

TQI SERVICE REPORT

(formerly MIS Reports)

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MANAGING FOR CONTINUOUS IMPROVEMENT: CHESTERFIELD COUNTY, VIRGINIA

Management fads come and go, but the desire to continually improve persists among public servants in local government.

This month's report looks at the experience of one local government that adopted total quality improvement (TQI) principles, committed resources to implementing them, build on its successes from year to year, and is now reaping the benefits of a workforce trained and managed in a maturing TQI environment. Chesterfield County, Virginia, traces its commitment to quality back more than two decades, but the formal implementation of TQI came in 1992 at the request of the county board of supervisors.

The early steps to use TQI tools to solve immediate problems, the later actions to incorporate TQI principles in everyday work planning and decision making, and the results of seven years of training, study, and practice are described in this report. In Chesterfield County, the TQI initiative has grown to include not only managers and employees but also the county's private sector suppliers. A "Road Map for Continuous Improvement," sample process maps and performance measures, and descriptions of TQI "success stories" illustrate how continuous improvement has become a way of life in Chesterfield County.



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Managing for Continuous Improvement: Chesterfield County, Virginia

This report was written by Sharon L. Randol, quality coordinator, Chesterfield County, Virginia. Ms. Randol has directed continuous improvement training and implementation efforts in the county since December 1995.

Many local governments have abandoned the use of total quality management practices, dismissing them as yesterday's fad. By contrast, Chesterfield County, Virginia, has invested over seven years in training and providing senior executive support to adopt total quality improvement (TQI) as a strategy to enhance programs and services. Even though the county says "it has only scratched the surface," the results are already impressive: cumulative dollar savings from 1994 to 1998 amount to \$3.7 million; cumulative time savings over the same period amount to 20,000 personnel hours.

Chesterfield County's commitment to continuous improvement was made almost 20 years ago when it chose as its motto "Providing a 'first choice' community through excellence in public service." In 1992, the county board of supervisors instructed the county administrator to apply TQI principles to county administration. At that time, the county, which borders Richmond, Virginia, was growing rapidly, and demands on its resources were also growing. Population in the county had increased from 170,000 to 240,000 in five years.

This report explains how county staff responded to the board's direction, first by engaging all staff in continuous problem solving and then by restructuring work processes. As the TQI environment matures in Chesterfield County, staff are examining and changing basic organizational systems. As a result, the county has been able to absorb its increasing workload with practically no increase in county administrative staff since 1992. Figure 1 illustrates how

TQI fits into the county's long-standing effort to improve its government.

PROBLEM SOLVING

The county staff's first challenge in 1992 was to understand the TQI lexicon. An outside quality consultant, Dr. Herb Zagarow of the Quality Alert Institute, trained the staff, beginning with the county administrator and the leadership group (the county's senior executives) to be TQI trainers and facilitators. A cadre of "key resource people" proficient in the use of statistical process control was identified and also trained.

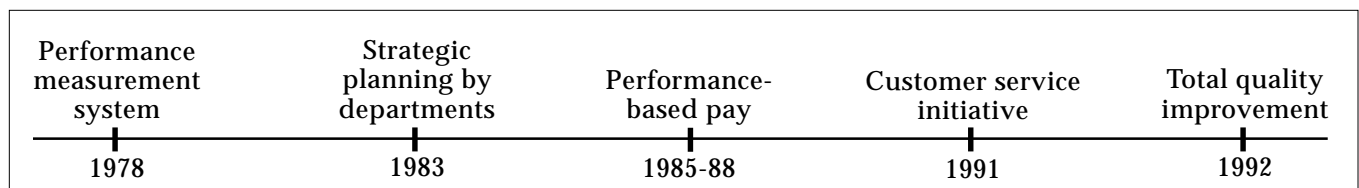
Infrastructure

A TQI steering committee was formed. Composed of a cross section of senior executives, first-line supervisors, and frontline employees, the steering committee concentrated initially on getting all employees trained. It has met monthly since 1993 and continues to direct and coordinate the quality improvement effort.

Employee Training

A four-hour TQI orientation course was delivered to all of the county's employees. Additional training was offered in process flow diagrams, cause-and-effect diagrams, and brainstorming. A two-day statis-

Figure 1 Continuity of Productivity and Quality Efforts



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tical process control workshop covered control charts, histograms, and Pareto charts. A segment on TQI, which included a videotape of county employees giving testimonials, was added to the orientation for new employees. Training in customer service and leadership augmented the TQI training.

Improvement Projects

To get improvement projects under way quickly, staff used employee involvement groups made up of individuals working within a natural work group. The members of each new employee involvement group met with a trained facilitator to brainstorm, categorize, and prioritize opportunities for improvement in their area of responsibility. The results of the brainstorming usually fell into three categories: (1) quick fixes, (2) quality-of-work-life/safety issues, and (3) “biggies and toughies.”

Quick fixes. Quick fixes are solutions to obvious problems that can be implemented by the first-line supervisor or employee and do not require much in the way of capital. See the sidebar on this page for one example.

Quality-of-work-life/safety. These issues can also be dealt with swiftly. Quality-of-work-life improvements address the working environment. Examples include instituting a departmental smoking policy, shifting job assignments, and obtaining necessary tools. Safety issues are problems that create unsafe working conditions and need immediate attention.

Biggies and toughies. Some issues require further study. These are usually cross-functional issues that require the input of people from several work areas or more than one department to resolve. In Chesterfield County, five quality councils were formed to prioritize and address the biggies and toughies in five areas: community development, human services, fire, police, and management services. The quality councils charter cross-functional process or project action teams to tackle problems that are considered high priority.

A success story

Several county employees at one of the general services department transfer stations noticed that the county was paying contractors to bleed the freon from discarded refrigerators and appliances. They proposed that they be trained to obtain U.S. Environmental Protection Agency certification so that they could perform the process. The suggestion was approved, and after a small investment in training and equipment, Chesterfield County is now saving \$35,000 a year in contractor costs.

The Maturing of the Improvement Process

Between 1992 and 1996, 71 employee involvement groups met and 117 project action teams were formed. Today, most team efforts within departments are facilitated by the worksite TQI advisors and natural work teams. Cross-departmental teams continue to be more structured, with formal charters and external TQI advisors. In 1998, 3 employee involvement groups and 16 project action teams were chartered.

A standard approach to problem solving and process improvement evolved, which is illustrated in Figure 2.

PROCESS MANAGEMENT

By 1996, most of the “low-hanging fruit” had been harvested: employees had become proficient with the basic tools in the TQI toolbox. The next level of quality for Chesterfield County lay in institutionalizing the use of process management. That required a transition from a firefighting or reactive mode to a preventive or proactive mode. As one senior executive put it, “if it ain’t broke, break it.” In other words, don’t wait until there is a problem: go out and study your processes; get in touch with your citizen-customers to find out what they really want and expect.

