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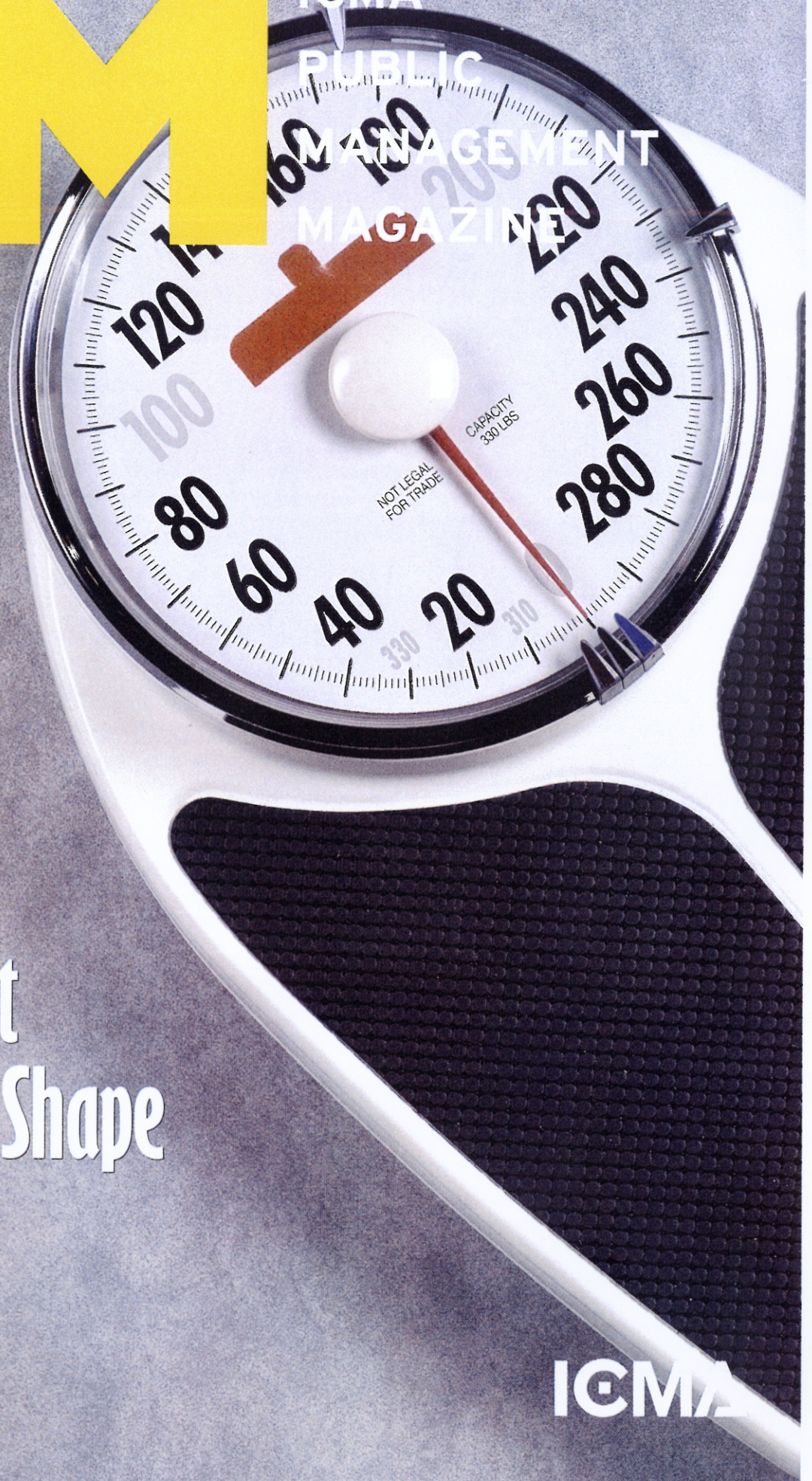
SEPTEMBER 2006

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## How to Get Your Local Government Into "Lean" Shape



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by David Krings, Dave Levine, and Trent Wall

# The Use of “Lean” in Local Government

Local government managers routinely find themselves on the proverbial horns of a dilemma: Shall I reduce costs but face criticism for slippages in the quantity and quality of services? Or shall I improve services, only to run headlong into the budget hawks among my constituents? “Give me more while I fund you with less” is a troubling but all-too-familiar refrain from local government’s customers.

