

Caught in a Crisis

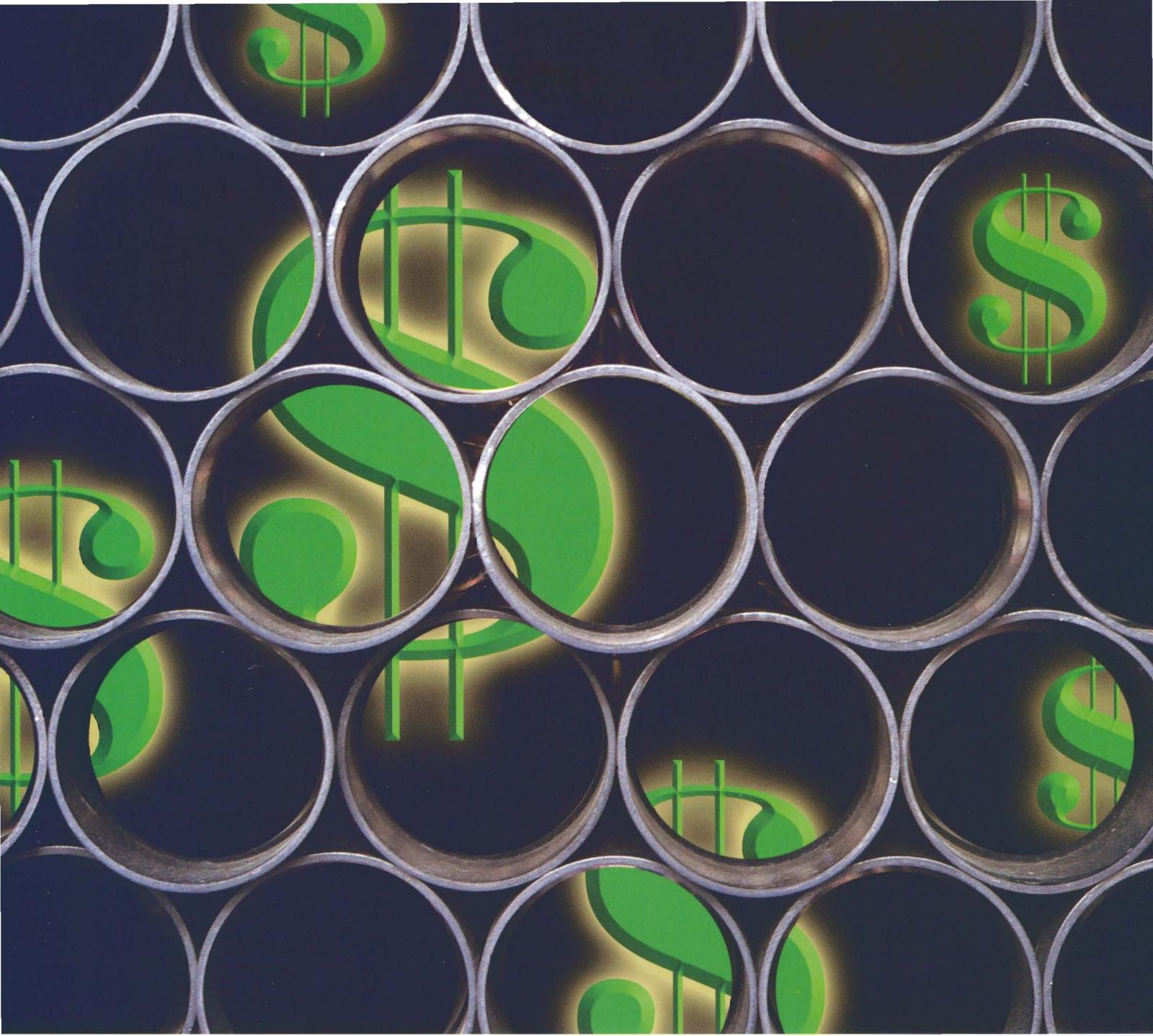
Why a Crisis Communications Plan Matters

A close-up, low-angle shot of several emergency vehicle lights, likely from a fire truck or police car, showing red and blue lights illuminated in a dark environment.