Inventorying, Mapping, and Evaluating Processes

Process management requires each department to

- Develop an inventory of all its processes
- Identify the suppliers, inputs, process, outputs, and customers for each process
- Prioritize the processes (identifying the critical or key processes)
- Flowchart or “map” each process
- Study and improve each process
- Benchmark each process for best practices.

Processes are classified as macro-, intermediate, and micro-level. Macro processes are the key organizational processes that are owned by the senior department leaders and range from three to eight in number (e.g., managing department resources, information and analysis, and information retention and dissemination). Intermediate processes are usually owned by a subordinate supervisor or work unit. Micro processes are those processes performed by individual workers and are sometimes referred to as “desktop” processes.

Once the process inventory has been completed, each process must be further defined. The owner and all of the suppliers, inputs, products, outputs, and customers of each process are identified. A variety of process mapping techniques are then used to document each process.

Before actual improvement can begin, the value of each process must be analyzed to determine whether it still needs to be performed, since it makes no sense to improve a process that is not really necessary in the first place. The important question is whether the process can be tied to the organization's goals and objectives. Once a process has been determined to add value to the organization, it is then assigned a priority.

Key processes should be documented and studied first, as they will provide the best return on the time invested in improving them. Although the goal should be to document and study every process, staff must apply the Pareto principle here by studying the 20 percent of the processes that take up 80 percent of time and resources.

The last step in process management is to initiate a continuous review cycle for each process.

Since 1996, Chesterfield County department directors, with input from employees, have been taking inventory of their processes. Many have reached the level of process mapping and process improvement. Two examples of process maps created by the purchasing department are included in the appendix at the end of this report.

Process management in a local government setting has many benefits. Process maps make it easier to train and assimilate new employees. They provide a foundation to document and institutionalize improvements. The same good idea may be suggested every month, but without process management, there may be no mechanism for capturing and incorporating it. Process maps are also very helpful in areas where one person performs a job and a backup person occasionally fills in. The process map makes it easier for the backup person to do the job, with a higher probability of success.

Once departments have documented and studied all processes and eliminated all the steps and activities that don't add any value, they are better able to monitor the remaining processes using statistical performance measurement methods.

Performance-Based Measurement

Chesterfield County subscribes to the "balanced scorecard approach" and uses performance measurements in four categories:

- The customer's perspective
- The financial perspective
- The internal business perspective
- The innovation and learning perspective.

These categories help managers answer four questions:

- How do customers see us?
- At what must we excel?
- Can we continue to improve and create value?

- How do we look to shareholders (citizens and businesses within the county)?

Each department was instructed in the use of four types of measurements:

- Workload measures
- Efficiency measures
- Effectiveness measures
- Productivity measures.

In Chesterfield County, the workload measures are things that can be counted that reflect volume and cost of inputs and outputs, for example, the total number of applications processed by the personnel department. The efficiency measures are unit cost measures that give insight into how much it costs in either time or dollars to produce a product or service for a customer. The effectiveness measures depict the degree to which performance objectives are being achieved or otherwise show the quality of local government performance. Productivity measures combine the dimensions of efficiency and effectiveness in a single indicator. For example, where "meters repaired per labor hour" reflects efficiency and "percentage of meters repaired properly" (not returned for further repair within six months) reflects effectiveness, "unit costs (or labor-hours) per effective meter repair" measures productivity.

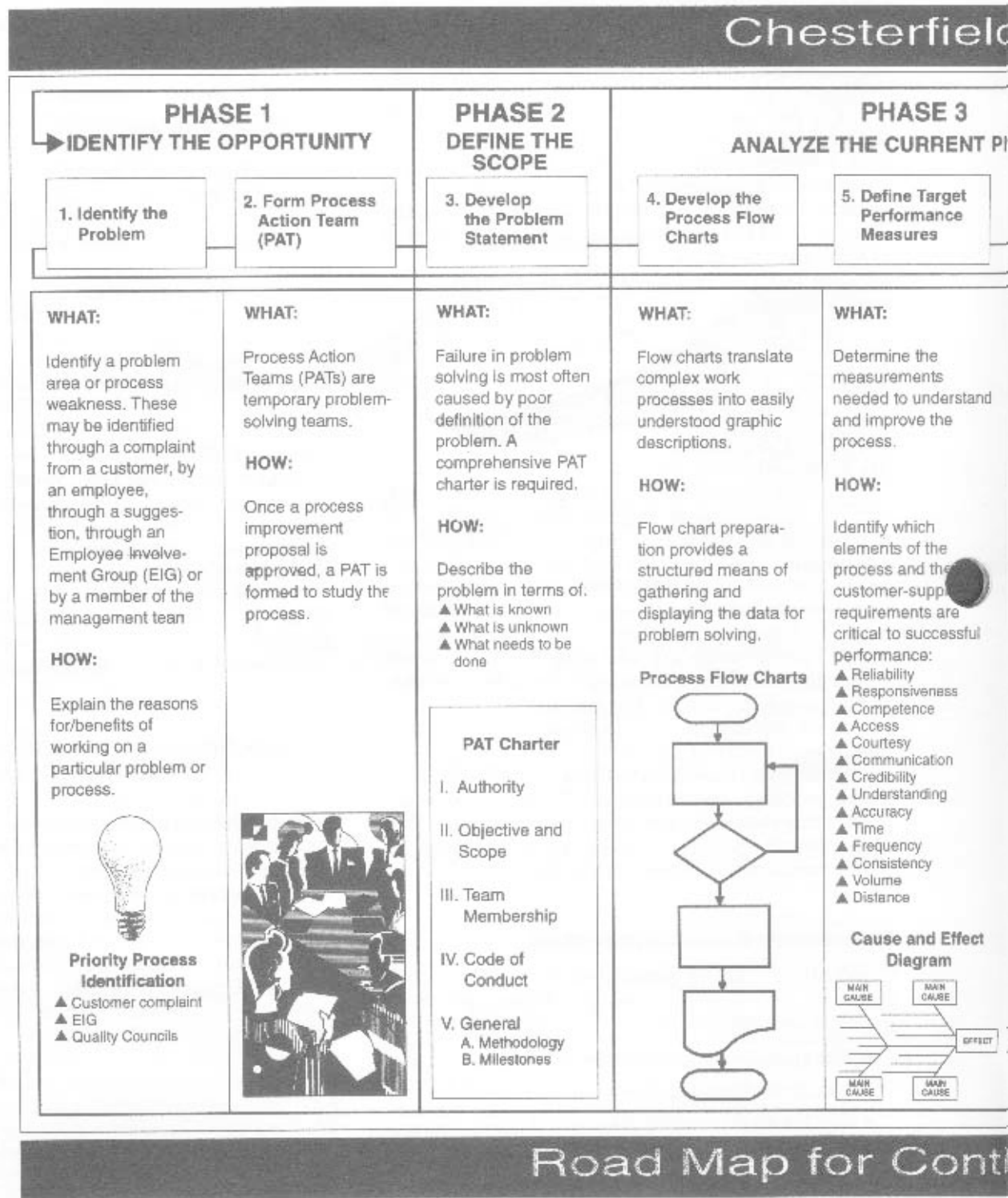
The county's ultimate goal is to fully understand all key processes and know what key measures are associated with each. These measures will be outcome oriented and tied to the county's strategic plan.

