310	2,441

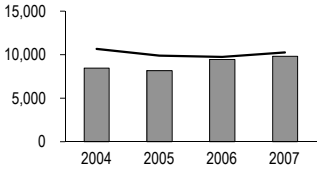
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Asheville	1,391	1,321	1,340	1,464
Average	1,307	1,323	1,319	1,354

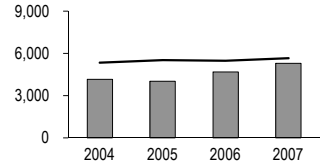
EFFICIENCY Measures

Calls Answered per Telecomunicator



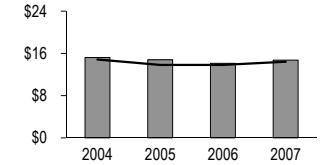
	2004	2005	2006	2007
Asheville	8,471	8,149	9,445	9,807
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Asheville	4,159	4,032	4,671	5,295
Average	5,347	5,527	5,479	5,658

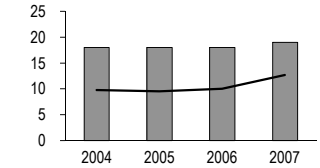
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Asheville	$15.19	$14.76	$14.14	$14.75
Average	$14.89	$13.81	$13.84	$14.48

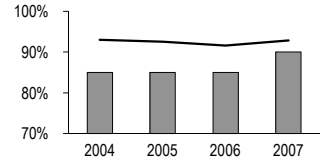
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



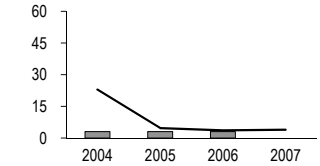
	2004	2005	2006	2007
Asheville	18	18	18	19
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



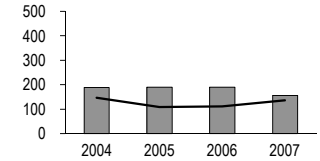
	2004	2005	2006	2007
Asheville	85%	85%	85%	90%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Asheville	3	3	3	
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Asheville	188	190	190	155
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
County	Buncombe
Median Family Income (US Census 2000)	$44,029
Unemployment Rate (ESC-06)	3.8%
Population Growth (OMB 2000–2006)	10.2%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		54.1%
Operating Costs		43.5%
Capital Costs		2.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	886,971
Operating Costs	$	713,859
Capital Costs	$	38,923
TOTAL	$	1,639,753

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	21.0
Other	1.0
Total Incoming Calls	205,942
Total 911 Calls	32,139
Total Calls Dispatched	111,199
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 which require officers/ telecommunicators to manually switch channels. For FY 2006-07 the city used the Motorola Smart Zone system but are implementing the Motorola Simulcast infrastructure which has a scheduled completion of October 2007.

Asheville's emergency communications center handled a total of 205,942 incoming calls in FY 2006–07, dispatching 111,199 of them. The city defines highest priority emergency calls as crimes in progress and situations that are property or life threatening.

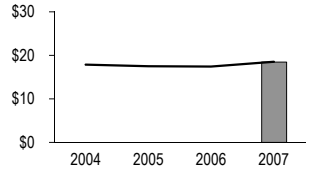
Conditions Affecting Service, Performance, and Costs
CAD entry is an immediate action begining when a telecommunicator hits "new call" or "new event."

Burlington Emergency Communications

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

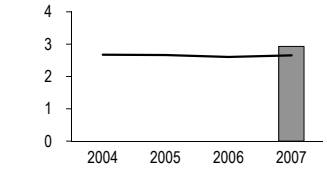
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Burlington				$18.42
Average	$17.90	$17.55	$17.45	$18.52

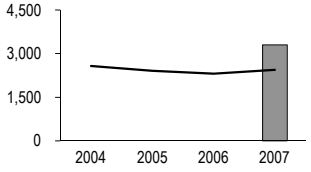
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				2.94
Average	2.67	2.66	2.61	2.66

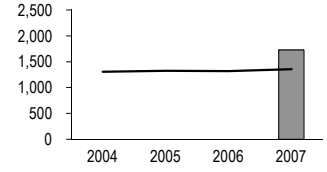
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Burlington				3,305
Average	2,579	2,412	2,310	2,441

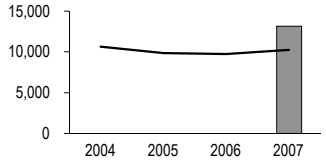
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Burlington				1,726
Average	1,307	1,323	1,319	1,354

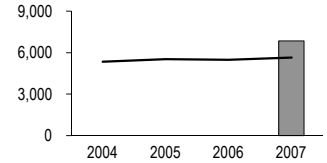
EFFICIENCY Measures

Calls Answered per Telecomunicator



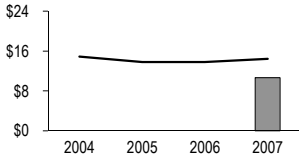
	2004	2005	2006	2007
Burlington				13,137
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Burlington				6,858
Average	5,347	5,527	5,479	5,658

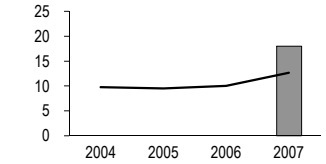
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Burlington				$10.68
Average	$14.89	$13.81	$13.84	$14.48

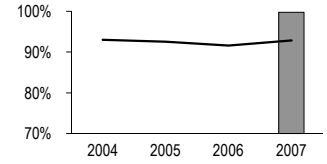
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



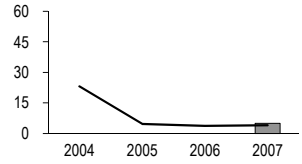
	2004	2005	2006	2007
Burlington				18
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



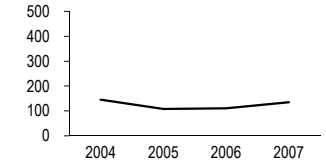
	2004	2005	2006	2007
Burlington				100%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Burlington				5
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Burlington				
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
County	Alamance
Median Family Income (US Census 2000)	$45,441
Unemployment Rate (ESC-06)	5.5%
Population Growth (OMB 2000–2006)	6.2%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		69.3%
Operating Costs		29.1%
Capital Costs		1.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	608,417
Operating Costs	$	255,743
Capital Costs	$	14,364
TOTAL	$	878,524

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	12.0
Other	2.0
Total Incoming Calls	157,638
Total 911 Calls	23,375
Total Calls Dispatched	82,297
E-911 Fee	$0.50
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 157,638 incoming calls in FY 2006–07, dispatching 82,297 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.

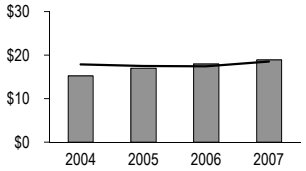
Conditions Affecting Service, Performance, and Costs
CAD entry is an immediate action with a new call or command line keystroke initiation.

Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006–07.

Key: Cary ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

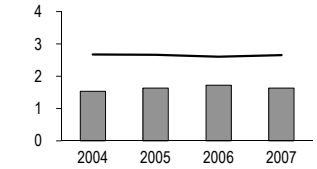
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Cary	$15.23	$16.98	$17.95	$18.91
Average	$17.90	$17.55	$17.45	$18.52

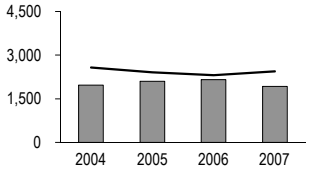
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Cary	1.54	1.64	1.72	1.63
Average	2.67	2.66	2.61	2.66

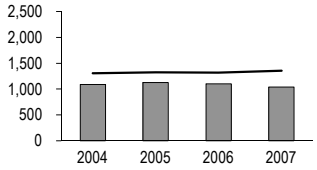
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Cary	1,968	2,096	2,160	1,928
Average	2,579	2,412	2,310	2,441

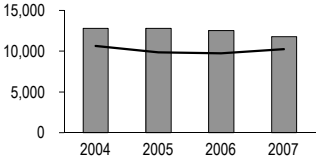
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Cary	1,092	1,126	1,104	1,041
Average	1,307	1,323	1,319	1,354

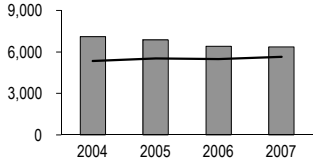
EFFICIENCY Measures

Calls Answered per Telecomunicator



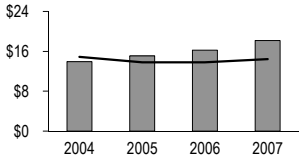
	2004	2005	2006	2007
Cary	12,794	12,803	12,522	11,792
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Cary	7,097	6,877	6,401	6,370
Average	5,347	5,527	5,479	5,658

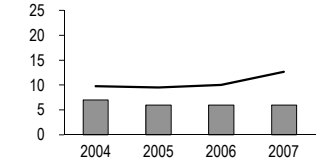
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Cary	$13.95	$15.08	$16.26	$18.16
Average	$14.89	$13.81	$13.84	$14.48

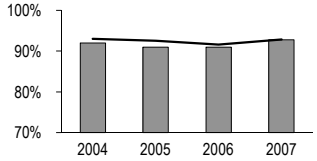
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



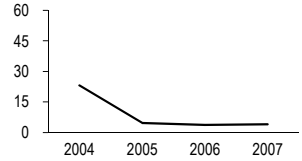
	2004	2005	2006	2007
Cary	7	6	6	6
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



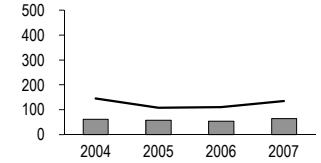
	2004	2005	2006	2007
Cary	92%	91%	91%	93%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Cary				
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Cary	62	58	54	64
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
County	Wake
Median Family Income (US Census 2000)	$88,074
Unemployment Rate (ESC-06)	3.6%
Population Growth (OMB 2000–2006)	29.2%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		64.0%
Operating Costs		28.7%
Capital Costs		7.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,481,851
Operating Costs	$	664,695
Capital Costs	$	167,105
TOTAL	$	2,313,651

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	20.0
Other	0.0
Total Incoming Calls	235,845
Total 911 Calls	41,516
Total Calls Dispatched	127,396
E-911 Fee	$0.25
Revenue from Fee	$174,776

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 back up channels, one for police and one for fire. The transmission tower is located ten miles south of the communications center and is linked via microwave.

Cary's center handled a total of 235,845 calls in FY 2006–07, dispatching 127,396 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.

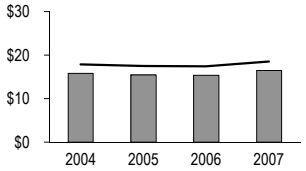
Conditions Affecting Service, Performance, and Costs
CAD entry time begins once a call is generated in the system by the telecommunicator. The time from call answer to CAD entry is not tracked.

Concord — Emergency Communications

Key: Concord ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

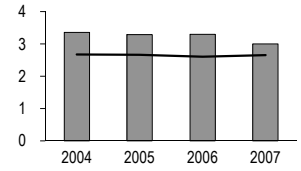
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Concord	$15.79	$15.46	$15.38	$16.45
Average	$17.90	$17.55	$17.45	$18.52

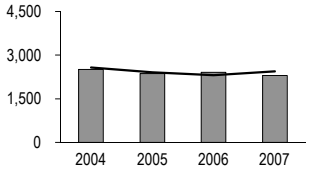
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Concord	3.36	3.29	3.30	3.00
Average	2.67	2.66	2.61	2.66

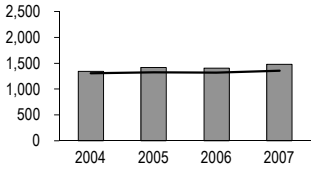
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Concord	2,509	2,367	2,412	2,301
Average	2,579	2,412	2,310	2,441

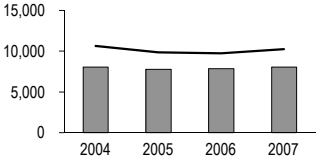
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Concord	1,345	1,414	1,406	1,482
Average	1,307	1,323	1,319	1,354

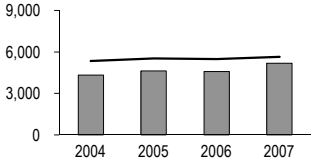
EFFICIENCY Measures

Calls Answered per Telecomunicator



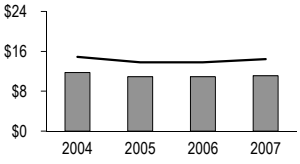
	2004	2005	2006	2007
Concord	8,064	7,759	7,870	8,052
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Concord	4,324	4,636	4,587	5,186
Average	5,347	5,527	5,479	5,658

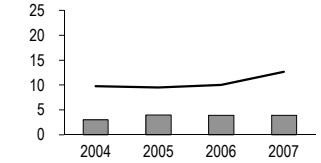
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Concord	$11.74	$10.93	$10.94	$11.10
Average	$14.89	$13.81	$13.84	$14.48

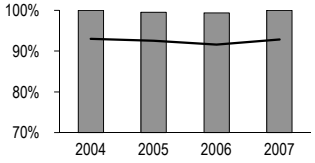
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



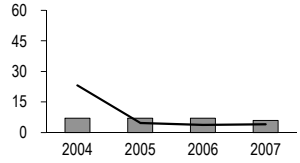
	2004	2005	2006	2007
Concord	3	4	4	4
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



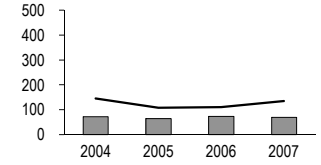
	2004	2005	2006	2007
Concord	100%	100%	99%	100%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Concord	7	7	7	6
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Concord	72	64	73	69
Average	146	108	112	135

Concord

CITY PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
County	Cabarrus
Median Family Income (US Census 2000)	$53,571
Unemployment Rate (ESC-06)	4.1%
Population Growth (OMB 2000–2006)	18.1%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		80.0%
Operating Costs		18.4%
Capital Costs		1.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	898,423
Operating Costs	$	206,697
Capital Costs	$	17,915
TOTAL	$	1,123,035

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	19.50
Other	1.00
Total Incoming Calls	157,014
Total 911 Calls	31,074
Total Calls Dispatched	101,130
E-911 Fee	$0.40
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 157,014 calls in FY 2006–07, dispatching 101,130 of them.

A monthly amount of $0.40 is charged for E-911 calls, but all of the $431,704 collected goes to Cabarrus County.

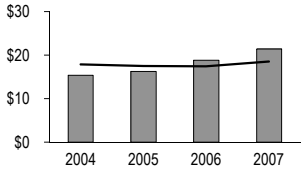
Conditions Affecting Service, Performance, and Costs

Durham Emergency Communications

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

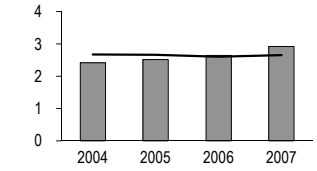
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Durham	$15.35	$16.26	$18.84	$21.39
Average	$17.90	$17.55	$17.45	$18.52

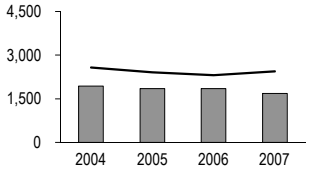
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Durham	2.41	2.51	2.64	2.92
Average	2.67	2.66	2.61	2.66

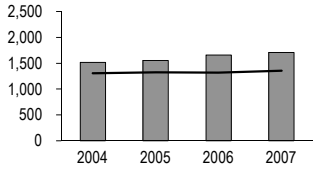
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Durham	1,939	1,851	1,851	1,688
Average	2,579	2,412	2,310	2,441

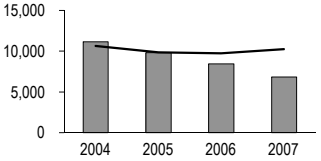
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Durham	1,515	1,552	1,656	1,706
Average	1,307	1,323	1,319	1,354

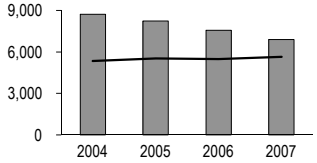
EFFICIENCY Measures

Calls Answered per Telecomunicator



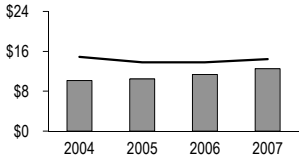
	2004	2005	2006	2007
Durham	11,165	9,827	8,457	6,829
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Durham	8,726	8,238	7,569	6,905
Average	5,347	5,527	5,479	5,658

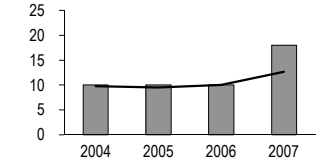
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Durham	$10.13	$10.48	$11.37	$12.53
Average	$14.89	$13.81	$13.84	$14.48

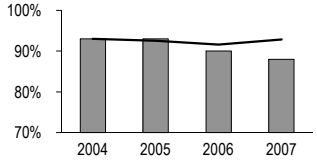
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



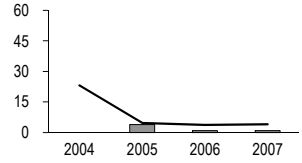
	2004	2005	2006	2007
Durham	10	10	10	18
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



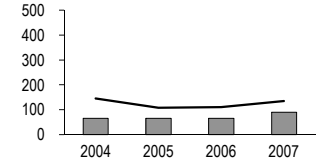
	2004	2005	2006	2007
Durham	93%	93%	90%	88%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Durham		4	1	1
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Durham	65	65	65	90
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	246,824
Land Area (Square Miles)	290.32
Persons per Square Mile	850
County	Durham
Median Family Income (US Census 2000)	$51,162
Unemployment Rate (ESC-06)	3.9%
Population Growth (OMB 2000–2006)	14.7%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.1%
Operating Costs		32.4%
Capital Costs		14.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,801,933
Operating Costs	$	1,712,431
Capital Costs	$	764,458
TOTAL	$	5,278,822

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	61.0
Other	11.0
Total Incoming Calls	416,543
Total 911 Calls	304,837
Total Calls Dispatched	421,186
E-911 Fee	$0.60
Revenue from Fee	$1,312,000

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 416,543 incoming calls in FY 2006–07, dispatching 421,186 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 $0.60 is charged for E-911 calls to telephone customers, generating $1,312,000.

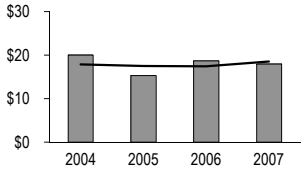
Conditions Affecting Service, Performance, and Costs

Greensboro Emergency Communications

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

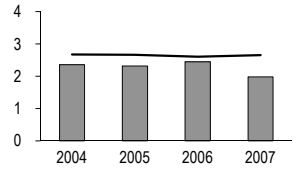
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Greensboro	$20.02	$15.27	$18.66	$17.97
Average	$17.90	$17.55	$17.45	$18.52

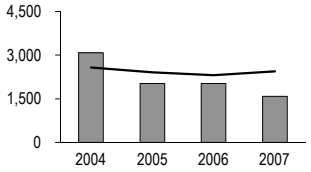
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Greensboro	2.36	2.32	2.44	1.98
Average	2.67	2.66	2.61	2.66

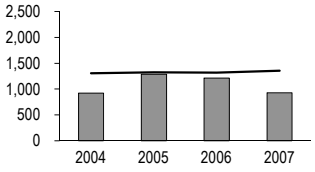
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Greensboro	3,081	2,024	2,028	1,587
Average	2,579	2,412	2,310	2,441

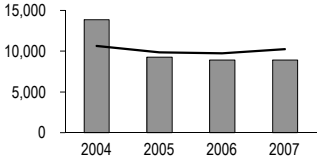
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Greensboro	922	1,286	1,214	930
Average	1,307	1,323	1,319	1,354

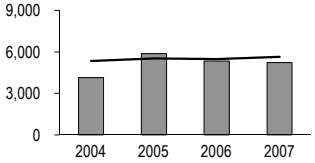
EFFICIENCY Measures

Calls Answered per Telecomunicator



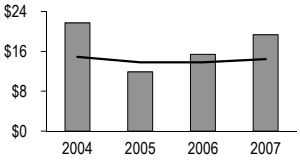
	2004	2005	2006	2007
Greensboro	13,846	9,253	8,913	8,910
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Greensboro	4,143	5,879	5,335	5,222
Average	5,347	5,527	5,479	5,658

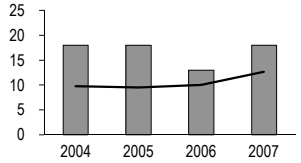
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Greensboro	$21.71	$11.87	$15.37	$19.32
Average	$14.89	$13.81	$13.84	$14.48

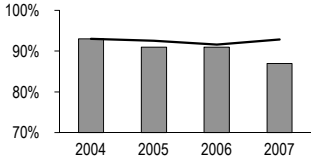
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



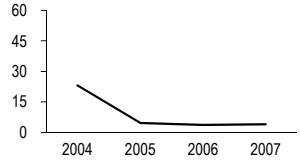
	2004	2005	2006	2007
Greensboro	18	18	13	18
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



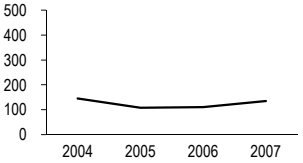
	2004	2005	2006	2007
Greensboro	93%	91%	91%	87%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Greensboro				
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Greensboro				
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	449,078
Land Area (Square Miles)	649.42
Persons per Square Mile	692
County	Guilford
Median Family Income (US Census 2000)	$50,192
Unemployment Rate (ESC-06)	4.7%
Population Growth (OMB 2000–2006)	8.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		64.1%
Operating Costs		35.9%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,172,246
Operating Costs	$	2,896,748
Capital Costs	$	-
TOTAL	$	8,068,994

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	80.0
Other	9.0
Total Incoming Calls	712,768
Total 911 Calls	337,003
Total Calls Dispatched	417,729
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 Guilford County except for the City of High Point. Communications 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 back-up 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 712,768 calls in FY 2006–07, dispatching 417,729 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.

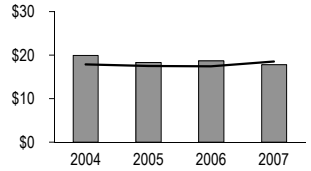
The performance measure "number of seconds from initial ring to answer" was over reported in FY 2003-04 and FY 2004-05. In these two years the number reported was the department standard rather than the actual elapsed time. Improvements in the data system now support better tracking of this number.

Hickory — Emergency Communications

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

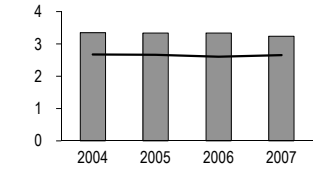
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Hickory	$19.96	$18.29	$18.68	$17.82
Average	$17.90	$17.55	$17.45	$18.52

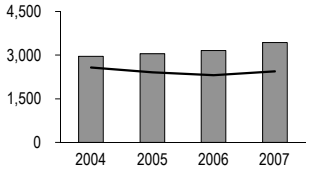
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory	3.34	3.34	3.33	3.23
Average	2.67	2.66	2.61	2.66

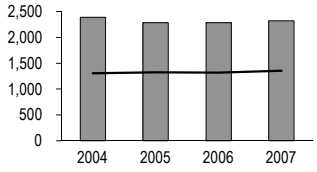
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Hickory	2,958	3,051	3,162	3,436
Average	2,579	2,412	2,310	2,441

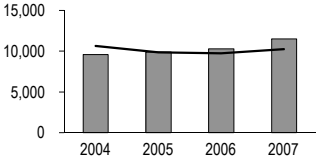
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Hickory	2,390	2,285	2,283	2,319
Average	1,307	1,323	1,319	1,354

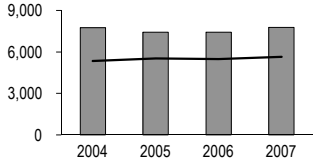
EFFICIENCY Measures

Calls Answered per Telecomunicator



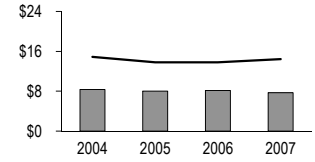
	2004	2005	2006	2007
Hickory	9,583	9,910	10,280	11,515
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Hickory	7,744	7,422	7,422	7,771
Average	5,347	5,527	5,479	5,658

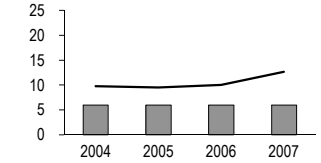
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Hickory	$8.35	$8.00	$8.18	$7.68
Average	$14.89	$13.81	$13.84	$14.48

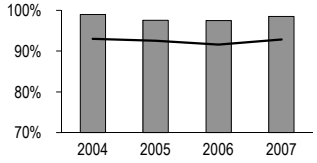
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



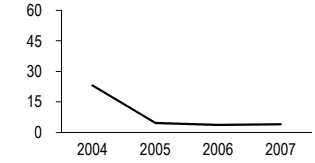
	2004	2005	2006	2007
Hickory	6	6	6	6
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



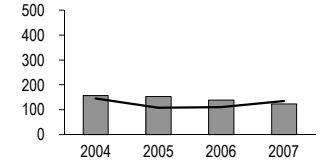
	2004	2005	2006	2007
Hickory	99%	98%	98%	98%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Hickory				
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Hickory	157	152	139	124
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	40,214
Land Area (Square Miles)	28.95
Persons per Square Mile	1,389
County	Catawba
Median Family Income (US Census 2000)	$47,522
Unemployment Rate (ESC-06)	5.4%
Population Growth (OMB 2000–2006)	8.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		84.9%
Operating Costs		14.9%
Capital Costs		0.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	608,175
Operating Costs	$	106,823
Capital Costs	$	1,530
TOTAL	$	716,528

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	12.0
Other	1.0
Total Incoming Calls	138,175
Total 911 Calls	10,821
Total Calls Dispatched	93,249
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 138,175 calls in FY 2006–07, dispatching 93,249 of them.

All of the money collected by the monthly fee assessed for E-911 calls goes directly to Catawba County.

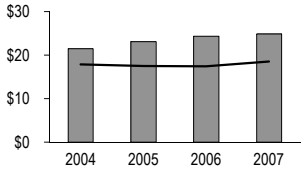
Conditions Affecting Service, Performance, and Costs

High Point — Emergency Communications

Key: High Point ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

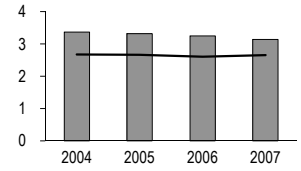
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
High Point	$21.48	$23.07	$24.32	$24.86
Average	$17.90	$17.55	$17.45	$18.52

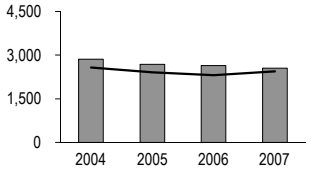
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	3.36	3.32	3.24	3.14
Average	2.67	2.66	2.61	2.66

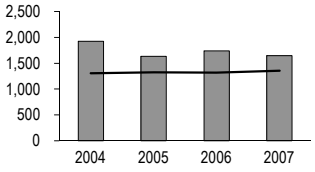
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
High Point	2,865	2,684	2,636	2,552
Average	2,579	2,412	2,310	2,441

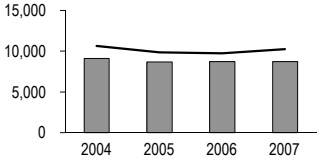
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
High Point	1,922	1,636	1,737	1,647
Average	1,307	1,323	1,319	1,354

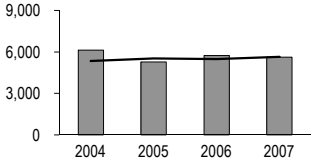
EFFICIENCY Measures

Calls Answered per Telecomunicator



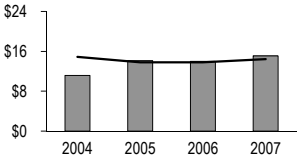
	2004	2005	2006	2007
High Point	9,128	8,661	8,707	8,718
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
High Point	6,122	5,281	5,739	5,624
Average	5,347	5,527	5,479	5,658

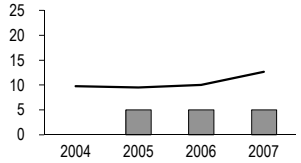
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
High Point	$11.18	$14.10	$14.00	$15.10
Average	$14.89	$13.81	$13.84	$14.48

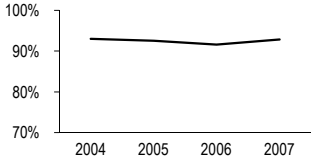
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



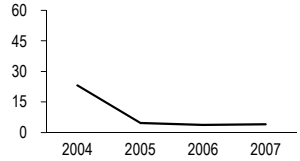
	2004	2005	2006	2007
High Point		5	5	5
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



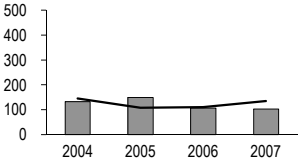
	2004	2005	2006	2007
High Point				
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
High Point				
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
High Point	133	149	107	103
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
County	Guilford
Median Family Income (US Census 2000)	$48,057
Unemployment Rate (ESC-06)	4.7%
Population Growth (OMB 2000–2006)	11.4%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		89.0%
Operating Costs		10.0%
Capital Costs		1.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,115,200
Operating Costs	$	238,449
Capital Costs	$	24,146
TOTAL	$	2,377,795

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	28.0
Other	2.0
Total Incoming Calls	244,102
Total 911 Calls	86,853
Total Calls Dispatched	157,480
E-911 Fee	$0.30
Monthly Wireless Fee	$1.00
Revenue from Fee	$357,367

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 2006–07, dispatching 157,480 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

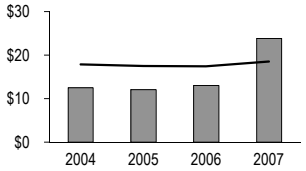
High Point was unable to provide data on certain measures given a change in technology.

Matthews — Emergency Communications

Key: Matthews ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

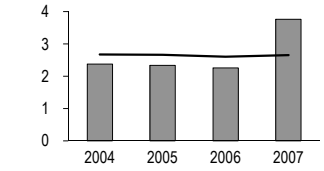
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Matthews	$12.51	$12.02	$13.05	$23.86
Average	$17.90	$17.55	$17.45	$18.52

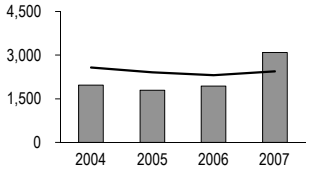
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Matthews	2.38	2.33	2.26	3.77
Average	2.67	2.66	2.61	2.66

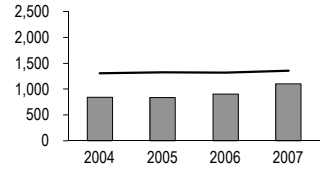
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Matthews	1,974	1,789	1,937	3,093
Average	2,579	2,412	2,310	2,441

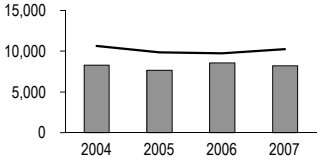
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Matthews	840	834	903	1,102
Average	1,307	1,323	1,319	1,354

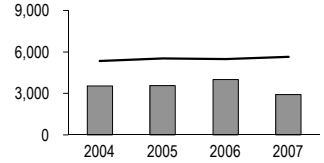
EFFICIENCY Measures

Calls Answered per Telecomunicator



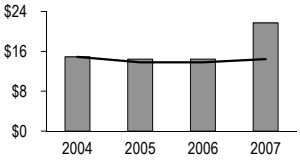
	2004	2005	2006	2007
Matthews	8,300	7,665	8,570	8,213
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Matthews	3,532	3,574	3,996	2,925
Average	5,347	5,527	5,479	5,658

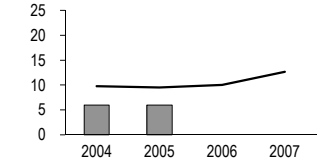
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Matthews	$14.90	$14.41	$14.45	$21.66
Average	$14.89	$13.81	$13.84	$14.48

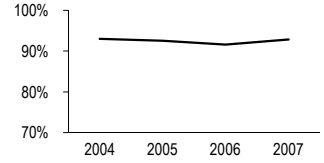
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



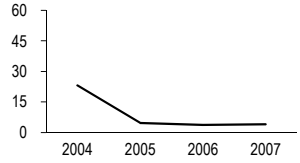
	2004	2005	2006	2007
Matthews	6	6		
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



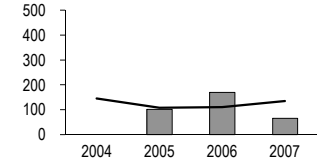
	2004	2005	2006	2007
Matthews				
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Matthews				
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Matthews		101	170	65
Average	146	108	112	135

Matthews

MUNICIPAL PROFILE

Population (OSBM 2006)	26,554
Land Area (Square Miles)	16.63
Persons per Square Mile	1,597
County	Mecklenburg
Median Family Income (US Census 2000)	$75,791
Unemployment Rate (ESC-06)	4.5%
Population Growth (OMB 2000–2006)	20.0%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.0%
Operating Costs		21.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	500,434
Operating Costs	$	133,080
Capital Costs	$	-
TOTAL	$	633,514

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	10.0
Other	0.0
Total Incoming Calls	82,127
Total 911 Calls	NA
Total Calls Dispatched	29,251
E-911 Fee	$1.46
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.

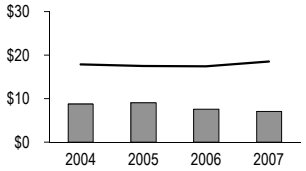
Matthews' center handled 82,127 calls in FY 2006–07, dispatching 29,251 calls. The city defines high priority emergency calls as incidents or crimes in progress which present the imminent danger or potential of injury to persons.

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 2007

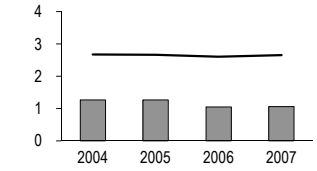
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Raleigh	$8.72	$9.02	$7.54	$7.05
Average	$17.90	$17.55	$17.45	$18.52

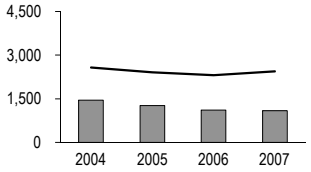
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Raleigh	1.27	1.26	1.05	1.06
Average	2.67	2.66	2.61	2.66

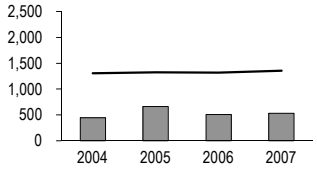
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Raleigh	1,455	1,263	1,114	1,087
Average	2,579	2,412	2,310	2,441

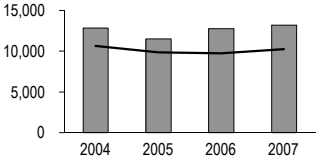
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Raleigh	446	660	507	534
Average	1,307	1,323	1,319	1,354

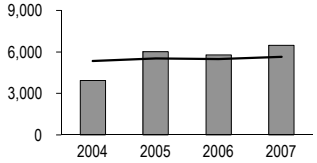
EFFICIENCY Measures

Calls Answered per Telecomunicator



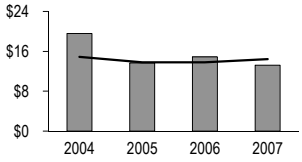
	2004	2005	2006	2007
Raleigh	12,840	11,507	12,748	13,213
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Raleigh	3,934	6,016	5,795	6,485
Average	5,347	5,527	5,479	5,658

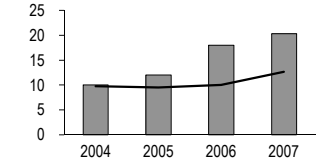
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Raleigh	$19.56	$13.67	$14.88	$13.21
Average	$14.89	$13.81	$13.84	$14.48

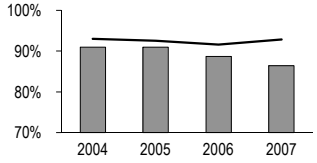
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



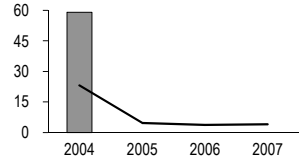
	2004	2005	2006	2007
Raleigh	10	12	18	20
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



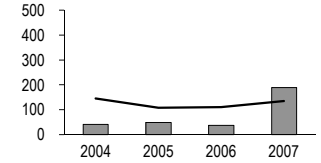
	2004	2005	2006	2007
Raleigh	91%	91%	89%	86%
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Raleigh	59			
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Raleigh	41	49	37	189
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	790,007
Land Area (Square Miles)	831.92
Persons per Square Mile	950
County	Wake
Median Family Income (US Census 2000)	$60,003
Unemployment Rate (ESC-06)	3.6%
Population Growth (OMB 2000–2006)	27.8%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.3%
Operating Costs		24.8%
Capital Costs		4.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,914,436
Operating Costs	$	1,383,802
Capital Costs	$	271,907
TOTAL	$	5,570,145

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	65.0
Other	19.0
Total Incoming Calls	858,840
Total 911 Calls	502,492
Total Calls Dispatched	421,514
E-911 Fee	$0.25
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 except the Raleigh Police Department who were using UHF channels. The Raleigh Police Department will transition to a 800 MHz in late 2007. The center can communicate on 800 MHz with surrounding public safety agencies through an agreement with those agencies.

Raleigh's center handled 858,840 calls in FY 2006–07, dispatching 421,514 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.

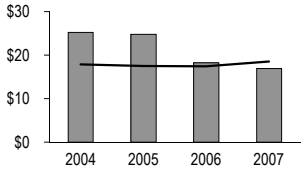
Conditions Affecting Service, Performance, and Costs
The system used by Raleigh automatically begins CAD entry upon answer of the calls so the performance measure "average processing time from call answer to CAD entry" is not applicable.

Salisbury — Emergency Communications

Key: Salisbury ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

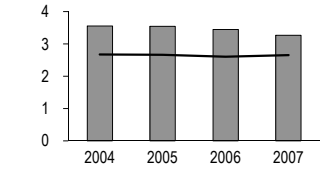
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Salisbury	$25.23	$24.78	$18.20	$16.89
Average	$17.90	$17.55	$17.45	$18.52

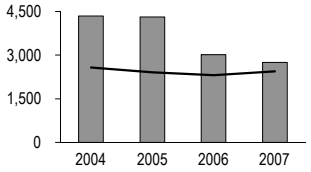
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury	3.55	3.54	3.44	3.26
Average	2.67	2.66	2.61	2.66

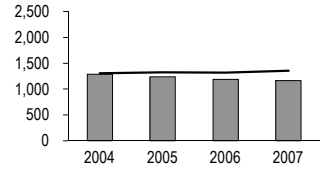
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Salisbury	4,349	4,312	3,011	2,747
Average	2,579	2,412	2,310	2,441

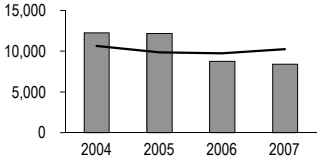
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Salisbury	1,289	1,237	1,189	1,162
Average	1,307	1,323	1,319	1,354

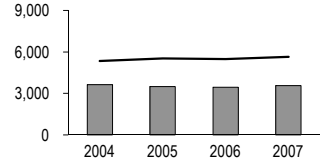
EFFICIENCY Measures

Calls Answered per Telecomunicator



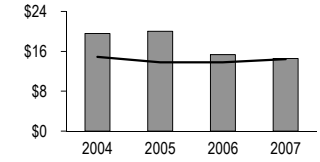
	2004	2005	2006	2007
Salisbury	12,245	12,167	8,748	8,414
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Salisbury	3,629	3,490	3,456	3,559
Average	5,347	5,527	5,479	5,658

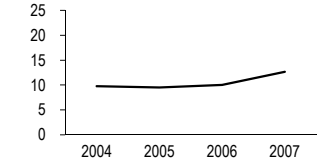
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Salisbury	$19.58	$20.03	$15.31	$14.54
Average	$14.89	$13.81	$13.84	$14.48

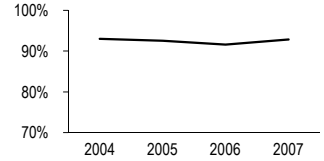
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



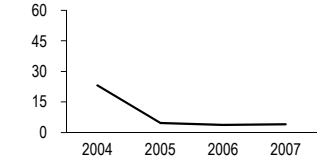
	2004	2005	2006	2007
Salisbury				
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



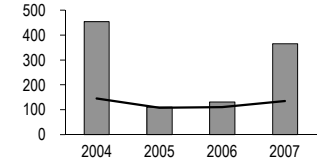
	2004	2005	2006	2007
Salisbury				
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Salisbury				
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Salisbury	454	110	131	365
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
County	Rowan
Median Family Income (US Census 2000)	$41,108
Unemployment Rate (ESC-06)	5.0%
Population Growth (OMB 2000–2006)	11.3%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.0%
Operating Costs		21.6%
Capital Costs		2.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	393,384
Operating Costs	$	111,921
Capital Costs	$	12,245
TOTAL	$	517,550

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	10.0
Other	0.0
Total Incoming Calls	84,142
Total 911 Calls	14,343
Total Calls Dispatched	35,588
E-911 Fee	$0.65
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 84,142 for FY 2006–07, dispatching 35,588 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.

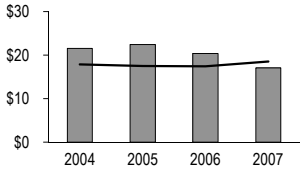
The money collected from the E-911 fee in Salisbury all goes to Rowan County.

Winston-Salem Emergency Communications

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

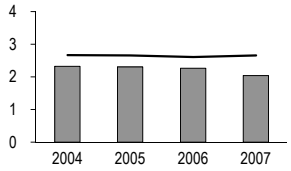
RESOURCE Measures

Emergency Communications Services Costs per Capita



	2004	2005	2006	2007
Winston-Salem	$21.52	$22.42	$20.36	$17.03
Average	$17.90	$17.55	$17.45	$18.52

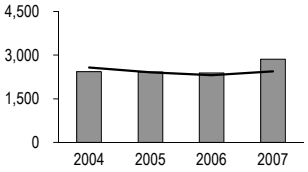
Emergency Communications FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	2.32	2.30	2.27	2.04
Average	2.67	2.66	2.61	2.66

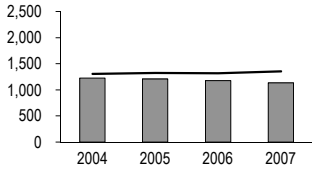
WORKLOAD Measures

Total Calls Answered per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	2,437	2,424	2,390	2,858
Average	2,579	2,412	2,310	2,441

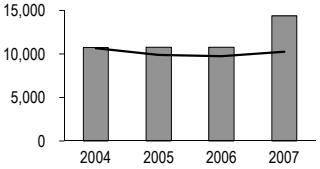
Calls Dispatched per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	1,228	1,205	1,174	1,135
Average	1,307	1,323	1,319	1,354

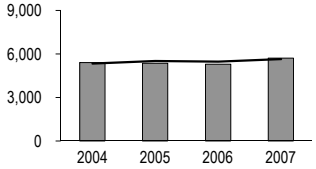
EFFICIENCY Measures

Calls Answered per Telecomunicator



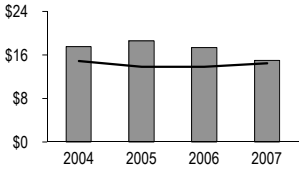
	2004	2005	2006	2007
Winston-Salem	10,740	10,773	10,789	14,357
Average	10,652	9,861	9,732	10,246

Calls Dispatched per Telecommunicator



	2004	2005	2006	2007
Winston-Salem	5,411	5,355	5,299	5,703
Average	5,347	5,527	5,479	5,658

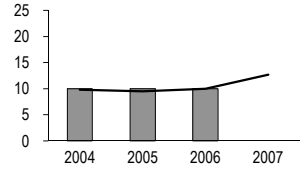
Emergency Services Cost per Call Dispatched



	2004	2005	2006	2007
Winston-Salem	$17.53	$18.61	$17.34	$15.00
Average	$14.89	$13.81	$13.84	$14.48

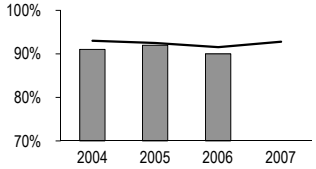
EFFECTIVENESS Measures

Number of Seconds from Initial Ring to Answer



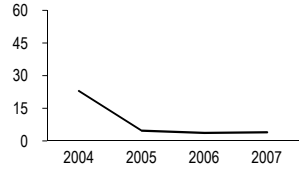
	2004	2005	2006	2007
Winston-Salem	10	10	10	
Average	10	10	10	13

Percent of Calls Answered Within Three Rings



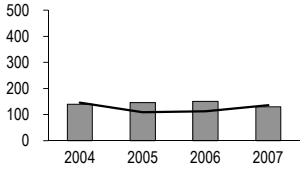
	2004	2005	2006	2007
Winston-Salem	91%	92%	90%	
Average	93%	93%	92%	93%

Average Time in Seconds from Call Answer to CAD Entry



	2004	2005	2006	2007
Winston-Salem				
Average	23	5	4	4

Average Time in Seconds from CAD Entry to Dispatch



	2004	2005	2006	2007
Winston-Salem	140	146	151	130
Average	146	108	112	135

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.22
Persons per Square Mile	1,659
County	Forsyth
Median Family Income (US Census 2000)	$46,595
Unemployment Rate (ESC-06)	4.3%
Population Growth (OMB 2000–2006)	8.7%

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		71.6%
Operating Costs		26.5%
Capital Costs		1.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,694,592
Operating Costs	$	998,569
Capital Costs	$	71,385
TOTAL	$	3,764,546

SERVICE PROFILE

FTE Positions	
Telecommunicators/Call-takers	44.0
Other	1.0
Total Incoming Calls	631,693
Total E-911 Calls	214,000
Total Calls Dispatched	250,916
E-911 Fee	$0.60
Revenue from Fee	$1,138,030

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 non-trunked 800 MHz system for the mobile data system with one transmitter site using three channels.

Winston-Salem's center handled a total of 631,693 calls in FY 2006–07, dispatching 250,916 of them. The city defines highest priority emergency calls as calls with a significant threat of imminent injury to persons or call 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 is not able to report the number of seconds from initial ring to answer and 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.

Winston-Salem annexed 19,059 residents effective September 30,2006. The annexed areas are comprised of 8,579 dwelling units, twenty square miles, and eighty-six miles of streets. As a result of the effective date, the additional costs reported for the benchmarking project only reflect nine months of service to these newly annexed areas.

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

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	694.4	67,394	18.1	13,722	2.5	64	19.7
Burlington	475.8	44,140	60.3	35,225	1.5	15	16.5
Carrboro	77.4	7,679	0.0	0	2.25	13-15 years	0.6
Cary	789.5	98,048	14.1	7,081	1.25	15	13.0
Charlotte	4868.0	514,970	254.3	133,235	2.0 (city) 1.0 (contractor)	19	141.0
Concord	632.6	58,875	21.4	12,425	1.5	28	10.7
Durham	1728.2	157,758	53.5	37,216	1.5	41	44.0
Gastonia	1158.0	80,121	9.0	4,869	1.5	73	10.7
Greensboro	3491.0	197,262	64.9	25,580	1.25	25	54.0
Hickory	707.2	30,638	7.4	4,310	1.5	64	7.0
High Point	1467.0	58,578	31.2	14,179	1.25	36	17.2
Matthews	189.5	22,793	7.6	4,139	1.5	20	6.5
Salisbury	321.2	21,935	9.8	4,397	1.5	15	10.0
Wilmington	746.0	128,134	6.3	3,961	1.5 to 2.0	20	21.0
Wilson	442.0	39,836	7.6	6,161	1.5	20	5.0
Winston-Salem	2157.5	160,794	28.2	20,166	2.0 (city) 1.5 (contractor)	59	38.1

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:

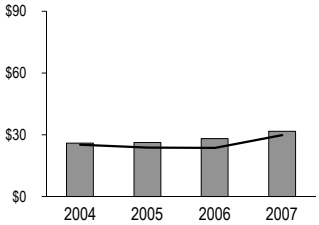
Costs of materials in different cities
Weather conditions and terrain
Vehicle burden placed on streets
Age of street infrastructure
Depth of materials applied in repaving
Extent of contracting

Asheville — Asphalt Maintenance and Repair

Key: Asheville ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

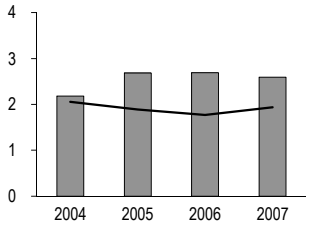
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



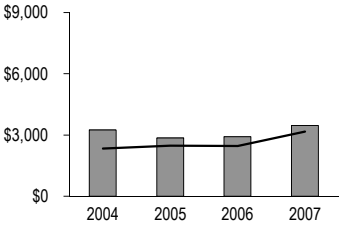
	2004	2005	2006	2007
Asheville	$25.88	$26.32	$28.18	$31.68
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville	2.18	2.68	2.69	2.59
Average	2.06	1.89	1.77	1.94

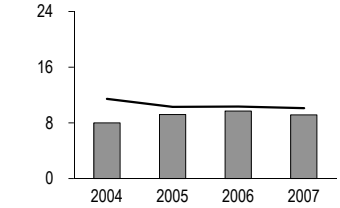
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Asheville	$3,244	$2,858	$2,910	$3,465
Average	$2,335	$2,476	$2,460	$3,169

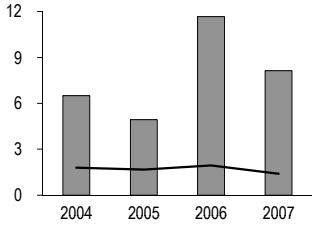
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Asheville	8.0	9.2	9.7	9.1
Average	11.4	10.3	10.4	10.1

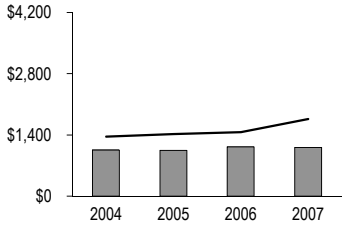
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Asheville	6.50	4.93	11.66	8.12
Average	1.82	1.68	1.95	1.42

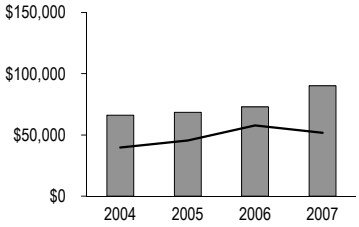
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



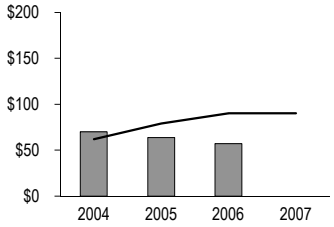
	2004	2005	2006	2007
Asheville	$1,050	$1,047	$1,130	$1,112
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Asheville	$66,056	$68,562	$72,848	$90,259
Average	$39,930	$45,562	$57,914	$51,888

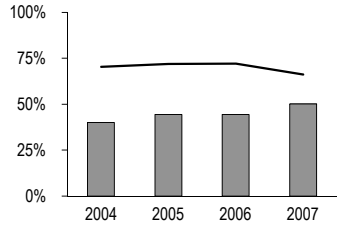
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Asheville	$70	$64	$57	
Average	$62	$79	$90	$90

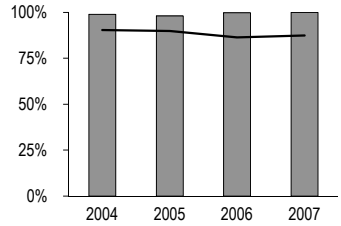
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Asheville	40%	44%	44%	50%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Asheville	99%	98%	100%	100%
Average	90%	90%	86%	87%

Asheville

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
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		26.6%
Operating Costs		67.8%
Capital Costs		5.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	640,935
Operating Costs	$	1,630,533
Capital Costs	$	134,699
TOTAL	$	2,406,167

SERVICE PROFILE

FTE Positions—Crews	18.58
FTE Positions—Other	1.09
Lane Miles Maintained	694.4
Lane Miles Resurfaced—Contract	0.00
Lane Miles Resurfaced—City	18.1
Total	18.10
Tons of Asphalt Used—Resurfacing	
Contractor	0
City Crews	13,722
Cost of Repaving—Contract	$0
Cost of Repaving—City Crews	$1,633,689
Cost of Maintenance	$772,478
Registered Vehicles	67,394
Registered Vehicles/Square Mile	1,551

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Asheville was responsible for maintaining 694.39 lane miles during FY 2006–07. The city resurfaced 18.1 lane miles, equating to approximately 2.6 percent of total lane miles.

A total of 13,722 tons of asphalt was used by city crews during the fiscal year for resurfacing projects. 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 2006–07 was 5,641. The percentage of potholes repaired within twenty-four hours was approximately 100 percent. The city reported a resurfacing cycle of approximately sixty-four years.

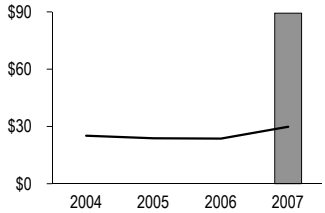
Conditions Affecting Service, Performance, and Costs
There was an increase in asphalt prices from $56 per ton to $61 per ton.

Burlington — Asphalt Maintenance and Repair

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

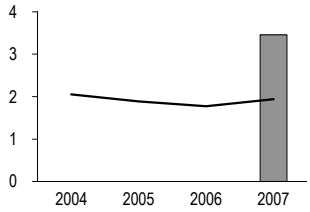
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



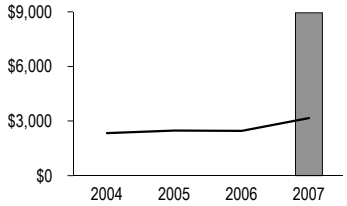
	2004	2005	2006	2007
Burlington				$89.25
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				3.46
Average	2.06	1.89	1.77	1.94

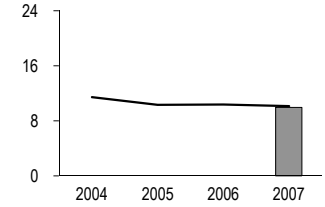
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Burlington				$8,946
Average	$2,335	$2,476	$2,460	$3,169

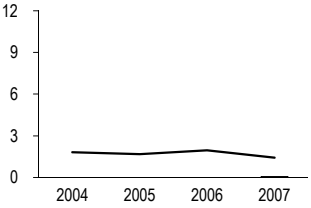
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Burlington				10.0
Average	11.4	10.3	10.4	10.1

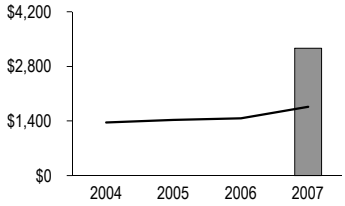
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Burlington				0.08
Average	1.82	1.68	1.95	1.42

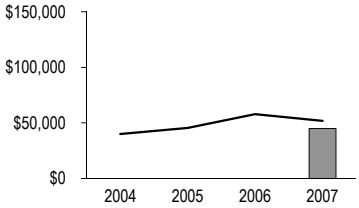
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



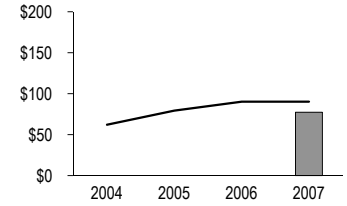
	2004	2005	2006	2007
Burlington				$3,263
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Burlington				$44,842
Average	$39,930	$45,562	$57,914	$51,888

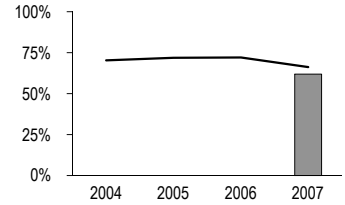
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Burlington				$77
Average	$62	$79	$90	$90

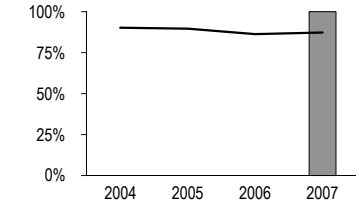
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Burlington				62%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Burlington				100%
Average	90%	90%	86%	87%

Burlington

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
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		16.8%
Operating Costs		78.4%
Capital Costs		4.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	714,253
Operating Costs	$	3,335,688
Capital Costs	$	206,662
TOTAL	$	4,256,603

SERVICE PROFILE

FTE Positions—Crews	14.00
FTE Positions—Other	2.50
Lane Miles Maintained	475.8
Lane Miles Resurfaced—Contract	59.30
Lane Miles Resurfaced—City	1.00
Total	60.30
Tons of Asphalt Used—Resurfacing	
Contractor	34,475
City Crews	750
Cost of Repaving—Contract	$2,670,000
Cost of Repaving—City Crews	$34,000
Cost of Maintenance	$1,552,603
Registered Vehicles	44,140
Registered Vehicles/Square Mile	1,778

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Burlington was responsible for maintaining 475.8 lane miles during FY 2006–07. The city resurfaced a total of 60.3 lanes miles, equating to approximately 12.7 percent of total lane miles. The city is in the first year of a three year $9.3 million transportation improvement bond passed in November 2005 with a signficant committment to resurfacing of city streets.

For the 60.3 lane miles resurfaced, one mile was done by city crews with the rest completed by contractors. A total of 750 tons of asphalt was used during the fiscal year by city crews and 37,475 tons used by contractors for resurfacing projects. The average resurfacing depth used was 1.50 inches for both city and contracted crews.

The city reported that 62 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 thirty-six 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 this year and is first reporting data for FY 2006–07.

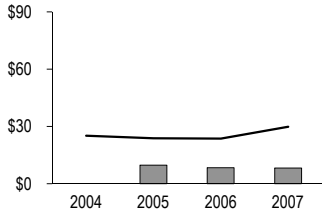
In addition to the resurfacing work being done as part of the transportation improvement bond, Burlington also performed an increased amount of patching in preparation for the contracted resurfacing projects.