Minimizing the Cost of
Lost Knowledge

Developing a Global Approach
to Asset Management

Water Software
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Implementing Asset Management —

The Experience of Two Agencies

By Michael Van Dine

The American private sector has long been aware of the concept of Asset Management. The manufacturing sector of the American economy has long been developing systematic, proactive maintenance and operational procedures designed to make them more efficient and cost competitive in today's global economy. But these attitudes have been slow to penetrate public-sector management practices.

In recent years the pioneering work of Australian and New Zealand water and wastewater utilities has begun a cultural shift in the American municipal engineering community. Their focus on a formalized Asset Management program represents a significant departure from traditional public works practices. Two of the agencies that have taken the lead in implementing this change in the United States are the Orange County Sanitation District (OCSD) in California and the City of Seattle Public Utilities.

Terry Martin, P.E., strategic advisor to the Corporate Asset Management Group, City of Seattle, and Nick Arhontes, P.E., operations and maintenance engineering manager, Orange County Sanitation District, took different approaches to creating their asset management programs, but their experiences were quite similar.

Both men learned about the Australian approach to Asset Management at professional conferences in 2002 and became convinced of the opportunities it presented for their agencies. Arhontes sees this kind of Asset Management as the new "best practice" for managing assets responsibly. The City of Seattle liked the structure and organization that the Asset Management approach brought to the decision-making process. "Most municipalities use AM [Asset Management] as the basis for analyzing and justifying additional spending. In our case, it was used as a tool to rein in spending," said Martin.

Both systems are substantial and have at least \$2.5 billion dollars of assets under consideration in the collection side of their systems alone. Under traditional public-sector decision making, projects had a tendency to be judged purely on a cost basis, and resources were becoming scarce. Arhontes states, "An Asset Management approach is invaluable for stretching limited funds. It creates a work environment where we know what our assets are and what condition they are in. The long-term financial interest of the city starts to drive the program and decision making."

While they have significantly different systems, Martin and Arhontes agree that the most difficult part of getting started was managing change within their respective organizations. Creating cultural change requires diligence and strong support. "People want to see immediate results when they're investing that much time and money in a system," said Martin. "Twenty percent of our team embraced the ideas from the beginning, but some are still adjusting. We were really fortunate to have a strong leader in Chuck Clarke, managing director of Seattle Public Utilities, who was committed to our success."

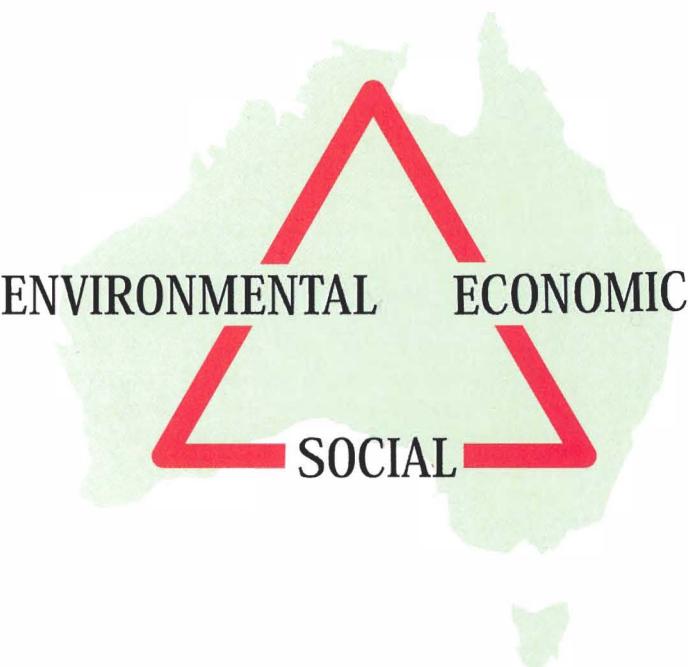
For Arhontes, it is a 25-member board representing various disciplines from all of the municipalities in the area served by OCSD that has provided the necessary support. "Managing change and building consensus are continuous struggles," Arhontes said. "I've enjoyed the opportunity to create the new culture within the agency and to build the team. Seeing them share information on a regular basis and seeing the organizational shift is energizing. Some folks feel like they're finally being listened to."