Public sector managers might take some comfort in knowing that they are not alone. The specter of intense global and domestic competition haunts the private sector and raises similar challenges. How can local governments make continuous cost reduction a reality without undermining the value they deliver?

“Lean” is one answer. Lean is a philosophy that seeks the involvement of all workers in the elimination of waste and the adding of value. It has produced startling results, first, by stressing respect for people and teamwork and, second, by incorporating a series of analytical techniques to reduce wasteful and nonvalue-adding activities.

While lean found its early development in manufacturing environments, leading lean practitioners have expanded into more advanced applications of lean tools and principles that produce valuable results outside of manufacturing, in both public and private sector organizations. As this article outlines, managers would do well to seize the cost reduction opportunities that these applications represent.



## LEAN MANUFACTURING

Lean manufacturing techniques have been around in one form or another for more than 85 years. Individually applied, these techniques offer logical and organized approaches to manufacturing the products that customers demand. Collectively, the techniques enable companies to gain a significant competitive advantage by producing higher-quality products at lower costs, all the while shortening the time between orders and delivery.

## LEAN OFFICE

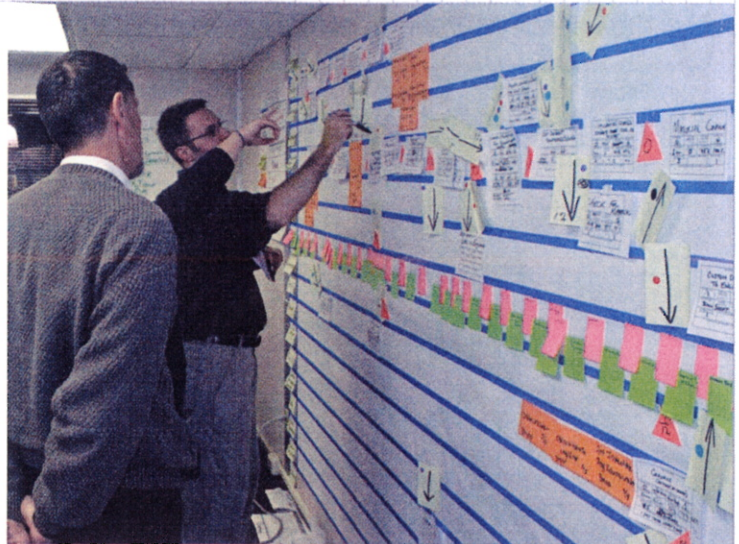
Processing information, handling paper, correcting processing errors, meeting deadlines, and fulfilling internal and external customer expectations—these office production activities are important to office effectiveness. The processes necessary to convey customer orders and to deliver a product or service are key to gaining and maintaining customer satisfaction in all business environments.

The experiences of organizations that have embraced lean office principles prove the existence of abundant opportunities to reduce office process waste. Typical results include reductions of paperwork process flow time of at least 50 percent, dramatic reductions of required floor space, reductions of hand-offs from 50 to five, and on-time performance improvements of up to 100 percent.

The lean office journey begins with the creation of a visual *value-stream map* (see accompanying photo). First, the team chooses for analysis a service or product for which process improvement holds good potential for an impact on customers. Then, mapping the process helps the team and facilitators understand and see wastes in the current process, including paper handling, hand-offs, excess information flow, and quality deficiencies. A *current-state map* forms the foundation for later discussion and for the analysis needed to name the processes that currently add value for the customer. From there, the team develops a *future-state map*.