Carrboro — Asphalt Maintenance and Repair

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

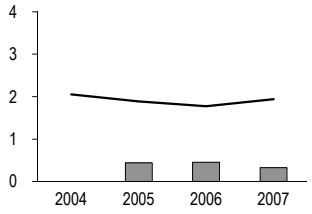
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



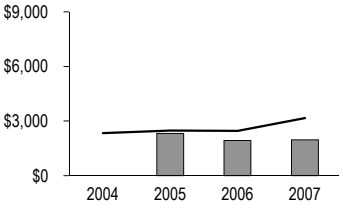
	2004	2005	2006	2007
Carrboro		$9.77	$8.37	$8.21
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Carrboro		0.44	0.46	0.33
Average	2.06	1.89	1.77	1.94

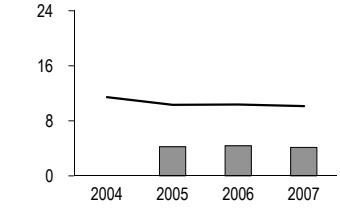
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Carrboro		$2,313	$1,925	$1,973
Average	$2,335	$2,476	$2,460	$3,169

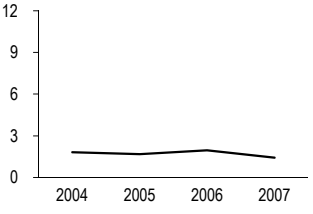
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Carrboro		4.2	4.3	4.2
Average	11.4	10.3	10.4	10.1

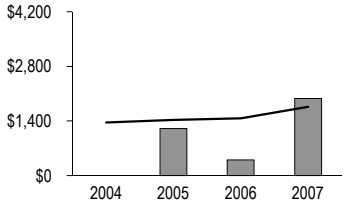
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Carrboro				
Average	1.82	1.68	1.95	1.42

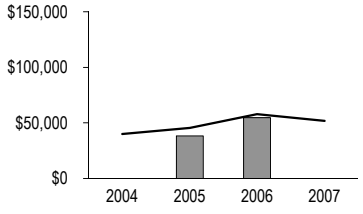
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



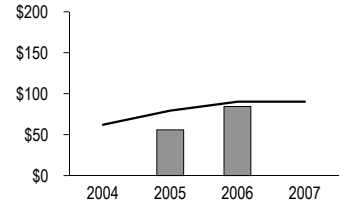
	2004	2005	2006	2007
Carrboro		$1,202	$399	$1,973
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Carrboro		$38,331	$54,669	
Average	$39,930	$45,562	$57,914	$51,888

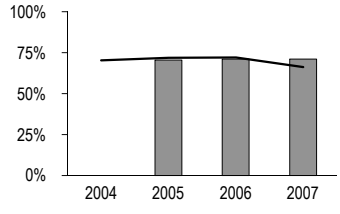
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Carrboro		$56	$84	
Average	$62	$79	$90	$90

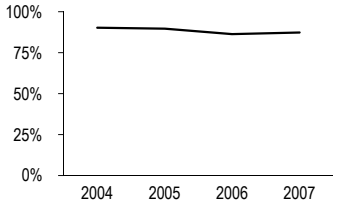
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Carrboro		71%	71%	71%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Carrboro				
Average	90%	90%	86%	87%

Carrboro

MUNICIPAL PROFILE

Population (OSBM 2006)	18,611
Land Area (Square Miles)	6.22
Persons per Square Mile	2,992
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		17.8%
Operating Costs		77.1%
Capital Costs		5.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	27,169
Operating Costs	$	117,703
Capital Costs	$	7,863
TOTAL	$	152,735

SERVICE PROFILE

FTE Positions—Crews	0.54
FTE Positions—Other	0.07
Lane Miles Maintained	77.4
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	$152,735
Registered Vehicles	7,679
Registered Vehicles/Square Mile	1,235

EXPLANATORY INFORMATION

Service Level and Delivery

The Town of Carrboro was responsible for maintaining 77.4 lane miles during FY 2006–07. No major resurfacing projects were done during the year.

The town reported that 71 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 2005.

The town reported a resurfacing cycle of thirteen to fifteen years.

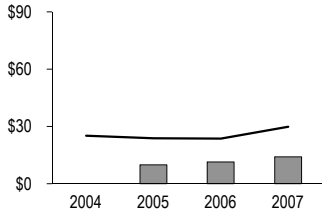
Potholes are prioritized by street classification and are addressed within forty-eight hours or sooner for severe conditions. The total number of potholes reported and repaired was not available.

Conditions Affecting Service, Performance, and Costs

Key: Cary ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

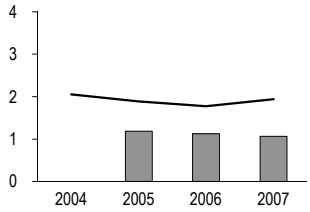
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



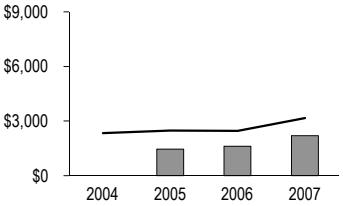
	2004	2005	2006	2007
Cary		$9.83	$11.37	$14.15
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Cary		1.18	1.12	1.06
Average	2.06	1.89	1.77	1.94

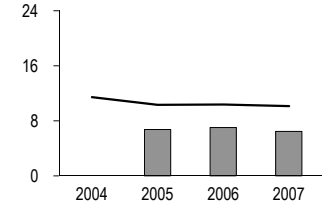
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Cary		$1,458	$1,618	$2,192
Average	$2,335	$2,476	$2,460	$3,169

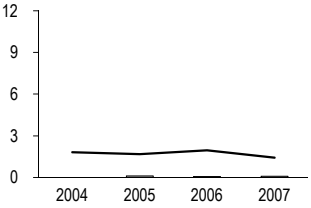
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Cary		6.7	7.0	6.5
Average	11.4	10.3	10.4	10.1

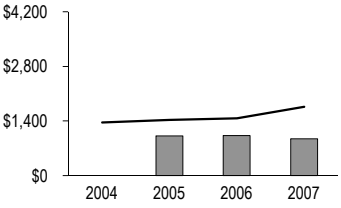
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Cary		0.12	0.08	0.08
Average	1.82	1.68	1.95	1.42

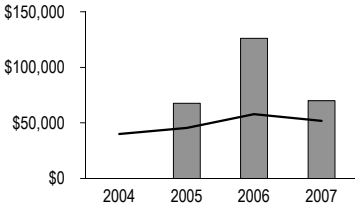
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



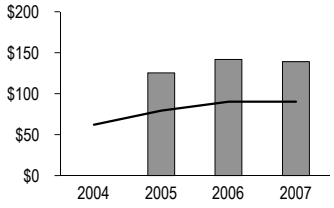
	2004	2005	2006	2007
Cary		$1,021	$1,029	$945
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Cary		$67,631	$126,203	$69,819
Average	$39,930	$45,562	$57,914	$51,888

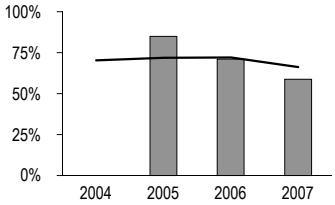
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Cary		$125	$142	$139
Average	$62	$79	$90	$90

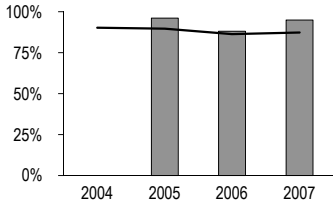
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Cary		85%	71%	59%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Cary		96%	88%	95%
Average	90%	90%	86%	87%

Cary

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
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		13.7%
Operating Costs		78.6%
Capital Costs		7.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	237,247
Operating Costs	$	1,360,558
Capital Costs	$	132,970
TOTAL	$	1,730,775

SERVICE PROFILE

FTE Positions—Crews	10.25
FTE Positions—Other	2.75
Lane Miles Maintained	789.5
Lane Miles Resurfaced—Contract	14.10
Lane Miles Resurfaced—City	0.00
Total	14.10
Tons of Asphalt Used—Resurfacing	
Contractor	7,081
City Crews	0
Cost of Repaving—Contract	$984,443
Cost of Repaving—City Crews	$0
Cost of Maintenance	$746,332
Registered Vehicles	98,048
Registered Vehicles/Square Mile	1,911

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Cary was responsible for maintaining 789.45 lane miles during FY 2006–07. Contractors resurfaced 14.1 lane miles, equating to approximately 1.8 percent of total lane miles.

A total of 7,081 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 58.7 percent of its street segments rated 85 or above on its most recent rating. The most recent study relied on ITRE and was conducted in March 2007.

The number of potholes reported for FY 2006–07 was sixty-six. The percentage of potholes repaired within twenty-four hours was 95 percent.

The town reported a resurfacing cycle of fifteen years.

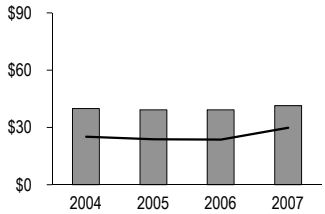
Conditions Affecting Service, Performance, and Costs
The rising price of oil increased the cost of asphalt used for resurfacing and repair work.

Charlotte — Asphalt Maintenance and Repair

Key: Charlotte ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

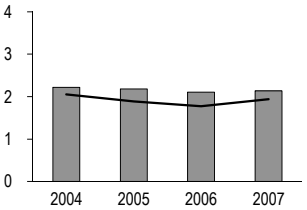
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



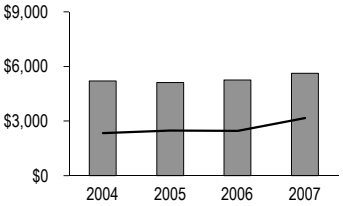
	2004	2005	2006	2007
Charlotte	$39.93	$39.26	$39.17	$41.38
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Charlotte	2.22	2.18	2.11	2.13
Average	2.06	1.89	1.77	1.94

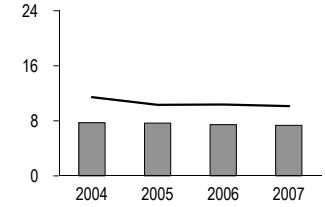
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Charlotte	$5,207	$5,121	$5,262	$5,618
Average	$2,335	$2,476	$2,460	$3,169

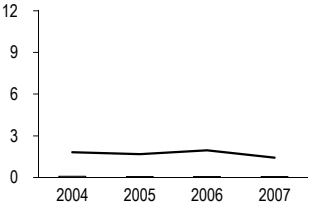
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Charlotte	7.7	7.7	7.4	7.4
Average	11.4	10.3	10.4	10.1

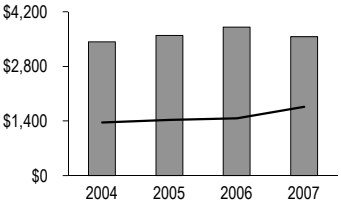
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Charlotte	0.10	0.08	0.08	0.07
Average	1.82	1.68	1.95	1.42

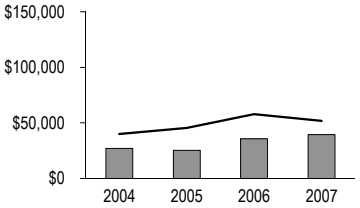
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



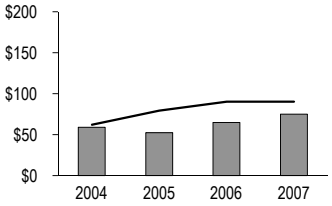
	2004	2005	2006	2007
Charlotte	$3,425	$3,589	$3,803	$3,560
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Charlotte	$26,925	$25,277	$35,722	$39,401
Average	$39,930	$45,562	$57,914	$51,888

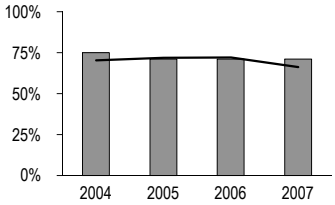
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Charlotte	$59	$52	$65	$75
Average	$62	$79	$90	$90

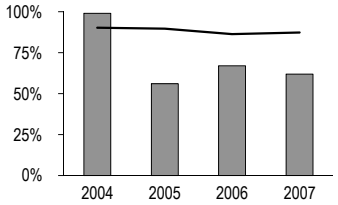
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Charlotte	75%	71%	71%	71%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Charlotte	99%	56%	67%	62%
Average	90%	90%	86%	87%

Charlotte

MUNICIPAL PROFILE

Population (OSBM 2006)	660,930
Land Area (Square Miles)	281.98
Persons per Square Mile	2,344
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		22.5%
Operating Costs		65.3%
Capital Costs		12.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,156,908
Operating Costs	$	17,854,156
Capital Costs	$	3,337,353
TOTAL	$	27,348,417

SERVICE PROFILE

FTE Positions—Crews	122.0
FTE Positions—Other	19.0
Lane Miles Maintained	4,868.0
Lane Miles Resurfaced—Contract	247.0
Lane Miles Resurfaced—City	7.3
Total	254.3
Tons of Asphalt Used—Resurfacing	
Contractor	130,972
City Crews	2,263
Cost of Repaving—Contract	$9,844,684
Cost of Repaving—City Crews	$173,091
Cost of Maintenance	$17,330,642
Registered Vehicles	514,970
Registered Vehicles/Square Mile	1,826

EXPLANATORY INFORMATION

Service Level and Delivery

The City of Charlotte was responsible for maintaining 4,868 lane miles during FY 2006–07.

The city resurfaced 254.25 lane miles, equating to approximately 5.2 percent of total lane miles. A total of 133,235 tons of asphalt was used during the fiscal year for resurfacing, representing 2,263 tons used by the city and 130,972 tons used by contractors. The average resurfacing depth used was one inch by contractors and two inches by city crews.

The city reported that 71 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2005. The roads were independently rated by U.S. Infrastructure of Carolina.

The number of potholes reported for FY 2006–07 was 360. The percentage of potholes repaired within twenty-four hours was 62 percent. The city reported a resurfacing cycle of nineteen years.

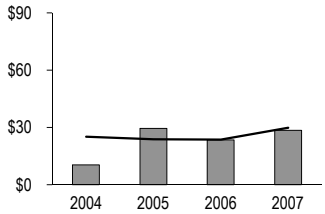
Conditions Affecting Service, Performance, and Costs

Concord — Asphalt Maintenance and Repair

Key: Concord ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

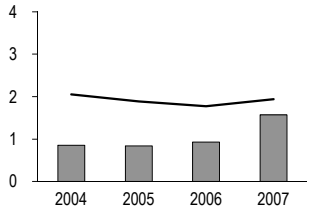
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



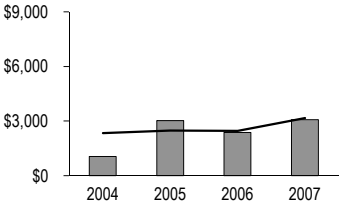
	2004	2005	2006	2007
Concord	$10.34	$29.57	$23.39	$28.48
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Concord	0.85	0.83	0.93	1.57
Average	2.06	1.89	1.77	1.94

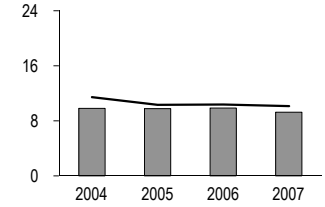
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Concord	$1,060	$3,024	$2,370	$3,073
Average	$2,335	$2,476	$2,460	$3,169

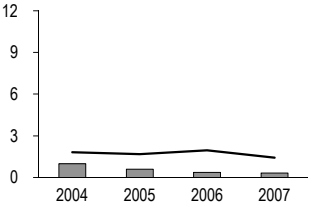
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Concord	9.8	9.8	9.9	9.3
Average	11.4	10.3	10.4	10.1

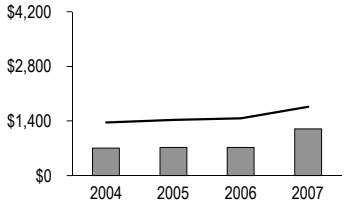
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Concord	1.00	0.61	0.36	0.31
Average	1.82	1.68	1.95	1.42

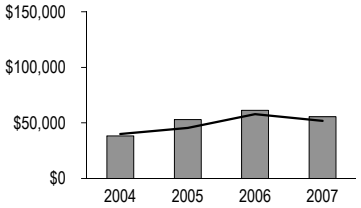
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



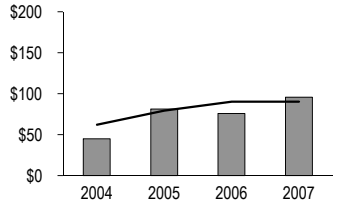
	2004	2005	2006	2007
Concord	$707	$722	$725	$1,195
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Concord	$38,196	$53,112	$61,428	$55,550
Average	$39,930	$45,562	$57,914	$51,888

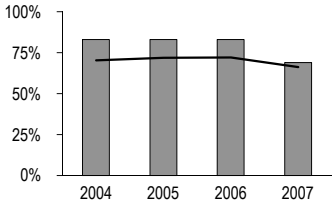
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Concord	$45	$81	$76	$96
Average	$62	$79	$90	$90

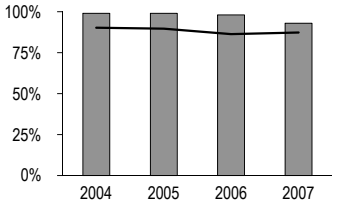
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Concord	83%	83%	83%	69%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Concord	99%	99%	98%	93%
Average	90%	90%	86%	87%

Concord

MUNICIPAL PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
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		22.0%
Operating Costs		72.4%
Capital Costs		5.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	427,992
Operating Costs	$	1,407,727
Capital Costs	$	108,014
TOTAL	$	1,943,733

SERVICE PROFILE

FTE Positions—Crews	8.80
FTE Positions—Other	1.90
Lane Miles Maintained	632.6
Lane Miles Resurfaced—Contract	21.38
Lane Miles Resurfaced—City	0.00
Total	21.38
Tons of Asphalt Used—Resurfacing	
Contractor	12,425
City Crews	0
Cost of Repaving—Contract	$1,187,655
Cost of Repaving—City Crews	$0
Cost of Maintenance	$756,078
Registered Vehicles	58,875
Registered Vehicles/Square Mile	1,042

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Concord was responsible for maintaining 632.61 lane miles during FY 2006–07.

The city resurfaced 21.38 lane miles, equating to 3.4 percent of total lane miles. A total of 12,425 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 2007. 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 2006–07 was 199, including those reported by citizens and the city. The percentage of potholes repaired within twenty-four hours was 93 percent. The city reported a resurfacing cycle of approximately 28.3 years.

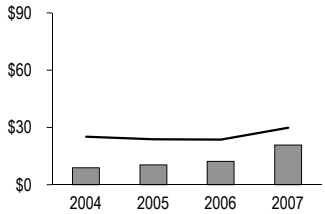
Conditions Affecting Service, Performance, and Costs
The costs associated with the maintenance and resurfacing are influenced by competition due to the location of three asphalt plants within the city limits.

Durham — Asphalt Maintenance and Repair

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

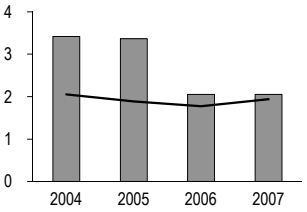
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



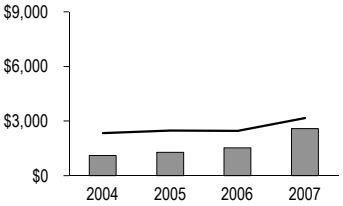
	2004	2005	2006	2007
Durham	$8.89	$10.39	$12.20	$20.86
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Durham	3.42	3.37	2.06	2.05
Average	2.06	1.89	1.77	1.94

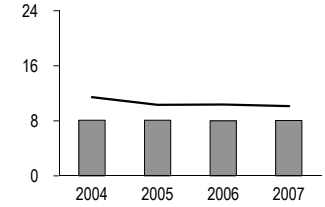
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Durham	$1,099	$1,284	$1,523	$2,590
Average	$2,335	$2,476	$2,460	$3,169

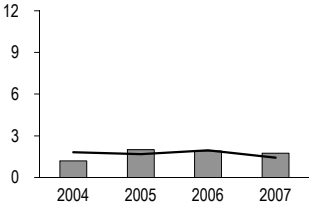
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Durham	8.1	8.1	8.0	8.1
Average	11.4	10.3	10.4	10.1

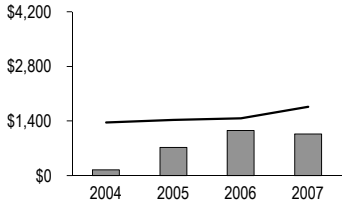
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Durham	1.20	2.01	1.91	1.75
Average	1.82	1.68	1.95	1.42

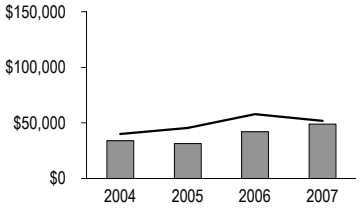
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



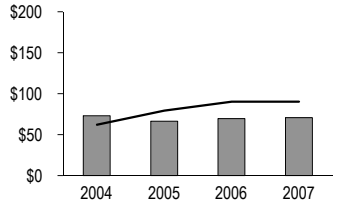
	2004	2005	2006	2007
Durham	$146	$721	$1,154	$1,070
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Durham	$34,079	$31,426	$42,125	$49,085
Average	$39,930	$45,562	$57,914	$51,888

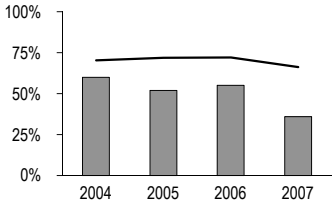
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Durham	$73	$66	$70	$71
Average	$62	$79	$90	$90

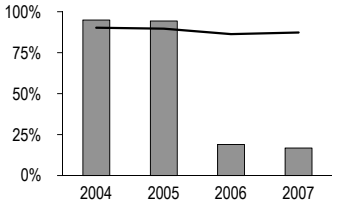
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Durham	60%	52%	55%	36%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Durham	95%	94%	19%	17%
Average	90%	90%	86%	87%

Durham

MUNICIPAL PROFILE

Population (OSBM 2006)	214,559
Land Area (Square Miles)	103.67
Persons per Square Mile	2,070
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		18.4%
Operating Costs		71.3%
Capital Costs		10.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	825,148
Operating Costs	$	3,192,738
Capital Costs	$	457,665
TOTAL	$	4,475,551

SERVICE PROFILE

FTE Positions—Crews	37.0
FTE Positions—Other	7.0
Lane Miles Maintained	1,728.2
Lane Miles Resurfaced—Contract	53.50
Lane Miles Resurfaced—City	0.00
Total	53.50
Tons of Asphalt Used—Resurfacing	
Contractor	37,216
City Crews	0
Cost of Repaving—Contract	$2,626,049
Cost of Repaving—City Crews	$0
Cost of Maintenance	$1,849,502
Registered Vehicles	157,758
Registered Vehicles/Square Mile	1,522

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Durham was responsible for maintaining 1,728.2 lane miles during FY 2006–07, including 329.78 lane miles of state roads.

The city resurfaced 53.5 miles, equating to 3.1 percent of total lane miles. A total of 37,216 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 36 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 2006–07 was 3,023, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 16.7 percent. Durham reported a resurfacing cycle of forty-one years.

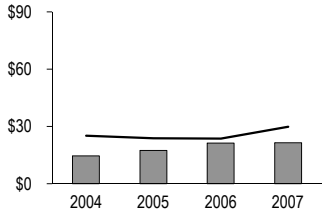
Conditions Affecting Service, Performance, and Costs
Increases in the cost of asphalt reduced the number of lane miles that could be resurfaced by approximately 25 percent compared to budget.

Gastonia — Asphalt Maintenance and Repair

Key: Gastonia ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

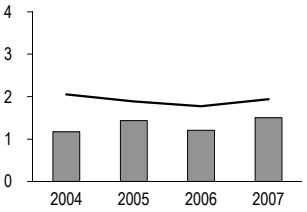
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



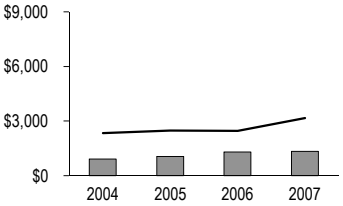
	2004	2005	2006	2007
Gastonia	$14.65	$17.44	$21.24	$21.53
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Gastonia	1.17	1.43	1.21	1.50
Average	2.06	1.89	1.77	1.94

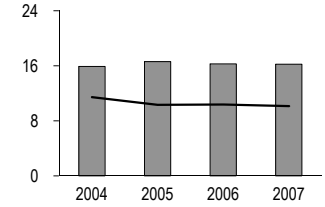
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Gastonia	$921	$1,051	$1,304	$1,327
Average	$2,335	$2,476	$2,460	$3,169

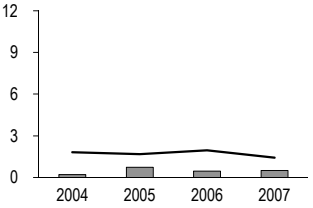
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Gastonia	15.9	16.6	16.3	16.2
Average	11.4	10.3	10.4	10.1

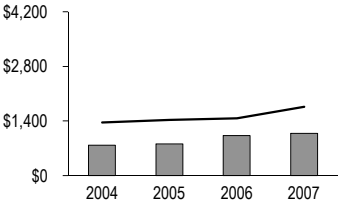
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Gastonia	0.20	0.74	0.46	0.52
Average	1.82	1.68	1.95	1.42

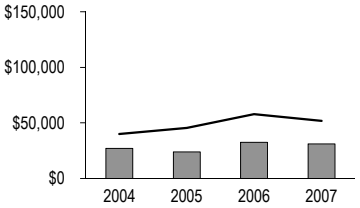
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



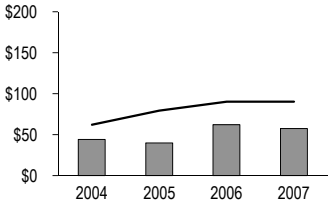
	2004	2005	2006	2007
Gastonia	$777	$816	$1,026	$1,085
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Gastonia	$27,078	$23,779	$32,433	$31,077
Average	$39,930	$45,562	$57,914	$51,888

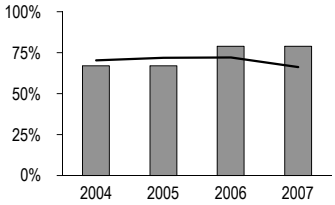
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Gastonia	$44	$40	$62	$58
Average	$62	$79	$90	$90

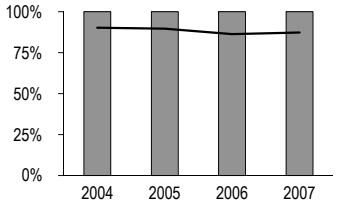
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Gastonia	67%	67%	79%	79%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Gastonia	100%	100%	100%	100%
Average	90%	90%	86%	87%

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2006)	71,376
Land Area (Square Miles)	49.65
Persons per Square Mile	1,438
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		29.5%
Operating Costs		60.2%
Capital Costs		10.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	452,840
Operating Costs	$	925,073
Capital Costs	$	159,117
TOTAL	$	1,537,030

SERVICE PROFILE

FTE Positions—Crews	9.9
FTE Positions—Other	0.9
Lane Miles Maintained	1,158.0
Lane Miles Resurfaced—Contract	9.02
Lane Miles Resurfaced—City	0.00
Total	9.02
Tons of Asphalt Used—Resurfacing	
Contractor	4,869
City Crews	0
Cost of Repaving—Contract	$280,319
Cost of Repaving—City Crews	$0
Cost of Maintenance	$1,256,711
Registered Vehicles	80,121
Registered Vehicles/Square Mile	1,614

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Gastonia is responsible for maintaining 1,158 lane miles, including 500 lane miles of state roads.

The city resurfaced 9.02 lane miles, equating to 0.8 percent of total lane miles. A total of 4,869 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 79 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 2006–07 was 597. Gastonia reported that 100 percent of potholes were repaired within twenty-four hours in FY 2006–07. 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.

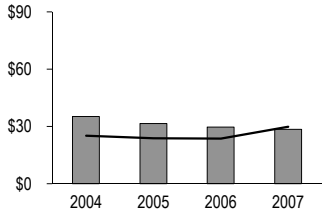
Conditions Affecting Service, Performance, and Costs
There were two snow and ice events during FY 2006-07. Each of these events resulted in manpower being shifted away from normal maintenance activities.

Greensboro Asphalt Maintenance and Repair

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

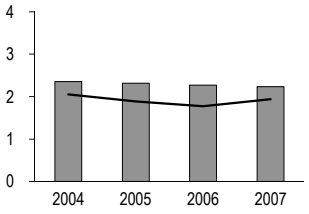
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



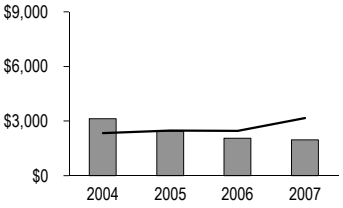
	2004	2005	2006	2007
Greensboro	$35.27	$31.43	$29.71	$28.48
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Greensboro	2.36	2.32	2.28	2.23
Average	2.06	1.89	1.77	1.94

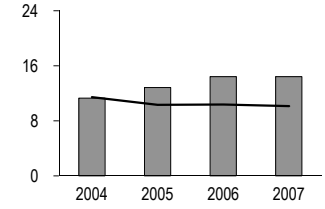
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Greensboro	$3,130	$2,446	$2,062	$1,972
Average	$2,335	$2,476	$2,460	$3,169

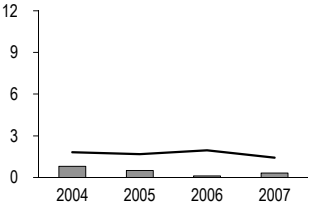
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Greensboro	11.3	12.9	14.4	14.4
Average	11.4	10.3	10.4	10.1

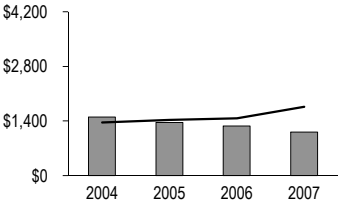
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Greensboro	0.80	0.51	0.12	0.33
Average	1.82	1.68	1.95	1.42

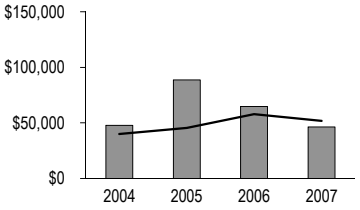
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



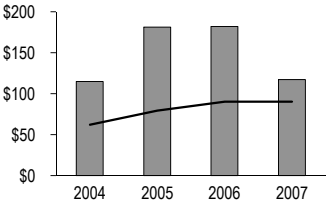
	2004	2005	2006	2007
Greensboro	$1,502	$1,359	$1,272	$1,113
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Greensboro	$47,778	$88,692	$64,904	$46,225
Average	$39,930	$45,562	$57,914	$51,888

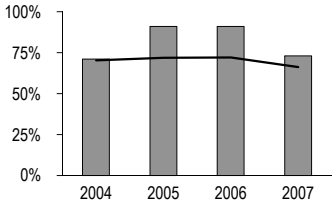
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Greensboro	$115	$181	$182	$117
Average	$62	$79	$90	$90

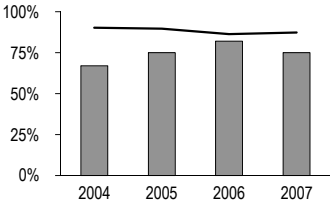
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Greensboro	71%	91%	91%	73%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Greensboro	67%	75%	82%	75%
Average	90%	90%	86%	87%

Greensboro

MUNICIPAL PROFILE

Population (OSBM 2006)	241,767
Land Area (Square Miles)	118.06
Persons per Square Mile	2,048
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		27.0%
Operating Costs		72.9%
Capital Costs		0.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,860,885
Operating Costs	$	5,017,088
Capital Costs	$	7,656
TOTAL	$	6,885,629

SERVICE PROFILE

FTE Positions—Crews	46.0
FTE Positions—Other	8.0
Lane Miles Maintained	3,491.0
Lane Miles Resurfaced—Contract	64.90
Lane Miles Resurfaced—City	0.00
Total	64.90
Tons of Asphalt Used—Resurfacing	
Contractor	25,580
City Crews	0
Cost of Repaving—Contract	$3,000,000
Cost of Repaving—City Crews	$0
Cost of Maintenance	$3,885,629
Registered Vehicles	197,262
Registered Vehicles/Square Mile	1,671

EXPLANATORY INFORMATION

Service Level and Delivery
The city of Greensboro was responsible for maintaining 3,491 lane miles during FY 2006–07. This includes 873 lane miles of state roads.

The city resurfaced 64.9 lane miles, equating to approximately 1.9 percent of total lane miles. A total of 25,580 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 2006–07 was 1,145. The percentage of potholes repaired within twenty-four hours was 75 percent. The city reported a resurfacing cycle of twenty-five years.

Conditions Affecting Service, Performance, and Costs
Greensboro experienced much higher asphalt and stone costs.

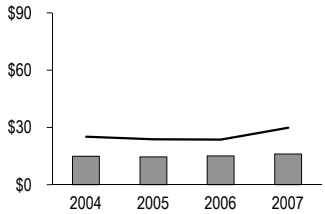
Changes in tracking software have improved the accuracy of potholes reported and asphalt used.

Hickory — Asphalt Maintenance and Repair

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

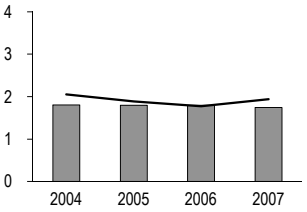
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



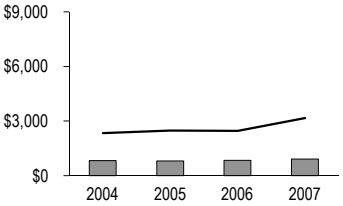
	2004	2005	2006	2007
Hickory	$14.86	$14.62	$15.05	$16.16
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory	1.80	1.80	1.79	1.74
Average	2.06	1.89	1.77	1.94

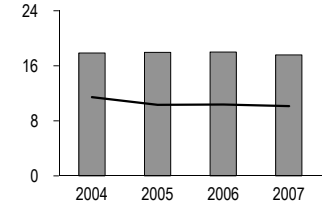
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Hickory	$832	$815	$836	$919
Average	$2,335	$2,476	$2,460	$3,169

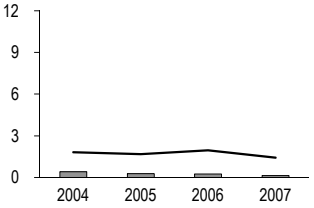
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Hickory	17.9	17.9	18.0	17.6
Average	11.4	10.3	10.4	10.1

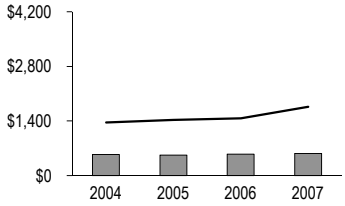
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Hickory	0.42	0.28	0.24	0.15
Average	1.82	1.68	1.95	1.42

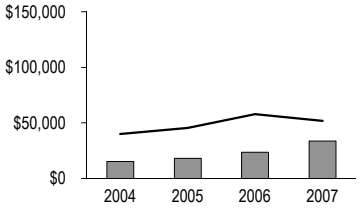
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



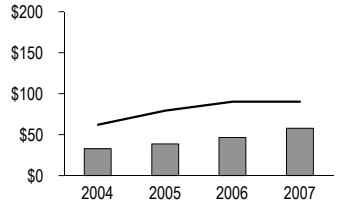
	2004	2005	2006	2007
Hickory	$544	$529	$551	$565
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Hickory	$15,385	$18,182	$23,529	$33,647
Average	$39,930	$45,562	$57,914	$51,888

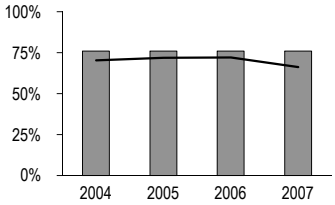
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Hickory	$33	$39	$47	$58
Average	$62	$79	$90	$90

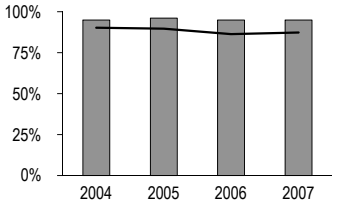
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Hickory	76%	76%	76%	76%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Hickory	95%	96%	95%	95%
Average	90%	90%	86%	87%

Hickory

MUNICIPAL PROFILE

Population (OSBM 2006)	40,214
Land Area (Square Miles)	28.95
Persons per Square Mile	1,389
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		38.6%
Operating Costs		57.3%
Capital Costs		4.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	250,550
Operating Costs	$	372,444
Capital Costs	$	26,738
TOTAL	$	649,732

SERVICE PROFILE

FTE Positions—Crews	6.0
FTE Positions—Other	1.0
Lane Miles Maintained	707.2
Lane Miles Resurfaced—Contract	7.43
Lane Miles Resurfaced—City	0.00
Total	7.43
Tons of Asphalt Used—Resurfacing	
Contractor	4,310
City Crews	0
Cost of Repaving—Contract	$250,000
Cost of Repaving—City Crews	$0
Cost of Maintenance	$399,732
Registered Vehicles	30,638
Registered Vehicles/Square Mile	1,058

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Hickory was responsible for maintaining 707.22 lane miles during FY 2006–07.

The city resurfaced 7.43 lane miles under contract, equating to 1.1 percent of total lane miles. A total of 4,310 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 76 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2001. The city used ITRE to conduct its rating system.

The number of potholes reported for FY 2006–07 was 105, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 95 percent. The city reported a resurfacing cycle of sixty-four years.

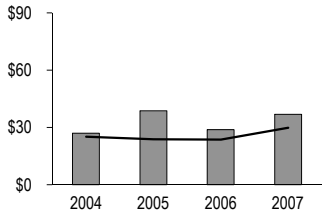
Conditions Affecting Service, Performance, and Costs
While the winter was mild, the rising price of oil increased the cost of asphalt used for resurfacing and repair work.

High Point — Asphalt Maintenance and Repair

Key: High Point ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

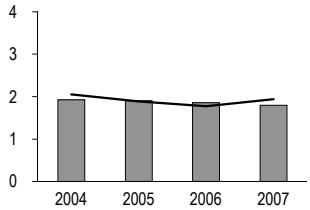
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



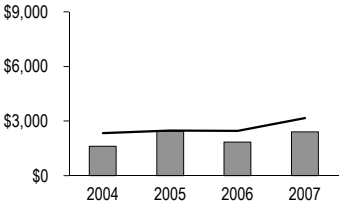
	2004	2005	2006	2007
High Point	$27.04	$38.75	$28.91	$36.86
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	1.93	1.90	1.86	1.80
Average	2.06	1.89	1.77	1.94

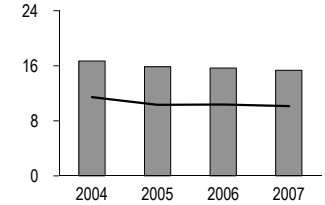
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
High Point	$1,622	$2,442	$1,845	$2,403
Average	$2,335	$2,476	$2,460	$3,169

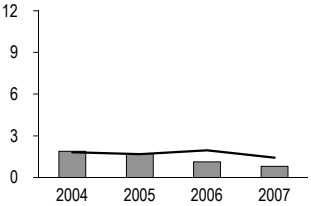
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
High Point	16.7	15.9	15.7	15.3
Average	11.4	10.3	10.4	10.1

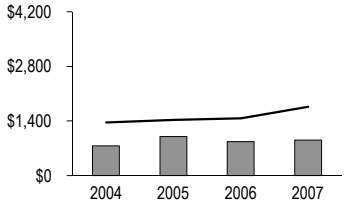
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
High Point	1.90	1.72	1.13	0.81
Average	1.82	1.68	1.95	1.42

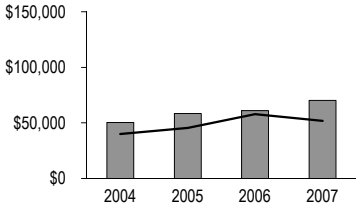
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



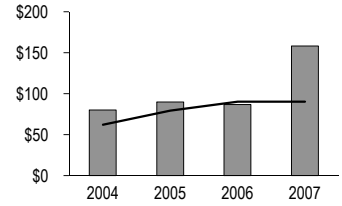
	2004	2005	2006	2007
High Point	$764	$1,001	$867	$910
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
High Point	$50,412	$58,392	$61,127	$70,174
Average	$39,930	$45,562	$57,914	$51,888

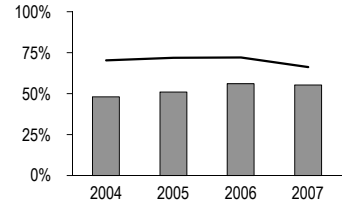
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
High Point	$80	$90	$87	$158
Average	$62	$79	$90	$90

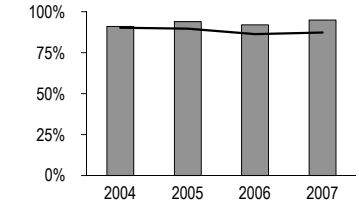
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
High Point	48%	51%	56%	55%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
High Point	91%	94%	92%	95%
Average	90%	90%	86%	87%

High Point

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
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		18.2%
Operating Costs		76.6%
Capital Costs		5.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	643,026
Operating Costs	$	2,700,068
Capital Costs	$	181,961
TOTAL		3,525,055

SERVICE PROFILE

FTE Positions—Crews	16.0
FTE Positions—Other	1.2
Lane Miles Maintained	1,467.0
Lane Miles Resurfaced—Contract	28.30
Lane Miles Resurfaced—City	2.90
Total	31.20
Tons of Asphalt Used—Resurfacing	
Contractor	12,561
City Crews	1,618
Cost of Repaving—Contract	$1,985,730
Cost of Repaving—City Crews	$203,685
Cost of Maintenance	$1,335,640
Registered Vehicles	58,578
Registered Vehicles/Square Mile	1,102

EXPLANATORY INFORMATION

Service Level and Delivery

The City of High Point was responsible for maintaining 1,467 lane miles during FY 2006–07. This includes 340 lane miles of state roads.

The city resurfaced 31.2 lane miles, roughly 2.1 percent of total lane miles. A total of 14,179 tons of asphalt was used during the fiscal year for resurfacing projects including 1,618 tons used by the city and 12,561 tons used by a contractor. An average resurfacing depth of 1.25 inches was used by both city and contractor crews.

The city reported that 55.2 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 2006–07 was 1,188, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 95 percent. The city reported a resurfacing cycle of thirty-six years.

Conditions Affecting Service, Performance, and Costs

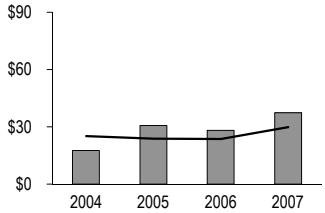
The rising price of oil significantly increased the cost of asphalt used for resurfacing and repair work. The cost of hot mix asphalt increased 55 percent while budget funding for asphalt purchases only increased 21 percent. The difference resulted in fewer tons of aphalt placed by city crews over the year. Smaller paving projects requiring fewer tons of asphalt were given priority over larger projects.

Matthews — Asphalt Maintenance and Repair

Key: Matthews ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

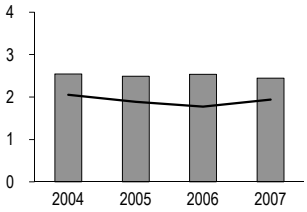
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



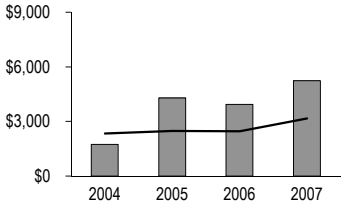
	2004	2005	2006	2007
Matthews	$17.64	$30.65	$28.17	$37.45
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Matthews	2.55	2.49	2.54	2.45
Average	2.06	1.89	1.77	1.94

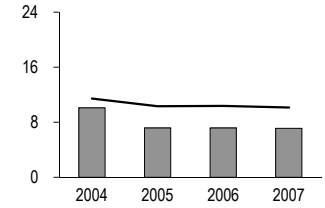
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Matthews	$1,747	$4,281	$3,942	$5,246
Average	$2,335	$2,476	$2,460	$3,169

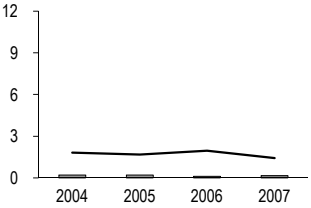
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Matthews	10.1	7.2	7.1	7.1
Average	11.4	10.3	10.4	10.1

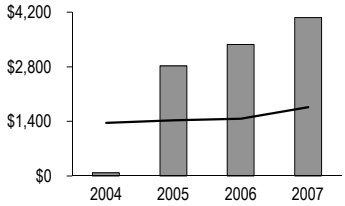
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Matthews	0.20	0.20	0.11	0.15
Average	1.82	1.68	1.95	1.42

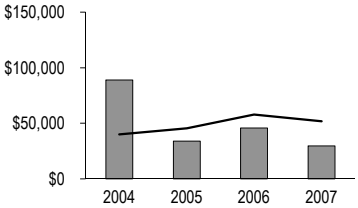
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



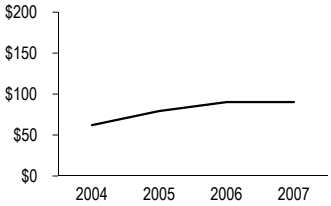
	2004	2005	2006	2007
Matthews	$85	$2,820	$3,372	$4,057
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Matthews	$88,868	$34,048	$45,877	$29,543
Average	$39,930	$45,562	$57,914	$51,888

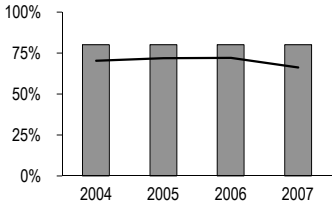
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Matthews				
Average	$62	$79	$90	$90

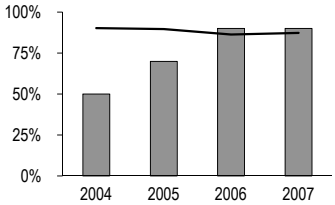
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Matthews	80%	80%	80%	80%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Matthews	50%	70%	90%	90%
Average	90%	90%	86%	87%

Matthews

MUNICIPAL PROFILE

Population (OSBM 2006)	26,554
Land Area (Square Miles)	16.63
Persons per Square Mile	1,597
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		35.4%
Operating Costs		54.6%
Capital Costs		10.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	352,001
Operating Costs	$	542,645
Capital Costs	$	99,717
TOTAL	$	994,363

SERVICE PROFILE

FTE Positions—Crews	5.25
FTE Positions—Other	1.25
Lane Miles Maintained	189.5
Lane Miles Resurfaced—Contract	0.00
Lane Miles Resurfaced—City	7.63
Total	7.63
Tons of Asphalt Used—Resurfacing	
Contractor	0
City Crews	4,139
Cost of Repaving—Contract	$0
Cost of Repaving—City Crews	$225,414
Cost of Maintenance	$768,949
Registered Vehicles	22,793
Registered Vehicles/Square Mile	1,371

EXPLANATORY INFORMATION

Service Level and Delivery
The Town of Matthews was responsible for maintaining 189.54 lane miles during FY 2006–07.

The town resurfaced 7.63 lane miles, equating to approximately 4 percent of total lane miles. A total of 4,139 tons of asphalt was used during the fiscal year for resurfacing projects by town crews. The average resurfacing depth used by the town was 1.5 inches.

The town reported that 80 percent of its street segments rated 85 percent or above on its most recent rating conducted in the year 2004. The town used ITRE to conduct its rating system.

The number of potholes reported for FY 2006–07 was twenty-nine, including self-reported and citizen-reported potholes. The percentage of potholes repaired within twenty-four hours was 90 percent. The town reported a resurfacing cycle of twenty years.

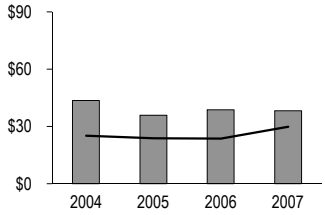
Conditions Affecting Service, Performance, and Costs
"Cost of maintenance per lane mile maintained" was high the last two years as the town had a contract for patching work above that done by city crews. This work was done in preparation for resurfacing but was counted as maintenance for this report.

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 2007

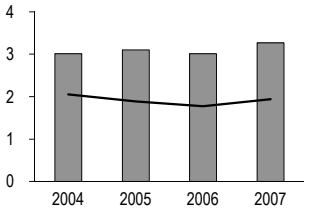
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



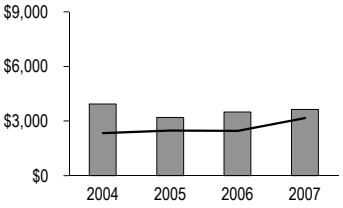
	2004	2005	2006	2007
Salisbury	$43.53	$35.89	$38.71	$38.23
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury	3.01	3.10	3.01	3.26
Average	2.06	1.89	1.77	1.94

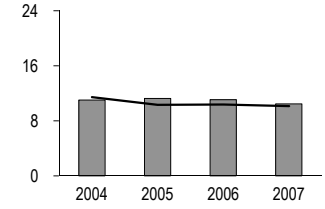
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Salisbury	$3,941	$3,194	$3,502	$3,646
Average	$2,335	$2,476	$2,460	$3,169

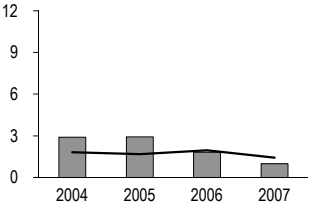
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Salisbury	11.0	11.2	11.1	10.5
Average	11.4	10.3	10.4	10.1

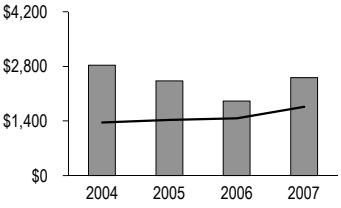
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Salisbury	2.90	2.93	1.83	1.00
Average	1.82	1.68	1.95	1.42

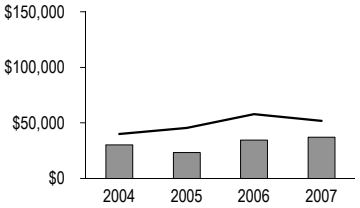
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



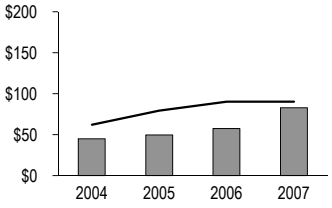
	2004	2005	2006	2007
Salisbury	$2,829	$2,430	$1,913	$2,514
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Salisbury	$30,155	$23,353	$34,511	$37,107
Average	$39,930	$45,562	$57,914	$51,888

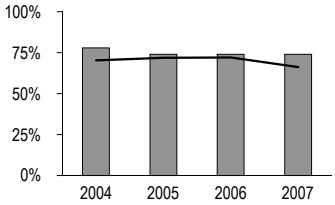
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Salisbury	$45	$50	$57	$83
Average	$62	$79	$90	$90

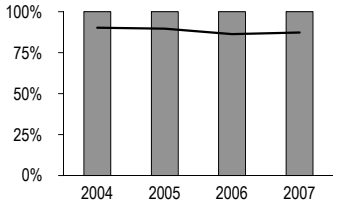
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Salisbury	78%	74%	74%	74%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Salisbury	100%	100%	100%	100%
Average	90%	90%	86%	87%

Salisbury

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
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		33.4%
Operating Costs		53.5%
Capital Costs		13.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	390,824
Operating Costs	$	626,424
Capital Costs	$	153,758
TOTAL	$	1,171,006

SERVICE PROFILE

FTE Positions—Crews	9.00
FTE Positions—Other	1.00
Lane Miles Maintained	321.2
Lane Miles Resurfaced—Contract	9.80
Lane Miles Resurfaced—City	0.00
Total	9.80
Tons of Asphalt Used—Resurfacing	
Contractor	4,397
City Crews	0
Cost of Repaving—Contract	$363,648
Cost of Repaving—City Crews	$0
Cost of Maintenance	$807,358
Registered Vehicles	21,935
Registered Vehicles/Square Mile	1,081

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Salisbury was responsible for maintaining 321.16 lane miles during FY 2006–07.

The city resurfaced 9.8 lane miles, equating to approximately 3.1 percent of total lane miles. A total of 4,397 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 2006–07 was 321. The percentage of potholes repaired within twenty-four hours was 100 percent. The city reported a resurfacing cycle of fifteen years.

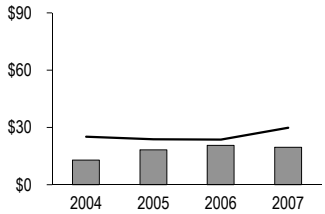
Conditions Affecting Service, Performance, and Costs
The rising price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

Wilmington — Asphalt Maintenance and Repair

Key: Wilmington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

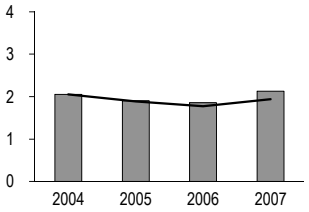
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



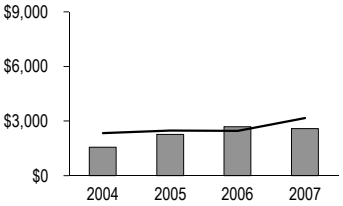
	2004	2005	2006	2007
Wilmington	$12.92	$18.27	$20.59	$19.60
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Wilmington	2.05	1.90	1.85	2.13
Average	2.06	1.89	1.77	1.94

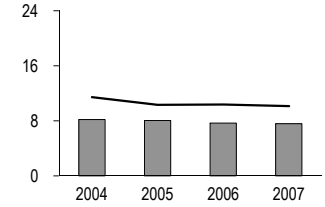
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Wilmington	$1,566	$2,270	$2,681	$2,589
Average	$2,335	$2,476	$2,460	$3,169

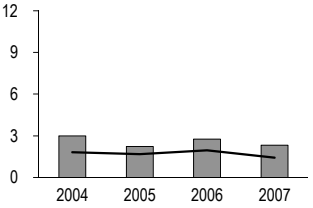
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Wilmington	8.2	8.1	7.7	7.6
Average	11.4	10.3	10.4	10.1

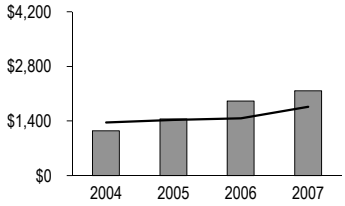
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Wilmington	3.00	2.22	2.77	2.34
Average	1.82	1.68	1.95	1.42

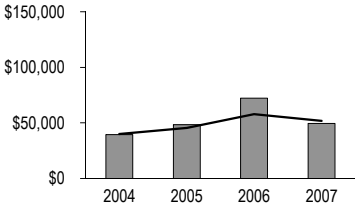
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



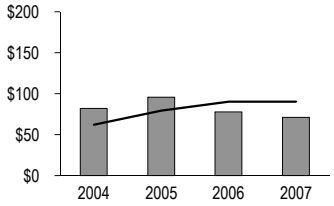
	2004	2005	2006	2007
Wilmington	$1,148	$1,453	$1,912	$2,174
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Wilmington	$39,509	$48,378	$72,292	$49,479
Average	$39,930	$45,562	$57,914	$51,888

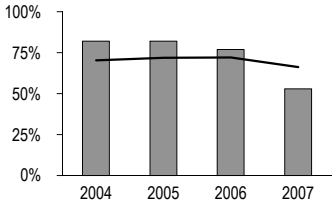
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Wilmington	$82	$96	$78	$71
Average	$62	$79	$90	$90

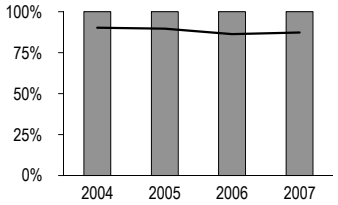
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Wilmington	82%	82%	77%	53%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Wilmington	100%	100%	100%	100%
Average	90%	90%	86%	87%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2006)	98,529
Land Area (Square Miles)	49.20
Persons per Square Mile	2,003
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		37.6%
Operating Costs		50.9%
Capital Costs		11.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	726,782
Operating Costs	$	983,221
Capital Costs	$	221,241
TOTAL	$	1,931,244

SERVICE PROFILE

FTE Positions—Crews	19.0
FTE Positions—Other	2.0
Lane Miles Maintained	746.0
Lane Miles Resurfaced—Contract	4.35
Lane Miles Resurfaced—City	1.90
Total	6.25
Tons of Asphalt Used—Resurfacing	
Contractor	2,874
City Crews	1,087
Cost of Repaving—Contract	$203,988
Cost of Repaving—City Crews	$105,253
Cost of Maintenance	$1,622,003
Registered Vehicles	128,134
Registered Vehicles/Square Mile	2,604

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilmington was responsible for maintaining 746 lane miles during FY 2006–07.

The city resurfaced 6.25 lane miles, equating to approximately 0.8 percent of total lane miles. A total of 3,961 tons of asphalt was used for resurfacing projects during the fiscal year, representing 1,087 tons used by city crews and 2,874 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 53 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 2006–07 was 1,743. 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 rising price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

During FY 2006–07, the Streets Division saw an increase in "Special Requests" events and expenditures. These activities included block party preparations, assisting Traffic Engineering with installation of street light base installation, and other activities.

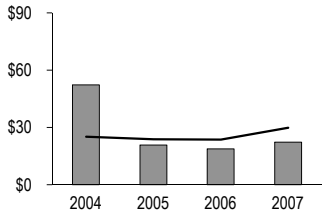
Maintenance costs for FY 2006–07 included money for repair work in preparation for pavement rehabilitation activities for next year.

Wilson — Asphalt Maintenance and Repair

Key: Wilson ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

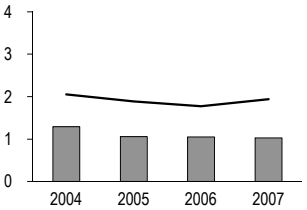
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



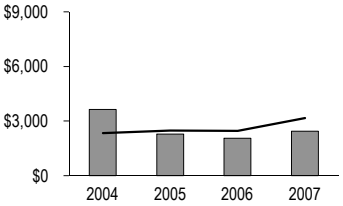
	2004	2005	2006	2007
Wilson	$52.22	$20.77	$18.81	$22.25
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Wilson	1.29	1.05	1.05	1.03
Average	2.06	1.89	1.77	1.94

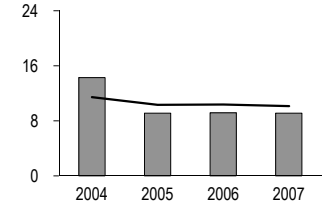
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Wilson	$3,645	$2,281	$2,054	$2,445
Average	$2,335	$2,476	$2,460	$3,169

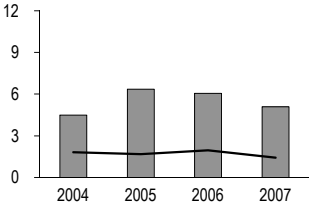
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Wilson	14.3	9.1	9.2	9.1
Average	11.4	10.3	10.4	10.1

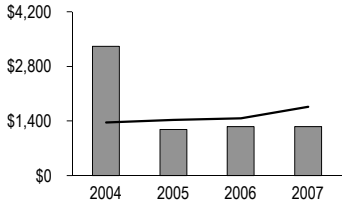
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Wilson	4.50	6.37	6.05	5.09
Average	1.82	1.68	1.95	1.42

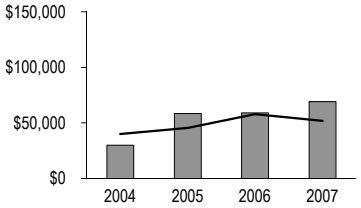
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



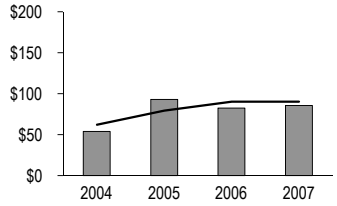
	2004	2005	2006	2007
Wilson	$3,310	$1,184	$1,255	$1,255
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Wilson	$29,807	$58,486	$58,923	$69,215
Average	$39,930	$45,562	$57,914	$51,888

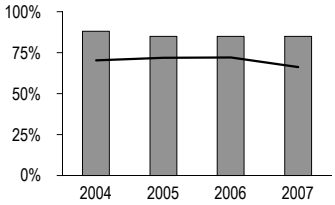
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Wilson	$54	$93	$82	$85
Average	$62	$79	$90	$90

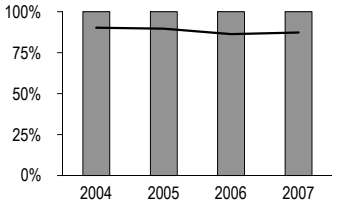
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Wilson	88%	85%	85%	85%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Wilson	100%	100%	100%	100%
Average	90%	90%	86%	87%

Wilson

MUNICIPAL PROFILE

Population (OSBM 2006)	48,562
Land Area (Square Miles)	28.16
Persons per Square Mile	1,725
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		28.5%
Operating Costs		64.2%
Capital Costs		7.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	308,104
Operating Costs	$	694,209
Capital Costs	$	78,246
TOTAL	$	1,080,559

SERVICE PROFILE

FTE Positions—Crews	4.0
FTE Positions—Other	1.0
Lane Miles Maintained	442.0
Lane Miles Resurfaced—Contract	7.60
Lane Miles Resurfaced—City	0.00
Total	7.60
Tons of Asphalt Used—Resurfacing	
Contractor	6,161
City Crews	0
Cost of Repaving—Contract	$526,034
Cost of Repaving—City Crews	$0
Cost of Maintenance	$554,525
Registered Vehicles	39,836
Registered Vehicles/Square Mile	1,415

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Wilson was responsible for maintaining 442 lane miles of city streets during FY 2006–07.