Arhontes characterized the change as a shift from a public-sector mindset to a private-sector mindset. "Before our Asset Management program we had a good maintenance department, a good engineering department and a good finance department, but they weren't integrated. Integration has enabled us to capitalize on the expertise and experience of all of our people."

Martin also made the transition from a traditional decision-making system. "Most projects were evaluated solely on capital cost. It was a very risk-averse, engineering-oriented culture," he said.

Before implementing the Australian approach to Asset Management, the Seattle system had seen rate increases of 6 to 7 percent a year for the better part of a decade. "Using the analytics and customer input model in the Australian approach, we were able to reduce capital spending projections by 18 percent and reduce projected operations and maintenance budgets by 3 percent," said Martin.

Martin indicated that there are two primary drivers for this high level of cost reduction. The first is the use of a project review committee for all capital projects of over \$250,000. "If a project won't pass the 'red face' test in front of the committee, it won't be considered for funding." Martin went on to say that this careful scrutiny resulted in a reduced volume of proposals, where only the essential projects were brought up for consideration. "Financial, social and environmental costs are the elements of the triple bottom line used to evaluate projects. Obviously, the financial costs are the easiest to evaluate. Sometimes social and environmental costs can be difficult to quantify with accuracy."



Economic, social and environmental costs are the elements of the triple bottom line used to evaluate projects in the Australian model

The second reason for the reduction in cost was a more complete understanding of the condition of the system. "We initially suspected that the oldest parts of our system would need the most attention and therefore take the biggest part of our main-

tenance dollars," said Martin. "But the clay pipe installed pre-World War I is in great shape. We're spending more time and money on the parts of our system installed after World War II using other materials."

OCSD had a similar experience and was able to trim more than \$100 million from the budget based on postponing work that it found was not needed, due in part to the performance and durability of the vitrified clay pipe used in its system. "The Asset Management evaluation supports the conclusion that clay is the right product for us," Arhontes said.

Both men were asked what, if anything, was the downside to implementing this process and what they would do differently.

Arhontes — "From OCSD's standpoint, there is no business downside. The only thing that comes to mind here is the investment in time and stamina required to make it work — the effort involved in creating an organizational change. You need to find a way to share lessons learned and accomplishments with all the members of the team on a more timely basis so that all can see the benefits begin to accrue."