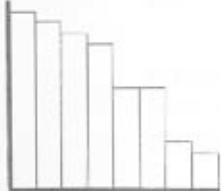
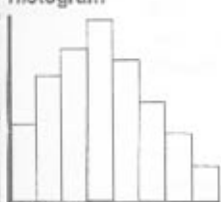
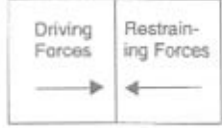
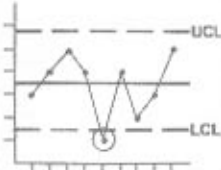

SYSTEMS THINKING: DEVELOPING A COUNTYWIDE STRATEGIC PLAN

Systems thinking acknowledges that the whole is greater than the sum of its parts. Chesterfield County had been extremely successful in the past functioning in a relatively decentralized mode, in which each department developed its own strategic plan, guided by the county's vision and mission statement.

However, with the adoption of TQI, the need to develop a countywide plan became apparent. In 1996, various departments and committees were following a total of 54 different strategic plans. A cross-functional team was formed to review the strategic plans of all the departments and develop some common goals. Seven goals (see sidebar on page 6) were adopted by the county's board of supervisors and linked to resource allocation during the 1997 budget process. Departments now tie their budget requests and performance plans to the countywide goals. Within each department, objectives, key measures, and targets are developed for each goal. Finally, each employee's performance plan is linked to the strategic goals through this hierarchy.

Figure 2 Road Map to Continuous Improvement



d County, VA				
PROCESS	PHASE 4 ENVISION THE FUTURE PROCESS	PHASE 5 IMPLEMENT CHANGES	PHASE 6 VERIFY CHANGES	PHASE 7 CONTINUOUS IMPROVEMENT
6. Collect and Analyze Data	7. Determine and Recommend Process Improvements	8. Implement Process Improvements	9. Monitor and Evaluate Process	10. Continuous Improvement
<p>WHAT:</p> <p>Data collection and analysis provides the information needed to accurately assess the causes, magnitude and potential solutions to process problems. Benchmarking is used to compare measurements against those identified as "best-in-class."</p> <p>HOW:</p> <p>Use various collection methods and display tools. For example:</p> <p>Pareto chart</p>  <p>Histogram</p> 	<p>WHAT:</p> <p>Identify all problems throughout the process, prioritize and generate solutions.</p> <p>HOW:</p> <p>Techniques to generate solutions include:</p> <ul style="list-style-type: none"> ▲ Brainstorming ▲ Force field analysis ▲ Evaluating individual ideas from team members ▲ Affinity Diagram <p>Areas for possible change:</p> <ul style="list-style-type: none"> ▲ Number or length of delays ▲ Number of steps ▲ Timing and number of inspections ▲ Rework ▲ Transportation <p>Force Field Analysis</p> 	<p>WHAT:</p> <p>Prepare an implementation plan and implement process improvement. It often is a good idea to try the change on a small scale before full implementation to ensure desired results.</p> <p>HOW:</p> <p>The contents of the implementation plan must fully describe the change:</p> <ul style="list-style-type: none"> ▲ Why will it be done? ▲ How will it be done? ▲ When will it be done? ▲ Who will do it? ▲ Where will it be done? <div style="border: 1px solid black; padding: 5px; margin-top: 10px;"> <ul style="list-style-type: none"> ▲ Process Action Team Report ▲ Implementation Plan ▲ Success Story Summary </div>	<p>WHAT:</p> <p>Measure the process after changes are made so that the impact of improvement efforts can be judged.</p> <p>HOW:</p> <p>The final element to the implementation plan is a monitoring plan that contains the following:</p> <ul style="list-style-type: none"> ▲ Who is responsible for taking the measurements? ▲ What information will be measured or observed? ▲ Where measurements will be taken from? <p>Use measurement tools such as:</p> <ul style="list-style-type: none"> ▲ Run Charts ▲ Pareto Charts ▲ Control Charts ▲ Histograms ▲ Check Sheets ▲ Questionnaires 	<p>WHAT:</p> <p>Regardless of how successful initial improvement efforts are, the improvement process continues, using the "Plan, Do, Study, Act" cycle.*</p> <p>HOW:</p> <p>Continuous improvement means not being satisfied with a "good job" but always striving for a better job. This is accomplished by incorporating process measurement and team problem solving in all our work activities. We use TQI tools and techniques to improve:</p> <ul style="list-style-type: none"> ▲ Quality ▲ Delivery ▲ Cost ▲ Cycle Time <p><u>Continuously</u></p> <ul style="list-style-type: none"> ▲ Reduce complexity ▲ Reduce variation ▲ Get process under control ▲ Demand excellence 
Continuous Improvement				

Chesterfield County's strategic goals

- To provide world-class customer service
- To be acknowledged for its extraordinary quality of life
- To be the safest and most secure community of its size in the United States
- To be a unifying leader for local government
- To be the employer of choice
- To be the model for excellence in government
- To be the "first choice" business community

SUCCESS FACTORS FOR CONTINUOUS IMPROVEMENT

Leadership

Perhaps the greatest challenge to continuous improvement in local government rests in the relatively short-term vision of leaders whose horizons may be defined by the next election. In Chesterfield County, the governing body and the county administrator have provided visible leadership in ways that might be appropriate in other local jurisdictions as well:

- The board of supervisors adopted concrete, measurable objectives for itself.
- A board member delivered copies of two popular total quality management books to his colleagues and requested that they be adopted as the county's "bibles."
- The board joined with the private sector and the American Society for Quality to recognize October as Quality Month.
- With the support of elected officials, the county organized the first annual TQI Celebration Day in September 1994, involving all county employees in the recognition of continuous improvement milestones.

County leaders have backed this commitment to TQI with more than visible public support. In the face of dramatic demands for everything from more school teachers to fire protection apparatus, the county has allocated over \$200,000 for direct costs of TQI training and many times that amount for indirect costs, including thousands of hours of staff time. In 1995, the county hired a full-time internal quality coordinator to advise and assist staff with new TQI strategies, tools, and techniques. The coordinator reports directly to the county administrator and has a standing biweekly meeting with him to discuss TQI strategies. A deputy county administrator or the chief of police or fire chief chairs each of the five quality councils.