The city resurfaced 7.6 lane miles, equating to approximately 1.7 percent of total lane miles. A total of 6,161 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 2006–07 was 2,250. The percentage of potholes repaired within twenty-four hours was 100 percent. The city reported a resurfacing cycle of twenty years.

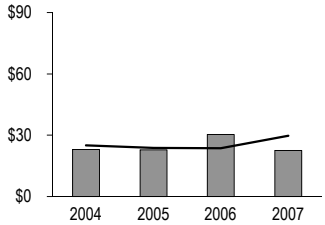
Conditions Affecting Service, Performance and Costs
The winter in Wilson was unseasonably mild with no significant snow or ice events. The rising price of oil and shortages linked to various storms did increase the cost of asphalt used for resurfacing and repair work as well as raise the costs for operating equipment.

Winston-Salem Asphalt Maintenance and Repair

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

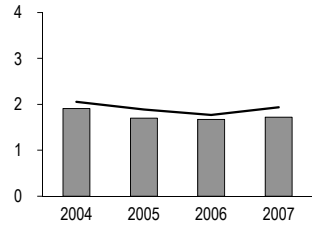
RESOURCE Measures

Asphalt Maintenance and Repair Services Costs per Capita



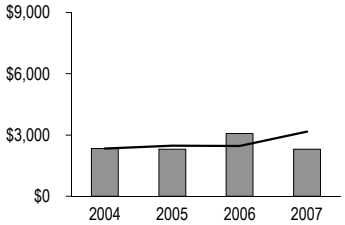
	2004	2005	2006	2007
Winston-Salem	$23.06	$22.84	$30.30	$22.47
Average	$25.10	$23.72	$23.61	$29.81

Asphalt Maintenance and Repair FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	1.91	1.70	1.67	1.72
Average	2.06	1.89	1.77	1.94

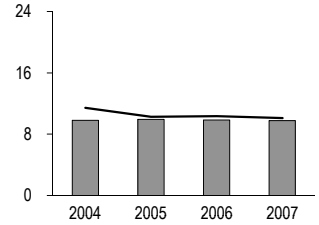
Service Costs per Lane Mile of Road Maintained



	2004	2005	2006	2007
Winston-Salem	$2,343	$2,299	$3,072	$2,301
Average	$2,335	$2,476	$2,460	$3,169

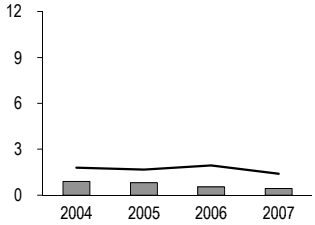
WORKLOAD Measures

Number of Lane Miles Maintained per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	9.8	9.9	9.9	9.8
Average	11.4	10.3	10.4	10.1

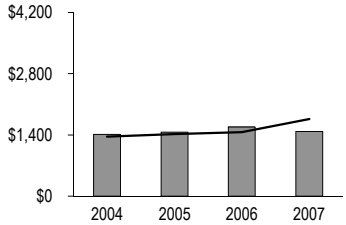
Reported Pot Holes per Lane Mile Maintained



	2004	2005	2006	2007
Winston-Salem	0.90	0.81	0.55	0.43
Average	1.82	1.68	1.95	1.42

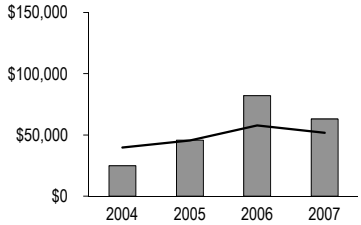
EFFICIENCY Measures

Cost of Maintenance per Lane Mile Maintained



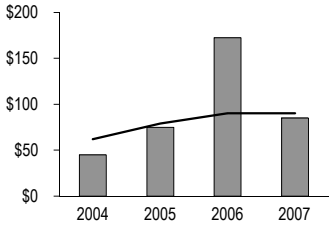
	2004	2005	2006	2007
Winston-Salem	$1,412	$1,462	$1,581	$1,480
Average	$1,361	$1,424	$1,466	$1,767

Resurfacing Cost per Lane Mile Resurfaced



	2004	2005	2006	2007
Winston-Salem	$24,844	$45,779	$82,126	$62,900
Average	$39,930	$45,562	$57,914	$51,888

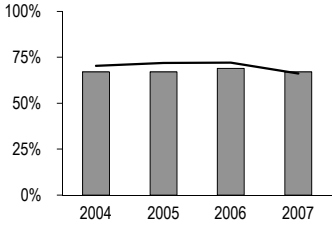
Cost per Ton for Contract Resurfacing



	2004	2005	2006	2007
Winston-Salem	$45	$75	$173	$85
Average	$62	$79	$90	$90

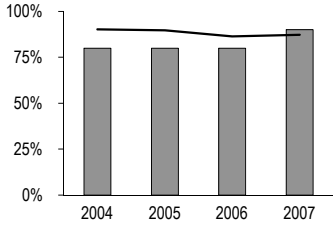
EFFECTIVENESS Measures

Street Segments Rated 85 Percent or Better



	2004	2005	2006	2007
Winston-Salem	67%	67%	69%	67%
Average	70%	72%	72%	66%

Percentage of Pot Holes Repaired Within 24 hours



	2004	2005	2006	2007
Winston-Salem	80%	80%	80%	90%
Average	90%	90%	86%	87%

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.2
Persons per Square Mile	1,659
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		26.0%
Operating Costs		65.3%
Capital Costs		8.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,292,705
Operating Costs	$	3,244,678
Capital Costs	$	427,712
TOTAL	$	4,965,095

SERVICE PROFILE

FTE Positions—Crews	34.9
FTE Positions—Other	3.2
Lane Miles Maintained	2,157.5
Lane Miles Resurfaced—Contract	21.78
Lane Miles Resurfaced—City	6.39
Total	28.17
Tons of Asphalt Used—Resurfacing	
Contractor	15,581
City Crews	4,585
Cost of Repaving—Contract	$1,325,233
Cost of Repaving—City Crews	$446,673
Cost of Maintenance	$3,193,189
Registered Vehicles	160,794
Registered Vehicles/Square Mile	1,207

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Winston-Salem was responsible for maintaining 2,157.48 lane miles of city streets during FY 2006–07.

The city resurfaced 28.17 lane miles, equating to approximately 1.3 percent of total lane miles. A total of 20,166 tons of asphalt was used during the fiscal year for resurfacing projects including 4,585 tons used by city crews and 15,581 tons used by contractors. The average resurfacing depth used by city crews was two inches. The average resurfacing depth used by contracted crews was 1.5 inches.

The city reported that 67 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 928 potholes in FY 2006–07. The percentage of potholes repaired within twenty-four hours was estimated at 90 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 rising price of oil significantly increased the cost of asphalt used for resurfacing and repair work.

Winston-Salem annexed 19,059 residents effective September 30,2006. The annexed areas are comprised of 8,579 dwelling units, twenty square miles, and eighty-six miles of streets. As a result of the effective date, the additional costs reported for the benchmarking project only reflect nine months of service to these newly annexed areas.

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 and Fire Inspections Completed 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. Turnout and Travel Time for First Unit Dispatched under "Priority One" Situations and Percentage of Full Response within Eight minutes.
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). Percentage of full response within eight minutes is a standard effectiveness measure recommended by the National Fire Protection Association (NFPA).

7. **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.

8. **Percentage of Fires Confined to Room(s) Involved upon Arrival and Fires for Which Cause is Determined**

Both measures represent effectiveness measures that are reported to the state.

UNC
SCHOOL OF GOVERNMENT

Fire Services

Summary of Key Dimensions of Service

City or Town	Population Served	Land Area Served (in square miles)	Value of Property in Service Area (in billions)	Total Number of Fire Department Responses	Fire Code Violations Found	Number of Fire Stations	Number of Fire Services FTEs	ISO Rating
Asheville	74,307	58.2	$10.0	13,777	3,263	9	228	3
Burlington	47,295	24.9	$3.6	6,039	2,643	5	92	3
Carrboro	22,878	24.2	$2.0	1,397	NA	1	33	4 - town 9 - county
Cary	122,139	53.4	$13.0	6,204	3,346	7	209	3
Charlotte	658,848	280.5	$67.3	87,796	29,635	38	1,083	3
Concord	65,431	58.9	$7.6	6,870	1,484	8	161	3
Durham	212,568	104.0	$16.9	16,171	2,698	15	301	3
Gastonia	70,243	49.3	$4.5	8,628	694	8	145	3
Greensboro	267,072	136.9	$22.1	26,161	9,137	22	476	1
Hickory	43,422	42.6	$4.3	5,132	7,344	7	126	3
High Point	95,630	70.0	$8.6	11,078	3,170	14	224	2
Matthews	26,554	16.6	$2.4	2,696	NA	2	9	5
Raleigh	367,995	139.9	$33.0	33,753	NA	27	553	3
Salisbury	30,700	21.5	$2.4	3,979	621	4	88	2
Wilmington	98,529	54.3	$7.8	9,804	4,863	11	220	2
Wilson	48,562	29.0	$3.1	4,494	5,758	5	93	2
Winston-Salem	221,014	133.2	$18.9	23,038	9,921	19	340	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:

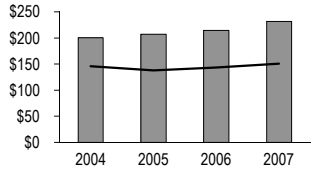
Population and area served
Value of property area protected in service area
Number of engine companies
Number of fire department responses
Fire code violations
ISO rating
Age of housing stock

Asheville Fire Services

Key: Asheville ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

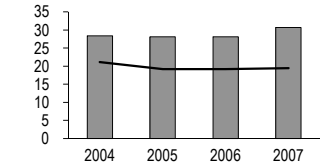
RESOURCE Measures

Fire Services Costs per Capita



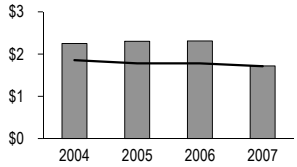
	2004	2005	2006	2007
Asheville	$201	$207	$214	$231
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville	28.4	28.1	28.1	30.7
Average	21.1	19.2	19.2	19.5

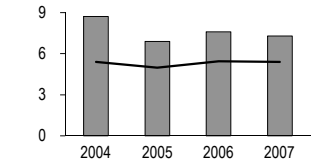
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Asheville	$2.25	$2.30	$2.31	$1.72
Average	$1.86	$1.78	$1.78	$1.72

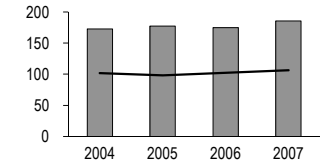
WORKLOAD Measures

Actual Fires per 1,000 Population



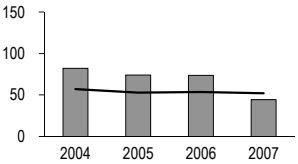
	2004	2005	2006	2007
Asheville	8.72	6.91	7.60	7.29
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Asheville	173	178	175	185
Average	102	98	103	107

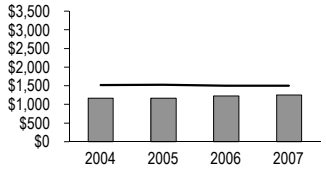
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Asheville	82	74	74	44
Average	57	53	54	52

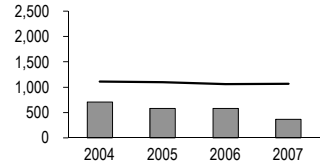
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Asheville	$1,163	$1,167	$1,225	$1,248
Average	$1,515	$1,530	$1,501	$1,498

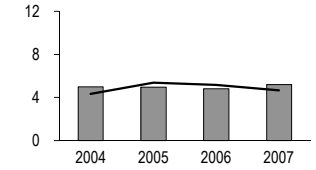
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Asheville	706	584	580	366
Average	1,114	1,103	1,064	1,068

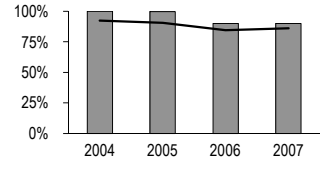
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



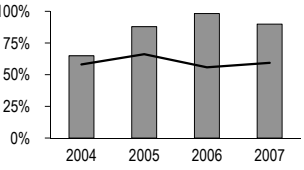
	2004	2005	2006	2007
Asheville	5.0	5.0	4.8	5.2
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



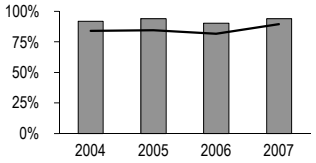
	2004	2005	2006	2007
Asheville	100%	100%	90%	90%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



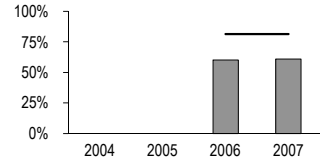
	2004	2005	2006	2007
Asheville	65%	88%	98%	90%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Asheville	92%	94%	90%	94%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Asheville			60%	61%
Average			81%	81%

MUNICIPAL PROFILE

Population Served	74,307
Land Area Served (Square Miles)	58.2
Persons Served per Square Mile	1,277
Topography	Hills, mountains
County	Buncombe
Climate	Moderate; ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		71.7%
Operating Costs		18.3%
Capital Costs		10.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	12,324,256
Operating Costs	$	3,146,131
Capital Costs	$	1,728,706
TOTAL	$	17,199,093

SERVICE PROFILE

FTE Positions—Firefighters	210.0
FTE Positions—Other	18.0
Fire Stations	9
Amount of Property Protected	$9,994,800,486
Fire Apparatus	
Pumpers	9
Aerial Trucks	5
Reserve Equipment—Other	7
Total	21
Fire Department Responses	
Fires-Actual	542
Medical	7,728
False alarms	1,905
Other	3,602
Total	13,777
Engine Companies	9
Actual Fires Reported	542
Structural Fires Reported	260

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 in FY 2006–07: administration, emergency response, fire marshal's office, and professional standards.

The fire department uses a modified shift schedule that includes twenty-four hours on duty and twenty-four hours off duty, averaging fifty-six hours per week. The work schedule is as follows: twenty-four hours on, twenty-four hours off; twenty-four hours on, forty-eight hours off; twenty-four hours on, twenty-four hours off; twenty-four hours on, ninety-six hours off. This works out to an average work week of fifty-six hours.

The fire department reported a total average response time of 6.63 minutes, including 1.43 minutes for dispatch time, 1.10 minutes for turnout time, and 4.10 minutes for travel time.

The city had an ISO rating of 3 for FY 2006–07.

The Ashevill Fire Department conducted 3,290 fire inspections during FY 2006–07. The fire marshal office is comprised of two sections. One section is responsible for existing construction and another for new construction. Deputy fire marshals (DFM) are responsible for conducting periodic fire prevention inspections inside the corporate limits of the City of Asheville as established by the N.C. Office of The State Fire Marshal. The Asheville city council adopted a fee schedule for periodic fire inspections. These fees are based on a cost recovery basis. Each deputy fire marshal conducts fire inspections of every commercial premise located within Asheville. Most personnel work a day shift while three others work a twenty-four hour shift. These DFM's are liaisons to the other divisions on matters regarding code enforcement, fire investigations, and pre-incident planning.

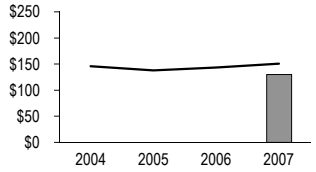
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005-06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Burlington Fire Services

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

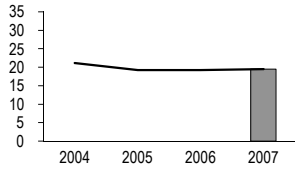
RESOURCE Measures

Fire Services Costs per Capita



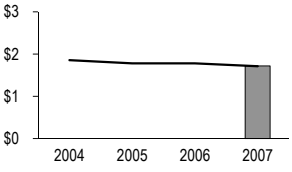
	2004	2005	2006	2007
Burlington				$130
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				19.5
Average	21.1	19.2	19.2	19.5

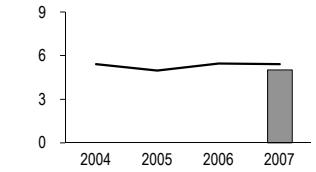
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Burlington				$1.72
Average	$1.86	$1.78	$1.78	$1.72

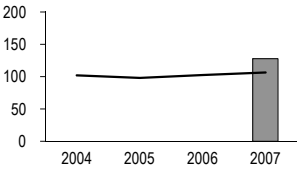
WORKLOAD Measures

Actual Fires per 1,000 Population



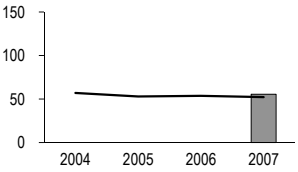
	2004	2005	2006	2007
Burlington				5.01
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Burlington				128
Average	102	98	103	107

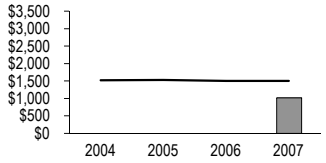
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Burlington				55
Average	57	53	54	52

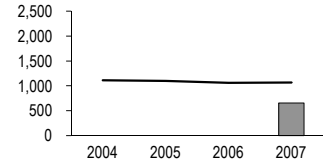
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Burlington				$1,019
Average	$1,515	$1,530	$1,501	$1,498

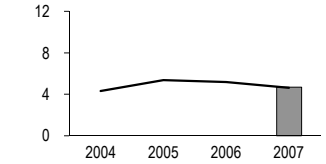
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Burlington				654
Average	1,114	1,103	1,064	1,068

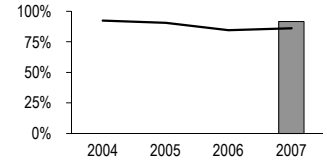
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



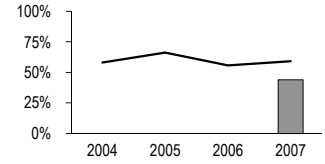
	2004	2005	2006	2007
Burlington				4.7
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



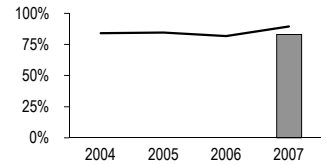
	2004	2005	2006	2007
Burlington				92%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



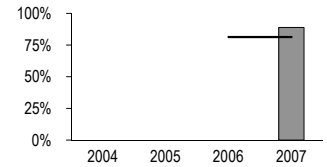
	2004	2005	2006	2007
Burlington				44%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Burlington				83%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Burlington				89%
Average			81%	81%

Burlington

MUNICIPAL PROFILE

Population Served	47,295
Land Area Served (Square Miles)	24.9
Persons Served per Square Mile	1,899
Topography	Flat; gently rolling
County	Alamance
Climate	Mild; little ice or snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		77.0%
Operating Costs		15.0%
Capital Costs		8.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	4,740,782
Operating Costs	$	922,028
Capital Costs	$	492,730
TOTAL	$	6,155,540

SERVICE PROFILE

FTE Positions—Firefighters	81.0
FTE Positions—Other	11.0
Fire Stations	5
Amount of Property Protected	$3,573,069,129
Fire Apparatus	
Pumpers	5
Aerial Trucks	1
Reserve Equipment—Other	5
Total	11
Fire Department Responses	
Actual Fires	237
Medical	4,650
False alarms	393
Other	759
Total	6,039
Engine Companies	5
Actual Fires Reported	237
Structural Fires Reported	41

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 fire department reported a total average response time of 5.95 minutes, including 1.27 minutes for dispatch time, 1.28 minutes for turnout time, and 3.40 minutes for travel time.

The city had an ISO rating of 3 for FY 2006–07.

The fire department conducted 2,617 fire inspections during FY 2006–07. 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

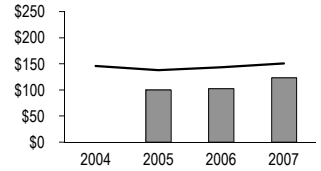
The City of Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006–07.

Carrboro — Fire Services

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

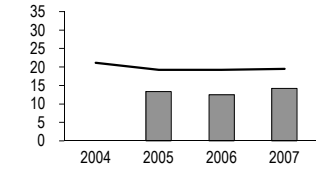
RESOURCE Measures

Fire Services Costs per Capita



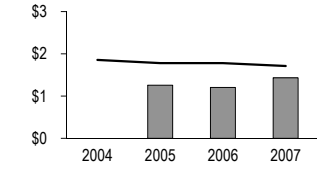
	2004	2005	2006	2007
Carrboro		$100	$102	$123
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Carrboro		13.3	12.4	14.2
Average	21.1	19.2	19.2	19.5

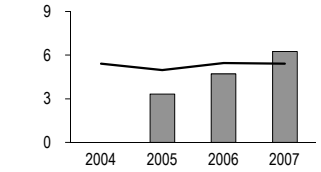
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Carrboro		$1.26	$1.20	$1.43
Average	$1.86	$1.78	$1.78	$1.72

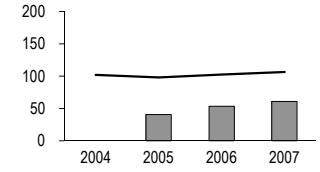
WORKLOAD Measures

Actual Fires per 1,000 Population



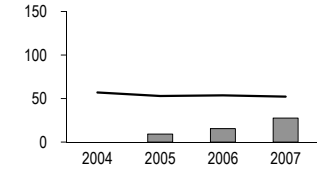
	2004	2005	2006	2007
Carrboro		3.32	4.71	6.25
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Carrboro		41	53	61
Average	102	98	103	107

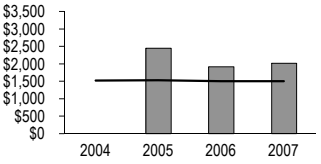
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Carrboro		9	15	28
Average	57	53	54	52

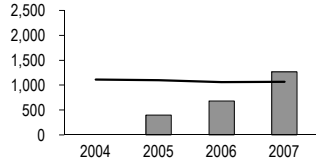
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Carrboro		$2,451	$1,913	$2,015
Average	$1,515	$1,530	$1,501	$1,498

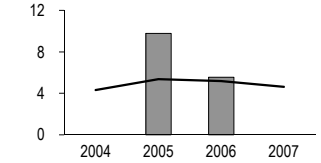
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Carrboro		400	680	1,266
Average	1,114	1,103	1,064	1,068

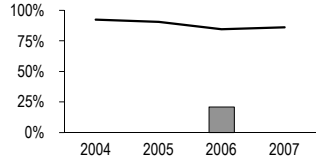
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



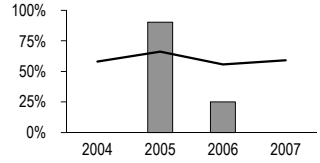
	2004	2005	2006	2007
Carrboro		9.8	5.6	0.0
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



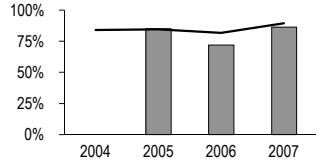
	2004	2005	2006	2007
Carrboro			21%	
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



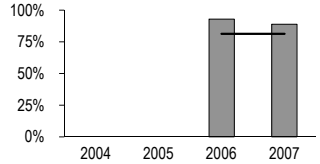
	2004	2005	2006	2007
Carrboro		90%	25%	
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Carrboro		85%	72%	86%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Carrboro			93%	89%
Average			81%	81%

MUNICIPAL PROFILE

Population Served	22,878
Land Area Served (Square Miles)	24.2
Persons Served per Square Mile	945
Topography	Flat; gently rolling
County	Orange
Climate	Mild; little ice or snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		55.9%
Operating Costs		37.9%
Capital Costs		6.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,573,337
Operating Costs	$	1,066,794
Capital Costs	$	174,361
TOTAL	$	2,814,492

SERVICE PROFILE

FTE Positions—Firefighters	29.0
FTE Positions—Other	3.5
Fire Stations	1
Amount of Property Protected	$1,969,688,102
Fire Apparatus	
Pumpers	2
Aerial Trucks	1
Reserve Equipment—Other	2
Total	5
Fire Department Responses	
Actual Fires	143
Medical	654
False alarms	160
Other	440
Total	1,397
Engine Companies	2
Actual Fires Reported	143
Structural Fires Reported	44

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.

Average response times for the fire department were not available due to reporting problems with Orange County.

The town had an ISO rating of 4 for FY 2006–07 inside of Carrboro city limits.

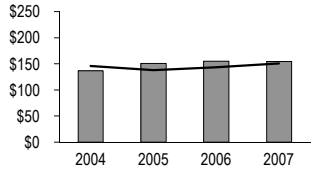
The fire department conducted 633 fire inspections during FY 2006–07. A half FTE position is assigned to fire inspection and another half FTE is assigned to plans review of all permitted work. The fire marshal and suppression personnel conduct all fire inspections. One inspection is done for each apartment 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 re-inspection 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Key: Cary ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

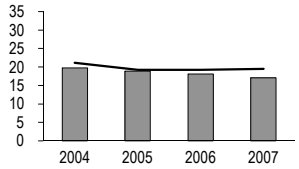
RESOURCE Measures

Fire Services Costs per Capita



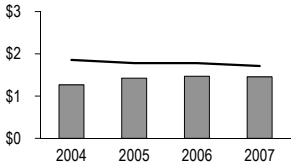
	2004	2005	2006	2007
Cary	$136	$151	$155	$155
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Cary	19.8	18.9	18.1	17.1
Average	21.1	19.2	19.2	19.5

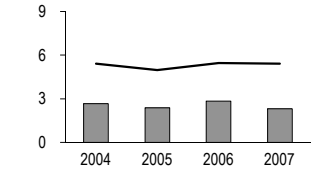
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Cary	$1.26	$1.43	$1.47	$1.46
Average	$1.86	$1.78	$1.78	$1.72

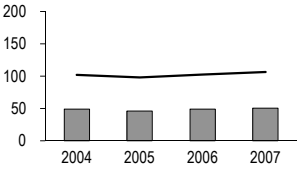
WORKLOAD Measures

Actual Fires per 1,000 Population



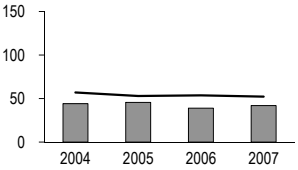
	2004	2005	2006	2007
Cary	2.66	2.37	2.85	2.31
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Cary	49	46	49	51
Average	102	98	103	107

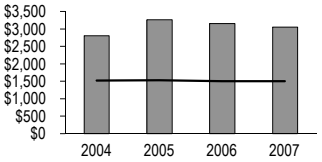
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Cary	44	45	39	42
Average	57	53	54	52

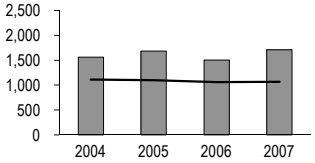
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Cary	$2,802	$3,261	$3,148	$3,049
Average	$1,515	$1,530	$1,501	$1,498

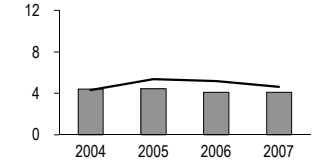
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Cary	1,559	1,682	1,506	1,706
Average	1,114	1,103	1,064	1,068

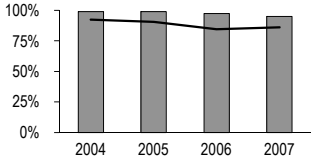
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



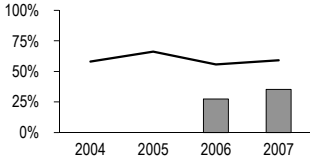
	2004	2005	2006	2007
Cary	4.4	4.5	4.1	4.1
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



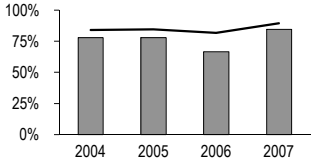
	2004	2005	2006	2007
Cary	99%	99%	97%	95%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



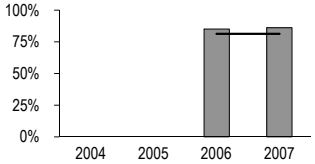
	2004	2005	2006	2007
Cary			27%	35%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Cary	78%	78%	67%	85%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Cary			85%	86%
Average			81%	81%

MUNICIPAL PROFILE

Population Served	122,333
Land Area Served (Square Miles)	53.4
Persons Served per Square Mile	2,291
Topography	Flat; gently rolling
County	Wake
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		72.5%
Operating Costs		20.7%
Capital Costs		6.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	13,712,107
Operating Costs	$	3,919,062
Capital Costs	$	1,283,276
TOTAL	$	18,914,445

SERVICE PROFILE

FTE Positions—Firefighters	191.0
FTE Positions—Other	18.0
Fire Stations	7
Amount of Property Protected	$12,985,900,000
Fire Apparatus	
Pumpers	7
Aerial Trucks	3
Reserve Equipment—Other	13
Total	23
Fire Department Responses	
Fires	282
Medical	3,452
False alarms	1,065
Other	1,405
Total	6,204
Engine Companies	7
Actual Fires Reported	282
Structural Fires Reported	82

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 fire department reported a total average response time of 4.82 minutes, including 0.70 minutes for dispatch time, 0.77 minutes for turnout time, and 3.35 minutes for travel time. The town had an ISO rating of 3.

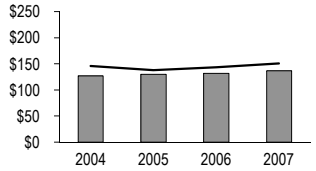
The town conducted 5,119 fire inspections during FY 2006–07. The Cary Fire Department's Risk Management Division utilizes the state mandated one-, two-, and three-year inspection schedule as its goal for providing inspection services. It conducts inspections on all projects for which a permit is issued. 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. In addition to regular fire code official positions, the division employs two part-time 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

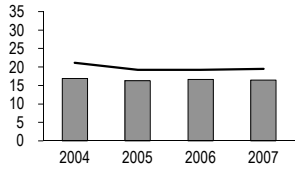
RESOURCE Measures

Fire Services Costs per Capita



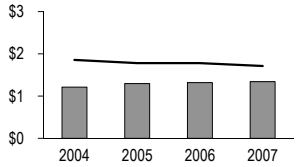
	2004	2005	2006	2007
Charlotte	$127	$130	$132	$137
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Charlotte	16.9	16.3	16.6	16.4
Average	21.1	19.2	19.2	19.5

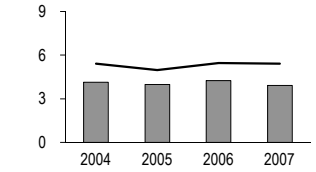
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Charlotte	$1.21	$1.29	$1.31	$1.34
Average	$1.86	$1.78	$1.78	$1.72

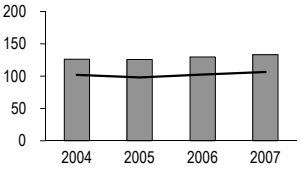
WORKLOAD Measures

Actual Fires per 1,000 Population



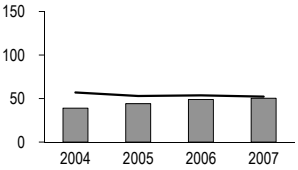
	2004	2005	2006	2007
Charlotte	4.14	3.99	4.25	3.93
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Charlotte	126	126	130	133
Average	102	98	103	107

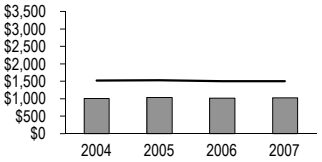
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Charlotte	39	44	49	50
Average	57	53	54	52

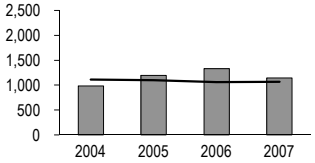
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Charlotte	$1,007	$1,031	$1,016	$1,027
Average	$1,515	$1,530	$1,501	$1,498

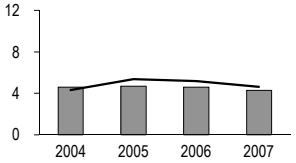
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Charlotte	981	1,194	1,331	1,143
Average	1,114	1,103	1,064	1,068

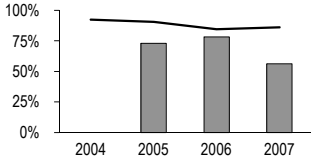
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



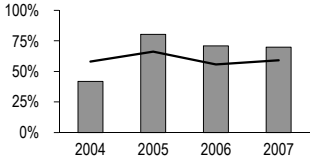
	2004	2005	2006	2007
Charlotte	4.6	4.7	4.6	4.3
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



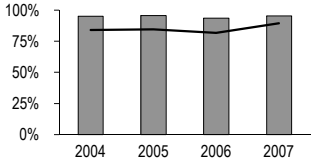
	2004	2005	2006	2007
Charlotte		73%	78%	56%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



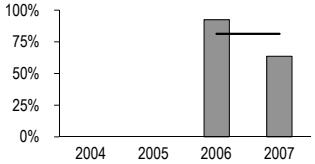
	2004	2005	2006	2007
Charlotte	42%	80%	71%	70%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Charlotte	95%	96%	94%	95%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Charlotte			92%	64%
Average			81%	81%

Charlotte

MUNICIPAL PROFILE

Population Served	658,848
Land Area Served (Square Miles)	280.5
Persons Served per Square Mile	2,349
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.2%
Operating Costs		17.4%
Capital Costs		3.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	71,463,898
Operating Costs	$	15,688,630
Capital Costs	$	3,032,244
TOTAL	$	90,184,772

SERVICE PROFILE

FTE Positions—Firefighters	960.0
FTE Positions—Other	123.0
Fire Stations	38
Amount of Property Protected	$67,250,148,956
Fire Apparatus	
Pumpers	39
Aerial Trucks	14
Reserve Equipment—Other	43
Total	96
Fire Department Responses	
Fires	2,586
Medical	55,965
False alarms	9,854
Other	19,391
Total	87,796
Engine Companies	39
Actual Fires Reported	2,586
Structural Fires Reported	552

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 fire department reported a total average response time of 4.78 minutes, including a dispatch time of 0.48 minutes, turnout time of 1.00 minutes, and travel time of 3.30 minutes.

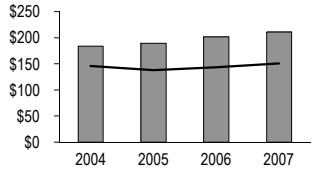
The city had an ISO rating of 3 for FY 2006–07.

The fire department conducted 33,152 fire inspections 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

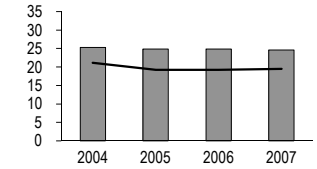
RESOURCE Measures

Fire Services Costs per Capita



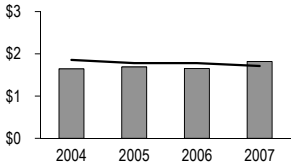
	2004	2005	2006	2007
Concord	$184	$189	$201	$211
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Concord	25.3	24.8	24.8	24.6
Average	21.1	19.2	19.2	19.5

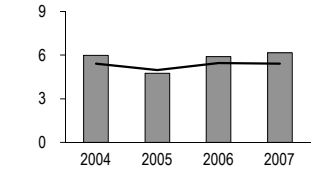
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Concord	$1.65	$1.69	$1.65	$1.82
Average	$1.86	$1.78	$1.78	$1.72

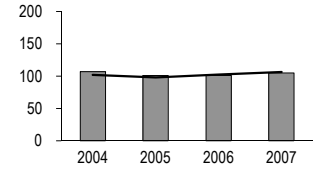
WORKLOAD Measures

Actual Fires per 1,000 Population



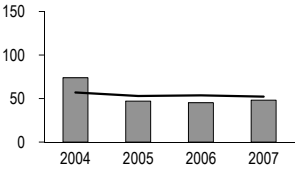
	2004	2005	2006	2007
Concord	5.98	4.75	5.91	6.16
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Concord	107	101	101	105
Average	102	98	103	107

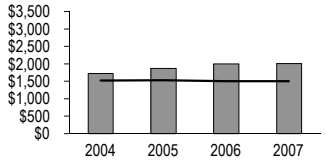
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Concord	74	47	45	48
Average	57	53	54	52

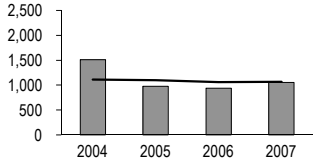
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Concord	$1,718	$1,873	$1,996	$2,007
Average	$1,515	$1,530	$1,501	$1,498

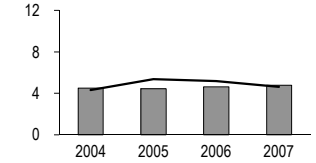
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Concord	1,508	976	938	1,053
Average	1,114	1,103	1,064	1,068

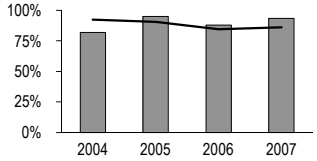
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



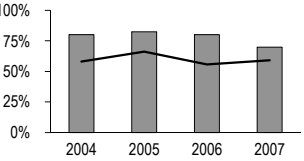
	2004	2005	2006	2007
Concord	4.5	4.4	4.6	4.8
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



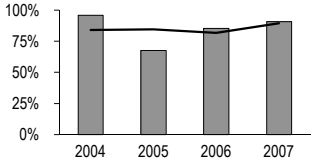
	2004	2005	2006	2007
Concord	82%	95%	88%	93%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



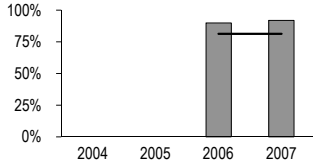
	2004	2005	2006	2007
Concord	80%	83%	80%	70%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Concord	96%	68%	85%	91%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Concord			90%	92%
Average			81%	81%

MUNICIPAL PROFILE

Population Served	65,431
Land Area Served (Square Miles)	58.9
Persons Served per Square Mile	1,111
Topography	Flat; gently rolling
County	Cabarrus
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		66.6%
Operating Costs		19.9%
Capital Costs		13.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	9,186,575
Operating Costs	$	2,750,241
Capital Costs	$	1,850,559
TOTAL	$	13,787,375

SERVICE PROFILE

FTE Positions—Firefighters	141.0
FTE Positions—Other	20.0
Fire Stations	8
Amount of Property Protected	$7,590,421,778
Fire Apparatus	
Pumpers	8
Aerial Trucks	2
Reserve Equipment—Other	11
Total	21
Fire Department Responses	
Fires	403
Medical	3,691
False alarms	175
Other	2,601
Total	6,870
Engine Companies	8
Actual Fires Reported	403
Structural Fires Reported	43

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 excepting 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 2006–07: 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 fire department reported an average total response time of 5.83 minutes, including 1.05 minutes for dispatch, 1.02 minutes for turnout time, and 3.76 minutes for travel.

The city had an ISO rating of 3 for FY 2006–07.

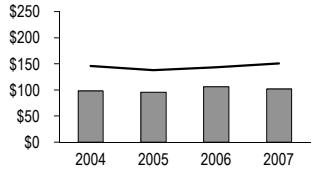
The fire department conducted 3,158 fire inspections during FY 2006–07. Inspections are conducted by the fire-risk management division. Each inspector has an assigned area of the city and a specific number of inspections to complete. Each occupancy is counted separately in the inspections number. An 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

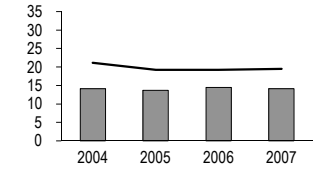
RESOURCE Measures

Fire Services Costs per Capita



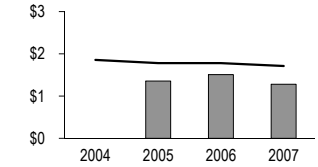
	2004	2005	2006	2007
Durham	$98	$96	$106	$102
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Durham	14.1	13.7	14.5	14.2
Average	21.1	19.2	19.2	19.5

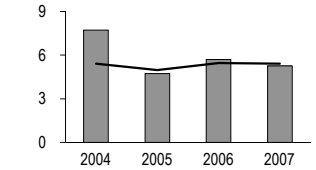
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Durham		$1.36	$1.51	$1.28
Average	$1.86	$1.78	$1.78	$1.72

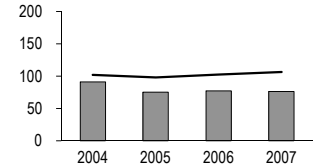
WORKLOAD Measures

Actual Fires per 1,000 Population



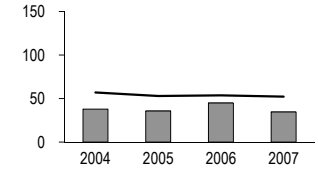
	2004	2005	2006	2007
Durham	7.73	4.72	5.71	5.25
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Durham	91	75	77	76
Average	102	98	103	107

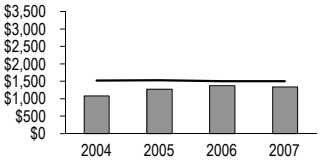
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Durham	38	36	45	35
Average	57	53	54	52

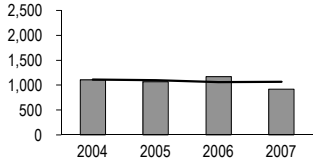
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Durham	$1,080	$1,273	$1,375	$1,338
Average	$1,515	$1,530	$1,501	$1,498

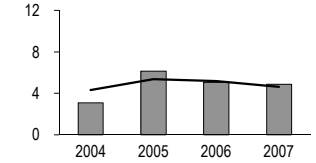
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Durham	1,105	1,069	1,167	920
Average	1,114	1,103	1,064	1,068

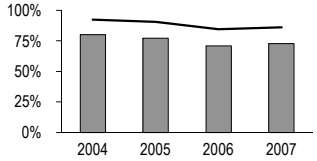
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



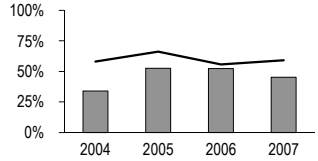
	2004	2005	2006	2007
Durham	3.1	6.2	5.1	4.9
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



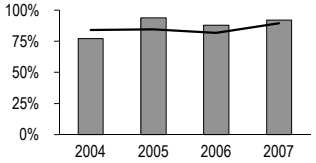
	2004	2005	2006	2007
Durham	80%	77%	71%	73%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



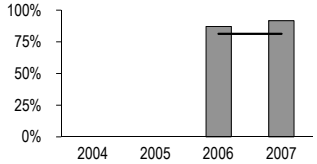
	2004	2005	2006	2007
Durham	34%	53%	52%	45%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Durham	77%	94%	88%	92%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Durham			87%	92%
Average			81%	81%

Durham

MUNICIPAL PROFILE

Population Served	212,568
Land Area Served (Square Miles)	104.0
Persons Served per Square Mile	2,044
Topography	Flat; gently rolling
County	Durham
Climate	Temperate; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.3%
Operating Costs		17.6%
Capital Costs		9.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	15,845,992
Operating Costs	$	3,798,041
Capital Costs	$	1,987,788
TOTAL	$	21,631,821

SERVICE PROFILE

FTE Positions—Firefighters	209.0
FTE Positions—Other	92.0
Fire Stations	15
Amount of Property Protected	$16,853,015,882
Fire Apparatus	
Pumpers	15
Aerial Trucks	5
Reserve Equipment—Other	10
Total	30
Fire Department Responses	
Fires	1,117
Medical	9,410
False alarms	2,167
Other	3,477
Total	16,171
Engine Companies	15
Actual Fires Reported	1,117
Structural Fires Reported	227

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 fire department reported an average total response time of 6.54 minutes, including 1.66 minutes for dispatch, 0.55 minutes for turnout time, and 4.33 minutes for travel.

The city had an ISO rating of 3 for FY 2006–07.

The fire department conducted 7,359 fire inspections during FY 2006-07. 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

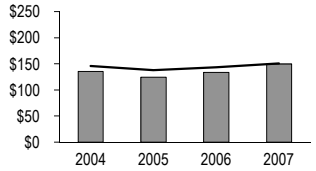
Gastonia

Fire Services

Key: Gastonia ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

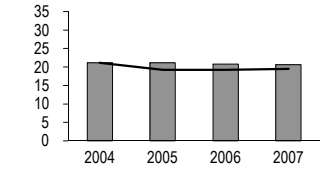
RESOURCE Measures

Fire Services Costs per Capita



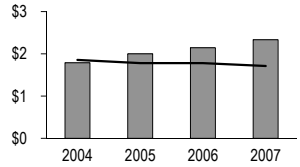
	2004	2005	2006	2007
Gastonia	$136	$125	$134	$150
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Gastonia	21.2	21.2	20.8	20.6
Average	21.1	19.2	19.2	19.5

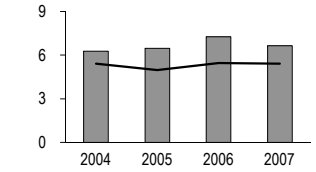
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Gastonia	$1.79	$2.00	$2.14	$2.34
Average	$1.86	$1.78	$1.78	$1.72

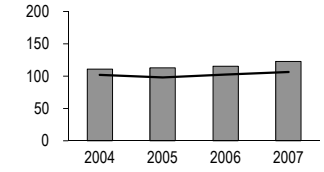
WORKLOAD Measures

Actual Fires per 1,000 Population



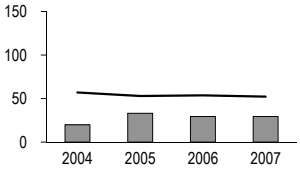
	2004	2005	2006	2007
Gastonia	6.28	6.47	7.27	6.65
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Gastonia	111	113	115	123
Average	102	98	103	107

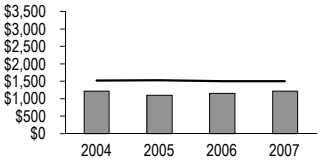
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Gastonia	20	33	29	29
Average	57	53	54	52

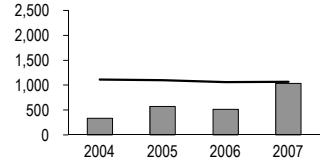
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Gastonia	$1,221	$1,101	$1,158	$1,219
Average	$1,515	$1,530	$1,501	$1,498

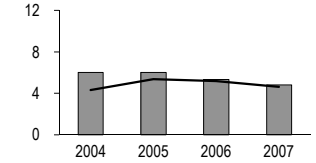
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Gastonia	334	570	517	1,035
Average	1,114	1,103	1,064	1,068

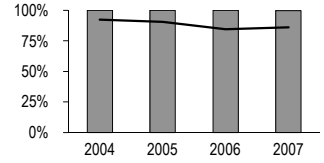
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



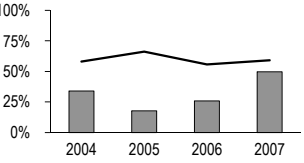
	2004	2005	2006	2007
Gastonia	6.0	6.0	5.3	4.8
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



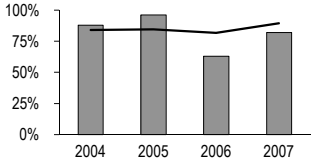
	2004	2005	2006	2007
Gastonia	100%	100%	100%	100%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



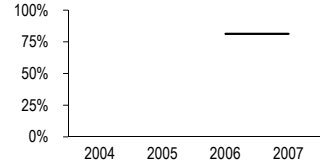
	2004	2005	2006	2007
Gastonia	34%	18%	26%	50%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Gastonia	88%	96%	63%	82%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Gastonia				
Average			81%	81%

Gastonia

MUNICIPAL PROFILE

Population Served	70,243
Land Area Served (Square Miles)	49.3
Persons Served per Square Mile	1,425
Topography	Flat; gently rolling
County	Gaston
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.9%
Operating Costs		20.9%
Capital Costs		4.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,877,629
Operating Costs	$	2,196,602
Capital Costs	$	441,832
TOTAL	$	10,516,063

SERVICE PROFILE

FTE Positions—Firefighters	134.0
FTE Positions—Other	11.0
Fire Stations	8
Amount of Property Protected	$4,500,000,000
Fire Apparatus	
Pumpers	6
Aerial Trucks	3
Reserve Equipment—Other	5
Total	14
Fire Department Responses	
Fires	467
Medical	5,780
False alarms	681
Other	1,700
Total	8,628
Engine Companies	8
Actual Fires Reported	467
Structural Fires Reported	141

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 fire department reported a total average response time of 8.78 minutes, including 3.97 minutes for dispatch time, 0.75 minutes for turnout time, and 4.07 minutes for travel time.

The city had an ISO rating of 3 for FY 2006–07.

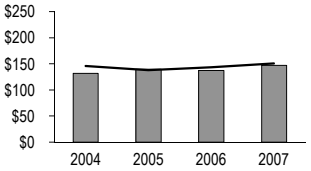
The fire department conducted 2,070 fire inspections during FY 2006–07. General inspections are conducted by the Life Safety Division, which consists of the fire marshal, assistant fire marshal, two inspectors, and a public life safety educator. The fire marshal performs plan reviews for fire suppression 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

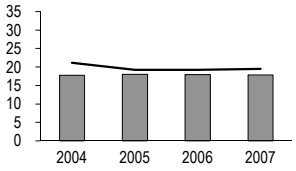
RESOURCE Measures

Fire Services Costs per Capita



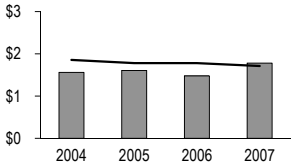
	2004	2005	2006	2007
Greensboro	$132	$139	$137	$147
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Greensboro	17.8	18.0	17.9	17.8
Average	21.1	19.2	19.2	19.5

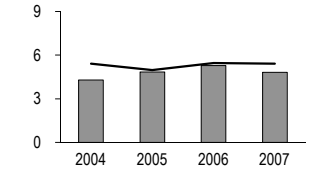
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Greensboro	$1.56	$1.61	$1.48	$1.78
Average	$1.86	$1.78	$1.78	$1.72

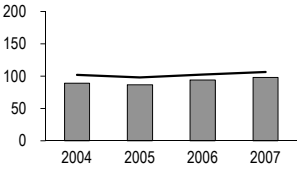
WORKLOAD Measures

Actual Fires per 1,000 Population



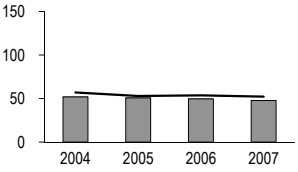
	2004	2005	2006	2007
Greensboro	4.28	4.84	5.29	4.81
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Greensboro	89	87	94	98
Average	102	98	103	107

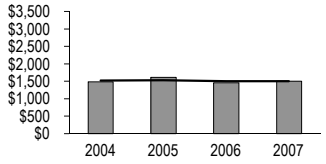
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Greensboro	52	51	50	48
Average	57	53	54	52

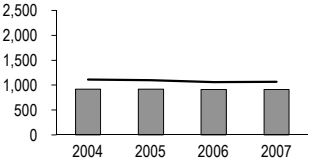
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Greensboro	$1,486	$1,609	$1,460	$1,503
Average	$1,515	$1,530	$1,501	$1,498

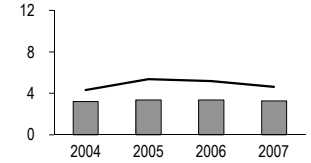
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Greensboro	920	921	910	912
Average	1,114	1,103	1,064	1,068

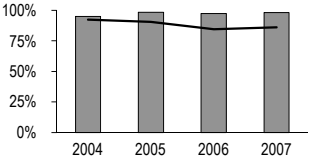
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



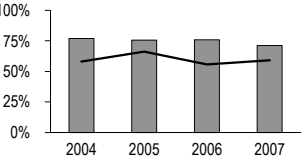
	2004	2005	2006	2007
Greensboro	3.2	3.4	3.4	3.3
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



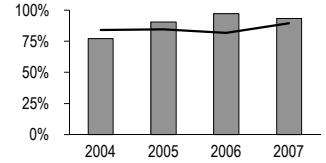
	2004	2005	2006	2007
Greensboro	95%	98%	97%	98%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



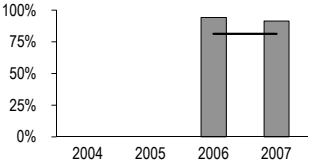
	2004	2005	2006	2007
Greensboro	77%	76%	76%	71%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Greensboro	77%	90%	97%	93%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Greensboro			94%	91%
Average			81%	81%

Greensboro

MUNICIPAL PROFILE

Population Served	267,072
Land Area Served (Square Miles)	136.9
Persons Served per Square Mile	1,951
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		75.0%
Operating Costs		25.0%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	29,472,638
Operating Costs	$	9,821,609
Capital Costs	$	16,056
TOTAL	$	39,310,303

SERVICE PROFILE

FTE Positions—Firefighters	415.0
FTE Positions—Other	60.8
Fire Stations	22
Amount of Property Protected	$22,054,637,868
Fire Apparatus	
Pumpers	22
Aerial Trucks	7
Reserve Equipment—Other	21
Total	50
Fire Department Responses	
Fires	1,285
Medical	17,719
False alarms	2,808
Other	4,349
Total	26,161
Engine Companies	22
Actual Fires Reported	1,285
Structural Fires Reported	298

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 fire department reported a total average response time of 4.57 minutes, including a dispatch time of 1.30 minutes, an average turnout of 0.75 minute, and travel time of 2.52 minutes.

The city had an ISO rating of 1 for FY 2006–07, the highest rating possible to receive.

The fire department in Greensboro conducted 12,770 fire inspections during FY 2006–07. 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.

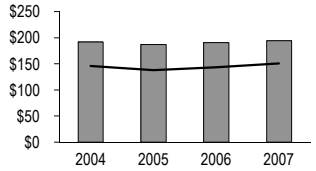
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Hickory Fire Services

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

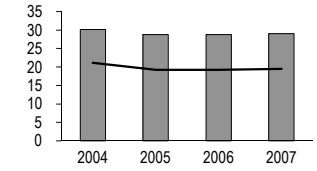
RESOURCE Measures

Fire Services Costs per Capita



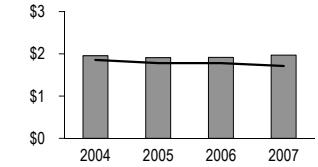
	2004	2005	2006	2007
Hickory	$192	$187	$190	$194
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory	30.2	28.7	28.8	29.0
Average	21.1	19.2	19.2	19.5

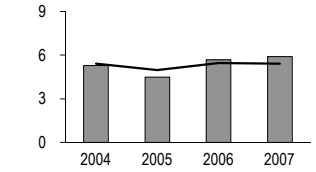
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Hickory	$1.95	$1.91	$1.91	$1.97
Average	$1.86	$1.78	$1.78	$1.72

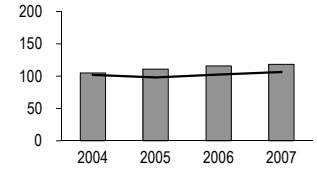
WORKLOAD Measures

Actual Fires per 1,000 Population



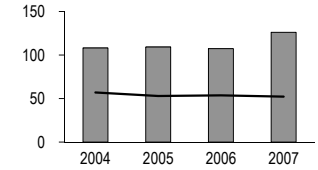
	2004	2005	2006	2007
Hickory	5.28	4.50	5.68	5.90
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Hickory	105	111	116	118
Average	102	98	103	107

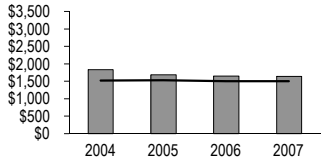
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Hickory	108	109	107	126
Average	57	53	54	52

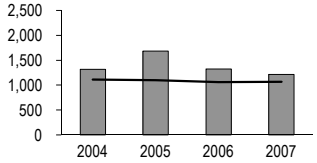
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Hickory	$1,832	$1,690	$1,645	$1,642
Average	$1,515	$1,530	$1,501	$1,498

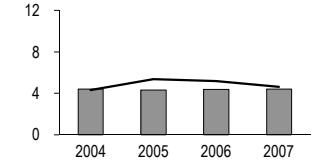
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Hickory	1,315	1,681	1,322	1,215
Average	1,114	1,103	1,064	1,068

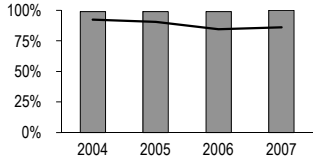
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



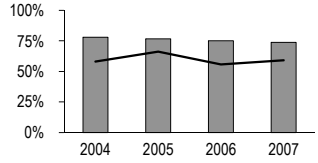
	2004	2005	2006	2007
Hickory	4.4	4.3	4.4	4.4
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



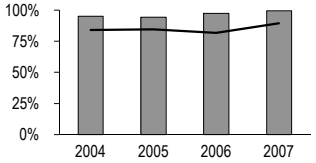
	2004	2005	2006	2007
Hickory	99%	99%	99%	100%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



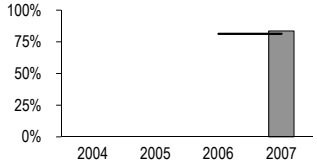
	2004	2005	2006	2007
Hickory	78%	77%	75%	74%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Hickory	95%	94%	98%	100%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Hickory				84%
Average			81%	81%

Hickory

MUNICIPAL PROFILE

Population Served	43,422
Land Area Served (Square Miles)	42.6
Persons Served per Square Mile	1,019
Topography	gently rolling
County	Catawba
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		81.6%
Operating Costs		15.0%
Capital Costs		3.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,873,242
Operating Costs	$	1,260,320
Capital Costs	$	294,001
TOTAL	$	8,427,563

SERVICE PROFILE

FTE Positions—Firefighters	102.0
FTE Positions—Other	24.0
Fire Stations	7
Amount of Property Protected	$4,284,612,418
Fire Apparatus	
Pumpers	6
Aerial Trucks	1
Reserve Equipment—Other	8
Total	15
Fire Department Responses	
Fires	256
Medical	3,283
False alarms	766
Other	827
Total	5,132
Engine Companies	6
Actual Fires Reported	256
Structural Fires Reported	42

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 fire department reported a total average response time of 6.95 minutes, including a dispatch time of 2.53 minutes, an average turnout of 1.30 minutes, and travel time of 3.12 minutes.

The city had an ISO rating of 3 for FY 2006–07.

The fire department in Hickory conducted 5,468 fire inspections during FY 2006–07. 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.

