

# Popular Government

NORTH CAROLINA'S RESOURCE FOR PUBLIC OFFICIALS

SPRING/SUMMER 2005  
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*Also*

**Relicensing Hydropower Projects**

**A New Type of Criminal Court**

**Moving to Results-Based Management**

# Popular Government

James Madison and other leaders in the American Revolution employed the term “popular government” to signify the ideal of a democratic, or “popular,” government—a government, as Abraham Lincoln later put it, of the people, by the people, and for the people. In that spirit *Popular Government* offers research and analysis on state and local government in North Carolina and other issues of public concern. For, as Madison said, “A people who mean to be their own governors must arm themselves with the power which knowledge gives.”

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School of Government, UNC at Chapel Hill

Established in 1931, the Institute of Government provides training, advisory, and research services to public officials and others interested in the operation of state and local government in North Carolina. The Institute and the University's Master of Public Administration Program are the core activities of the School of Government at The University of North Carolina at Chapel Hill.

Each year approximately 14,000 public officials and others attend one or more of the more than 200 classes, seminars, and conferences offered by the Institute. Faculty members annually publish up to fifty books, bulletins, and other reference works related to state and local government. Each day that the General Assembly is in session, the Institute's *Daily Bulletin*, available in print and electronic format, reports on the day's activities for members of the legislature and others who need to follow the course of legislation. An extensive website ([www.sog.unc.edu](http://www.sog.unc.edu)) provides access to publications and faculty research, course listings, program and service information, and links to other useful sites related to government.

Operating support for the School of Government's programs and activities comes from many sources, including state appropriations, local government membership dues, private contributions, publication sales, course fees, and service contracts. For more information about the School, the Institute, and the MPA Program, visit the website or call (919) 966-5381.

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# Popular Government

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In spring 2000, Orange County launched a new type of criminal court, the mental health court. Court personnel, treatment providers, and law enforcement officers are coordinating the court's response to criminal cases in which mental health problems appear to be the primary contributors to the offenses.

### 31 Implementing Results-Based Management in Local Government

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Many agencies find it difficult to move from traditional management approaches to results-based management. Two North Carolina State University professors provide some guidelines for agencies wishing to make the transition. To illustrate their points, they use real-life examples from public agencies in Greensboro and Wake Forest (N.C.).

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A Different Way of Seeing North Carolina

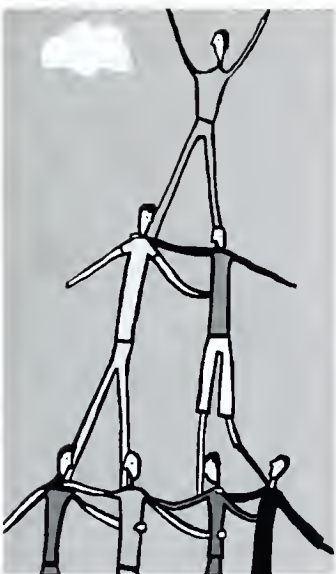
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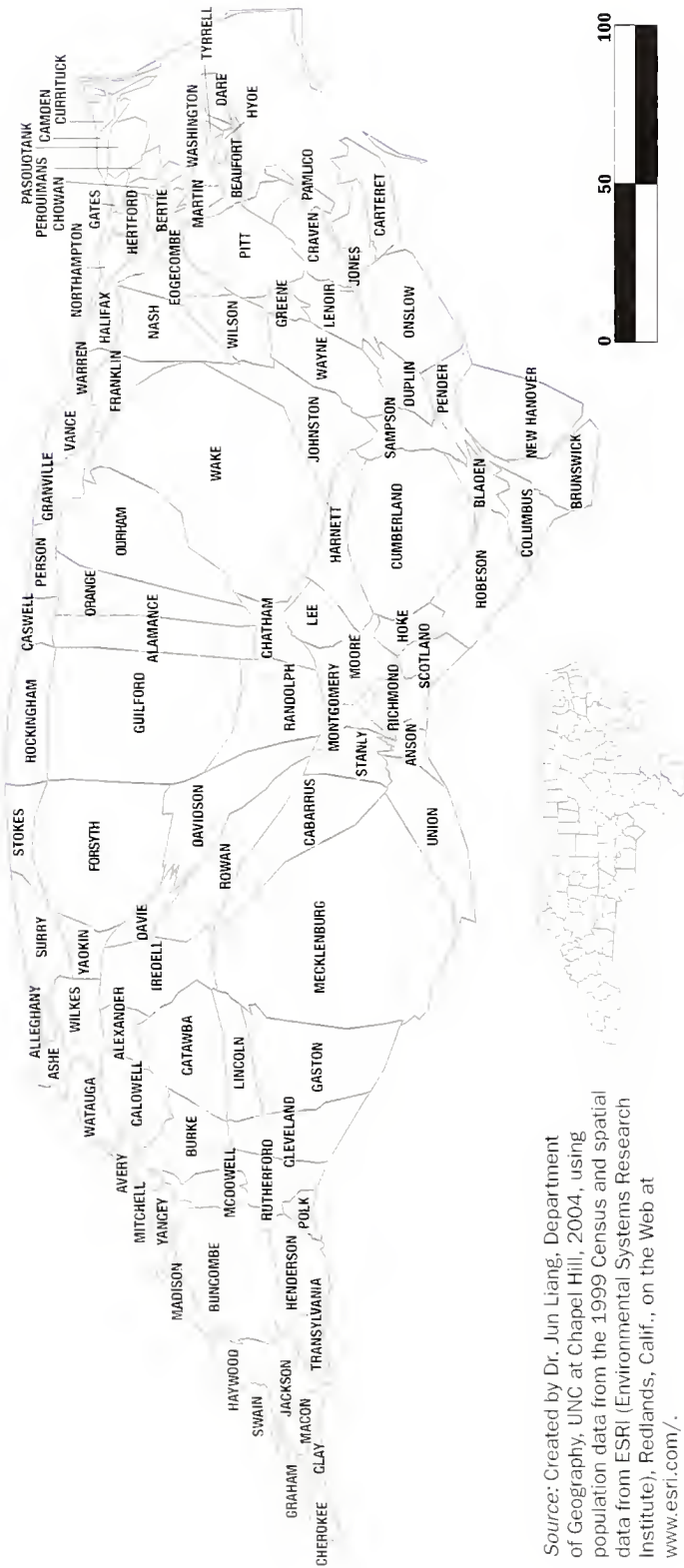
#### CORRECTION

In the Winter 2005 issue of *Popular Government*, we were unable to identify two people in the large-group photograph on page 37. We have learned that the two are Jack and Mary Elam, currently of Greensboro. Jack Elam was on the Institute staff in the early 1950s. Later he moved to Greensboro, where he practiced law and became mayor. He is a former president of the North Carolina League of Municipalities. We regret the incomplete information.—*Editor*

ON THE COVER *Dams are integral parts of the nation's water systems and power systems.*



## North Carolina by County Population



Source: Created by Dr. Jun Liang, Department of Geography, UNC at Chapel Hill, 2004, using population data from the 1999 Census and spatial data from ESRI (Environmental Systems Research Institute), Redlands, Calif., on the Web at [www.esri.com/](http://www.esri.com/).

## A Different Way of Seeing North Carolina

This large map of North Carolina is actually a “cartogram,” a map in which the sizes of counties have been rescaled according to their population. It visually communicates what many people already know: that a large part of the state’s population resides in the arc of counties between Mecklenburg and Wake.

The cartogram adds to readers’ numerical understanding of the difference between Mecklenburg County’s population of 752,366 and Tyrrell County’s population of 4,156. The ten most populous counties in the state account for 4 out of 10 residents (41.2 percent), and five of these counties—Buncombe, Cumberland, Gaston, New Hanover, and Onslow—are outside the Mecklenburg-Wake arc. Thirteen of the state’s 100 counties have populations under 15,000, and fifty have populations under 50,000.

—Editor



## Meet the Foundation's Board of Directors, 2005

The School of Government Foundation, originally the Institute of Government Foundation, was created in 1996 to strengthen private and public support for the work of the School, the Institute, and Master of Public Administration Program. The Foundation generates support for faculty and student projects and programs, professorships, scholarships, and general operations. In the Winter 2005 issue of *Popular Government*, we introduced nine people who recently joined the Foundation's Board of Directors. We now introduce the remaining members, who have been serving the Foundation admirably for a number of years.



**Philip A. Baddour Jr., Chair**

Philip A. Baddour Jr. is a partner in the law firm of Baddour, Parker, Hine & Orander P.C., in Goldsboro. Since graduating from UNC

at Chapel Hill's School of Law, Baddour has served as attorney for Wayne Community College, Walnut Creek, and the Goldsboro Housing Authority. He served four terms in the N.C. House of Representatives (from District 11) beginning in 1993. In 1999 he became House Democratic majority leader. While he was in the House, Baddour was a member of numerous committees, including Election Laws and Campaign Reform; Environment; Finance; and Judiciary II. His civic honors include the Neuse River Council of Government's Outstanding Regional Citizen Award, in 1991, and One of the Ten Most Outstanding Young Democrats, in 1986.

### C. Ronald Aycock (*ex officio*)



C. Ronald Aycock began work with the N.C. Association of County Commissioners in 1973 as counsel for intergovernmental relations and has been executive director since 1977. He has served on numerous N.C. boards and commissions. On the national level, he has been a president of the National Organization of State County Associations and a member of the Board of Directors of the National Association of Counties, Public Technology Incorporated (the technology arm of the National Association of Counties), the International City/County Management Association, and the National League of Cities. Aycock currently serves on the Board of Advisors of the State and Local Legal Center (Washington, D.C.), which provides advocacy on behalf of state and local governments on issues before the U.S. Supreme Court. He holds both a B.S. in business administration and a J.D. from UNC at Chapel Hill.

### Delilah B. Blanks



Dr. Delilah B. Blanks, of Elizabethtown, has been a member of the Bladen County Board of Commissioners for eleven years. In 2000-01 she was president of the N.C. Association of County Commissioners (NCACC). She has served on many boards and committees, including the Bladen County Hospital Board, the Bladen County Social Services Board, the Four County Community Services Board, the board of the N.C. Association of Black County Officials, and NCACC committees on intergovernmental relations, tax and finance, education, environment, and mental health and human services. In 1992 she retired from UNC-Wilmington after teaching there and directing the Social Work

Education Program for twenty-two years. Her numerous accolades include Distinguished Women of North Carolina and Bladen County Citizen of the Year. Blanks received a B.A. in English and social studies from Shaw University; a second undergraduate degree in library science from East Carolina University; and an M.A. in social work and a Ph.D. in public health from UNC at Chapel Hill.

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### James Carlton "J. C." Cole



James Carlton "J. C." Cole, of Hertford, has been district court judge for the First Judicial District of North Carolina since 1994. Before his appointment to the bench, he worked in private practice. Judge Cole is a member of the N.C. Courts Commission, the N.C. Association of Black Lawyers, and the Chief Justice's Commission on Professionalism. Also, he is a former member of the UNC Board of Governors, on which he served as vice-president. Judge Cole's civic accomplishments include membership on the boards of the N.C. Rural Economic Development Center, the Albemarle Mental Health Center, and the Elizabeth City Area Chamber of Commerce. Judge Cole holds a B.S. in mathematics from Livingstone College (N.C.), an M.S. in criminal justice from Long Island University (New York), and a J.D. from North Carolina Central University.

### Lyons Gray, Vice-Chair



Lyons Gray is the past president of the Downtown Winston-Salem Partnership and currently chairs the Environmental Finance Program Committee of the U.S. Environmental Protection Agency. He served for fourteen years in the N.C. House of Representatives (from District 39), at

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The challenges of providing safe drinking water and environmentally sound wastewater services have undeniably become as much about financial management as about treatment technologies.



Jeff Hughes

# The Painful Art of Setting Water and Sewer Rates

- *An increase in mergers and acquisitions*
- *Almost \$8 billion in assets and more than \$1 billion in annual revenues<sup>1</sup>*
- *Changing regulations, affecting the bottom line*
- *A backlog in capital investment needs*
- *Interruptions in supplies that hurt revenues*
- *Loss of major customers*
- *Innovative pricing and customer-relations strategies*
- *Sagging revenues*

Does this scenario sound like Wall Street or the North Carolina furniture or textile industry?

Does it sound like a business that has a fleet of business school graduates on its board and in high-level management?

These also are some characteristics of water and sewer enterprises owned by North Carolina local governments. Provision of centralized drinking water and sewer services resembles large business in many ways. However, the enterprises providing these services are not listed on Wall Street, and few government-owned water and sewer enterprises have even one business school graduate on their governing boards or in management.

Many features distinguish provision of water and sewer services from other businesses, but the challenges of providing safe drinking water and environmentally sound wastewater services have undeniably become as much about financial management as about treatment technologies. The financial decisions affecting water and sewer enterprises

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*The author is director of the Environmental Finance Center (see the sidebar on page 7), based at the School of Government, UNC at Chapel Hill. Contact him at [jhughes@iogmail.iog.unc.edu](mailto:jhughes@iogmail.iog.unc.edu).*

typically fall on governing boards that were chosen not as business or technical experts but as representatives of their constituents on a broad range of matters.

The drought of 2002 brought two types of water stories to the headlines: (1) the struggles of many communities to maintain their water supplies and (2) the financial difficulties of many communities due to decreased sales. The response to the first type of circumstance was immediate and significant: an executive order requiring conservation, and statewide initiatives to examine current supplies. The response to the second type of circumstance has been less obvious and less pronounced.

This article looks at the fundamental principles behind the water and sewer revenues that keep North Carolina's utilities in business. It focuses on high-priority financial decisions facing the boards governing water and sewer enterprises—decisions involving raising revenues from those whom they serve. The challenge is to evaluate and implement such decisions without forgetting that ultimately the water and sewer business is primarily about public health, not the bottom line.

## Water and Sewer Revenues

In 2002 about 500 government-owned water and sewer enterprises collected more than \$1.4 billion in revenues from their customers, and their combined net assets were almost \$7.8 billion (see

Table 1). These numbers are impressive. However, the projected numbers are staggering. According to a study by the North Carolina Rural Economic Development Center, the state will need more than \$11 billion in investments to meet its capital needs for water and sewer infrastructure over the next twenty years.<sup>2</sup>

In North Carolina, as throughout the country, numerous water and sewer enterprises owned by local governments benefited from the federal government's ambitious construction grants program of the 1970s (for the patterns of federal wastewater funding from 1970 to 2000, see Figure 1). Many local government officials fondly remember those days of "free money." In fact, though, there was nothing free about that money. It was collected from citizens by the federal government through taxes, rather than by local governments through water and sewer charges.

A recent trend is the shift of the burden of collecting revenues away from the state and federal governments, toward local governments. This shift is painful for many in local government.

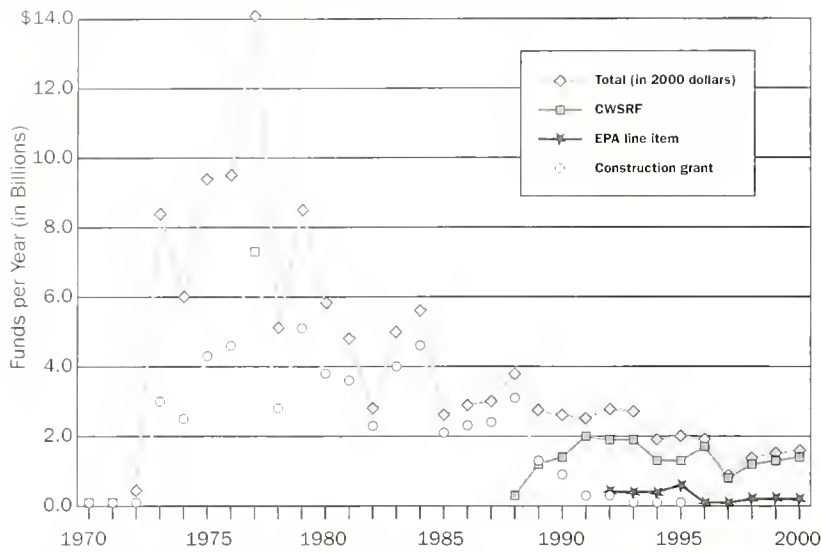
The state of North Carolina has periodically played the role of collector. As recently as 1998, citizens passed a referendum allowing the state to issue about \$800 million in bonds to provide grant and low-interest capital funds for government-owned water and sewer enterprises. The majority of the funds were disbursed between 1999 and 2003. The debt service on them will be retired

**Table 1. Financial Overview of Water and Sewer Enterprises Owned by North Carolina Local Governments**

Number of enterprises	507
Annual revenues	\$1,410,130,282
Equity	\$7,774,753,555
Outstanding debt	\$4,115,026,560

Source: Calculated by author using data from local finance reports submitted to Local and State Gov't Div., N.C. Dep't of State Treasurer, for fiscal year ending June 30, 2002.

Figure 1. Federal Funding for Wastewater Infrastructure, 1970–2000



Source: ENVIRONMENTAL PROTECTION AGENCY, REPORT TO CONGRESS: IMPACTS AND CONTROL OF CSOs AND SSOs (Washington, D.C.: EPA, 2004).

Note: CWSRF = Clean Water State Revolving Fund. EPA = Environmental Protection Agency.

by the state using general revenues collected from state taxpayers.

The federal and state governments will likely continue to provide some water and sewer funds. However, given the economic pressures on the federal and state budgets, local governments probably will have to raise most of the revenues for their water and sewer services.

The need for increased revenues comes at a time when some water and

sewer enterprises, especially small ones, are not even generating sufficient income from their rates to meet current needs. Many municipal utilities in North Carolina had negative operating margins in the fiscal year ending June 30, 2003.<sup>3</sup> Overcoming current deficits and meeting future capital needs will surely result in significant (and painful) pressure on local governments to increase the revenues that they collect from their customers.

## Governance

About two-thirds of North Carolina residents pay a centralized provider for their drinking water, and half pay for centralized treatment of their wastewater.<sup>4</sup> Most residents not served by centralized providers rely on wells for their drinking water and septic systems for their wastewater treatment.

A variety of government organizations in North Carolina provide centralized water and sewer services, including municipalities and special units of government created solely to provide such services. Municipalities are the most common providers. However, the last few years have seen an increase in regional arrangements that include expanded county systems, partnerships among local governments, and regional-provider models. Although these joint undertakings have many similar responsibilities, their statutory authorities and governing board structures vary (for a summary, see Table 2).

Nongovernment service providers include numerous small, investor-owned companies and a few nonprofit organizations. However, on a statewide basis, these organizations serve far fewer customers than government-owned water and sewer enterprises do—320,000 versus more than 5 million—and collect far less revenues—about \$50 million versus more than \$1.4 billion.<sup>5</sup>

Table 2. Enabling Statutes and Common Organizational Structures for Water and Sewer Enterprises Owned by North Carolina Local Governments

Owner/Model	Enabling Statutes	Financial Management Authority (Rate-Setting and Financial Planning)
Municipality	G.S. 160A, Art. 16	Municipal council/mayor
County	G.S. 153A, Art. 15	County board of commissioners
County water and sewer district	G.S. 162A, Art. 6	County board of commissioners
Water and sewer authority	G.S. 162A, Art. 1	Varies—typically, appointed representatives from participating governments
Interlocal agreement, including joint management agency (JMA) (sometimes referred to as “authority” or “commission”)	JMA: G.S. 160A-460 through -462; G.S. 160A, Art. 20, Pt. 1; G.S. 153A-278	Varies—typically, elected officials from participating governments
Sanitary district	G.S. 130A, Art. 2, Pt. 2	Officials elected to sanitary district board by citizens within district
Metropolitan water district/ metropolitan sewerage district	Water: G.S. 162A, Art. 4; sewerage: G.S. 162A, Art. 5	Varies—typically, appointed representatives from participating governments

Sources: Warren Jake Wicker, *Outline of Alternative Organization Arrangements for Providing Water and Sewerage Services in North Carolina* (June 1988) (unpublished manuscript, on file with author); Warren Jake Wicker, *Water and Wastewater Services*, in *MUNICIPAL GOVERNMENT IN NORTH CAROLINA* 691 (2d ed., David M. Lawrence & Warren Jake Wicker eds., Chapel Hill: Institute of Gov’t, Univ. of N.C. at Chapel Hill, 1995).



## The UNC Environmental Finance Center

The Environmental Finance Center at UNC at Chapel Hill conducts financial management training and assists local governments in developing innovative ways of paying for environmental programs and services. The center and the Institute of Government currently offer financial management workshops for the governing boards of utilities. For more information about these workshops and other environmental finance programs, visit [www.efc.unc.edu](http://www.efc.unc.edu).



UNC

ENVIRONMENTAL FINANCE CENTER

Investor-owned utilities are regulated by the North Carolina Utilities Commission, which is responsible for reviewing annual reports and approving customer rates and charges. Nonprofits are regulated primarily by their boards.

Financial oversight of government-owned utilities is provided by the North Carolina Local Government Commission (LGC). It reviews financial reports, approves audit contracts, and approves most debt, including debt for water and sewer purposes. Also, it often reviews existing rate structures. However, neither it nor any other state agency has approval authority over water and sewer charges imposed by government-owned water and sewer enterprises (see Table 3).

The provision of water and sewer services is a monopoly. Few customers have much choice in their service. All monopolies, even the most benevolent, require some basic customer oversight and protection. From a rate-setting standpoint, government-owned water and sewer enterprises are arguably one of the least regulated of any monopolies in North Carolina.

One justification for not having an autonomous rate-setting review body for government-owned water and sewer enterprises relates to the election process behind most utility boards. In most (but

not all) cases, payers of local government water rates (the people who theoretically need protecting) have the direct ability to “fire” (by not reelecting) the owner of the monopoly that provides them service. The election process probably has more of an impact (positive and negative) on rate-setting than the other oversight options shown in Table 3 could ever have. The officials setting rates depend on the support and the good graces of their customers to stay in power.

In a publicly traded company, the managers of the company are responsible to their owners and their customers, in that order. For example, Krispy Kreme customers probably would prefer a donut that costs ten cents, but the managers of Krispy Kreme balance their interest in pleasing their customers with the constraints of keeping the company financially healthy.

In a government-owned enterprise, the line between owner and customer blurs: they normally are the same. As customers, citizens sometimes get blinded by the seduction of cheap services. This often overpowers their interest as owners in ensuring the long-term financial health of their water and sewer utilities. There are many more examples of citizen-customers complaining about rising water charges than there are of

citizen-owners demanding increases in revenues to ensure the long-term health of the business. Striking a balance between pleasing customers and looking out for the good of the company is one of the central challenges in managing a government-owned utility.

### Getting Down to Business: How Should Customers Pay?

*A city may establish and revise from time to time schedules of rents, rates, fees, charges, and penalties for the use of or the services furnished by any public enterprise. Schedules of rents, rates, fees, charges, and penalties may vary according to classes of service, and different schedules may be adopted for services provided outside the corporate limits of the city. (G.S. 160A-314a)*

The preceding section of the North Carolina General Statutes authorizes municipalities to establish rates to support public enterprises, including water and sewer enterprises. It is the primary authorization and instruction for both the \$5 late fee tacked onto an overdue water bill and the \$50,000 impact fee that a large industry might be required to pay before getting sewer service. The laws governing county water and sewer enterprises and other government models appear in different parts of the statutes and have some variations.<sup>6</sup> However, all the laws governing rate-setting authority for government-owned water and sewer enterprises share the characteristic of providing general guidance and limitations with very few specific rules or procedures. The regulatory framework gives leaders of water and sewer enterprises much latitude in designing

Table 3. Financial Regulatory Framework for Water and Sewer Services in North Carolina

Review/Oversight of Type of Service	Review/Approval of Financial Statements	Rates and Charges
Municipality	N.C. Local Government Commission	Municipal council
County system (including county district)	N.C. Local Government Commission	County board of commissioners
Sanitary district	N.C. Local Government Commission	Sanitary district board
Water and sewer authority/metropolitan district	N.C. Local Government Commission	Detailed in bylaws—typically, board appointed by participating municipalities and counties
Private company	N.C. Utilities Commission	N.C. Utilities Commission

rates and fees. Utilities that use revenue bonds or some type of public capital assistance may have to follow more specific requirements imposed by their lenders, such as raising rates to meet revenue targets. Even under these “rate covenants,” though, utilities maintain a degree of flexibility in how they allocate costs to different customers.

The good news is that this flexibility provides local boards with countless options. The bad news is that they have countless options, with no one right answer or approach. With the flexibility comes responsibility. Choosing the combination and the structure of rates and fees that are appropriate for it can be a difficult task for a community, especially if the right and appropriate option requires a change from a long-established approach or negatively affects a particularly large customer or group of customers.