An example illustrates the power

Managers and facilitators can construct and examine value-stream maps in a tracking center.



of this approach. An approval process for one customer required the sign-off of eight top management personnel. It took just over 12 days, on average, for the paperwork to visit all in-baskets for review and signature. Simply scanning the document and e-mailing the approval form reduced the processing time to less than one day—a 92 percent reduction.

Office inefficiencies extend beyond unnecessarily complex or cumbersome approval processes. Other instances of process wastes are:

- Not collecting the data needed for information processing at all steps during the initial contact.
- Collecting or reentering the same data at multiple steps.
- Disseminating data beyond those who require it (for example, doing an unnecessarily large e-mail dissemination).
- Not providing for the convenient and efficient use of office equipment.
- Inconsistent locations for data, files, and other items necessary for particular processes.
- Excessive processing of documents.
- Inefficient use of electronic resources.
- Doing work that is not necessary to produce the service.

Successful lean office initiatives rely on *value-stream tracking centers* as a critical deployment technique. Clients develop these centers after the creation

of current- and future-state value-stream maps. A tracking center is a physical space where the owners of improvement projects can meet regularly to discuss needed changes; such a center also allows team members to hold each other accountable for completing projects on time (see Figure 1).

## LEAN GOVERNMENT

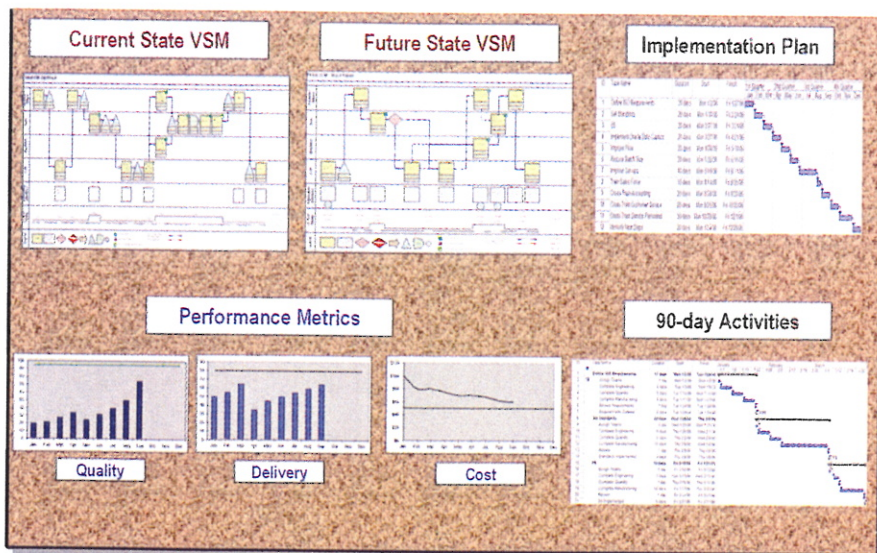
The complexity of government operations can make the process of defining desired results less straightforward than it is in private business. Government managers cannot always identify the customer, much less know exactly what that customer finds truly value-adding. The building inspector serving the public through building code enforcement, for example, has to balance the competing demands of homebuilders, potential buyers, and political personalities in policy positions. Constructing a product like bird feeders without defects at a reasonable price seems, by comparison, a simple undertaking.

When focusing on government operations, an analysis must include reviews of both the laws and regulations applied to the government agency and the laws and regulations applied by the agency. With respect to each, the agency must consider the need, or lack thereof, for a particular law or regulation.

Then, the agency can more clearly assess how the marginal benefits of satisfying a requirement lay up against



**Figure 1. Sample Postings in a Tracking Center**



compliance costs. While agencies usually cannot control enactment or the need to enforce laws and rules, their ability to question these underlying assumptions can provide valuable information about the compliance processes they decide to execute.