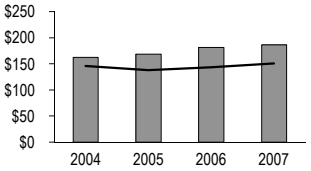
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

High Point — Fire Services

Key: High Point ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

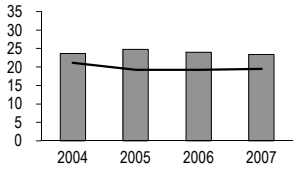
RESOURCE Measures

Fire Services Costs per Capita



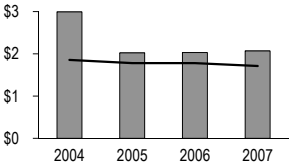
	2004	2005	2006	2007
High Point	$162	$168	$182	$186
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	23.7	24.8	24.0	23.4
Average	21.1	19.2	19.2	19.5

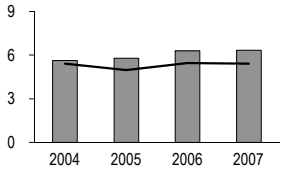
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
High Point	$2.99	$2.02	$2.03	$2.07
Average	$1.86	$1.78	$1.78	$1.72

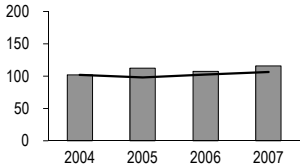
WORKLOAD Measures

Actual Fires per 1,000 Population



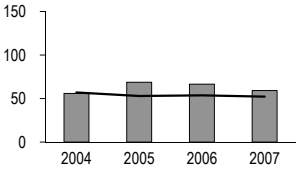
	2004	2005	2006	2007
High Point	5.64	5.79	6.29	6.33
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
High Point	102	112	107	116
Average	102	98	103	107

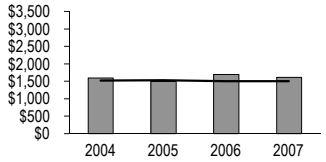
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
High Point	56	69	66	59
Average	57	53	54	52

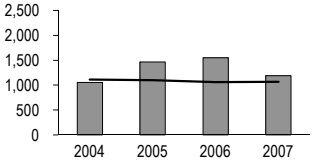
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
High Point	$1,597	$1,497	$1,692	$1,610
Average	$1,515	$1,530	$1,501	$1,498

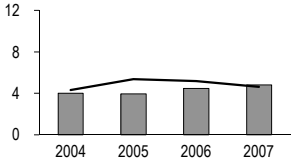
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
High Point	1,055	1,464	1,552	1,188
Average	1,114	1,103	1,064	1,068

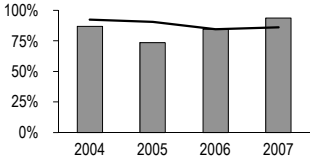
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



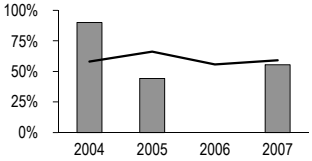
	2004	2005	2006	2007
High Point	4.0	3.9	4.5	4.8
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



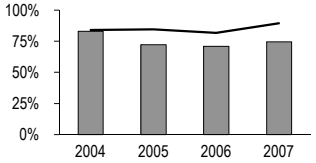
	2004	2005	2006	2007
High Point	87%	74%	84%	94%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



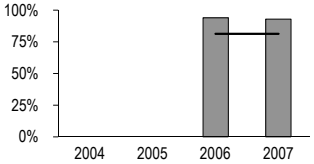
	2004	2005	2006	2007
High Point	90%	44%		56%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
High Point	83%	72%	71%	74%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
High Point			94%	93%
Average			81%	81%

High Point

MUNICIPAL PROFILE

Population Served	95,630
Land Area Served (Square Miles)	70.0
Persons Served per Square Mile	1,366
Topography	Flat; gently rolling
County	Guilford
Climate	Temperate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.1%
Operating Costs		17.1%
Capital Costs		9.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	13,042,424
Operating Costs	$	3,057,371
Capital Costs	$	1,733,257
TOTAL	$	17,833,052

SERVICE PROFILE

FTE Positions—Firefighters	202.0
FTE Positions—Other	22.0
Fire Stations	14
Amount of Property Protected	$8,619,787,453
Fire Apparatus	
Pumpers	13
Aerial Trucks	3
Reserve Equipment—Other	19
Total	35
Fire Department Responses	
Fires	605
Medical	7,425
False alarms	1,642
Other	1,406
Total	11,078
Engine Companies	13
Actual Fires Reported	605
Structural Fires Reported	126

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 in FY 2006–07: 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 fire department reported a total average response time of 5.30 minutes, including 0.50 minute for dispatch, 1.27 minutes for turnout, and 3.53 minutes for travel.

The city had an ISO rating of 2 for FY 2006–07.

The fire department in High Point conducted 45,644 fire inspections during FY 2006–07. 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.

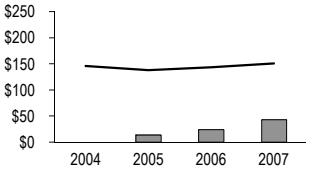
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Matthews — Fire Services

Key: Matthews ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

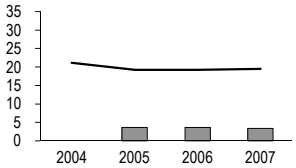
RESOURCE Measures

Fire Services Costs per Capita



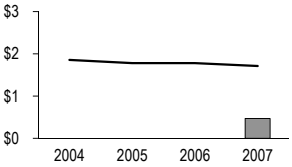
	2004	2005	2006	2007
Matthews		$13	$24	$43
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Matthews		3.6	3.6	3.4
Average	21.1	19.2	19.2	19.5

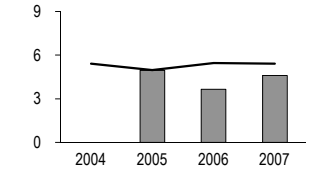
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Matthews				$0.47
Average	$1.86	$1.78	$1.78	$1.72

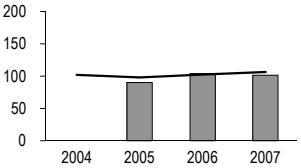
WORKLOAD Measures

Actual Fires per 1,000 Population



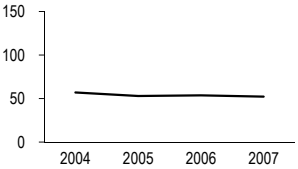
	2004	2005	2006	2007
Matthews		4.94	3.66	4.59
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Matthews		90	104	102
Average	102	98	103	107

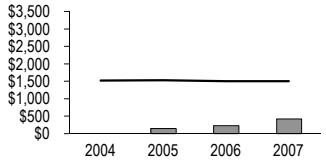
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Matthews				
Average	57	53	54	52

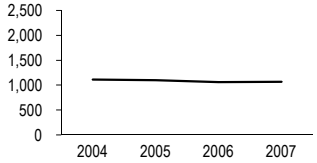
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Matthews		$150	$229	$424
Average	$1,515	$1,530	$1,501	$1,498

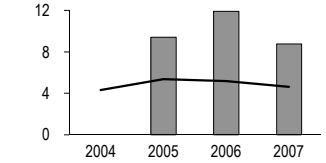
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Matthews				
Average	1,114	1,103	1,064	1,068

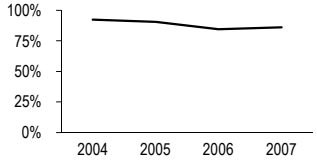
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



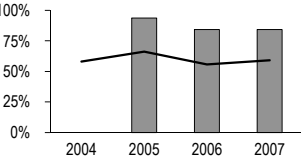
	2004	2005	2006	2007
Matthews		9.4	11.9	8.8
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



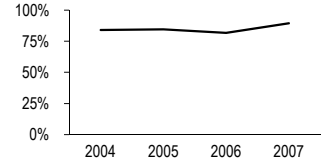
	2004	2005	2006	2007
Matthews				
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



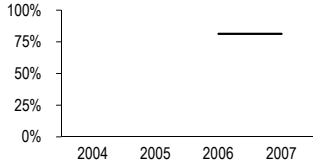
	2004	2005	2006	2007
Matthews		94%	84%	84%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Matthews				
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Matthews				
Average			81%	81%

Matthews

MUNICIPAL PROFILE

Population Served	26,554
Land Area Served (Square Miles)	16.6
Persons Served per Square Mile	1,600
Topography	Flat; gently rolling
County	Mecklenburg
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		46.8%
Operating Costs		53.2%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	535,146
Operating Costs	$	607,875
Capital Costs	$	-
TOTAL	$	1,143,021

SERVICE PROFILE

FTE Positions—Firefighters	7.0
FTE Positions—Other	4.0
Fire Stations	1
Amount of Property Protected	$2,449,007,441
Fire Apparatus	
Pumpers	2
Aerial Trucks	1
Reserve Equipment—Other	7
Total	10
Fire Department Responses	
Fires	122
Medical	1,908
False alarms	232
Other	434
Total	2,696
Engine Companies	2
Actual Fires Reported	122
Structural Fires Reported	29

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 multi-year 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 in November of 2008 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 fire department reported an average turnout time of 2.17 minutes and an average travel time of 6.60 minutes. Average dispatch time was reported as 13 seconds.

The city had an ISO rating of 5 for FY 2006–07.

The town does not handle fire inspections. The county fire marshal's office is responsible for inspections in the jurisdiction.

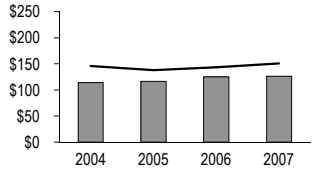
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

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 is 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 2007

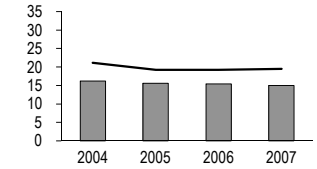
RESOURCE Measures

Fire Services Costs per Capita



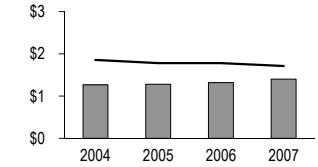
	2004	2005	2006	2007
Raleigh	$114	$117	$125	$126
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Raleigh	16.2	15.6	15.5	15.0
Average	21.1	19.2	19.2	19.5

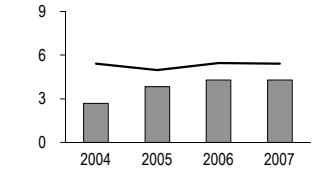
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Raleigh	$1.27	$1.28	$1.32	$1.41
Average	$1.86	$1.78	$1.78	$1.72

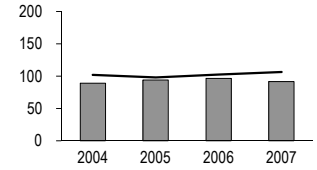
WORKLOAD Measures

Actual Fires per 1,000 Population



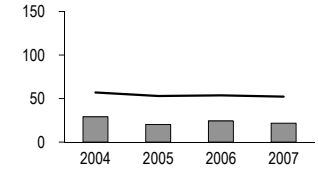
	2004	2005	2006	2007
Raleigh	2.69	3.84	4.29	4.30
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Raleigh	89	94	96	92
Average	102	98	103	107

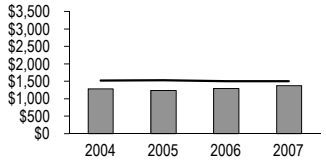
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Raleigh	29	20	24	22
Average	57	53	54	52

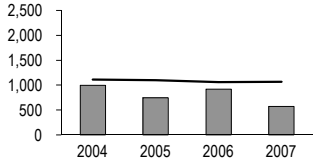
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Raleigh	$1,284	$1,238	$1,294	$1,374
Average	$1,515	$1,530	$1,501	$1,498

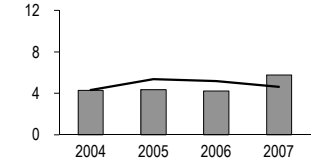
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Raleigh	995	748	916	574
Average	1,114	1,103	1,064	1,068

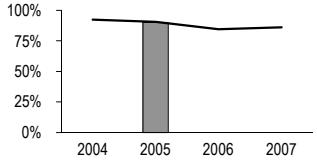
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



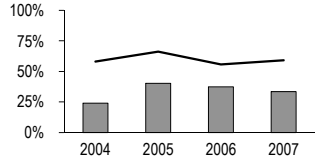
	2004	2005	2006	2007
Raleigh	4.3	4.3	4.2	5.8
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



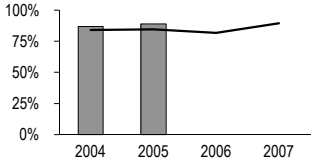
	2004	2005	2006	2007
Raleigh		90%		
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



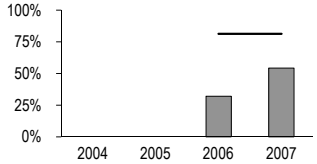
	2004	2005	2006	2007
Raleigh	24%	40%	37%	34%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Raleigh	87%	89%		
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Raleigh			32%	54%
Average			81%	81%

MUNICIPAL PROFILE

Population Served	367,995
Land Area Served (Square Miles)	139.9
Persons Served per Square Mile	2,630
Topography	Flat; gently rolling
County	Wake
Climate	Temperate; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		78.9%
Operating Costs		13.8%
Capital Costs		7.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	36,603,051
Operating Costs	$	6,385,581
Capital Costs	$	3,383,710
TOTAL	$	46,372,342

SERVICE PROFILE

FTE Positions—Firefighters	488.0
FTE Positions—Other	65.0
Fire Stations	27
Amount of Property Protected	$33,000,000,000
Fire Apparatus	
Pumpers	28
Aerial Trucks	7
Reserve Equipment—Other	23
Total	58
Fire Department Responses	
Fires	1,583
Medical	20,089
False alarms	5,051
Other	7,030
Total	33,753
Engine Companies	28
Actual Fires Reported	1,583
Structural Fires Reported	238

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 in FY 2006–07: 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 fire department reported an average response time for turnout and travel of 5.76 minutes, which represents the time from department notification to arrival at the scene.

The city had an ISO rating of 3 for FY 2006–07.

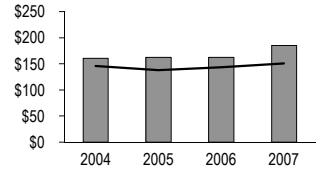
The fire department in Raleigh conducted 8,037 fire inspections during FY 2006–07. Fire inspections are conducted by the fire prevention division. Reinspections are not counted as an inspection. Apartment complexes and high rises are considered as one inspection with one file.

Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Information for the performance measure "percentage of fires for which cause was determined" was not available for FY 2006–07.

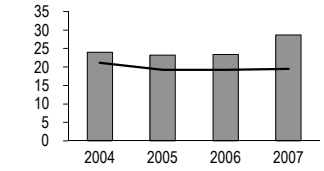
RESOURCE Measures

Fire Services Costs per Capita



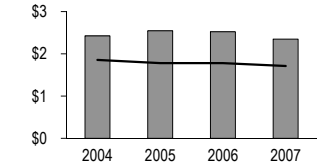
	2004	2005	2006	2007
Salisbury	$160	$162	$162	$185
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury	24.0	23.2	23.4	28.7
Average	21.1	19.2	19.2	19.5

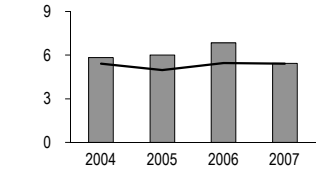
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Salisbury	$2.42	$2.54	$2.52	$2.35
Average	$1.86	$1.78	$1.78	$1.72

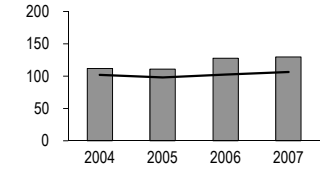
WORKLOAD Measures

Actual Fires per 1,000 Population



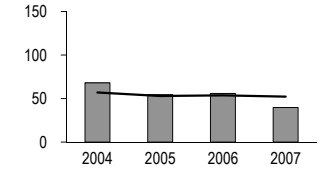
	2004	2005	2006	2007
Salisbury	5.82	6.02	6.84	5.44
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Salisbury	112	111	128	130
Average	102	98	103	107

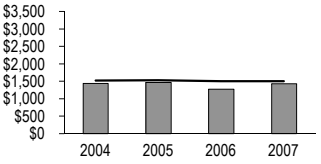
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Salisbury	68	54	56	40
Average	57	53	54	52

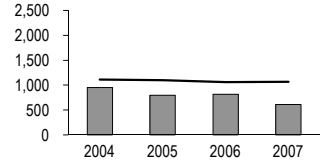
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Salisbury	$1,438	$1,465	$1,271	$1,428
Average	$1,515	$1,530	$1,501	$1,498

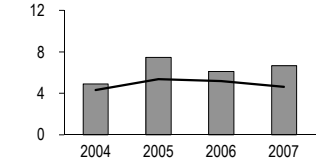
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Salisbury	953	794	815	610
Average	1,114	1,103	1,064	1,068

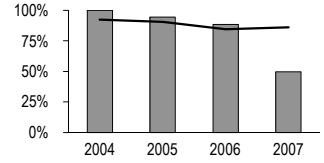
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



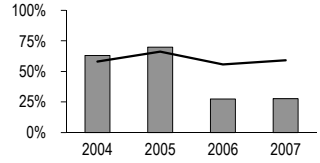
	2004	2005	2006	2007
Salisbury	4.9	7.5	6.1	6.7
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



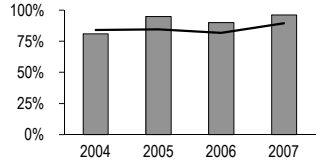
	2004	2005	2006	2007
Salisbury	100%	94%	88%	50%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



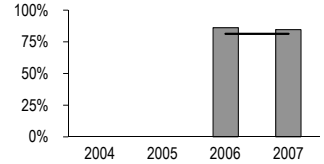
	2004	2005	2006	2007
Salisbury	63%	70%	27%	28%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Salisbury	81%	95%	90%	96%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Salisbury			86%	85%
Average			81%	81%

Salisbury

MUNICIPAL PROFILE

Population Served	30,700
Land Area Served (Square Miles)	21.5
Persons Served per Square Mile	1,428
Topography	Gently rolling
County	Rowan
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		64.1%
Operating Costs		23.6%
Capital Costs		12.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,644,534
Operating Costs	$	1,341,205
Capital Costs	$	696,000
TOTAL	$	5,681,739

SERVICE PROFILE

FTE Positions—Firefighters	69.0
FTE Positions—Other	19.0
Fire Stations	4
Amount of Property Protected	$2,416,776,551
Fire Apparatus	
Pumpers	0
Aerial Trucks	4
Reserve Equipment—Other	5
Total	9
Fire Department Responses	
Fires	167
Medical	2,417
False alarms	463
Other	932
Total	3,979
Engine Companies	5
Actual Fires Reported	167
Structural Fires Reported	54

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 in FY 2006–07: 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 fire department reported an average turnout time of one minute and average travel time of 6.66 minutes. Average dispatch time was not available.

Salisbury added a new fire station during the year with operation starting in January 2007.

The city had an ISO rating of 2 for FY 2006–07.

The fire department in Salisbury reported 1,220 fire inspections conducted in FY 2006–07. 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.

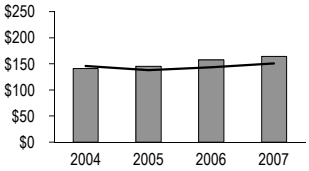
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Wilmington — Fire Services

Key: Wilmington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

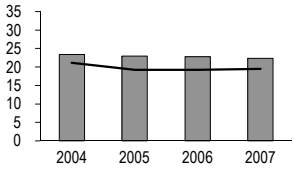
RESOURCE Measures

Fire Services Costs per Capita



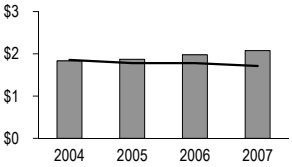
	2004	2005	2006	2007
Wilmington	$141	$145	$157	$164
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Wilmington	23.4	23.0	22.8	22.3
Average	21.1	19.2	19.2	19.5

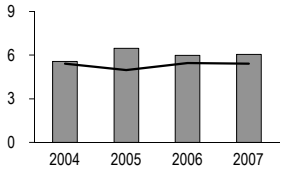
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Wilmington	$1.83	$1.87	$1.98	$2.08
Average	$1.86	$1.78	$1.78	$1.72

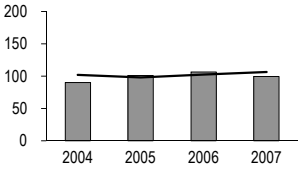
WORKLOAD Measures

Actual Fires per 1,000 Population



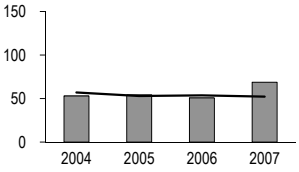
	2004	2005	2006	2007
Wilmington	5.57	6.47	5.98	6.06
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Wilmington	90	101	107	100
Average	102	98	103	107

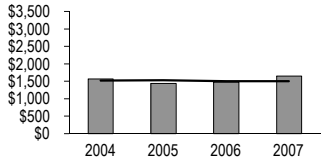
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Wilmington	53	54	51	69
Average	57	53	54	52

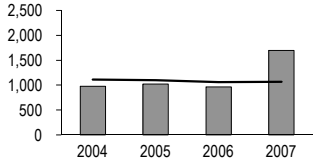
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Wilmington	$1,569	$1,440	$1,475	$1,648
Average	$1,515	$1,530	$1,501	$1,498

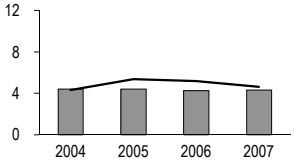
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Wilmington	980	1,021	965	1,698
Average	1,114	1,103	1,064	1,068

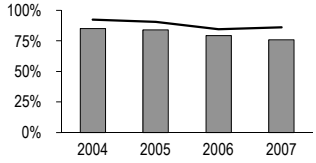
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



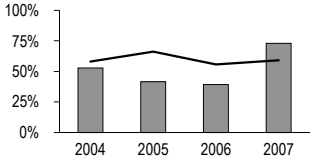
	2004	2005	2006	2007
Wilmington	4.4	4.4	4.3	4.3
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



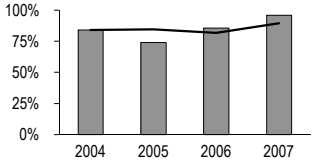
	2004	2005	2006	2007
Wilmington	85%	84%	79%	76%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



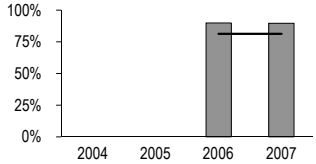
	2004	2005	2006	2007
Wilmington	53%	42%	39%	73%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Wilmington	84%	74%	86%	96%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Wilmington			90%	90%
Average			81%	81%

Wilmington

MUNICIPAL PROFILE

Population Served	98,529
Land Area Served (Square Miles)	54.3
Persons Served per Square Mile	1,815
Topography	Flat; coastal plain
County	New Hanover
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.7%
Operating Costs		21.0%
Capital Costs		10.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	11,102,196
Operating Costs	$	3,387,109
Capital Costs	$	1,666,457
TOTAL	$	16,155,762

SERVICE PROFILE

FTE Positions—Firefighters	198.0
FTE Positions—Other	22.0
Fire Stations	11
Amount of Property Protected	$7,784,722,859
Fire Apparatus	
Pumpers	11
Aerial Trucks	2
Reserve Equipment—Other	19
Total	32
Fire Department Responses	
Fires	597
Medical	4,209
False alarms	1,450
Other	3,548
Total	9,804
Engine Companies	11
Actual Fires Reported	597
Structural Fires Reported	145

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 in FY 2006–07: 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 fire department reported an average dispatch time of 1.18 minutes and 4.33 minutes for turnout and travel time.

The city had an ISO rating of 2 for FY 2006–07.

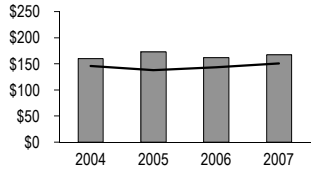
The fire department in Wilmington conducted 6,791 fire inspections during FY 2006–07. The Wilmington Fire Prevention Bureau follows the required inspection schedule for all occupancies within the corporate limits of the city. Each building in an apartment complex is counted as an inspection. Reinspections 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Key: Wilson ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

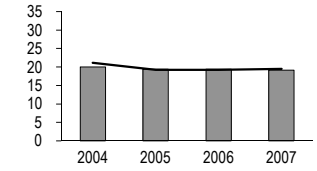
RESOURCE Measures

Fire Services Costs per Capita



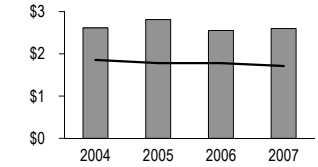
	2004	2005	2006	2007
Wilson	$160	$173	$162	$167
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Wilson	20.0	19.4	19.4	19.2
Average	21.1	19.2	19.2	19.5

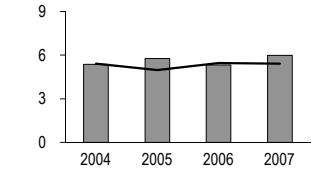
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Wilson	$2.62	$2.81	$2.55	$2.60
Average	$1.86	$1.78	$1.78	$1.72

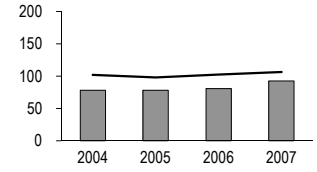
WORKLOAD Measures

Actual Fires per 1,000 Population



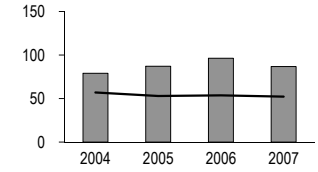
	2004	2005	2006	2007
Wilson	5.37	5.78	5.32	5.99
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Wilson	78	78	80	93
Average	102	98	103	107

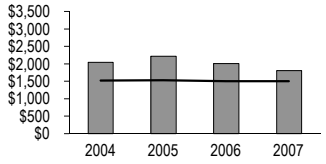
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Wilson	79	87	96	87
Average	57	53	54	52

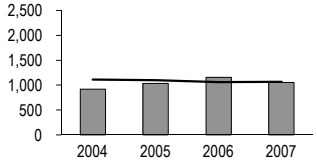
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Wilson	$2,047	$2,214	$2,009	$1,807
Average	$1,515	$1,530	$1,501	$1,498

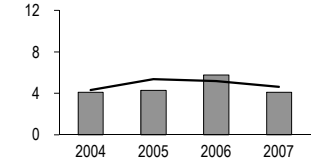
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Wilson	918	1,033	1,155	1,056
Average	1,114	1,103	1,064	1,068

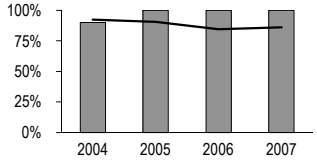
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



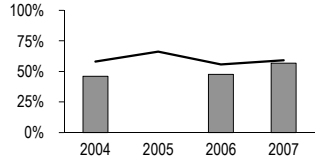
	2004	2005	2006	2007
Wilson	4.1	4.3	5.8	4.1
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



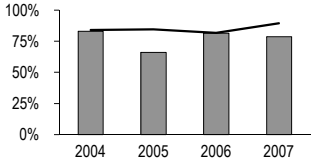
	2004	2005	2006	2007
Wilson	90%	100%	100%	100%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



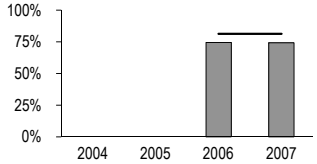
	2004	2005	2006	2007
Wilson	46%		48%	57%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Wilson	83%	66%	81%	79%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Wilson			74%	74%
Average			81%	81%

Wilson

MUNICIPAL PROFILE

Population Served	48,562
Land Area Served (Square Miles)	29.0
Persons Served per Square Mile	1,675
Topography	Flat
County	Wilson
Climate	Mild; little ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.7%
Operating Costs		23.3%
Capital Costs		8.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,574,295
Operating Costs	$	1,892,274
Capital Costs	$	652,346
TOTAL	$	8,118,915

SERVICE PROFILE

FTE Positions—Firefighters	62.0
FTE Positions—Other	31.0
Fire Stations	5
Amount of Property Protected	$3,123,233,727
Fire Apparatus	
Pumpers	5
Aerial Trucks	1
Reserve Equipment—Other	6
Total	12
Fire Department Responses	
Fires	291
Medical	2,778
False alarms	577
Other	848
Total	4,494
Engine Companies	5
Actual Fires Reported	291
Structural Fires Reported	88

EXPLANATORY INFORMATION

Service Level and Delivery
Wilson Fire/Rescue Services is a public safety organization whose mission is to assist the public in the protection of life and property by minimizing the impact of fire, medical emergencies, and potential disasters or events that affect the community and the environment.

Wilson Fire/Rescue Services has two major divisions. Operations handles emergency responses and equipment maintenance. Support Services handles fire prevention and education, facility maintenance, IM/GIS, and budget.

Firefighters work twenty-four hours on and twenty-four hours off. Each work cycle consists of three twenty-four shifts with a day off between shifts. A four-day break is then provided before the cycle repeats itself.

The Wilson Fire/Rescue Services reported an average total response time for Priority 1 calls of 5.10 minutes, including 0.98 minutes for dispatch, 1.50 minutes for turnout, and 2.62 minutes for travel time.

The city had an ISO rating of 2 for FY 2006–07.

The fire department in Wilson conducted 4,222 fire inspections during FY 2006–07. 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.

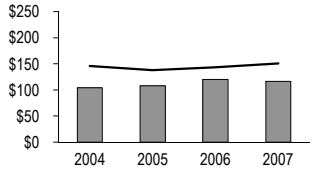
Conditions Affecting Service, Performance, and Costs
The performance measure "percentage of full response within 8 minutes" was new as of FY 2005–06. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

Winston-Salem Fire Services

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

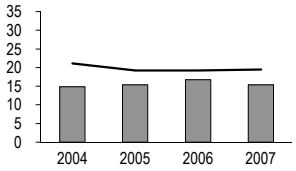
RESOURCE Measures

Fire Services Costs per Capita



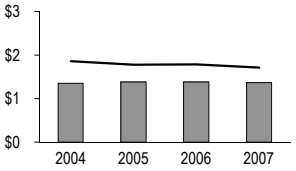
	2004	2005	2006	2007
Winston-Salem	$104	$108	$120	$117
Average	$146	$138	$144	$151

Fire Services Total FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	14.9	15.3	16.8	15.4
Average	21.1	19.2	19.2	19.5

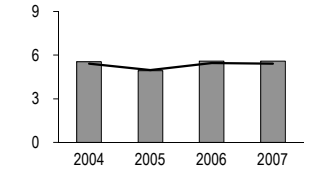
Fire Services Cost per Thousand Dollars of Property Protected



	2004	2005	2006	2007
Winston-Salem	$1.35	$1.38	$1.38	$1.37
Average	$1.86	$1.78	$1.78	$1.72

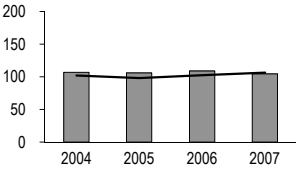
WORKLOAD Measures

Actual Fires per 1,000 Population



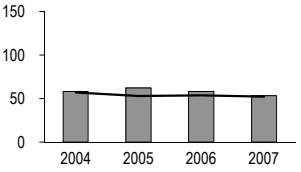
	2004	2005	2006	2007
Winston-Salem	5.54	4.93	5.60	5.58
Average	5.41	4.98	5.45	5.40

Fire Department Responses per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	107	106	109	104
Average	102	98	103	107

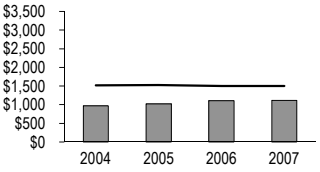
Fire Inspections Completed per 1,000 Population



	2004	2005	2006	2007
Winston-Salem	58	62	58	53
Average	57	53	54	52

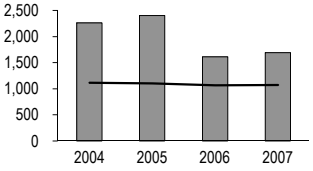
EFFICIENCY Measures

Fire Services Cost per Fire Department Response



	2004	2005	2006	2007
Winston-Salem	$971	$1,022	$1,102	$1,118
Average	$1,515	$1,530	$1,501	$1,498

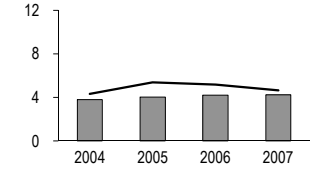
Inspections Completed per Inspector FTE



	2004	2005	2006	2007
Winston-Salem	2,261	2,405	1,610	1,688
Average	1,114	1,103	1,064	1,068

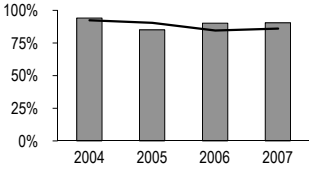
EFFECTIVENESS Measures

Average Response Time To Priority One Calls In Minutes



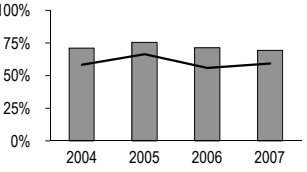
	2004	2005	2006	2007
Winston-Salem	3.8	4.0	4.2	4.2
Average	4.3	5.4	5.2	4.7

Percentage of Fire Code Violations Cleared Within 90 Days



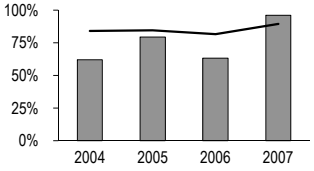
	2004	2005	2006	2007
Winston-Salem	94%	85%	90%	90%
Average	93%	91%	85%	86%

Percentage of Fires Confined To Room(s) Involved On Arrival



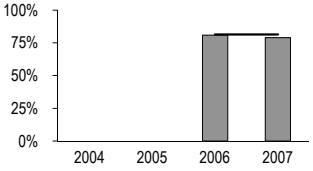
	2004	2005	2006	2007
Winston-Salem	71%	75%	71%	69%
Average	58%	66%	56%	59%

Percentage of Fires For Which Cause Was Determined



	2004	2005	2006	2007
Winston-Salem	62%	79%	63%	96%
Average	84%	85%	82%	89%

Percentage of Full Response Within 8 Minutes



	2004	2005	2006	2007
Winston-Salem			81%	79%
Average			81%	81%

Winston-Salem

MUNICIPAL PROFILE

Population Served	221,014
Land Area Served (Square Miles)	133.2
Persons Served per Square Mile	1,659
Topography	Gently rolling
County	Forsyth
Climate	Moderate; some ice and snow

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		79.4%
Operating Costs		13.7%
Capital Costs		6.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	20,442,849
Operating Costs	$	3,537,875
Capital Costs	$	1,773,271
TOTAL	$	25,753,995

SERVICE PROFILE

FTE Positions—Firefighters	316.0
FTE Positions—Other	24.0
Fire Stations	19
Amount of Property Protected	$18,864,398,487
Fire Apparatus	
Pumpers	18
Aerial Trucks	5
Reserve Equipment—Other	15
Total	38
Fire Department Responses	
Fires	1,234
Medical	15,119
False alarms	1,788
Other	4,897
Total	23,038
Engine Companies	18
Actual Fires Reported	1,234
Structural Fires Reported	374

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 divisions in FY 2006–07: 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 fire department reported a total average response time of 5.86 minutes, including 1.63 minutes for dispatch, 0.62 minute for turnout, and 3.61 minutes for travel.

The city had an ISO rating of 3 for FY 2006–07.

The fire department in Winston-Salem conducted 11,819 fire inspections during FY 2006–07. 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 eighteen 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. Previously this had been measured as the percentage within ten minutes but was changed to match NFPA 1710 performance guidelines.

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.

Winston-Salem annexed 19,059 residents effective September 30,2006. The annexed areas are comprised of 8,579 dwelling units, twenty square miles, and eighty-six miles of streets. As a result of the effective date, the additional costs reported for the benchmarking project only reflect nine months of service to these newly annexed areas.

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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 (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 insure 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 or 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 2006–07 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 as defined above. Cost is determined using the project's full cost accounting model, including direct, indirect, and capital costs. An inspector full-time equivalent (FTE) is calculated using a work year of 235 days. Inspector FTEs include permanent, temporary, part-time, and full-time inspectors.

5. Value of Building Permits per FTE

Value of building permits is defined above. Inspectors must be certified by the state to enforce the state building code and be able to review plans and conduct inspections to enforce that code. Inspector FTEs exclude supervisors, who may be certified, but who spend less than 50 percent of their time performing inspections. Inspector FTEs also exclude support personnel who are not certified.

6. Number of Plan Reviews per Reviewer FTE
The state building code requires that plans and specifications for most commercial and residential construction be reviewed before permits are issued for such construction. Reviewer FTEs are calculated using a 2,080-hour work year, the actual number of plan reviews conducted in FY 2006–07, 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.

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Building Inspections

Summary of Key Dimensions of Service

City or Town	Area Served (in square miles)	Population Growth from 2000 to 2006	Building Inspections by Trade					Number of Plan Reviews	Building Inspector FTEs	Plan Reviewer FTEs
			Building	Electrical	Mechanical	Plumbing	Total			
Asheville	62.7	10.2%	15,336	8,339	8,127	7,420	39,222	2,745	17.0	7.0
Burlington	41.4	6.2%	5,516	5,374	4,126	4,158	19,174	171	7.67	0.33
Carrboro	12.0	10.9%	1,381	846	790	791	3,808	547	1.5	1.0
Cary	65.4	29.2%	39,190	19,463	20,705	20,512	99,870	5,514	21.0	4.0
Durham	296.5	14.7%	33,589	24,900	14,200	18,462	91,151	3,695	27.0	4.0
Gastonia	66.5	7.5%	4,827	3,558	3,297	4,083	15,765	1,022	4.5	1.0
Greensboro	122.6	8.0%	32,196	26,680	22,375	22,566	103,817	1,260	23.0	4.5
High Point	59.0	11.4%	12,379	6,462	7,030	7,870	33,741	1,231	12.5	1.5
Raleigh	183.7	27.8%	39,895	31,987	25,161	29,789	126,832	5,261	50.0	18.0
Wilson	56.8	8.8%	3,037	2,951	2,692	2,782	11,462	414	3.2	0.8
Winston-Salem	396.5	8.7%	31,600	19,318	18,805	16,861	86,584	1,473	26.5	3.0

NOTES

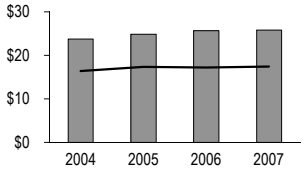
EXPLANATORY FACTORS

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

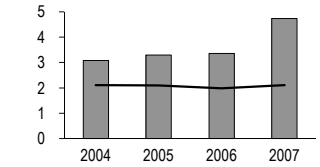
RESOURCE Measures

Building Inspections Services Costs per Capita



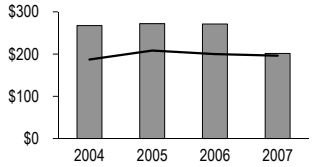
	2004	2005	2006	2007
Asheville	$23.77	$24.82	$25.63	$25.83
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville	3.08	3.29	3.36	4.74
Average	2.11	2.10	1.98	2.11

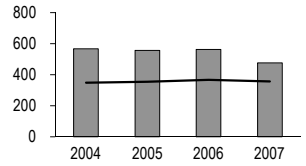
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Asheville	$268	$272	$271	$202
Average	$188	$209	$201	$197

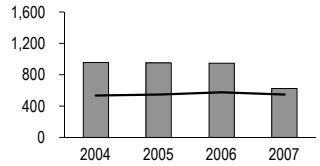
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



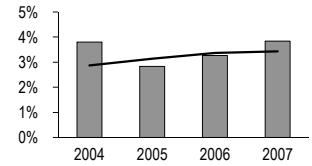
	2004	2005	2006	2007
Asheville	566	557	564	476
Average	348	355	368	357

Inspections per Square Mile in Service Area



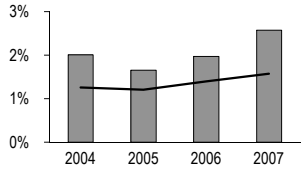
	2004	2005	2006	2007
Asheville	955	949	946	626
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



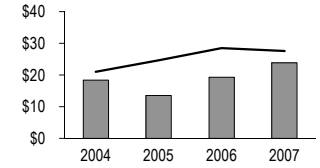
	2004	2005	2006	2007
Asheville	3.80%	2.83%	3.26%	3.84%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Asheville	2.01%	1.65%	1.97%	2.57%
Average	1.26%	1.21%	1.40%	1.58%

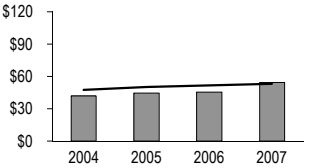
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Asheville	$18.4	$13.5	$19.3	$23.8
Average	$21.1	$24.6	$28.5	$27.6

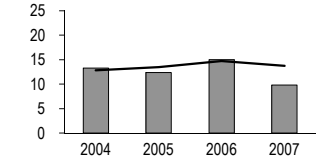
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



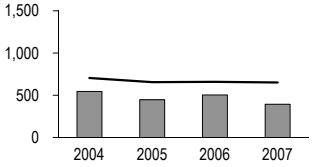
	2004	2005	2006	2007
Asheville	$42.00	$44.58	$45.45	$54.22
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Asheville	13.3	12.4	15.0	9.8
Average	12.9	13.5	14.7	13.8

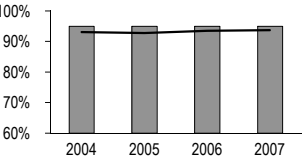
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Asheville	544	448	502	392
Average	707	656	659	653

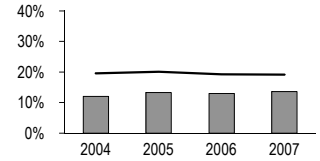
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Asheville	95.0%	95.0%	95.0%	95.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Asheville	12.0%	13.3%	13.0%	13.6%
Average	19.5%	20.1%	19.3%	19.1%

MUNICIPAL PROFILE

Population Served	82,318
Land Area Served (Square Miles)	62.65
Persons Served per Square Mile	1,314
Topography	Hills, mountains
Tax Base Served (Assessed Value)	$10,536,190,419
County	Buncombe

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		76.3%
Operating Costs		18.4%
Capital Costs		5.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,621,716
Operating Costs	$	391,972
Capital Costs	$	112,876
TOTAL	$	2,126,564

SERVICE PROFILE

Number of Inspections by Type	
Building	15,336
Electrical	8,339
Mechanical	8,127
Plumbing	7,420
Total	39,222
Building Permit Values	
Residential	$117,749,604
Multi-Family	$15,847,800
Commercial	$271,237,085
Total	$404,834,489
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	$2,659,132

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 extra-territorial jurisdiction. This change from the prior year increased the area of responsibility by roughly nineteen square miles.

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 $2,659,132 for FY 2006–07. 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.

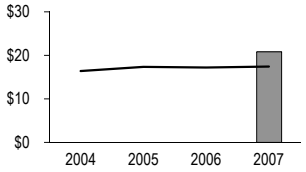
Conditions Affecting Service, Performance, and Costs

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.

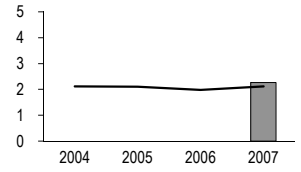
RESOURCE Measures

Building Inspections Services Costs per Capita



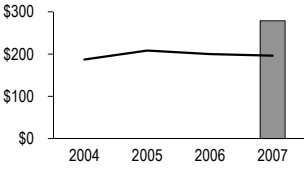
	2004	2005	2006	2007
Burlington				$20.80
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				2.27
Average	2.11	2.10	1.98	2.11

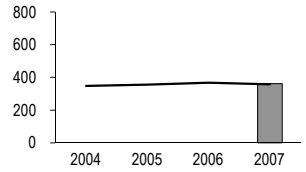
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Burlington				$279
Average	$188	$209	$201	$197

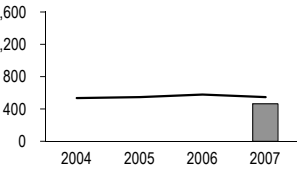
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



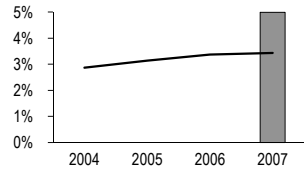
	2004	2005	2006	2007
Burlington				363
Average	348	355	368	357

Inspections per Square Mile in Service Area



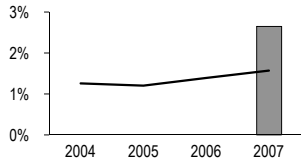
	2004	2005	2006	2007
Burlington				464
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



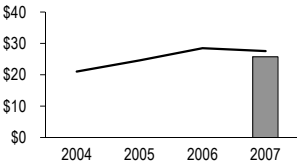
	2004	2005	2006	2007
Burlington				4.98%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Burlington				2.65%
Average	1.26%	1.21%	1.40%	1.58%

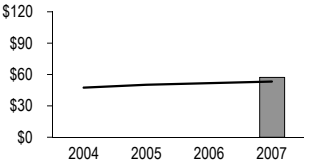
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Burlington				$25.7
Average	$21.1	$24.6	$28.5	$27.6

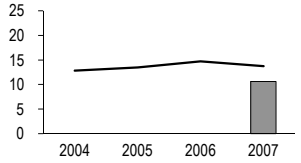
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



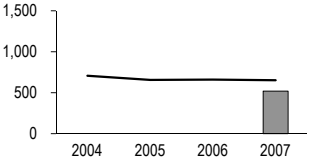
	2004	2005	2006	2007
Burlington				$57.39
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Burlington				10.6
Average	12.9	13.5	14.7	13.8

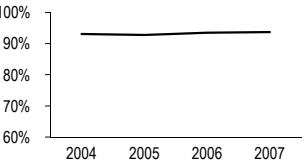
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Burlington				518
Average	707	656	659	653

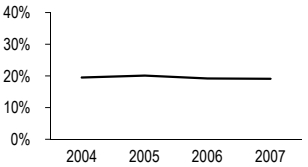
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Burlington				
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Burlington				
Average	19.5%	20.1%	19.3%	19.1%

Burlington

MUNICIPAL PROFILE

Population Served	52,893
Land Area Served (Square Miles)	41.36
Persons Served per Square Mile	1,279
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$3,950,981,685
County	Alamance

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		70.2%
Operating Costs		25.1%
Capital Costs		4.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	771,986
Operating Costs	$	276,041
Capital Costs	$	52,394
TOTAL	$	1,100,421

SERVICE PROFILE

Number of Inspections by Type	
Building	5,516
Electrical	5,374
Mechanical	4,126
Plumbing	4,158
Total	19,174
Building Permit Values	
Residential	$92,218,400
Multi-Family	included below
Commercial	$104,723,370
Total	$196,941,770
FTE Inspectors	
Building	2.9
Electrical	1.9
Mechanical	1.9
Plumbing	1.0
All Trades	0.0
Total Inspectors	7.7
FTE Plan Reviewers	0.3
Other FTE Positions	4.0
Inspection Fee Revenue	$1,423,916

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 with the city limits and the extra-territorial 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 $1,423,916 for FY 2006–07. 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.

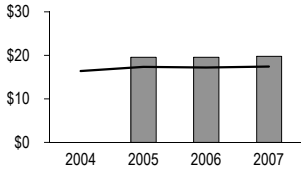
Data was not available on the percentage of inspections within one day.

The City of Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006–07.

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

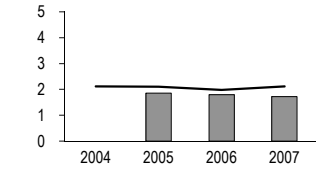
RESOURCE Measures

Building Inspections Services Costs per Capita



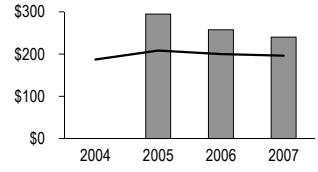
	2004	2005	2006	2007
Carrboro		$19.53	$19.53	$19.81
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Carrboro		1.85	1.79	1.72
Average	2.11	2.10	1.98	2.11

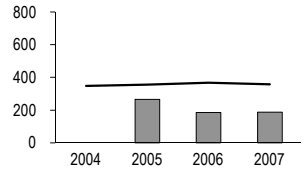
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Carrboro		$295	$257	$240
Average	$188	$209	$201	$197

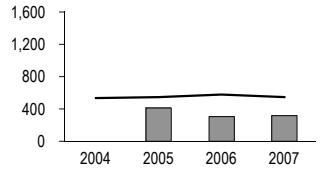
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



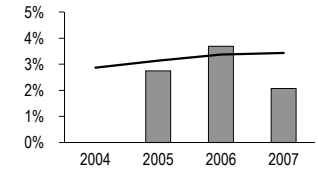
	2004	2005	2006	2007
Carrboro		267	186	187
Average	348	355	368	357

Inspections per Square Mile in Service Area



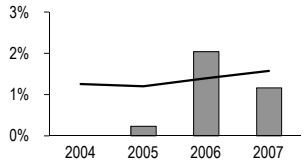
	2004	2005	2006	2007
Carrboro		412	303	317
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



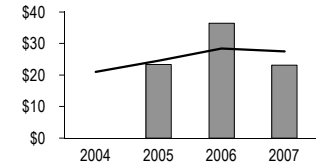
	2004	2005	2006	2007
Carrboro		2.75%	3.69%	2.07%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Carrboro		0.23%	2.04%	1.17%
Average	1.26%	1.21%	1.40%	1.58%

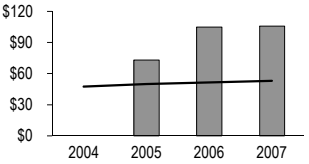
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Carrboro		$23.3	$36.4	$23.1
Average	$21.1	$24.6	$28.5	$27.6

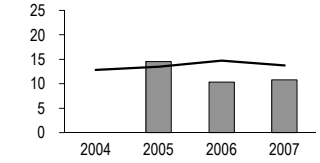
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



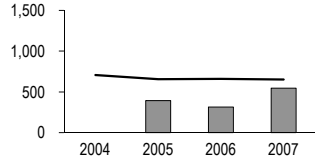
	2004	2005	2006	2007
Carrboro		$73.15	$104.93	$105.92
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Carrboro		14.5	10.3	10.8
Average	12.9	13.5	14.7	13.8

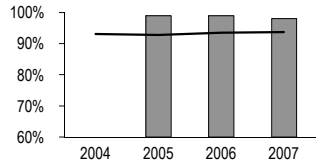
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Carrboro		391	314	547
Average	707	656	659	653

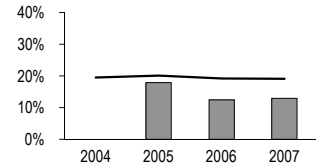
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Carrboro		99.0%	99.0%	98.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Carrboro		17.8%	12.4%	13.0%
Average	19.5%	20.1%	19.3%	19.1%

MUNICIPAL PROFILE

Population Served	20,360
Land Area Served (Square Miles)	12.00
Persons Served per Square Mile	1,697
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$1,677,906,698
County	Orange

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.1%
Operating Costs		39.2%
Capital Costs		3.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	230,389
Operating Costs	$	157,961
Capital Costs	$	14,997
TOTAL	$	403,347

SERVICE PROFILE

Number of Inspections by Type	
Building	1,381
Electrical	846
Mechanical	790
Plumbing	791
Total	3,808
Building Permit Values	
Residential	$15,103,870
Multi-Family	NA
Commercial	$19,557,004
Total	$34,660,874
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	$280,605

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 $280,605 for FY 2006–07. 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.

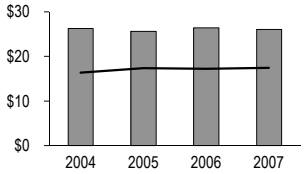
Conditions Affecting Service, Performance, and Costs

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 2007

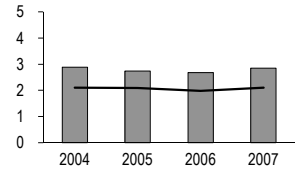
RESOURCE Measures

Building Inspections Services Costs per Capita



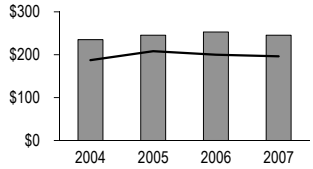
	2004	2005	2006	2007
Cary	$26.28	$25.59	$26.44	$26.03
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Cary	2.88	2.74	2.68	2.85
Average	2.11	2.10	1.98	2.11

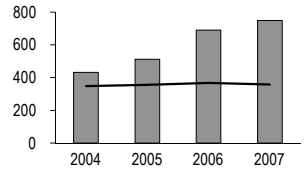
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Cary	$235	$245	$253	$246
Average	$188	$209	$201	$197

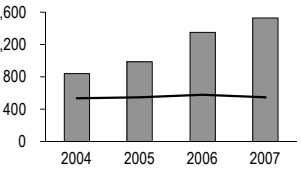
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



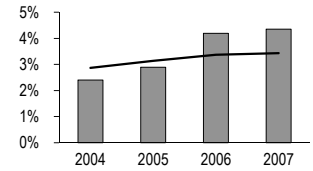
	2004	2005	2006	2007
Cary	433	513	690	749
Average	348	355	368	357

Inspections per Square Mile in Service Area



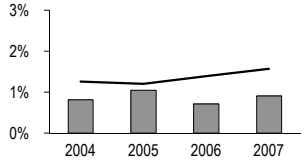
	2004	2005	2006	2007
Cary	841	986	1,350	1,527
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



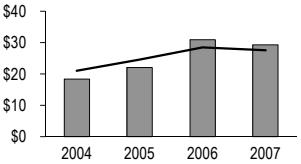
	2004	2005	2006	2007
Cary	2.40%	2.89%	4.19%	4.35%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Cary	0.81%	1.05%	0.71%	0.91%
Average	1.26%	1.21%	1.40%	1.58%

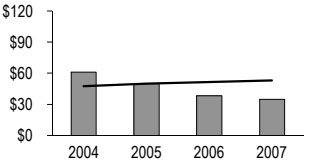
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Cary	$18.4	$22.0	$30.9	$29.3
Average	$21.1	$24.6	$28.5	$27.6

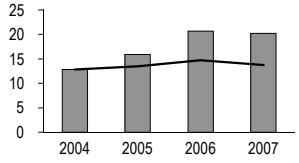
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



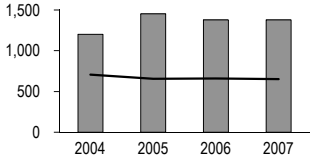
	2004	2005	2006	2007
Cary	$61.00	$49.88	$38.34	$34.76
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Cary	12.8	15.9	20.7	20.2
Average	12.9	13.5	14.7	13.8

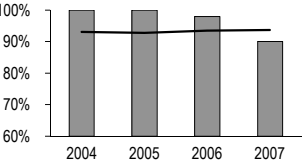
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Cary	1,201	1,452	1,380	1,379
Average	707	656	659	653

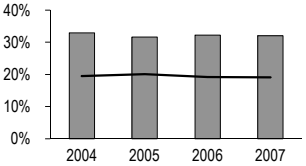
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Cary	100.0%	100.0%	98.0%	90.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Cary	32.9%	31.6%	32.2%	32.0%
Average	19.5%	20.1%	19.3%	19.1%

MUNICIPAL PROFILE

Population Served	133,354
Land Area Served (Square Miles)	65.39
Persons Served per Square Mile	2,039
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$14,136,654,832
County	Wake

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		74.9%
Operating Costs		20.0%
Capital Costs		5.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,599,716
Operating Costs	$	692,898
Capital Costs	$	178,467
TOTAL	$	3,471,081

SERVICE PROFILE

Number of Inspections by Type	
Building	39,190
Electrical	19,463
Mechanical	20,705
Plumbing	20,512
Total	99,870
Building Permit Values	
Residential	$434,801,100
Multi-Family	$51,693,767
Commercial	$128,533,891
Total	$615,028,758
FTE Inspectors	
Building	8.0
Electrical	4.0
Mechanical	3.0
Plumbing	3.0
All Trades	3.0
Total Inspectors	21.0
FTE Plan Reviewers	4.0
Other FTE Positions	13.0
Inspection Fee Revenue	$3,923,331

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 $3,923,331 for FY 2006–07. 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

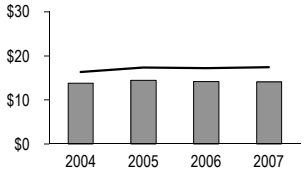
The population served is calculated by adding the population of Cary with the population of the extraterritorial jurisdiction (ETJ). The tax base served is calculated by adding the tax base of Cary with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Wake County and multiplying them by the square miles of the ETJ.

Durham — Building Inspections

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

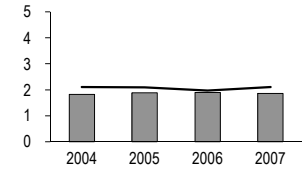
RESOURCE Measures

Building Inspections Services Costs per Capita



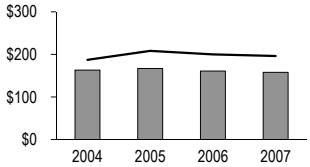
	2004	2005	2006	2007
Durham	$13.83	$14.42	$14.14	$14.08
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Durham	1.82	1.88	1.90	1.86
Average	2.11	2.10	1.98	2.11

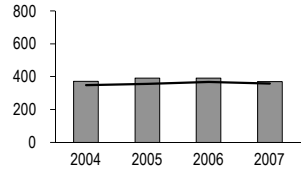
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Durham	$163	$167	$161	$158
Average	$188	$209	$201	$197

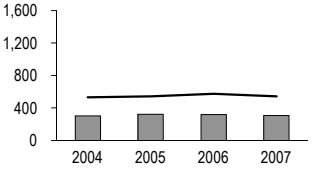
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



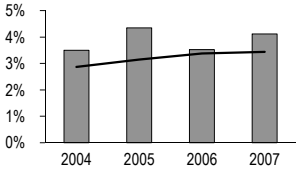
	2004	2005	2006	2007
Durham	371	390	390	369
Average	348	355	368	357

Inspections per Square Mile in Service Area



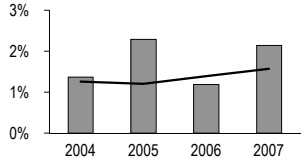
	2004	2005	2006	2007
Durham	302	321	319	307
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



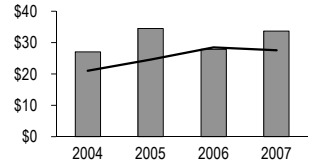
	2004	2005	2006	2007
Durham	3.50%	4.35%	3.53%	4.12%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Durham	1.37%	2.29%	1.19%	2.14%
Average	1.26%	1.21%	1.40%	1.58%

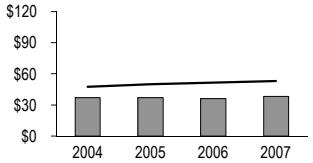
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Durham	$27.0	$34.5	$27.8	$33.6
Average	$21.1	$24.6	$28.5	$27.6

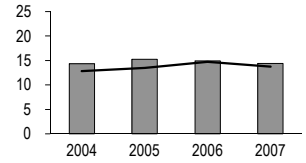
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



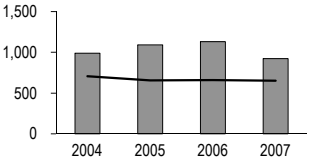
	2004	2005	2006	2007
Durham	$37.00	$36.93	$36.20	$38.14
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Durham	14.3	15.3	14.9	14.4
Average	12.9	13.5	14.7	13.8

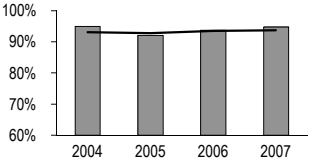
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Durham	988	1,092	1,132	924
Average	707	656	659	653

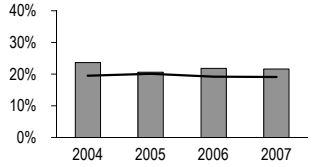
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Durham	95.0%	92.1%	93.7%	94.8%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Durham	23.6%	20.6%	21.8%	21.7%
Average	19.5%	20.1%	19.3%	19.1%

MUNICIPAL PROFILE

Population Served	246,824
Land Area Served (Square Miles)	296.50
Persons Served per Square Mile	832
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$22,061,462,766
County	Durham

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		77.3%
Operating Costs		19.0%
Capital Costs		3.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,686,720
Operating Costs	$	659,899
Capital Costs	$	129,701
TOTAL	$	3,476,320

SERVICE PROFILE

Number of Inspections by Type	
Building	33,589
Electrical	24,900
Mechanical	14,200
Plumbing	18,462
Total	91,151
Building Permit Values	
Residential	$436,589,035
Multi-Family	included above
Commercial	$471,475,047
Total	$908,064,082
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	$4,012,735

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.

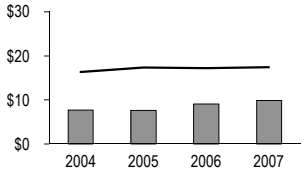
Durham's policy is that 90 percent of inspections are to be conducted within one working day of request.