The pricing of goods and services is the core of private companies’ operations. They review it continually and compare it with costs. Many government-owned enterprises have developed similar views about their water and sewer rates and fees. Some hire specialists to review their rates and suggest innovative techniques, such as charging different rates for different time periods (seasonal rates) or dividing consumption into blocks (e.g., 0–3,000 gallons/month, 3,000–6,000 gallons/month) and charging different rates for consumption that falls in each block. In some cases they incorporate rates into cash-flow models so that they can link every capital decision to rates. Rate review and modification may be incorporated into the annual budget process. For example, Cary uses a rate model to calculate rates each year. When costs go up, rates go up as well.

Unfortunately, many government-owned utilities, especially the smallest ones, are unwilling or unable to pay this amount of attention to their rates. They set rates and then forget about them (or avoid reviewing them) for as long as possible. It is easy to understand their avoiding what is normally a very difficult and unpopular responsibility. Yet from a business standpoint, an enterprise’s inattention to revenue needs can affect its ability to provide quality services.

## **Making Key Decisions about Rates and Fees**

Local government leaders face several key decisions about rates and fees.

### **Deciding on the Types of Charges**

As noted earlier, North Carolina law states that government-owned water and sewer enterprises may use a variety of charges, but it does not specify what they should be or how they should be calculated. In practice, utilities have developed an assortment of rates, fees, charges, and penalties that vary widely in terminology, implications for financial strategy, and application.

At the most general level, customer-generated revenues fall into two general categories: the monthly bill and up-front charges, due before obtaining service—often referred to as “tap-on” or connection charges. Also, there are special assessments.

### ***The Monthly Bill***

Most customer-generated revenues are collected through monthly (or sometimes bimonthly or quarterly) bills sent to customers. The monthly bill often includes several charges. Many utilities use a fixed charge to recover a consistent amount every month. What is covered by this fixed charge varies significantly across utilities. It can include meter-reading costs, bill-processing costs, and a portion of capital costs.

From one utility to the next, the fixed charge may appear under different names. The names may or may not explain how the charge is used—for example, service charge (Orange Water and Sewer Authority—OWASA), base charge (Aberdeen), billing and availability fee (Greensboro), meter charge (Benson), and administrative fee (Chatham County).

In addition to the fixed charge, there normally is a charge that is based on the volume of water used or treated.

Rather than have a fixed component and a volume charge, many water and sewer enterprises charge a “minimum” for a set amount of service. For example, Oak Island charges \$29.00 as a monthly minimum for the first 4,000 gallons of wastewater, plus \$6.90 for every 1,000 gallons of wastewater above 4,000 gallons.

### ***Up-Front “Tap-on” or Connection Charges***

In addition to charging their customers recurring fees for use, most water and sewer enterprises require that new customers pay some type of up-front charge before they can be provided service. North Carolina law does not specifically define the terms “tap-on charge” or “connection charge,” and the terms have come to mean different things to different utilities. For the average new residential customer, these charges can range from a few hundred dollars for utilities that charge only a basic meter installation fee to more than \$5,000 for recovery of a percentage of the existing or future facility costs necessary to serve the new customer.

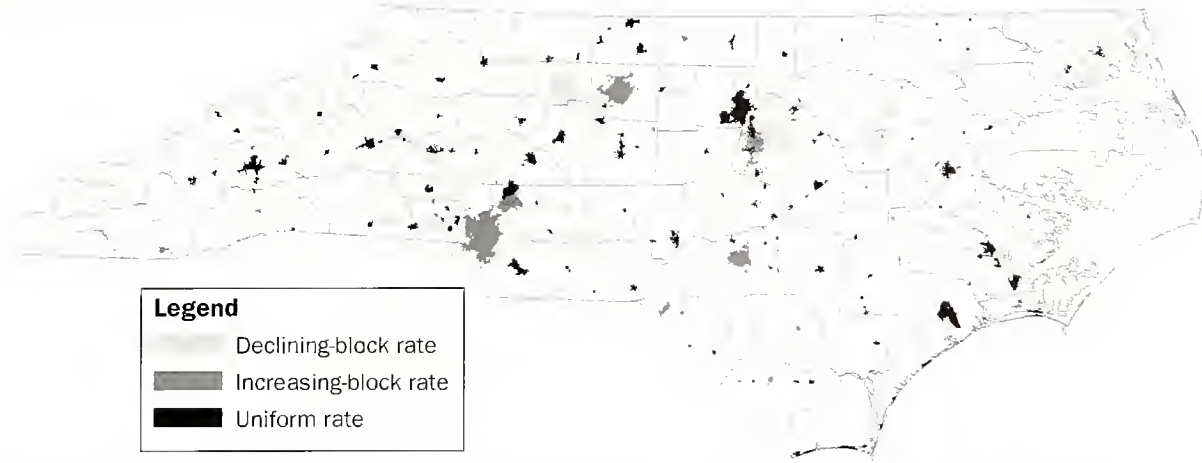
The North Carolina League of Municipalities conducts a rate survey of municipal water and sewer enterprises every two years. In the most recent survey, 91.9 percent reported using a tap-on or connection fee, 44.8 percent a nonrefundable hookup fee, 20.2 percent a frontage/acreage fee, 17.9 percent a capital recovery charge, and 15.2 percent an impact fee.<sup>7</sup>

In one system, “tap-on fee” or “connection charge” may be an umbrella term that characterizes several fees with different purposes, from recovering a portion of past capital cost to offsetting direct installation expenditures. In another system the same term may refer to a particular fee, such as one that covers the actual cost of installing a water meter. Explaining these to customers often is a challenge, especially because fees increasingly cover costs for facilities such as water treatment plants or water tanks that customers never see.

### ***Special Assessments***

Many types of government-owned water and sewer enterprises, including county and municipal ones and water and sewer authorities, are authorized to use special assessments for improvements. Unlike the case with other common water and sewer charges, the law contains many specifics on how these should be calculated and implemented.<sup>8</sup> Under a special assessment, the owner of a property that is improved by the provision of water and sewer infrastructure can be assessed his or her relative

Figure 2. **Structure of Residential Water Charges, North Carolina, 2002**



Source: Compiled by UNC Environmental Finance Center using database of local government rate structures prepared as part of biannual North Carolina League of Municipalities Rate Survey (2002).

Note: The shading shows the political boundaries of municipalities with the particular type of charge. In some cases the service area would extend beyond the political boundaries, so the shading does not represent the service area.

portion of the overall project's cost, whether or not the owner connects to the system. Assessments are linked to a particular construction project and can be paid in a lump sum at the conclusion of the project or spread out over a number of years.

A utility can combine all the basic components of rates and fees and apply them differently on the basis of its community's characteristics, interests, and priorities. The rest of this article describes different approaches and strategies.

**Deciding on a Rate Structure**

The rate structure that utilities use to calculate their customers' bills is one of the most important rate decisions that a util-

ity must make. Given the flexibility that governing boards have in so many areas related to rate-setting, a subtle change in how they calculate rates or how they allocate costs among customers can have significant impacts on the bottom line as well as on customer behavior.

Key decisions about rate structure include how large to make the fixed portion of the bill and how to calculate the volume charge. Regarding the latter, the unit price for a specific amount of consumption (say, 1,000 gallons) may remain the same as the customer consumes more or less. This is called a "uniform charge." Alternatively it may decline as the customer consumes more or increase as the customer uses more. These

are called a "declining block charge" and an "increasing (or inverted) block charge," respectively.

Some utilities, such as OWASA, have moved to a seasonal rate structure, under which the unit price varies by the season—October through April, versus May through September (the peak season).

The use of different structures varies across the state (see Figure 2).

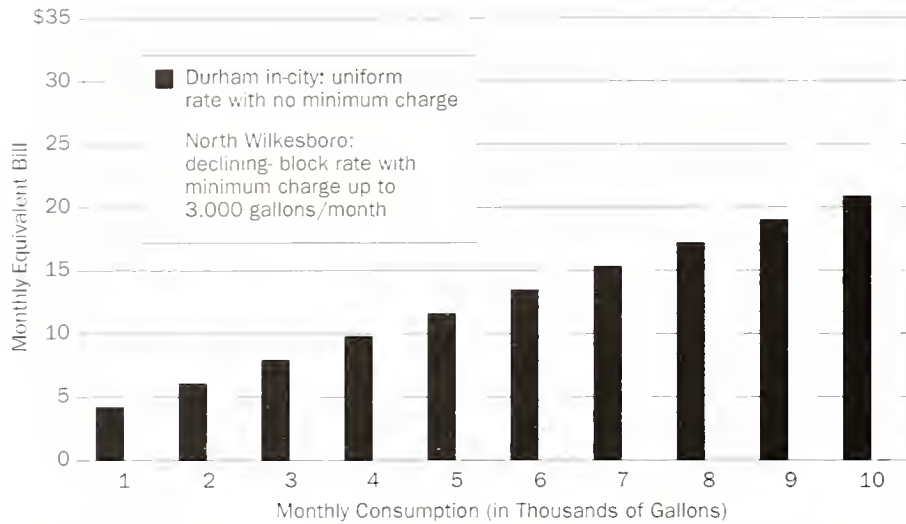
Durham, OWASA, Burlington, Greensboro, and North Wilkesboro provide examples of five rate structures commonly used in North Carolina for drinking water (see Table 4). Every two months, Durham in-city customers with a 5/8-inch water meter are charged a fixed fee of \$4.88 plus \$1.38 for each

Table 4. **Effects of Rate Structures on Monthly-Equivalent Bills for Drinking Water**

Utility	Rate Structure (In-City Water)	Monthly-Equivalent Bill		
		For 2,000 GPM	For 6,000 GPM	For 12,000 GPM
Durham	Bimonthly, fixed service fee based on meter size, plus uniform charge based on volume	\$ 6.13	\$13.51	\$24.58
Orange Water and Sewer Authority	Monthly, fixed service fee based on meter size, plus uniform charge based on volume and season	13.61	23.37	38.01
Burlington	Bimonthly, declining-block rate for 4 blocks, with fixed minimum charge	5.16	15.23	29.21
Greensboro	Quarterly, fixed service fee based on meter size, plus increasing-block rate for 4 blocks	4.94	14.67	33.14
North Wilkesboro	Bimonthly, declining-block rate for 7 blocks, with fixed minimum charge	7.50	16.83	34.45

Note: Amounts are for households with a 5/8-inch water meter, in the off season where applicable. GPM = gallons per month.

Figure 3. Relationship between Rate Structures and Monthly-Equivalent Bills for Water Services



Source: Compiled by UNC Environmental Finance Center using rate structures from Durham, N.C., and North Wilkesboro, N.C., Water and Wastewater Utilities.

100 cubic feet (\$1.84 for each 1,000 gallons) that they use.

OWASA's rate structure is similar to Durham's. However, the amount that customers pay for their consumption depends on the time of year. From October through April, customers pay \$2.44 per 1,000 gallons; from May through September, \$4.61.

In Burlington and Greensboro, customers are charged a different price for different blocks of consumption. In Burlington, as a customer uses more water, the unit price decreases. In Greensboro, as a customer uses more water, the unit price increases.

Customers in North Wilkesboro are charged a minimum of \$15.00 every two months, which covers 6,000 gallons of consumption. In other words, if customers consume 0–6,000 gallons during the two months, they are charged \$15.00 for water. North Wilkesboro's rate structure also has a declining-block component.

Rate structures affect monthly bills (see Figure 3). For example, North Wilkesboro customers who use about 3,000 gallons a month pay approximately as much as Durham customers with the same consumption. For other levels of consumption, though, North Wilkesboro customers pay considerably more.

The power of rate structures has never been as evident as it was during the drought of 2002. Local governments with increasing block rates, which encourage conservation, gave their customers an incentive for limiting irrigation during dry periods. Local governments with declining block rates sent the opposite message. As the drought worsened and customers were tempted to water lawns more often, the price of water decreased.

On the revenue side, many utilities with increasing block rates that implemented mandatory conservation measures experienced huge decreases in revenues. Utilities with minimum rates or

significant flat-fee components of their monthly bill were much less affected by declines in use than utilities with small or no fixed fees were. If use declined 10 percent, but only half of a typical monthly bill was due to use, then revenues may have fallen only 5 percent.

When faced with the need to increase overall revenues, many utilities impose across-the-board rate increases—for example, 10 percent for all classes of customers. Often this strategy is appropriate, but as the nature of a community changes, periodically reviewing rate structures also makes sense. Chatham County's water system began like many rural water systems as a collection of individual systems serving sparsely populated communities. To ensure a reliable, consistent amount of revenues, the county set up a minimum-rate structure. Over the years, the county's customer base began to shift from rural residents using small amounts of water to suburban commuters with gardens. The consumption pattern changed, yet the rate structure remained the same. The retired couple using 1,000 gallons per month was charged for using 3,000 gallons, therefore paying much more per gallon than the wealthy family that used 20,000 gallons in the summer to water its yard.

When the time came to raise revenues, the county looked at the structure along with the rates and decided to implement an increasing block charge. The change in rates and rate structure led to substantially greater revenues while shifting the financial burden from modest users to large users.

### Developing Classes of Customers

Utilities have the authority to establish different rates and rate structures for different classes of customers. The types of classes are not defined by law. How-

Table 5. Examples of Methods Used to Calculate Drinking-Water Impact Fees

	Name	Amount*	Basis
Carolina Beach	Water user fee	\$500–\$5,000	\$500 per bedroom
Charlotte	Water capacity charge	\$235	Tiered on basis of size of meter
Chatham County	Water availability fee	\$1,750	Tiered on basis of size of meter
OWASA	Water availability fee	\$805–\$4,854	Tiered on basis of square footage

Note: OWASA = Orange Water and Sewer Authority.

\*Amount paid by new residential customer with 5, 8-inch meter.

ever, most utilities have at least one residential and one nonresidential class. Some divide residential into multiple classes, such as multifamily and single family (e.g., Chatham County). Large industries may fall into a class separate from smaller commercial customers and institutional customers.

As with rate-setting, the creation of different classes of customers varies widely across the state. Larger systems with many types of customers often hire specialized firms to analyze their cost structures carefully and develop customer classes.

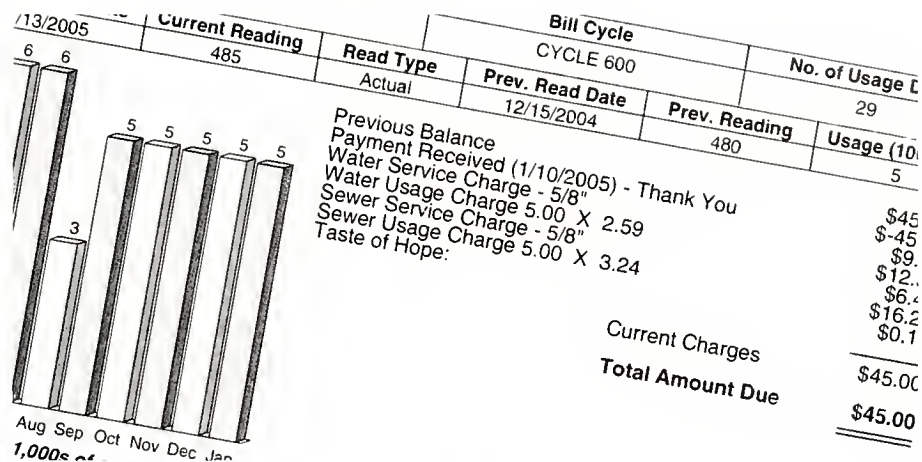
One of the principal decisions facing water and sewer enterprises is whether to treat their residential customers differently from their commercial customers. To make this decision, they must understand the use patterns of different customers. Residential customers in a primarily urban setting with small yards have different use patterns than suburban customers with large irrigation systems. Irrigation causes peaks in use that have different cost impacts than use of a relatively stable amount of services throughout the year.

Innovative rate structures, such as conservation rates or seasonal rates, are most effective if the customers to whom the rates apply can change their behavior. For example, Chatham County's approach of applying its increasing block rate only to its residential customers has become common throughout the state, under the justification that many commercial and industrial customers have little variation in their use throughout the year and generally have fewer discretionary uses.

In developing customer classes for sewer services, utilities often rely more on the type of wastewater being treated than on the flow patterns. For example, utilities such as Kernersville that have diverse industrial customers link elements of their rate structure to the characteristics of the sewage effluent that their customers discharge.

### Recovering Up-Front Costs from New Customers

New customers bring new costs, but they also generate new revenues. Figuring out the net costs of a new customer can be a challenge. To continue the busi-



ness analogy, some utilities can benefit from a pricing strategy that supports selling more water. This is one area in which "doing what your neighbor does" is clearly not the best practice, especially if the neighbor has a different cost structure. The decision about how significant to make one-time charges is not always a purely financial one. A community's vision and philosophy inevitably are reflected in the rate structure. A community struggling with growth pressures is likely to view the use of significant up-front charges more favorably than a community that is struggling to halt a population decrease.

Utilities that rely on impact fees use different approaches for calculating them. For the approaches followed by Carolina Beach, Charlotte, Chatham County, and OWASA, see Table 5.

All the approaches try to link the fee in some way to the amount of service that will be provided to the property, but the method varies significantly. Carolina Beach bases its fee on the number of bedrooms in a new residence. Charlotte uses a detailed financial model that is based on having new customers buy in to the equity of the existing system. The charge is calculated by dividing the number of customers by the value of the system's assets. Both Charlotte and Chatham County set the fee on the basis of a new customer's meter size. Meters come in standard sizes, and most residential customers are served by a 5/8-inch meter.

**A community struggling with growth pressures is likely to view the use of significant up-front charges more favorably than a community that is struggling to halt a population decrease.**

OWASA carried out a study several years ago to determine what factors influenced consumption.<sup>9</sup> The study clearly showed that customers living in larger houses used more water than customers living in smaller houses and had larger shifts in water use during the year, even if they had the same size meter. Water and sewer facilities need to be sized to meet the peak demands of customers, regardless of whether the peak lasts several days or is consistent across the year. As a result, OWASA modified its impact charges to take into

consideration the size of the building in addition to the size of the meter. OWASA's system has resulted in much greater and more refined variation in what new customers pay, than if the utility relied only on the size of the meter.

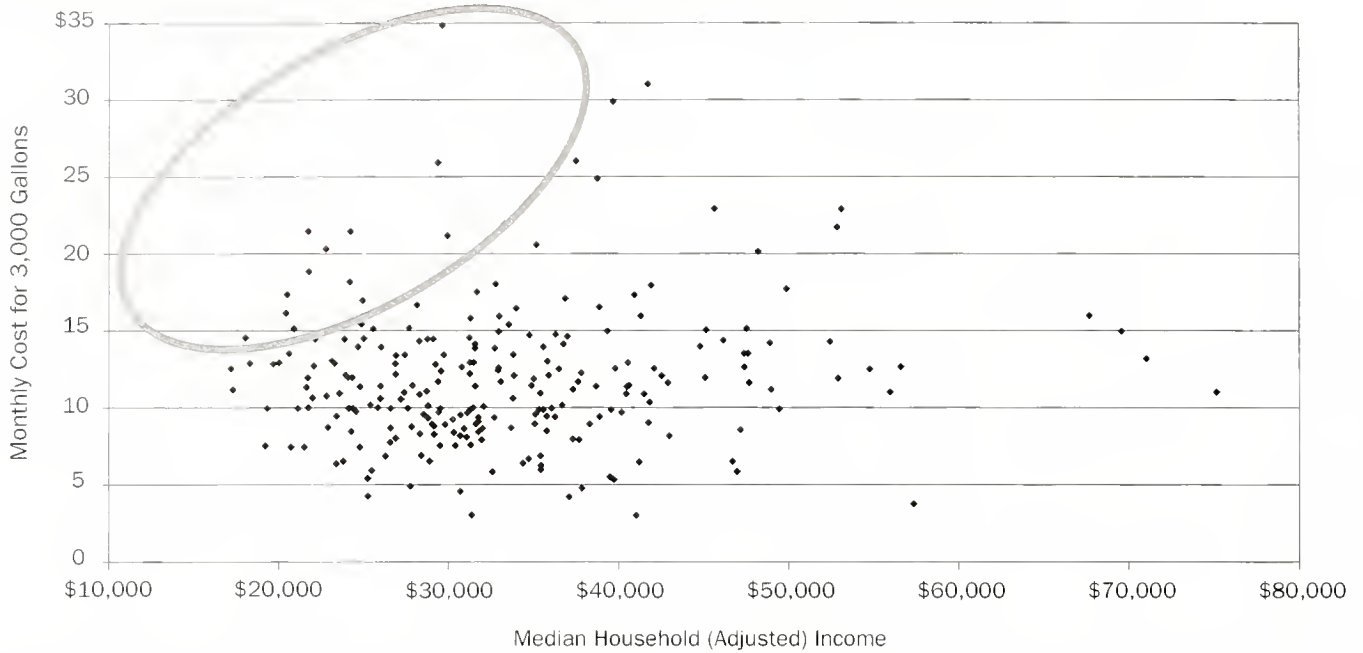
The resulting structure, although put in

place to link fees to actual costs, had the secondary effect of lessening the financial impact on low-income community members choosing to build smaller properties. The OWASA fee is designed to cover existing as well as anticipated capital costs of serving new customers. Being able to justify these fees, especially as they get larger, is essential.

### Deciding Whether to Vary Rates on the Basis of Location

North Carolina communities have different views concerning whether the amount they charge their customers should depend on where the customers

Figure 4. **Current Charges for Water by Median Household Income, North Carolina, 2002**



Source: Compiled by UNC Environmental Finance Center using database of local government rate structures prepared as part of biannual North Carolina League of Municipalities Rate Survey (2002), and data from U.S. Census Bureau, Census 2000, Summary File 3.

live as well as how much the customers use. City- and county-owned water and sewer enterprises are permitted to charge their customers different rates depending on where the customers live in the county (county systems) or whether or not they live within government corporate limits (county or municipal systems). If a county charges customers in different parts of the county different rates, it usually does so because it has created service districts that have different capital costs.

According to a recent survey, the most common reason cited by municipalities for charging different rates to inside and outside customers is that it is the “prevailing practice.”<sup>10</sup> The original rationale for doing so was that some systems required significant influxes of money from general funds, which were contributed by taxpaying municipal customers. This practice has faded, but the rate differential remains.<sup>11</sup>

Some systems can track their different rates to the higher costs of serving customers in less dense areas. Other systems do not have a cost-driven justification but use rates as a growth-and-development tool. For example, high rates for areas outside the city limits often are an effective incentive

for those areas to request voluntary annexation.

In practice, customers who live outside the city limits of their municipal service provider pay significantly more for water and sewer services than those who live inside the city limits. For example, a single-family residential household living outside Cary city limits with a 3/4-inch water meter pays a \$7.86 base charge per service, \$9.84 per 1,000 gallons for water (up to 5,000 gallons), and \$11.19 per 1,000 gallons for sewer service, monthly. A single-family residential household living inside the city limits with a 3/4-inch meter pays a \$2.62 base charge per service, \$3.28 per 1,000 gallons for water (up to 5,000 gallons), and \$3.73 per 1,000 gallons for sewer service, monthly.

Some municipal systems seeking to increase their customer base have reexamined their rate structures and moved to a more uniform one throughout their service area. For example, Salisbury now provides service throughout Rowan County and charges all its customers the same rates, whether or not they live in the city. The equal treatment of customers has helped the system grow and has offset the disenfranchisement of customers outside the city limits, who cannot vote for the governing board that sets their rates.

#### **Addressing the Impact of Rates on People in Need**

As the price of water and sewer services increases, the impact often is particularly hard on low-income families. More and more communities are struggling to maintain a financially healthy water and sewer enterprise without imposing excessive hardships on their financially struggling customers.

The impact of rates on customers always is a difficult issue for utilities. Every community has low-income customers who will be negatively affected by rate increases. Before communities make decisions on the basis of low-income considerations that may jeopardize their utilities’ financial health (and ultimately the public health), they should assess how serious the issue is for them.