In developing a lean government organization, a manager should also analyze customer perspectives. Typical questions should include:

- Who are our customers? Are they the residents of our community, regulators, lawmakers, and/or businesses?
- Can we make a service more readily available? Can we offer more convenient office hours? Can we facilitate one-stop permitting, or permitting over the Internet?
- How frequently do agency errors cause processing delays for our customers or result in costly internal rework?
- Are our services meeting our customers' needs? What represents true value to them? If we could read a customer's mind, what unexpressed or inaccurately expressed needs could we identify? Henry Ford once cautioned that customers who say that they want faster horses really don't care at all about horses; they simply want a way to get from point A to point B in the fastest and safest way possible.

- Is the price of our service reasonable? Do we know its actual cost?

### THE PROCESS

Progressive managers in both sectors can benefit from using the same four-step approach to implementing lean improvements.

**Step 1: Assess and plan.** The assess-and-plan step focuses on understanding the needs of the organization and how it operates. Insight into the organization is achieved through interviews of executive leaders and key staff members, data gathering and analysis, and process observations. The output of this step is a report identifying 1) strengths, constraints, opportunities, and threats; and 2) prioritized improvements.

**Step 2: Train.** Successful lean implementations occur only when organizations develop a critical mass of lean expertise within themselves. Developing this expertise must begin at the top, with the executives of the organization thoroughly understanding and committing themselves to lean improvement. Only then can those with more responsibility for implementing a lean initiative begin to develop their own knowledge and expertise through change management, process improvement techniques, and performance measurement.

**Step 3: Implement.** As implementers gain knowledge and an understanding of lean, they can focus on applying these skills in a number of ways. For efforts involving a short time frame and a narrowly focused improvement opportunity, implementers can embrace a *kaizen* approach, wherein a cross-functional group focuses on improving a process over a limited period to achieve a desired result or goal.<sup>1</sup> Improvement efforts of longer duration will require a guided implementation approach, involving managing direct resources to achieve the desired result or goal. Both approaches use lean continuous improvement tools, process measurement techniques, and project management skills.

**Step 4: Embed.** Sustainment is the most difficult aspect of lean improvement. Yet the linchpin of lasting lean improvements remains the creation of a culture of continuous improvement that *embeds* the lean philosophy in an organization. The monitoring and tracking of key performance measures and the coaching and mentoring of lean implementers are critically important steps to building this desired culture.

### CASE STUDY

Since 2003, Cincinnati, Ohio, has progressed in its implementation of lean government. Following the four-step approach to implementing lean improvement, city leaders sought to modify the culture of their organization with lean techniques for process improvement.

The first step was to conduct a citywide assessment of the local government. Fifty-four city staff members representing 16 departments, three local unions, and the office of the city manager were formally interviewed. The information generated from these interviews was synthesized and categorized into strengths, constraints, opportunities, and threats across the entire organization.

Pareto charts were developed to highlight significant problems and opportunities.<sup>2</sup> (One of these charts is shown in Figure 2). Managers de-



veloped a prioritized plan of action to focus on key improvement opportunities. Finally, they agreed on a schedule for specific lean training for city leaders and facilitators of continuous improvement.

Cincinnati conducted two distinct training efforts. The first, a one-day “Lean Leadership” course for the 16 department directors and 35 department improvement facilitators, introduced the concept of lean and stressed the importance of generating a culture of continuous improvement.

The second, a three-day “Process Improvement” course for the departmental improvement facilitators, gave them a structured methodology for continuous improvement. Though city staff had not seen these tools before, they quickly learned and adopted tools like standard work instructions,<sup>3</sup> visual management,<sup>4</sup> and *kaizen* and fishbone diagrams.<sup>5</sup>