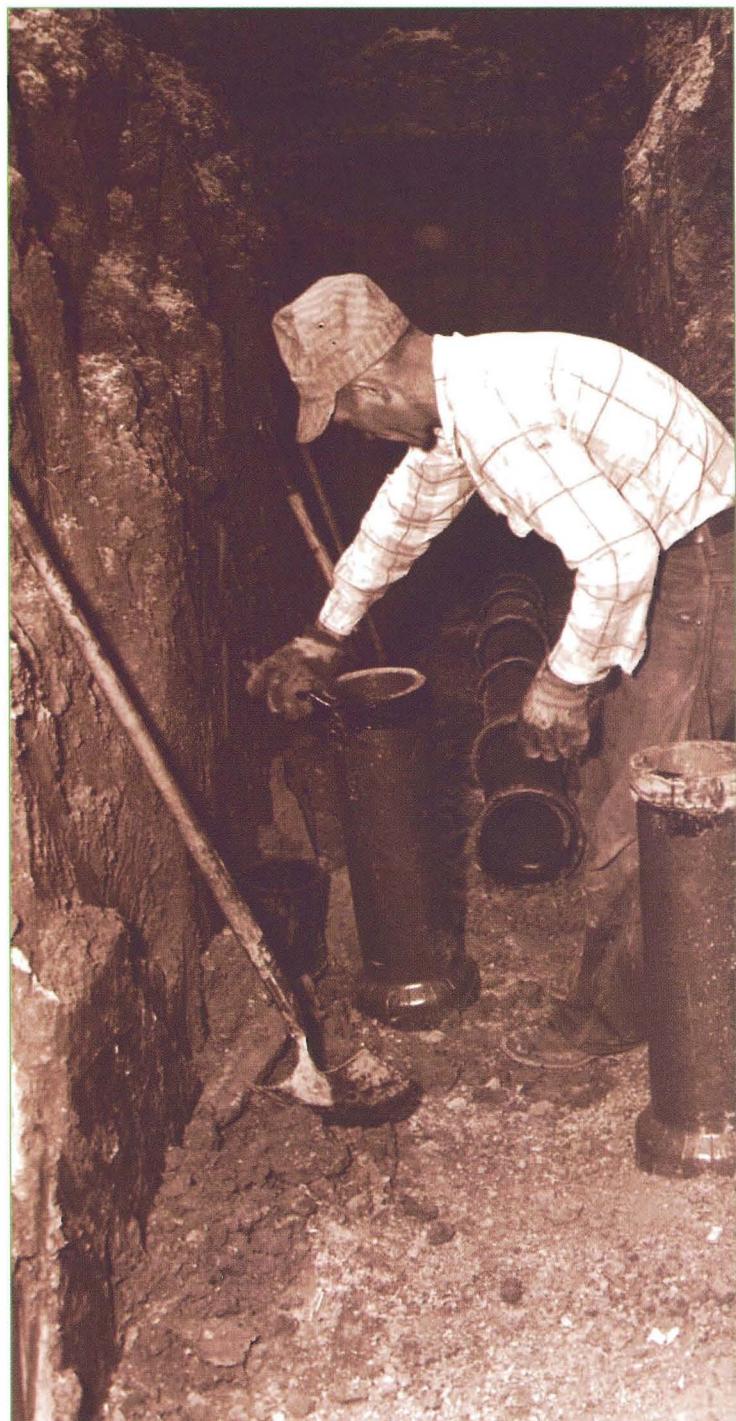
Martin — "The downside to this approach is the stress that any change causes in a system. Also, asking for input from the customer is part of this system. If you don't have a fully informed customer, you could easily be led down the wrong path. Start earlier and push harder to change the culture at the top. We were successful in Seattle because our managing director drove the project."

One thing learned by the City of Seattle seemed to go against conventional thought. Terry Martin explained it this way: "The City of Seattle had a major fire back in 1885 — much like the famous Chicago fire. At that time the whole city was made of wood and there wasn't enough water to put the fire out, so much of the city had to be rebuilt, including much of the old sewer system. We are really lucky to have that foundation. Forty percent of our system is clay, installed between the time of the fire and 1940. We televised these lines based on the original risk equation, which indicated that due to age, these should be our areas of most significant risk. But they haven't degraded at all over time. Based on the way these pipes look, they could easily last 200, 300 or 400 years."

The greatest long-term impact of Asset Management practices was identified by each agency a little differently. Martin said, "These practices have allowed us to develop a customer-centered system. We're doing the right thing for the customer and the greater good is being served. I think we were in the same position as many municipalities. We were approaching an impending crisis. We were facing billions of dollars of needed infrastructure improvements with a decidedly anti-tax voting public. This system gives us the foundation for consistently evaluating and prioritizing all of the needs of the community."

Arhontes stated, "The focus on a formalized Asset Management program represents a shift from more traditional, reactive public-sector thinking to more of a proactive private-sector mindset. It drives your organization to integration. We're working to create a set of practices that will establish the priorities that are appropriate for our system. Now we're more driven by efficiency and labor savings. Longer life and lower maintenance equal higher efficiencies."

As managers, we have all seen new techniques and methods that claim to have the answers to the problems that we



In some cases, cities are finding that aging infrastructure doesn't necessarily equate to deteriorating infrastructure.

know exist within our systems. Unfortunately, sometimes they just don't deliver the benefits as promised. These examples show us that — properly applied — Asset Management really does have the potential to revolutionize the way the public sector operates. Higher levels of efficiency and better use of funds available mean better service for the ratepayer. And isn't that what we all want — our systems to deliver the greatest value possible?

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