Employee Involvement

The most basic principle guiding Chesterfield County's quality improvement actions is that all members of the team offer valuable contributions. The county TQI steering committee and five quality councils benefit from the participation of team members from all levels of the organization. Continuous process improvement efforts and critical projects are addressed by multilevel teams. In the police department, for instance, a TQI team was used to evaluate the department's primary weapon system, reflecting a dramatic cultural change in a traditionally paramilitary organization.

Developing participation. The TQI steering committee, the employee involvement groups, and the process/project action teams are the means for sharing involvement with all levels of the organization. Because this involvement could be unproductive in the absence of appropriate preparation, the county places a high value on training and chartering teams. Virtually all 2,500 county employees have attended "Quality Alert" training. This training, which is designed to answer questions and build excitement about TQI, introduces employees to TQI, explains long-term implementation strategies, and describes how TQI efforts have worked in local companies.

The county also implemented a more comprehensive and formal training approach. This approach is supported by a strong, internal "quality infrastructure," TQI facilitators at three levels of expertise:

- Advisors—graduates of the TQI University (see page 8) who serve as key resource people in the workplace
- Instructors—advisors who have received additional training and volunteer their time to teach in the TQI University
- Coordinators—ten individuals who meet weekly as a "quality think tank." They attend seminars, read journals, periodicals, and books, and explore new quality-related ideas.

Employee involvement groups may move quickly on "quick fixes" and simple quality-of-work-life issues, while major process changes are addressed by a project or process action team. These action teams are empowered through a formal written charter to examine a particular work area, process, or project. They receive training and support as they are formed.

The team charter defines the process to be improved, states the goals to be reached, identifies how the process will be measured, and lists any parameters set for the team by the sponsor (usually a supervisor or department director). The sponsor, team leader, and facilitator prepare the charter ensuring that all levels have meaningful involvement at each step of the process.

Chesterfield's just-in-time TQI training effort is fully integrated into the overall employee training and development plan, which includes programs in customer service and leadership. Chesterfield also offers a program titled "Empowerment," which provides employees with team skills for working together and group problem-solving skills, and demonstrates how to communicate with others and provide and use feedback effectively.

Leadership training. A major key to successful quality initiatives is the new role of management. Changing behaviors to focus on leading and mentoring is critical for success. Many hours have been spent on introducing this concept and more are planned to continuously reinforce and reward leadership behaviors.

In the Supervisory Leadership Institute, an annual eight-week supervisory skill development program, supervisors learn and practice key leadership skills such as coaching, empowering, visioning, and mentoring, and they develop ways to integrate these skills into their behaviors. No longer is it acceptable for supervisors to manage employees and work teams; supervisors are expected to *lead* their employees.

Realizing the critical need for leadership skills at all levels in a TQI environment, the county introduced a similar program, the Employee Leadership Institute, for non-supervisory employees. The Access to Success program, which began in the late 1980s, brings together mid- to upper-level management on a quarterly basis to investigate critical strategic training issues and annually review the "state of the county."

Rewards and recognition systems. Rewards and recognition play a critical role in productivity improvement. Early in its journey, the county took steps to break the mold of traditional government compensation systems. Between 1985 and 1988, the county phased in the elimination of salary step increases and cost-of-living adjustments. In place of these, it adopted a pay-for-performance system that included variable base pay increases tied to performance and variable compensation, in the form of one-time bonuses, for all employees who meet defined performance goals. Significantly, not one dollar has ever been budgeted for bonuses, although more than 20 percent of employees receive one annually. Rather, bonuses are funded from productivity gains.

The merit pay system met its greatest test in fiscal year 1993. With revenues flat and demands for services increasing, the county employees had gone two years without a salary increase. (Bonuses had been funded as usual through productivity gains, but performance-based adjustments to base pay had not been allowed.) In preparing the fiscal year 1993 budget, county employees identified salaries as a major issue, and analysis revealed that the county had

Continuous improvement and total quality management

The natural evolution of a total quality improvement (TQI) or total quality management (TQM) culture goes from problem solving to process management to systems thinking. This evolution takes time. The winners of the Malcolm Baldrige National Quality Award, the federal sector's President's Award (patterned on the Baldrige Award), and numerous state and local community-based quality awards have used quality management practices for a minimum of three to eight years before achieving sustained results. Yet many organizations abandon their quality efforts at the three- to five-year mark, just short of achieving significant payback for their investment.

If you are a senior leader in your organization and have abandoned your quality initiative, it's not too late to perform a postmortem; look at what went right, what went wrong, and why. You may find that you were on the very threshold of institutionalizing a strategy that would have enabled you to increase quality and productivity while reducing costs.

If you have been contemplating introducing TQI or TQM practices within your organization but feel the "quality" wave has crested, remember that your customers are demanding and will continue to demand quality at increasingly high levels.

fallen behind its target market. In response, the board of supervisors approved performance-based increases in base pay of up to 5 percent, and employees agreed to maintain all service levels, reduce citizen complaints, and provide funding for the salary increases through productivity improvements. The employees met this challenge and, as a result, shared in the reward.

In 1997, a process action team was chartered to review the bonus system. As a result of the team's recommendations, a new system was implemented in 1998 that replaces bonuses linked to the employee's annual performance evaluation with two new monetary awards:

- The "Celebrating Success Award" (up to \$500), given to individuals or teams to recognize exceptional day-to-day accomplishments, work on extra projects, or innovative ideas that improve customer service
- The "First Choice Award" (up to \$5,000), to recognize effort beyond expected job performance such as development of new or modified business practices that significantly improve productivity and quality.

Supervisors now have more authority to make these awards, with fewer levels of approval required.

TQI University

A major factor in the adoption of continuous improvement as the organizational culture in Chesterfield County has been the establishment and maintenance of excellent employee training programs. The county's TQI University is recognized by the local community college and has published a number of workbooks that are used by other organizations. The course guide for 1998 lists the following courses:

- Introduction to Total Quality Improvement
- Core Competencies
- Process Management
- Road Map to Quality Improvement
- Data Collection
- Statistical Process Control Workshop
- Group Dynamics
- Effective Meeting Management
- Coaching Skills for TQI Advisors
- Customer Service
- Benchmarking
- Surveys, Interviews, and Focus Groups
- Creating a Quality Culture

As of the summer of 1998, five percent of the county's workforce had completed all core competencies (54 hours of quality-related training) and graduated from the TQI University. All employees are encouraged to take 8 to 16 hours of quality-related training every year.