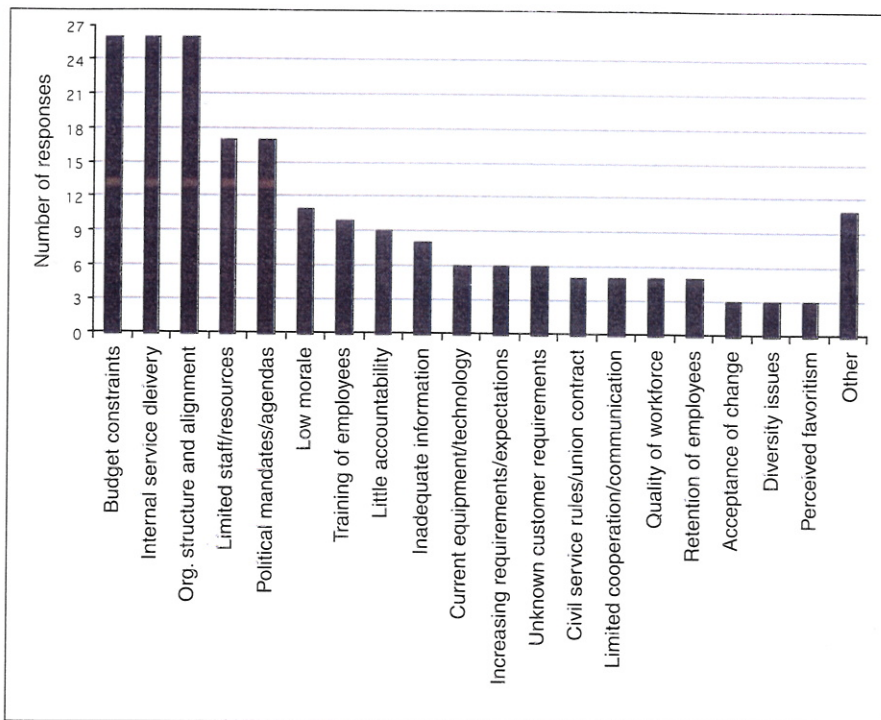
Using techniques from the lean leadership and process improvement trainings, each facilitator wrote a departmental improvement plan focusing on process redesigns and continuous improvements within their home departments. Facilitators documented 63 process redesigns and 48 continuous improvements. Implementation of these efforts is expected to result in millions of dollars of cost savings and greatly improved public service in Cincinnati.

The following discussion presents two of the process redesigns and shows the major impacts that lean improvements can have on a local government.

### Process Redesign: Police Recruitment Process

Throughout 2004 and 2005, 20 months passed between the acceptance of any police employment application and the applicant’s admission to the police academy. The glacial pace of this process often resulted in qualified candidates’ needing to move on and find work elsewhere. Typical applicants saw six weeks go by from the time they applied for the job until they took the written exam. More than 55 percent of applicants who

**Figure 2. Obstacles to Achieving Departmental Goals and Objectives**



applied failed even to take the initial written exam. And when the physical agility test was administered 20 weeks after the applicant originally applied, only 49 percent of the applicants scheduled to take this test actually took it.

Similarly, about 38 weeks passed between the written exam and the behavioral assessment. All of these delays had predictable results: while exam and test requirements eliminated only 22 percent of the applicants, almost 86 percent of them did not complete the hiring process.

To construct a visual representation of the entire process, the improvement team drew a current-state process map that identified the steps between human resources’ advertisement for the position and a candidate’s enrollment in the academy (see Figure 3).

The map helped the team find many opportunities to streamline the process:

- Use electronic communications (e-mail), and eliminate paper and hard-copy mailings of information and notifications.
- Incorporate innovative scheduling

techniques by allowing applicants to schedule themselves online for key meetings.

- Automate the data transfer for test scores.
- Implement concurrent activities by conducting the behavioral written test an hour after the physical agility exam.
- Minimize waiting times between key-event milestones.

The team then outlined a future-state process map incorporating these improvements (see Figure 4) and set a three-month time frame for implementation.