One method of conducting such an assessment is to examine current charges according to the median household income of a community (see Figure 4). For communities in the upper-left part of the chart (indicated by the oval), with high current charges and low median household incomes, raising rates clearly is a major issue. For communities in other parts of the chart, the story is not so clear. The chart shows that many

Table 6. **Financial Impact of Rates on Households**

System	Rate in Effect	Monthly-Equivalent Water and Sewer Bill for 6,000 GPM	MHI 1999	Annual Cost as % of MHI	Annual Cost as % of Poverty Threshold*	% in Poverty
Durham	In city	\$38.75	\$41,160	1.1	3.5	11.3
	Out of city	77.50	41,160	2.3	7.0	11.3
Burlington	In city	32.27	35,301	1.1	2.9	9.7
	Out of city	64.54	35,301	2.2	5.8	9.7
Greensboro	In city	34.45	39,661	1.0	3.1	8.6
	Out of city	79.58	39,661	2.4	7.2	8.6
Orange Water and Sewer Authority	Nonseasonal	47.71	39,140	1.5	4.3	6.4
	Seasonal	60.73	39,140	1.9	5.5	6.4
North Wilkesboro	In city	37.03	22,813	1.9	4.1	21.8
	Out of city	45.85	22,813	2.4	5.1	21.8

Source: The data on median household income are from U.S. Census Bureau, Summary File 3, available at <http://factfinder.census.gov>.

Note: GPM = gallons per month. MHI = median household income.

\*The 1999 poverty threshold for a family of two was \$10,869; for a family of three, \$13,290. U.S. Census Bureau, Current Population Survey, available at [www.census.gov/prod/2003pubs/c2kbr-19.pdf](http://www.census.gov/prod/2003pubs/c2kbr-19.pdf). North Wilkesboro has an average household size of two people (2.25). The remaining four systems have average household sizes of three people.

communities still pay relatively little for water compared with other communities. It also shows that many communities have a fairly high number of resources and could conceivably cope with significant costs without major hardship.

The financial impact of rates on customers can be analyzed by several methods (see Table 6). The monthly water and sewer bill for a family living inside or outside the municipal boundaries that uses 6,000 gallons a month is shown as a percentage of the median household income for the municipality. The percentage ranges from 1.0 for households living within Greensboro city limits to 2.4 for households outside the municipal boundaries in Greensboro and North Wilkesboro.

In some cases the cost of water and sewer services as a percentage of median household income does not tell the entire story. The effect of rates on the poorest residents of an area can be analyzed by looking at the monthly bill in terms of the poverty threshold (see Table 6). For example, 11.3 percent of the population of Durham is at or below the poverty threshold. A family of three living in poverty in Durham and using

6,000 gallons of water a month pays 3.5 percent of its income for water and sewer. In North Wilkesboro the percentage of families living in poverty is significantly higher than it is in the other communities.

North Carolina law does not give municipal water and sewer enterprises the authority to develop classes of customers solely on the basis of income or to have separate rate structures based on the household income of customers. In other words, a system may not charge a low-income customer who uses 5,000 gallons less than it charges a wealthy customer who consumes 5,000 gallons. However, water and sewer enterprises may consider household income in developing rate structures that apply to all customers.

For example, in some areas, customers living in large houses have been shown to have higher amounts of base consumption than customers living in small houses. The latter type of customer may use 3,000 gallons a month, the former 8,000 gallons. A water and sewer enterprise can design its rate structure so that the price per gallon for the first 3,000 gallons is significantly lower

than the price per gallon between 3,000 and 8,000.

This approach often can be supported by cost considerations. Serving large users of water, especially those that use much more in the summer than in the winter, can usually be shown to be more costly than serving users of more modest amounts. Many utilities use this fact to justify charging a lower amount for lower consumption levels than for higher levels.

Differentiating among users in this way has the important secondary result that low-income users who do not have large yards to irrigate pay less.

One of the common reasons cited by boards, especially those in smaller communities, for not raising rates is the impact on low-income customers. As revenue needs become more urgent, some utilities have looked for alternative structures to reduce the impact on low-income communities without keeping the price of water low for all customers.

One approach is to shift the responsibility for caring for low-income water and sewer customers from the utility to other areas of government, such as social services. Rather than maintain artificially low rates for all customers, governments are realizing that it is more efficient to provide direct assistance to the customers in need. For example, OWASA has started an innovative program called Taste of Hope, under

**More and more communities are struggling to maintain a financially healthy water and sewer enterprise without imposing excessive hardships on their financially struggling customers.**

which it gives its customers the option to round up their bills. Revenues from this rounding are distributed to a local social services organization that disburses assistance directly to disadvantaged applicants.

This approach works well in an area with relatively few low-income customers. It probably would not be as effective in areas with a high poverty rate.

### Deciding When to Adjust Rates

Most evidence suggests that the answer to the question "When should rates be adjusted?" is not the obvious "When more revenues are needed to meet service needs." In practice, utilities follow three general approaches to review and modification of rates: they do it as infrequently as possible, they do it every three to four years, or they do it annually as part of the budget process. In 2003, 45.5 percent of municipalities responding to a North Carolina League of Municipalities survey reported adjusting their rate in the last year.<sup>12</sup>

Rate increases are never popular, but water and sewer enterprises with more frequent adjustments are able to spread "sticker shock" over time. In addition to making financial sense, more frequent rate reviews help systems convey to customers the reality that costs are rising. Many customers assume that no increase in ten years is due to the efficiency of operations. So when the inevitable large increase comes, they think that it is due to a sudden decrease in efficiency rather than the utility's having to make up for lost time.

Faced with this problem, one utility in North Carolina recently sent out a notice to its customers explaining that the pending rate increase was due to years of sagging revenues and artificially low rates. This approach may help explain a rate increase, but it does not send a positive message to customers about the financial management practices of the enterprise.

### Involving the Public

Public participation in rate-setting often is dictated by law, as with for-profit water companies in North Carolina and government-owned water and sewer enterprises in West Virginia. North Carolina laws governing rate-setting for

drinking water and sewer services by government-owned utilities have few requirements for involving the public.<sup>13</sup> However, many utilities have found it beneficial to involve their customers in rate review and modification.

For example, several years ago, faced with large investment needs and the loss of several major customers, Salisbury carried out an aggressive public relations and education campaign that included mobile displays, advertising, and an animated website. According to Matt Bernhardt, Salisbury's assistant manager for city utilities, the goodwill created by the city's outreach efforts has had lasting effects that have helped it make a variety of financial decisions.

A recent study by the American Water Works Association found that a lack of understanding of and appreciation for the true value of water was one of the biggest causes of customer "rate shock."<sup>14</sup> A program of public education and participation will not result in customers' welcoming rate increases, but it may take some pain out of the process and help governing boards make the tough financial decisions that keep the water flowing.

### Conclusion

Maintaining safe drinking water and environmentally sound sewer services is one of the most important responsibilities of a local government. As providing water and sewer services becomes more expensive, local governments face the constant challenge of balancing their interest in offering customers a fundamental public health service at an affordable price, against the necessity of managing their programs in a financially sustainable manner. Local leaders have an array of options allowing for local finance and revenue strategies that take into consideration local conditions and objectives. Despite these choices, managing water and sewer services inevitably involves asking customers to pay more for the services. As difficult as it is to do so, leaders should never lose sight of the inevitable health and environmental costs of failing to ensure that their water and sewer operations have sufficient financial resources to serve the public.

### Notes

1. The figures were calculated by the author using data from local finance reports submitted to the Local and State Gov't Div., N.C. Dep't of State Treasurer, for the fiscal year ending June 30, 2002.

2. NORTH CAROLINA RURAL ECONOMIC DEVELOPMENT CENTER, *CLEAN WATER: OUR LIVELIHOOD, OUR LIFE* (Raleigh: the Center, Oct. 1998).

3. Statistical Information on Water and Sewer Operations, Memorandum #1017, from Local and State Gov't Div., N.C. Dep't of State Treasurer, to Municipal Officials (Apr. 2005).

4. The analysis was conducted by the UNC Environmental Finance Center using data from the U.S. Census Bureau, Census 2000, 5% Public Use Microdata Sample.

5. NORTH CAROLINA UTILITIES COMM'N, 2002 REPORT: MAJOR ACTIVITIES THROUGH DECEMBER 2001 (Raleigh: the Commission, 2002).

6. *See, e.g.*, G.S. 162A-6 (9), water and sewer authorities; G.S. 130A-64, sanitary districts; G.S. 162A-49, metropolitan water and sewer districts; and G.S. 162A-72, metropolitan sanitary districts.

7. NORTH CAROLINA LEAGUE OF MUNICIPALITIES, *HOW MUCH DOES CLEAN WATER COST? RESULTS OF THE 2002 NCLM WATER AND SEWER RATES AND SERVICES SURVEY OF NC MUNICIPALITIES* (Raleigh: the League, Dec. 2002).

8. *See, e.g.*, G.S. 160A, art. 10, for municipal systems; G.S. 153A, art. 9, for county systems; and G.S. 162A-6 for water and sewer authorities.

9. Orange Water and Sewer Authority, *Making Your Infrastructure Affordable: Service Availability Fees Based on Finished Area of New Homes*. Presentation at the American Water Works Association Infrastructure Conference (Spr. 2000).

10. *Id.*

11. Warren Jake Wicker, *Water and Wastewater Services*, in *MUNICIPAL GOVERNMENT IN NORTH CAROLINA* 691 (2d ed., David M. Lawrence & Warren Jake Wicker eds., Chapel Hill: Institute of Gov't, Univ. of N.C. at Chapel Hill, 1995).

12. NORTH CAROLINA LEAGUE OF MUNICIPALITIES, *HOW MUCH DOES CLEAN WATER COST?*

13. Other environmental services such as stormwater have more stringent public hearing requirements than drinking water or wastewater treatment. For example, G.S. 160A-314 (a1) (1) requires public hearings before the establishment or revision of stormwater fees or charges.

14. AMERICAN WATER WORKS ASSOCIATION, *AVOIDING RATE SHOCK: MAKING THE CASE FOR WATER RATES* (Denver, Colo.: the Ass'n, 2004).



# Negotiating about Power: Hydropower Relicensing in North Carolina

L. Steven Smutko

**I**n my estimation, hydropower relicensing is the most important event to occur on the Catawba River since the creation of Lake Norman in the early 1960s," said Jeff Lineberger, Duke Power Company's hydropower licensing manager, to a room full of tense re-

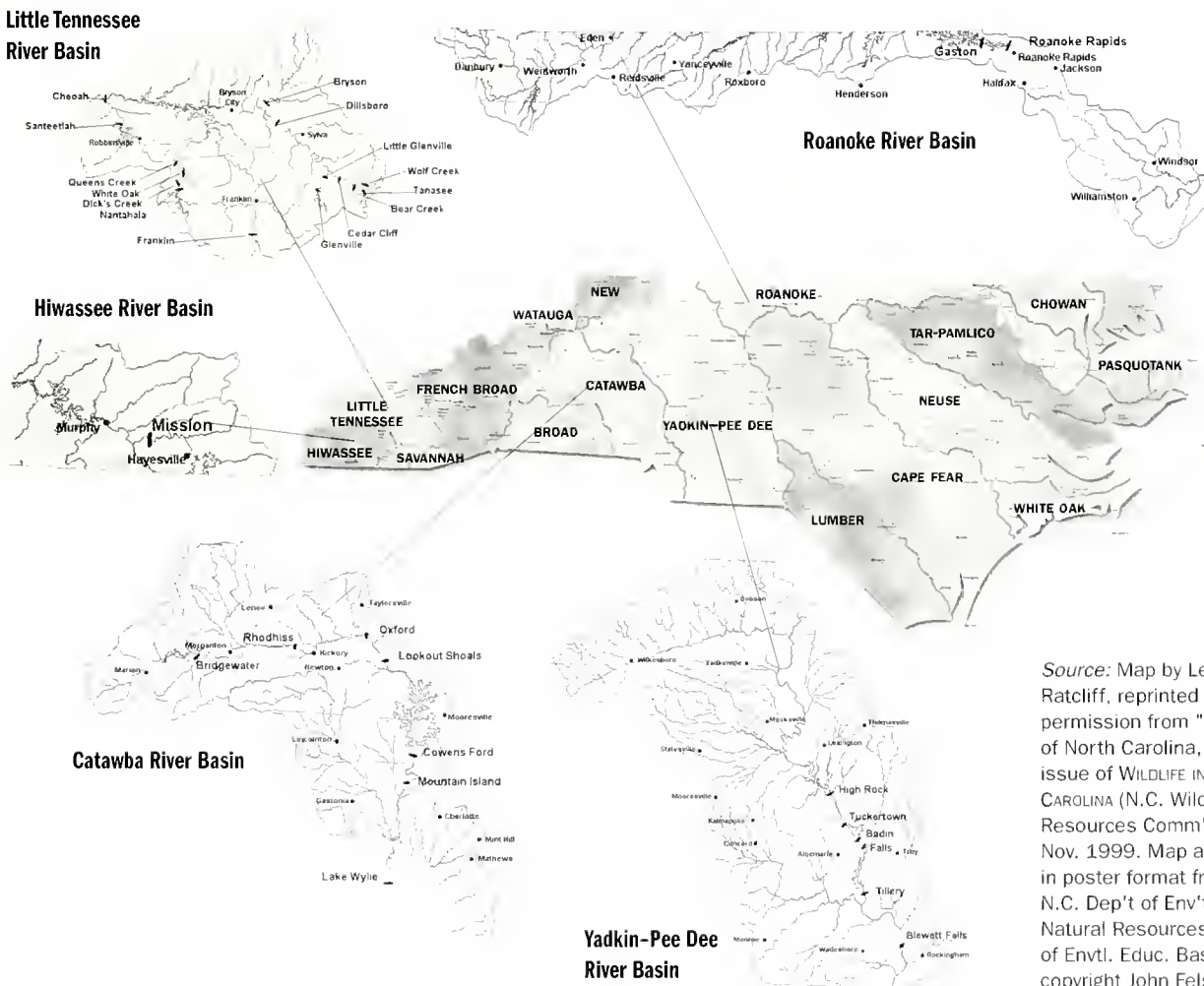
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licensing stakeholders in April 2003. Lineberger was referring to the regulatory process that his company has undertaken to update its federal operating licenses for hydropower facilities in North Carolina's piedmont. In the audience were representatives of nonprofits, industries, and federal, state, and local governments from a nine-county area in North Carolina. They were accepting Duke Power's offer to participate in decision making that will lay the foundation for management of the chain of

Catawba River reservoirs for the next 30–50 years. At stake are hundreds of jobs in water-dependent industries, millions of dollars in land values of residences surrounding hydropower reservoirs, adequate river flows for sustaining aquatic species and other wildlife, new recreational opportunities for a rapidly urbanizing region of the state, and predictable water supplies for some of the state's largest municipalities.

Duke Power owns and operates eleven reservoirs and thirteen dams and

## Locations of North Carolina Dams Operated for Hydropower Production



Source: Map by Lee Ratcliff, reprinted by permission from "Rivers of North Carolina," special issue of WILDLIFE IN NORTH CAROLINA (N.C. Wildlife Resources Comm'n), Nov. 1999. Map available in poster format from N.C. Dep't of Env't and Natural Resources, Office of Envtl. Educ. Base map copyright John Fels, 1997.

Table 1. North Carolina Project Licenses Expiring by 2008

Project Name	River	County	Exp. Date	Owner	Generating Capacity (kw)
Roanoke Rapids and Gaston	Roanoke	N.C.: Halifax, Northampton, and Warren Va.: Brunswick and Mecklenberg	Jan. 2001*	Dominion Power	278,000
Tapoco	Cheoah, Little Tennessee	N.C.: Graham and Swain Tenn.: Blount and Monroe	Feb. 2005	Alcoa Power Generating Inc.	359,800
Bryson	Oconaluftee	Swain	July 2005	Duke Power Co.	980
Dillsboro	Tuckasegee	Jackson	July 2005	Duke Power Co.	225
Franklin	Little Tennessee	Macon	July 2005	Duke Power Co.	1,040
Mission	Hiwassee	Clay	Aug. 2005	Duke Power Co.	1,800
West Fork	W. Fork Tuckasegee	Jackson	Jan. 2006	Duke Power Co.	24,600
East Fork	E. Fork Tuckasegee	Jackson	Jan. 2006	Duke Power Co.	26,175
Nantahala	Nantahala	Macon	Feb. 2006	Duke Power Co.	43,200
Yadkin-Pee Dee	Yadkin-Pee Dee	Montgomery and Stanly	Apr. 2008	Progress Energy	108,600
Yadkin	Yadkin-Pee Dee	Montgomery and Stanly	Apr. 2008	Alcoa Power Generating Inc.	9,520
Catawba-Wateree	Catawba	N.C.: Alexander, Burke, Caldwell, Catawba, Gaston, Iredell, Lincoln, McDowell, and Mecklenburg S.C.: Chester, Fairfield, Kershaw, Lancaster, and York	Aug. 2008	Duke Power Co.	804,940

Source: Federal Energy Regulatory Commission, Hydroelectric Projects under Commission License (last visited Feb. 2004), available at <http://www.ferc.gov/industries/hydropower/gen-info.asp>.

\*At the time of this writing, the Roanoke Rapids and Gaston project was operating on an annual license.

powerhouses on the Catawba River between Lake James in North Carolina and Lake Wateree in South Carolina. Under the Federal Power Act, the federal government licenses hydropower projects on navigable waterways. Duke Power's current license to operate its system of hydropower projects on the Catawba River, originally granted in 1958, expires in 2008. This article describes how utility companies like Duke Power are working with federal and state agencies, municipal and county governments, Native American tribal governments, industries and businesses, and nonprofit organizations to craft agreements that will govern the operation and management of dams, reservoirs, and other hydropower facilities for the next two generations.

### Hydropower in North Carolina

The change in North Carolina's topography from the mountains to the piedmont holds certain benefits. Falling water not only produces fast-flowing rivers for rafters and trout fishermen, but when

stored in reservoirs and shunted through turbine generators, it is converted into the electricity that powers North Carolina's economy.

Of the 2,700 dams in North Carolina, 69 are operated for hydropower production. These are some of the largest dams and reservoirs in the state. Lake Norman on the Catawba River, High Rock Lake on the Yadkin River, and Lake Gaston on the Roanoke River are known to boaters and anglers around the state. Water released from the dams that form these lakes is used to produce electricity. Dams for power production are found on twenty other rivers, including the Hiwassee, the Cheoah, the Little Tennessee, the Nantahala, the Tuckasegee, the Pigeon, the Deep, and the Mayo. (For the locations of major hydropower dams and reservoirs, see the map on page 15.)

Hydropower projects can be divided into two categories: federal and non-federal. Federal projects in North Carolina are operated by the U.S. Army Corps of Engineers and the Tennessee

Valley Authority. Nonfederal projects are owned and operated by individuals, private organizations, and state and local governments. The Federal Energy Regulatory Commission (FERC) regulates these nonfederal facilities through licenses. Among the 69 hydropower projects in North Carolina, 31 are licensed by FERC. 23 are exempt from licensing (because they are small projects or are constructed on an existing conduit such as an irrigation canal), 11 are unlicensed (because the facility does not sit across, along, or in navigable waters or on public lands), and 4 are federal facilities.<sup>1</sup> Because FERC issues few licenses for new hydropower facilities, most of its regulatory effort involves reviewing and modifying licenses set to expire. Of North Carolina's 31 licensed facilities, 12 have licenses that will expire by 2008 (see Table 1). FERC estimates that relicensing a project takes a utility five to eight years. So utilities like Duke Power and Progress Energy will be actively engaged in relicensing for the next several years.



COURTESY NORTH CAROLINA DIVISION OF TOURISM, FILM AND SPORTS DEVELOPMENT

## Balancing the Costs and the Benefits of Hydropower

Although the combined capacity of hydropower facilities in North Carolina represents only 4 percent of the total capacity statewide, it is nonetheless an important component of the state's system for generating electricity. Hydropower is a reliable, inexpensive, and renewable source of energy. One of its most useful characteristics is that it provides utilities with operational flexibility. They can switch hydropower generators on and off quickly, providing power during periods of peak demand. Also, dams support a number of recreational opportunities, including boating, fishing, swimming, and camping. Land surrounding reservoirs is valued for its scenic properties and its proximity to water. Local governments capture this value in property taxes. In some mountain counties, the high tax valuations on lakefront residential property constitute a significant portion of total county revenue. For example, the average value of the 1,800 residential parcels surrounding

Lake Glenville, a Duke Power reservoir in Jackson County, exceeds \$340,000.

Despite the benefits of hydropower, the facilities impose a cost to the environment. Dams flood valuable wildlife habitat and interrupt and modify downstream flows. In many cases the streambed below the dam is left dry as water is diverted into large pipes and sent through the turbines in the powerhouse. Other impacts include altered water temperatures, blocked migration routes for fish and other aquatic organisms, and death of fish that become trapped in the apparatus for generating power.

The facilities also exact a cost on the people who live on the shores of reservoirs and along the rivers downstream. Although reservoirs provide a variety of recreational opportunities, dams can limit or eliminate activities that require free-flowing water, such as fishing, rafting, and canoeing. Powering the turbines causes reservoir levels to fluctuate, affecting fish populations and reducing the scenic and recreational value of the lakes and adjoining property.

Reduced flow downstream can impair a river's ability to assimilate pollutants, limiting municipal and industrial growth along the river.

In granting a license, FERC evaluates a project's benefits and its environmental and social impacts to develop a multiple-year plan that balances these factors. Such benefits may include continued production of electricity, flood control and water regulation, and protection and enhancement of fish and wildlife, recreation, water quality, and cultural and aesthetic resources.

On the Catawba River, Duke Power is working to balance costs and benefits by bringing stakeholders together to craft a settlement that will form the basis of its license conditions. In 2003 it assembled two state relicensing teams and four regional advisory groups to work on issues such as lake levels, stream flow, land use, and access to recreation. Represented are fourteen units of local government, state and federal resource agencies, environmental organizations, water-dependent businesses, recreation

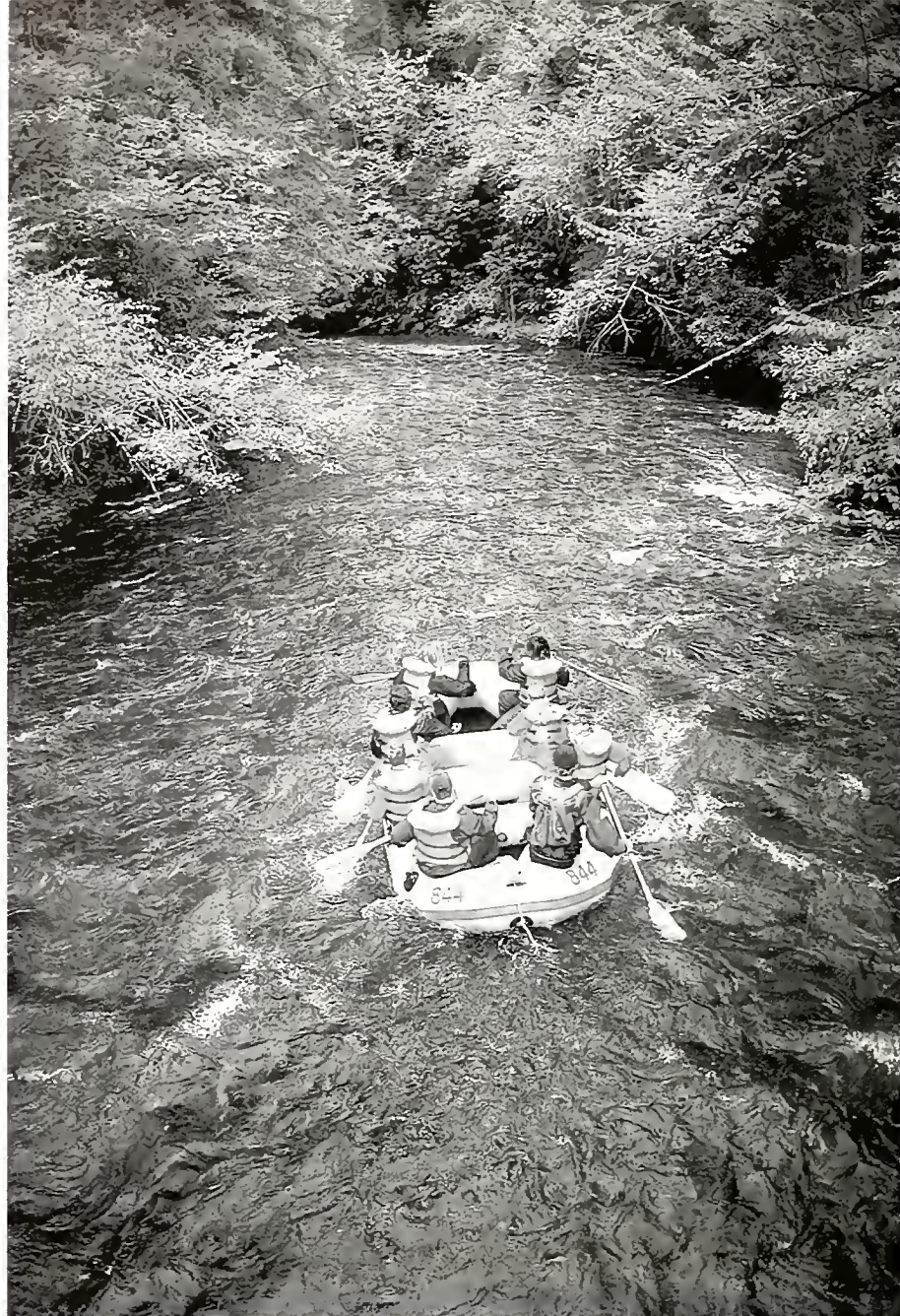
interests, adjacent property owners, and Duke Power officials—more than 120 people in all.<sup>2</sup> They will be meeting almost monthly through 2005 to negotiate agreements that balance interests and resolve the issues related to operation and management of Duke Power's facilities.