Courses are offered during the workday and in the early mornings and late evenings to accommodate employees who work shifts or nontraditional work schedules. Frequently, additional classes are added because of high demand. Separate courses are held for natural work groups and quality councils on request.

The TQI University has attracted students from state agencies, other local jurisdictions, and some of the county's suppliers. In fact, eight people from outside organizations have graduated from the TQI University.

For information about the TQI University, contact Human Resources Management Training and Development, Chesterfield County, Virginia, 804/748-1552.

The county's performance evaluation process has also been revamped (by a cross-functional team) to incorporate the TQI philosophy. Performance evaluations of both senior managers and employees have been revised and linked to the county's strategic plan. Another team has been chartered to review broader reward and recognition issues.

Compensation represents only one form of reward and recognition. The board of supervisors, county administrator, and managers regularly find opportunities to recognize individuals from each department for work and community contributions

and to reward excellence with awards, board resolutions, and news articles. For example, in 1993, the board honored more than one hundred employees for their special efforts in aiding neighboring jurisdictions during and after a tornado.

Following the recommendations of a process action team chartered to develop new guidelines for monetary and nonmonetary awards, the county established a "TQI Store." At the store, employees can redeem TQI certificates of appreciation, received from supervisors or peers, for gifts bearing the TQI logo. Most departments have created their own recognition programs following county guidelines. For example, employees in one agency reward each other with certificates that are entered into monthly drawings for cash awards. One prized countywide award is a key chain bearing the phrase "Presented by the County Administrator of Chesterfield in Appreciation for Your Commitment to Excellence" and engraved with a unique number and the date presented. It is always presented personally by the county administrator.

Self-sustained training. When the county began its current quality initiative, the TQI implementation team used the request for proposal process to select a consultant to provide initial training and guidance to county employees and management. The consultant trained top management and department directors as well as the key resource personnel, facilitators, and trainers.

From 1992 to 1994, the county offered only one TQI class to county employees, a 12-hour class that taught the basics of TQI and SPC. Beginning in 1994, the county completely revised the 12-hour curriculum and divided it into a 4-hour and an 8-hour class. This change is more significant than it appears. Many county managers reported that some of their work areas would not be implementing teams in the near future, but they wanted these employees to receive basic TQI training. However, this was in opposition to the county's just-in-time training policy. The 4-hour introduction course allows employees to be trained in the basics of TQI and introduced to the county's improvement cycle and statistical process control (SPC). The 8-hour TQI implementation course is for employees who will be members of a team within four to eight weeks of training. This class offers a detailed analysis of team purposes and activities and application of SPC.

Because the county wishes to become completely self-sufficient with regard to its employees' training needs, some of the county trainers have been selected to teach a 16-hour course specifically for county managers and supervisors. This once-a-month course covers the basics of TQI, as well as the deployment of the SPC and the changing role of the supervisor in a continuous improvement environment.

As the number of staff trained grew (approximately 1,700 out of 2,500 full-time employees had

been trained as of October 1994), many employees were requesting refresher courses related to specific areas of TQI. In response, the county created three 4-hour skill practice workshops: Codes of Conduct and Team Charters, Process Analysis Tools and Brainstorming, and SPC.

The training staff, facilitators, and key resource employees also receive numerous requests from all levels of employees for one-on-one sessions to answer specific questions or give specialized training. Even the county administrator, Lane B. Ramsey, took advantage of the new skills training available. Having informed department directors that the use of SPC and TQI tools would be encouraged to evaluate 1994-1995 budgetary requests, he himself completed additional, in-depth SPC training so that he would be prepared to assess financial needs on the basis of statistical measurements.

Business Practice

The county's emphasis on quality and productivity is not a "one-time" project that has a definitive conclusion. It is, instead, a deeply ingrained way of doing business that will continue.

Every year, the budget process reemphasizes the focus on excellence. Input from county residents—the ultimate customer—drives general budget objectives. With general guidelines established by the countywide strategic plan, department directors develop objectives for their areas. After the budget is adopted, indicators are tracked to determine the level to which departmental objectives are met. This information is published quarterly in a performance report, which is reviewed with the board of supervisors in a public meeting. The strategic planning process and development and reporting of performance criteria ensure continuity in efforts to improve productivity.

Performance Measurement

Measurement of performance is an integral component of the county's efforts to improve quality and productivity. The county's performance report has tracked achievement of objectives since 1979, and the current TQI plan makes reliance on data a basic value. Various methods—including performance tracking, benchmarking, and customer surveys—have been employed and have produced a wealth of information to guide and assist decision making.

Performance tracking. The county's budget depends on departmental objectives. Workload and performance measures related to objectives are tracked throughout the year and are reported quarterly. The graphs shown in Figure 3 are examples of improvements recorded and reported.

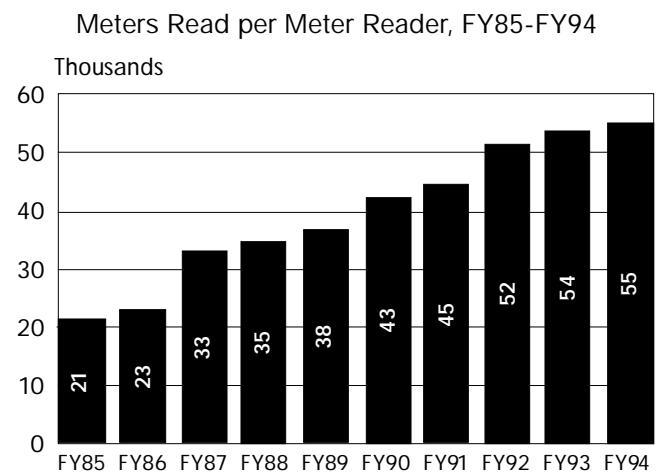
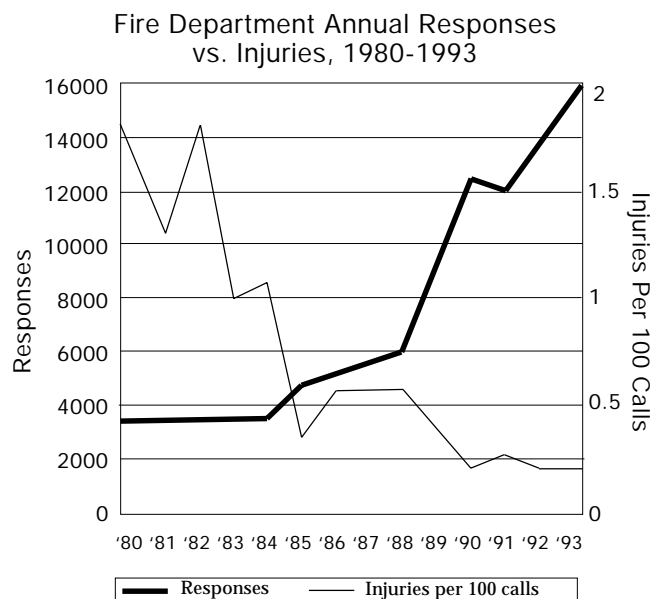
This information is shared with management,

elected officials, and the public to assist with allocating scarce resources among fiercely competing demands.