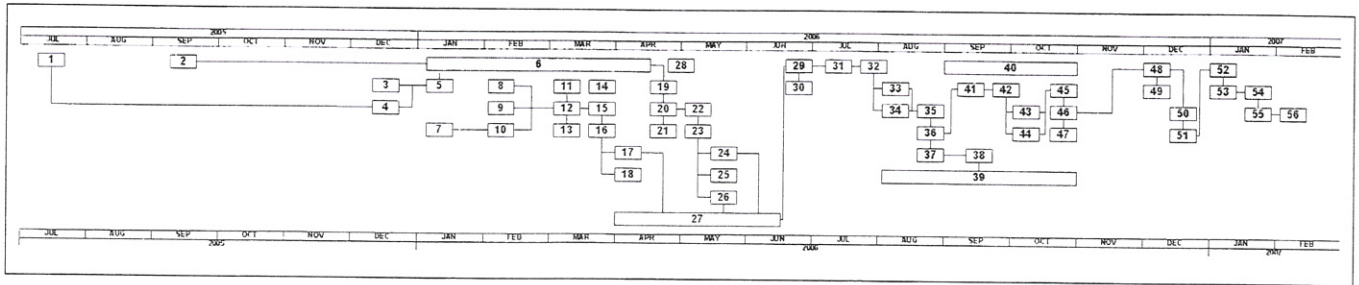
Currently, the human resources department is implementing these improvements. The expected impact is a 35 percent timeline reduction. Additional improvements identified through ongoing coaching and mentoring of the staff involved in the process are expected to yield timeline reductions of up to 50 percent.

### Process Redesign: Sanitary Sewer Easement Process

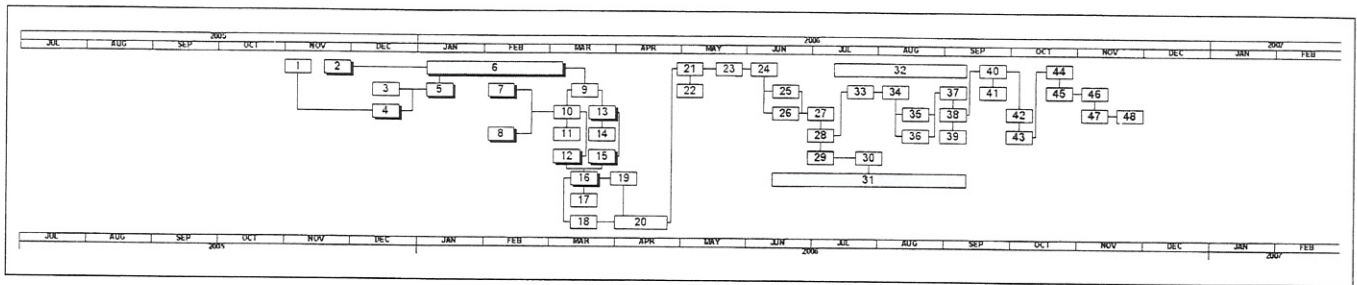
Ten and one-half months (314 days) typically passed between the develop-



**Figure 3. Current-State Process Map: 20-Month Timeline**



**Figure 4. Future-State Process Map: 13-Month Timeline**



ment of engineering plans and the recording of a sanitary sewer easement. In addition, some 30 percent of the projects found a home in appropriation legislation, a fate that added an extra six months to two years to the process.

Involvement of at least four city agencies, two county agencies, and the property owner makes the sanitary sewer easement process complex in Cincinnati. Rework and duplicate efforts hamper the process, and communication between participants can

at times be strained. Application of lean principles, however, is making a difference. Some initial improvements seen as a result of the city's efforts include:

- Coordinating engineering project

**Figure 5. Key-Milestone Process Checklist: Capital Improvement Project**

Project Name: \_\_\_\_\_ Sewer #: \_\_\_\_\_

#	KEY PROJECT MILESTONES	RESPONSIBILITY	EXPECTATION	DATE
1	Finalize project plans, and submit to MSD ROW.	MSD engineering—project manager	Time begins now.	
2	Review plans, and submit to city law real estate.	MSD ROW	15 days (from #1)	
3	Assign negotiator, and conduct first meeting with owner.	City law real estate		
4	Complete appraisal.	City law real estate	30 days (from #2)	
5	Complete title opinion.	City law real estate		
6	Review appraisal, and approve offer amount.	City law real estate	21 days (from #4)	
7	Survey crews stake out alignment / take areas.	MSD engineering—project manager		
8	Conduct meetings with owner, make offer, and present contracts.	City law real estate	60 days (from #6)	
9	Sign contract with owner, or send to Hamilton County prosecutor for appropriation.	City law real estate	15 days (from #8)	



plans between the engineers and right-of-way staff and setting standard specifications and requirements have drastically reduced project rework and turnaround times.