Total revenue received from inspection fees amounted to $4,012,735 for FY 2006–07. The fee schedule separates fees for each type of permit, with specific fees depending on type of facility of work, cost, square footage, and other factors. If an inspection has been disapproved and the contractor calls for a reinspection and the corrections have not been made, $100 is charged. If the second reinspection is called and the problem still has not been corrected, $200 is charged. If the third reinspection is called for and the corrections have still not been made, $300 is charged.

Conditions Affecting Service, Performance, and Costs

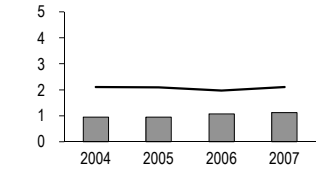
RESOURCE Measures

Building Inspections Services Costs per Capita



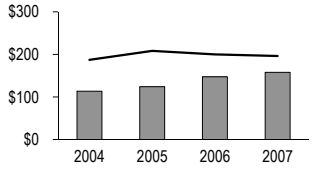
	2004	2005	2006	2007
Gastonia	$7.68	$7.64	$9.11	$9.90
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Gastonia	0.95	0.95	1.07	1.12
Average	2.11	2.10	1.98	2.11

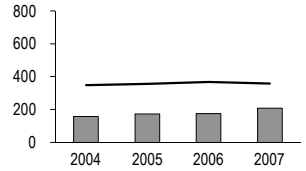
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Gastonia	$113	$124	$147	$158
Average	$188	$209	$201	$197

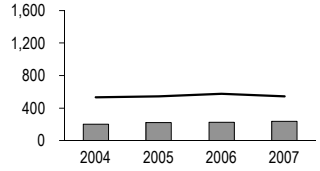
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



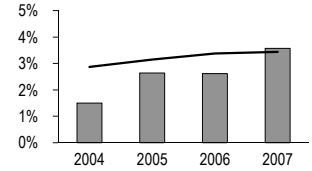
	2004	2005	2006	2007
Gastonia	157	174	175	208
Average	348	355	368	357

Inspections per Square Mile in Service Area



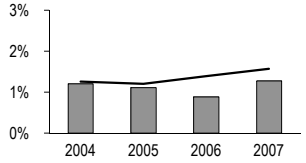
	2004	2005	2006	2007
Gastonia	200	221	225	237
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



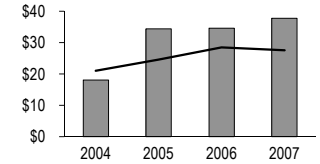
	2004	2005	2006	2007
Gastonia	1.50%	2.64%	2.62%	3.58%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Gastonia	1.20%	1.11%	0.88%	1.27%
Average	1.26%	1.21%	1.40%	1.58%

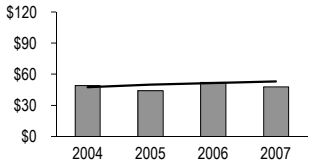
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Gastonia	$18.1	$34.4	$34.6	$37.8
Average	$21.1	$24.6	$28.5	$27.6

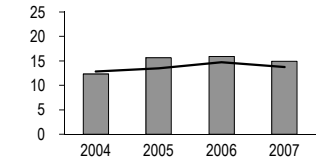
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



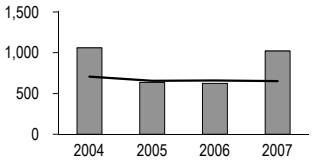
	2004	2005	2006	2007
Gastonia	$49.00	$44.00	$52.07	$47.66
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Gastonia	12.3	15.6	15.9	14.9
Average	12.9	13.5	14.7	13.8

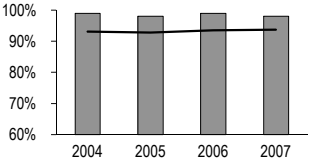
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Gastonia	1,060	637	623	1,022
Average	707	656	659	653

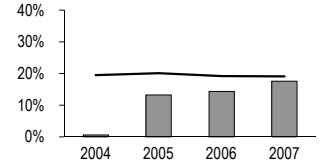
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Gastonia	99.0%	98.0%	99.0%	98.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Gastonia	0.6%	13.2%	14.4%	17.6%
Average	19.5%	20.1%	19.3%	19.1%

Gastonia

MUNICIPAL PROFILE

Population Served	75,889
Land Area Served (Square Miles)	66.45
Persons Served per Square Mile	1,142
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$4,750,495,280
County	Gaston

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.4%
Operating Costs		32.0%
Capital Costs		4.6%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	476,046
Operating Costs	$	240,773
Capital Costs	$	34,573
TOTAL	$	751,392

SERVICE PROFILE

Number of Inspections by Type	
Building	4,827
Electrical	3,558
Mechanical	3,297
Plumbing	4,083
Total	15,765
Building Permit Values	
Residential	$108,773,865
Multi-Family	$597,344
Commercial	$60,565,373
Total	$169,936,582
FTE Inspectors	
Building	0.0
Electrical	0.0
Mechanical	0.0
Plumbing	0.0
All Trades	4.5
Total Inspectors	4.5
FTE Plan Reviewers	1.0
Other FTE Positions	3.0
Inspection Fee Revenue	$907,533

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 a 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.

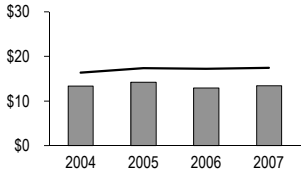
Total revenue received from inspection fees amounted to $907,533 for FY 2006–07. The City of Gastonia issues a master permit with all of the trades for building permits. The city uses the current table as provided by the ICC Building Safety Journal to arrive at the valuation of the work for new construction. 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 2007

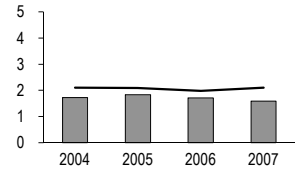
RESOURCE Measures

Building Inspections Services Costs per Capita



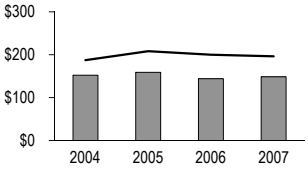
	2004	2005	2006	2007
Greensboro	$13.33	$14.24	$12.93	$13.44
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Greensboro	1.72	1.83	1.71	1.59
Average	2.11	2.10	1.98	2.11

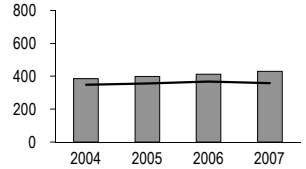
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Greensboro	$152	$159	$144	$148
Average	$188	$209	$201	$197

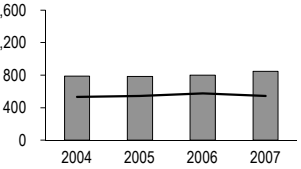
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



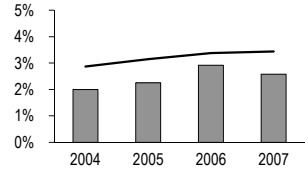
	2004	2005	2006	2007
Greensboro	385	400	412	429
Average	348	355	368	357

Inspections per Square Mile in Service Area



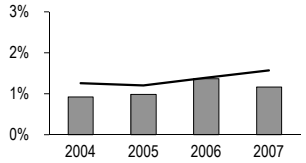
	2004	2005	2006	2007
Greensboro	790	782	798	847
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



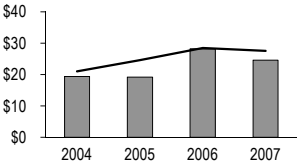
	2004	2005	2006	2007
Greensboro	2.00%	2.26%	2.92%	2.58%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Greensboro	0.92%	0.99%	1.36%	1.17%
Average	1.26%	1.21%	1.40%	1.58%

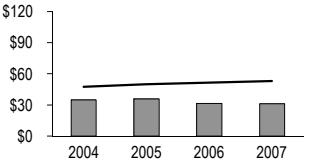
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Greensboro	$19.4	$19.2	$28.2	$24.6
Average	$21.1	$24.6	$28.5	$27.6

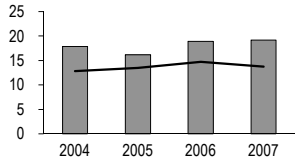
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



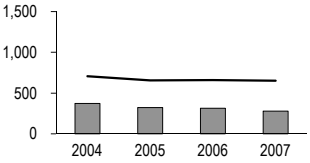
	2004	2005	2006	2007
Greensboro	$35.00	$35.63	$31.33	$31.31
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Greensboro	17.9	16.2	18.9	19.2
Average	12.9	13.5	14.7	13.8

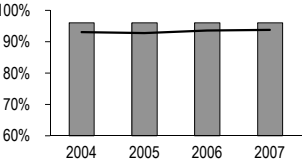
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Greensboro	372	321	312	280
Average	707	656	659	653

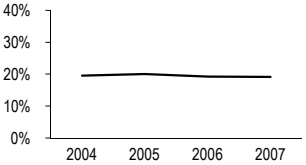
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Greensboro	96.0%	96.0%	96.0%	96.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Greensboro				
Average	19.5%	20.1%	19.3%	19.1%

MUNICIPAL PROFILE

Population Served	241,753
Land Area Served (Square Miles)	122.60
Persons Served per Square Mile	1,972
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$21,908,536,710
County	Guilford

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		77.2%
Operating Costs		22.8%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,509,202
Operating Costs	$	741,124
Capital Costs	$	-
TOTAL	$	3,250,326

SERVICE PROFILE

Number of Inspections by Type	
Building	32,196
Electrical	26,680
Mechanical	22,375
Plumbing	22,566
Total	103,817
Building Permit Values	
Residential	$270,524,486
Multi-Family	$39,956,840
Commercial	$255,576,754
Total	$566,058,080
FTE Inspectors	
Building	8.0
Electrical	8.0
Mechanical	4.0
Plumbing	3.0
All Trades	0.0
Total Inspectors	23.0
FTE Plan Reviewers	4.5
Other FTE Positions	11.0
Inspection Fee Revenue	$3,005,171

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.

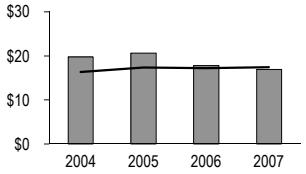
All requests for inspections are responded to within forty-eight hours or less. Nearly all requests, 96 percent, are called into the city's automated system or entered onto its website.

Total revenue received from inspection fees amounted to $3,005,171 for FY 2006–07. 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

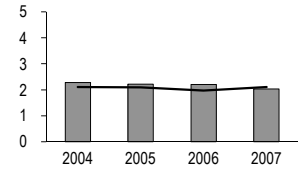
RESOURCE Measures

Building Inspections Services Costs per Capita



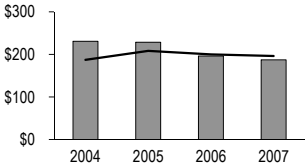
	2004	2005	2006	2007
High Point	$19.74	$20.60	$17.79	$16.96
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	2.27	2.22	2.21	2.03
Average	2.11	2.10	1.98	2.11

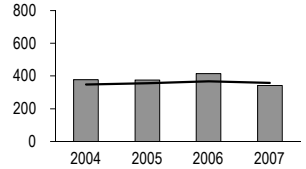
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
High Point	$231	$229	$196	$187
Average	$188	$209	$201	$197

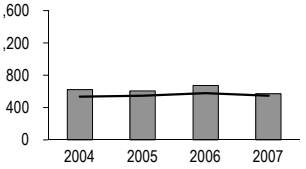
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



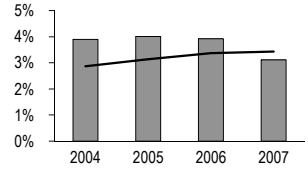
	2004	2005	2006	2007
High Point	377	376	415	343
Average	348	355	368	357

Inspections per Square Mile in Service Area



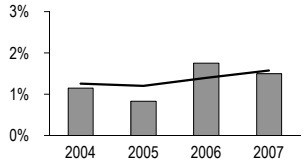
	2004	2005	2006	2007
High Point	621	607	673	572
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



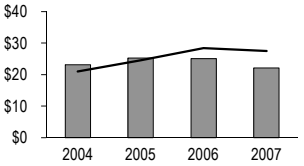
	2004	2005	2006	2007
High Point	3.90%	4.00%	3.92%	3.11%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
High Point	1.15%	0.83%	1.75%	1.50%
Average	1.26%	1.21%	1.40%	1.58%

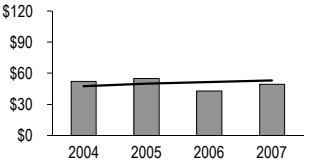
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
High Point	$23.1	$25.2	$25.1	$22.2
Average	$21.1	$24.6	$28.5	$27.6

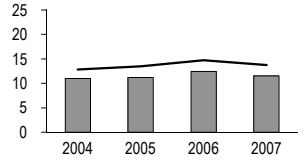
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



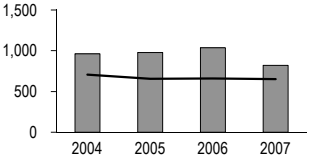
	2004	2005	2006	2007
High Point	$52.00	$54.84	$42.83	$49.45
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
High Point	11.0	11.2	12.5	11.5
Average	12.9	13.5	14.7	13.8

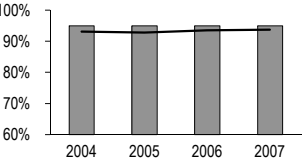
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
High Point	964	979	1,035	821
Average	707	656	659	653

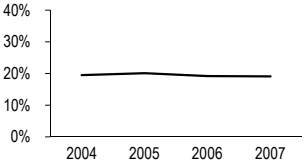
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
High Point	95.0%	95.0%	95.0%	95.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
High Point				
Average	19.5%	20.1%	19.3%	19.1%

High Point

MUNICIPAL PROFILE

Population Served	98,410
Land Area Served (Square Miles)	58.99
Persons Served per Square Mile	1,668
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$8,910,357,666
County	Guilford

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		73.7%
Operating Costs		22.5%
Capital Costs		3.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,230,191
Operating Costs	$	375,676
Capital Costs	$	62,757
TOTAL	$	1,668,624

SERVICE PROFILE

Number of Inspections by Type	
Building	12,379
Electrical	6,462
Mechanical	7,030
Plumbing	7,870
Total	33,741
Building Permit Values	
Residential	$137,334,840
Multi-Family	$6,462,953
Commercial	$133,421,923
Total	$277,219,716
FTE Inspectors	
Building	4.5
Electrical	3.0
Mechanical	3.0
Plumbing	2.0
All Trades	0.0
Total Inspectors	12.5
FTE Plan Reviewers	1.5
Other FTE Positions	6.0
Inspection Fee Revenue	$1,285,770

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.

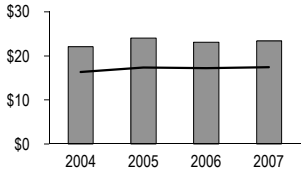
All inspection requests received by midnight are inspected the next business day.

Total revenue received from inspection fees amounted to $1,285,770 for FY 2006–07. 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.

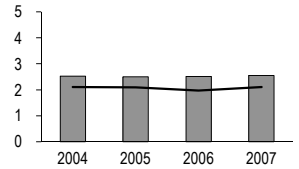
RESOURCE Measures

Building Inspections Services Costs per Capita



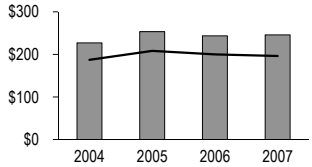
	2004	2005	2006	2007
Raleigh	$22.06	$24.07	$23.11	$23.42
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Raleigh	2.52	2.50	2.51	2.55
Average	2.11	2.10	1.98	2.11

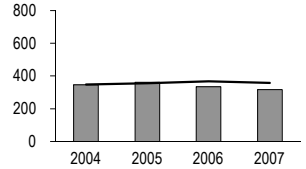
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Raleigh	$227	$253	$244	$246
Average	$188	$209	$201	$197

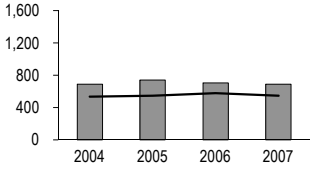
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



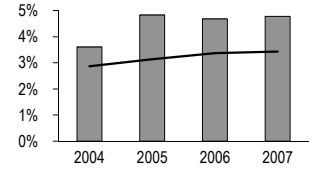
	2004	2005	2006	2007
Raleigh	347	363	335	317
Average	348	355	368	357

Inspections per Square Mile in Service Area



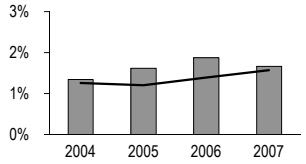
	2004	2005	2006	2007
Raleigh	690	742	705	691
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



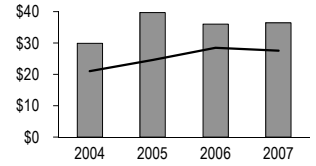
	2004	2005	2006	2007
Raleigh	3.60%	4.83%	4.68%	4.77%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Raleigh	1.34%	1.62%	1.87%	1.67%
Average	1.26%	1.21%	1.40%	1.58%

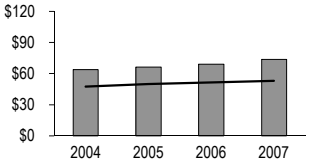
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Raleigh	$29.9	$39.7	$36.1	$36.4
Average	$21.1	$24.6	$28.5	$27.6

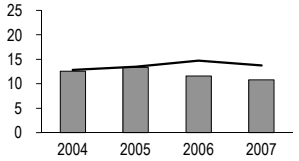
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



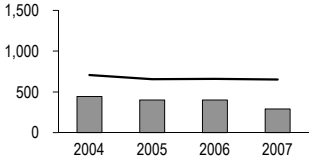
	2004	2005	2006	2007
Raleigh	$64.00	$66.39	$69.01	$73.81
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Raleigh	12.6	13.3	11.6	10.8
Average	12.9	13.5	14.7	13.8

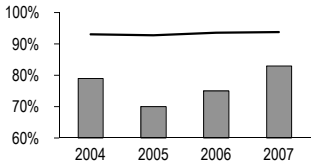
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Raleigh	442	402	400	292
Average	707	656	659	653

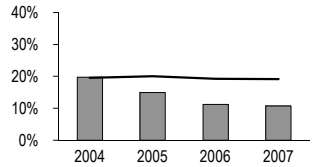
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Raleigh	79.0%	70.0%	75.0%	83.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Raleigh	19.7%	15.0%	11.2%	10.7%
Average	19.5%	20.1%	19.3%	19.1%

MUNICIPAL PROFILE

Population Served	399,768
Land Area Served (Square Miles)	183.68
Persons Served per Square Mile	2,176
Topography	Flat; gently rolling
Tax Base Served (Assessed Value)	$38,125,925,114
County	Wake

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.1%
Operating Costs		28.6%
Capital Costs		3.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,373,003
Operating Costs	$	2,677,132
Capital Costs	$	311,948
TOTAL	$	9,362,083

SERVICE PROFILE

Number of Inspections by Type	
Building	39,895
Electrical	31,987
Mechanical	25,161
Plumbing	29,789
Total	126,832
Building Permit Values	
Residential	$888,390,733
Multi-Family	$295,790,702
Commercial	$635,836,913
Total	$1,820,018,348
FTE Inspectors	
Building	14.0
Electrical	14.0
Mechanical	9.0
Plumbing	10.0
All Trades	3.0
Total Inspectors	50.0
FTE Plan Reviewers	18.0
Other FTE Positions	34.0
Inspection Fee Revenue	$8,701,970

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. In 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 to be made.

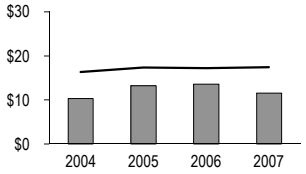
Total revenue received from inspection fees amounted to $8,701,970 for FY 2006–07. Inspection and permit fees depend on the type of construction or work, value of construction, and other factors. A reinspection fee of $60 is assessed per trade for any inspection that is rejected.

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.

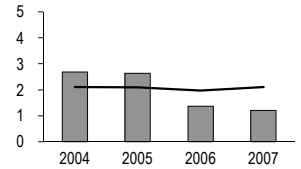
RESOURCE Measures

Building Inspections Services Costs per Capita



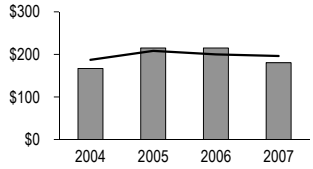
	2004	2005	2006	2007
Wilson	$10.33	$13.23	$13.55	$11.55
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Wilson	2.68	2.63	1.37	1.20
Average	2.11	2.10	1.98	2.11

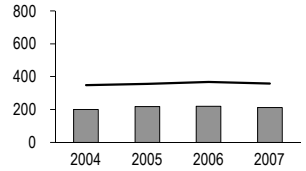
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Wilson	$167	$215	$215	$180
Average	$188	$209	$201	$197

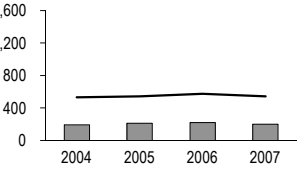
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



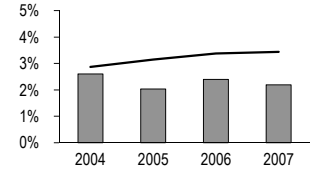
	2004	2005	2006	2007
Wilson	200	218	219	212
Average	348	355	368	357

Inspections per Square Mile in Service Area



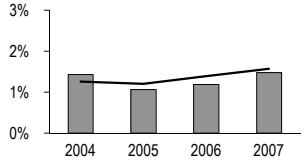
	2004	2005	2006	2007
Wilson	194	212	219	202
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



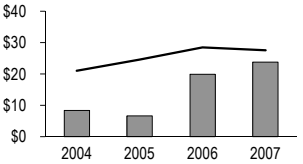
	2004	2005	2006	2007
Wilson	2.60%	2.03%	2.39%	2.19%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Wilson	1.43%	1.06%	1.19%	1.47%
Average	1.26%	1.21%	1.40%	1.58%

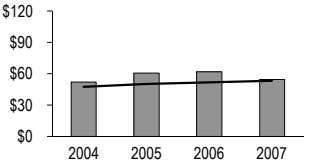
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Wilson	$8.4	$6.7	$19.9	$23.8
Average	$21.1	$24.6	$28.5	$27.6

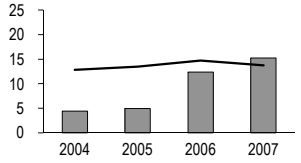
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



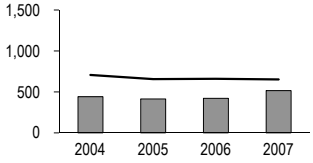
	2004	2005	2006	2007
Wilson	$52.00	$60.58	$61.75	$54.51
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Wilson	4.4	4.9	12.3	15.2
Average	12.9	13.5	14.7	13.8

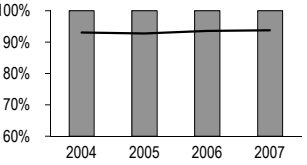
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Wilson	441	415	423	518
Average	707	656	659	653

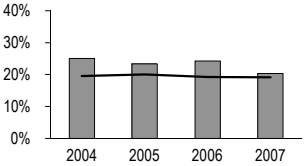
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Wilson	100.0%	100.0%	100.0%	100.0%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Wilson	25.1%	23.3%	24.3%	20.3%
Average	19.5%	20.1%	19.3%	19.1%

Wilson

MUNICIPAL PROFILE

Population Served	54,115
Land Area Served (Square Miles)	56.75
Persons Served per Square Mile	954
Topography	Flat
Tax Base Served (Assessed Value)	$3,469,507,258
County	Wilson

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.5%
Operating Costs		28.2%
Capital Costs		6.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	409,065
Operating Costs	$	175,929
Capital Costs	$	39,827
TOTAL	$	624,821

SERVICE PROFILE

Number of Inspections by Type	
Building	3,037
Electrical	2,951
Mechanical	2,692
Plumbing	2,782
Total	11,462
Building Permit Values	
Residential	$24,804,342
Multi-Family	$165,200
Commercial	$51,109,353
Total	$76,078,895
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	2.50
Inspection Fee Revenue	$368,038

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 $368,038 for FY 2006–07. 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.

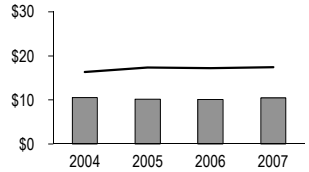
Conditions Affecting Service, Performance, and Costs
The population served is calculated by adding the population of Wilson with the population of the ETJ. The tax base served is calculated by adding the tax base of Wilson with the tax base of the ETJ. The population and the tax base of the ETJ are calculated by taking the population and tax base per square mile of Wilson County and multiplying them by the square miles of the ETJ.

Winston-Salem Building Inspections

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

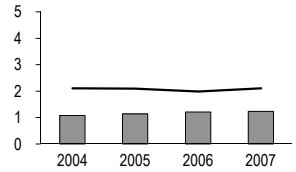
RESOURCE Measures

Building Inspections Services Costs per Capita



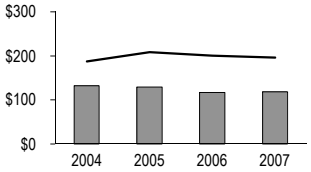
	2004	2005	2006	2007
Winston-Salem	$10.50	$10.17	$10.10	$10.49
Average	$16.39	$17.43	$17.23	$17.48

Building Inspections Services FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	1.08	1.13	1.21	1.23
Average	2.11	2.10	1.98	2.11

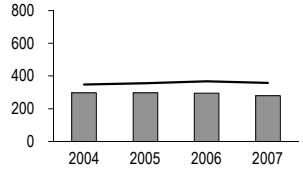
Building Inspections Services Cost per Million Dollars of Tax Base



	2004	2005	2006	2007
Winston-Salem	$132	$130	$117	$118
Average	$188	$209	$201	$197

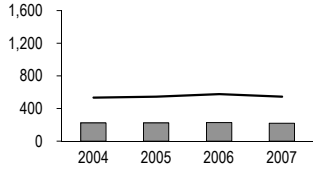
WORKLOAD Measures

Inspections per 1,000 Population in Service Area



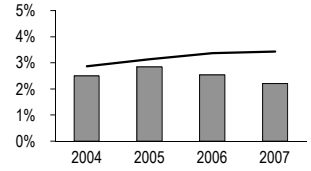
	2004	2005	2006	2007
Winston-Salem	297	297	294	279
Average	348	355	368	357

Inspections per Square Mile in Service Area



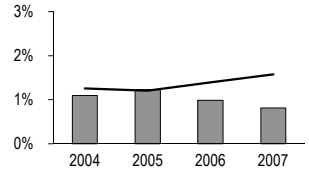
	2004	2005	2006	2007
Winston-Salem	224	225	226	218
Average	535	546	576	546

Value of Building Permits as Percentage of Tax Base of Area Served



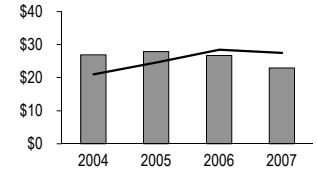
	2004	2005	2006	2007
Winston-Salem	2.50%	2.84%	2.53%	2.21%
Average	2.87%	3.14%	3.37%	3.44%

Value of Commercial Permits as Percentage of Tax Base of Area Served



	2004	2005	2006	2007
Winston-Salem	1.10%	1.22%	0.98%	0.81%
Average	1.26%	1.21%	1.40%	1.58%

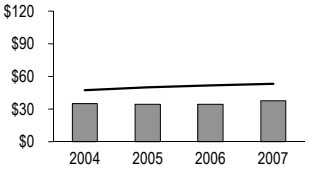
Value of Building Permits Per FTE In Millions of Dollars



	2004	2005	2006	2007
Winston-Salem	$26.9	$27.9	$26.7	$22.9
Average	$21.1	$24.6	$28.5	$27.6

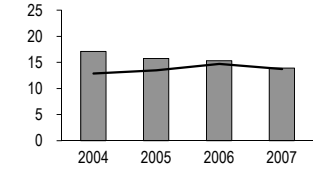
EFFICIENCY Measures

Building Services Cost per Inspection–All Types



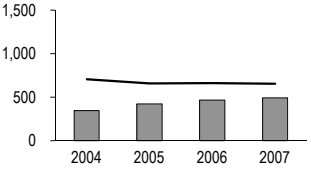
	2004	2005	2006	2007
Winston-Salem	$35.00	$34.30	$34.31	$37.59
Average	$47.44	$50.03	$51.62	$53.16

Inspections per Day per Inspector FTE



	2004	2005	2006	2007
Winston-Salem	17.1	15.8	15.3	13.9
Average	12.9	13.5	14.7	13.8

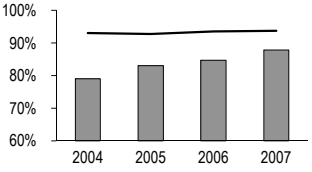
Plan Reviews per Year per Reviewer FTE



	2004	2005	2006	2007
Winston-Salem	347	422	468	491
Average	707	656	659	653

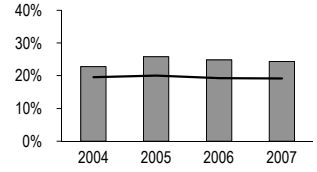
EFFECTIVENESS Measures

Percentage of Inspection Responses within One Working Day of Request



	2004	2005	2006	2007
Winston-Salem	79.0%	83.0%	84.7%	87.8%
Average	93.1%	92.8%	93.5%	93.8%

Percentage of Inspections That Are Reinspections



	2004	2005	2006	2007
Winston-Salem	22.8%	25.8%	24.8%	24.4%
Average	19.5%	20.1%	19.3%	19.1%

MUNICIPAL PROFILE

Population Served	310,198
Land Area Served (Square Miles)	396.45
Persons Served per Square Mile	782
Topography	Gently rolling
Tax Base Served (Assessed Value)	$27,521,007,485
County	Forsyth

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		63.6%
Operating Costs		28.2%
Capital Costs		8.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,068,779
Operating Costs	$	916,604
Capital Costs	$	269,271
TOTAL	$	3,254,654

SERVICE PROFILE

Number of Inspections by Type	
Building	31,600
Electrical	19,318
Mechanical	18,805
Plumbing	16,861
Total	86,584
Building Permit Values	
Residential	$383,554,727
Multi-Family	included above
Commercial	$223,443,275
Total	$606,998,002
FTE Inspectors	
Building	7.2
Electrical	7.0
Mechanical	7.0
Plumbing	5.2
All Trades	0.0
Total Inspectors	26.5
FTE Plan Reviewers	3.0
Other FTE Positions	8.9
Inspection Fee Revenue	$3,487,934

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 inspections services for all areas of the county with the exception of the town of Kernersville.

Inspectors are certified in one of the following four trades: building, electrical, mechanical, or plumbing. Inspectors drive to and from inspection sites in city-owned vehicles. Besides the North Carolina State Building Code, the Inspections Division enforces zoning codes and soil and sedimentation control regulations. Full-time equivalent positions and costs for these responsibilities are excluded from the project's figures for building inspections.

It is the policy of the Inspections Division to respond to inspection requests within one working day 90 percent of the time.

Total revenue received from inspection fees amounted to $3,487,934 for FY 2006–07. 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 2006–07.

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, 2007, 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, 2007.

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, 2007.

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 preventative 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

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	741	8.3	5,981	1,552	16	9.0	$55 (Cars and Small Trucks) $63 (Large Truck and Off-Road)	2.5	General Fund
Burlington	444	8.6	9,186	1,689	19	11.0	$55.00	0.8	General Fund
Carrboro	124	5.8	1,288	872	2	2.0	NA	1.3	General Fund
Cary	963	5.9	4,354	1,955	7	8.0	$60.00	NA	Internal Service
Charlotte	3,146	6.2	34,247	12,902	73	50.5	$46.00	4.0	General Fund
Concord	773	7.5	5,209	1,467	8	8.0	$18.76	4.5	Internal Service
Durham	1,415	6.6	11,877	6,267	33	23.0	$59-Heavy Equp $47-Others	2.9	General Fund
Gastonia	778	7.9	5,304	1,139	24	13.0	$35.00	NA	General Fund
Greensboro	1,619	4.9	12,705	5,099	36	33.0	$56.00	4.0	Internal Service
Hickory	535	8.9	6,824	1,327	14	7.0	$44.50	4.0	Internal Service
High Point	937	8.0	5,394	2,638	18	14.0	NA	22.0	Internal Service
Matthews	166	7.4	2,566	621	7	2.0	NA	4.0	General Fund
Raleigh	2,392	5.4	13,746	7,313	37	41.0	$65 (Heavy Equp) $55 (Motor Equp) $40 (Sr Auto Tech)	2.2	Internal Service
Salisbury	511	10.8	4,375	1,981	14	11.0	$45.34	2.2	General Fund
Wilmington	667	6.0	4,540	1,607	20	11.0	$49.50	4.3	Internal Service
Wilson	714	7.2	4,928	943	15	11.0	$44.00	2.5	General Fund
Winston-Salem	1,734	6.5	10,586	5,172	31	18.0	$50.00	3.1	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:

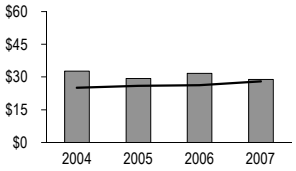
Number of vehicles maintained
Types of vehicles maintained
Fleet replacement plan
Average age of vehicles by type
Average miles driven for each type of vehicle
Preventive maintenance classification system
Preventive maintenance schedule

Asheville — Fleet Maintenance

Key: Asheville ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

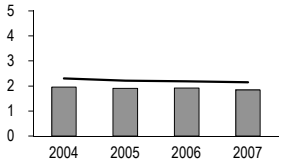
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



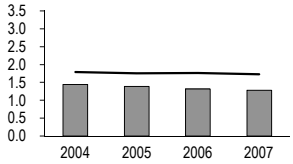
	2004	2005	2006	2007
Asheville	$32.75	$29.33	$31.72	$28.97
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville	1.95	1.91	1.91	1.84
Average	2.30	2.21	2.18	2.14

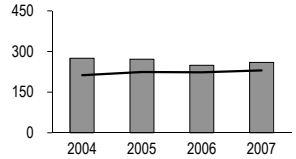
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Asheville	1.44	1.39	1.32	1.28
Average	1.79	1.76	1.77	1.73

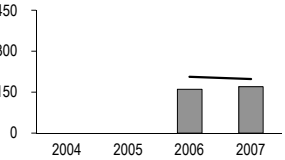
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Asheville	276	271	250	259
Average	213	224	222	230

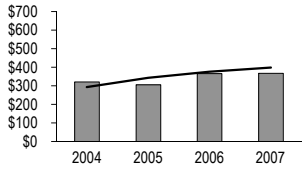
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Asheville			161	170
Average			206	198

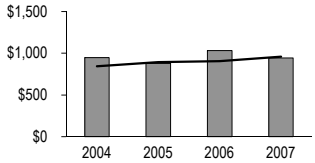
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



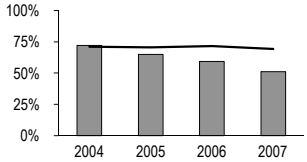
	2004	2005	2006	2007
Asheville	$320	$305	$366	$368
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Asheville	$947	$880	$1,033	$943
Average	$843	$891	$906	$958

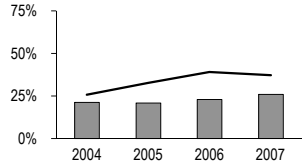
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Asheville	72%	65%	59%	51%
Average	71%	71%	72%	69%

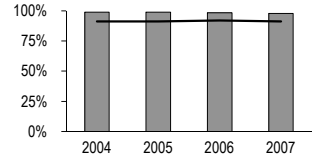
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



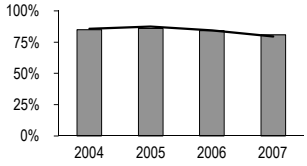
	2004	2005	2006	2007
Asheville	21%	21%	23%	26%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



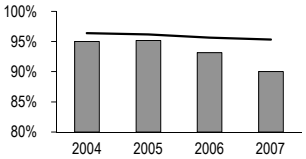
	2004	2005	2006	2007
Asheville	99%	99%	98%	98%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



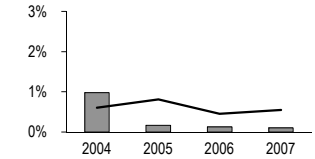
	2004	2005	2006	2007
Asheville	85%	86%	84%	81%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Asheville	95%	95%	93%	90%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Asheville	0.98%	0.17%	0.13%	0.10%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
County	Buncombe
Topography	Hills, mountains
Climate	Moderate; ice and snow

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	62	6.3 Years
Cars—Severe Usage	122	4.0 Years
Light Vehicles	257	8.0 Years
Medium Vehicles	20	12.3 Years
Heavy—Sanitation	19	8.1 Years
Heavy—Sewer	2	6.1 Years
Heavy—Fire Apparatus	26	11.5 Years
Heavy—Other	40	8.5 Years
Trailed Equipment	115	11.8 Years
Off-road/Construction/Tractors	75	9.6 Years
Buses	3	19.2 Years
Total	741	

Vehicle Equivalent Units (VEUs)	2,334

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	29.4%
Operating Costs	68.2%
Capital Costs	2.4%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	645,762
Operating Costs	$	1,501,344
Capital Costs	$	52,796
TOTAL	$	2,199,902

SERVICE PROFILE

FTE Positions—Technician	9.0
FTE Positions—Other	5.0
Work Bays	16
Average Rolling Stock Units Available Per Day	667
Hours Billed	8,506
Work Orders	5,981
Repeat Repairs within 30 Days	6
Work Orders Completed within 24 hours	4,838
Preventive Maintence (PMs)	1,552

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 2006–07.

Charges for maintenance services included a $55 an hour labor rate for passenger cars and light trucks up to one ton in weight and a $63 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 2006–07:

- 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. Asheville indicated eight technician FTEs were actually working during FY 2006–07 leaving one authorized position empty for this calculation.

In Asheville the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month as the scheduled date.

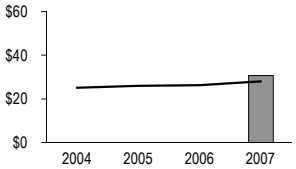
In addition to rolling stock, Asheville's fleet services has maintenance responsibilities for forty-five other pieces of equipment including snow plows, sand spreaders, emergency generators, water pumps, chain saws, a pressure washer, a curb builder, and other city equipment.

Burlington — Fleet Maintenance

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

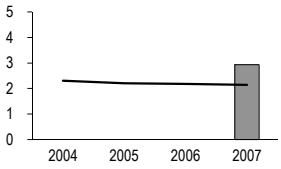
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



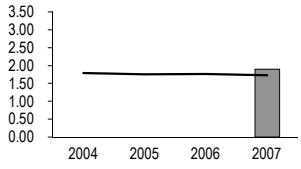
	2004	2005	2006	2007
Burlington				$30.69
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				2.94
Average	2.30	2.21	2.18	2.14

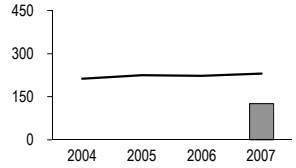
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Burlington				1.90
Average	1.79	1.76	1.77	1.73

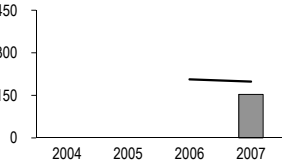
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Burlington				125
Average	213	224	222	230

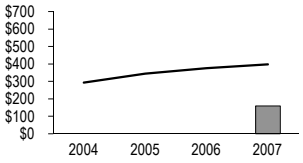
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Burlington				154
Average			206	198

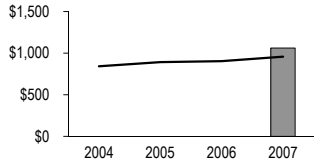
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



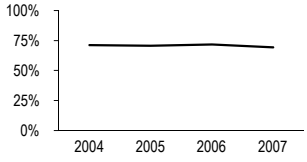
	2004	2005	2006	2007
Burlington				$159
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Burlington				$1,062
Average	$843	$891	$906	$958

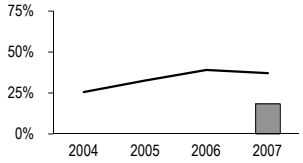
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Burlington				
Average	71%	71%	72%	69%

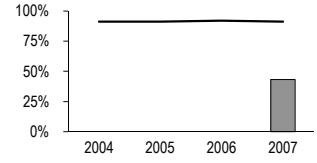
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



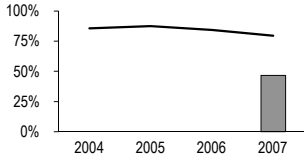
	2004	2005	2006	2007
Burlington				18%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



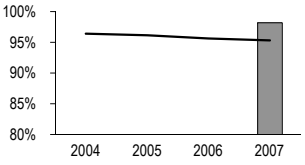
	2004	2005	2006	2007
Burlington				43%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



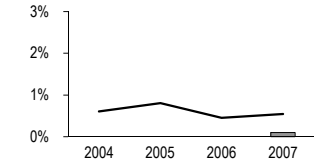
	2004	2005	2006	2007
Burlington				47%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Burlington				98%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Burlington				0.10%
Average	0.60%	0.81%	0.45%	0.55%

Burlington

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
County	Alamance
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	13	8.7 Years
Cars—Severe Usage	106	6.2 Years
Light Vehicles	128	7.9 Years
Medium Vehicles	35	10.8 Years
Heavy—Sanitation	17	5.4 Years
Heavy—Sewer	2	11.1 Years
Heavy—Fire Apparatus	9	11.7 Years
Heavy—Other	3	6.4 Years
Trailed Equipment	84	11.4 Years
Off-road/Construction/Tractors	45	10.4 Years
Buses	2	6.2 Years
Total	444	

Vehicle Equivalent Units (VEUs)	1,379

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	41.6%
Operating Costs	56.6%
Capital Costs	1.8%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	609,094
Operating Costs	$	828,069
Capital Costs	$	26,375
TOTAL	$	1,463,538

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	3.0
Work Bays	19
Average Rolling Stock Units Available Per Day	436
Hours Billed	NA
Work Orders	9,186
Repeat Repairs within 30 Days	9
Work Orders Completed within 24 hours	4,280
Preventive Maintence (PMs)	1,689
PMs Completed as Scheduled	732

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 2006–07.

There are no charges for hourly labor but a tracking fee is used for internal purposes. There is a five percent markup on parts but no markup on sublet work.

The following services were contracted out during FY 2006–07:

- Bodywork
- Alignments
- Major transmission repairs
- Machine work
- Windshield replacement
- Upholster work
- Aerial inspections
- Wrecker service
- Two-way radio work

In addition to rolling stock, Burlington's Equipment Services Division has maintenance responsibility for bush hogs, edgers, pavers, pressure washers, riding mowers, generators, chain saws, push mowers, grinders, paint machine, spreadere, aerator, directional sign, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

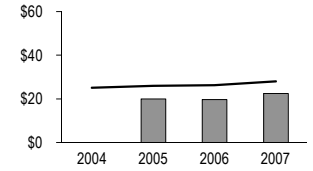
In Burlington the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is based on mileage parameters. While most PMs are done within 24 hours of arrival at the fleet shop, not all vehicles are brought in by departments on time to allow completion on schedule.

The City of Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006–07.

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

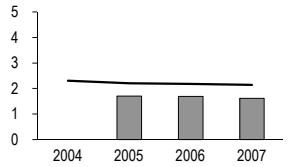
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



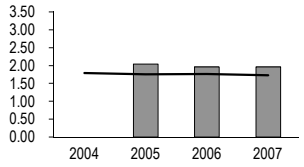
	2004	2005	2006	2007
Carrboro		$20.00	$19.63	$22.38
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Carrboro		1.70	1.69	1.61
Average	2.30	2.21	2.18	2.14

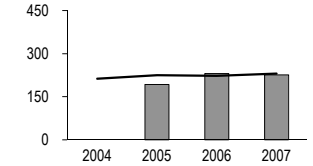
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Carrboro		2.04	1.96	1.96
Average	1.79	1.76	1.77	1.73

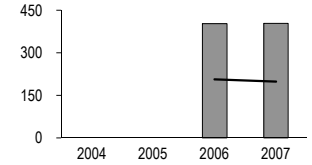
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Carrboro		192	230	226
Average	213	224	222	230

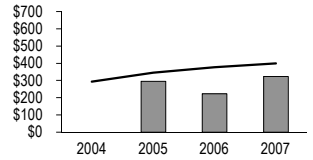
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Carrboro			403	404
Average			206	198

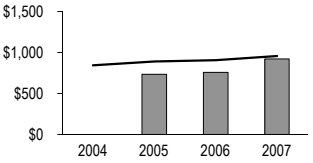
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



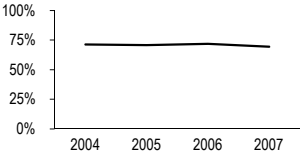
	2004	2005	2006	2007
Carrboro		$295	$222	$323
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Carrboro		$735	$759	$920
Average	$843	$891	$906	$958

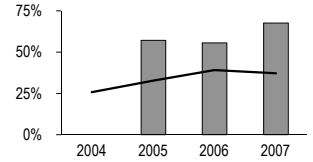
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Carrboro				
Average	71%	71%	72%	69%

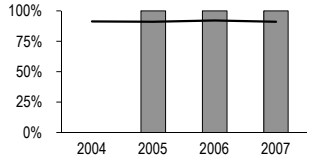
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



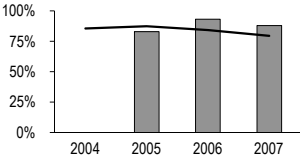
	2004	2005	2006	2007
Carrboro		57%	56%	68%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



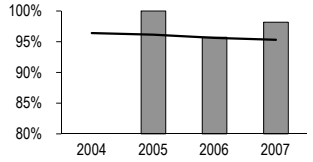
	2004	2005	2006	2007
Carrboro		100%	100%	100%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



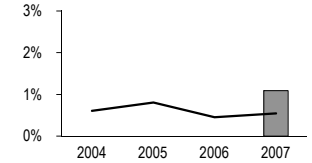
	2004	2005	2006	2007
Carrboro		83%	93%	88%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Carrboro		100%	96%	98%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Carrboro			0.00%	1.09%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	18,611
Land Area (Square Miles)	6.22
Persons per Square Mile	2,992
County	Orange
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	10	4.4 Years
Cars—Severe Usage	35	2.6 Years
Light Vehicles	32	7.4 Years
Medium Vehicles	8	5.1 Years
Heavy—Sanitation	8	5.6 Years
Heavy—Sewer	0	NA
Heavy—Fire Apparatus	4	10.0 Years
Heavy—Other	0	NA
Trailed Equipment	11	9.6 Years
Off-road/Construction/Tractors	16	7.4 Years
Buses	0	NA
Total	124	

Vehicle Equivalent Units (VEUs)	453

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	33.7%
Operating Costs	62.8%
Capital Costs	3.5%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	140,414
Operating Costs	$	261,533
Capital Costs	$	14,575
TOTAL	$	416,522

SERVICE PROFILE

FTE Positions—Technician	2.0
FTE Positions—Other	1.0
Work Bays	2
Average Rolling Stock Units Available Per Day	122
Hours Billed	NA
Work Orders	1,288
Repeat Repairs within 30 Days	14
Work Orders Completed within 24 hours	1,132
Preventive Maintence (PMs)	872
PMs Completed as Scheduled	872

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 2006–07.

There are no charges for hourly labor or parts markup. Parts inventory turned over 1.27 times during the year.

The following services were contracted out during FY 2006–07:

- 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.

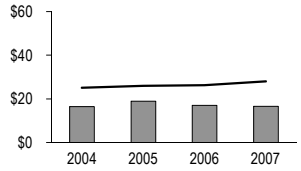
In Carrboro the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month or within mileage parameters.

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 2007

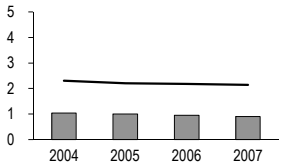
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



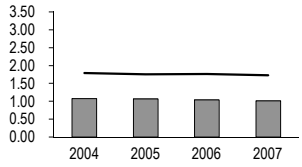
	2004	2005	2006	2007
Cary	$16.39	$18.86	$17.05	$16.64
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Cary	1.03	1.00	0.95	0.90
Average	2.30	2.21	2.18	2.14

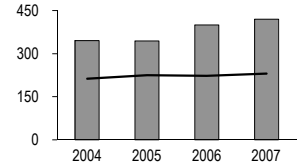
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Cary	1.08	1.06	1.04	1.01
Average	1.79	1.76	1.77	1.73

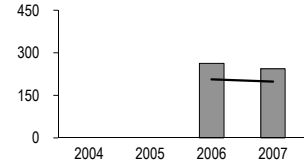
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Cary	346	344	400	420
Average	213	224	222	230

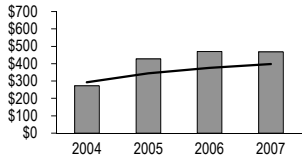
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Cary			263	244
Average			206	198

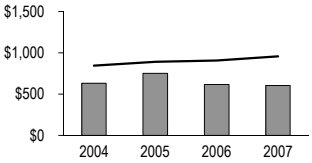
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



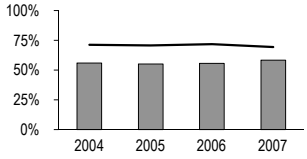
	2004	2005	2006	2007
Cary	$272	$427	$469	$468
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Cary	$630	$753	$617	$606
Average	$843	$891	$906	$958

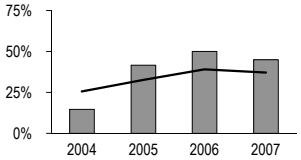
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Cary	56%	55%	56%	58%
Average	71%	71%	72%	69%

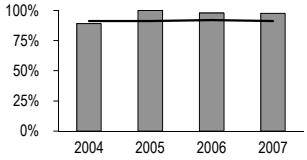
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



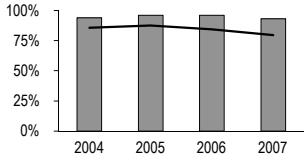
	2004	2005	2006	2007
Cary	15%	42%	50%	45%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



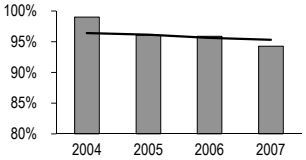
	2004	2005	2006	2007
Cary	89%	100%	98%	98%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



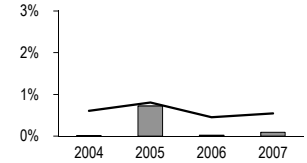
	2004	2005	2006	2007
Cary	94%	96%	96%	93%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Cary	99%	96%	96%	94%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Cary	0.02%	0.72%	0.02%	0.09%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	29	7.3 Years
Cars—Severe Usage	105	4.2 Years
Light Vehicles	240	5.7 Years
Medium Vehicles	76	4.2 Years
Heavy—Sanitation	22	3.2 Years
Heavy—Sewer	3	7.1 Years
Heavy—Fire Apparatus	16	7.2 Years
Heavy—Other	11	6.2 Years
Trailed Equipment	52	6.9 Years
Off-road/Construction/Tractors	409	6.7 Years
Buses	0	NA
Total	963	

Vehicle Equivalent Units (VEUs)	3,357

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	30.2%
Operating Costs	64.6%
Capital Costs	5.3%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	613,924
Operating Costs	$	1,314,423
Capital Costs	$	107,235
TOTAL	$	2,035,582

SERVICE PROFILE

FTE Positions—Technician	8.0
FTE Positions—Other	3.0
Work Bays	7
Average Rolling Stock Units Available Per Day	908
Hours Billed	9,465
Work Orders	4,354
Repeat Repairs within 30 Days	4
Work Orders Completed within 24 hours	4,050
Preventive Maintence (PMs)	1,955
PMs Completed as Scheduled	1,910

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 2006–07:

- 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.

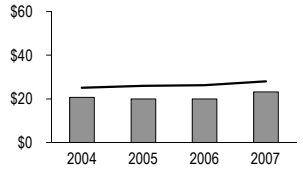
In Cary the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month as the scheduled date or within mileage parameters.

In addition to rolling stock, Cary's fleet services has maintenance responsibilities for riding mowers, weed wackers, rotor tillers, tamps, saws, chippers, rollers, excavators, loaders, salt spreaders, concrete mixers, seeders, aerators, generators, an asphalt heater and trench master, and other town equipment.

Key: Charlotte ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

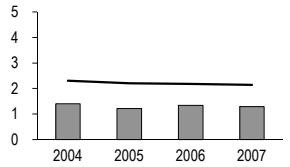
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



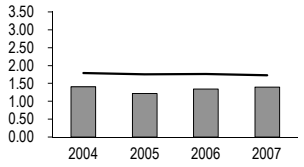
	2004	2005	2006	2007
Charlotte	$20.63	$19.92	$19.95	$23.21
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Charlotte	1.41	1.21	1.34	1.29
Average	2.30	2.21	2.18	2.14

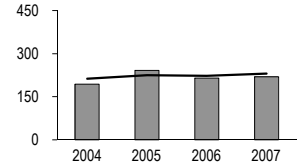
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Charlotte	1.41	1.22	1.34	1.40
Average	1.79	1.76	1.77	1.73

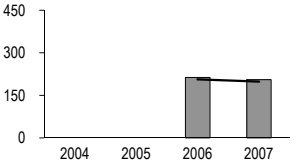
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Charlotte	194	242	215	220
Average	213	224	222	230

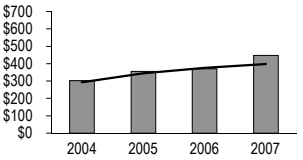
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Charlotte			213	206
Average			206	198

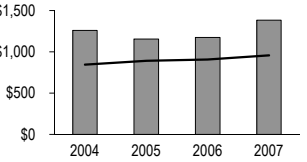
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



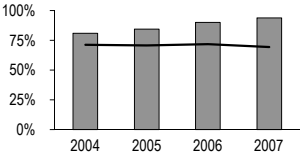
	2004	2005	2006	2007
Charlotte	$303	$355	$370	$448
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Charlotte	$1,261	$1,154	$1,174	$1,382
Average	$843	$891	$906	$958

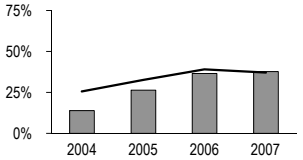
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Charlotte	81%	84%	90%	94%
Average	71%	71%	72%	69%

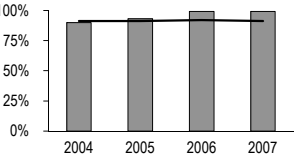
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



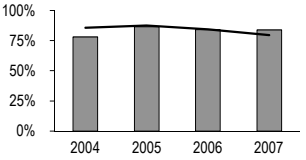
	2004	2005	2006	2007
Charlotte	14%	26%	36%	38%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



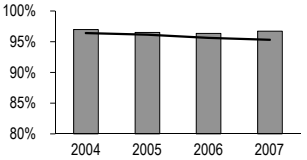
	2004	2005	2006	2007
Charlotte	90%	93%	99%	99%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



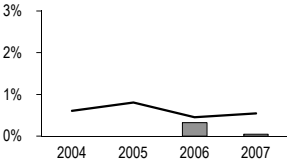
	2004	2005	2006	2007
Charlotte	78%	87%	84%	84%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Charlotte	97%	97%	96%	97%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Charlotte			0.32%	0.05%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	660,930
Land Area (Square Miles)	282.0
Persons per Square Mile	2,344
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	318	5.6 Years
Cars—Severe Usage	793	3.7 Years
Light Vehicles	980	5.6 Years
Medium Vehicles	161	7.9 Years
Heavy—Sanitation	164	4.6 Years
Heavy—Sewer	22	7.9 Years
Heavy—Fire Apparatus	98	8.7 Years
Heavy—Other	108	7.5 Years
Trailed Equipment	230	12.1 Years
Off-road/Construction/Tractors	270	10.1 Years
Buses	2	15.6 Years
Total	3,146	

Vehicle Equivalent Units (VEUs)	11,097

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	31.9%
Operating Costs	67.1%
Capital Costs	1.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	4,898,342
Operating Costs	$	10,286,621
Capital Costs	$	156,562
TOTAL	$	15,341,525

SERVICE PROFILE

FTE Positions—Technician	50.5
FTE Positions—Other	35.0
Work Bays	73
Average Rolling Stock Units Available Per Day	3,042
Hours Billed	81,354
Work Orders	34,247
Repeat Repairs within 30 Days	17
Work Orders Completed within 24 hours	28,711
Preventive Maintence (PMs)	12,902
PMs Completed as Scheduled	12,783

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 2006–07.

Charges for maintenance services included a $46 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. Parts inventory turned over 4.02 times during the fiscal year.

The following services were contracted out during FY 2006–07: 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 41.6 technician FTEs were actually working during FY 2006–07 for this calculation.

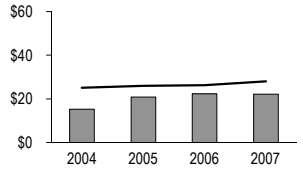
In Charlotte the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date and within mileage parameters.

In addition to rolling stock, Charlotte's fleet services had maintenance responsibilities for generators, mowers, weed wackers, compressors, saws, blowers, fans, asphalt-tar/kettles, edgers, snow plows, spreaders, tamps, mixers, chippers, posthole diggers, grinders, pressure washers, and other city equipment.

Key: Concord ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

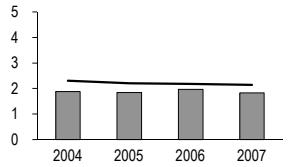
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



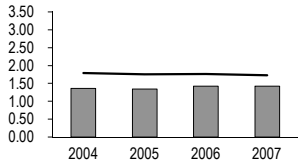
	2004	2005	2006	2007
Concord	$15.29	$20.83	$22.29	$22.20
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Concord	1.88	1.85	1.97	1.83
Average	2.30	2.21	2.18	2.14

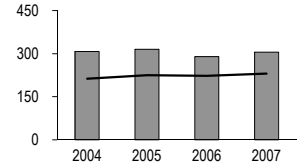
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Concord	1.36	1.34	1.43	1.42
Average	1.79	1.76	1.77	1.73

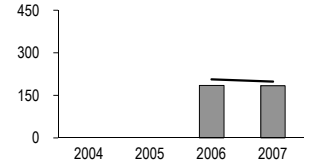
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Concord	308	315	289	305
Average	213	224	222	230

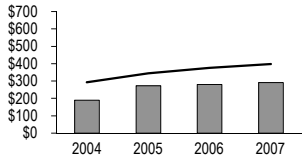
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Concord			185	183
Average			206	198

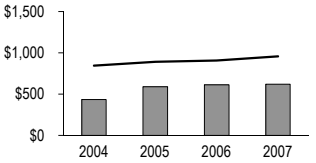
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



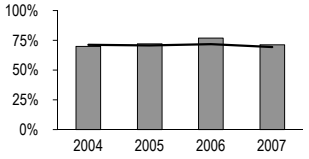
	2004	2005	2006	2007
Concord	$190	$272	$279	$291
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Concord	$433	$589	$611	$621
Average	$843	$891	$906	$958

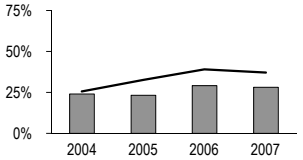
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Concord	70%	72%	77%	71%
Average	71%	71%	72%	69%

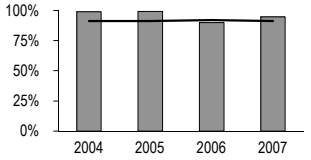
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



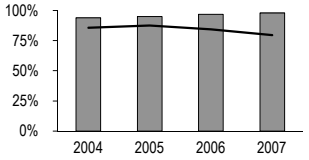
	2004	2005	2006	2007
Concord	24%	23%	29%	28%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



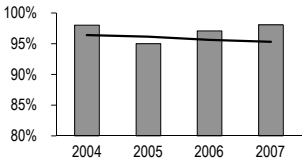
	2004	2005	2006	2007
Concord	99%	99%	90%	95%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



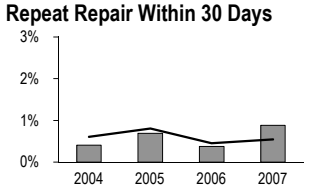
	2004	2005	2006	2007
Concord	94%	95%	97%	98%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Concord	98%	95%	97%	98%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Concord	0.41%	0.69%	0.38%	0.88%
Average	0.60%	0.81%	0.45%	0.55%

Concord

MUNICIPAL PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
County	Cabarrus
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	17	8.4 Years
Cars—Severe Usage	146	4.9 Years
Light Vehicles	222	7.0 Years
Medium Vehicles	52	9.9 Years
Heavy—Sanitation	12	5.8 Years
Heavy—Sewer	3	4.3 Years
Heavy—Fire Apparatus	24	10.7 Years
Heavy—Other	45	6.3 Years
Trailed Equipment	160	8.9 Years
Off-road/Construction/Tractors	80	8.8 Years
Buses	12	7.7 Years
Total	773	

Vehicle Equivalent Units (VEUs)	2,440

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	47.2%
Operating Costs	49.5%
Capital Costs	3.3%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	715,499
Operating Costs	$	749,841
Capital Costs	$	49,976
TOTAL	$	1,515,316

SERVICE PROFILE

FTE Positions—Technician	8.0
FTE Positions—Other	4.5
Work Bays	8
Average Rolling Stock Units Available Per Day	758
Hours Billed	11,014
Work Orders	5,209
Repeat Repairs within 30 Days	46
Work Orders Completed within 24 hours	5,104
Preventive Maintence (PMs)	1,467
PMs Completed as Scheduled	1,391

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 $18.76 per hour is charged for all maintenance services. There is no markup charge for parts or sublet work. Parts inventory turned over 4.53 times during the fiscal year.