Benchmarking. Benchmarking is also used to assess productivity. The county is currently participating in a major benchmarking/performance measurement study with other localities throughout the country. For several years, the county has compared its overall efficiency to that of similar localities offering comparable services.

Chesterfield has also become more adept at using internal benchmarking. For example, a team working on communication in the department of general services made a presentation to a team in the health department that was working on the same issues. A team in the fire department that had studied phone and message procedures shared its findings

Figure 3 Performance Tracking



10 Inquiry Service Report

with a team analyzing these procedures in the building inspection office.

Internal departments, such as buildings and grounds, are also required to compete against the private sector for the privilege of providing services to new county facilities. This process ensures that decisions are made that result in the most efficient service delivery possible.

Customer surveys. Customer satisfaction surveys are also used to measure performance. Many departments survey both internal and external customers to get feedback that can be used as a springboard for improving quality. For example, the budget and management department used input from a customer survey as the impetus for a change in budgetary policy that gave department directors additional flexibility and responsibility. Similarly, the purchasing department, which has been surveying its customers for ten years, used customer input to simplify the process for purchases under \$500, a change that has reduced workload in the purchasing department and the accounting department while enabling employees to order and receive goods more quickly.

Although many “customers” and “suppliers” are internal, external involvement is also critical. Several county departments routinely survey their external customers to determine how well they are satisfying expectations. The extension service department, for example, surveys all program participants to find out whether they have found the program

Partners in Quality

The Partners in Quality Program, modeled after Ford Motor Company's Supplier Quality Program, began with a problem identified by the county's construction manager. He noticed a disturbing increase in the number of errors and omissions on architectural and engineering drawings provided by consultants. Instead of taking a punitive approach, he and the quality coordinator visited all consultants who had current design contracts with the county and introduced them to the principles of total quality. Subsequently, a Partners in Quality forum was held, which 120 consultants attended. The construction manager, purchasing department staff, and the quality coordinator made joint presentations on the county's TQI effort and encouraged their audience to consider a similar approach. Each participant received a copy of the U.S. Senate Productivity and Quality Award application booklet and a challenge to apply. One of the attendees wrote, “This may be the most significant event in the history of my company.” As part of the Partners in Quality initiative, new requirements have been added to the county's requests for proposals that give the county insight into the proposer's quality control system.

worthwhile. These surveys are conducted during and after any given workshop: a survey given during the class ascertains the level of satisfaction; a survey conducted a set number of days after the workshop asks participants about the usefulness of the program and information provided. In addition to these two written surveys, the extension service department conducts a telephone survey of a sample of people who have called the extension office for assistance.

Customer and Citizen Participation

The county has numerous advisory councils and committees to facilitate the flow of information and input between citizens and decision makers. Many public meetings, focus groups, and workshops are held to obtain feedback on issues such as area land use plans, capital facilities plans, financial plans, and program and service needs. Groups such as the Chesterfield Business Council are instrumental in developing the county's legislative plan.

The county has learned that it can develop positive working relationships with suppliers while abiding by procurement laws and regulations not applicable to the private sector. It can enhance quality by considering not only price but also a vendor's ability to meet service needs. The purchasing department routinely works with vendors to identify and negotiate efficiencies and cost reductions. In 1997 and 1998, these efforts realized savings of nearly \$1.45 million.

Suppliers also actively coordinate with the county to enhance the quality of services provided. For example, a local bank helped the county design a system to simplify the payment and processing of tax bills. Architects participate in infrastructure planning to construct capital facilities that meet the county's needs at the lowest possible cost. A team that included representatives from two large industrial facilities as well as county employees from the fire and building inspection departments developed a streamlined inspection system. By building strong working relationships with suppliers, the county taps their expertise to improve quality and efficiency.

RESULTS

The county's system for tracking process improvements is called the “success story system.” Savings and improvements made by individual employees and teams are tracked and quantified. As of September 1998, 291 improvement projects resulting in savings of more than \$3.7 million, and 20,000 work hours had been recorded. The chart in Figure 4 shows a small portion of the results of the work of various improvement activities.

Not reflected in the statistical documentation are many indicators of improvement that are difficult to

Figure 4 Chesterfield County Success Stories

Type of Effort	Department Name	Process Name or Theme	Start Date	Completion Date	Projected Overall Savings (year 2)	Projected Hours (year 2)
EIG	Accounting	Report Bundling	1/19/95	12/31/95	\$12,783.00	768
Employee Suggestion	Budget	Meeting Minutes	12/15/96	12/16/96	\$55.00	22
PAT	Budget	SPC Training	5/1/96	5/31/96	\$0.00	—
EIG	Circuit Court Clerk	Office-Wide Improvements	6/14/95	11/9/95	\$0.00	0
Employee Suggestion	Clerk to the Board	Resolution Process	7/1/96	9/13/96	\$5,000.00	0
EIG	Comm. of Revenue	Business License	6/3/94	6/14/94	\$0.00	0
PAT	County Admin./PAO	Publications for Citizens	10/1/95	12/1/96	\$0.00	0
EIG	Credit Union	Quality service issues in accommodating member phone calls.	3/4/97	4/1/97	\$0.00	0
PAT	Extension Services	Roadside Litter	5/19/97	6/4/97	\$0.00	0
Other	Fire	Report Reduction Incentive	7/1/96	—	\$250.00	840
PAT	Fire	Customer Satisfaction	3/10/95	2/10/97	\$4,500.00	275
EIG	Fire	Administrative Services Processes	3/1/96	—	\$425.00	862
PAT	Fire	Telephone Message Taking	10/1/95	2/1/97	\$375.00	1820

quantify. Employees throughout the organization are energized as they participate in improvement activities. Training in TQI is occurring countywide, and employee involvement groups are creating “menus” of opportunities for process or project improvements using brainstorming and process flow techniques.

To date, about 30 employee involvement groups have completed their work and reported a total of 1,043 opportunities for improving quality and customer service (about 35 suggestions per group). These include 228 opportunities for process improvement, 117 environmental workplace issues, 186 problems beyond the scope of the work unit, and 512 situations easily fixed and within control of the employee involvement group. Of these, about 145 quick fixes have been implemented. Also, as a result of the employee groups’ suggestions, approximately 15 project action teams have been formed to implement numerous recommended improvements.