- Work has begun on devising alternative ways to find and retain qualified appraisers. Standardized appraisal reports and procedures to shorten report turnaround times are also under development. In addition, incentives to improve response times on appraisal reports have been proposed.
- Implementation of a checklist of key project milestones—with expected timing and actual dates—to be used for all projects has begun. This checklist involves realistic expectations of timing and allows for improved accountability for each key milestone (see Figure 5 for a sample checklist).
- Improved communication between the sewer department staff and the people who contract with appraisers has brought a better understanding of work expectations.
- The fact that the easement negotiator now conducts the first meeting with the property owner before completion of the appraisal and title reports has permitted concurrent process activity, which reduces overall process time.
- A project must now be sent to legal staff for appropriation within 15 days of the date when the property owner receives an offer. This significantly cuts the amount of time (two to three months) spent in negotiations between the real estate department and the property owner. In addition, a firm date for appropriations improves city leverage during negotiations.

The city anticipates that these improvements will reduce easement processing time by more than 50 percent, from 314 to 156 days. Ongoing coaching of the staff involved in the process and reinforcement of the key-milestone process checklist will help sustain these efforts and will likely produce further process improvements.

## LEAN GOVERNMENT CHALLENGES

Lean government implementation clearly presents difficulties. In many localities, the answer to the question “Who is in charge?” is sometimes “No one” or even “Everyone.” Many governmental processes overlap different levels of government. Functional departments are often managed by politically independent elected officials. Statutes spell out the duties of some agencies, and changes literally require an act of Congress. There can be no guarantee of continuing top-level “ownership” of the process; political leadership, for instance, can be transitory (and term limits assure that it is).

Even where there is clearly someone in charge, processes may have evolved so imperceptibly that their existence, much less their impacts, are not readily apparent to anyone. Those in charge (and anyone else) simply may not comprehend undocumented processes that have real operational implications. Moreover, varying explanations prevail as to who the customer is. Not surprisingly, precise definitions of governmental customer requirements often do not exist.

All of these characteristics of government run counter to both the philosophy and the practice of lean. Yet the principles underlying lean, plus the analytic and other tools required to implement it, help managers understand the nature of their customer service requirements and the work necessary to deliver the desired level of service. Line workers and top managers collaborate more routinely and effectively to more clearly understand what constitutes good, value-adding work, as well as the constraints faced in maintaining a sharp focus on *only* this kind of work.

Local government managers will still have to contend with the horns of their dilemma: Shall I reduce costs but face criticism for slippages in the quantity and quality of services? Or shall I improve services, only to run headlong into the budget hawks among my constituents? Yet, while the dilemma may remain, lean gives

public sector managers a valuable means of avoiding impalement on the point of either horn.

Progressive managers are adopting the lean concept and making significant improvements in governmental operations by clearly identifying activities that should be eliminated, simplified, or enhanced. This takes courage, commitment, resources, and sound analytical work, but at the end of the day, lean implementation is well worth the journey.

<sup>1</sup>Kaizen is a Japanese term meaning “good change.”

<sup>2</sup>Pareto charts are used to show visually the 20 percent of categories that drive 80 percent of the issues.

<sup>3</sup>Standard work means operations organized in the safest, best known sequence using the most effective combination of resources.

<sup>4</sup>Visual management involves the use of techniques (signs, displays, scoreboards) to communicate the status of a system or condition.

<sup>5</sup>Fishbone, or cause-and-effect diagrams, are used to map the possible root causes of issues.

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