The following services were contracted out during FY 2006–07:

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 7.4 technician FTEs were actually working during FY 2006-07 for this calculation.

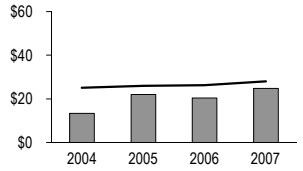
In Concord the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of the scheduled date.

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 2007

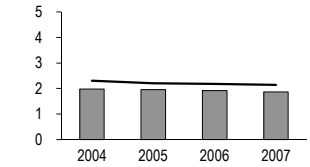
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



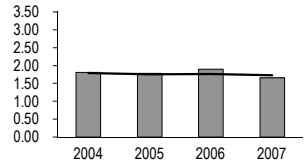
	2004	2005	2006	2007
Durham	$13.32	$22.08	$20.37	$24.82
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Durham	1.98	1.95	1.91	1.86
Average	2.30	2.21	2.18	2.14

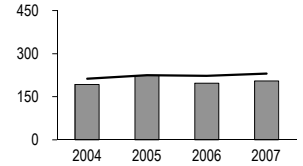
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Durham	1.81	1.78	1.90	1.66
Average	1.79	1.76	1.77	1.73

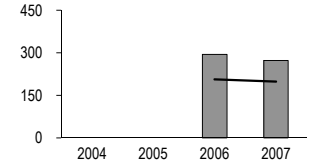
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Durham	193	224	197	205
Average	213	224	222	230

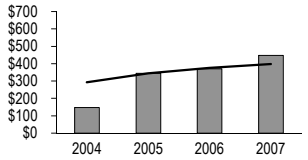
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Durham			295	272
Average			206	198

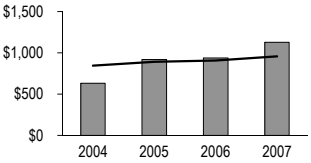
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



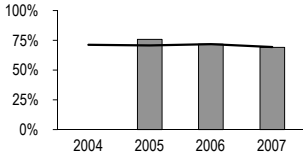
	2004	2005	2006	2007
Durham	$147	$344	$370	$448
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Durham	$634	$917	$939	$1,129
Average	$843	$891	$906	$958

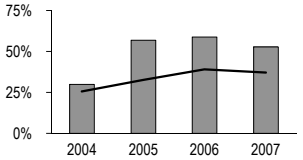
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Durham		76%	72%	69%
Average	71%	71%	72%	69%

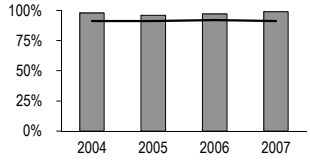
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



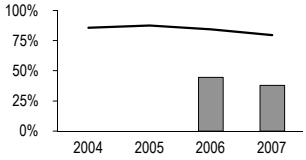
	2004	2005	2006	2007
Durham	30%	57%	59%	53%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



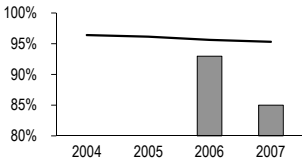
	2004	2005	2006	2007
Durham	98%	96%	97%	99%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



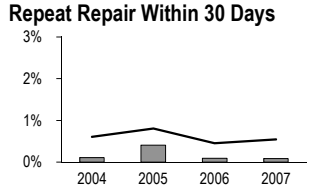
	2004	2005	2006	2007
Durham			45%	38%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Durham			93%	85%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Durham	0.10%	0.40%	0.10%	0.08%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	214,559
Land Area (Square Miles)	103.67
Persons per Square Mile	2,070
County	Durham
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	117	6.3 Years
Cars—Severe Usage	342	4.4 Years
Light Vehicles	424	5.3 Years
Medium Vehicles	22	6.9 Years
Heavy—Sanitation	68	4.4 Years
Heavy—Sewer	9	5.5 Years
Heavy—Fire Apparatus	31	10.1 Years
Heavy—Other	83	6.7 Years
Trailed Equipment	193	13.4 Years
Off-road/Construction/Tractors	119	7.3 Years
Buses	7	4.9 Years
Total	1,415	

Vehicle Equivalent Units (VEUs)	4,715

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	38.3%
Operating Costs	57.3%
Capital Costs	4.4%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	2,038,622
Operating Costs	$	3,049,603
Capital Costs	$	236,906
TOTAL	$	5,325,131

SERVICE PROFILE

FTE Positions—Technician	23.0
FTE Positions—Other	17.0
Work Bays	33
Average Rolling Stock Units Available Per Day	1,202
Hours Billed	33,012
Work Orders	11,877
Repeat Repairs within 30 Days	10
Work Orders Completed within 24 hours	4,505
Preventive Maintence (PMs)	6,267
PMs Completed as Scheduled	6,203

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 2006–07. 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 2006–07:

- 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 theytake normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

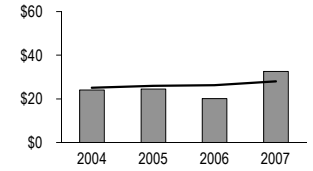
In Durham the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within the same calendar month and by mileage parameters.

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 2007

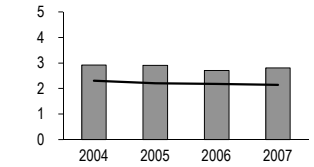
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



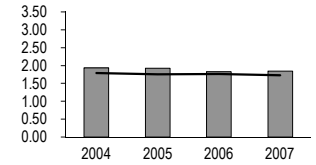
	2004	2005	2006	2007
Gastonia	$23.99	$24.47	$20.12	$32.61
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Gastonia	2.92	2.91	2.70	2.80
Average	2.30	2.21	2.18	2.14

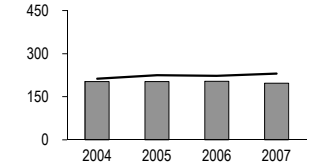
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Gastonia	1.93	1.93	1.83	1.85
Average	1.79	1.76	1.77	1.73

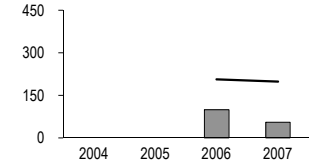
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Gastonia	203	203	203	197
Average	213	224	222	230

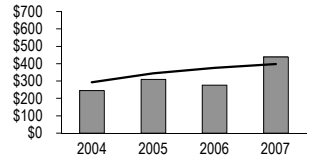
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Gastonia			100	55
Average			206	198

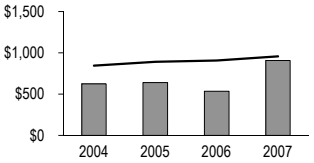
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



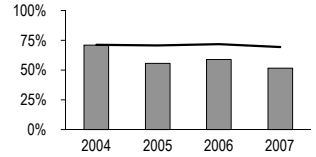
	2004	2005	2006	2007
Gastonia	$245	$310	$276	$439
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Gastonia	$623	$638	$535	$907
Average	$843	$891	$906	$958

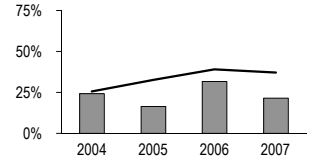
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Gastonia	71%	56%	59%	51%
Average	71%	71%	72%	69%

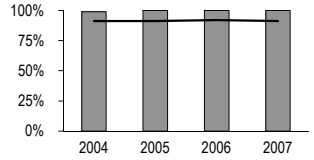
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



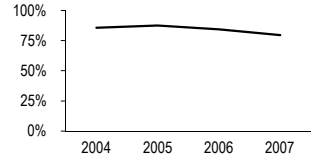
	2004	2005	2006	2007
Gastonia	24%	16%	32%	21%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



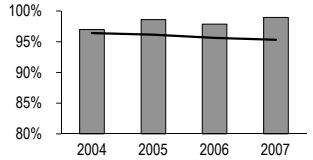
	2004	2005	2006	2007
Gastonia	99%	100%	100%	100%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



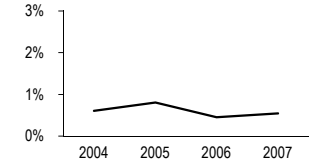
	2004	2005	2006	2007
Gastonia				
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Gastonia	97%	99%	98%	99%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Gastonia				
Average	0.60%	0.81%	0.45%	0.55%

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2006)	71,376
Land Area (Square Miles)	49.65
Persons per Square Mile	1,438
County	Gaston
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	43	8.4 Years
Cars—Severe Usage	160	5.3 Years
Light Vehicles	181	7.9 Years
Medium Vehicles	53	7.0 Years
Heavy—Sanitation	23	5.5 Years
Heavy—Sewer	2	6.5 Years
Heavy—Fire Apparatus	17	14.0 Years
Heavy—Other	13	8.1 Years
Trailed Equipment	101	11.6 Years
Off-road/Construction/Tractors	177	8.3 Years
Buses	8	4.0 Years
Total	778	

Vehicle Equivalent Units (VEUs)	2,566

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	37.4%
Operating Costs	59.4%
Capital Costs	3.2%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	870,814
Operating Costs	$	1,382,950
Capital Costs	$	74,162
TOTAL	$	2,327,926

SERVICE PROFILE

FTE Positions—Technician	13.0
FTE Positions—Other	7.0
Work Bays	24
Average Rolling Stock Units Available Per Day	770
Hours Billed	12,224
Work Orders	5,304
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	1,139
PMs Completed as Scheduled	1,139

EXPLANATORY INFORMATION

Service Level and Delivery
Equipment Services (fleet) is a separate division within Fleet Services which 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 2006–07.

The labor rate for FY 2006–07 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 2006–07:

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. Gastonia reported that 11.4 technician FTEs were actually working during FY 2006–07 for this calculation.

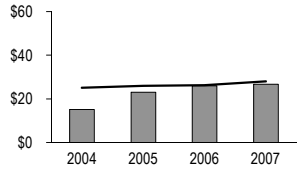
In Gastonia the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is based on mileage parameters.

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 2007

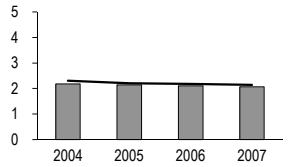
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



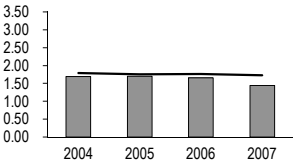
	2004	2005	2006	2007
Greensboro	$15.16	$23.09	$25.93	$26.65
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Greensboro	2.18	2.14	2.11	2.07
Average	2.30	2.21	2.18	2.14

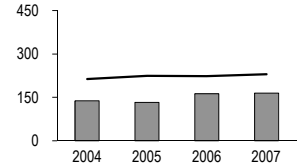
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Greensboro	1.69	1.70	1.66	1.44
Average	1.79	1.76	1.77	1.73

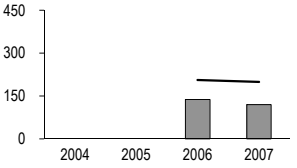
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Greensboro	138	133	163	164
Average	213	224	222	230

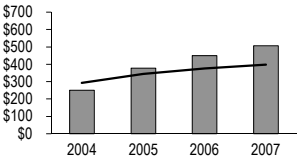
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Greensboro			137	120
Average			206	198

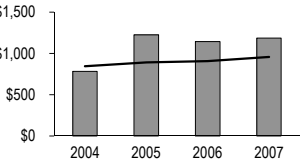
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



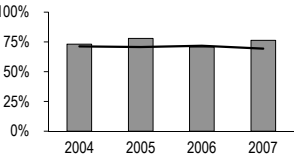
	2004	2005	2006	2007
Greensboro	$250	$378	$449	$507
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Greensboro	$785	$1,225	$1,145	$1,188
Average	$843	$891	$906	$958

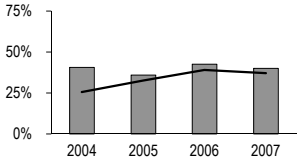
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Greensboro	73%	78%	71%	76%
Average	71%	71%	72%	69%

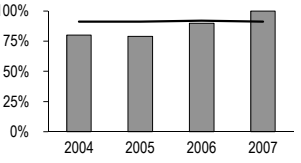
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



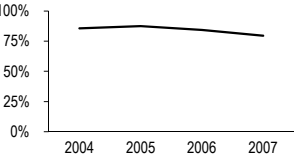
	2004	2005	2006	2007
Greensboro	41%	36%	43%	40%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



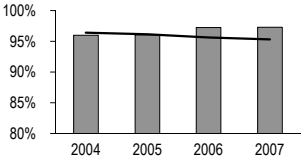
	2004	2005	2006	2007
Greensboro	80%	79%	90%	100%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



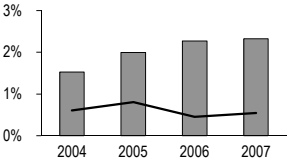
	2004	2005	2006	2007
Greensboro				
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Greensboro	96%	96%	97%	97%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Greensboro	1.53%	2.00%	2.27%	2.32%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	241,767
Land Area (Square Miles)	118.06
Persons per Square Mile	2,048
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	188	4.5 Years
Cars—Severe Usage	206	2.5 Years
Light Vehicles	484	5.0 Years
Medium Vehicles	170	5.0 Years
Heavy—Sanitation	91	3.0 Years
Heavy—Sewer	5	6.0 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	26	NA
Trailed Equipment	94	9.0 Years
Off-road/Construction/Tractors	355	6.0 Years
Buses	0	NA
Total	1,619	

Vehicle Equivalent Units (VEUs)	5,425

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	45.4%
Operating Costs	53.7%
Capital Costs	0.9%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	2,923,686
Operating Costs	$	3,461,328
Capital Costs	$	56,922
TOTAL	$	6,441,936

SERVICE PROFILE

FTE Positions—Technician	33.0
FTE Positions—Other	17.0
Work Bays	36
Average Rolling Stock Units Available Per Day	1,575
Hours Billed	48,138
Work Orders	12,705
Repeat Repairs within 30 Days	295
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	5,099
PMs Completed as Scheduled	5,099

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 in FY 2006–07, with other departments and programs charged for its maintenance services on a cost recovery basis.

The labor rate for FY 2006–07 was $56 an hour. Charges included a 25 percent markup for parts sold and a 5 percent markup for sublet work. Parts inventory turned over 3.98 times during the fiscal year.

The following services were contracted out during FY 2006–07:

- body work
- glass repair
- upholstery repair
- most automotive and light duty oil changes
- other repairs when workload exceeded in-house capacity

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent. Greensboro indicated 30.3 technician FTE positions were actually filled during FY 2006–07 for this calculation.

In Greensboro the preventive maintenance completion standard for "percentage of PMs completed as scheduled" uses milegage parameters and scheduled dates within the calendar month or within thirty days of schedule.

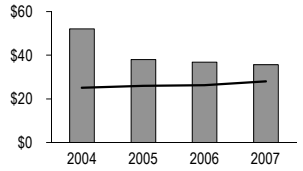
In addition to rolling stock, Greensboro's fleet services has maintenance responsibilities for generators, saws, blowers, various police equipment, asphalt pavers, sprayers, hydraulic hammers, a motor mixer, pumps, snow plows, spreaders, and other equipment.

Hickory — Fleet Maintenance

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

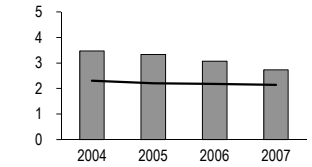
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



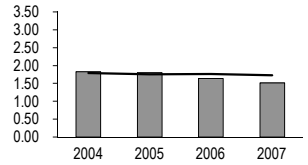
	2004	2005	2006	2007
Hickory	$52.11	$37.97	$36.84	$35.62
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory	3.47	3.34	3.08	2.74
Average	2.30	2.21	2.18	2.14

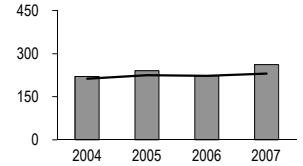
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Hickory	1.83	1.80	1.64	1.51
Average	1.79	1.76	1.77	1.73

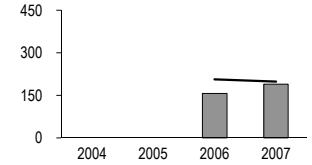
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Hickory	221	241	222	262
Average	213	224	222	230

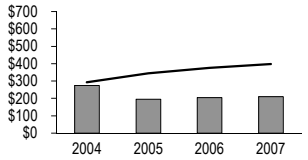
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Hickory			157	190
Average			206	198

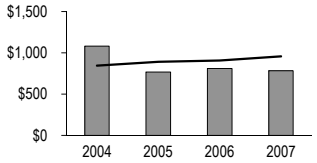
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



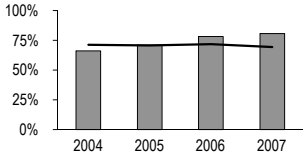
	2004	2005	2006	2007
Hickory	$274	$195	$205	$210
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Hickory	$1,080	$767	$808	$782
Average	$843	$891	$906	$958

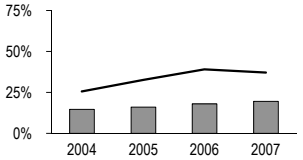
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Hickory	66%	71%	78%	81%
Average	71%	71%	72%	69%

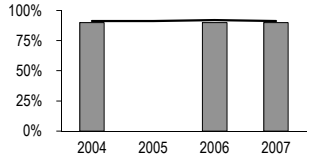
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



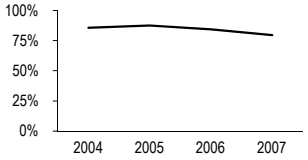
	2004	2005	2006	2007
Hickory	15%	16%	18%	19%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



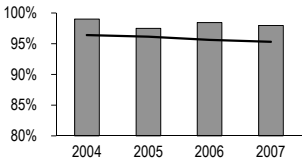
	2004	2005	2006	2007
Hickory	90%		90%	90%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



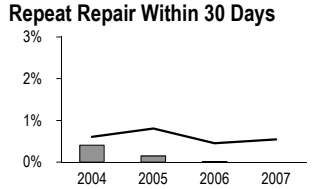
	2004	2005	2006	2007
Hickory				
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Hickory	99%	97%	98%	98%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Hickory	0.41%	0.14%	0.01%	
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)		40,214
Land Area (Square Miles)		28.95
Persons per Square Mile		1,389
County		Catawba
Topography		Gently rolling
Climate		Moderate
Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	23	8.1 Years
Cars—Severe Usage	146	5.0 Years
Light Vehicles	111	8.1 Years
Medium Vehicles	31	14.0 Years
Heavy—Sanitation	25	7.5 Years
Heavy—Sewer	6	8.7 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	21	11.4 Years
Trailed Equipment	44	11.8 Years
Off-road/Construction/Tractors	128	11.9 Years
Buses	0	NA
Total	535	
Vehicle Equivalent Units (VEUs)		1,831

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		34.7%
Operating Costs		60.3%
Capital Costs		5.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	496,451
Operating Costs	$	864,078
Capital Costs	$	72,052
TOTAL	$	1,432,581

SERVICE PROFILE

FTE Positions—Technician	7.0
FTE Positions—Other	4.0
Work Bays	14
Average Rolling Stock Units Available Per Day	524
Hours Billed	11,742
Work Orders	6,824
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	NA
Preventive Maintence (PMs)	1,327
PMs Completed as Scheduled	1,327

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 for FY 2006–07.

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 2006–07:

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.

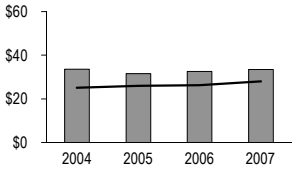
In addition to rolling stock, Hickory's fleet services has maintenance responsibilities for electronic signs, saws, weed eaters, sewer machines, hole piercing tools, boring machines, pumps, mowers, edgers, a sand blaster, pressure washers, blowers, mules, spreaders, generators, tamps, vacuums, airport equipment, grinders, a fleet wash station, a CNG fuel station, a gasoline and diesel fuel station, and other equipment.

High Point — Fleet Maintenance

Key: High Point ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

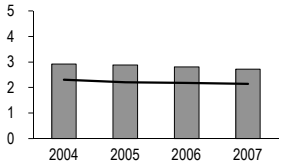
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



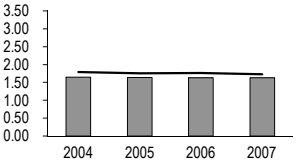
	2004	2005	2006	2007
High Point	$33.62	$31.48	$32.59	$33.42
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	2.91	2.88	2.81	2.72
Average	2.30	2.21	2.18	2.14

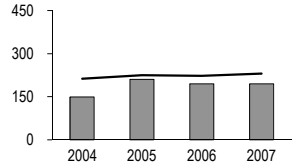
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
High Point	1.65	1.64	1.63	1.63
Average	1.79	1.76	1.77	1.73

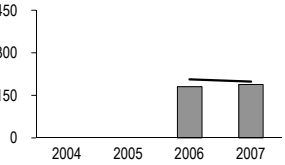
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
High Point	149	210	195	195
Average	213	224	222	230

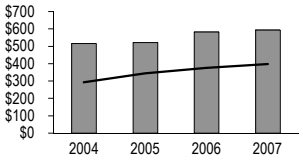
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
High Point			180	188
Average			206	198

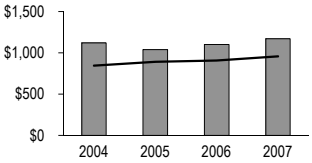
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



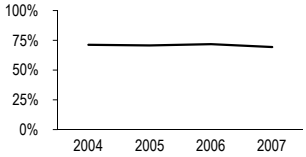
	2004	2005	2006	2007
High Point	$515	$522	$582	$593
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
High Point	$1,120	$1,040	$1,102	$1,169
Average	$843	$891	$906	$958

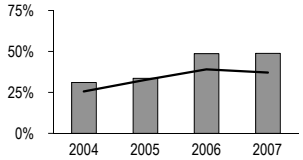
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
High Point				
Average	71%	71%	72%	69%

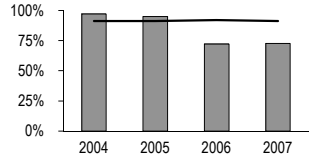
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



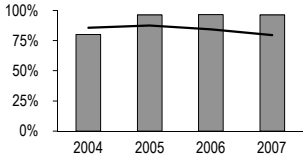
	2004	2005	2006	2007
High Point	31%	34%	49%	49%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



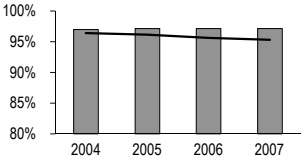
	2004	2005	2006	2007
High Point	97%	95%	72%	73%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



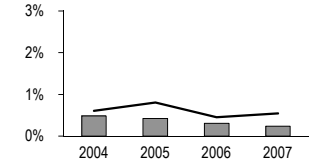
	2004	2005	2006	2007
High Point	80%	96%	97%	96%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
High Point	97%	97%	97%	97%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
High Point	0.48%	0.42%	0.31%	0.24%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	85	7.0 Years
Cars—Severe Usage	201	6.0 Years
Light Vehicles	238	8.0 Years
Medium Vehicles	38	9.0 Years
Heavy—Sanitation	24	8.0 Years
Heavy—Sewer	5	7.0 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	54	9.0 Years
Trailed Equipment	120	10.0 Years
Off-road/Construction/Tractors	172	9.0 Years
Buses	0	NA
Total	937	

Vehicle Equivalent Units (VEUs)	2,734

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	45.0%
Operating Costs	47.0%
Capital Costs	8.0%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	1,439,101
Operating Costs	$	1,502,786
Capital Costs	$	254,744
TOTAL	$	3,196,631

SERVICE PROFILE

FTE Positions—Technician	14.0
FTE Positions—Other	12.0
Work Bays	18
Average Rolling Stock Units Available Per Day	910
Hours Billed	NA
Work Orders	5,394
Repeat Repairs within 30 Days	13
Work Orders Completed within 24 hours	5,200
Preventive Maintence (PMs)	2,638
PMs Completed as Scheduled	1,918

EXPLANATORY INFORMATION

Service Level and Delivery
High Point's Fleet Maintenance Department is a separate entity, consisting of a director, administrative staff, support, and technicians. All activities in this operation are accounted for in an internal service fund, where costs are recovered through maintenance and service charges to other city departments.

There is no markup charge on parts sold or sublet work. Parts inventory turned over twenty-two times during the fiscal year.

The following services were contracted out during FY 2006–07:

- 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.

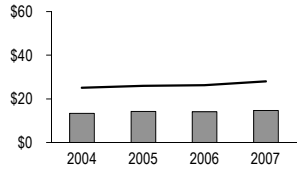
In High Point the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within certain mileage parameters or every three months, whichever comes first.

Matthews — Fleet Maintenance

Key: Matthews ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

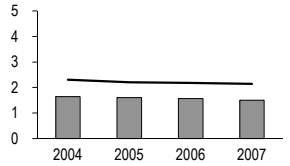
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



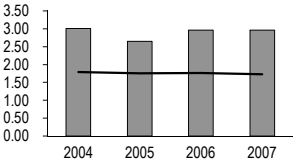
	2004	2005	2006	2007
Matthews	$13.38	$14.16	$14.14	$14.72
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Matthews	1.64	1.61	1.57	1.51
Average	2.30	2.21	2.18	2.14

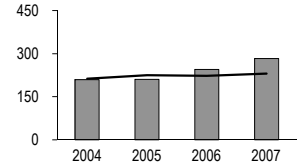
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Matthews	3.01	2.65	2.96	2.96
Average	1.79	1.76	1.77	1.73

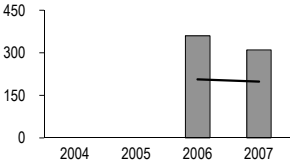
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Matthews	209	211	245	283
Average	213	224	222	230

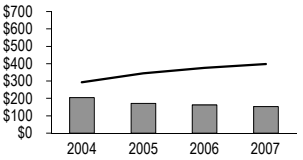
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Matthews			360	311
Average			206	198

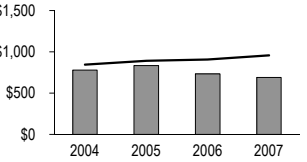
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



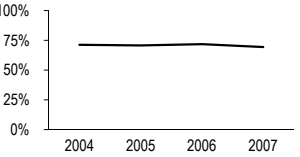
	2004	2005	2006	2007
Matthews	$205	$172	$161	$152
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Matthews	$780	$835	$733	$690
Average	$843	$891	$906	$958

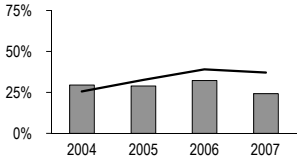
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Matthews				
Average	71%	71%	72%	69%

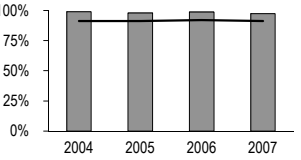
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



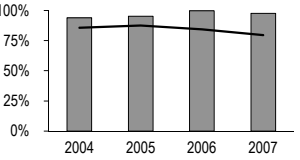
	2004	2005	2006	2007
Matthews	29%	29%	32%	24%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



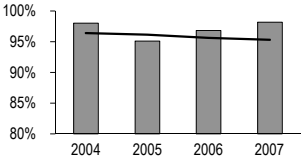
	2004	2005	2006	2007
Matthews	99%	98%	99%	97%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



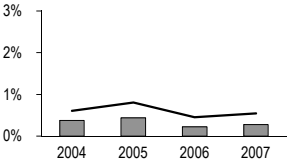
	2004	2005	2006	2007
Matthews	94%	95%	100%	98%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Matthews	98%	95%	97%	98%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Matthews	0.38%	0.44%	0.22%	0.27%
Average	0.60%	0.81%	0.45%	0.55%

Matthews

MUNICIPAL PROFILE

Population (OSBM 2006)	26,554
Land Area (Square Miles)	16.63
Persons per Square Mile	1,597
County	Mecklenburg
Topography	Flat; gently rolling
Climate	Mild; some ice

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	4	8.1 Years
Cars—Severe Usage	70	3.0 Years
Light Vehicles	25	9.0 Years
Medium Vehicles	6	8.3 Years
Heavy—Sanitation	0	NA
Heavy—Sewer	0	NA
Heavy—Fire Apparatus	8	14.7 Years
Heavy—Other	12	12.1 Years
Trailed Equipment	16	13.2 Years
Off-road/Construction/Tractors	25	9.4 Years
Buses	0	NA
Total	166	

Vehicle Equivalent Units (VEUs)	566

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	62.0%
Operating Costs	26.9%
Capital Costs	11.1%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	242,425
Operating Costs	$	105,049
Capital Costs	$	43,310
TOTAL	$	390,784

SERVICE PROFILE

FTE Positions—Technician	2.0
FTE Positions—Other	2.0
Work Bays	7
Average Rolling Stock Units Available Per Day	163
Hours Billed	NA
Work Orders	2,566
Repeat Repairs within 30 Days	7
Work Orders Completed within 24 hours	2,503
Preventive Maintence (PMs)	621
PMs Completed as Scheduled	605

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 2006-07 the only work which was contracted out involved warranty 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.

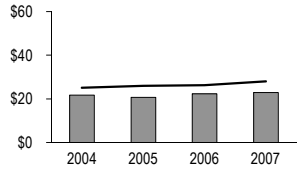
In Matthews the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of scheduled date or mileage parameters.

In addition to rolling stock, Matthew's 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 2007

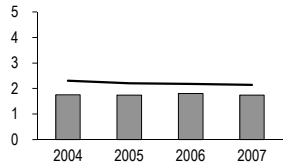
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



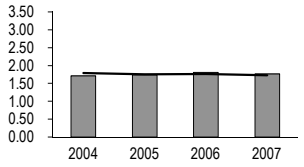
	2004	2005	2006	2007
Raleigh	$21.72	$20.67	$22.34	$22.89
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Raleigh	1.76	1.74	1.80	1.74
Average	2.30	2.21	2.18	2.14

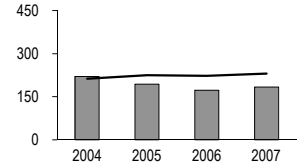
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Raleigh	1.71	1.74	1.80	1.76
Average	1.79	1.76	1.77	1.73

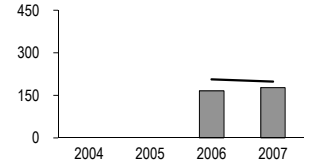
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Raleigh	220	194	172	184
Average	213	224	222	230

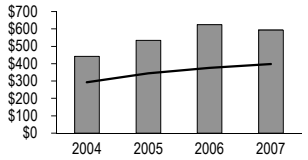
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Raleigh			165	177
Average			206	198

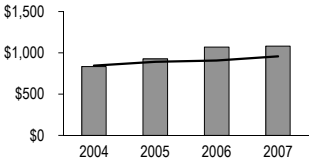
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



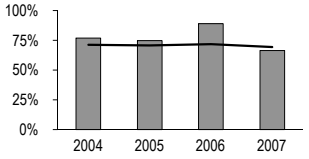
	2004	2005	2006	2007
Raleigh	$442	$535	$625	$593
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Raleigh	$834	$926	$1,070	$1,082
Average	$843	$891	$906	$958

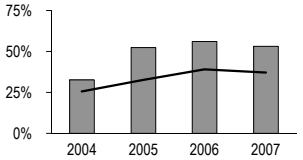
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Raleigh	77%	75%	89%	66%
Average	71%	71%	72%	69%

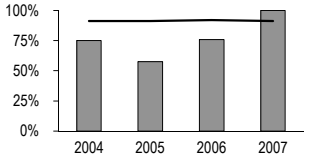
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



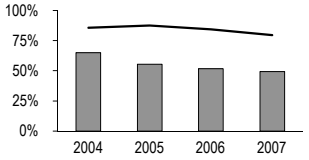
	2004	2005	2006	2007
Raleigh	33%	52%	56%	53%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



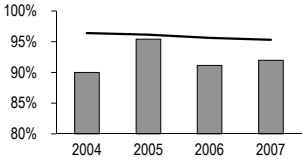
	2004	2005	2006	2007
Raleigh	75%	58%	76%	100%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



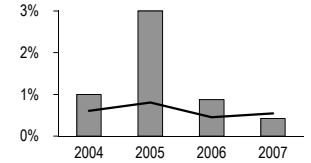
	2004	2005	2006	2007
Raleigh	65%	55%	52%	49%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Raleigh	90%	95%	91%	92%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Raleigh	0.99%	3.00%	0.88%	0.42%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	355,902
Land Area (Square Miles)	133.91
Persons per Square Mile	2,658
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	53	6.5 Years
Cars—Severe Usage	708	4.1 Years
Light Vehicles	794	5.0 Years
Medium Vehicles	99	5.4 Years
Heavy—Sanitation	109	4.4 Years
Heavy—Sewer	19	3.8 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	83	5.4 Years
Trailed Equipment	262	8.2 Years
Off-road/Construction/Tractors	246	7.8 Years
Buses	19	10.0 Years
Total	2,392	

Vehicle Equivalent Units (VEUs)	7,530

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	35.1%
Operating Costs	60.4%
Capital Costs	4.5%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	2,859,422
Operating Costs	$	4,921,699
Capital Costs	$	363,960
TOTAL	$	8,145,081

SERVICE PROFILE

FTE Positions—Technician	41.0
FTE Positions—Other	21.0
Work Bays	37
Average Rolling Stock Units Available Per Day	2,200
Hours Billed	49,716
Work Orders	13,746
Repeat Repairs within 30 Days	58
Work Orders Completed within 24 hours	6,789
Preventive Maintence (PMs)	7,313
PMs Completed as Scheduled	7,313

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 2006–07: 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. During FY 2006–07 VFS only had thirty-six of the forty-one authorized technician FTEs actually working due to vacancies and other absences.

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.

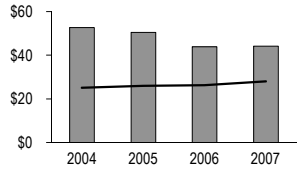
In addition to Raleigh's rolling stock, VFS has maintenance responsibilities for some mowers, generators, lawn equipment, pumps, chain saws, and other city equipment.

Salisbury — Fleet Maintenance

Key: Salisbury ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

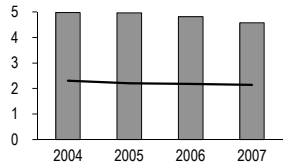
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



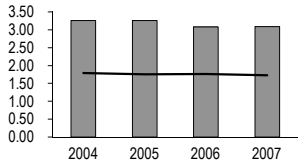
	2004	2005	2006	2007
Salisbury	$52.60	$50.44	$43.84	$44.13
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury	4.97	4.96	4.82	4.57
Average	2.30	2.21	2.18	2.14

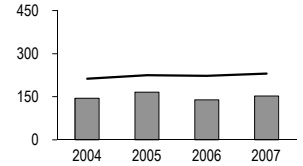
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Salisbury	3.26	3.26	3.08	3.09
Average	1.79	1.76	1.77	1.73

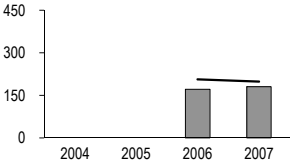
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Salisbury	145	166	139	153
Average	213	224	222	230

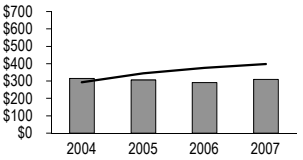
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Salisbury			172	180
Average			206	198

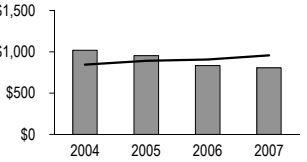
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



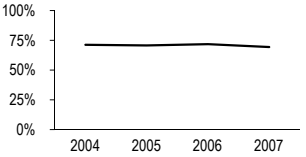
	2004	2005	2006	2007
Salisbury	$315	$306	$291	$309
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Salisbury	$1,020	$954	$834	$804
Average	$843	$891	$906	$958

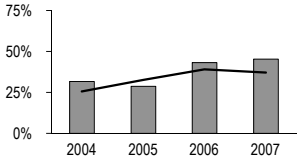
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Salisbury				
Average	71%	71%	72%	69%

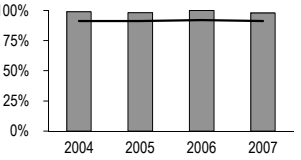
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



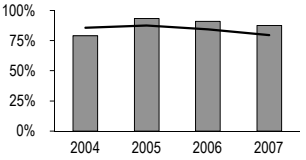
	2004	2005	2006	2007
Salisbury	32%	29%	43%	45%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



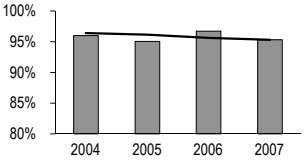
	2004	2005	2006	2007
Salisbury	99%	98%	100%	98%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



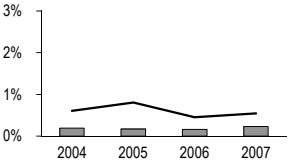
	2004	2005	2006	2007
Salisbury	79%	93%	91%	87%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Salisbury	96%	95%	97%	95%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Salisbury	0.19%	0.17%	0.16%	0.23%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
County	Rowan
Topography	Gently rolling
Climate	Moderate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	13	7.1 Years
Cars—Severe Usage	84	5.2 Years
Light Vehicles	169	8.1 Years
Medium Vehicles	15	9.3 Years
Heavy—Sanitation	10	6.3 Years
Heavy—Sewer	2	4.0 Years
Heavy—Fire Apparatus	16	12.5 Years
Heavy—Other	23	12.0 Years
Trailed Equipment	76	16.6 Years
Off-road/Construction/Tractors	93	17.0 Years
Buses	10	10.6 Years
Total	511	

Vehicle Equivalent Units (VEUs)	1,680

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	51.1%
Operating Costs	44.8%
Capital Costs	4.1%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	691,031
Operating Costs	$	605,696
Capital Costs	$	55,118
TOTAL	$	1,351,845

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	3.0
Work Bays	14
Average Rolling Stock Units Available Per Day	487
Hours Billed	NA
Work Orders	4,375
Repeat Repairs within 30 Days	10
Work Orders Completed within 24 hours	3,825
Preventive Maintence (PMs)	1,981
PMs Completed as Scheduled	1,937

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 for FY 2006–07.

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 $45.34 per hour for labor, has a 10 percent markup on parts, and a 15 percent markup on sublet work. Parts inventory turned over 2.16 times during the fiscal year.

The following services were contracted out during FY 2006–07:

body work
exhaust system repairs
towing

In addition to maintenance responsibilities for the city's rolling stock, the fleet maintenance division also maintains vehicles for Rowan County and two trolleys for downtown Salisbury. The division also has responsibility for equipment including generators, water pumps, hydraulic power units, mowers, tamps, weed wackers, jack hammers, rescue equipment, air compressors, sidewalk sweepers, thermo plastic equipment, hydraulic hammers, pavement saws, chain saws, and other city equipment.

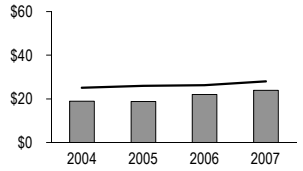
Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

In Salisbury the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty days of scheduled maintenance or within defined mileage parameters.

Key: Wilmington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

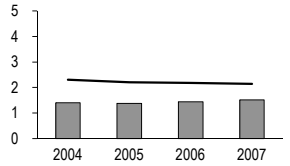
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



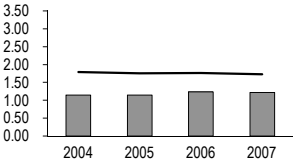
	2004	2005	2006	2007
Wilmington	$18.99	$18.76	$21.97	$23.94
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Wilmington	1.40	1.37	1.44	1.52
Average	2.30	2.21	2.18	2.14

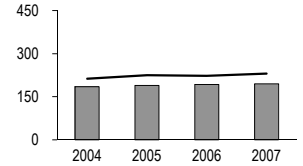
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Wilmington	1.15	1.14	1.24	1.21
Average	1.79	1.76	1.77	1.73

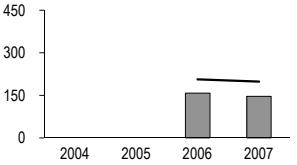
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Wilmington	185	189	193	195
Average	213	224	222	230

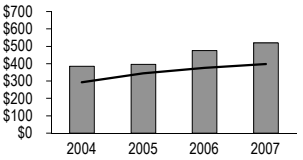
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Wilmington			158	146
Average			206	198

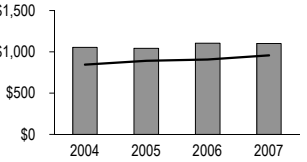
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



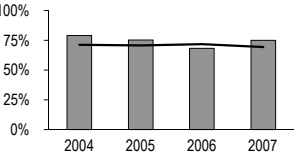
	2004	2005	2006	2007
Wilmington	$385	$396	$475	$519
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Wilmington	$1,056	$1,044	$1,105	$1,100
Average	$843	$891	$906	$958

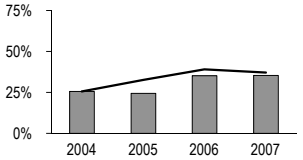
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Wilmington	79%	75%	68%	75%
Average	71%	71%	72%	69%

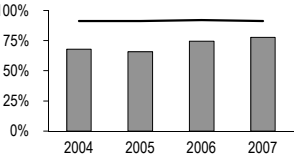
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



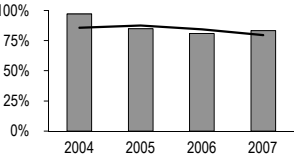
	2004	2005	2006	2007
Wilmington	26%	24%	35%	35%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



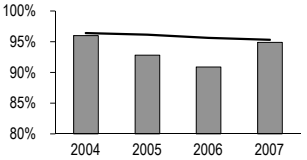
	2004	2005	2006	2007
Wilmington	68%	66%	74%	78%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



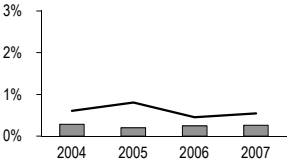
	2004	2005	2006	2007
Wilmington	97%	85%	81%	83%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Wilmington	96%	93%	91%	95%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Wilmington	0.28%	0.20%	0.24%	0.26%
Average	0.60%	0.81%	0.45%	0.55%

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2006)	98,529
Land Area (Square Miles)	49.20
Persons per Square Mile	2,003
County	New Hanover
Topography	Flat; coastal plain
Climate	Mild

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	100	5.3 Years
Cars—Severe Usage	182	3.4 Years
Light Vehicles	192	6.8 Years
Medium Vehicles	59	8.1 Years
Heavy—Sanitation	34	4.6 Years
Heavy—Sewer	6	7.9 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	21	10.7 Years
Trailed Equipment	15	13.0 Years
Off-road/Construction/Tractors	56	8.4 Years
Buses	2	1.0 Years
Total	667	

Vehicle Equivalent Units (VEUs)	2,143

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	29.8%
Operating Costs	67.3%
Capital Costs	2.9%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	702,523
Operating Costs	$	1,587,726
Capital Costs	$	68,156
TOTAL	$	2,358,405

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	4.0
Work Bays	20
Average Rolling Stock Units Available Per Day	633
Hours Billed	14,803
Work Orders	4,540
Repeat Repairs within 30 Days	12
Work Orders Completed within 24 hours	3,780
Preventive Maintence (PMs)	1,607
PMs Completed as Scheduled	1,249

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. Parts inventory turned over 4.33 times during the fiscal year.

The following services were contracted out during FY 2006–07:

- wrecker service
- body repairs
- trasmission repairs
- engine overhauls
- exhaust repairs
- front-end alignments on medium and heavy trucks
- some tire repairs
- some hydraulic repairs
- vehicle washes
- other miscellaneous work when workload is too heavy

In addition to maintenance responsibilities for rolling stock, the Fleet Management Division in Wilmington maintains some non-rolling pieces of equipment and does some fabrication and welding as needed. Equipment maintained includes small portable generators, pumps, saws, mowers, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent. Wilmington indicated 9.5 technician FTEs were actually working during FY 2006–07 for this calculation.

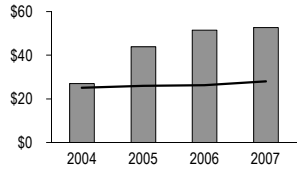
In Wilmington the preventive maintenance completion standard for "percentage of PMs completed as scheduled" is within thirty calendars days of scheduled date or within mileage parameters.

Wilson — Fleet Maintenance

Key: Wilson ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

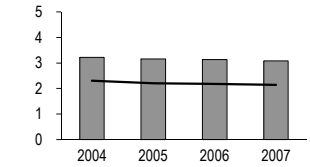
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



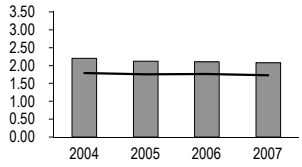
	2004	2005	2006	2007
Wilson	$27.03	$43.85	$51.55	$52.74
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Wilson	3.22	3.16	3.14	3.09
Average	2.30	2.21	2.18	2.14

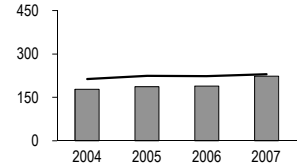
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Wilson	2.21	2.12	2.10	2.07
Average	1.79	1.76	1.77	1.73

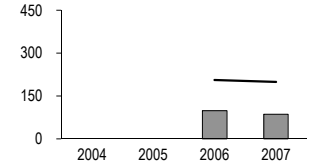
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Wilson	178	187	189	223
Average	213	224	222	230

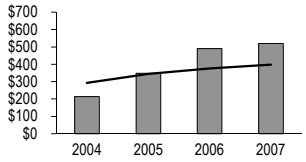
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Wilson			98	86
Average			206	198

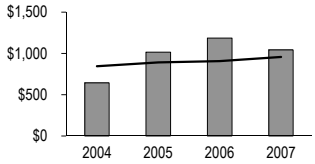
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



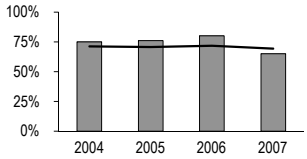
	2004	2005	2006	2007
Wilson	$213	$348	$491	$520
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Wilson	$644	$1,014	$1,187	$1,044
Average	$843	$891	$906	$958

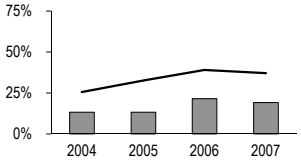
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Wilson	75%	76%	80%	65%
Average	71%	71%	72%	69%

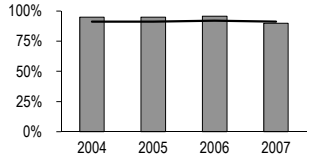
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



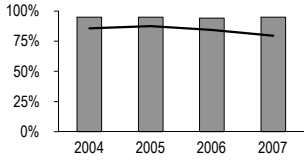
	2004	2005	2006	2007
Wilson	13%	13%	21%	19%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



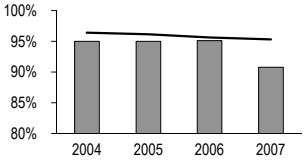
	2004	2005	2006	2007
Wilson	95%	95%	96%	90%
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



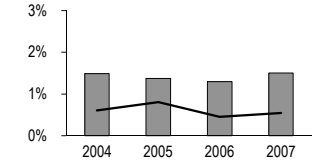
	2004	2005	2006	2007
Wilson	95%	95%	94%	95%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Wilson	95%	95%	95%	91%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Wilson	1.49%	1.37%	1.29%	1.50%
Average	0.60%	0.81%	0.45%	0.55%

MUNICIPAL PROFILE

Population (OSBM 2006)		48,562
Land Area (Square Miles)		28.16
Persons per Square Mile		1,725
County		Wilson
Topography		Flat
Climate		Mild
Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	33	7.4 Years
Cars—Severe Usage	117	5.0 Years
Light Vehicles	151	6.8 Years
Medium Vehicles	35	8.0 Years
Heavy—Sanitation	29	4.5 Years
Heavy—Sewer	4	12.5 Years
Heavy—Fire Apparatus	8	12.4 Years
Heavy—Other	67	8.0 Years
Trailed Equipment	134	9.0 Years
Off-road/Construction/Tractors	129	7.5 Years
Buses	7	2.6 Years
Total	714	
Vehicle Equivalent Units (VEUs)		2,453

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		34.2%
Operating Costs		60.8%
Capital Costs		5.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	874,997
Operating Costs	$	1,556,550
Capital Costs	$	129,503
TOTAL	$	2,561,050

SERVICE PROFILE

FTE Positions—Technician	11.0
FTE Positions—Other	4.0
Work Bays	15
Average Rolling Stock Units Available Per Day	648
Hours Billed	14,872
Work Orders	4,928
Repeat Repairs within 30 Days	74
Work Orders Completed within 24 hours	4,681
Preventive Maintence (PMs)	943
PMs Completed as Scheduled	848

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 for FY 2006–07.

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. Parts inventory turned over 2.5 times during the fiscal year.

The following services were contracted out during FY 2006–07:

- body repairs
- paint work
- wrecker service
- radiator repairs
- alignment
- muffler repairs

In addition to rolling stock, Wilson's fleet services has maintenance responsibilities for generators, mowers, tamps, leaf machines, water pumps, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

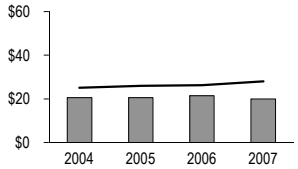
In Wilson the preventive maintenance completion standard for "percentage of PMs completed as scheduled" varies, including both calendar and mileage standards.

Winston-Salem Fleet Maintenance

Key: Winston-Salem ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

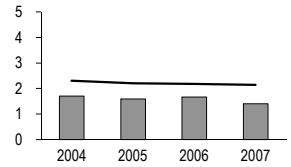
RESOURCE Measures

Fleet Maintenance Services Cost per Capita



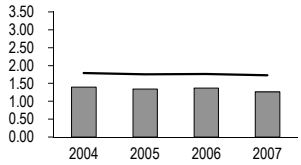
	2004	2005	2006	2007
Winston-Salem	$20.58	$20.52	$21.43	$20.02
Average	$25.17	$26.03	$26.36	$27.98

Fleet Maintenance FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	1.70	1.59	1.66	1.40
Average	2.30	2.21	2.18	2.14

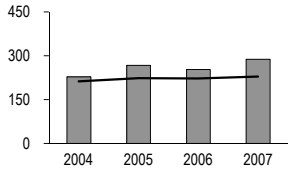
Fleet Maintenance FTEs per 100 Municipal Employees



	2004	2005	2006	2007
Winston-Salem	1.40	1.34	1.37	1.27
Average	1.79	1.76	1.77	1.73

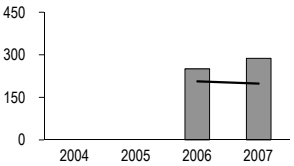
WORKLOAD Measures

Number of Vehicle Equivalent Units (VEUs) per Technician FTE



	2004	2005	2006	2007
Winston-Salem	227	267	253	288
Average	213	224	222	230

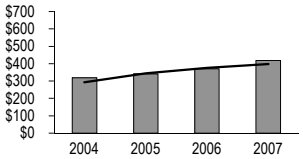
Preventive Maintenances (PMs) Completed in House per Tech FTE



	2004	2005	2006	2007
Winston-Salem			251	287
Average			206	198

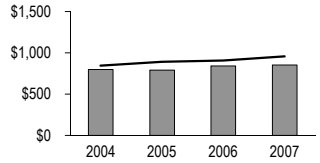
EFFICIENCY Measures

Fleet Maintenance Cost per Work Order



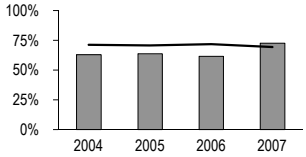
	2004	2005	2006	2007
Winston-Salem	$318	$340	$370	$418
Average	$293	$344	$375	$398

Fleet Maintenance Cost per Vehicle Equivalent Unit (VEU)



	2004	2005	2006	2007
Winston-Salem	$797	$792	$840	$854
Average	$843	$891	$906	$958

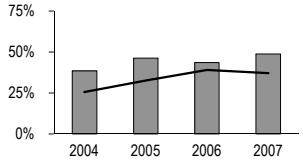
Hours Billed as a Percentage of Total Hours



	2004	2005	2006	2007
Winston-Salem	63%	64%	62%	73%
Average	71%	71%	72%	69%

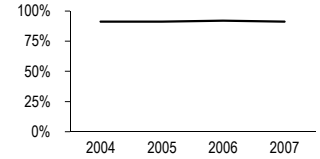
EFFECTIVENESS Measures

Preventive Maintenances (PMs) as a Percentage of All Work Orders



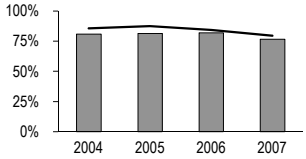
	2004	2005	2006	2007
Winston-Salem	38%	46%	44%	49%
Average	26%	33%	39%	37%

Percentage of Preventive Maintenances (PMs) Completed as Scheduled



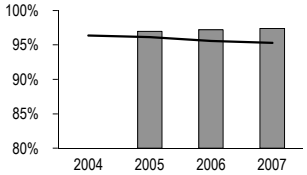
	2004	2005	2006	2007
Winston-Salem				
Average	91%	91%	92%	91%

Percentage of Work Orders Completed within 24 Hours



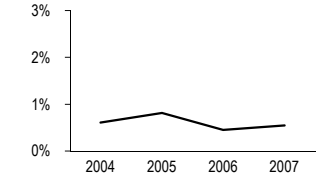
	2004	2005	2006	2007
Winston-Salem	81%	81%	82%	77%
Average	86%	87%	84%	80%

Percentage of Rolling Stock Available per Day



	2004	2005	2006	2007
Winston-Salem		97%	97%	97%
Average	96%	96%	96%	95%

Percentage of Work Orders Requiring Repeat Repair Within 30 Days



	2004	2005	2006	2007
Winston-Salem				
Average	0.60%	0.81%	0.45%	0.55%

Winston-Salem

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.22
Persons per Square Mile	1,659
County	Forsyth
Topography	Gently rolling
Climate	Moderate

Rolling Stock Maintained	No.	Average age
Cars—Normal Usage	260	5.8 Years
Cars—Severe Usage	408	4.7 Years
Light Vehicles	426	6.6 Years
Medium Vehicles	125	8.8 Years
Heavy—Sanitation	66	6.1 Years
Heavy—Sewer	6	8.5 Years
Heavy—Fire Apparatus	0	NA
Heavy—Other	48	5.9 Years
Trailed Equipment	126	5.1 Years
Off-road/Construction/Tractors	269	9.3 Years
Buses	0	NA
Total	1,734	

Vehicle Equivalent Units (VEUs)	5,180

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	33.9%
Operating Costs	64.1%
Capital Costs	1.9%
TOTAL	100.0%

Cost Breakdown in Dollars		
Personal Services	$	1,500,764
Operating Costs	$	2,838,832
Capital Costs	$	86,027
TOTAL	$	4,425,623

SERVICE PROFILE

FTE Positions—Technician	18.0
FTE Positions—Other	13.0
Work Bays	31
Average Rolling Stock Units Available Per Day	1,689
Hours Billed	27,187
Work Orders	10,586
Repeat Repairs within 30 Days	NA
Work Orders Completed within 24 hours	8,101
Preventive Maintence (PMs)	5,172
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 for FY 2006–07.

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. Parts inventory turned over 3.1 times during the fiscal year.

The following services were contracted out during FY 2006–07:

- body work
- welding
- hydraulic cylinder and pump repair
- glass repair
- towing
- transmission repair

In addition to rolling stock, Winston-Salem's Feet Services has maintenance responsibilities for mowers, weed eaters, water pumps, chain saws, wacker tamps, pavement stripers, tractor implements, leaf blowers, power trimmers, salt spreaders, snow plows, and other city equipment.

Conditions Affecting Service, Performance, and Costs
Vehicle Equivalent Units (VEUs) are a weighted measure of the maintenance effort associated with different classes of vehicles. A normal-use car is considered equal to one VEU. Vehicles such as fire trucks or police cars have higher VEUs reflecting greater expected levels of maintenance.

The measure "hours billed as a percentage of total hours" is based on a work year of 2,080 hours and only counts those positions that were filled. It should be noted that technicians have responsibilities that do not result in billable hours and they take normal vacation and sick leave. Therefore this percentage should not be expected to be near 100 percent.

The "percentage of PMs completed as scheduled" and "percentage of work orders requiring repeat repairs within 30 days" were not available.

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, 2007, 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 2006–07.

7. Employee Turnover Rate
The employee turnover rate is calculated by dividing the total number of separated FTEs during FY 2006–07 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 2006–07.

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 2006–07. This measure excludes recruitment of temporary workers.

UNC
SCHOOL OF GOVERNMENT

Human Resources

Summary of Key Dimensions of Service

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	1,095.0	7.8	217	4,816	450	6 months	13.2%	14.7
Burlington	737.0	10.9	26	1,358	57	6 & 12 months	18.0%	6.0
Carrboro	153.0	7.8	15	785	20	6 & 12 months	10.5%	2.0
Cary	1,090.0	8.2	358	5,438	87	6 & 12 months	8.1%	10.3
Charlotte	6,111.0	10.3	729	46,319	1,847	6 & 12 months	8.8%	32.5
Concord	879.9	8.7	171	3,957	87	6 & 12 months	7.3%	4.9
Durham	2,410.0	NA	278	12,454	450	6 months	9.6%	28.5
Gastonia	1,083.0	10.2	261	7,644	170	6 & 12 months	8.6%	9.0
Greensboro	3,465.0	11.0	240	7,164	827	6 & 12 months	6.0%	29.6
Hickory	728.0	9.9	127	2,628	42	12 months	13.5%	6.6
High Point	1,599.0	9.8	206	3,736	107	12 months	6.4%	12.5
Raleigh	3,521.0	9.5	789	13,517	NA	6 & 12 months	7.5%	21.0
Salisbury	453.0	9.5	106	1,971	NA	6 months	11.3%	6.0
Wilmington	1,235.0	5.6	258	3,375	134	12 & 18 months	9.1%	8.0
Wilson	723.0	12.7	72	1,738	310	12 months	8.3%	6.0
Winston-Salem	2,449.0	11.0	265	15,136	2,152	none	8.4%	22.3

NOTES

For municipalities with varying probationary periods, typically fire and or police personnel have longer probationary periods.