Project or process action teams may be formed to address issues related to the county’s internal customers or to services that directly affect county citi-

zens. Internal process teams have reduced by 50 percent the paperwork for the Comprehensive Services Act, improved by one-third the cycle time for resolving computer problems, and recommended new weapons to be purchased by the police department. Teams created to improve external customer service have developed a solid waste information manual for citizens and landfill attendants, reduced the cycle time for the citizen real estate appeals process, and created an abbreviated site plan review process, reducing review time by 75 percent. This abbreviated process, which will affect about 25 percent of all site plans reviewed by the county, was created by a team involving seven county departments and a state agency.

As shown in Figure 4, suggestions and efforts of individuals are also welcomed in the TQI process. Improvements made as the result of recommendations by individual employees include better production and storage of training materials, better fire safety education, and the development of a unique employee reward system. Improvements brought

Project action teams at work

The police property room project action team.

This team was formed to determine the cause and possible solutions to the communication issues within the work area. This team was one of the first in the police department and provided an important success for the department as rank-and-file employees were given a voice in the problem-solving process.

Information systems technology project action

team. This team focused on improving customer service through the development of a centralized problem-reporting desk and automated system for tracking and solving computer problems.

Community development site plan review

team. This team used an interdepartmental approach to improve customer service by reducing from an average of 115 days to 29 days the time required to complete the site plan review process.

Landfill employees project action team. This team developed a manual providing guidelines to employees about disposal of items brought to the landfill. This resulted in improved customer service and reduced frustration for employees.

Fire prevention project action team. Team members developed a shared database that improved communication between plans reviewers and inspectors through an automated system.

Lessons learned from a decade of continuous improvement

- To be effective team members, employees must want to be on a team.
- Employees want to be involved in decisions that affect them.
- Information should be shared.
- The statistical part is easy compared with changing organizational culture.
- Communicate, communicate, communicate.
- Everything good takes time.

about by individuals demonstrate the extent to which the TQI philosophy has become part of the county government's culture and show the benefits of employee training and empowerment.

In the course of the county's continuous improvement initiatives, a number of studies have been undertaken to determine the most effective method to deliver services at the least cost. As a result, many services have been privatized. For example, the internal audit department has determined that increased work associated with the audits of bingo games is best handled by outside sources. Similarly, the information systems technology department routinely contracts out development work, as a result of a productivity plan begun in January 1992. Other studies have resulted in consolidation of services between general government departments and the school system. Vehicle maintenance was consolidated in 1992 and is currently saving approximately \$350,000 per year through efficiencies realized.

The private sector has embraced the county's TQI efforts and has provided support. For example, local companies have offered the services of their quality trainers, and one company provided a TQI training facility to the county at no cost.

Chesterfield County has won numerous awards as a result of its continuous improvement programs. It is one of only eight counties in the United States to receive triple A (AAA) bond ratings from all three major municipal rating agencies; in 1994, the county won a U.S. Senate Productivity and Quality Award; 18 county programs recently won awards from the National Association of Counties; and the *Wall Street Journal* has named Chesterfield County "one of America's 20 hottest white-collar addresses."

In summary, when Chesterfield County adopted total quality management principles and practices in 1992, it was difficult to forecast the profound changes required or the tangible and intangible benefits. But now, seven years later, it is easy to see that each year's accomplishments build toward even greater improvements in the next year. Staying the course and critical self-assessment are the keys to success.

APPENDIX: SAMPLE PROCESS INVENTORY AND MAPS

Process Inventory (Partial)—Purchasing Department

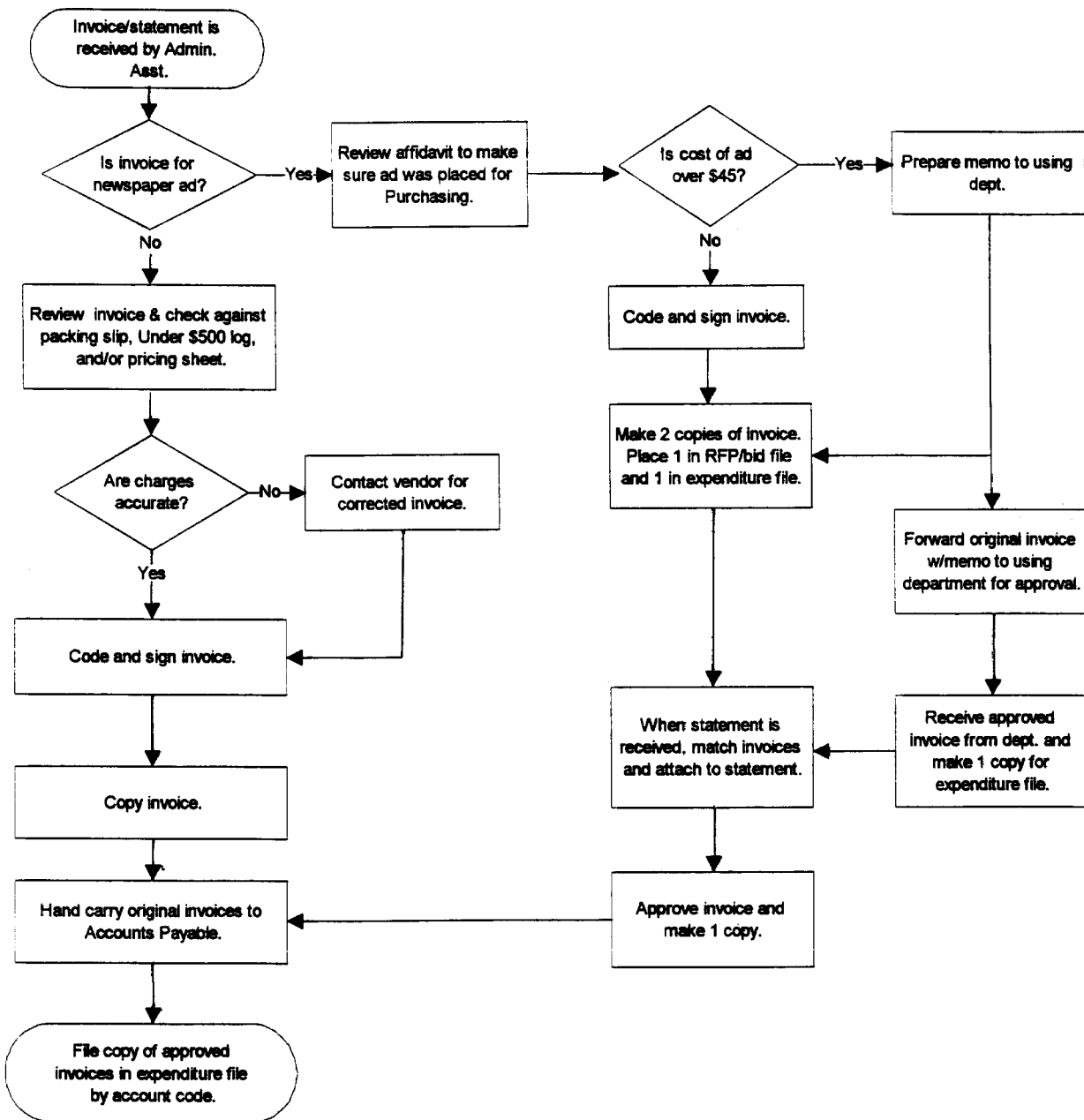
Purchasing Department Processes							
Process Number			Process Name - Process Owner: Narrative		Flow Chart		
					Prepared	Reviewed	Revised
1				Managing Department Resources - Director			
	1.1			Managing Human Resources - Director			
		1.1.1		Evaluating Performance - Supervisors: Monitoring performance, counseling and coaching employees, evaluating performance, preparing evaluation form, and conducting evaluation session.	2/4/97	2/12/97	
		1.1.2		Managing Personnel Records - Supervisors			
			1.1.2.1	Preparing Personnel Actions - Supervisors: Assembling data and filling out personnel action forms for regrades, merit increases, etc. in accordance with HRM policies.	2/4/97	2/12/97	
			1.1.2.2	Entering Payroll - Admin. Asst.: Enter information from leave slips and time sheets into mainframe and verify and sign payroll report.			
			1.1.2.3	Maintaining Personnel Files - Admin. Asst.: Placing appropriate documentation in personnel files and keeping files secured.			
			1.1.2.4	Maintaining Leave Records - Admin. Asst.: Keep leave slips and time sheets in batches for entering in payroll system. Update department leave records and check against report from Payroll. Distribute reports to staff and supervisors.			
		1.1.3		Training Purchasing Staff - Supervisors: Determine staff training needs and make arrangements to get the training from inside or outside sources.			
		1.1.4		Updating Commodity Responsibilities - Asst. Director: Review the current commodity list, collect data on the workload activity of buying staff for the past two years, and receive input from staff. Make an analysis of the information collected, change and update the list. Have staff prepare a new listing for County and School Board distribution and for internal departmental usage in reference and work assignments.			
		1.1.5		Managing Work Schedules - Supervisors: Considering leave requests and requests for schedule changes and approving or denying.			
			1.1.5.1	Maintaining Vacation Schedule - Admin. Asst.: Vacation requests are combined into a tentative schedule to determine if there are conflicts. Once requests are approved or denied, a vacation schedule is typed and posted.			