## Hydropower and Local Government

North Carolina's towns and cities are linked to hydropower dams and reservoirs by proximity, history, and utility. Dillsboro Dam, on the Tuckasegee River in the Jackson County town of Dillsboro, was one of the earliest hydropower dams in North Carolina. C. J. Harris built it in 1913 to provide power to his Blue Ridge Locust Pin Factory. Harris later formed the Dillsboro and Sylva Electric Company to provide power to his business and a few other customers in Dillsboro and nearby Sylva. Today the dam is an aesthetic backdrop for the town. It and nine other hydropower plants in Duke Power's Nantahala service area generate about 40 percent of all the power used by customers in Cherokee, Graham, Jackson, Macon, and Swain counties.

However, in a relicensing agreement reached in 2003, Dillsboro Dam, the smallest in Duke Power's hydropower system, is slated for removal. Removing the dam will allow fish and other aquatic wildlife to move freely up and down the river and restore nearly a mile of riparian habitat while sacrificing less than 1 percent of power generated in the Nantahala area. Many town residents oppose removing the historic structure, though. They want Duke Power to turn ownership over to another operator and keep the dam generating electricity.

Many towns and cities have grown up around the state's hydropower reservoirs, most of which were built in the 1940s and 1950s to supply electricity for an economy rebounding from depression. Municipalities such as Cornelius and Huntersville on Lake Norman, Mount Holly on Lake Wylie, and Roanoke Rapids on Lake Gaston all gain from their proximity to large bodies of fresh water. These and dozens of other municipal and county jurisdictions withdraw drinking water from, locate their parks and recreation areas



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near, and discharge wastewater into, above, or below hydropower reservoirs. Also, lakeshore development and lake-generated tourism provide significant sources of revenue for municipalities and counties near hydropower facilities. Further, the flood control afforded by some dams is a life-and-death matter to many people living downstream.

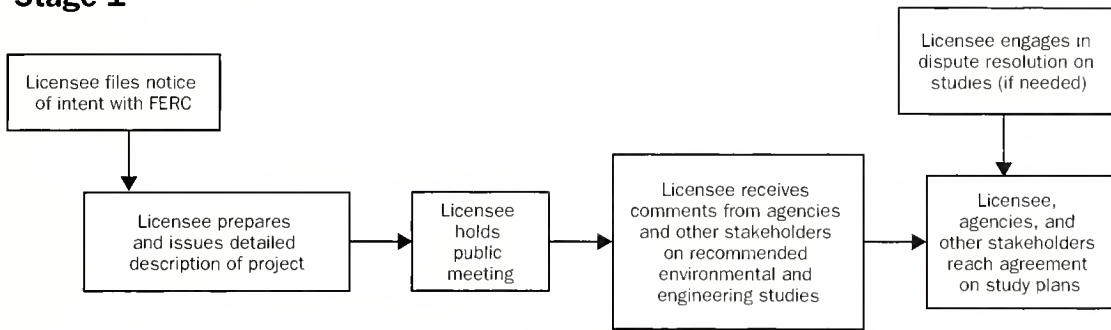
With so much riding on the hydropower industry, local governments share a keen interest in the operation and management of nearby dams and reservoirs. Relicensing is a once-in-a-generation opportunity for them to protect—and even strengthen—their interests in such resources. Mary George, Catawba County senior planner, thinks that

Catawba County should have “an active voice in the outcome of relicensing. We need to be part of the solution, and we want others to be aware of our interests and needs.” Bordered by three of Duke Power's hydropower reservoirs, the county relies on the tourism and the associated economic development that these facilities generate. According to George, county officials want to maintain strategic public access to recreation amenities for lake users while ensuring high water quality in the lakes and predictable flow levels below Oxford Dam.<sup>3</sup>

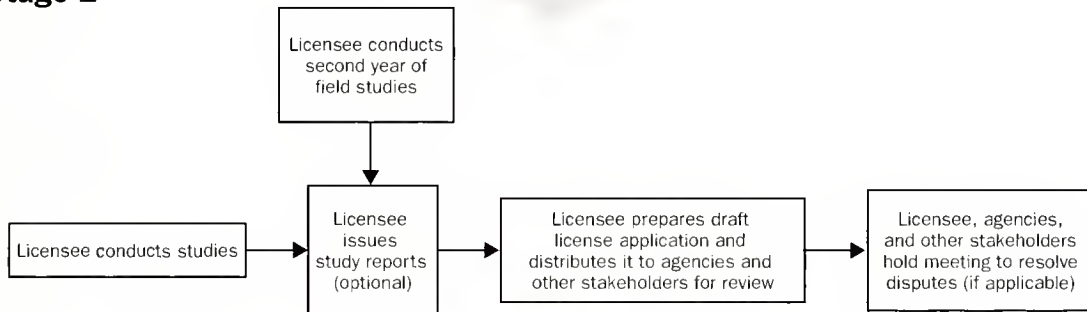
Downstream from Catawba County, officials of Belmont are chiefly concerned about protecting the city's water supply. The water-supply intake is

Figure 1. Traditional Licensing Process

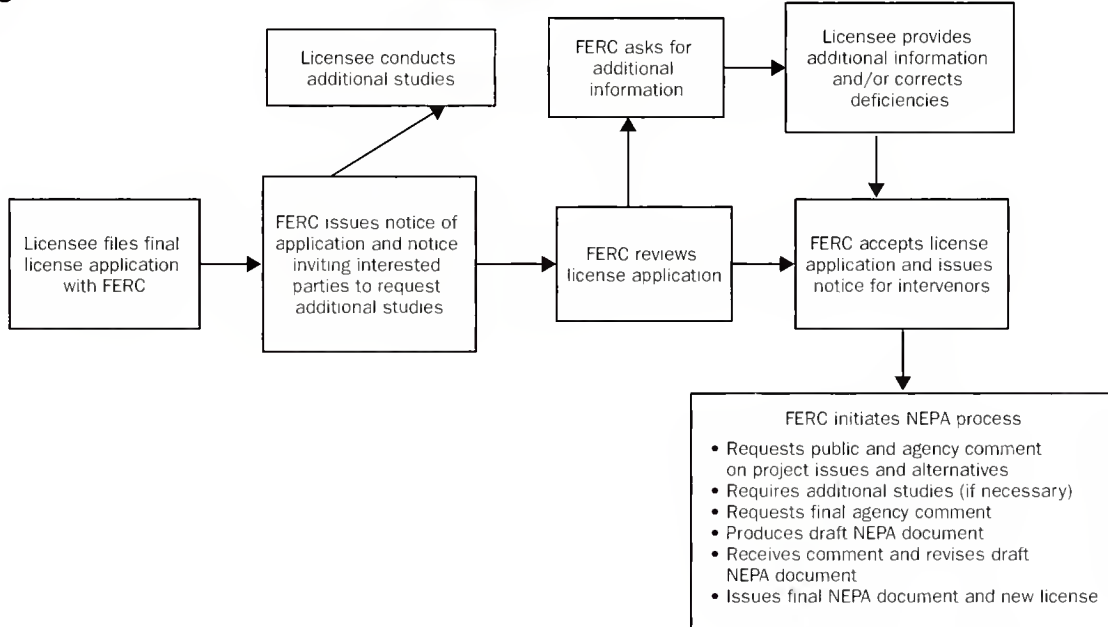
### Stage 1



### Stage 2



### Stage 3



located on Lake Wylie, just south of the bridge over Highway 74. “We’re the last intake on the Catawba in North Carolina,” says City Manager Barry Webb, “and water quality and quantity are extremely important to us.”<sup>4</sup> Re-

licensing is the primary mechanism for Belmont residents to ensure the protection of their water interests.

Local governments can secure their needs for water allocation, public access, and flood control by participating in

relicensing processes and seeking agreements with power companies, natural resource agencies, conservation organizations, and other stakeholders. However, the licensing process is complex, specialized, and somewhat arcane. Most

Table 2. **Comparison of the Three Licensing Processes**

	<b>Traditional Licensing Process (TLP)</b>	<b>Alternative Licensing Process (ALP)</b>	<b>Integrated Licensing Process (ILP)</b>
Consultation with Stakeholders	Paper driven	Collaborative	Integrated
FERC Staff Involvement	After application is filed	Before application is filed Early involvement on request	Early and sustained involvement throughout process
Deadlines	Some prefiling deadlines for participants Defined postfiling deadlines for participants	Prefiling deadlines defined by collaborative group Defined postfiling deadlines for participants	Defined deadlines for all participants, including FERC, throughout process
Study Plan Development	Developed by applicant on basis of early agency recommendations No FERC involvement	Developed by collaborative group Assistance from FERC staff as resources allow	Developed through study plan meetings Plan approved by FERC
Dispute Resolution (for Disputes about Study Plans)	Available from FERC on request FERC opinion advisory	Available from FERC on request FERC opinion advisory	Informal dispute resolution available to all participants Formal dispute resolution available to agencies Three-member panel technical recommendation on study dispute FERC opinion binding on applicant
Application	Draft and final application to include environmental report	Draft and final application to include applicant-prepared environmental assessment or third-party environmental impact statement	Preliminary licensing proposal or draft application, and final application to include environmental report that has form and contents of environmental assessment

Source: Adapted from *Hydroelectric Licensing Rulemaking, Order 2002—Matrix Comparing Three Processes* (last updated Oct. 16, 2003), by Federal Energy Regulatory Commission, available at <http://ferc.gov/industries/hydropower/indus-act/hl-matrix.asp>.

Note: FERC = Federal Energy Regulatory Commission.

planners, municipal utility directors, and other local government staff who might become involved in relicensing are not familiar with the laws, the procedures, and the actors that define the process.

### The Relicensing Process

The federal government’s regulatory oversight of construction, operation, and maintenance of hydropower facilities dates back to 1920, with the passing of the Federal Power Act and the creation of the Federal Power Commission, later to become FERC.<sup>5</sup> The most recent amendments to the act enlarged the role of state and federal fish and wildlife agencies, giving environmental and other nonpower values the same consideration that power concerns receive.

Since the mid-1980s the FERC relicensing process has consisted of a comprehensive review of the license application combined with consultation with

the power company and other interested parties. Known as the “three-stage consultation process” or the Traditional Licensing Process (TLP), it gets its name from three discrete stages of consultation. The principal participants in the review process include the power company (more accurately referred to as the licensee), FERC, federal and state natural resource agencies, and Native American tribes. Involvement of other participants, including local governments, varies depending on the issues related to each project. (For an illustration of the basic flow of the process, see Figure 1.)

*Stage 1* of the relicensing process begins five years before the license is set to expire. The licensee alerts FERC that it intends to relicense its facilities. It prepares a detailed project description and holds meetings with resource agencies and other stakeholders to gather comments and recommendations on environmental and engineering studies that should be undertaken in preparation for the

new license. This is known as “project scoping.” At the licensee’s discretion, it can work with agencies and stakeholders to reach agreement on a study plan.

In *Stage 2* the licensee conducts the studies and, at its discretion, issues study reports for review and comment by agencies and other stakeholders. During this stage the licensee generates a draft license application that summarizes the results of the studies and describes how the project will be operated to satisfy environmental or other nonpower issues. The licensee receives comments from agencies and stakeholders and may decide to hold additional meetings to resolve disputes over the draft license application.

In *Stage 3* the licensee files its application with FERC. At this time FERC becomes formally involved. It publishes a notice announcing the submission of the final application, invites interested parties to request additional studies, and publishes a notice inviting comment,

Table 3. Recent and Active Settlement Negotiations on North Carolina Hydropower Projects

Project Name	Owner	Deadline for Submission of License Application	Local Government Participants
<b>Negotiations Complete</b>			
Roanoke Rapids and Gaston	Dominion Power	Jan. 1999*	Regional Partnership of Local Governments (Va.), Roanoke Rapids, and Virginia Beach (Va.)
Tapoco	Alcoa Power Generating Inc.	Feb. 2003	Graham County
Tuckasegee (East and West Forks)	Duke Power Co.	Jan. 2004	Dillsboro, Eastern Band of Cherokee Indians, Jackson County, Swain County, Sylva, and Webster
Nantahala	Duke Power Co.	Feb. 2004	Eastern Band of Cherokee Indians, Swain County Economic Development Commission, and Swain County Soil and Water Conservation District
<b>Negotiations in Progress</b>			
Yadkin	Alcoa Power Generating Inc.	Apr. 2006	Albemarle, Catawba Indian Nation, Davidson County, Davie County, Georgetown (S.C.), Montgomery County, Rowan County, Salisbury, and Stanly County
Yadkin-Pee Dee	Progress Energy	Apr. 2006	Anson County, Badin, Lumber River Council of Governments, Montgomery County, Richmond County, and Rockingham
Catawba-Wateree	Duke Power Co.	Aug. 2006	Alexander County, Belmont, Burke County, Caldwell County, Camden (S.C.), Catawba County, Catawba Regional Council of Governments (S.C.), Centralina Council of Governments, Gaston County Quality of Natural Resources Commission, Great Falls (S.C.), Iredell County, Kershaw County Conservation District (S.C.), Mecklenburg County Water Quality Program, Rock Hill (S.C.), Western Piedmont Council of Governments, and York County (S.C.)

\*At the time of this writing, the Roanoke Rapids and Gaston project was operating on an annual license.

protest, or intervention. This step triggers the environmental review process of the National Environmental Policy Act (NEPA), which documents the environmental impacts associated with the project. Depending on the results of the project scoping, FERC may require a licensee to conduct additional studies or provide it with additional information. Once FERC has gathered the information it needs from the licensee, resource agencies, and stakeholders, it prepares a draft NEPA document—either an environmental impact statement or an abbreviated environmental assessment, depending on the project—and issues the document for public comment. Following agency and public review, FERC decides whether to issue a new license and issues a final NEPA document that contains the terms and conditions of the new license.

This description of the TLP offers three lessons. First, if there is any contention among the licensee, resource

agencies, and other stakeholders, the process can become redundant and time-consuming. For instance, the licensee may undertake comprehensive studies of the environment and project operations in Stage 1. If the resource agencies and other stakeholders find the study plan to be deficient, they may appeal to FERC in Stage 3 and compel the licensee to undertake new studies. Second, much of what is learned in the Stage 1 studies is duplicated in the NEPA environmental review conducted by FERC in Stage 3. Third, the licensee can increase the efficiency of the entire process if it chooses to negotiate with resource agencies and other stakeholders on the study plan and license application before filing.

Following a period of significant contention and polarization in the early 1990s, when more than 150 licenses were being renewed around the country, FERC, the industry, resource agencies, and other stakeholders sought changes

in the TLP. In 1997, FERC adopted the Alternative Licensing Process (ALP), through which it sought to increase public participation, reduce disputes, and promote agreement. The fundamental difference between the two processes is that the ALP integrates the Stage 1 project scoping and the Stage 3 environmental review before the license is filed.

The ALP is a significant departure from the old way of relicensing. One of its primary objectives is to promote cooperation and early communication between the stakeholders and the licensee. It expands the group of stakeholders involved in the process and ensures discussion and negotiation of issues.

One of the most important aspects of the ALP is project scoping. During this phase the licensee and stakeholders cooperate to identify project issues and alternatives and develop a study plan to guide later decision making.

Dominion Power, in relicensing its facilities on the Roanoke River, and Alcoa Power, in relicensing its Tapoco project on the Cheoah River, both used the ALP. Dominion Power initiated its process in February 1998. It signed a settlement with thirteen parties, including Roanoke Rapids and a consortium of local governments, five years later, in July 2003. Alcoa Power's ALP also required five years, culminating in a license application in February 2003. Graham County and the Eastern Band of Cherokee Indians were parties to that agreement.

By January 2001, fewer than half of the licensees initiating relicensing proceedings had adopted the ALP. Those waiting to start their processes, including Duke Power and Progress Energy, had observed the ALP experiment and elected to stay with the TLP or some version of it. For many licensees and stakeholders, the ALP was an improvement over the TLP, but it had flaws. Primary among them was the lack of a scheduling structure and deadline requirements that provided the licensee with certainty that it could undertake the process at a reasonable cost.<sup>6</sup> Other problems included duplication in the NEPA scoping and information development process. These shortcomings prompted FERC and a coalition of industries, nonprofit groups, and state and federal resource agencies to revamp the process. In summer 2003, FERC announced the Integrated Licensing Process (ILP).

The ILP should be more predictable, efficient, and timely than its predecessors. Like the ALP, it combines the pre-filing consultation and the NEPA scoping, rather than conducting these activities sequentially. Also, it brings FERC staff into the process during the preparation of the application, and it establishes schedules for all participants. After July 2005 the ILP will become the default process for obtaining a FERC license, and licensees must appeal to FERC if they want to use the TLP or the ALP. (For a comparison of the three licensing processes, see Table 2, page 20.)

A common theme underlying all the efforts just described is that FERC, the licensees, and stakeholders sought to reduce the time and cost of the licensing process, improve the quality of decision

making, and expand the role of stakeholders, including local government, in relicensing. Even though most licensees elected not to proceed with the ALP after 1997, many employed a modified version of the TLP that included significant opportunities for extensive input into relicensing decisions from stakeholders.

Duke Power, Alcoa Power, and Progress Energy each elected to use such a version. In the Nantahala service area, Duke Power convened two stakeholder teams, one on the Tuckasegee and one on the Nantahala, to work toward settlements on four of its seven licenses. Its process on the Catawba River has been modeled after that effort. Says Duke Power's Lineberger, "Every hydropower licensee has to make some decisions about how it's going to set up its process, but I would recommend to all of them to figure out a way to get the people that have an interest in the project involved. They don't have to have the regulator come tell them how to do things. Local decisions are always, I believe, going to be better."<sup>7</sup>

### **Settlement to Address Local Governments' Needs**

FERC bases its licensing decisions, in part, on input from state and federal agencies, Native American tribes, and stakeholders. The utility often is better off attempting to secure the endorsement of these parties before filing its license application. To this end the utility may seek to negotiate a comprehensive settlement with all the primary parties. A "settlement" is a written and signed agreement among stakeholders to resolve some or all of the relicensing issues pertaining to a project. Settlements often include agreements on operating conditions, such as lake levels and stream flows, construction and placement of recreation facilities and access, and protection of fish and wildlife habitats. Settlements are filed with FERC along with the license application. If parties to a licensing process reach settlement (sometimes a partial settlement between certain parties), FERC will usually implement these terms as part of the license.

Settlements now form the basis for about half of all FERC licenses.<sup>8</sup> Often

they are the result of considerable negotiations among stakeholders. Although settlements incorporate standard conditions that are within FERC's primary jurisdiction, some also include provisions outside that jurisdiction, increasing the relevance of the relicensing process for many stakeholders. Reaching a settlement with a broad group of stakeholders before submitting its application to FERC is arguably the most effective and efficient way for a licensee to meet local interests. (For a list of projects that recently completed settlement negotiations or currently have negotiations under way, see Table 3, page 21.)

Local governments have had mixed results in past settlements in North Carolina. In October 2003, Duke Power signed agreements with thirty parties, including four units of local government, on its licenses on the Nantahala and Tuckasegee watersheds in western North Carolina. Issues under consideration on these projects included lake levels, downstream flows for recreation and aquatic life, removal of Dillsboro Dam, sedimentation, protection of wildlife habitat and open space, recreation facilities, and public access to lakes and rivers. Dillsboro, the Swain County Economic Development Commission, the Swain County Soil and Water Conservation District, and Sylva were parties to one or both agreements.

Jackson County participated in the negotiations on the Tuckasegee but not in the agreement. According to Jackson County Manager Ken Westmoreland, the agreement provided few general recreation opportunities for county residents. Jackson County wanted more upgrades at the county-owned park located at Lake Glenville and development of a greenway along the Tuckasegee River.<sup>9</sup> Dillsboro officials did not support removal of the dam but did settle for a compensation package that included land along the project site and monetary and in-kind assistance to help the town develop and implement a plan for economic development following removal of the dam.

On the Cheoah River in Alcoa Power's Tapoco project, Graham County was the lone local government to participate in the relicensing effort. In 2004 it signed a settlement with the utility, along with



state and federal resource agencies, river outfitters, and conservation organizations. Important issues to Graham County revolved around the economic development potential of building and maintaining a viable tourism industry in the county. According to County Manager Jeff Cabe, the county was reasonably successful in stabilizing lake levels on Santeetlah Lake, maintaining sufficient downstream flows for a trout fishery and recreational boating on the river, and providing recreation access on the lake and the river.<sup>10</sup>

Roanoke Rapids, Virginia Beach (Va.), and a consortium of Virginia local governments entered into a settlement agreement with Dominion Power governing its hydropower facilities on Lake Gaston and Roanoke Rapids Lake. Roanoke Rapids especially wanted to secure recreation facilities on and access to the lakes. Chris Wicker, Roanoke Rapids parks and recreation director, reports that the city is satisfied with the agreement signed with Dominion Power. In addition to taking measures to enhance water quality and fish habitat in the two lakes, Dominion Power is providing land and facilities for a city park on Roanoke Rapids Lake, a day-use recreational area on Lake Gaston, improved sites for access to fishing, and scheduled releases below the dam for whitewater recreation.<sup>11</sup>

For projects owned by Alcoa Power and Progress Energy on the Yadkin River, and by Duke Power on the Catawba River, relicensing settlement committees have been established, and negotiations are under way. Alcoa-Yadkin began the relicensing process in spring 2003 by appointing a number of advisory groups to identify issues that warrant study and to participate in settlement negotiations. The groups consist of representatives of state and federal resource agencies, local governments, Native American tribes, non-profit organizations, and homeowner groups. After a year of study preparation, Alcoa Power began formal settlement negotiations. The local governments involved include Albemarle, Badin, and Salisbury, and the counties of Davidson, Montgomery, Rowan, and Stanly. Key issues for the local governments are lake levels in the three largest reservoirs, High Rock, Narrows, and Tuckertown;

shoreline development; downstream flows to support recreation, water supply, and waste assimilation; and access to and facilities for recreation. Alcoa Power must file its license application with FERC by April 2006.

Down river from the Alcoa Power projects, Progress Energy is involving stakeholders in settlement negotiations for its facilities on the lower Yadkin. On the same schedule as Alcoa Power, Progress Energy has initiated a similar relicensing process, forming resource working groups in early 2003 that identified forty issues pertaining to Lake Tillery and Blewett Falls Lake and associated river reaches, dams, and powerhouses. Local governments involved in negotiating a settlement are Rockingham and the counties of Anson, Montgomery, and Richmond. The Lumber River Council of Governments also will be involved, representing the interests of other local governments. The issues are the same as those upstream on the Alcoa Power projects.

In Duke Power's ambitious relicensing process on the Catawba River, stakeholders will attempt to fashion an agreement that meets the interests of most people who are affected in some way by the hydropower projects. By working through the issues, learning what others need from the resource, and gaining an understanding of the legal, scientific, and technical aspects of resource protection and management, these stakeholders can put together the foundation of a license application that achieves the balance that FERC wants. Successful negotiations hold the promise of a comprehensive settlement that exceeds the benefits to be achieved by stakeholders acting alone through the TLP. Acknowledging this potential, when Duke Power offered its initial draft of a settlement in fall 2004, it prominently featured a quote by Helen Keller in the room where the stakeholders met: "Alone we can do so little, together we do can so much."

## Conclusion

Even though hydropower relicensing is lengthy and complex, the process holds many rewards for local governments that choose to participate. The last major

hydropower projects up for relicensing in North Carolina for the next twenty-five years are currently under negotiation. Duke Power, Progress Energy, and Alcoa Power will submit license applications to FERC in 2006. After that, the role of local governments will be to implement and monitor the agreements they are negotiating today.