EXPLANATORY FACTORS

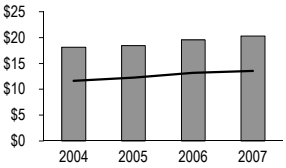
These are factors that the project found to affect human resources performance and cost in one or more of the municipalities:

Decentralization of HR functions
Personnel policies
External economic climate
Unemployment rate
Extent of contracting out for services
Departmental discretion regarding vacancies
Hiring freezes
State and/or federal mandates

Key: Asheville ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

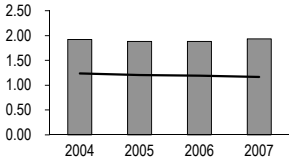
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Asheville	$18.15	$18.45	$19.53	$20.28
Average	$11.61	$12.25	$13.17	$13.57

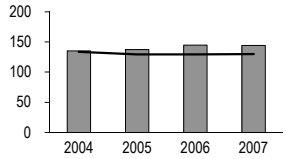
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Asheville	1.92	1.88	1.88	1.93
Average	1.24	1.21	1.20	1.17

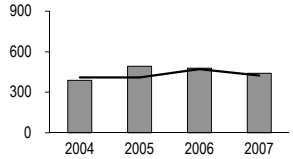
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



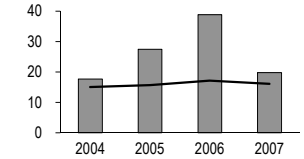
	2004	2005	2006	2007
Asheville	135	137	145	144
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Asheville	388	493	478	440
Average	411	412	473	426

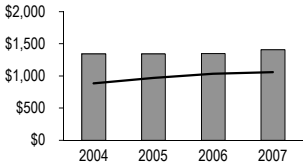
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Asheville	17.6	27.4	38.8	19.8
Average	15.1	15.8	17.2	16.1

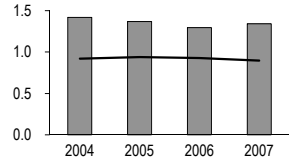
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Asheville	$1,343	$1,343	$1,347	$1,406
Average	$888	$973	$1,036	$1,061

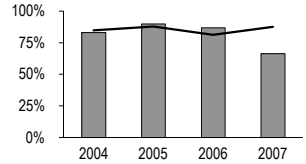
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Asheville	1.42	1.37	1.30	1.34
Average	0.92	0.94	0.93	0.90

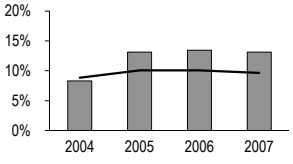
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



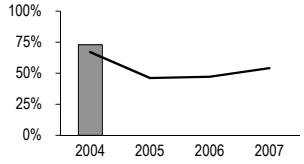
	2004	2005	2006	2007
Asheville	83%	90%	87%	66%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



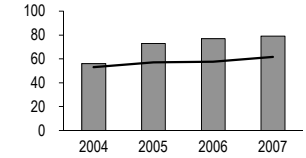
	2004	2005	2006	2007
Asheville	8.3%	13.1%	13.5%	13.2%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Asheville	73%			
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Asheville	56	73	77	79
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	75,948
Land Area (Square Miles)	43.44
Persons per Square Mile	1,748
Unemployment Rate (ESC-05)	3.8%
County	Buncombe
Topography	Hills, mountains
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.9%
Operating Costs		39.9%
Capital Costs		2.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	891,200
Operating Costs	$	614,441
Capital Costs	$	34,330
TOTAL	$	1,539,971

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	9.00
Staff Support (Clerical)	2.67
Total Authorized Workforce	1,095
Number of Position Requisitions	217
Number of Recruitment Cycles	327
Employment Applications Processed	4,816
Employee Turnover	
Voluntary Separations	117
Involuntary Separations	27
Total Separations	144
Average Length of Service (Months)	94.0
Formal Grievances Filed by Employees	NA
EEOC Complaints Filed	0
Length of Probationary Employment Period	6 months
Compensation Studies Completed	330

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 2006–07 Asheville was in the second year 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 330 compensation studies were completed during the year.

The city's probationary period was six months during FY 2006–07.

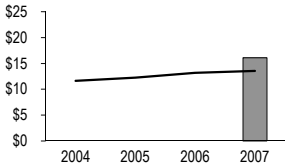
Conditions Affecting Service, Performance, and Costs
The city's data include the following positions (and related cost) that perform human resource functions but are not part of the city's Human Resources Department: wellness coordinator, safety claims administrator, and risk manager (50 percent).

Employee relations issues are resolved through the city's administration.

Key: Burlington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

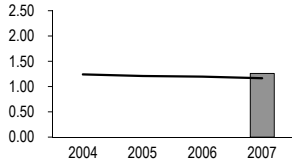
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Burlington				$16.10
Average	$11.61	$12.25	$13.17	$13.57

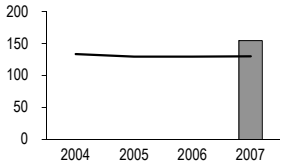
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Burlington				1.26
Average	1.24	1.21	1.20	1.17

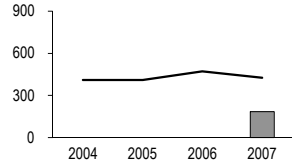
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



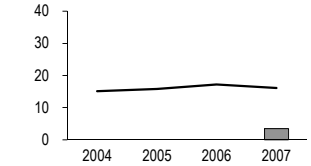
	2004	2005	2006	2007
Burlington				155
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Burlington				184
Average	411	412	473	426

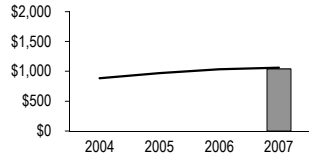
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Burlington				3.5
Average	15.1	15.8	17.2	16.1

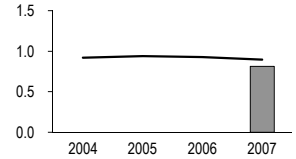
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Burlington				$1,042
Average	$888	$973	$1,036	$1,061

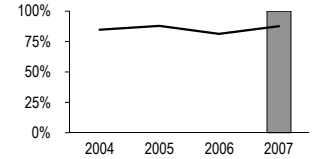
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Burlington				0.81
Average	0.92	0.94	0.93	0.90

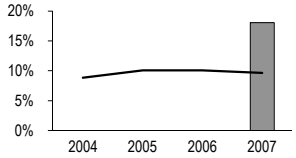
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



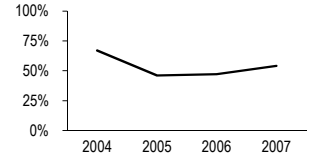
	2004	2005	2006	2007
Burlington				100%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



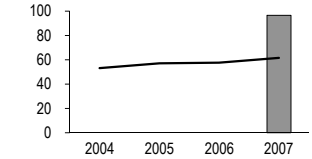
	2004	2005	2006	2007
Burlington				18.0%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Burlington				0%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Burlington				97
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	47,692
Land Area (Square Miles)	24.83
Persons per Square Mile	1,921
Unemployment Rate (ESC-05)	5.5%
County	Alamance
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		49.9%
Operating Costs		50.1%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	382,744
Operating Costs	$	385,015
Capital Costs	$	-
TOTAL	$	767,759

SERVICE PROFILE

FTE Positions	
Administration	3.00
Generalist/Specialist	2.00
Staff Support (Clerical)	1.00
Total Authorized Workforce	737
Number of Position Requisitions	26
Number of Recruitment Cycles	53
Employment Applications Processed	1,358
Employee Turnover	
Voluntary Separations	98
Involuntary Separations	35
Total Separations	133
Average Length of Service (Months)	130.9
Formal Grievances Filed by Employees	2
EEOC Complaints Filed	2
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	5

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Burlington's Human Resources Department is a separate department consisting of five full-time positions and three part-time positions. The full-time positions include an HR director, two HR specialists, one safety director, and one occupational health nurse. The part-time positions include one clerical support employee, a contract physician who works on-site twenty hours per week, and a contracted registered nurse who works thirty-five hours per week.

Five compensation study were completed during FY 2006–07.

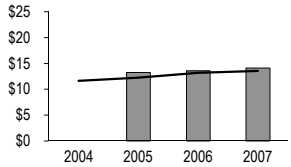
The city's probationary period was twelve months for police and six months for all other employees during FY 2006–07.

Conditions Affecting Service, Performance, and Costs
The City of Burlington began participation in the benchmarking project this year and is first reporting data for FY 2006–07.

Key: Carrboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

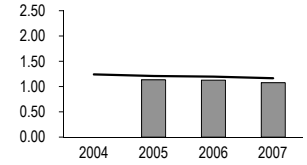
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Carrboro		$13.25	$13.58	$14.09
Average	$11.61	$12.25	$13.17	$13.57

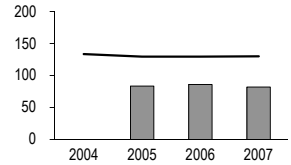
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Carrboro		1.13	1.12	1.07
Average	1.24	1.21	1.20	1.17

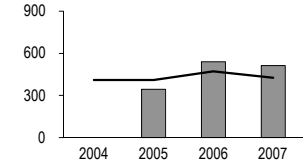
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



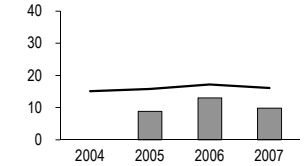
	2004	2005	2006	2007
Carrboro		83	86	82
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Carrboro		345	539	513
Average	411	412	473	426

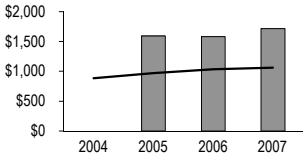
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Carrboro		8.8	13.1	9.8
Average	15.1	15.8	17.2	16.1

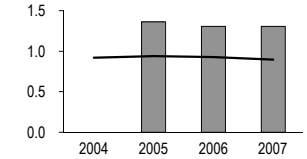
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Carrboro		$1,590	$1,580	$1,713
Average	$888	$973	$1,036	$1,061

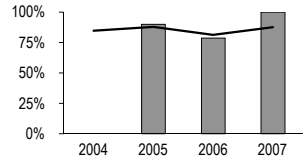
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Carrboro		1.36	1.31	1.31
Average	0.92	0.94	0.93	0.90

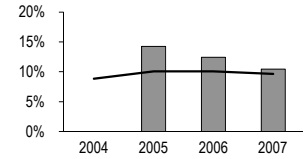
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



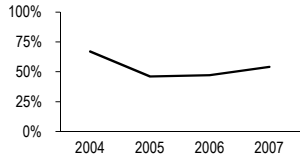
	2004	2005	2006	2007
Carrboro		90%	79%	100%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



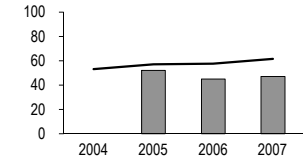
	2004	2005	2006	2007
Carrboro		14.3%	12.4%	10.5%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Carrboro				
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Carrboro		52	45	47
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	18,611
Land Area (Square Miles)	6.22
Persons per Square Mile	2,992
Unemployment Rate (ESC-05)	3.3%
County	Orange
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		61.0%
Operating Costs		38.1%
Capital Costs		0.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	159,856
Operating Costs	$	99,848
Capital Costs	$	2,445
TOTAL	$	262,149

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	1.00
Staff Support (Clerical)	0.00
Total Authorized Workforce	153
Number of Position Requisitions	15
Number of Recruitment Cycles	15
Employment Applications Processed	785
Employee Turnover	
Voluntary Separations	13
Involuntary Separations	3
Total Separations	16
Average Length of Service (Months)	93.0
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 2006–07.

The town's probationary period was twelve months for police and fire employees and six months for all other new employees during FY 2006–07.

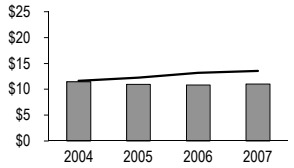
The town is not self-insured.

Conditions Affecting Service, Performance, and Costs

Key: Cary ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

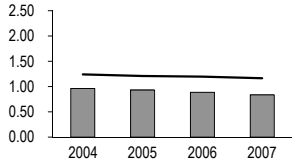
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Cary	$11.45	$10.98	$10.86	$11.04
Average	$11.61	$12.25	$13.17	$13.57

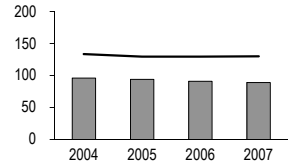
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Cary	0.96	0.93	0.88	0.84
Average	1.24	1.21	1.20	1.17

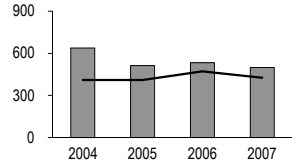
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



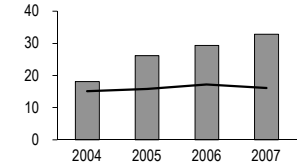
	2004	2005	2006	2007
Cary	96	94	91	89
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Cary	637	514	534	499
Average	411	412	473	426

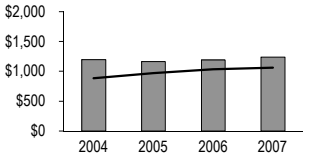
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Cary	18.1	26.1	29.4	32.8
Average	15.1	15.8	17.2	16.1

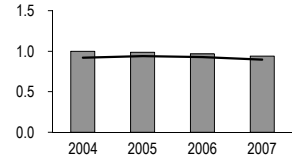
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Cary	$1,194	$1,165	$1,190	$1,239
Average	$888	$973	$1,036	$1,061

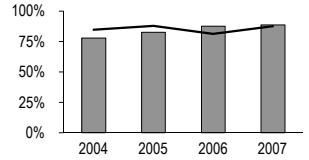
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Cary	1.00	0.99	0.97	0.94
Average	0.92	0.94	0.93	0.90

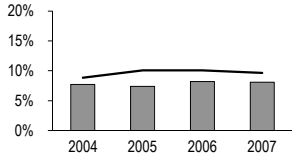
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



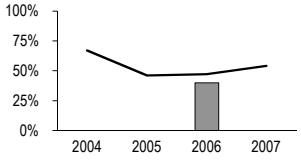
	2004	2005	2006	2007
Cary	78%	83%	88%	89%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



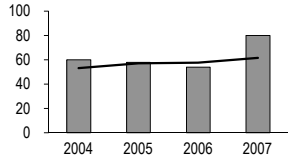
	2004	2005	2006	2007
Cary	7.7%	7.4%	8.2%	8.1%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Cary			40%	0%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Cary	60	58	54	80
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	122,333
Land Area (Square Miles)	51.30
Persons per Square Mile	2,385
Unemployment Rate (ESC-05)	3.6%
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.6%
Operating Costs		40.1%
Capital Costs		2.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	777,354
Operating Costs	$	542,052
Capital Costs	$	30,752
TOTAL	$	1,350,158

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	5.75
Staff Support (Clerical)	3.50
Total Authorized Workforce	1,090
Number of Position Requisitions	358
Number of Recruitment Cycles	212
Employment Applications Processed	5,438
Employee Turnover	
Voluntary Separations	73
Involuntary Separations	15
Total Separations	88
Average Length of Service (Months)	98.3
Formal Grievances Filed by Employees	3
EEOC Complaints Filed	0
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, two human resources consultants who handle all recruitment and day-to-day employee issues, two human resources assistants who support each of the two consultants, and two administrative secretaries.

The town conducted one compensation study during FY 2006–07 that involved the study of 120 classes of jobs and 225 positions.

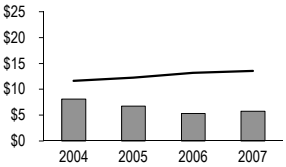
The town's probationary period was six months for non–public safety employees during FY 2006–07 and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Charlotte ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

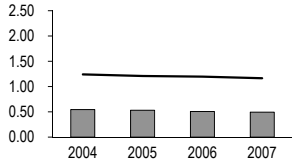
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Charlotte	$8.09	$6.76	$5.31	$5.76
Average	$11.61	$12.25	$13.17	$13.57

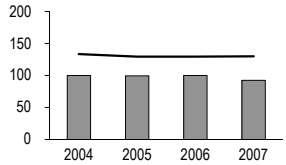
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Charlotte	0.54	0.53	0.51	0.49
Average	1.24	1.21	1.20	1.17

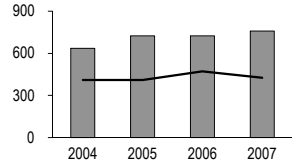
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



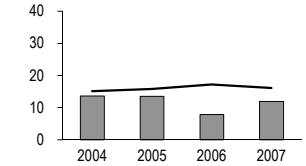
	2004	2005	2006	2007
Charlotte	100	100	100	92
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Charlotte	635	724	725	758
Average	411	412	473	426

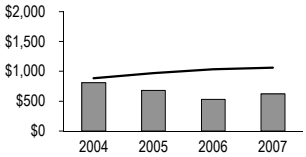
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Charlotte	13.6	13.6	7.8	11.9
Average	15.1	15.8	17.2	16.1

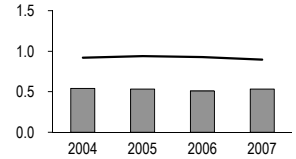
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Charlotte	$808	$679	$533	$623
Average	$888	$973	$1,036	$1,061

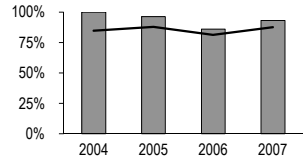
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Charlotte	0.54	0.53	0.51	0.53
Average	0.92	0.94	0.93	0.90

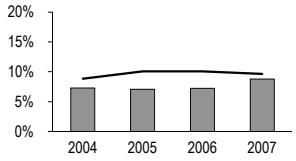
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



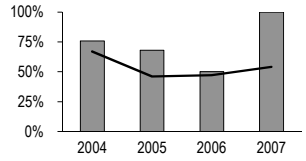
	2004	2005	2006	2007
Charlotte	100%	96%	86%	93%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



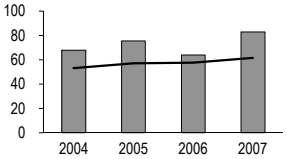
	2004	2005	2006	2007
Charlotte	7.3%	7.1%	7.2%	8.8%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Charlotte	76%	68%	50%	100%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Charlotte	68	76	64	83
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	660,930
Land Area (Square Miles)	281.98
Persons per Square Mile	2,344
Unemployment Rate (ESC-05)	4.5%
County	Mecklenburg
Topography	Flat, gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		68.6%
Operating Costs		26.1%
Capital Costs		5.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,615,060
Operating Costs	$	995,595
Capital Costs	$	198,658
TOTAL	$	3,809,313

SERVICE PROFILE

FTE Positions	
Administration	6.00
Generalist/Specialist	24.75
Staff Support (Clerical)	1.75
Total Authorized Workforce	6,111
Number of Position Requisitions	729
Number of Recruitment Cycles	29
Employment Applications Processed	46,319
Employee Turnover	
Voluntary Separations	418
Involuntary Separations	121
Total Separations	539
Average Length of Service (Months)	124.1
Formal Grievances Filed by Employees	21
EEOC Complaints Filed	21
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	7

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. The third unit is Strategic and Business Planning and forcuses on workforce planning.

The city conducted seven compensation studies during FY 2006–07. Classes reviewed included light rail transit, city manager, city attorney, and broadbanding. Market movement surveys were done for public safety and broadbanding, locally, regionally, and nationally.

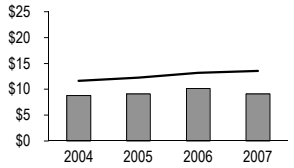
The city's probationary period was six months for non-public safety employees during FY 2006–07 and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Concord ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

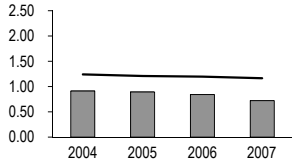
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Concord	$8.76	$9.11	$10.15	$9.07
Average	$11.61	$12.25	$13.17	$13.57

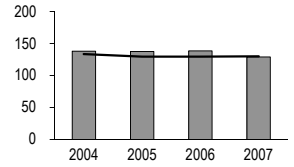
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Concord	0.91	0.89	0.84	0.72
Average	1.24	1.21	1.20	1.17

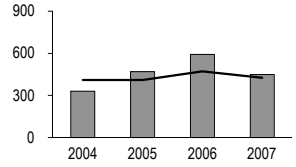
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



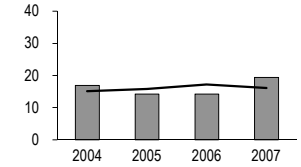
	2004	2005	2006	2007
Concord	138	138	138	129
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Concord	330	469	593	450
Average	411	412	473	426

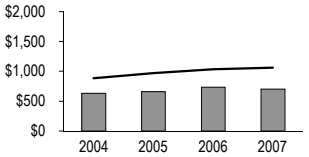
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Concord	16.9	14.2	14.3	19.4
Average	15.1	15.8	17.2	16.1

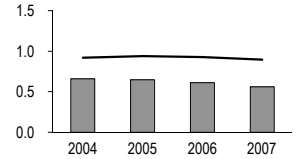
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Concord	$634	$661	$734	$704
Average	$888	$973	$1,036	$1,061

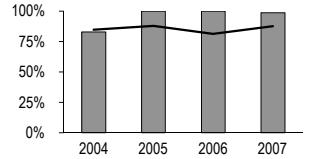
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Concord	0.66	0.65	0.61	0.56
Average	0.92	0.94	0.93	0.90

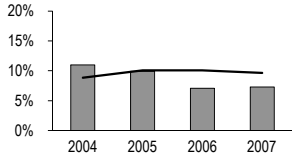
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



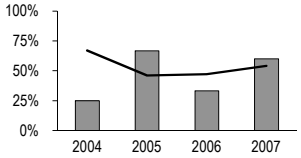
	2004	2005	2006	2007
Concord	83%	100%	100%	99%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



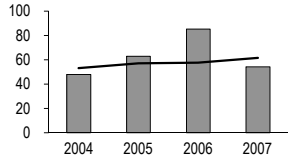
	2004	2005	2006	2007
Concord	11.0%	9.9%	7.1%	7.3%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Concord	25%	67%	33%	60%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Concord	48	63	85	54
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	68,249
Land Area (Square Miles)	56.50
Persons per Square Mile	1,208
Unemployment Rate (ESC-05)	4.1%
County	Cabarrus
Topography	Flat; gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		55.7%
Operating Costs		43.3%
Capital Costs		1.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	344,976
Operating Costs	$	268,004
Capital Costs	$	6,130
TOTAL	$	619,110

SERVICE PROFILE

FTE Positions	
Administration	2.36
Generalist/Specialist	1.00
Staff Support (Clerical)	1.57
Total Authorized Workforce	880
Number of Position Requisitions	171
Number of Recruitment Cycles	65
Employment Applications Processed	3,957
Employee Turnover	
Voluntary Separations	56
Involuntary Separations	8
Total Separations	64
Average Length of Service (Months)	104.2
Formal Grievances Filed by Employees	5
EEOC Complaints Filed	1
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	5

EXPLANATORY INFORMATION

Service Level and Delivery

The Human Resources Department for the City of Concord is responsible for the following functions: departmental management, policy design and administration, classification and compensation design and administration, benefits plan design and administration, employee relations, grievance and disciplinary actions, and employee rewards.

The department conducted five compensation studies during FY 2006–07. These studies covered the Electric Department and the Finance Department.

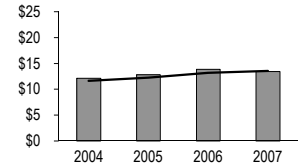
The city's probationary period was six months for non-public safety employees during FY 2006–07 and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Durham ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

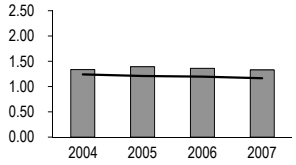
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Durham	$12.10	$12.83	$13.86	$13.46
Average	$11.61	$12.25	$13.17	$13.57

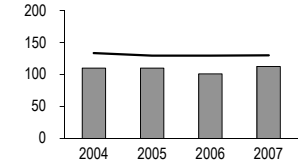
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Durham	1.33	1.39	1.36	1.33
Average	1.24	1.21	1.20	1.17

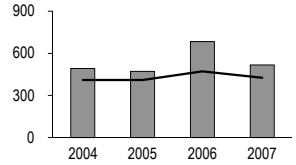
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



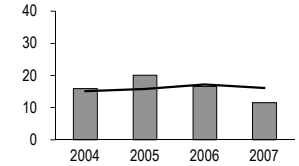
	2004	2005	2006	2007
Durham	110	110	101	112
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Durham	493	473	682	517
Average	411	412	473	426

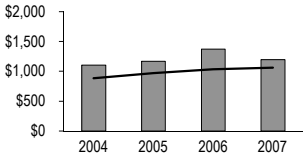
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Durham	15.9	20.1	16.6	11.5
Average	15.1	15.8	17.2	16.1

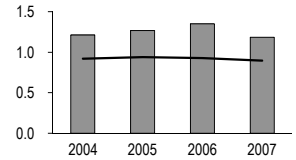
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Durham	$1,102	$1,168	$1,374	$1,198
Average	$888	$973	$1,036	$1,061

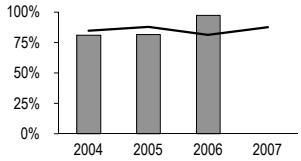
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Durham	1.21	1.27	1.35	1.18
Average	0.92	0.94	0.93	0.90

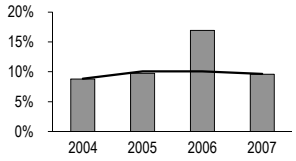
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



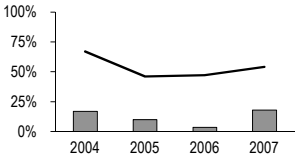
	2004	2005	2006	2007
Durham	81%	82%	97%	
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



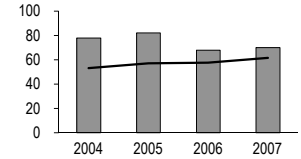
	2004	2005	2006	2007
Durham	8.8%	9.7%	16.9%	9.6%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Durham	17%	10%	4%	18%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Durham	78	82	68	70
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	214,559
Land Area (Square Miles)	103.67
Persons per Square Mile	2,070
Unemployment Rate (ESC-05)	3.9%
County	Durham
Topography	Flat; gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		62.9%
Operating Costs		36.6%
Capital Costs		0.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,814,427
Operating Costs	$	1,057,240
Capital Costs	$	15,234
TOTAL	$	2,886,901

SERVICE PROFILE

FTE Positions	
Administration	6.00
Generalist/Specialist	19.00
Staff Support (Clerical)	3.50
Total Authorized Workforce	2,410
Number of Position Requisitions	278
Number of Recruitment Cycles	51
Employment Applications Processed	12,454
Employee Turnover	
Voluntary Separations	NA
Involuntary Separations	NA
Total Separations	231
Average Length of Service (Months)	NA
Formal Grievances Filed by Employees	28
EEOC Complaints Filed	4
Length of Probationary Employment Period	6 months
Compensation Studies Completed	200

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.

The department conducted 200 compensation studies during FY 2006–07. Studies looked at pay for pay band changes, extra duty pay, and classification changes.

The city's probationary period was six months for employees during FY 2006–07.

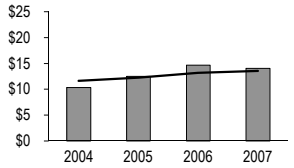
Conditions Affecting Service, Performance, and Costs
Durham's staff includes ten positions in the Risk Management office that are dedicated to employee health, wellness, and safety. These positions are counted in the costs and in the employee counts for this service area.

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 2007

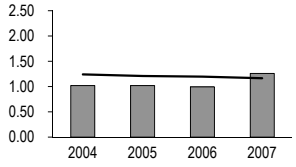
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Gastonia	$10.34	$12.53	$14.68	$14.06
Average	$11.61	$12.25	$13.17	$13.57

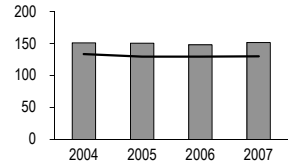
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Gastonia	1.02	1.02	1.00	1.26
Average	1.24	1.21	1.20	1.17

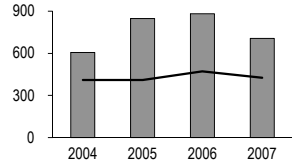
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



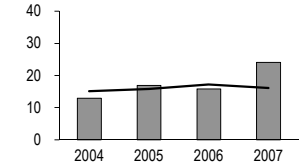
	2004	2005	2006	2007
Gastonia	151	151	148	152
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Gastonia	605	848	881	706
Average	411	412	473	426

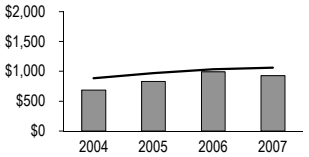
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Gastonia	12.9	16.9	15.8	24.1
Average	15.1	15.8	17.2	16.1

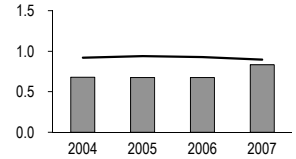
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Gastonia	$684	$831	$992	$927
Average	$888	$973	$1,036	$1,061

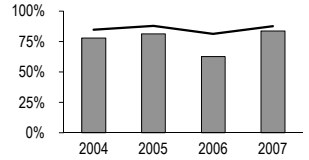
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Gastonia	0.68	0.68	0.67	0.83
Average	0.92	0.94	0.93	0.90

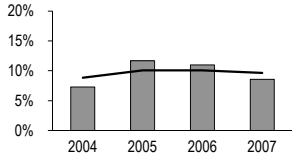
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



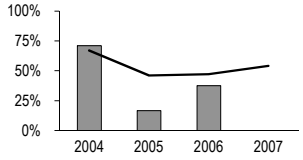
	2004	2005	2006	2007
Gastonia	78%	81%	63%	84%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



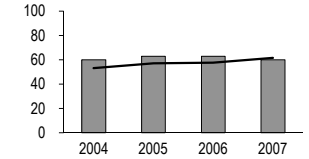
	2004	2005	2006	2007
Gastonia	7.3%	11.7%	11.0%	8.6%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Gastonia	71%	17%	38%	
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Gastonia	60	63	63	60
Average	53	57	58	62

Gastonia

MUNICIPAL PROFILE

Population (OSBM 2006)	71,376
Land Area (Square Miles)	49.65
Persons per Square Mile	1,438
Unemployment Rate (ESC-05)	5.5%
County	Gaston
Topography	Flat; gently rolling
Climate	Mild; some ice

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		51.3%
Operating Costs		48.3%
Capital Costs		0.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	514,928
Operating Costs	$	484,535
Capital Costs	$	4,200
TOTAL	$	1,003,663

SERVICE PROFILE

FTE Positions	
Administration	2.00
Generalist/Specialist	5.00
Staff Support (Clerical)	2.00
Total Authorized Workforce	1,083
Number of Position Requisitions	261
Number of Recruitment Cycles	221
Employment Applications Processed	7,644
Employee Turnover	
Voluntary Separations	85
Involuntary Separations	8
Total Separations	93
Average Length of Service (Months)	122.0
Formal Grievances Filed by Employees	0
EEOC Complaints Filed	0
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	2

EXPLANATORY INFORMATION

Service Level and Delivery

Gastonia's Human Resources Department contains 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 function completed two compensation study during FY 2006–07 to determine is certain city positions remained competitive with the market.

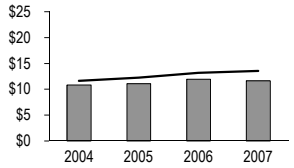
The city's probationary period was six months for non–public safety employees during FY 2006–07 and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Greensboro ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

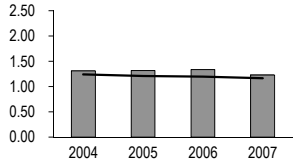
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Greensboro	$10.85	$11.06	$11.94	$11.66
Average	$11.61	$12.25	$13.17	$13.57

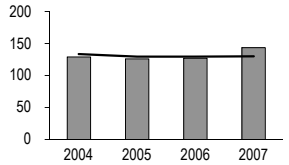
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Greensboro	1.31	1.32	1.34	1.23
Average	1.24	1.21	1.20	1.17

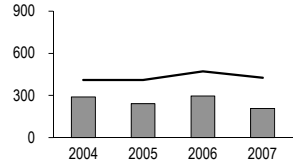
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



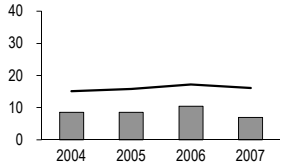
	2004	2005	2006	2007
Greensboro	129	126	127	143
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Greensboro	290	241	297	207
Average	411	412	473	426

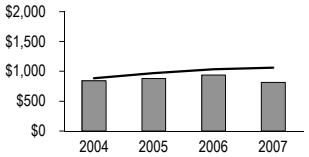
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Greensboro	8.5	8.6	10.4	6.9
Average	15.1	15.8	17.2	16.1

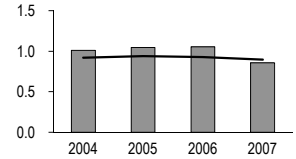
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Greensboro	$841	$879	$940	$814
Average	$888	$973	$1,036	$1,061

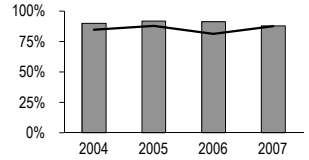
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Greensboro	1.01	1.05	1.05	0.86
Average	0.92	0.94	0.93	0.90

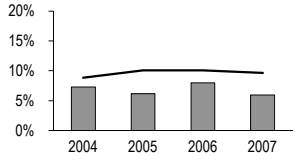
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



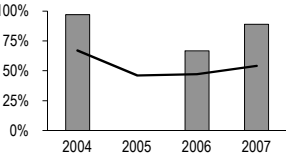
	2004	2005	2006	2007
Greensboro	90%	92%	91%	88%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



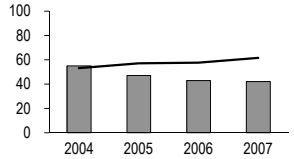
	2004	2005	2006	2007
Greensboro	7.3%	6.2%	8.0%	6.0%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Greensboro	97%		67%	89%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Greensboro	55	47	43	42
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	241,767
Land Area (Square Miles)	118.06
Persons per Square Mile	2,048
Unemployment Rate (ESC-05)	4.7%
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		57.9%
Operating Costs		42.1%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,631,088
Operating Costs	$	1,188,001
Capital Costs	$	-
TOTAL	$	2,819,089

SERVICE PROFILE

FTE Positions	
Administration	6.00
Generalist/Specialist	22.00
Staff Support (Clerical)	1.63
Total Authorized Workforce	3,465
Number of Position Requisitions	240
Number of Recruitment Cycles	240
Employment Applications Processed	7,164
Employee Turnover	
Voluntary Separations	168
Involuntary Separations	39
Total Separations	207
Average Length of Service (Months)	132.0
Formal Grievances Filed by Employees	18
EEOC Complaints Filed	37
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	23

EXPLANATORY INFORMATION

Service Level and Delivery

The Human Resources Department for the City of Greensboro provides comprehensive personnel services, including recruitment and selection, compensation, benefits, employee relations, safety, and occupational health and wellness. The total number of FTE positions includes staff from the Training Division which is housed in a separate department from Human Resources.

The department completed twenty-three compensation studies during FY 2006–07. Market reviews were done for select groups affecting over 1,700 positions.

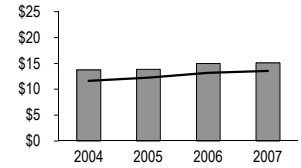
The city's probationary period was six months for non–public safety employees during FY 2006–07 and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Hickory ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

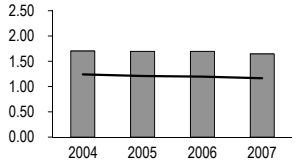
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Hickory	$13.71	$13.89	$14.95	$15.10
Average	$11.61	$12.25	$13.17	$13.57

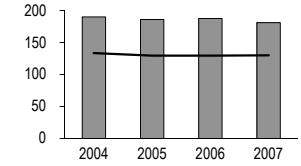
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Hickory	1.70	1.70	1.70	1.65
Average	1.24	1.21	1.20	1.17

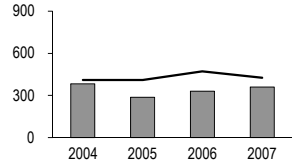
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



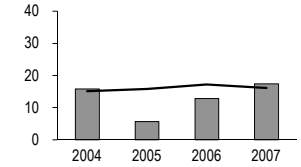
	2004	2005	2006	2007
Hickory	190	186	188	181
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Hickory	383	287	331	361
Average	411	412	473	426

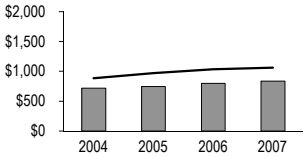
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Hickory	15.8	5.7	12.8	17.4
Average	15.1	15.8	17.2	16.1

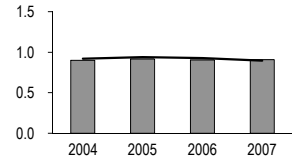
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Hickory	$721	$748	$797	$834
Average	$888	$973	$1,036	$1,061

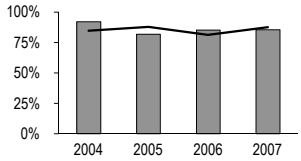
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Hickory	0.90	0.91	0.90	0.91
Average	0.92	0.94	0.93	0.90

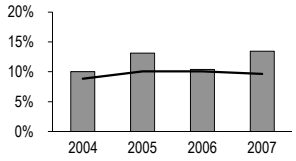
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



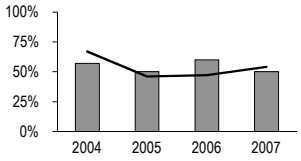
	2004	2005	2006	2007
Hickory	92%	82%	85%	85%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



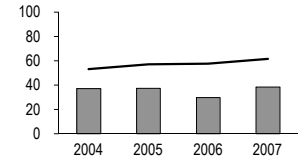
	2004	2005	2006	2007
Hickory	10.0%	13.1%	10.4%	13.5%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Hickory	57%	50%	60%	50%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Hickory	37	37	30	38
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	40,214
Land Area (Square Miles)	28.95
Persons per Square Mile	1,389
Unemployment Rate (ESC-05)	5.4%
County	Catawba
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		65.9%
Operating Costs		33.2%
Capital Costs		0.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	400,018
Operating Costs	$	201,376
Capital Costs	$	5,659
TOTAL	$	607,053

SERVICE PROFILE

FTE Positions	
Administration	0.94
Generalist/Specialist	4.00
Staff Support (Clerical)	1.68
Total Authorized Workforce	728
Number of Position Requisitions	127
Number of Recruitment Cycles	127
Employment Applications Processed	2,628
Employee Turnover	
Voluntary Separations	82
Involuntary Separations	16
Total Separations	98
Average Length of Service (Months)	118.6
Formal Grievances Filed by Employees	6
EEOC Complaints Filed	1
Length of Probationary Employment Period	12 months
Compensation Studies Completed	1

EXPLANATORY INFORMATION

Service Level and Delivery

The human resources function for the City of Hickory contains a director, an organizational development coordinator, a city nurse, two human resources analysts (one oversees benefits administration and the other oversees general employment), and one clerical position. Risk management is a division of the human resources function, which includes a risk manager and a clerical support position.

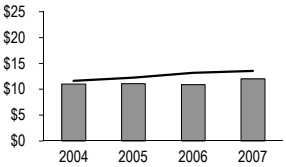
One compensation study, a special survey of police chief salaries, was conducted during FY 2006–07.

The city's probationary period was twelve months for all employees in FY 2006–07.

Conditions Affecting Service, Performance, and Costs

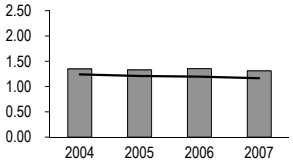
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
High Point	$10.98	$11.09	$10.92	$12.02
Average	$11.61	$12.25	$13.17	$13.57

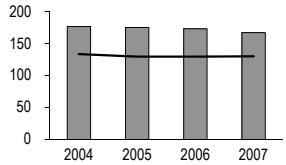
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
High Point	1.35	1.33	1.35	1.31
Average	1.24	1.21	1.20	1.17

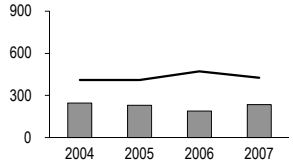
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



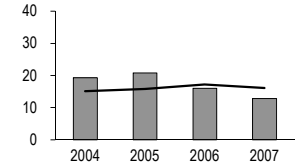
	2004	2005	2006	2007
High Point	177	175	173	167
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
High Point	245	231	190	234
Average	411	412	473	426

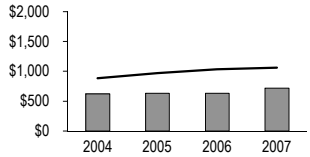
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
High Point	19.4	20.8	16.0	12.9
Average	15.1	15.8	17.2	16.1

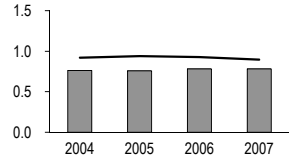
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
High Point	$622	$633	$631	$719
Average	$888	$973	$1,036	$1,061

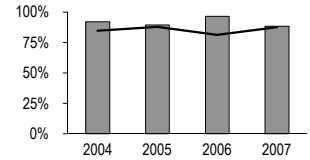
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
High Point	0.76	0.76	0.78	0.78
Average	0.92	0.94	0.93	0.90

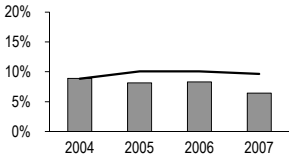
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



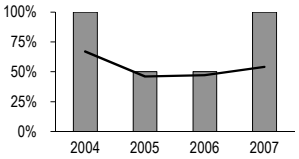
	2004	2005	2006	2007
High Point	92%	89%	97%	88%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



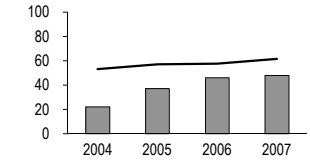
	2004	2005	2006	2007
High Point	8.9%	8.1%	8.3%	6.4%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
High Point	100%	50%	50%	100%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
High Point	22	37	46	48
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	95,638
Land Area (Square Miles)	53.14
Persons per Square Mile	1,800
Unemployment Rate (ESC-05)	4.7%
County	Guilford
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		78.5%
Operating Costs		20.3%
Capital Costs		1.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	902,630
Operating Costs	$	233,518
Capital Costs	$	13,542
TOTAL	$	1,149,690

SERVICE PROFILE

FTE Positions	
Administration	5.00
Generalist/Specialist	6.50
Staff Support (Clerical)	1.00
Total Authorized Workforce	1,599
Number of Position Requisitions	206
Number of Recruitment Cycles	26
Employment Applications Processed	3,736
Employee Turnover	
Voluntary Separations	92
Involuntary Separations	11
Total Separations	103
Average Length of Service (Months)	117.0
Formal Grievances Filed by Employees	5
EEOC Complaints Filed	1
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, 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 2006–07 that included the review of multiple job classifications. Position classifications were reviewed in police, public services, water and sewer fund divisions, assistant city managers, department directors, assistant department directors, superintendents and office support positions.

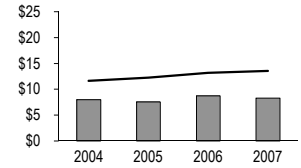
The city's probationary period was twelve months for employees during FY 2006–07. Department directors may extend probationary periods for up to ninety additional days if approved by the Human Resources director.

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 2007

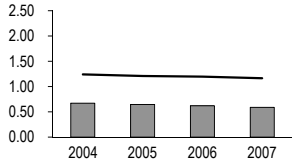
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Raleigh	$7.97	$7.57	$8.72	$8.32
Average	$11.61	$12.25	$13.17	$13.57

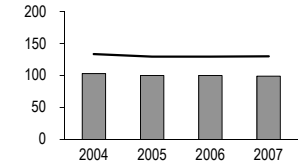
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Raleigh	0.67	0.65	0.62	0.59
Average	1.24	1.21	1.20	1.17

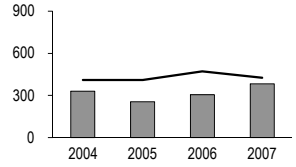
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



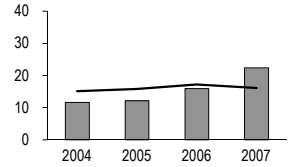
	2004	2005	2006	2007
Raleigh	103	100	100	99
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Raleigh	330	256	305	384
Average	411	412	473	426

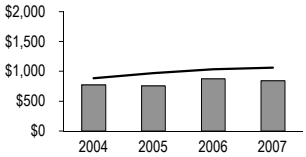
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Raleigh	11.7	12.2	15.9	22.4
Average	15.1	15.8	17.2	16.1

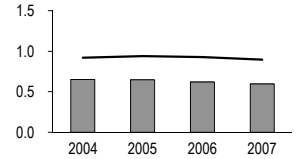
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Raleigh	$774	$758	$873	$841
Average	$888	$973	$1,036	$1,061

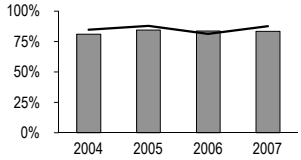
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Raleigh	0.65	0.65	0.62	0.60
Average	0.92	0.94	0.93	0.90

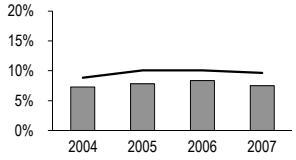
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



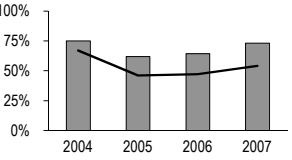
	2004	2005	2006	2007
Raleigh	81%	85%	84%	83%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



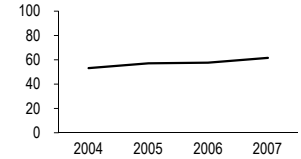
	2004	2005	2006	2007
Raleigh	7.3%	7.8%	8.3%	7.5%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Raleigh	75%	62%	64%	73%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Raleigh				
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	355,902
Land Area (Square Miles)	133.91
Persons per Square Mile	2,658
Unemployment Rate (ESC-05)	3.6%
County	Wake
Topography	Flat; gently rolling
Climate	Temperate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		58.2%
Operating Costs		41.0%
Capital Costs		0.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,722,448
Operating Costs	$	1,215,380
Capital Costs	$	23,253
TOTAL	$	2,961,081

SERVICE PROFILE

FTE Positions	
Administration	10.00
Generalist/Specialist	8.00
Staff Support (Clerical)	3.00
Total Authorized Workforce	3,521
Number of Position Requisitions	789
Number of Recruitment Cycles	51
Employment Applications Processed	13,517
Employee Turnover	
Voluntary Separations	202
Involuntary Separations	63
Total Separations	265
Average Length of Service (Months)	114.1
Formal Grievances Filed by Employees	26
EEOC Complaints Filed	3
Length of Probationary Employment Period	6 or 12 months
Compensation Studies Completed	4

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, 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 four comprehensive classification and compensation studies during FY 2006–07. One study was a budgetary process review of eleven new job classifications. The second study included off-cycle reviews for twenty-four individual requests from departments. The third study was an annual one-third job class review where 174 job classes were studied. The city also contracted for a study for the public utilities labratory with five job classes studied.

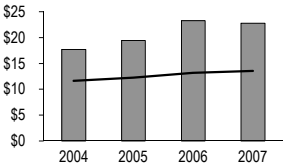
The city's probationary period was six months for non–public safety employees during FY 2006–07 and twelve months for public safety employees.

Conditions Affecting Service, Performance, and Costs
Raleigh's definition of "recruitment cycle" is the weekly period for the posting of open jobs. Each 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 2007

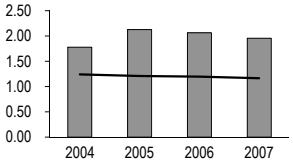
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Salisbury	$17.71	$19.42	$23.25	$22.79
Average	$11.61	$12.25	$13.17	$13.57

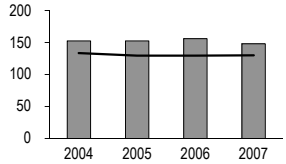
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Salisbury	1.78	2.13	2.06	1.96
Average	1.24	1.21	1.20	1.17

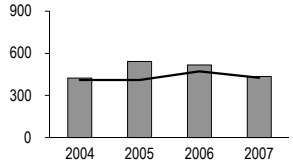
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



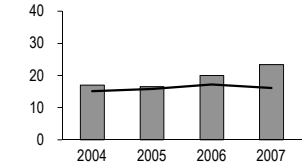
	2004	2005	2006	2007
Salisbury	153	152	156	148
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Salisbury	424	542	516	435
Average	411	412	473	426

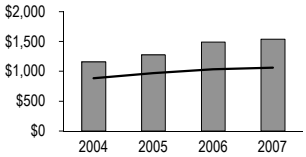
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Salisbury	17.0	16.5	20.0	23.4
Average	15.1	15.8	17.2	16.1

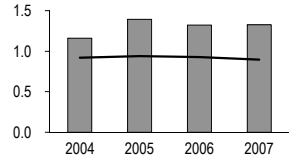
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Salisbury	$1,160	$1,274	$1,488	$1,541
Average	$888	$973	$1,036	$1,061

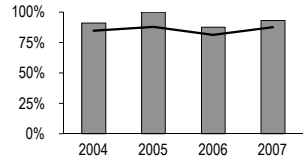
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Salisbury	1.16	1.40	1.32	1.32
Average	0.92	0.94	0.93	0.90

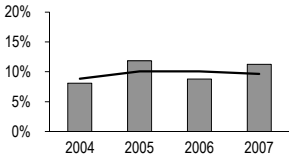
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



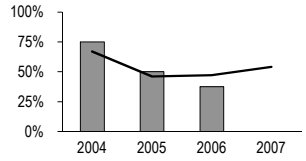
	2004	2005	2006	2007
Salisbury	91%	100%	88%	93%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



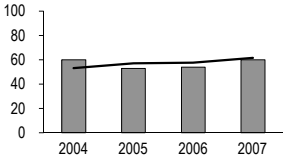
	2004	2005	2006	2007
Salisbury	8.1%	11.9%	8.8%	11.3%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Salisbury	75%	50%	38%	
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Salisbury	60	53	54	60
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	30,634
Land Area (Square Miles)	20.30
Persons per Square Mile	1,509
Unemployment Rate (ESC-05)	5.0%
County	Rowan
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		56.8%
Operating Costs		43.2%
Capital Costs		0.0%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	396,827
Operating Costs	$	301,327
Capital Costs	$	-
TOTAL	$	698,154

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	4.00
Staff Support (Clerical)	1.00
Total Authorized Workforce	453
Number of Position Requisitions	106
Number of Recruitment Cycles	40
Employment Applications Processed	1,971
Employee Turnover	
Voluntary Separations	44
Involuntary Separations	7
Total Separations	51
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).

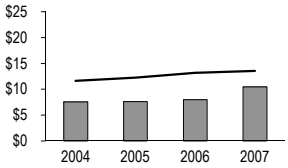
The city's probationary period was six months for employees during FY 2006–07.

Conditions Affecting Service, Performance, and Costs

Key: Wilmington ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

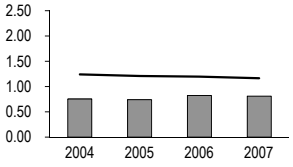
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Wilmington	$7.56	$7.62	$8.00	$10.49
Average	$11.61	$12.25	$13.17	$13.57

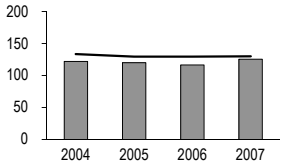
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Wilmington	0.76	0.74	0.82	0.81
Average	1.24	1.21	1.20	1.17

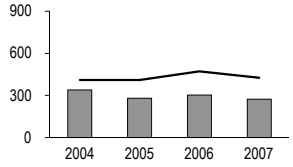
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



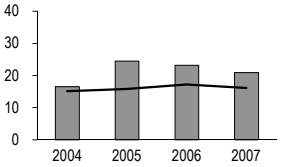
	2004	2005	2006	2007
Wilmington	122	120	117	125
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Wilmington	339	280	303	273
Average	411	412	473	426

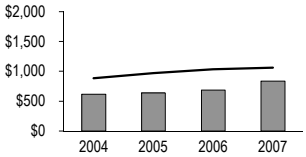
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Wilmington	16.5	24.5	23.2	20.9
Average	15.1	15.8	17.2	16.1

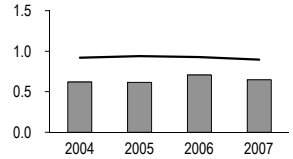
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Wilmington	$619	$636	$685	$837
Average	$888	$973	$1,036	$1,061

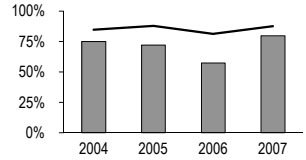
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Wilmington	0.62	0.62	0.71	0.65
Average	0.92	0.94	0.93	0.90

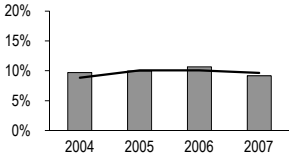
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



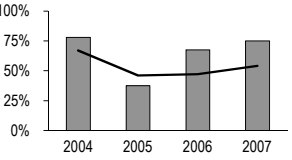
	2004	2005	2006	2007
Wilmington	75%	72%	57%	80%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



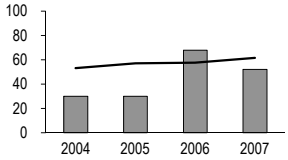
	2004	2005	2006	2007
Wilmington	9.7%	9.9%	10.7%	9.1%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Wilmington	78%	38%	68%	75%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Wilmington	30	30	68	52
Average	53	57	58	62

Wilmington

MUNICIPAL PROFILE

Population (OSBM 2006)	98,529
Land Area (Square Miles)	49.20
Persons per Square Mile	2,003
Unemployment Rate (ESC-05)	3.7%
County	New Hanover
Topography	Flat; coastal plain
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		53.7%
Operating Costs		42.9%
Capital Costs		3.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	554,426
Operating Costs	$	442,765
Capital Costs	$	36,051
TOTAL	$	1,033,242

SERVICE PROFILE

FTE Positions	
Administration	1.00
Generalist/Specialist	4.00
Staff Support (Clerical)	3.00
Total Authorized Workforce	1,235
Number of Position Requisitions	258
Number of Recruitment Cycles	121
Employment Applications Processed	3,375
Employee Turnover	
Voluntary Separations	105
Involuntary Separations	8
Total Separations	113
Average Length of Service (Months)	67.6
Formal Grievances Filed by Employees	12
EEOC Complaints Filed	0
Length of Probationary Employment Period	12 or 18 months
Compensation Studies Completed	48

EXPLANATORY INFORMATION

Service Level and Delivery

Wilmington had eight employees during FY 2006–07 performing human resource functions. The director had administrative oversight responsibilities and was responsible for policy and compliance matters. In early 2007 Human Resources implemented a Business Partner concept to provide human resource services to city departments. Three senior human resource 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.

Forty-eight compensation studies were conducted by Wilmington during FY 2006–07.

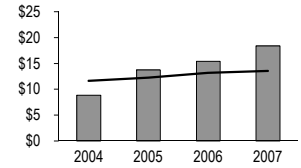
The city's probationary period was twelve months for non–public safety employees during FY 2006–07 and eighteen months for public safety employees.

Conditions Affecting Service, Performance, and Costs

Key: Wilson ■ Benchmarking Average ——— Fiscal Years 2004 through 2007

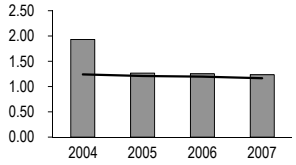
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Wilson	$8.82	$13.73	$15.41	$18.36
Average	$11.61	$12.25	$13.17	$13.57

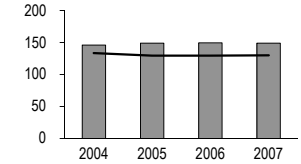
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Wilson	1.93	1.26	1.25	1.24
Average	1.24	1.21	1.20	1.17

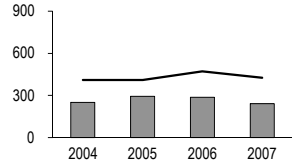
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



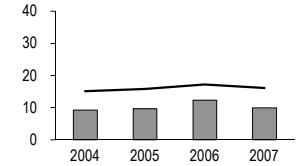
	2004	2005	2006	2007
Wilson	146	149	149	149
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Wilson	250	294	288	240
Average	411	412	473	426

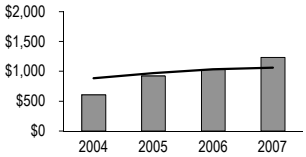
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Wilson	9.3	9.6	12.3	10.0
Average	15.1	15.8	17.2	16.1

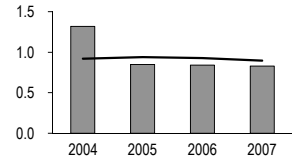
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Wilson	$604	$920	$1,032	$1,233
Average	$888	$973	$1,036	$1,061

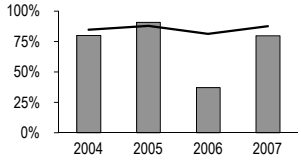
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Wilson	1.32	0.85	0.84	0.83
Average	0.92	0.94	0.93	0.90

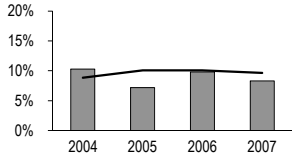
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



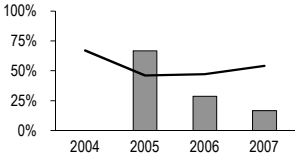
	2004	2005	2006	2007
Wilson	80%	91%	37%	80%
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



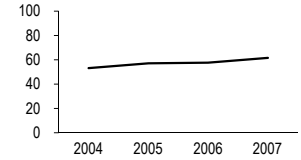
	2004	2005	2006	2007
Wilson	10.3%	7.2%	9.8%	8.3%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Wilson		67%	29%	17%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Wilson				
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	48,562
Land Area (Square Miles)	28.16
Persons per Square Mile	1,725
Unemployment Rate (ESC-05)	7.2%
County	Wilson
Topography	Flat
Climate	Mild

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		47.4%
Operating Costs		52.1%
Capital Costs		0.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	422,490
Operating Costs	$	464,864
Capital Costs	$	4,204
TOTAL	$	891,558

SERVICE PROFILE

FTE Positions	
Administration	2.00
Generalist/Specialist	2.00
Staff Support (Clerical)	2.00
Total Authorized Workforce	723
Number of Position Requisitions	72
Number of Recruitment Cycles	68
Employment Applications Processed	1,738
Employee Turnover	
Voluntary Separations	44
Involuntary Separations	16
Total Separations	60
Average Length of Service (Months)	152.4
Formal Grievances Filed by Employees	30
EEOC Complaints Filed	1
Length of Probationary Employment Period	12 months
Compensation Studies Completed	8

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.

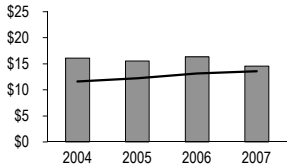
The city conducted eight compensation studies during FY 2006–07.

The city's probationary period was twelve months for employees during FY 2006–07.