Process Map—Approving Departmental Invoices/
Statements for Payment

Process 1.2.3: Approving Departmental Invoices/Statements for Payment

Owner: Administrative Assistant

Prepared: 12/18/96 Reviewed: 2/12/97

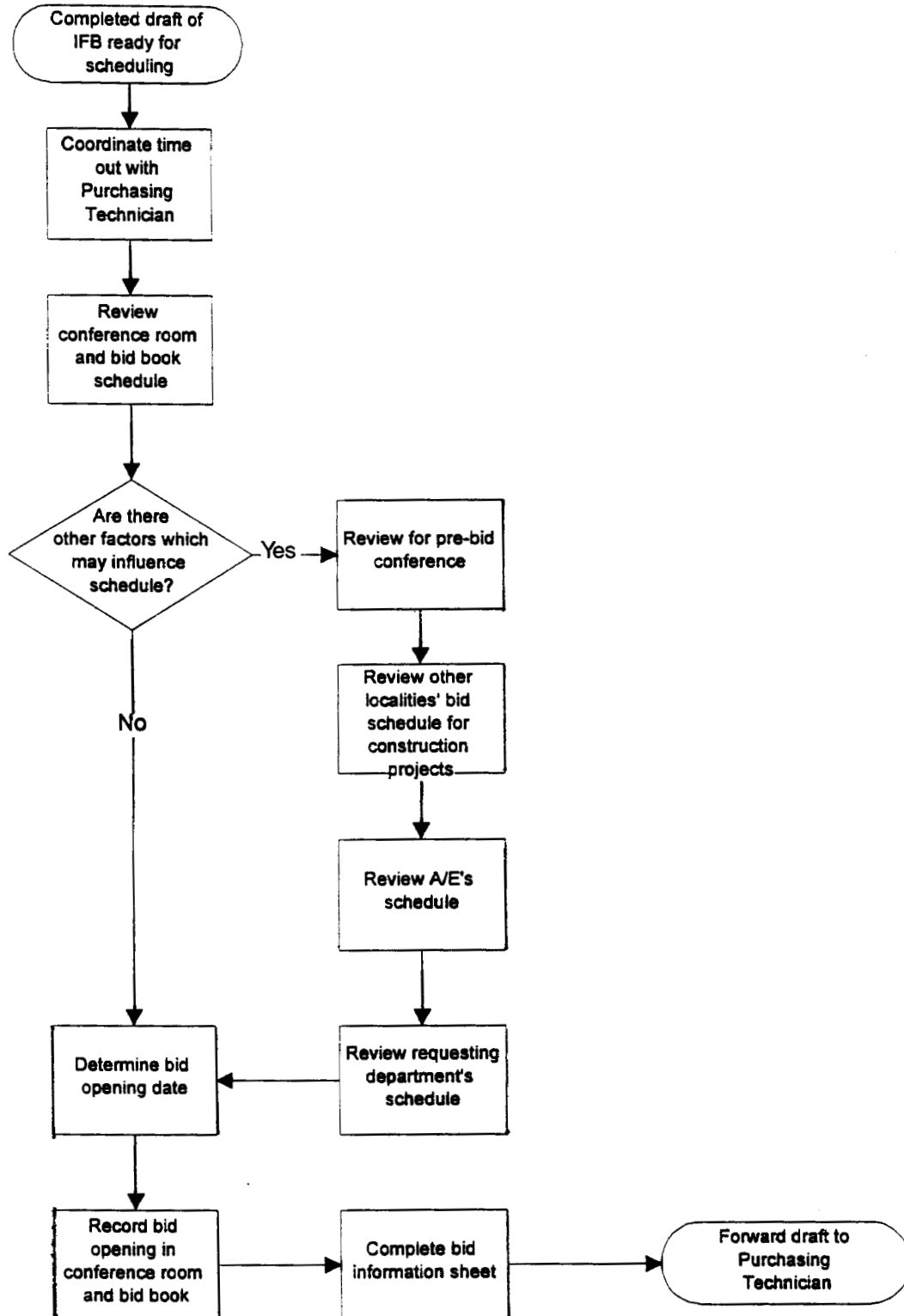


Process Map—Scheduling/Drafting an Invitation for Bid

2.3.3.1: Scheduling/Drafting an Invitation for Bid

Owner: Buying Staff

Prepared: 1/30/97



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