## Notes

1. Ecological Services, U.S. Fish and Wildlife Service, *North Carolina Hydroelectric Facilities* (last visited Apr. 6, 2005), available at <http://nces.fws.gov/hydro/fercnc.html>.
2. Information about Duke Power's relicensing process on the Catawba River project can be found at [www.catawbahydrorelicensing.com](http://www.catawbahydrorelicensing.com). The site contains information on relicensing studies, participating stakeholders, and stakeholder meetings.
3. Telephone Interview with Mary George, Senior Planner, Catawba County, N.C. (Oct. 2004).
4. Telephone Interview with Barry Webb, City Manager, Belmont, N.C. (Oct. 2004).
5. For an excellent treatment of the laws and regulations on hydropower relicensing, see JEREMY M. FIRESTONE, *HYDROPOWER RELICENSING: OPPORTUNITIES FOR AND OBSTACLES TO ENVIRONMENTAL QUALITY IMPROVEMENTS AND RECREATIONAL ENHANCEMENTS ON SOUTHEASTERN RIVERS* (Environmental Finance Ctr., Univ. of N.C. at Chapel Hill, Oct. 2001), available at [www.efc.unc.edu/projects/HydroLicensing.pdf](http://www.efc.unc.edu/projects/HydroLicensing.pdf).
6. Hydroelectric License Regulations under the Federal Power Act, Notice Requesting Comments and Establishing Public Forums and Procedures and Schedule, 67 Fed. Reg. 58739, 58744 (2002).
7. Interview with Jeff Lineberger, Hydropower Licensing Manager, Duke Power Company, in Cullowhee, N.C. (Aug. 2003).
8. Comments by Anne Miles, Hydropower Licensing Division Director, Federal Energy Regulatory Comm'n, at the Catawba-Wateree Relicensing All Stakeholders Meeting in Rock Hill, S.C. (Oct. 2004).
9. L. S. SMUTKO, *DUKE POWER-NANTAHALA AREA TUCKASEGEE COOPERATIVE STAKEHOLDER TEAM—EAST FORK (#2698), WEST FORK (#2686), AND DILLSBORO (#2602) PROJECTS FINAL REPORT* (Raleigh: N.C. State Univ., July 2003).
10. Telephone Interview with Jeff Cabe, Graham County (N.C.) Manager (Oct. 2004).
11. Telephone Interview with Chris Wicker, Parks and Recreation Director, Roanoke Rapids, N.C. (Oct. 2004).

# North Carolina's Mental Health Court

Virginia Aldigé Hiday, Marlee E. Moore, Marie Lamoureaux, and Jeffrey de Magistris



• A forty-four-year-old male African-American employed as an electrician appeared in court on charges of misdemeanor larceny, intoxication, and disruptive behavior. He had been "self-medicating" with alcohol to ease the symptoms of "bipolar disorder" (formerly called manic-depressive disorder). Under court supervision he began individual therapy and was put on psychiatric medication. Soon, however, he had undesirable side effects. He stopped taking the medication and again

began to self-medicate with alcohol. After warnings and reprimands, he explained that the prescribed drugs made him sleepy, and that affected his work performance. He did not want to apply for disability income, as court personnel had suggested, because he did not believe in getting money for free. The judge encouraged him to work with his physician to get the medications adjusted. Over the next few months, he did so, began to comply with the regimen, and visibly changed from a dirty, di-

sheveled man to a clean, neat person in control of his life. At "graduation" he was doing well and buying part

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Hiday is a professor in the Department of Sociology and Anthropology at North Carolina State University, and Moore is a doctoral candidate in that department. Lamoureaux and de Magistris work with the Community Resource Court, she as a program coordinator, he as a social worker. Contact them at [ginnie\\_aldige@ncsu.edu](mailto:ginnie_aldige@ncsu.edu), [mgurrera@mindspring.com](mailto:mgurrera@mindspring.com), [marie.lamoureaux@nccourts.org](mailto:marie.lamoureaux@nccourts.org), and [jdemagistris@opc-mhc.org](mailto:jdemagistris@opc-mhc.org).

of the electrical repair business where he worked.

- A twenty-four-year-old white male appeared in court on charges of second-degree trespass and misdemeanor larceny. He was nervous, jittery, and ashamed, and barely spoke. The onset of bipolar disorder had caused him to drop out of college and live in a disorganized manner. Under court monitoring he started treatment with a private physician and began to improve. After a few months, his insurance ran out, and he could not afford payment. He was put on the waiting list for public treatment. He stayed on the list for three months before obtaining services. Nonetheless, he continued to improve and enrolled at a local university. At "graduation" from the court, he stood straight, smiled, and said he was happy about getting his life together. The judge said, "This is thrilling. You have turned your life around."

**T**hese unusual scenarios played out, not in a traditional criminal court, but in a relatively new type of criminal court, the mental health court. It has four defining features: (1) a separate docket for defendants with mental illness who volunteer to be under its jurisdiction, (2) handling by a designated judge, (3) a nonadversarial, team approach, and (4) a primary goal of reducing offenses by providing treatment for defendants rather than punishment.<sup>1</sup> This article describes North Carolina's one mental health court, located in Orange County.<sup>2</sup> The article begins with a discussion of trends in the larger society that led to the establishment of mental health courts throughout the nation. It then explains the organization of the Orange County mental health court, depicts its operation, and presents data from 2003 on the characteristics, the offenses, and the outcomes of defendants processed in the court. It ends with preliminary conclusions about the court's effectiveness in reducing offenses.

## A National Problem

In the 1960s, state mental hospitals throughout the United States began to relinquish their earlier role of providing

long-term placement for people with mental illness. Observers soon noted an accompanying criminalization—that is, arrest and incarceration—of this population that used to be hospitalized. In recent years, on any given day, some metropolitan jails have housed more people with mental illness than any state mental hospital has.<sup>3</sup> A recent survey by the U.S. Department of Justice reported that American jails and prisons housed 283,800 people with mental illness in 1998. This number represented 16.2 percent of state prison inmates, 7.4 percent of federal prison inmates, and 16.3 percent of those housed in local jails.<sup>4</sup>

The offenses for which people with mental illness are arrested are mainly minor. They are seldom violent, despite the media's sensationalizing of violent attacks on strangers by severely disordered people. Such attacks are rare, for most people with mental illness are not violent. The violence that some people with mental illness do is mostly fighting with people they know, and it tends to be slapping, pushing, kicking, and hitting (often in response to others' slaps, pushes, kicks, and hits).

Rather than attacks that kill or inflict major injury, most of the offenses for which people with mental illness are charged are either nuisance or survival crimes, such as trespassing and stealing small items or small amounts of money.<sup>5</sup> A second large group of offenses relates to misuse of alcohol and illegal drugs by offenders who also have substance abuse disorders.<sup>6</sup>

Although the media depict the people with mental disorders who are involved in the sensationalized attacks as being driven to crime by psychotic symptoms such as voices and compulsions, only a small proportion of the offenses of those arrested are propelled by their illness. Instead, the effect of severe mental illness is mostly indirect, through the disadvantages

that it produces in the ability to function and cope with difficult situations.<sup>7</sup>

Mental health treatment and services can counteract those disadvantages by improving functioning and coping. Yet people with mental illness who are arrested either have never been in treatment, do not stay in treatment, or tend not to adhere to a regimen of medication and psychosocial therapy.<sup>8</sup> Many people with serious mental illness who are arrested find themselves stuck in a revolving door, bouncing in and out of jails, homelessness, and hospitals.<sup>9</sup> Without intervention to bring adequate treatment and services, people caught in this process continue to offend. In addition, the process leads to exacerbation of their symptoms, hopelessness, humiliation, and suffering.

Presumably, mandating mental health treatment would address the root of the problem of offenders who are mentally ill, which is lack of treatment, noncompliance with treatment, substance abuse, and lack of essential services. Thus it

would lead to fewer offenses and fewer arrests. Unfortunately such intervention does not occur very often.

Law enforcement officers have long acted as street-corner psychiatrists, giving advice, cooling tempers, recommending helping sources, and taking people with mental illness to psychiatric emergency centers. More recently a number of police departments have initiated formal programs to divert people with mental illness out of

the criminal justice system and into treatment.<sup>10</sup> Also, informal court practices have existed whereby defense counsel plea-bargained for dismissal of charges against clients who were mentally disordered, on the condition that the clients obtain in- or outpatient treatment.<sup>11</sup> Still, too many people with mental illness who have committed offenses have not been diverted to treatment or, if diverted, have not continued with treatment, so their

**Proceedings are informal, without swearing in of witnesses, examination and cross-examination of witnesses, or formal arguments by prosecutors and defense attorneys. The judge engages the defendant and delivers a clear, concise message about behavior and treatment expectations, emphasizing the defendant's responsibility in the agreement to participate.**

condition does not change and they continue to commit offenses.

Relatively recently, various jurisdictions have developed a number of new programs for offenders with special problems, not just mental illness. These programs divert offenders from the criminal justice system into treatment and attempt to ensure that they continue with treatment and other support services for some minimum time. Most relevant to mental health courts are drug courts, established to fight the drug epidemic's crime wave. Because incarceration was not stopping repeat offenses of use and procurement by drug users, these courts were created to address the root problem—illegal drug use—with intensive supervision and treatment programs. Using the full weight of all intervenors (that is, judges, probation officers, correctional and law enforcement personnel, prosecutors, defense counsel, treatment specialists, and other social service personnel), these programs attempt to force offenders to abstain from drug use and alter their behavior, or suffer consequences.<sup>12</sup>

Because of the widely acclaimed success of drug courts, in the late 1990s, a number of jurisdictions instituted mental health courts based on the drug court model.<sup>13</sup> Each is established as a criminal court with a separate docket for people with mental illness. The aim is to divert such defendants from jail or prison into community mental health treatment and thereby to reduce repeat offenses, jail and prison crowding, court workload, and criminal justice costs.

Unlike traditional criminal courts, the mental health courts are voluntary, with defendants agreeing to follow a treatment regimen and to be monitored by the court in exchange for dismissal of charges. Also, they are nonadversarial, using a team approach. That is, defense and prosecuting attorneys do not dispute guilt or innocence and steps to a verdict. Rather, they work as part of a team with judges, criminal justice personnel, mental health liaisons, and other providers to find the best treatment and services, and to provide encouragement and sanctions that will address the underlying causes of each defendant's behavior while protecting the public.<sup>14</sup> There now are more than

100 mental health courts across the country. Only one is in North Carolina, in Orange County.

### **Establishment and Organization of Orange County's Mental Health Court**

The mental health court in Orange County was launched in spring 2000 in response to advocacy by the local chapter of the National Association for Mental Illness. Under the leadership of Chief District Court Judge Joseph Buckner, a collaborative effort unfolded to commit local court personnel, treatment providers, and law enforcement officers to a coordinated response to criminal cases in which mental health problems appeared

to be the primary contributors to the offenses. The organizers named the mental health court Community Resource Court (CRC) to emphasize the concerted effort of multiple community providers, the importance of accessing all necessary services (medication, psychosocial therapy, prevention of substance abuse, anger management, housing, vocational education, employment, transportation, temporary hospitalization, etc.), and to avoid additional stigma.

To provide oversight and assist in problem solving, Judge Buckner's office established the CRC Coordinating Committee. It consists of representatives of the district attorney's office, the public defender's office, the local criminal defense bar, community corrections, pretrial services, the police department's crisis unit, the county sheriff's office, the community mental health center, the University of North Carolina Schools of Medicine and Social Work, and the local chapter of the National Association for Mental Illness. Designated representatives of each group have a particular interest in or knowledge of people with mental illness who come into contact with the criminal justice system.

To be eligible to enter the CRC, offenders must have a diagnosis of mental

illness, a "dual diagnosis" of mental illness and substance abuse, or a history of treatment for mental illness. Defendants with severe and persistent mental illness who would be appropriate for long-term case management services by the community mental health center receive priority. They must be agreeable to treatment and to monthly monitoring by the court for at least six consecutive months. Also, the assistant district attorney must find that they do not raise

concerns about public safety. This scrutiny by the assistant district attorney is required because, unlike most early mental health courts, which accepted only defendants who were charged with misdemeanors, the CRC accepts defendants who are charged with felonies and even violent offenses.<sup>15</sup> In the latter

case, victims must agree to the transfer of the defendants from traditional criminal court to the CRC.

The amount and the type of treatment vary depending on each defendant's needs and the availability of services. Availability is a problem, however, for the CRC as well as for most mental health courts. Needed services are scarce. Currently in Orange County, there are waiting lists for treatment groups and individual therapists. Of particular relevance to CRC defendants are the waiting lists for groups on anger management, outpatient substance abuse treatment, and treatment of dual diagnoses.

Many professionals are part of the CRC team that seeks to develop and implement an individually based treatment plan for each offender: a judge (one of two designated judges who rotate through the CRC schedule), two designated assistant district attorneys, a designated member of the public defender's office, two private attorneys who agreed to be appointed in CRC cases, two probation officers from the Community Corrections Office, community mental health treatment providers as needed, two community mental health liaison/clinicians, a CRC mental

**Unlike traditional criminal courts, the mental health courts are voluntary, with defendants agreeing to follow a treatment regimen and to be monitored by the court in exchange for dismissal of charges.**

health project coordinator, and the court administrator. Privately retained attorneys, who may refer cases, sit as team members for their individual cases, as do representatives of various community agencies, such as Vocational Rehabilitation and the Department of Social Services when their clients are in the CRC, and the Chapel Hill Police Department. Team members understand that relapse is common during treatment, and they adjust their expectations. The collaborative effort ensures that the mandates of the criminal justice and judicial systems are met, as well as defendants' mental health needs.

Team members believe that the team approach is essential. One member remarked, "I can't see how [the CRC] would work without [the team approach]. We need the opportunity to discuss and think about the cases." Another echoed that sentiment, saying, "Even though the judge is the ultimate decision maker, it is decided by consensus. A consensus approach gives us the opportunity to make sound judgments, which are improved by the types of people we bring into the discussion." A judge said, "I am able to make better decisions and am able to justify my position if I am ever challenged."<sup>16</sup>

### Entry to Mental Health Court

Referrals to the CRC come mainly from court officials (the district attorney, a public defender, law enforcement personnel, judges, and personnel in pretrial services). However, referrals also may come from family members, social workers, treatment providers, or private citizens. Referrals are screened by an assistant district attorney, often on a traditional criminal court date, when law enforcement personnel and prosecution witnesses can be interviewed. For eligible defendants who are indigent, the court appoints a CRC team attorney. Eligible defendants then are referred to the next CRC session (once a month in Hillsborough for the northern part of

the county and once a month in Chapel Hill for the southern part), at which they are presented to the CRC team. Unlike defendants in other mental health courts, defendants who are potential participants in the Orange County mental health court are rarely in jail at the time of referral because Orange County judges regularly screen the jail population for offenders with minor charges who cannot make bail, and release them.

Most commonly, a defendant's counsel explains the operation of the CRC and the option to cooperate with treatment in exchange for dismissal of charges or a probationary sentence. In the first CRC hearing, the judge asks the defendant to meet with a CRC clinician, who conducts the clinical screening and makes an initial assessment for needed services. At this time the clinician also explains the CRC again and obtains signed consent indicating the defendant's voluntary participation.

### Team Meetings

Before each monthly court session, the CRC team meets to discuss every case on the docket (typically 40–60 cases). Often, court personnel know defendants from previous encounters with the criminal law. Defendants' counsel and the assistant district attorneys briefly present new cases, focusing on the charges and the events surrounding them, known psychiatric history, family and housing problems, and other

pertinent information. All this information helps the team understand defendants' situations in order to assess their suitability for inclusion in the CRC and to prepare for monitoring.

Also at this monthly meeting of the team, a

CRC clinician reviews existing cases, focusing on defendants' progress or lack thereof, behavioral changes, attendance at and cooperation in treatment, fulfillment of any legal obligations (for example, payment of court fines or compensation to victims), and needed modifications in the treatment plan.

Team members then recommend what the judge might do with the defendant in open court to ensure compliance (for example, offer praise and encouragement, issue a warning or a reprimand, or apply sanctions). In the case of continued noncompliance or new charges, the team decides whether to attempt to reengage the offender in treatment, send him or her to jail for a few days, or transfer the case back to regular criminal court. Although team members are ready to use punishment to enforce compliance, they anticipate failures among these offenders and stand ready to help them try again. Seeing the court as a partner in therapy, the team uses it to maximize participants' motivation to make positive changes.

There is no established number of failures after which a defendant is sent back to regular criminal court. The team makes such a determination on a case-by-case basis. One team member stated, "It depends on what I hear, what the underlying diagnosis is, and the efforts being made . . . All get one chance. After that, it depends on the person and the situation if they get a second chance." Both an attorney and a judge said that a defendant's level of effort and repeat offenses are the key issues to consider in determining failure. Another attorney agreed and added that the team also needs "to consider 'Is what we are doing here working?' because the only thing prison means is punishment and segregation." In general, team members think a defendant should be deemed a failure after two to three months of noncompliance.<sup>17</sup>

Privately retained attorneys, who now refer cases to the CRC more readily than they did in the court's first year, have clients who tend to obtain services through private sources rather than the community mental health center. The CRC allows the private attorneys to monitor their own cases, but they must report to the court and provide written proof from treatment providers about cooperation and compliance. Private attorneys attend team meetings only for discussion of their clients. The requirement for consistent compliance over six months and the procedures for determining sanctions apply.

**Referrals to the CRC come mainly from court officials (the district attorney, a public defender, law enforcement personnel, judges, and personnel in pretrial services).**

## Court Hearings

At the monthly court sessions in the two venues, an assistant district attorney calls the cases on the docket, and defendants approach the bench with their attorneys, as in traditional criminal court. There the similarities end. Proceedings are informal, without swearing in of witnesses, examination and cross-examination of witnesses, or formal arguments by prosecutors and defense attorneys. The judge engages the defendant and delivers a clear, concise message about behavior and treatment expectations, emphasizing the defendant's responsibility in the agreement to participate.

In court the judge speaks directly to each defendant and to any family, friends, or treatment team members who may accompany him or her. Defendants have the opportunity to speak, as do those who stand with them. Often the judge encourages them to speak, by asking direct questions about appropriate behavior, well-being, compliance, and progress in accomplishing goals. Court dialogue minimizes use of psychiatric labels, focusing instead on behavior, cooperation with treatment

providers, services, and improvements in quality of life. To those who are complying and making progress, the judge offers compliments and encouragement. To those who are not complying, the judge may express disappointment, ask about reasons for noncompliance, attempt to provide motivation, recognize their strong points, offer support, or give a stern lecture about what is expected and what are the consequences of noncompliance, threatening jail or a return to traditional criminal court.

After six months, if a defendant has experienced periods of noncompliance or shown indications of ongoing instability, the CRC continues court monitoring for a period. However, if a defendant has had continuous and consistent compliance with treatment recommendations and has avoided repeat offenses, he or she graduates from the court, and the case is either dismissed or otherwise disposed of with a positive outcome. For example, the defendant may receive a "prayer for judgment continued" (a disposition of his case by indefinite postponement of his sentencing date, with the result that for most purposes he is not "convicted"),

or the judge may terminate his or her probation, considering it successful.<sup>18</sup> At graduation, in open court, the judge gives the defendant a certificate of completion, extends congratulations, and encourages the defendant to stay connected to the supports that he or she has developed in the past months. The team members applaud and are joined by others in the courtroom as each defendant receives the certificate and congratulations. Graduating defendants commonly smile in response and frequently express pleasure at what the CRC has helped them accomplish.

## One-Year Review

In 2003 the CRC processed and closed the cases of ninety-two people.<sup>19</sup> About two-thirds were male (67.4 percent). A little more than half were white (56.5 percent), about two-fifths were black (39.1 percent), and the remainder were of another racial group (4.3 percent) (see Table 1). Defendants tended to be forty-five years of age or younger.

This CRC caseload had proportionately fewer males and fewer blacks than there were among those arrested in North Carolina generally (75.0 percent and 44.5 percent, respectively). The age distribution of those handled in the CRC was slightly older than that of those arrested in North Carolina, with more than half being older than thirty-five while more than three-fifths of all North Carolina offenders were younger than thirty-five.

As is true of State Bureau of Investigation (SBI) data on all North Carolina offenses, most offenses by CRC defendants were misdemeanors. (For a list of the charges, see Table 2.) In fact, among CRC defendants, misdemeanors constituted the overwhelming majority of offenses (88.6 percent). Of these, theft was the largest category, followed by alcohol and drug violations. As with other U.S. and Canadian populations of offenders with mental illness, the majority of offenses fell into the broad categories of nuisance, survival (much of the theft), and substance-abuse related.<sup>20</sup> Assaults in the misdemeanor category tended to be physical resistance of arrest.

Only 11.4 percent of the offenses of CRC defendants were felonies. Of these,

Table 1. Comparison of CRC Defendants and People Arrested in North Carolina, 2003

	CRC		North Carolina	
	No.	%	No.	%
Total	92	100.0	462,718	100.0
Gender				
Male	62	67.4	347,767	75.0
Female	30	32.6	114,951	25.0
Race				
White	52	56.5	247,453	53.5
African-American	36	39.1	205,773	44.5
Other	4	4.3	9,492	2.0
Age*				
25 and under	21	24.7	145,981	31.8
26-35	17	20.0	144,247	31.1
36-45	25	29.4	110,509	23.9
46-55	15	17.7	45,579	10.3
56 and up	7	8.2	14,502	3.1

Source: CRC numbers are from Community Resource Court, Orange County, *2003 CRC Stats* (Hillsborough, N.C.: the Court, n.d.). North Carolina arrests are from State Bureau of Investigation, N.C. Dep't of Justice, *Summary-Based Reporting: Adults 18 and Over, Arrests by Age and Sex, 2003 and Arrests for Adult 18 and Over by Race, 2003* (Sept. 13, 2004), available at <http://sbi2.jus.staate.nc.us/crp/public/Default.htm>. Click on 2003 under North Carolina Crime Statistics, then on Arrests and Clearances, then on Adult Arrests by Offense by Age and Sex, 2003, and Adult Arrests by Offense by Race, 2003.

\* Age groups are for CRC defendants; those for N.C. arrestees begin and end one year younger. Numbers under age do not total 92 and 462,718 because age was missing for some people.

just four cases were aggravated assault. Thus, by the official FBI and SBI definition of violent crime, which includes only murder, rape, robbery, and aggravated assault, CRC violent offenses constituted 2.4 percent of the total, about half the rate of violent offenses among North Carolina offenders in the same year (4.7 percent).

Of the ninety-two defendants whose cases were processed and closed in 2003, a little more than half graduated (54.4 percent). That is, they appeared for scheduled court reviews, cooperated with treatment providers, completed their treatment regimens, improved in functioning, avoided repeat offenses, and had charges dropped and cases dismissed. Although some of these defendants were noncompliant early in their CRC participation, the team's efforts to reengage them brought about cooperation and a higher level of functioning. All graduates appeared to be on the road to a more stable life, free of repeat offenses, and thus can be considered successes of the CRC.

Time under CRC supervision for these graduates tended to be longer than the minimum of six months: 60 percent were supervised for 7–12 months, and 6 percent for more than a year. Only 34 percent graduated in six months. Noncompliance, relapses, system delays in accessing needed services, and life circumstances that brought delays in treatment were factors that extended the time under supervision. The average for all graduates was 7.45 months.

Of the 42 defendants who did not graduate and had their cases returned to traditional criminal court, 15 opted out of the CRC. That is, they decided not to participate after having the CRC explained and observing the court process. Ten others agreed to participate in the CRC but never made the first treatment appointment. Another 17 engaged in treatment but did not comply, by either persistently not making scheduled treatment appointments, not taking prescribed medications, not appearing for scheduled court review, or engaging in proscribed behaviors such as substance abuse. This last group of nongraduates spent less time under court supervision than graduates did, averaging 6.25 months. Nine failed to cooperate with the CRC and were sent back to traditional criminal court within the first six months. However, 7 remained under CRC supervision for 7–12 months, and 1 remained under CRC supervision for more than a year before having his case returned to traditional criminal court.

At the end of 2003, besides the 92 closed cases, 110 people had not completed their treatment plan and were still being monitored by the court.

## Discussion and Conclusions

What conclusions can be drawn at this time on the effectiveness of North Carolina's one mental health court? The 54.4 percent graduation rate suggests that the CRC has had little effect because the rate is barely above chance

(50.0 percent). However, such a conclusion ignores the fact that offenders who are mentally ill tend to continue committing offenses and not receive treatment. Getting treatment for more than half of them and stopping their repeat offending are not small accomplishments. Thus the 54.4 percent graduation rate also suggests that the CRC has been effective, given that more than half of these offenders received much needed treatment and services and did not offend again while they were under supervision.