Conditions Affecting Service, Performance, and Costs

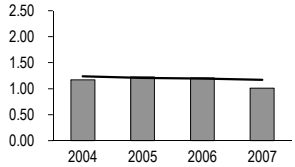
RESOURCE Measures

Human Resources Services Cost per Capita



	2004	2005	2006	2007
Winston-Salem	$16.06	$15.52	$16.35	$14.54
Average	$11.61	$12.25	$13.17	$13.57

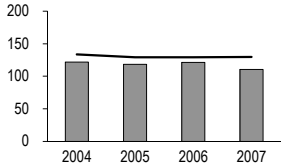
Human Resources FTEs per 10,000 Population



	2004	2005	2006	2007
Winston-Salem	1.17	1.23	1.21	1.01
Average	1.24	1.21	1.20	1.17

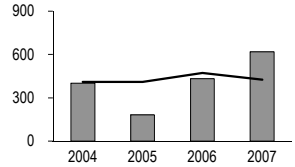
WORKLOAD Measures

Total Municipal FTEs per 10,000 Population



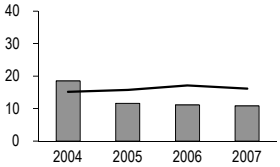
	2004	2005	2006	2007
Winston-Salem	122	118	121	111
Average	134	129	129	130

Applications Processed per 100 Municipal Employees



	2004	2005	2006	2007
Winston-Salem	402	181	432	618
Average	411	412	473	426

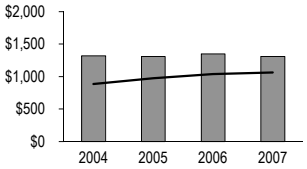
Position Requisitions per 100 Municipal Employees



	2004	2005	2006	2007
Winston-Salem	18.5	11.6	11.2	10.8
Average	15.1	15.8	17.2	16.1

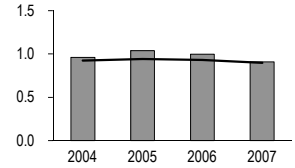
EFFICIENCY Measures

Human Resources Cost per Municipal Employee



	2004	2005	2006	2007
Winston-Salem	$1,319	$1,311	$1,349	$1,312
Average	$888	$973	$1,036	$1,061

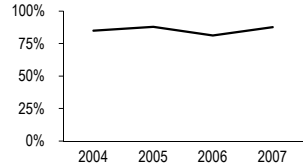
Ratio of Human Resources Staff to 100 Municipal Employees



	2004	2005	2006	2007
Winston-Salem	0.96	1.04	1.00	0.91
Average	0.92	0.94	0.93	0.90

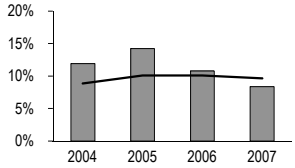
EFFECTIVENESS Measures

Probationary Period Completion Rate (New hires)



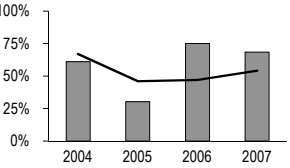
	2004	2005	2006	2007
Winston-Salem				
Average	85%	88%	81%	88%

Employee Turnover Rate (All separations)



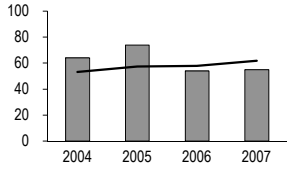
	2004	2005	2006	2007
Winston-Salem	11.9%	14.2%	10.8%	8.4%
Average	8.9%	10.1%	10.1%	9.7%

Percentage of Grievances Resolved at the Department Level



	2004	2005	2006	2007
Winston-Salem	61%	30%	75%	69%
Average	67%	46%	47%	54%

Average Days from Post Date to Hire Date (First day of employment)



	2004	2005	2006	2007
Winston-Salem	64	74	54	55
Average	53	57	58	62

MUNICIPAL PROFILE

Population (OSBM 2006)	221,014
Land Area (Square Miles)	133.22
Persons per Square Mile	1,659
Unemployment Rate (ESC-05)	4.3%
County	Forsyth
Topography	Gently rolling
Climate	Moderate

FULL COST PROFILE

Cost Breakdown by Percentage	
Personal Services	40.9%
Operating Costs	49.3%
Capital Costs	9.8%
TOTAL	100.0%
Cost Breakdown in Dollars	
Personal Services	$ 1,312,927
Operating Costs	$ 1,585,289
Capital Costs	$ 314,952
TOTAL	$ 3,213,168

SERVICE PROFILE

FTE Positions	
Administration	3.10
Generalist/Specialist	15.70
Staff Support (Clerical)	3.50
Total Authorized Workforce	2,449
Number of Position Requisitions	265
Number of Recruitment Cycles	NA
Employment Applications Processed	15,136
Employee Turnover	
Voluntary Separations	151
Involuntary Separations	54
Total Separations	205
Average Length of Service (Months)	132.0
Formal Grievances Filed by Employees	70
EEOC Complaints Filed	4
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 2006–07. 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

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 waste water 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 measures shows the percentage of existing water lines which 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

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	121,000	183.0	21.4	3	43.5	1,625.0	52,736	134.0
Burlington	45,500	40.9	12.0	2	34.0	414.2	20,532	51.0
Charlotte	871,432	544.8	113.7	3	242.0	3,850.0	243,996	418.5
Concord	68,253	170.0	10.7	2	24.0	637.9	32,629	81.0
Durham	295,062	NA	28.1	2	52.0	1,222.5	79,980	129.4
Greensboro	250,000	134.4	33.7	2	54.0	1,448.0	101,897	175.8
Hickory	92,000	326.0	13.1	1	32.0	857.0	26,050	60.0
High Point	102,133	64.0	11.6	1	24.0	672.0	39,617	86.0
Raleigh	494,990	239.0	56.0	2	88.0	1,898.0	166,906	246.0
Salisbury	46,600	31.4	7.4	1	25.0	359.3	16,691	47.5
Wilson	49,316	105.0	9.3	2	22.0	385.0	22,500	50.0
Winston-Salem	275,000	400.0	40.2	3	97.0	2,036.9	117,484	236.0

NOTES

MGD stands for millions of gallons per day.

EXPLANATORY FACTORS

These are factors that the project found to affect water services performance and cost in one or more of the municipalities:

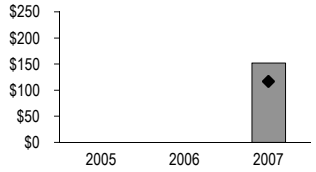
Topography
Water quality of source water
Size of service area
Population density
Age of infrastructure
Growth of population and businesses

Asheville Water Services

Key: Asheville ■ Benchmarking Average ◆ Fiscal Year 2007

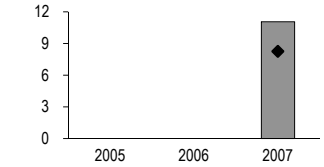
RESOURCE Measures

Water Services Cost per Capita



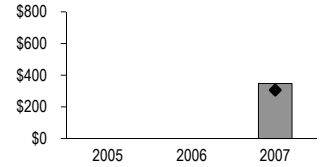
	2007
Asheville	$151.73
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Asheville	11.1
Average	8.3

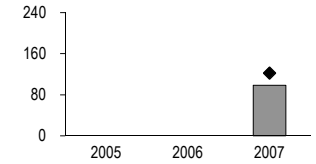
Water Services Cost per Meter



	2007
Asheville	$348
Average	$306

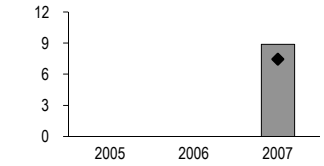
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Asheville	98.4
Average	122.3

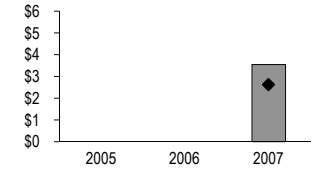
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Asheville	8.9
Average	7.4

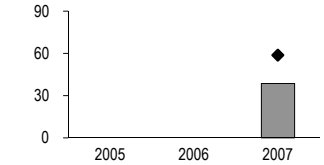
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



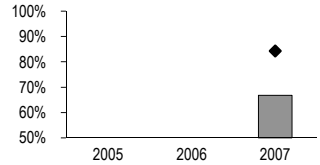
	2007
Asheville	$3.54
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Asheville	38.7
Average	58.9

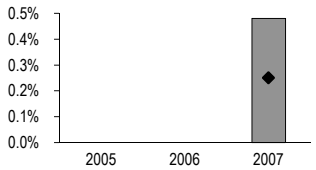
Billed Water as a Percentage of Finished Water



	2007
Asheville	67%
Average	84%

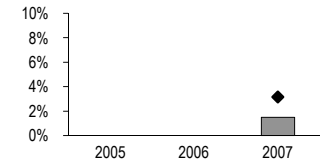
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



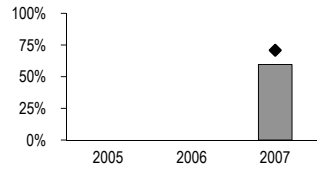
	2007
Asheville	0.48%
Average	0.25%

Percentage of Water Bills Not Collected



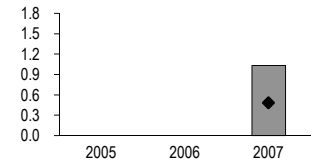
	2007
Asheville	1.49%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



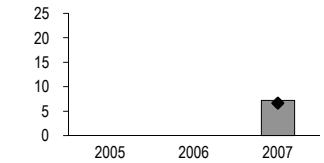
	2007
Asheville	60%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Asheville	1.03
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Asheville	7.21
Average	6.64

Asheville

MUNICIPAL PROFILE

Estimated Service Population	121,000
Service Land Area (Square Miles)	183.0
Persons per Square Mile	661
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		32.1%
Operating Costs		42.6%
Capital Costs		25.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	5,890,299
Operating Costs	$	7,821,323
Capital Costs	$	4,647,584
TOTAL	$	18,359,206

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	29.0
Line Crews	52.0
Meter Readers	10.0
Billing/Collection	20.0
Other	23.0
Number of Treatment Plants	3
Total Treatment Capacity	43.5 MG
Average Daily Demand in FY07	21.4 MG
Miles of Mainline Pipe	1,625
Average Age of Mainline Pipe	50 years
Number of Breaks/Leaks in FY 07	1,680
Number of Water Meters	52,736
Percent of Meters Read Automatically	5.2%
Total Revenues Collected for Water	$31,441,200

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 two 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 32.5 million gallons per day. The utilility has three treatment plants although one plant is currently being renovated and will be offline until February 2008.

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 5.2percent of water meters are read by varying automatic systems including radio-read and touch- read meters. The goal is to replace all meters in the upcoming five fiscal years with radio read installation at 100 percent.

Conditions Affecting Service, Performance, and Costs
Water Services is a brand 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 only 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.

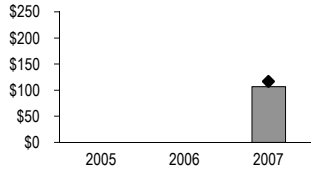
The department has an active water conservation program that reaches approximately 6,000 students annually.

Burlington Water Services

Key: Burlington ■ Benchmarking Average ◆ Fiscal Year 2007

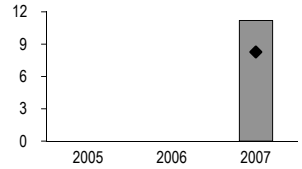
RESOURCE Measures

Water Services Cost per Capita



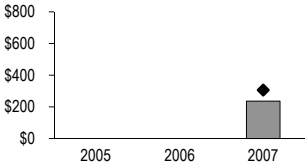
	2007
Burlington	$106.37
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Burlington	11.2
Average	8.3

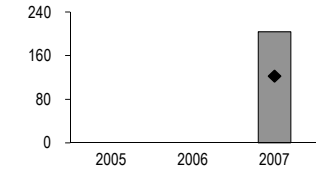
Water Services Cost per Meter



	2007
Burlington	$236
Average	$306

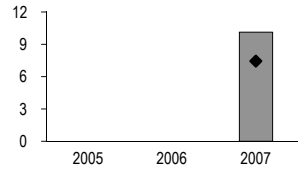
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Burlington	203.8
Average	122.3

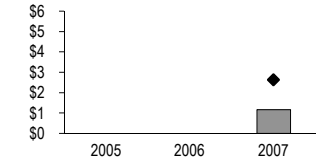
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Burlington	10.1
Average	7.4

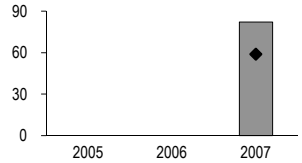
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



	2007
Burlington	$1.16
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



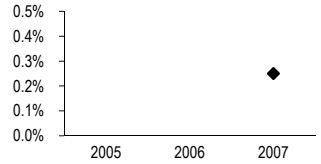
	2007
Burlington	82.0
Average	58.9

Billed Water as a Percentage of Finished Water

	2007
Burlington	95%
Average	84%

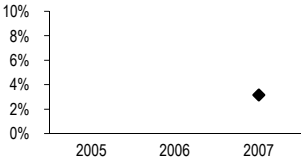
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



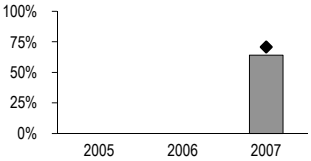
	2007
Burlington	0.00%
Average	0.25%

Percentage of Water Bills Not Collected



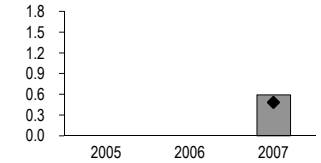
	2007
Burlington	
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



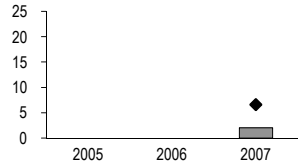
	2007
Burlington	64%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Burlington	0.59
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Burlington	2.00
Average	6.64

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		36.6%
Operating Costs		45.0%
Capital Costs		18.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	1,770,639
Operating Costs	$	2,177,416
Capital Costs	$	891,733
TOTAL	$	4,839,788

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	17.0
Line Crews	14.0
Meter Readers	5.0
Billing/Collection	7.0
Other	8.0
Number of Treatment Plants	2
Total Treatment Capacity	34.0 MG
Average Daily Demand in FY07	12.0 MG
Miles of Mainline Pipe	414
Average Age of Mainline Pipe	50 years
Number of Breaks/Leaks in FY 07	245
Number of Water Meters	20,532
Percent of Meters Read Automatically	8.8%
Total Revenues Collected for Water	$10,255,430

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. Approximately 8.8 percent of meters are read automatically using a combination of touch-read and radio-read meters. Meters are replaced approximately every twelve to fifteen years.

Conditions Affecting Service, Performance, and Costs
Water Services is a brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

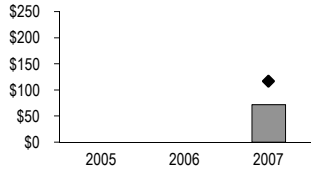
The costs of water service as captured here do not include debt service but only capture depreciation.

Charlotte Water Services

Key: Charlotte ■ Benchmarking Average ◆ Fiscal Year 2007

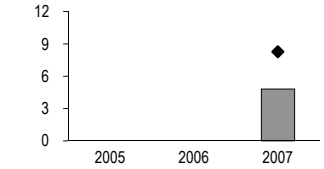
RESOURCE Measures

Water Services Cost per Capita



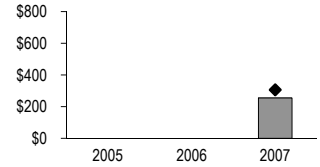
	2007
Charlotte	$71.49
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Charlotte	4.8
Average	8.3

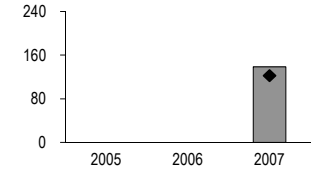
Water Services Cost per Meter



	2007
Charlotte	$255
Average	$306

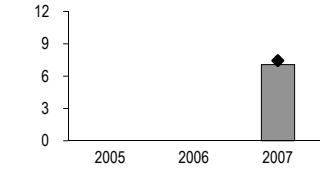
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Charlotte	138.3
Average	122.3

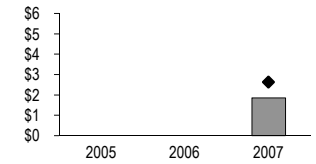
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Charlotte	7.1
Average	7.4

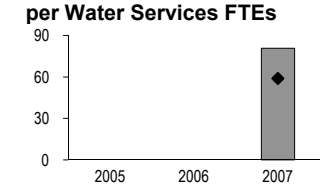
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



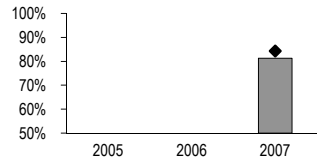
	2007
Charlotte	$1.85
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Charlotte	80.6
Average	58.9

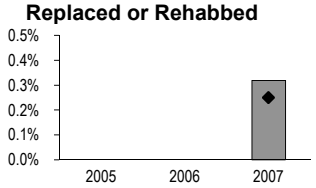
Billed Water as a Percentage of Finished Water



	2007
Charlotte	81%
Average	84%

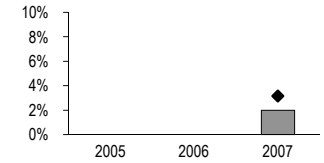
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



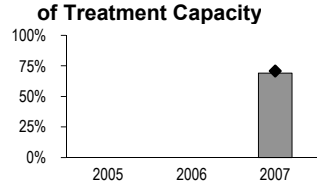
	2007
Charlotte	0.32%
Average	0.25%

Percentage of Water Bills Not Collected



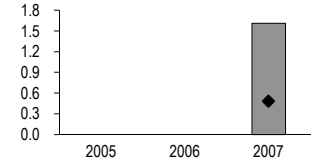
	2007
Charlotte	2.00%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



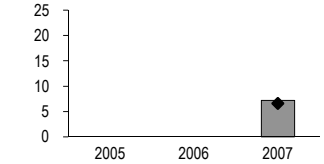
	2007
Charlotte	69%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Charlotte	1.61
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Charlotte	7.19
Average	6.64

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		23.2%
Operating Costs		36.7%
Capital Costs		40.2%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	14,431,370
Operating Costs	$	22,838,874
Capital Costs	$	25,031,278
TOTAL	$	62,301,522

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	70.0
Line Crews	130.4
Meter Readers	27.0
Billing/Collection	28.8
Other	162.3
Number of Treatment Plants	3
Total Treatment Capacity	242.0 MG
Average Daily Demand in FY07	113.7 MG
Miles of Mainline Pipe	3,850
Average Age of Mainline Pipe	20 years
Number of Breaks/Leaks in FY 07	6,208
Number of Water Meters	243,996
Percent of Meters Read Automatically	96.5%
Total Revenues Collected for Water	$99,635,472

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 brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

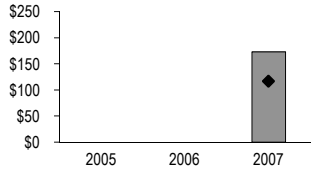
The costs of water service as captured here do not include debt service but only capture depreciation.

Concord — Water Services

Key: Concord ■ Benchmarking Average ◆ Fiscal Year 2007

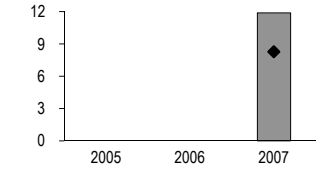
RESOURCE Measures

Water Services Cost per Capita



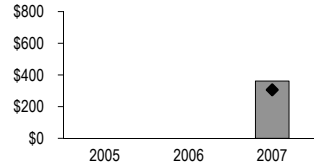
	2007
Concord	$172.95
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Concord	11.9
Average	8.3

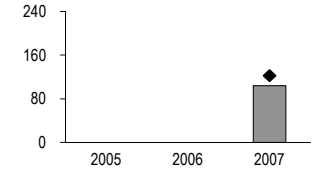
Water Services Cost per Meter



	2007
Concord	$362
Average	$306

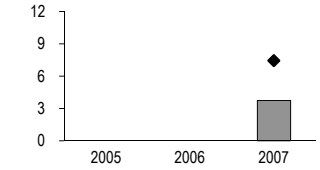
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Concord	104.0
Average	122.3

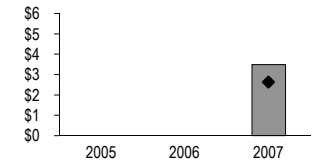
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Concord	3.8
Average	7.4

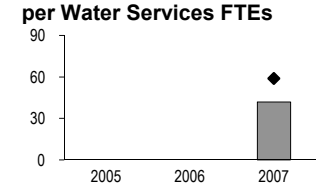
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



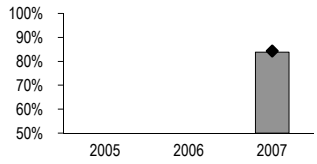
	2007
Concord	$3.48
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Concord	41.9
Average	58.9

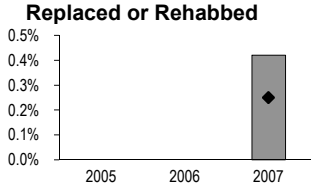
Billed Water as a Percentage of Finished Water



	2007
Concord	84%
Average	84%

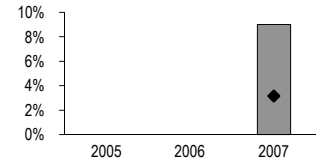
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



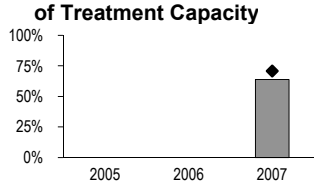
	2007
Concord	0.42%
Average	0.25%

Percentage of Water Bills Not Collected



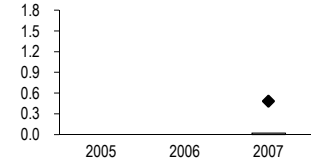
	2007
Concord	9.00%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



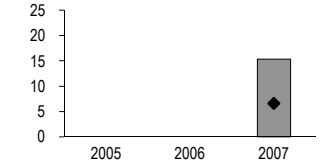
	2007
Concord	64%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Concord	0.02
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Concord	15.35
Average	6.64

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		28.2%
Operating Costs		48.3%
Capital Costs		23.5%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,324,120
Operating Costs	$	5,702,985
Capital Costs	$	2,777,249
TOTAL	$	11,804,354

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	30.0
Line Crews	33.0
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 in FY07	10.7 MG
Miles of Mainline Pipe	638
Average Age of Mainline Pipe	25 years
Number of Breaks/Leaks in FY 07	15
Number of Water Meters	32,629
Percent of Meters Read Automatically	47.9%
Total Revenues Collected for Water	$20,099,787

EXPLANATORY INFORMATION

Service Level and Delivery
The City of Concord Water Resources Department is a water only utility. The departments has three divisions, one for operations and maintenance, and one for each of the two treatment plants. Meter reading, billing, and collections are handled by the city Finance Department.

Concord's system serves approximately 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 nearly half 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 brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

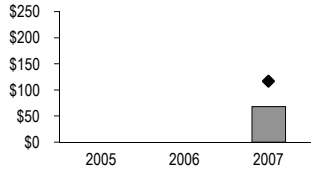
The costs of water service as captured here do not include debt service but only capture depreciation.

Durham Water Services

Key: Durham ■ Benchmarking Average ◆ Fiscal Year 2007

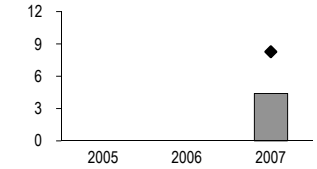
RESOURCE Measures

Water Services Cost per Capita



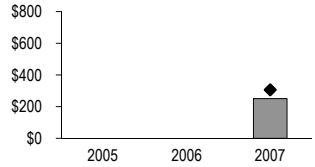
	2007
Durham	$68.00
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Durham	4.4
Average	8.3

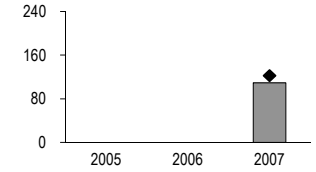
Water Services Cost per Meter



	2007
Durham	$251
Average	$306

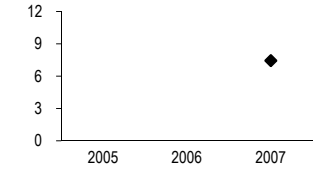
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Durham	109.2
Average	122.3

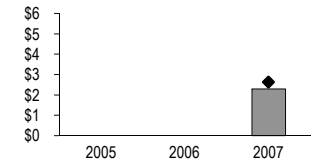
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Durham	
Average	7.4

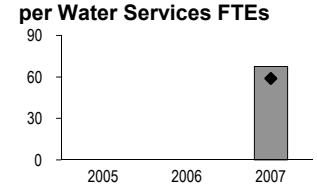
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



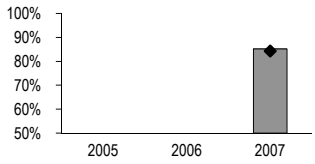
	2007
Durham	$2.30
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Durham	67.5
Average	58.9

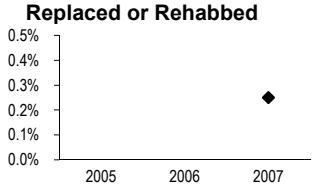
Billed Water as a Percentage of Finished Water



	2007
Durham	85%
Average	84%

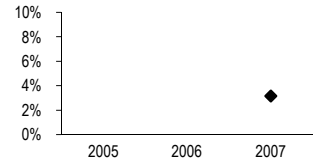
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



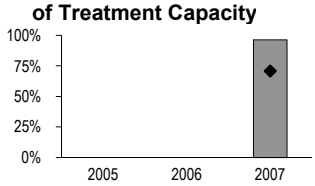
	2007
Durham	0.00%
Average	0.25%

Percentage of Water Bills Not Collected



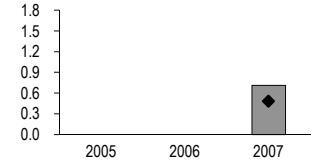
	2007
Durham	
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



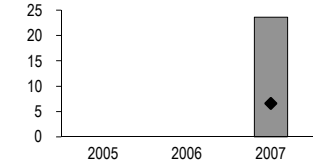
	2007
Durham	96%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Durham	0.71
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Durham	23.63
Average	6.64

Durham

MUNICIPAL PROFILE

Estimated Service Population	295,062
Service Land Area (Square Miles)	NA
Persons per Square Mile	NA
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		35.9%
Operating Costs		35.8%
Capital Costs		28.4%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,200,093
Operating Costs	$	7,173,485
Capital Costs	$	5,690,881
TOTAL	$	20,064,459

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	39.0
Line Crews	35.6
Meter Readers	15.4
Billing/Collection	5.5
Other	33.9
Number of Treatment Plants	2
Total Treatment Capacity	52.0 MG
Average Daily Demand in FY07	28.1 MG
Miles of Mainline Pipe	1,223
Average Age of Mainline Pipe	22 years
Number of Breaks/Leaks in FY 07	869
Number of Water Meters	79,980
Percent of Meters Read Automatically	0.4%
Total Revenues Collected for Water	$31,297,945

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 295,000 people are served by the system.

The water source for the system is 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.

Durham had three water regulatory violations in FY 2006–07. Two were reporting violations for failing to collect, analyze, and submit results for volatile organic compounds (VOC) for both treatment plants. The third violation was for failing to submit results of copper and lead tests within specified time frames.

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 brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

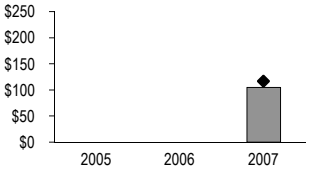
The costs of water service as captured here do not include debt service but only capture depreciation.

Greensboro Water Services

Key: Greensboro ■ Benchmarking Average ◆ Fiscal Year 2007

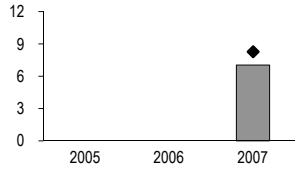
RESOURCE Measures

Water Services Cost per Capita



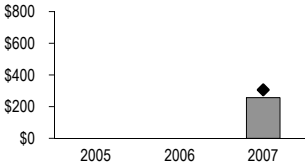
	2007
Greensboro	$104.80
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Greensboro	7.0
Average	8.3

Water Services Cost per Meter



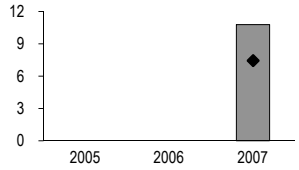
	2007
Greensboro	$257
Average	$306

WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter

	2007
Greensboro	106.3
Average	122.3

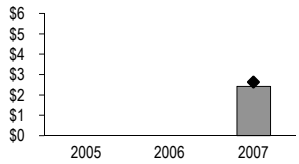
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Greensboro	10.8
Average	7.4

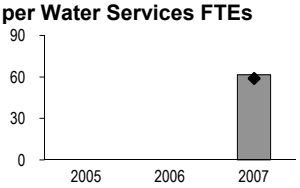
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



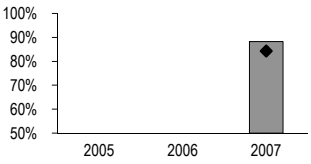
	2007
Greensboro	$2.42
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Greensboro	61.6
Average	58.9

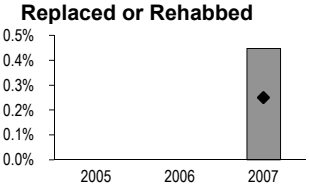
Billed Water as a Percentage of Finished Water



	2007
Greensboro	88%
Average	84%

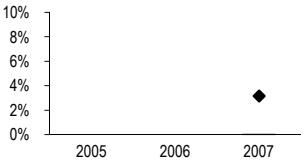
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



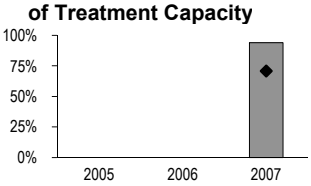
	2007
Greensboro	0.45%
Average	0.25%

Percentage of Water Bills Not Collected



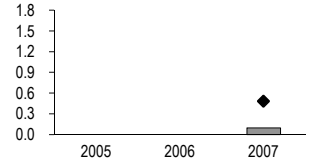
	2007
Greensboro	0.02%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



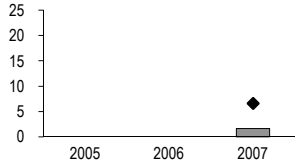
	2007
Greensboro	94%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Greensboro	0.10
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Greensboro	1.66
Average	6.64

Greensboro

MUNICIPAL PROFILE

Estimated Service Population	250,000
Service Land Area (Square Miles)	134.4
Persons per Square Mile	1,860
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		25.8%
Operating Costs		62.2%
Capital Costs		12.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	6,747,242
Operating Costs	$	16,285,305
Capital Costs	$	3,168,377
TOTAL	$	26,200,924

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	46.4
Line Crews	57.4
Meter Readers	17.0
Billing/Collection	28.5
Other	26.5
Number of Treatment Plants	2
Total Treatment Capacity	54.0 MG
Average Daily Demand in FY07	33.7 MG
Miles of Mainline Pipe	1,448
Average Age of Mainline Pipe	41 years
Number of Breaks/Leaks in FY 07	142
Number of Water Meters	101,897
Percent of Meters Read Automatically	32.7%
Total Revenues Collected for Water	$38,228,208

EXPLANATORY INFORMATION

Service Level and Delivery
Greensboro's drinking water is provided by the Water Supply Division which is part of the Water Resources Department which also includes wastewater and stormwater services. The director of Water Resources reports directly to the city manager. The water system serves approximately 250,000 people in an area covering about 134 square miles. In addition to City of Greensboro residents the system serves almost 9,000 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 41.4 years. Greensboro spent $1.25 million in FY 2006-07 on water line rehabilitation. The plans are to increase funding for this activity by $250,000 per year for the next several years.

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 one-third of all meters are read automatically using a radio system. Greensboro started the conversion to radio read meters in the prior year and plans to convert all meters by June 2009.

Conditions Affecting Service, Performance, and Costs
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.

Water Services is a brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

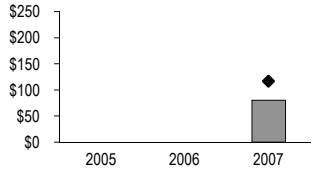
The costs of water service as captured here do not include debt service but only capture depreciation.

Hickory — Water Services

Key: Hickory ■ Benchmarking Average ◆ Fiscal Year 2007

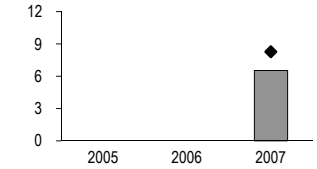
RESOURCE Measures

Water Services Cost per Capita



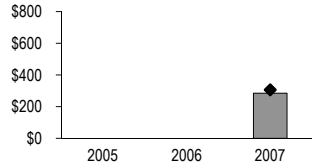
	2007
Hickory	$80.47
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Hickory	6.5
Average	8.3

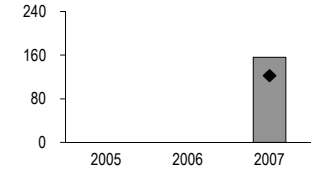
Water Services Cost per Meter



	2007
Hickory	$284
Average	$306

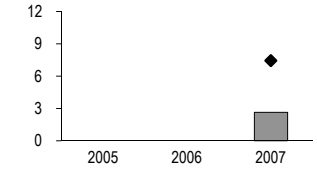
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Hickory	156.1
Average	122.3

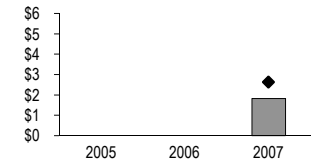
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Hickory	2.6
Average	7.4

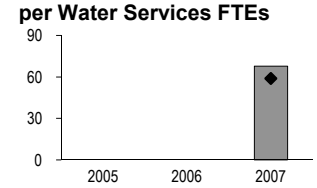
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



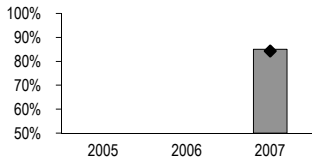
	2007
Hickory	$1.82
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Hickory	67.8
Average	58.9

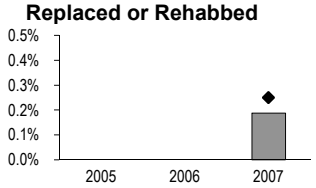
Billed Water as a Percentage of Finished Water



	2007
Hickory	85%
Average	84%

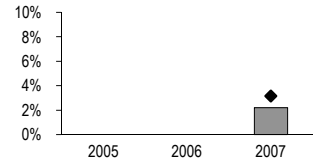
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



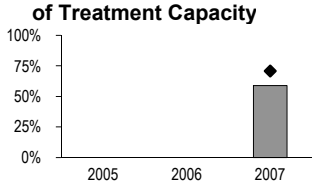
	2007
Hickory	0.19%
Average	0.25%

Percentage of Water Bills Not Collected



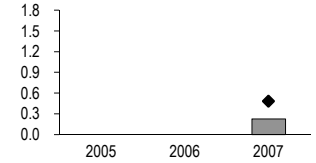
	2007
Hickory	2.19%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



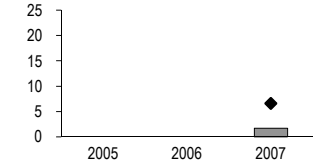
	2007
Hickory	59%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Hickory	0.23
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Hickory	1.73
Average	6.64

Hickory

MUNICIPAL PROFILE

Estimated Service Population	92,000
Service Land Area (Square Miles)	326.0
Persons per Square Mile	282
County	Catawba
Topography	Gently rolling
Climate	Moderate; Some ice and snow
Median Family Income (US Census 2000)	$47,522

FULL COST PROFILE

Cost Breakdown by Percentage		
Personal Services		27.3%
Operating Costs		33.8%
Capital Costs		38.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,023,978
Operating Costs	$	2,504,831
Capital Costs	$	2,874,878
TOTAL	$	7,403,687

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 in FY07	13.1 MG
Miles of Mainline Pipe	857
Average Age of Mainline Pipe	40 years
Number of Breaks/Leaks in FY 07	195
Number of Water Meters	26,050
Percent of Meters Read Automatically	0.2%
Total Revenues Collected for Water	$11,350,806

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 92,000 people. Water is provided for the city of Hickory but also for the towns of Hildenbran, Brookford, and Catawba; the Sherrill's Ford, Mountain View, and Cooksville communities of Catawba County; and the Bethlehem, Sugarloaf, and Highway 16 communities of Alexander County.

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.

Hickory had two water regulatory violations in FY 2006–07. The system exceeded the running annual average maximum contaminant level (MCL) for Total Triholomethanes (TTHM) in August 2006 for the Town of Catawba and southeast Catawba County.

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 brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

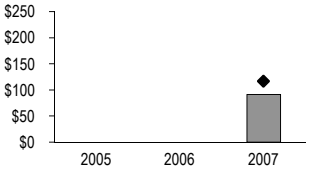
The costs of water service as captured here do not include debt service but only capture depreciation.

High Point — Water Services

Key: High Point ■ Benchmarking Average ◆ Fiscal Year 2007

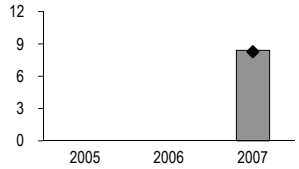
RESOURCE Measures

Water Services Cost per Capita



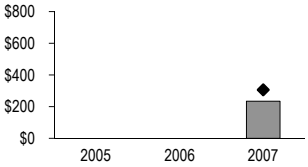
High Point	$91.02
Average	$117.10

Water Services FTEs per 10,000 Population



High Point	8.4
Average	8.3

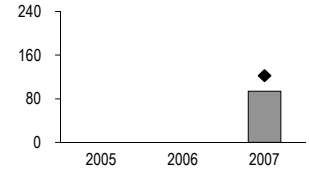
Water Services Cost per Meter



High Point	$235
Average	$306

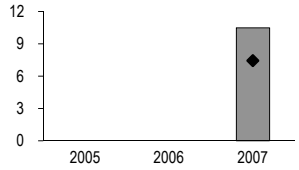
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



High Point	93.8
Average	122.3

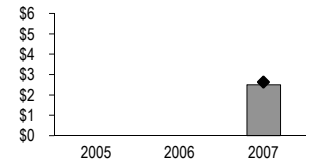
Miles of Main Line Pipe per Square Mile of Service Area



High Point	10.5
Average	7.4

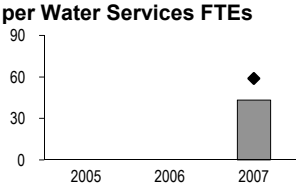
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



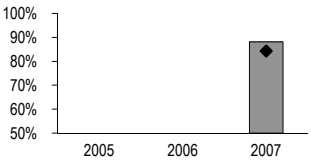
High Point	$2.50
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



High Point	43.2
Average	58.9

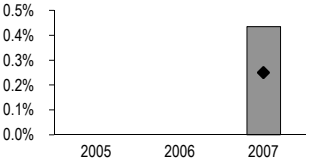
Billed Water as a Percentage of Finished Water



High Point	88%
Average	84%

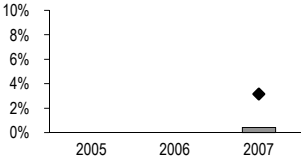
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



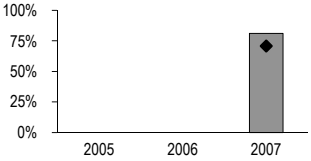
High Point	0.43%
Average	0.25%

Percentage of Water Bills Not Collected



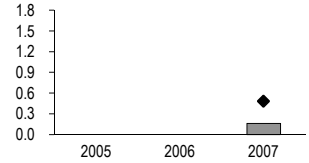
High Point	0.41%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



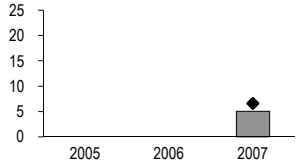
High Point	81%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



High Point	0.16
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



High Point	5.07
Average	6.64

MUNICIPAL PROFILE

Estimated Service Population	102,133
Service Land Area (Square Miles)	64.0
Persons per Square Mile	1,596
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		32.8%
Operating Costs		31.1%
Capital Costs		36.1%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	3,048,791
Operating Costs	$	2,893,241
Capital Costs	$	3,353,728
TOTAL	$	9,295,760

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	12.0
Line Crews	37.0
Meter Readers	5.0
Billing/Collection	20.0
Other	12.0
Number of Treatment Plants	1
Total Treatment Capacity	24.0 MG
Average Daily Demand in FY07	11.6 MG
Miles of Mainline Pipe	672
Average Age of Mainline Pipe	50 years
Number of Breaks/Leaks in FY 07	108
Number of Water Meters	39,617
Percent of Meters Read Automatically	0.0%
Total Revenues Collected for Water	$13,639,792

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 102,000 people.

Water source for the system is two city-owned reservoirs located in the Deep River basin. The estimated safe yield of the system is twenty-five million gallons per day. The system has one treatment plant and uses a upflow clarification process and a super "U" pulsator with a treatment capacity of twenty-four million gallons per day.

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
High Point has a very high collection rate for water bills. The city participates in the State of North Carolina's debt set-off program. The program is in place to garnish a person's state tax return if they do not pay their bill. In addition, High Point performs a credit check based on the customer's paymentment history with Equifax.

Water Services is a brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

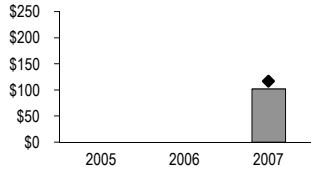
The costs of water service as captured here do not include debt service but only capture depreciation.

Raleigh — Water Services

Key: Raleigh ■ Benchmarking Average ◆ Fiscal Year 2007

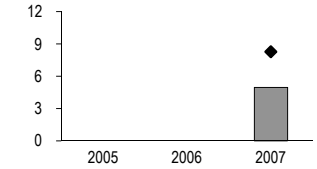
RESOURCE Measures

Water Services Cost per Capita



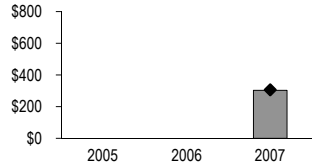
	2007
Raleigh	$101.93
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Raleigh	5.0
Average	8.3

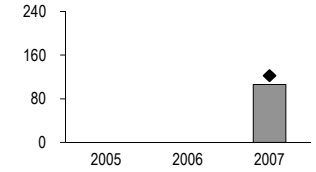
Water Services Cost per Meter



	2007
Raleigh	$302
Average	$306

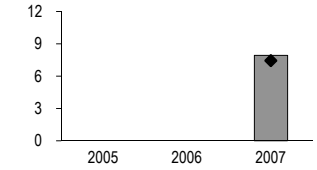
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Raleigh	106.0
Average	122.3

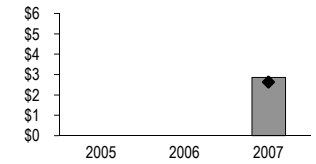
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Raleigh	7.9
Average	7.4

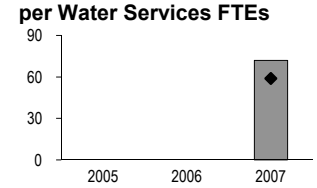
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



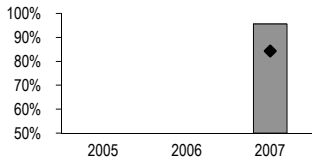
	2007
Raleigh	$2.85
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Raleigh	71.9
Average	58.9

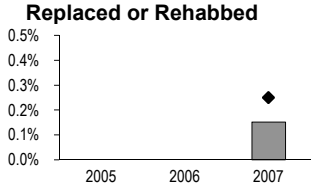
Billed Water as a Percentage of Finished Water



	2007
Raleigh	96%
Average	84%

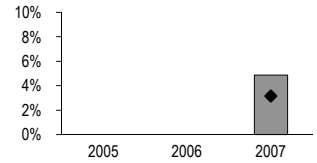
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



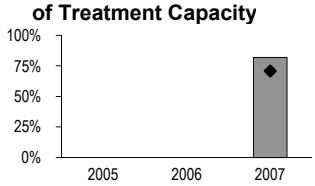
	2007
Raleigh	0.15%
Average	0.25%

Percentage of Water Bills Not Collected



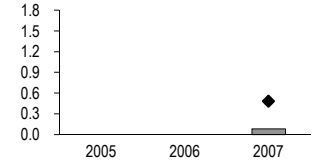
	2007
Raleigh	4.87%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



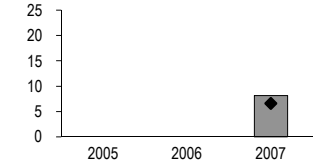
	2007
Raleigh	82%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Raleigh	0.08
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Raleigh	8.12
Average	6.64

MUNICIPAL PROFILE

Estimated Service Population	494,990
Service Land Area (Square Miles)	239.0
Persons per Square Mile	2,071
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		25.9%
Operating Costs		52.4%
Capital Costs		21.7%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	13,055,050
Operating Costs	$	26,454,345
Capital Costs	$	10,944,759
TOTAL	$	50,454,154

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	70.0
Line Crews	91.0
Meter Readers	18.0
Billing/Collection	57.0
Other	10.0
Number of Treatment Plants	2
Total Treatment Capacity	88.0 MG
Average Daily Demand in FY07	56.0 MG
Miles of Mainline Pipe	1,898
Average Age of Mainline Pipe	30 years
Number of Breaks/Leaks in FY 07	154
Number of Water Meters	166,906
Percent of Meters Read Automatically	25.5%
Total Revenues Collected for Water	$56,679,387

EXPLANATORY INFORMATION

Service Level and Delivery
Raliegh's water services are provided by a combined water and sewer system under Public Utilities. The system serves approximately 495,000 people over 239 square miles.

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 yeild for the water sources is 82 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 in FY 2006–07 to the Fuquay-Varina and Holly Springs.

Water meters are read monthly and bi-monthly, depending on the account. In FY 2006–07 approximately one-fourth of the meters were read by automatic means including both telephone meter reading and drive-by systems. Replacement schedule for water meters is approximately twelve years.

Conditions Affecting Service, Performance, and Costs
Water Services is a brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

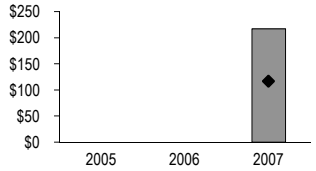
The costs of water service as captured here do not include debt service but only capture depreciation.

Salisbury — Water Services

Key: Salisbury ■ Benchmarking Average ◆ Fiscal Year 2007

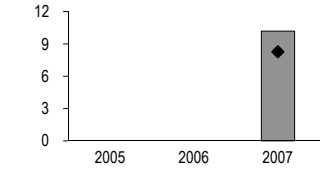
RESOURCE Measures

Water Services Cost per Capita



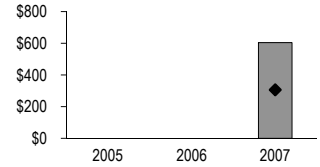
	2007
Salisbury	$216.62
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Salisbury	10.2
Average	8.3

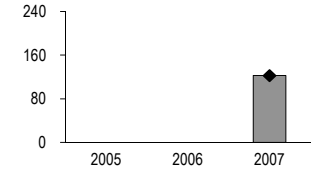
Water Services Cost per Meter



	2007
Salisbury	$605
Average	$306

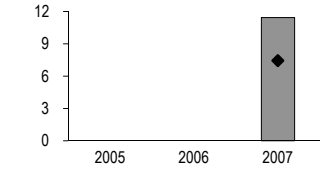
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Salisbury	122.6
Average	122.3

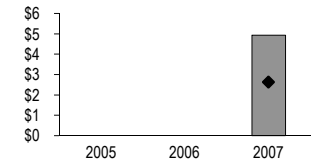
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Salisbury	11.4
Average	7.4

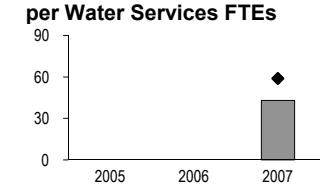
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



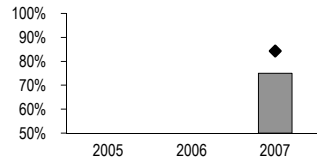
	2007
Salisbury	$4.93
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Salisbury	43.1
Average	58.9

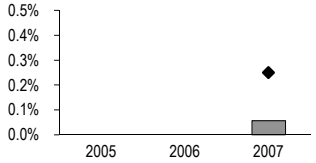
Billed Water as a Percentage of Finished Water



	2007
Salisbury	75%
Average	84%

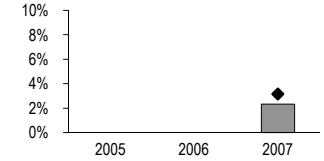
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



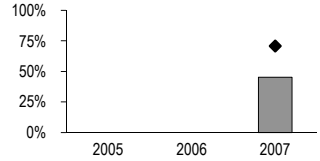
	2007
Salisbury	0.06%
Average	0.25%

Percentage of Water Bills Not Collected



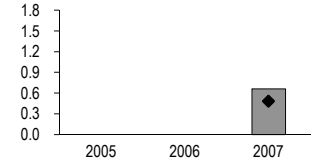
	2007
Salisbury	2.32%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



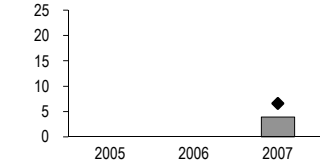
	2007
Salisbury	45%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Salisbury	0.66
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Salisbury	3.89
Average	6.64

MUNICIPAL PROFILE

Estimated Service Population	46,600
Service Land Area (Square Miles)	31.4
Persons per Square Mile	1,484
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		20.5%
Operating Costs		43.2%
Capital Costs		36.3%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,068,485
Operating Costs	$	4,357,384
Capital Costs	$	3,668,427
TOTAL	$	10,094,296

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	8.0
Line Crews	13.0
Meter Readers	11.0
Billing/Collection	4.5
Other	11.0
Number of Treatment Plants	1
Total Treatment Capacity	25.0 MG
Average Daily Demand in FY07	7.4 MG
Miles of Mainline Pipe	359
Average Age of Mainline Pipe	40 years
Number of Breaks/Leaks in FY 07	238
Number of Water Meters	16,691
Percent of Meters Read Automatically	0.0%
Total Revenues Collected for Water	$10,222,000

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 31.4 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.

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 brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

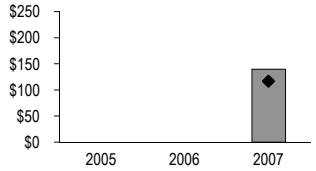
The costs of water service as captured here do not include debt service but only capture depreciation.

Wilson — Water Services

Key: Wilson ■ Benchmarking Average ◆ Fiscal Year 2007

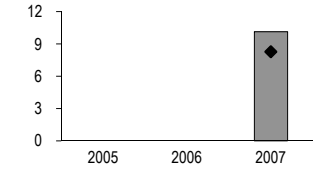
RESOURCE Measures

Water Services Cost per Capita



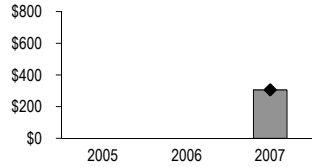
	2007
Wilson	$139.58
Average	$117.10

Water Services FTEs per 10,000 Population



	2007
Wilson	10.1
Average	8.3

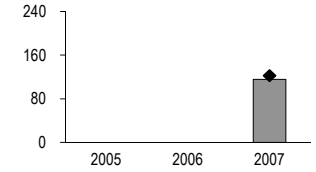
Water Services Cost per Meter



	2007
Wilson	$306
Average	$306

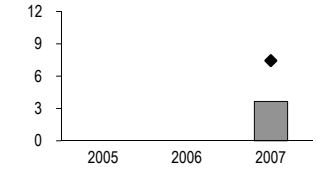
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



	2007
Wilson	115.6
Average	122.3

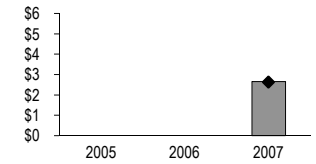
Miles of Main Line Pipe per Square Mile of Service Area



	2007
Wilson	3.7
Average	7.4

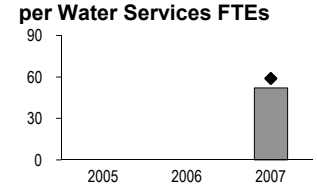
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



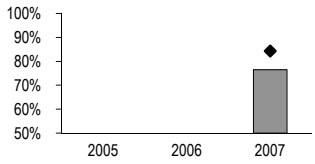
	2007
Wilson	$2.65
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



	2007
Wilson	52.0
Average	58.9

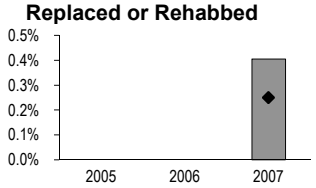
Billed Water as a Percentage of Finished Water



	2007
Wilson	76%
Average	84%

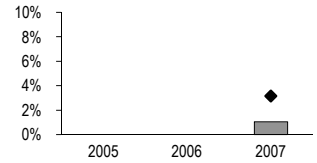
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



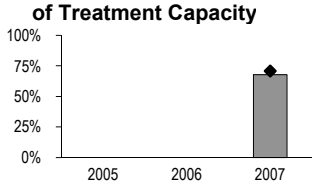
	2007
Wilson	0.41%
Average	0.25%

Percentage of Water Bills Not Collected



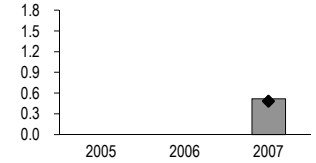
	2007
Wilson	1.05%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



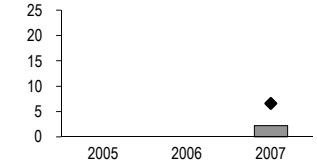
	2007
Wilson	68%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



	2007
Wilson	0.52
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



	2007
Wilson	2.22
Average	6.64

Wilson

MUNICIPAL PROFILE

Estimated Service Population	49,316
Service Land Area (Square Miles)	105.0
Persons per Square Mile	470
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		39.8%
Operating Costs		39.3%
Capital Costs		20.9%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	2,737,927
Operating Costs	$	2,705,265
Capital Costs	$	1,440,128
TOTAL	$	6,883,320

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	20.0
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 in FY07	9.3 MG
Miles of Mainline Pipe	385
Average Age of Mainline Pipe	40 years
Number of Breaks/Leaks in FY 07	200
Number of Water Meters	22,500
Percent of Meters Read Automatically	10.0%
Total Revenues Collected for Water	$9,500,000

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 105 square miles.

Source water for the system is four city-owned reservoirs. Water is also pumped from two different reservoirs in the Neuse River basin. The estimated safe yield for the system is 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 brand new service area for the benchmarking project beginning with Fiscal Year 2006–07.

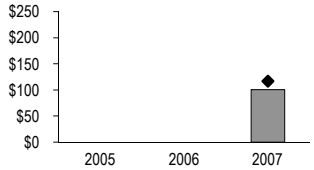
The costs of water service as captured here do not include debt service but only capture depreciation.

Winston-Salem Water Services

Key: Winston-Salem ■ Benchmarking Average ◆ Fiscal Year 2007

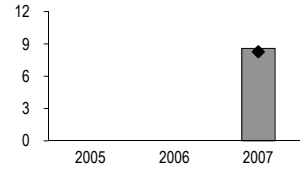
RESOURCE Measures

Water Services Cost per Capita



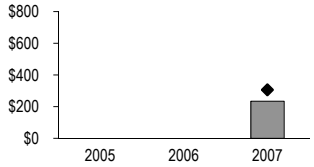
Winston-Salem	$100.27
Average	$117.10

Water Services FTEs per 10,000 Population



Winston-Salem	8.6
Average	8.3

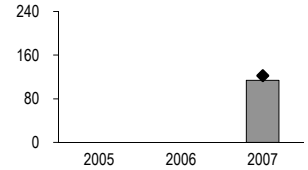
Water Services Cost per Meter



Winston-Salem	$235
Average	$306

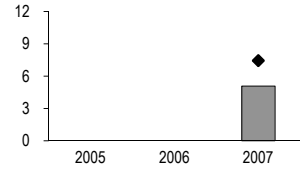
WORKLOAD Measures

Thousands of Gallons of Billed Water per Meter



Winston-Salem	113.7
Average	122.3

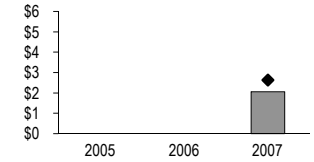
Miles of Main Line Pipe per Square Mile of Service Area



Winston-Salem	5.1
Average	7.4

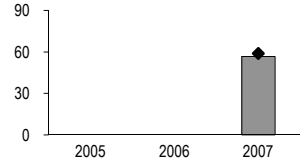
EFFICIENCY Measures

Total Cost per Thousand Gallons of Billed Water



Winston-Salem	$2.06
Average	$2.63

Million Gallons of Billed Water per Water Services FTEs



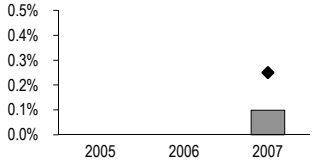
Winston-Salem	56.6
Average	58.9

Billed Water as a Percentage of Finished Water

Winston-Salem	91%
Average	84%

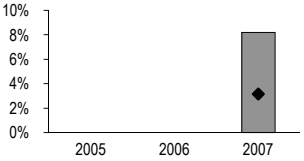
EFFECTIVENESS Measures

Percentage of Existing Pipeline Replaced or Rehabbed



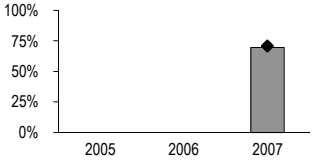
Winston-Salem	0.10%
Average	0.25%

Percentage of Water Bills Not Collected



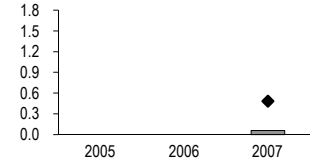
Winston-Salem	8.20%
Average	3.15%

Peak Daily Demand as a Percentage of Treatment Capacity



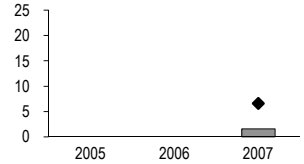
Winston-Salem	70%
Average	71%

Breaks and Leaks per Mile of Main Line Pipe



Winston-Salem	0.06
Average	0.48

Customer Complaints about Water Quality per 1,000 Meters



Winston-Salem	1.56
Average	6.64

Winston-Salem

MUNICIPAL PROFILE

Estimated Service Population	275,000
Service Land Area (Square Miles)	400.0
Persons per Square Mile	688
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		26.6%
Operating Costs		44.6%
Capital Costs		28.8%
TOTAL		100.0%
Cost Breakdown in Dollars		
Personal Services	$	7,332,652
Operating Costs	$	12,291,894
Capital Costs	$	7,951,064
TOTAL	$	27,575,610

SERVICE PROFILE

FTE Staff Positions	
Treatment Plant	51.0
Line Crews	104.0
Meter Readers	12.0
Billing/Collection	20.0
Other	49.0
Number of Treatment Plants	3
Total Treatment Capacity	97.0 MG
Average Daily Demand in FY07	40.2 MG
Miles of Mainline Pipe	2,037
Average Age of Mainline Pipe	50-75 years
Number of Breaks/Leaks in FY 07	126
Number of Water Meters	117,484
Percent of Meters Read Automatically	0.0%
Total Revenues Collected for Water	$36,770,779

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 275,000 people are served in an area covering roughly 400 square miles.

The system has an eleven-member utility commission that was created by an interlocal agreement between the City of Winston-Salem and Forsyth County. The commission sets policy for publicly owned water, wastewater, and solid waste disposal facilities. The commission is also charged with the responsibility for long range planning, authorizing funding for projects, operation and maintenance of facilities, and setting policies and rate structures. The commission is not authorized to issue bonds to finance capital improvements.

Water source for the system is at two separate points on the Yadkin River. The city also uses Salem Lake as a second water source. The estimated safe yield for the system is 133 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 bi-monthly 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 brand 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 only capture depreciation.

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