The CRC can be gauged even more effective if the fifteen defendants who were referred to the court but opted out are excluded from the calculation. In that case, looking only at the defendants who volunteered to work with the CRC, the graduation rate rises to 64.9 percent, which is an impressive proportion of this population.

Will this effectiveness continue beyond graduation? The answer will have to wait until completion of a study that is examining one-year outcomes of the CRC.

However, two signs suggest that the CRC experience will have a long-term positive impact on the lives of its graduates. First, for many of the CRC graduates, treatment has not stopped with the termination of court monitoring. The court encourages graduates to continue to work with the supports that they found helpful during their time in the CRC, and CRC clinicians report that they are staying in contact with a number of the graduates. Second, repeat offenses by graduates seem to be declining. The two judges and the two assistant district attorneys working with the court report that many CRC graduates who used to be repeat offenders are not reappearing on the criminal court docket. These observations are encouraging.

Only two empirical studies of the effectiveness of mental health courts in producing positive outcomes have been published thus far. One followed defendants for nine months after mental health court referral; the other, for six and twelve months. Both studies found that mental health court defendants had less criminal activity at the follow-up than they did before, and that they also improved in functioning during the follow-up period.<sup>21</sup>

Table 2. **Offenses Charged against Ninety-two CRC Defendants, 2003**

Misdemeanors		Felonies	
Assault	16	Assault	4
Threat	16	Theft	13
Weapons	3	Drugs	1
Theft	43	Other	1
Alcohol/drugs	32		
Driving	10		
Nuisance	15		
Other	13		
<b>Total</b>	<b>148</b>		<b>19</b>

Source: Community Resource Court, Orange County, 2003 CRC Stats (Hillsborough, N.C.: the Court, n.d.).

Note: Offenses total more than ninety-two because defendants may have more than one charge with an arrest.

The one-year outcome study of Orange County's CRC will evaluate effectiveness according to two major comparisons: (1) CRC defendants' number of arrests, severity of arrests, and number of incarcerations one year after entering the CRC versus their number and severity of arrests and number of incarcerations one year before entering the CRC; and (2) CRC defendants' number and severity of arrests and number of incarcerations versus those of a sample of defendants who were in traditional criminal court a year before the CRC was begun, who would have been referred to the CRC had it existed. Data also will be collected on the functioning, social support, employment, and continuing contact with mental health providers of a subsample of the CRC defendants. The study's results should be available by the end of 2005.<sup>22</sup>

## Notes

1. JOHN S. GOLDKAMP & CHERYL IRONS-GUYNX, EMERGING JUDICIAL STRATEGIES FOR THE MENTALLY ILL IN THE CRIMINAL CASELOAD: MENTAL HEALTH COURTS IN FORT LAUDERDALE, SEATTLE, SAN BERNARDINO, AND ANCHORAGE (Washington, D.C.: Bureau of Justice Assistance, Crime and Justice Institute, 2000).

2. Although Orange County is part of a two-county judicial district and the community mental health program includes those two counties plus one more, the organizers established the mental health court only in Orange County. After the completion of this manuscript, however, the mental health court team created another mental health court, in Pittsboro, the seat of the second county (Chatham) in the judicial district. Two other North Carolina counties, Buncombe and Mecklenburg, are planning mental health courts.

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7. James Bonta et al., *The Prediction of Criminal and Violent Recidivism among Mentally Disordered Offenders: A Meta-Analysis*, 123 PSYCHOLOGICAL BULLETIN 123 (1998); Jeffrey Draine et al., *Role of Social Disadvantage in Crime, Joblessness, and Homelessness among Persons with Serious Mental Illness*, 53 PSYCHIATRIC SERVICES 565 (2002).

8. Randy Borum et al., *Substance Abuse, Violent Behavior, and Police Encounters among Persons with Severe Mental Disorder*, 13 JOURNAL OF CONTEMPORARY CRIMINAL JUSTICE 236 (1997); Hiday, *Mental Illness and the Criminal Justice System*; Swanson et al., *Can Involuntary Outpatient Commitment Reduce Arrests?*

9. Hiday, *Mental Illness and the Criminal Justice System*; Lamb & Weinberger, *Persons with Severe Mental Illness in Jails and Prisons*.

10. Henry J. Steadman et al., *Comparing Outcomes of Major Models of Police Responses to Mental Health Emergencies*, 51 PSYCHIATRIC SERVICES 645 (2000).

11. Hiday, *Mental Illness and the Criminal Justice System*; Teplin, *Criminalizing Mental Disorder*.

12. John Petrila et al., *Preliminary Observations from an Evaluation of the Broward County Mental Health Court*, 37 COURT REVIEW 14 (2001). The first drug court was established in 1989 in Dade County (Miami), Florida. In the following decade, more than 350 drug courts came into operation. North Carolina began in 1996 with five pilot drug courts for adults. Amy Craddock, *North Carolina Drug Treatment Court Evaluation: Final Report* (Raleigh: North Carolina Court System, 2002), available at [www.nccourts.org/Citizens/CPrograms/DTC/Documents/ncdcreport2002.pdf](http://www.nccourts.org/Citizens/CPrograms/DTC/Documents/ncdcreport2002.pdf). As of 2002, thirteen judicial districts operated sixteen adult drug courts. In addition, five judicial districts were operating juvenile drug courts; and two, family drug courts. North Carolina Court System, *Drug Treatment Court* (last updated Aug. 4, 2003), available at [www.nccourts.org/Citizens/CPrograms/DTC/](http://www.nccourts.org/Citizens/CPrograms/DTC/).

13. Most acclamations of drug courts' success have been nonempirical, based on

opinion and anecdotes. Recent data from well-designed studies indicate declines in recidivism among graduates of drug courts. Craddock, *North Carolina Drug Treatment Court Evaluation*; Roger H. Peters & Mary R. Murrin, *Effectiveness of Treatment-Based Drug Courts in Reducing Criminal Recidivism*, 27 CRIMINAL JUSTICE AND BEHAVIOR 72 (2000).

14. GOLDKAMP & IRONS-GUYNX, EMERGING JUDICIAL STRATEGIES; Petrila et al., *Preliminary Observations*; David Rottman & Pamela Casey, *Therapeutic Jurisprudence and the Emergence of Problem-Solving Courts*, NATIONAL INSTITUTE OF JUSTICE JOURNAL (July 1999), available at [www.ncjrs.org/txfiles/1/jr000240.txt](http://www.ncjrs.org/txfiles/1/jr000240.txt); BRUCE J. WINICK & DAVID B. WEXLER, JUDGING IN A THERAPEUTIC KEY: THERAPEUTIC JURISPRUDENCE AND THE COURTS (Durham, N.C.: Carolina Academic Press, 2003).

15. Allison D. Redlich et al., *The Second Generation of Mental Health Courts*, PSYCHOLOGY, PUBLIC POLICY, AND LAW (forthcoming).

16. Interviews by Marlee E. Moore with various team members, Hillsborough and Chapel Hill, N.C. (fall 2003).

17. *Id.*

18. Some offenders with mental illness who are tried, found guilty, and sentenced to probation in traditional criminal court are sent to the CRC for additional supervision. For these, graduation is accompanied by termination of their probation as successful, rather than dismissal of their case.

19. One cannot compare the number of cases processed by the CRC with those processed by other mental health courts because most of the courts with published data are in large metropolitan areas with much larger populations and more homeless people, and they meet more often (weekly or even several days a week).

20. Nuisance, survival, and substance-abuse-related crimes are not SBI categories. They are descriptive terms of types of behavior that researchers use to categorize misdemeanors. The last two suggest causation. For example, "substance-abuse-related crimes" means crimes that occur because of the abuse, such as fighting (assault), drunken driving (DWTI), and stealing to support a habit (robbery and burglary).

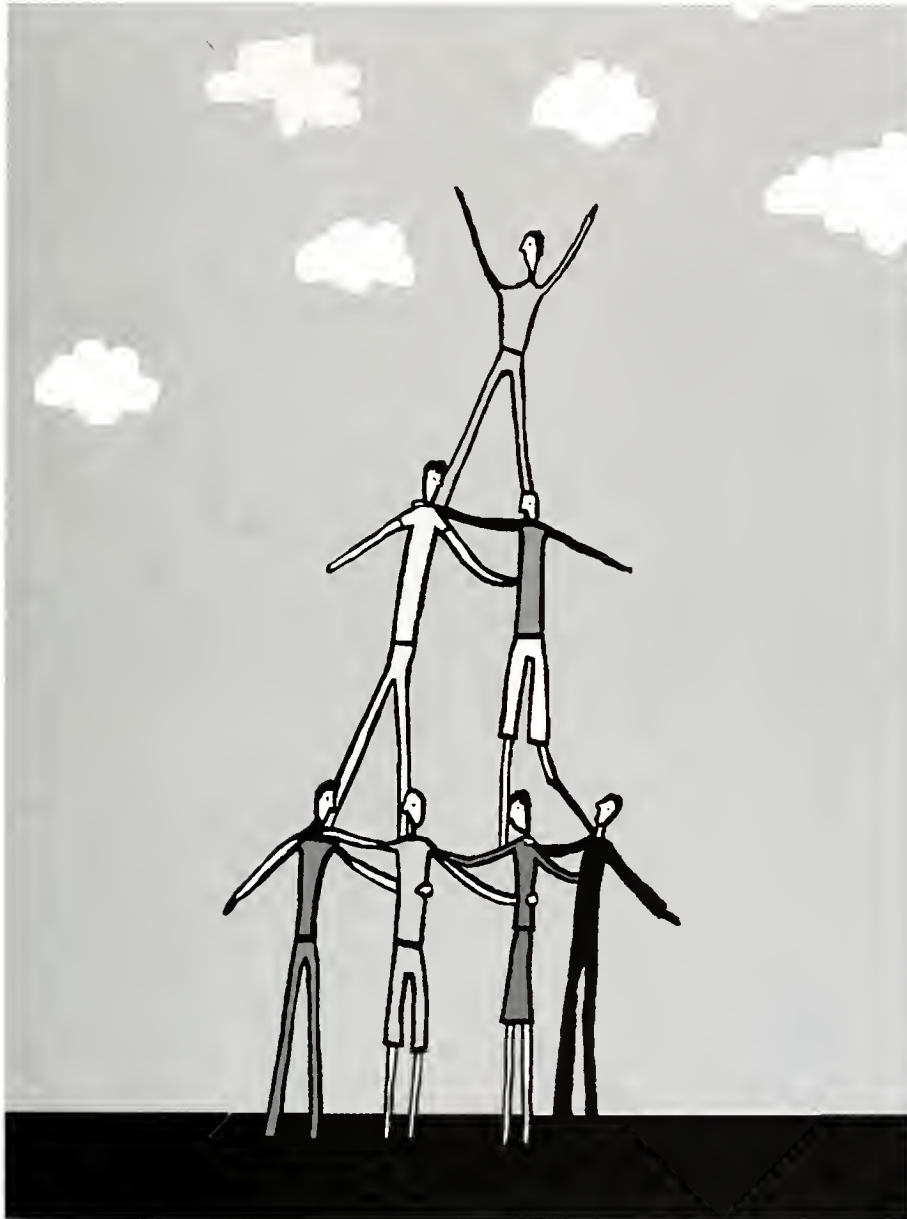
21. Merith Cosden et al., *Evaluation of a Mental Health Treatment Court with Assertive Community Treatment*, 26 INTERNATIONAL JOURNAL OF LAW AND PSYCHIATRY 415 (2003); Eric Trupin & Henry Richards, *Seattle's Mental Health Courts: Early Indicators of Effectiveness*, 26 INTERNATIONAL JOURNAL OF LAW AND PSYCHIATRY 33 (2003).

22. To get on a mailing list for the study's results, contact Hiday, [ginnie\\_aldige@ncsu.edu](mailto:ginnie_aldige@ncsu.edu), or Moore, [mgurrera@mindspring.com](mailto:mgurrera@mindspring.com).



# Implementing Results-Based Management in Local Government

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**I**n recent years many local governments have started to track and report their performance using measures, often under such labels as “key indicators” or “balanced scorecards.”<sup>1</sup> Because of the growing adoption of performance measurement, managers of numerous government agencies now

better understand the results that their programs are producing.

Nonetheless, performance measurement will not produce greater effectiveness unless it consistently influences the decisions and the behaviors of agency workers. Accordingly, a number of agencies have begun to move to the next step, incorporating performance measurement into their day-to-day management decisions so that the resulting measures help drive planning, personnel assessment, process improvements, and budget. These performance-driven management systems have (confusingly) been given various names, including “performance-based management,” “strategic management,” and “results-based management.” This article refers to all such systems as results-based management (RBM) systems.

Many agencies find it difficult to move from their traditional management approaches to RBM. This article provides some guidelines for agencies wishing to make the transition. It begins with an overview of RBM. It then discusses how government agencies can overcome common obstacles and successfully implement RBM. The article uses examples from the experiences of public agencies in Greensboro and Wake Forest (N.C.). (For a description of other North Carolina projects using RBM, see the sidebar on page 32.)

## **Benefits of Results-Based Management**

RBM asks an agency to define its most important results in a strategic planning process, to set annual objectives based on those results, and—most important—to use feedback about attainment of results in order to motivate agency members, improve internal processes, and guide personnel and budget decisions.

If an RBM system is well designed, implemented, and maintained, an agency can reap three substantial benefits:

- It can focus on its most important desired results. Often agency members work hard but become so caught up in day-to-day activities that they lose sight of their most important goals. An RBM system helps all agency members stay focused on outcomes, building a stronger, results-oriented organizational culture.
- It can become more proactive and agile. Too often, government agencies wait until a problem has become a crisis before acting.<sup>2</sup> Rather than slowly reacting to change, well-managed agencies proactively perceive upcoming challenges and take actions to meet them before they turn into crises. An RBM system facilitates this approach because its results-oriented strategic planning and annual goal-setting force managers to think ahead, proactively choosing new ways of reaching higher levels of performance.
- Its frontline staff will be empowered and accountable. Managers today hear a lot about the need to empower frontline staff so that their agencies can meet clients' needs more quickly. Empowerment of frontline staff can be an important step toward higher morale, greater organizational agility, and increased customer satisfaction. However, empowerment also can harm an agency if improperly implemented, with workers heading off in multiple and sometimes contradictory directions, all without clear accountability. An RBM system sets clear results-based goals, then gives staff great discretion in deciding how to reach them. Empowerment is thereby harnessed to an overarching organizational vision expressed in clear and measurable goals. This ensures results-based accountability as well.

## Results-Based Management Projects in North Carolina

Stephen K. Straus has worked with three North Carolina organizations to develop results-based management (RBM) systems. Wake Forest has undertaken the most ambitious project. In 2003, commissioners concluded that the town seemed to be performing well but lacked clear indicators of its effectiveness in serving the public. Town Manager Mark Williams initiated work on an RBM system. Each department and major division developed results-based goals and measures as well as strategies to achieve those goals. In fall 2004 the town worked with Developmental Associates, a consulting firm, to develop and implement an online survey of its citizens. The survey results, coupled with other more objective measures, provide a baseline for all departments. During the 2005–06 fiscal year, the town will begin tracking those measures to evaluate departmental performance. By 2006–07 the town will begin integrating results-based performance management into its budgeting processes.

Greensboro–High Point Training and Employment Services (G–TES) has made the most progress with its RBM system. As indicated in the accompanying article, the management team of G–TES used an RBM system to redesign its entire operation and structure.

Jerryl Covington, director of Greensboro's Environmental Services Department, charged a Strategic Planning Committee with developing an RBM plan. The plan provides strategies for implementing and measures for evaluating the effectiveness of the department's new district routing system. The routing system and the plan will go into effect in 2006.

An RBM system can provide the most payoff when it drives the way in which managers and supervisors think and operate on a day-to-day basis. Straus and Richard McMahon, a retired member of the School of Government faculty, have designed a training program entitled Results-Based Management and Supervision. The program teaches participants how to use a results-based approach to analyze and solve routine as well as complex problems. Straus has taught Results-Based Management and Supervision to a variety of governments and organizations, including Asheville, Cary, Clayton, Greensboro, High Point, and the North Carolina Wildlife Resources Commission.

Studies have shown that past management innovations, even useful ones, often have been accompanied by inflated claims that led to later disappointment.<sup>3</sup> An RBM system is far from a panacea for organizational ills. Nonetheless, an agency that correctly implements an RBM system can produce a noticeably more effective organization, which in turn produces more satisfied customers.<sup>4</sup>

### Results as Outcomes

An RBM system depends on agencies' focusing on, and then managing, their most important results. The most important results are outcomes, although

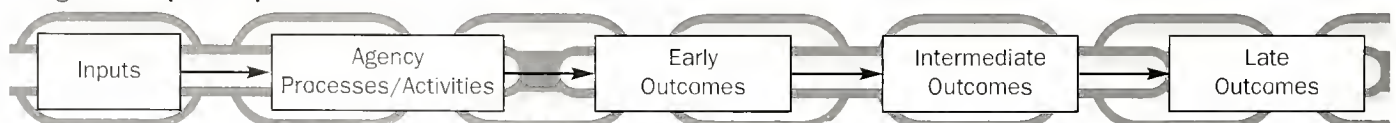
agencies must track a few inputs and processes as well.

"Inputs" are the resources that an agency uses, such as money, time, and equipment. They are typically represented by the cost of programs or activities.

"Processes," or "activities," are the functions that take place within an agency. When the agency counts them, it produces activity measures that demonstrate how busy it is—number of police patrols conducted, food stamps distributed, babies immunized, mental health patients counseled, and so forth.

"Outcomes" are the effects of processes on stakeholders outside the agency, such as citizens or customers. For an ur-

Figure 1. Input-Output Model



ban health department, outcomes might include fewer cases of tuberculosis, fewer emergency room visits, and higher patient satisfaction; for a highway patrol, fewer cases of speeding, fewer accidents, and reduced highway fatalities; and for a school district, higher test scores, fewer dropouts, and higher earnings after graduation.

Outcomes are the reasons that public agencies exist. They do not exist to work hard or stay within their budget, although doing so is commendable. They exist to produce effects on the outside world, such as helping students get better jobs and helping patients recover from illnesses. Therefore management systems must focus on outcomes. There is a cause-and-effect relationship among inputs, processes, and outcomes (see Figure 1).

### Process Measures versus Outcome Measures

Outcomes often are difficult to define and measure. Therefore, government has traditionally emphasized (and measured) processes.<sup>5</sup> For example, human services organizations report on how many people they have served but not on how many people have become self-sufficient. Transportation departments report on the number of miles paved or maintained but typically not on the reduction in accidents or commuting time.

Process measures serve a useful role. They tell an agency how hard it is working (its workload). However, a near-exclusive focus on processes hurts an agency because it encourages goal displacement. Goal displacement occurs when

agency members pursue goals that fail to provide a benefit to the public or other stakeholders.<sup>6</sup> For example, a police department may become so focused on running a large number of foot patrols (a process) that it does not focus on whether the patrols reduce crimes against property or people. Similarly a downtown revitalization committee may take pride in its frequent, well-attended meetings and its development of an elegant marketing plan, but those activities may not lead to more customers shopping downtown.

RBM, then, is outcomes-based management. An agency must track some inputs to keep its budget figures, and it must track some processes to determine how hard it is working. However, it should direct the attention of its managers and all its members primarily to outcomes.

Most complex public agencies generate many outcomes. How does an agency choose which outcomes it will track, and how does it use them to guide decisions and improve internal processes? Its primary tool is a cause-and-effect chain, often called a “logic model.”<sup>7</sup>

### Use of a Cause-and-Effect Chain to Choose the Right Results

Outcomes are the focus of an RBM system, but not all outcomes are the same. Depending on when they occur, outcomes may be classified as early, intermediate, and late.

“Early outcomes” are those that quickly result from activities. For instance, police foot patrols may directly lead to more arrests.

“Intermediate outcomes” are later effects, those that are caused by the early outcomes. For example, the increased arrests produced by foot patrols may lead to more convictions, lower crime rates in the next year or two, and an increased sense of security among citizens.

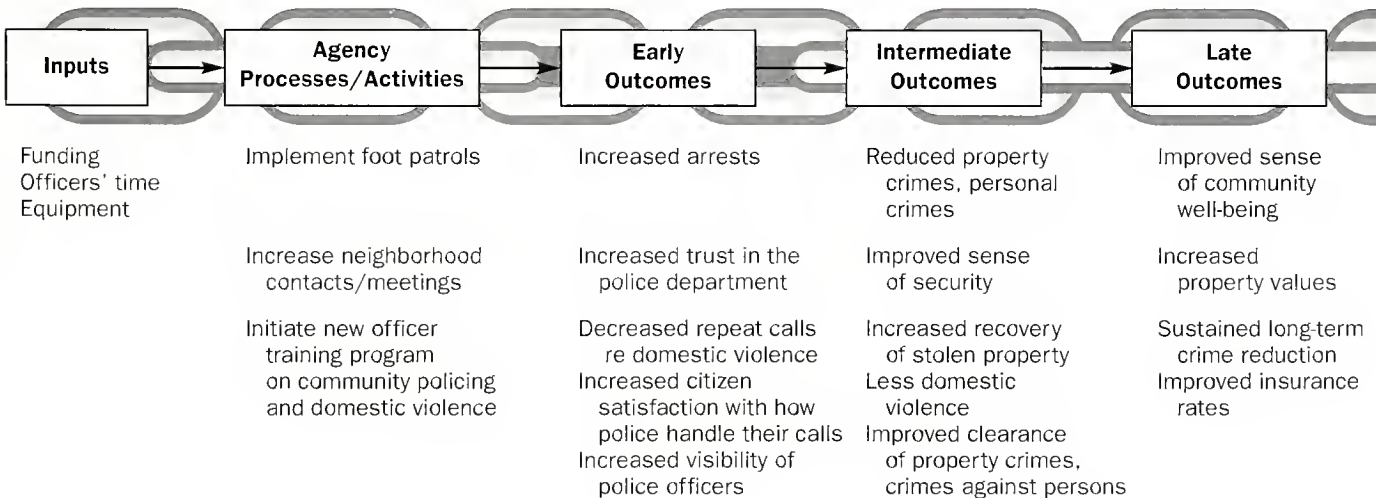
“Late outcomes” are long-term effects produced by the intermediate outcomes. For example, the reduced crime rate over the first year or two may produce sustained low rates of crime, more citizens walking at night, more businesses moving to town, and even increased property values.

(For cause-and-effect chains for a foot patrol operated by a police department, see Figure 2.)

Distinguishing between early, intermediate, and late outcomes has an important practical payoff for public managers. It helps them decide which outcomes to track, because each type of outcome measure has advantages and disadvantages.

Focusing entirely on processes will produce goal displacement. Therefore any focus on outcomes is an improvement. Nonetheless, if an agency focuses exclusively on measures of early outcomes, it may experience a milder form of goal displacement. A goal of increasing arrests (an early outcome) may not produce a safer city (a late outcome) if police respond to the new goal by increasing the number of arrests for very minor crimes. Similarly a goal of producing fewer high school dropouts (an early outcome) may not produce graduates with better job skills

Figure 2. A Cause-and-Effect Chain in a Police Department



and higher incomes (later outcomes) if teachers and administrators respond to the early goal by dramatically decreasing the academic demands of high school in order to entice students to remain.

Although focusing on early outcomes is likely to result in some goal displacement, such a focus has advantages as well. Early outcomes are the ones most clearly controllable by the agency. For example, a police department controls the number of arrests much more completely than it controls increased feelings of public safety, a later outcome. Moreover, early outcomes

are the easiest ones to measure, and they are apparent most quickly, allowing agencies to receive fast feedback and take remedial actions when an effort is going astray.

The primary advantage of focusing on late outcomes is that they represent the ultimate purpose of the agency. Therefore, goals based on them usually will not be displaced. For example, there is no goal displacement when the police department pursues the late outcome of "sustained low rates of crime," unlike the case when it pursues the early outcome of "increased arrests." Moreover, late outcomes are valuable when an agency performs a program evaluation to determine whether it is achieving its major missions in a cost-effective manner. Such evaluations are based on late outcomes: for a police department, sustained low rates of crime; for a communicable disease unit of a public health department, long-term drops in sexually transmitted diseases; and for a community college, students succeeding in four-year colleges and in jobs.

However, compared with early outcomes, late outcomes often are more difficult to measure, and they also are more affected by outside forces, making them farther outside the direct control of the agency. Moreover, late outcomes sometimes require so much time to achieve that they seem irrelevant to managers and to elected officials serving terms of only a few years.

Intermediate goals offer a useful balance between the advantages and disadvantages of early and late outcomes.

They provide reasonably fast feedback—often in a year or so. They also provide a reasonable level of control: agencies usually have a large, but not total, influence over whether they are achieved.<sup>8</sup> For example, effective police departments can influence next year's crime rate, effective revitalization programs can help improve business downtown, and successful mental health agencies can enable their customers to become more self-sufficient.

The foregoing discussion suggests that a well-designed RBM system will use a combination of early, intermediate, and late outcomes in setting its goals. The measures of early outcomes will provide quick, step-by-step feedback. The measures of late outcomes will provide a long-term guide for strategic planning and program evaluation. However, the focus of an agency in setting up its RBM system usually should be on intermediate outcomes, and the agency usually should define its core mission in terms of them.

### **Use of Outcome Measures to Monitor Effectiveness and Efficiency**

Advocates of the RBM system often emphasize how such a system helps an agency monitor and manage its effectiveness—that is, achievement of its most important results. However, outcome measures also are useful for improving efficiency—that is, achievement of the most important results without wasting time, money, or other resources.

Outcome-oriented efficiency measures often are neglected because most traditional efficiency measures focus on processes and are expressed as cost per process. For example, in one North Carolina municipality, the board is raising concerns about the cost per call of the fire department. Responding to calls is a fire department process, and cost per call is one useful efficiency measure. However, as with all process measures, it can lead to goal displacement. No citizen would want a fire department that arrives promptly, without

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wasting time or equipment, yet does a poor job in fire suppression. Indeed, most citizens would want a fire department that enables them to avoid any fire loss at all. Therefore a more important efficiency measure would be based on an outcome, such as producing a low ratio of fire service costs to (adjusted) property loss due to fire.

### **Five Steps to Implement a Results-Based Management System**

Using a cause-and-effect chain as the unifying basis, an agency can implement an RBM system in five steps:

1. Define a core mission by applying a cause-and-effect chain.
2. Use the core mission to guide strategic planning's internal and external scans.
3. Set clear annual results-oriented goals.
4. Use backward mapping of the cause-and-effect chain to help develop new processes for achieving the goals.
5. Connect the RBM system to other organizational functions, including training, budget, and personnel evaluation.

All five steps are based on the recognition that performance measures are beneficial only if they are actually used. Therefore they must be linked to on-

## North Carolina Benchmarking Project

Results-based management involves agencies' setting clear outcome-oriented objectives that include targets—expected performance levels. Most often, targets are based on negotiations between managers and frontline workers, or on past performance (that is, a target of improving on the previous year's achievement). A more ambitious way of setting targets is to base them on comparisons with similar agencies, especially the best-performing agencies. North Carolina local governments have been pioneers in making these comparisons, usually called "benchmarking." Since 1995, more than two dozen of them, working with the Institute of Government, have participated in a project to calculate comparable performance figures, including exactly what it costs each participating government to provide key services, such as paving one pothole and processing one arrest.

North Carolina's effort is an important pilot program, but it is not yet clear whether such precise benchmarks will be a significant tool for setting targets in

most results-based management systems around the country. An obstacle to the widespread use of benchmarks is the time and expense of calculating them. Local governments define their service measures (such as a "crime cleared") differently, and they also track their costs differently. Overcoming these obstacles to produce figures that are directly comparable from jurisdiction to jurisdiction proved very challenging to the North Carolina team, and took more time and effort than many had expected.

Governments interested in results-based management do not have to wait for sophisticated benchmarking to begin setting their objectives with targets. Basing objectives on an agency's own past performance, such as "achieving 10 percent more of outcome *X* than we did last year," often is effective.

To learn more about the North Carolina benchmarking project, including books and articles that explain some of its main findings, visit its website, at <http://ncinfo.iog.unc.edu/programs/perfmeas/index.html>.

going organizational processes that encourage use. In other words, performance measurement must lead to performance management, with changes in organizational behavior and decisions that in turn lead to demonstrably better outcomes for program clients.

The following sections discuss each of the steps in greater detail, using two examples: Greensboro–High Point Training and Employment Services (G–TES) and, to a lesser extent, the Wake Forest Fleet Maintenance Department. G–TES is a local government program that provides training and employment services to people who are unemployed or underemployed. In winter 2002–03, the Leadership Team of G–TES, headed by G–TES's executive director, Lillian Plummer, made a commitment to initiate an RBM system. The team worked with one of us (Straus) and Deywon McAdoo-Arant, Greensboro's director of training and development. Also, in summer and fall 2004, at the request of Wake Forest's manager, Mark Williams, and its board,

one of us (Straus again) helped the town develop a results-based strategic plan for the Fleet Maintenance Department (among others). The department services all the town vehicles and equipment.

### Step 1: Define a Core Mission by Applying a Cause-and-Effect Chain

Before an agency can define its desired results and then measure its progress toward those results, it must ask, What are the most important things we are trying to do? In other words, What are our core mission and values?

Defining a core mission and values, with its specific clients, is much more difficult in government than in business. A business can choose its niche. For example, IBM can target its top-of-the-line laptop computers at the affluent business executive. However, outsiders—interest groups, legislators, executive branch officials, and others—define the core mission of government agencies, and this mission often is broad because it must satisfy a large

number of stakeholders.<sup>9</sup> Moreover, once an agency has chosen its core mission, it often has a difficult time measuring its effectiveness in achieving that mission, because it lacks a single measure of effectiveness, such as the profit measure for business.

These obstacles mean that top managers wishing to install an RBM system must define the core mission in terms of outcomes and recognize that their core mission will be far broader than that of the typical business.

**G–TES example.** To determine its primary mission, the G–TES Leadership Team developed a cause-and-effect chain (see Figure 3) and used it to consider which intermediate outcomes best captured the most important results. The discussion helped the team establish the primary outcomes—the core mission—by which G–TES should operate.<sup>10</sup> The team then concluded that the most significant of these outcomes was clients becoming self-sufficient.

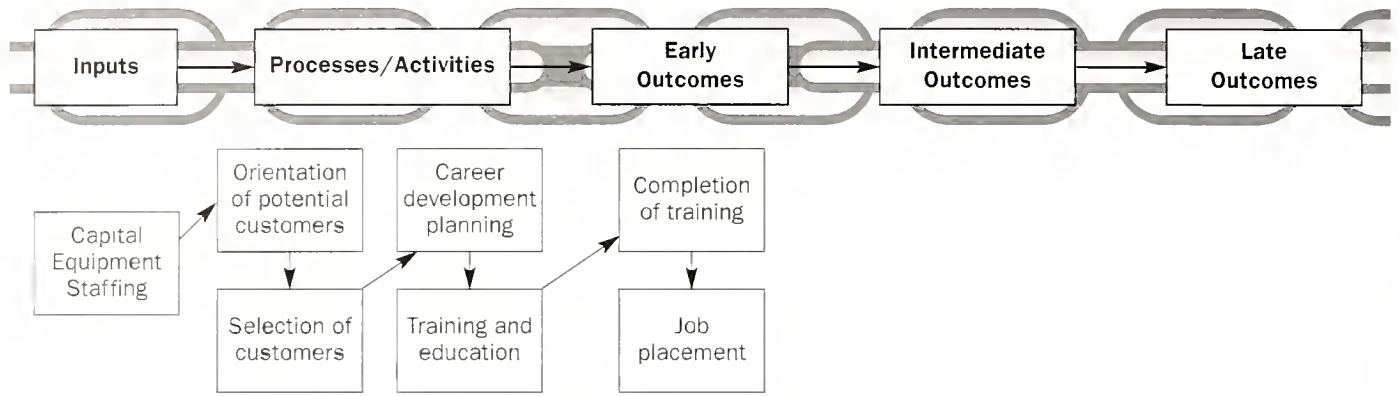
### Step 2: Use the Core Mission to Guide Strategic Planning's Scans

In step 2 the agency should use its core mission as the basis of internal and external scans. First it should ask, What internal and external opportunities exist to achieve that mission? What internal and external threats to the mission loom? Then it should ask, What strengths and weaknesses do we have to meet those opportunities and threats and carry out our core mission? (Most managers know this analytic process by its acronym, SWOT, for strengths, weaknesses, opportunities, and threats.) As a product of this analysis, an agency usually identifies some long-term goals that will aid in achieving its core mission.

**G–TES example.** After determining its core mission, the G–TES Leadership Team conducted a SWOT analysis. One of G–TES's internal weaknesses, the team determined, was that it had fallen prey to goal displacement. It had been focusing on a combination of process and early outcome measures. The processes and, in parentheses, the corresponding measures were as follows:

- Orientation of potential customers (number of potential customers attending orientation)

Figure 3. Initial Cause-and-Effect Chain for G-*TES*



- Selection of customers (number of customers in the program)
- Career development planning (number of customers completing career development planning)
- Training and education (number of customers in various training and education programs)

The early outcomes (and measures) were these:

- Completion of training (number of customers completing training)
- Job placement (number of customers hired by local employers)

As is generally true with goal displacement, even when G-*TES* was successful in meeting its process and early outcome goals, it was not achieving its more important, broader mission. Many customers completed training and obtained jobs (thereby meeting the early outcome goals), yet they were not independent of government support or willing or able to hold their jobs for sustained periods, the desired intermediate outcomes. Many former customers, in fact, were returning to G-*TES* for training in new careers that could better sustain them and their families.

**Fleet Maintenance Department example.** The Wake Forest Fleet Maintenance Department provides another example of avoiding goal displacement. That department had a goal of repairing

as many vehicles and pieces of equipment as possible. Obviously a fleet maintenance operation could exceed this goal and still be ineffective if its repairs were shoddy and repaired vehicles and equipment soon broke down again. Such a process-oriented goal might encourage the maintenance department to do fast but sloppy work. To overcome goal displacement, the Fleet Maintenance Department adopted a strategic goal of “minimizing the downtime of operating departments due to vehicle and equipment failure.” This intermediate goal encouraged careful work and long-term maintenance, thereby better meeting the expectations of customers—the operating departments that rely on the Fleet Maintenance Department.

### Step 3: Set Clear Annual Results-Oriented Goals

An RBM system is proactive; it requires agencies and individuals to decide what they specifically wish to accomplish during a time period, such as a quarter, a year, or three years. Therefore the outcome measures shown on the cause-and-effect chain must be turned into agency and individual goals. To construct a goal, managers and workers must combine the outcome measure with a target—a measurable standard of performance—and a date. The outcome measure “reduced burglaries” becomes part of a goal when stated as “Burglaries will be reduced by 12 percent by June 30, 2006.” Reduced burglaries is the measure; 12 percent is the target; and the end of

the fiscal year is the date. Such goals often are set with the active involvement of both the manager and his or her team members. The desired goal is a stretch but also reasonable and attainable. (For a description of another way of setting targets, see the sidebar on page 35.)

The importance of appropriate goals cannot be overemphasized. When measurement of results is actually used to track performance and to hold management and staff accountable for that performance, agency members will pursue those measures.

**G-*TES* example.** The G-*TES* Leadership Team understood the importance of determining goals for the agency. After a spirited discussion, the team reached consensus that it should define self-sufficiency as clients who are no longer in need of government support.

G-*TES* then developed two key goals based on this intermediate outcome:

- Sixty percent of the customers of G-*TES* will attain self-sufficiency one year after completing the program.
- Within one year after completing the program, customers will save taxpayers more money than G-*TES* invests in those customers.<sup>11</sup>

The first goal simply specifies the desired percentage of customers who will attain self-sufficiency. The second goal focuses on efficiency by employing a cost-benefit ratio

The team also established twelve goals based on measures of processes and early outcomes. Many of these measures already were mandated by federal and state reporting requirements. Nevertheless, the leadership team wanted to have detailed information to

**Performance measurement must lead to performance management, with changes in organizational behavior and decisions that in turn lead to demonstrably better outcomes for program clients.**

assess the effectiveness of each part of the cause-and-effect chain and to test its validity over time.

**Step 4: Use Backward Mapping of the Cause-and-Effect Chain to Help Develop New Processes for Achieving the Goals**

Once an agency has chosen a series of annual results-oriented goals, it must ask, How do we achieve those goals? Here too, a cause-and-effect chain can help. Usually a cause-and-effect chain is constructed by working forward—by specifying a process, then the first result (outcome) it produces, then the second result it produces, and so on. However, when analyzing new processes, an agency builds the chain by working backward, usually called “backward mapping.”<sup>12</sup> It starts from the desired outcomes, then

asks, What outcomes or actions would produce the desired outcomes (and therefore precede them on the chain)? Once it has an answer, the team asks, What outcomes or actions would precede that?

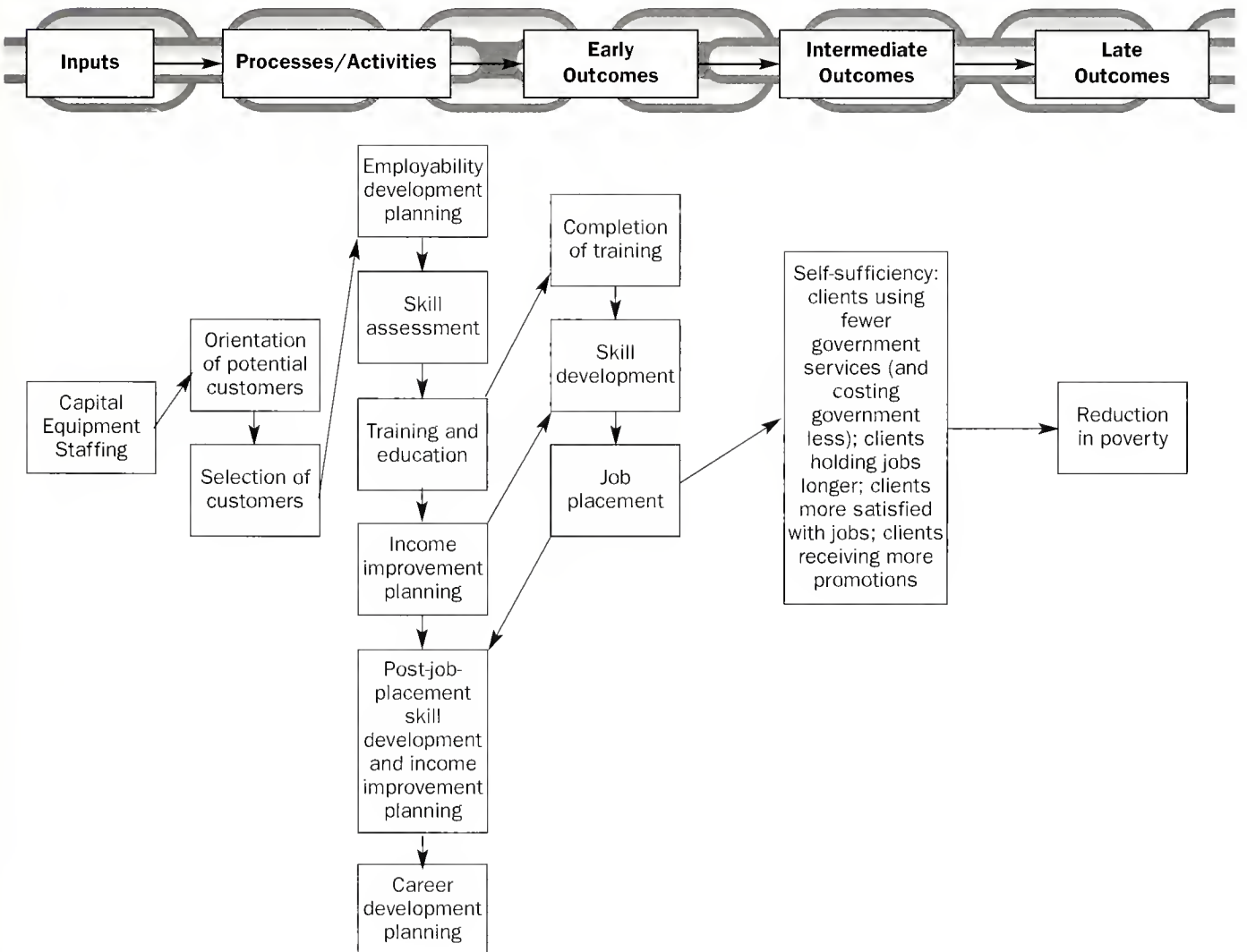
Many local managers are familiar with the “balanced scorecard” approach to performance measurement because several of North Carolina’s largest jurisdictions have been using it as a management tool in recent years.<sup>13</sup> Balanced scorecards often are a useful tool, but this step helps illustrate the two advantages of cause-and-effect chains over balanced scorecards. First, because they do not treat all outcomes as equivalent, cause-and-effect chains serve as an organizing and brainstorming device that allows managers to generate new, related measures for their programs. Chains help agencies generate a slate of management

measures that does not just balance processes with outcomes, as balanced scorecards do, but also balances different types of outcomes: early, intermediate, and late.

Second, backward mapping, which helps suggest process improvements by asking which causes immediately precede desired outcomes, is far easier when using chains than when using scorecards. Even agencies that wish to retain scorecards often will find that chains provide a useful tool for building and analyzing their scorecards.

**G-TES example.** Spurred by a new perspective on its mission, the G-TES Leadership Team eagerly set to work on a new cause-and-effect chain that moved beyond the early outcomes of training completion and job placement and emphasized later outcomes such as increased

Figure 4. Redesigned Cause-and-Effect Chain for G-TES



**Figure 7 Performance Appraisal, G-TES Position of: Career Developer**

Vision Statement: "Every client of TES who is committed, has the potential to become self-sufficient. Commitment comes from within."

Performance Factor #4: ACHIEVING SELF-SUFFICIENCY

Considers how the staff member enables customers to find placements that result in self-sufficiency.

RATING MEASURES	1 Fails to meet expectations	2 Partially meets expectations	3 Fully meets expectations	4 Exceeds expectations	5 Far exceeds expectations
Percent of exiters working in the occupational skill area in which they were trained	Less than 35%	35–39%	40–44%	45–49%	50%
Number of customers who have attained self-sufficiency as defined by the WDB standard	Less than 21%	21–25%	26–30%	31–35%	36%
Percent of employed exiters still employed 12 months after exit	Less than 70%	70–74%	75–79%	80–84%	85%
Increase in average monthly income (adults and older youth) at point of entry compared to 6 months after exit	Less than \$457	\$457–\$480	\$481–\$505	\$506–\$532	\$533

Source: Excerpted from Greensboro–High Point Training and Employment Service, PERFORMANCE APPRAISAL, G-TES POSITION OF: CAREEN DEVELOPER (Greensboro: G-TES, n.d.).

wages and less use of government services, which are indicators of self-sufficiency. This reformulation generated new processes and outcomes and led the team to redesign old processes to promote self-sufficiency better. (For the redesigned cause-and-effect chain, see Figure 4.)

The G-TES Leadership Team and staff used the cause-and-effect chain to work backward, asking, What processes or earlier outcomes should precede these desired outcomes? For example, when they considered the desired outcome of "self-sufficiency," they recognized that it needed to be preceded by an outcome of "good understanding by clients of their own job possibilities." This necessary prerequisite often was missing. Unrealistic expectations kept numerous customers from becoming self-sufficient. Many were unaware of how changes in

**School districts may employ school-based accountability, which devolves many decisions to principals but holds the schools accountable for reaching defined academic and other goals.**

the job market might limit certain options and pave the way for others. Also, a lot expressed interest in careers that were unsuitable for their aptitudes or skills, or were unattainable, given their education and work records. For customers to become self-sufficient, they needed to have a more realistic sense of their abilities, aptitudes, and potential relative to the opportunities available in a rapidly changing job market.

G-TES then designed new processes to produce this newly identified outcome of "good understanding by clients of their own job possibilities." One new process provided an intensive and valid battery of vocational and aptitude tests. A second one involved personal meetings with each customer to develop collaboratively an income-improvement plan that matched the customer's test results with opportu-

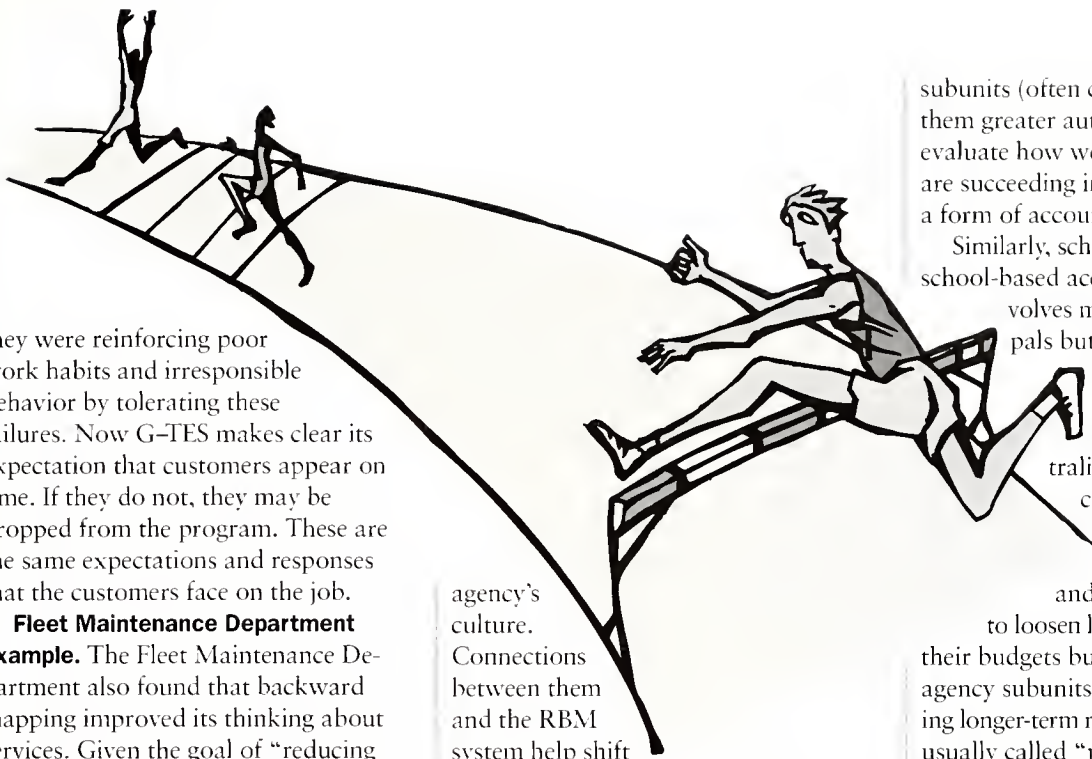
nities available in the local job market.

A third new process was called "continued skill development and income improvement planning." Its purpose was to help customers plan to improve their incomes after they had secured a position. Once employed, many customers still were not paid enough to become self-sufficient. Those customers needed to develop the skills, the motivation, and the attitude necessary to move from entry-level into higher-paying positions. Therefore the role of G-TES expanded from job attainment to continuous job advancement.

To achieve its longer-term results, G-TES changed other processes as well. For example, the career developers began to emphasize collaboration, rather than direction, in order to foster greater customer responsibility and understanding.

Also, the career developers learned to hold customers accountable. Previously, customers who failed to appear for appointments or were habitually late received no negative feedback from the staff. If self-sufficiency was the most important outcome, the staff realized,





they were reinforcing poor work habits and irresponsible behavior by tolerating these failures. Now G-TES makes clear its expectation that customers appear on time. If they do not, they may be dropped from the program. These are the same expectations and responses that the customers face on the job.

**Fleet Maintenance Department example.** The Fleet Maintenance Department also found that backward mapping improved its thinking about services. Given the goal of “reducing lost staff hours of town departments due to unavailable equipment or vehicles,” staff began thinking differently about their services. They started by developing new processes to reduce the average turnaround time on repairs. They also tried to think “outside the box” about their operations: even with reduced turnaround time, town departments still would experience some lost hours due to unavailable equipment or vehicles. The department now is considering expanding or altering its work hours so that staff can complete repairs when operating departments are not using vehicles and equipment. They also are contemplating how they can improve their capacity to supply replacement vehicles and equipment to minimize downtime.

### **Step 5: Connect the RBM System to Other Organizational Functions, including Training, Budget, and Personnel Evaluation**

As noted earlier, outcome measures provide no value to an agency if they are gathered, reported, and then ignored. To encourage agency workers to base their decision making and behaviors on outcome-oriented goals, an agency should inextricably bind the measures to ongoing management processes and incentive systems.

Training, structure, rewards, and budgets are central components of an

agency’s culture. Connections between them and the RBM system help shift the organizational culture toward a greater focus on results. For example, an appropriate outcome for a street department would be improvement in the safety of city streets. Such an outcome could be enhanced by partnering with the police department. Similarly, a fleet maintenance department could work more closely with operating departments to educate drivers and equipment operators about preventive maintenance. An agency also will tend to become somewhat decentralized, to make its budgets performance based, and to make its appraisal systems outcome based, with some group or team measures. These structural changes need not be made before initiating an RBM system, but they quite often ensue as a result of implementing one.

Some agencies choose to move to step 5 cautiously. Determining outcomes, measuring results, and developing systems to gather those measures typically demand ample commitment during the first year or so.

Nevertheless, once the measurement system is in place, an agency usually will wish to use measures to evaluate the effectiveness of individual units. Such accountability for results often is fostered by restructuring in a way that provides each subunit with a cross-functional capability to deliver some outcomes on its own. For instance, as part of community-based policing, a police department may enhance the capabilities of its local

subunits (often called districts) and give them greater autonomy, but it then will evaluate how well the various districts are succeeding in reducing crime. This is a form of accountable decentralization.

Similarly, school districts may employ school-based accountability, which devolves many decisions to principals but holds the schools accountable for reaching defined academic and other goals. (Such decentralized structures often are called “results centers.”)

An RBM system also allows legislatures and executive departments to loosen line-item restraints in their budgets but hold the program and agency subunits accountable for achieving longer-term results. These approaches, usually called “performance-based budgeting,” are built on an RBM system.

Other connections can be made to training programs and to personnel appraisals, as G-TES illustrates.

**G-TES example.** Once it had established the new goals and processes, the G-TES Leadership Team was prepared to reassess the staff’s training, structure, and performance appraisal system. The goal of customer self-sufficiency pinpointed the importance of the career developer position at G-TES. The team realized that customers would be better served by working directly with a single career developer than by being passed from one staff member to another. Such a full-service representative could better understand the total personal and professional needs of the customer and better hold that customer accountable for following through on commitments.

To enable career developers to adapt to their expanded roles, G-TES redesigned its training and clarified the values by which it should operate. For instance, the career developers needed to be trained in test interpretation so that they could share these results appropriately with customers. Moreover, career developers needed to receive proper training in how to prepare their customers first to become more responsible, then to acquire an entry-level position, and finally to move up to higher and better positions that would allow them to achieve self-sufficiency.

Obviously this commitment to client self-sufficiency transformed the job expectations of the career developer position. The job of the career developer no longer ended with the customer becoming employed. The relationship carried over for at least a year as the career developer worked with the employer and the customer to facilitate the advancement necessary for self-sufficiency. The career developers also needed to work effectively with employers to ensure proper support for customers and to build the confidence of the local business community in G-TES and its customers.

These new job expectations, coupled with the revised measurement system,

enabled G-TES to develop precise performance appraisal criteria for its career developers and other staff. Most governments develop trait- or behavior-based personnel appraisal systems. All too often, these systems tend to be either too subjective or rife with goal displacement because they tend to measure processes rather than outcomes. G-TES was able to develop a performance-based appraisal system. The career developers are assessed according to a fully objective and quantifiable set of performance standards that tie directly into organizational outcomes (for excerpts from the appraisal instrument, see Figure 5). Therefore the performance appraisal system makes a clear connection between the goals of the agency and those of its members, encouraging goal alignment.

### Evaluation of the Success of Results-Based Management at G-TES

Earlier this article discusses the three expected benefits of a well-designed RBM system. The advantages provide a useful checklist of system success at G-TES.

**An agency can focus on its most important desired results.** Not only does the intermediate goal of enabling customers to become self-sufficient ap-

propriately focus the actions of G-TES, but the measures of that success have enabled an objective evaluation, including an assessment of money saved. In fact, the measure of customers saving taxpayers more money than G-TES invests in its customers has provided a businesslike bottom line for the program. G-TES can build political support with elected officials by showing a return on the investment for taxpayers.

This clarity of focus on results also has enabled G-TES to resolve some organizational issues. Before the implementation of the RBM system, management and staff were experiencing more than the usual tension. Management was

frustrated with staff for not taking greater responsibility to ensure the success of customers, while staff were at odds with management for micro-managing their work. In addition, G-TES was adapting to new legal and reporting requirements as the Workforce Investment Act replaced the Job Training Partnership Act in 2000. Staff and management were in a state of confusion. The chaos has been resolved by the clear expectations provided by the RBM system. Both management and staff welcome the improved clarity after months of uncertainty.

After its first year of implementation of the RBM system, G-TES is not yet able to evaluate the impact on overall organizational performance. That first year was devoted to restructuring the agency, developing the measurement system, and establishing measurement baselines. Nevertheless, G-TES staff and managers have been pleased with the impact of the RBM system on their performance appraisals. For the first time in many years, no staff complained to management about their performance appraisal ratings, yet the ratings were lower than ever! Management and staff explain this paradox by pointing to the measures and the measurement system. Staff knew exactly what results

were expected at the beginning of the year, and management was able to keep staff informed of their performance results on a monthly basis.

**An agency can become more proactive and agile.** At the end of the first year of implementation, G-TES has acquired measures of its intermediate goals and a cause-and-effect model that enable it to make appropriate improvements in its programs. For instance, if customers are not adequately achieving self-sufficiency, G-TES adjusts its processes. Moreover, by rigorously evaluating results, the organization more scientifically tests what works and what does not.

Staff already have become more proactive. Despite staff knowing their exact performance results throughout the year, management found itself spending more time than ever discussing performance appraisals with them. The discussions did not involve quarrels about ratings, however. Instead, they focused on how performance results could be improved over the year. Staff fully accepted that their performance was not what it could have been. They took greater initiative to share their ideas for improvement with management. Moreover, they began to develop strategies to improve their results, especially by learning from staff who were performing at higher levels.

**An agency's frontline staff will be empowered and accountable.** The new performance appraisal criteria have proven beneficial to both management and staff at G-TES. Management feels that it can hold staff fully accountable for results that have been clearly defined at the beginning of each rating period. Staff feel empowered to decide how to achieve the results. G-TES has the benefit of empowering its staff to make decisions, but it also holds them accountable for results.

### A Look to the Future

The old saying, "There are no free lunches," holds true with an RBM system. Obviously, much time is required to design and maintain such a system. For example, G-TES now is devoting more time and resources to conducting customer service surveys both with its

As part of community-based policing, a police department may enhance the capabilities of its local subunits (often called districts) and give them greater autonomy, but it then will evaluate how well the various districts are succeeding in reducing crime.

job-seeking customers and with the employers who hire those customers.

Nonetheless, the gains of an RBM system are clear. G-TES, like other agencies, now can build on this foundation by continuously measuring outcomes and proactively modifying services to improve on them. The RBM system provides a useful new approach to planning, staffing, and delivering government services.

## Notes

1. David N. Ammons, *Performance Measurement in North Carolina Cities and Towns*, POPULAR GOVERNMENT, Fall 2001, at 11.

2. STEVEN COHEN & WILLIAM B. EIMICKE, *THE NEW EFFECTIVE PUBLIC MANAGER* (San Francisco: Jossey Bass, 1995).

3. PAUL LIGHT, *THE TIDES OF REFORM: MAKING GOVERNMENT WORK, 1945-1995* (New Haven, Conn.: Yale Univ. Press, 1997).

4. Because RBM systems are still new, there are not enough studies to be conclusive about their effectiveness. There is some empirical support for them, however.

Studies suggest that strategic planning, which is essential for establishing RBM systems, can under some circumstances produce improvements. George Boyne, *Planning, Performance and Public Services*, 79 PUBLIC ADMINISTRATION 73 (2001).

Studies also suggest that a results-based approach improves the validity of performance appraisal systems. RICHARD C. GROTE, *THE COMPLETE GUIDE TO PERFORMANCE APPRAISAL* (New York: AMACOM, 1996).

There is good evidence that process improvement techniques drawn from re-engineering and Total Quality Management sometimes produce positive changes in internal activities. Bonnie G. Mani, *Old Wine in New Bottles Tastes Better: A Case Study of TQM Implementation in the IRS*, 55 PUBLIC ADMINISTRATION REVIEW 147 (1995); Theodore H. Poister & Richard H. Harris, *Service Delivery Impacts of TQM: A Preliminary Investigation*, 20 PUBLIC PRODUCTIVITY & MANAGEMENT REVIEW 84 (1996); Theodore H. Poister & Richard H. Harris, *Building Quality Improvement over the Long Run: Approaches, Results and Lessons Learned from the PennDOT Experience*, 24 PUBLIC PRODUCTIVITY & MANAGEMENT REVIEW 161 (2000).

The evidence is best for management approaches based on target setting and feedback. A large number of studies show that setting goals face-to-face and tracking results often produce major gains in organizational outcomes. Three examples: EDWIN A. LOCKE & GARY P. LATHAM, *A THEORY OF GOAL SETTING AND TASK PERFORMANCE* (Englewood Cliffs, N.J.: Prentice-Hall, 1990); Anne M. O'Leary-Kelly et al., *A Review of the Influence*

*of Group Goals on Group Performance*, 37 ACADEMY OF MANAGEMENT JOURNAL 1285 (1994); Robert Rogers & John E. Hunter, *A Foundation of Good Management Practice in Government: Management by Objectives*, 52 PUBLIC ADMINISTRATION REVIEW 27 (1992).

5. *CREATING HIGH-PERFORMANCE GOVERNMENT ORGANIZATIONS: A PRACTICAL GUIDE FOR PUBLIC MANAGERS* (Mark G. Popovich ed., San Francisco: Jossey-Bass, 1998).

6. MICHAEL L. VASU ET AL., *ORGANIZATIONAL BEHAVIOR AND PUBLIC MANAGEMENT* 291-97 (3d ed., New York: Marcell Dekker, 1998).

7. The underlying conceptual framework of cause-and-effect program linkages (that is, logic models) has a long history of development. One of the earliest discussions of the underlying concepts is in EDWARD A. SUCHMAN, *EVALUATIVE RESEARCH* 51-73 (New York: Russell Sage Found., 1967). Some of the earliest public management applications were developed in a number of works by Joseph Wholey (for example, *Evaluability Assessment: Developing Program Theory*, in *USING PROGRAM THEORY IN EVALUATION* 77-92 (Leonard Bickman ed., San Francisco: Jossey-Bass, 1987). Michael Q. Patton, in his three editions of *UTILIZATION-FOCUSED EVALUATION* (Beverly Hills, Cal.: Sage Publications), also has done much to popularize the concept.

8. Like all measures except those of late outcomes, intermediate outcome measures can cause goal displacement, but it is milder than that plaguing early outcome measures and far milder than that caused by measures of process goals.

9. HAL G. RANEY, *UNDERSTANDING AND MANAGING PUBLIC ORGANIZATIONS* 72-77 (2d ed., San Francisco: Jossey-Bass, 1997).

10. *CREATING HIGH-PERFORMANCE GOVERNMENT ORGANIZATIONS*.

11. This latter goal bears some explanation. A typical customer who enrolls at G-TES depends on the government for income support, such as food stamps, unemployment compensation, or welfare. Once the customer becomes self-sufficient, he or she no longer depends on government support and begins to pay income taxes. For instance, a customer may be receiving \$10,000 in support when he enrolls at G-TES. After completing the program, that customer becomes self-sufficient and pays taxes of \$5,000. Therefore, taxpayers have realized a \$15,000 benefit. If G-TES invests \$5,000 in that customer, he has produced a 300 percent return on their investment.

12. Backward mapping was developed by Richard F. Elmore, who advanced the concept in a number of works, beginning with *Backward Mapping: Implementation Research and Policy Questions*, 94 POLITICAL SCIENCE QUARTERLY 601 (Winter 1979-80).

13. ROBERT S. KAPLAN & DAVID P. NORTON, *THE BALANCED SCORECARD* (Boston: Harvard Univ. Press, 1996).



*continued from page 3*

various times holding memberships (and offices) on the Ethics Committee, the Finance Committee (cochair), the UNC Board of Governors, the Congressional Redistricting Committee, the Pensions and Retirement Committee, the Technology Committee, and the Judiciary I Committee. Gray has been a member of the boards of Leadership Winston-Salem, The Nature Conservancy (N.C.), the N.C. State University Veterinary Foundation, the Yadkin-Pee Dee River Basin Commission of Winston-Salem, and the North Carolina School of the Arts Foundation, among others. He currently serves on the board of the Lettie Pate Whitehead Foundation in Atlanta. Gray attended UNC at Chapel Hill and received an Honorary Doctor of Laws degree from Campbell University in 2001.

## S. Ellis Hankins (ex officio)

S. Ellis Hankins joined the staff of the



N.C. League of Municipalities (NCLM) in 1982, served as general counsel from 1987 to 1994, and was appointed executive director in 1997. From 1994 to 1997,

he also worked in private practice with the law firms of McNair & Sanford, and Poyner & Spruill, in Raleigh. The N.C. Center for Public Policy Research has consistently ranked Hankins among the most effective lobbyists before the N.C. General Assembly. He is a member of the N.C. Association of Municipal Attorneys and has served on the board of directors of the National League of Cities, the Board of Advisors of the State and Local Legal Center (Washington, D.C.), and the State Municipal League Directors Steering Committee (chair, 2004). He currently serves on the boards of NCLM Risk Management Services,

the Southern Municipal Conference, and the N.C. Community Development Council. Hankins holds a B.A. in political science, an M.A. in regional planning, and a J.D., all from UNC at Chapel Hill.

#### H. Parks Helms



H. Parks Helms is an attorney and the president of the law firm of Helms, Henderson & Associates, P.A., in Charlotte. He is currently serving his seventh consecutive term

on the Mecklenburg Board of County Commissioners, which he has chaired for five of his seven terms. For ten years (1974–84), he was an at-large member of the N.C. House of Representatives. He also has worked with the N.C. Local Government Partnership Council, the N.C. Courts Commission, and the Commission for the Future of Justice and the Courts in North Carolina. Helms is a past president of the Charlotte Jaycees and has served on the Board of Associates at Meredith College and the Board of Directors of the United Way of the Carolinas. He earned a B.A. in economics and a J.D. from UNC at Chapel Hill.

#### Howard N. Lee



Howard N. Lee was appointed by Governor Mike Easley in 2003 as chair of the State Board of Education. In 1969 he was elected as the first black mayor of Chapel Hill,

serving until 1975, when he became secretary of the Department of Environment and Natural Resources under Governor Jim Hunt. In 1990 Lee was elected to the N.C. Senate (from District 16). During his ten-year tenure there, he cochaired the Appropriations Committee, the Appropriations Subcommittee on Education and Higher Education, and the Joint Legislative Education Oversight Committee. He holds a

bachelor's degree from Fort Valley State College (Georgia) and a master's degree in social work from UNC at Chapel Hill. Lee's term on the Foundation board ended in May 2005, but we thank him here for his outstanding service over the past six years.

#### Alan V. Pugh



Alan V. Pugh is a partner in the law firm of Gavin, Cox, Pugh, Etheridge & Wilholt, in Asheboro, and he serves as the attorney for Randolph County. He has extensive experience in state government, including

general counsel to the speaker of the N.C. House of Representatives, secretary of the N.C. Department of Crime Control and Public Safety, senior assistant and special counsel to the governor, deputy secretary of the N.C. Department of Administration, member of the N.C. Board of Transportation, and member of the Governor's Commission on Juvenile Justice. He holds a B.A. in American history and a J.D. from UNC at Chapel Hill. In 1989 he was honored as one of BellSouth's Global Leaders for the South.

#### Michael R. Smith (*ex officio*), Executive Director



Michael R. Smith was appointed director of the Institute of Government in 1992 and became dean of the School of Government when it was created in 2001. Since

becoming dean, he has expanded the School's capacity to assist public officials in the areas of public management, finance, and administration without reducing its traditional strengths in public law. He also has improved faculty diversity and broadened the School's financial base. He serves on several University committees, including the Administrative Board of the School of Education,

the Advisory Board of the Center for the Study of the American South, and the Board of Visitors of the School of Public Health. Smith is a former cochair of the University's Public Service Roundtable (now the Carolina Center for Public Service) and a former president of the Southern Consortium of University Public Service Organizations. He earned his B.A. at the University of Michigan and his J.D. at UNC at Chapel Hill.

#### Thomas H. Thornburg, *Secretary*



Thomas H. Thornburg began his career in law as a clerk at the Institute of Government in 1989. He joined the faculty in 1990 and was appointed associate director

for programs in 1997. He currently serves as senior associate dean of the School of Government. Thornburg's responsibilities include assisting with day-to-day management of the School, program development, and faculty recruitment. As a faculty member, he has worked mostly in criminal law and procedure. On loan from the Institute in 1992–93, he served as chief legal counsel to the N.C. Department of Correction. He edited and revised *North Carolina Crimes: A Guidebook on the Elements of Crime* (fourth edition, 1995), and he has written articles on juvenile curfews. Thornburg earned his B.A. from Earlham College (Indiana) and his M.P.P. and J.D. from the University of Michigan.

## MPA Students Complete 2005 Capstone Research and Receive Degrees

On May 15, twenty-nine students received their Master of Public Administration (MPA) in a ceremony at the School of Government. The two-year, full-time MPA Program attracts exceptional students from across the country and North Carolina. As a requirement for graduation, each



student authors and presents a “capstone” paper, reporting on practical research focused on a topic of interest to many North Carolina public officials. Following are the titles of the papers presented in April 2005. Copies are available from the MPA Program, (919) 962-0425.

### Capstone Research Papers, 2005

#### Community-Oriented Government

Community-Oriented Government: Rhetoric or Reality? by Faith Maris McDowell-Thompson

Perception Shift: A Longitudinal Study of Police Officer Opinions of Community Policing in Kannapolis, N.C., by Adam Ross

Planting the Arts in North Carolina: The Impact of Local Arts Council Presence and Location on Grassroots Arts Program Funding Distribution, by Emily Bruce

#### Economic Development

Cloisters to Clusters: Marine-Research-Based Economic Development in Carteret County, N.C., by Ben Mauk

Fostering Innovation: An Analysis of the Research Triangle and Piedmont Triad Regions' Ability to Support High-Growth Entrepreneurial Firms, by Chris Harder

Head-to-Head or Side-by-Side? Factors Supporting Intergovernmental Cooperation in Economic Development, by Owen Franklin

How Do Stakeholders Define the Success of “Homegrown/Handmade”? An Evaluation Framework for Agricultural Tourism in Eastern North Carolina, by Stacey Mewborn

#### Education

Assessing the Impact of the Tar Heel Bus Tour on Faculty Scholarship, by Melanie G. Raterman

Closing the Achievement Gap through the Academically and Intellectually Gifted (AIG) Program: A Case Study of Southwest Elementary School, by Alicia Jolla

Do Teacher Qualifications, Defined by National Board Certification, Impact North Carolina Student Achievement? by Andrew Dollar

Setting the Standards: Financial Implications of Implementing School Nutrition Standards for Vending Beverages in Secondary Schools, by Benjamin A. Mount

Year-Round Education: Boon or Barrier to Academic Achievement? by Kathryn Rooney

#### Environment

Defining Affordability: Targeting Federal Funds to Improve Water Quality in “Disadvantaged Communities” in North Carolina, by Stacey Isaac

One Person's Trash Is Another's Treasure: What Landfill Capacity Statistics Mean to Different Levels of Government, by Scott Joseph Morrissey

Payment-in-Lieu and Tree Conservation Ordinances: An Appropriate Mitigation Measure or an Avenue for Abuse? by Ted Kaplan

#### Human Resources Management

Fair Compensation in the Fire Service: An Administrative Fairy Tale? by Mike Branum

Staffing for Safety: A Case Study of the Security Staffing Modeled at the Raleigh-Durham International Airport, by Dawn Williams

### **Local Government Administration and Services Delivery**

Examining Council Involvement in Administrative Affairs in Large and Mid-Sized North Carolina Municipalities, by Parker Wiseman

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### **Nonprofits and Local Governments Working with Special Populations**

¿Habla Español? How North Carolina Police Departments Can Better Serve Latino Residents, by Erin Schwie Langston

Volunteer Management: An Examination of the Organizational Characteristics and Best Practices in Relation to Inclusive Volunteering for People with Disabilities, by David A. Parrish

Working Together: A Case Study of Service Coordination with Raleigh's 10-Year Plan to End Homelessness, by Ariel Gold

### **Planning a Local Government's Future**

Effectiveness of Strategic Planning in North Carolina Municipalities, by Heather Drennan

Who Will Lead Tomorrow's Workforce? The Status of Succession Planning in North Carolina Municipalities, by Christina E. Ritchie

### **Public Budgeting and Finance**

Capital Improvement Programs: How Are You Planning for the Future? by Adam Lindsay

False Alarm Fee Structures: A Comparative Analysis of Deterrence and Cost-Recovery Effectiveness, by Paul Patrick Caldwell

Participation in the GFOA Distinguished Budget Award Program by North Carolina Cities and Counties, by Kevin D. Etheridge

## **Schelin to Direct Center for Public Technology**

Shannon H. Schelin has been appointed interim director of the Institute of Government's Center for Public Technology. The center was created in 2001 to help local governments improve their services and strengthen their communities through skillful use of information technology.

Schelin is not new to the center, having served it as a research assistant and an adjunct instructor.

In announcing her appointment, Michael R. Smith, dean of the School of Government, said, "Shannon clearly understands and embraces our public service mission for North Carolina. She has developed a strong and effective working relationship with the North Carolina Local Government Information Systems Association and has successfully designed and implemented a number of important advising projects, including the Local E-Government Utilization Project (LEG-UP), which operates under a federal grant administered by the Rural Internet Access Authority.



"Her comprehensive information technology survey of North Carolina's local governments is another example of her first-rate work," noted Smith.

"Perhaps most impressive," Smith said, "is the Chief Information Officer Certificate Program that Shannon has designed and is offering this year for local government technology officials." The program is the first of its kind in the country to focus on local government officials. It consists of ten two-day modules, each of which may be taken as a stand-alone session or as work toward a certificate (or a master's degree).

Schelin will work with faculty colleagues to integrate information technology management and administration into courses across the curriculum for North Carolina public officials. Just appointed a lecturer at the School, Schelin also teaches regularly in the Institute's Municipal and County Administration courses and in the School's Master of Public Administration Program.

Schelin follows Kevin FitzGerald, the center's founding director. Smith recognized FitzGerald for providing valuable leadership in establishing the center and welcomed his continued association with the program, managing special projects.

Maureen Brown, associate professor, will continue to support the center through teaching, advising, and research in public information technology.

Schelin received her Ph.D. in public administration from North Carolina State University in 2003 and was named Departmental Teaching Assistant of the Year for two consecutive years. She received her M.P.A. from UNC Charlotte in 2000 and her B.A. from UNC at Chapel Hill in 1997. She has numerous publications on public information technology, including *Humanizing IT: Advice from the Experts*, with G. David Garson; "Training for Digital Government," in *Digital Government*; and "E-Government: An Overview," in *Public Information Technology: Policy and Management Issues*.

Schelin and the Center for Public Technology can be reached at (919) 962-5438, [schelin@iogmail.iog.unc.edu](mailto:schelin@iogmail.iog.unc.edu), or [www.cpt.unc.edu](http://www.cpt.unc.edu) (the center's website).

# Off the Press

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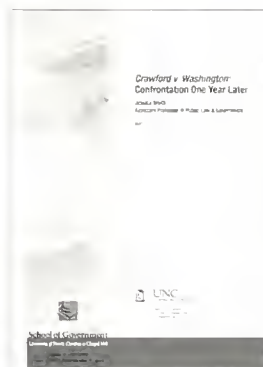
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Presents in chart form the statutory punishments for misdemeanors, felonies, and motor vehicle offenses. Includes a discussion of structured sentencing and the driver's license point system. The information is current through the close of the 2004 session of the North Carolina General Assembly.

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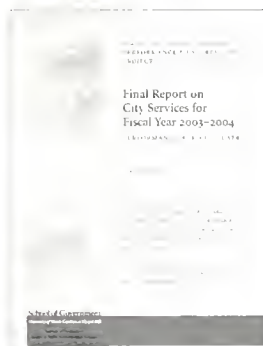
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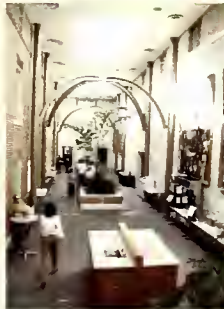
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