



An Atlanta utility crew repairs a burst pipe.

Department of Watershed Management, Atlanta

# Infrastructure Needs Are Stretching Resources

*The managers of the fleets in LIGHT & MEDIUM TRUCK's second annual **Top 50 Utility and Telecom Fleets** will have a challenging time providing the equipment needed to repair and maintain a crumbling utility infrastructure.*

By Daniel P. Bearth

Utility fleet managers who work on the front lines in the battle to maintain, repair and expand water and sewer systems and electric and natural gas distribution lines understand that the networks are in need of major upgrades to improve reliability and to accommodate growth in population and freight.

Now, a study by the consulting firm Booz Allen Hamilton Inc. has put a price tag on fixing the utility infrastructure for urban areas over the next 25 years: \$6.5 trillion in the United States and Canada and \$41 trillion worldwide.

More than half of the needed investment — \$3.6 trillion in the United States and Canada and \$22 trillion worldwide — is needed to upgrade water and sewer systems, according to the Booz Allen study. Electric power needs are estimated at \$1.5 trillion in the U.S. and Canada and \$9 trillion worldwide. The remaining dollars — \$1.37 trillion in the U.S. and Canada and \$9.4 trillion worldwide — are needed for road and rail networks, airports and seaports.

On the face of it, current spending falls far short of meeting the needs of city residents for water, power and transportation, said Dan Gabaldon, one of three principal authors of the Booz Allen study. He said about \$200 billion is spent each year on infrastructure in the U.S. and Canada.

Money, however, isn't necessarily the biggest problem in providing for the infrastructure needs of urban communities.

"The problem is not too little spending," Gabaldon said in an interview with LIGHT & MEDIUM TRUCK. "It's not spending in the right way."

Water, energy and transportation are closely related, yet investment decisions for each sector are divided among many public and private entities, often with little coordination or effective oversight. As a result, authorities tend to take a "piecemeal" approach to fixing problems, leading in some cases to wasteful spending, Gabaldon said.

"The political will to provide more than minimal services at the lowest possible cost doesn't exist in many places, and as a result, many governments respond to these investment pressures

# 2007 Top 50 UTILITY & TELECOM FLEETS

by muddling through. They fix problems in a piecemeal fashion, giving residents just enough improvement so they don't boil over in anger or move away."

For utility fleet managers, the Booz Allen study provides a useful backdrop for understanding spending priorities, which ultimately determine the volume and type of work they do — and the equipment they use.

Water systems represent the most pressing need, in part, because the infrastructure, which in many cities dates back to the 19th century, is quite literally falling apart.

"It is not unusual for a metropolitan area to have as many as 1,000 water main breaks a year," the Booz Allen study reported. "In Detroit, where 35 billion gallons of water leak from the water supply each year, residents pay about \$23 million annually for water that never reaches their homes or businesses."

A prime example of the size of the problem, and what needs to be done to fix it, is in Atlanta, where city officials committed \$3.9 billion to overhaul the water and wastewater systems.

Mayor Shirley Franklin, dubbed the "sewer mayor" by the U.S. Conference of Mayors in 2004, is credited with generating public support for funding the multifaceted project, due to be completed in 2014.

"Our water and sewer systems were literally collapsing and polluting the environment," Franklin said in a letter to residents in April in which she recalled the situation facing the city when she took office in 2001. "Atlanta was becoming the poster

child for infrastructure neglect."

In one of her first acts as mayor, Franklin created the Department of Watershed Management and combined the Bureau of Wastewater Treatment & Collections and the Bureau of Drinking Water and established the Clean Water Atlanta initiative to oversee water system repairs and improvements.

Under the program, the city agreed to construct new facilities to separate and treat sewage and storm water, inspect and replace defective pipes and water mains and purchase land along creeks, streams and rivers to serve as a natural filter for water runoff. The city also is building new transmission mains to support growth and development in the county and automating the process of meter reading and bill collection.

Joe Basista, deputy commissioner for the Bureau of Wastewater Treatment & Collections, said outside contractors almost entirely are handling the capital improvement program, so there has been "no appreciable effect" on the department's fleet. The city has hired more meter readers and inspectors, however, and has purchased new vans and trucks for those purposes, he said.

Jack Hoffbuhr, executive director of the American Water Works Association, said Franklin's success in Atlanta should encourage other utilities to make bigger investments in infrastructure. In 2001, AWWA estimated U.S. drinking water infrastructure repair and replacement costs would top \$250 billion in

*(continued on page 5)*



Department of Watershed Management, Atlanta

Atlanta's extensive water and wastewater system improvements include new facilities, and replacement of defective pipes and water mains.



Department of Watershed Management, Atlanta

A crew installs 12-inch water pipes in Atlanta, where city officials committed \$3.9 billion to overhaul the water and wastewater systems.



### The Top 50

The 2007 Top 50 Utility and Telecom Fleets list was compiled from interviews with utility fleet managers and other sources.

The ranking is based on the total number of trucks, vans and sport utility vehicles, regardless of size. Included this year is information on engine type and maintenance services.

Electric utilities represent the largest number of fleets on the list (20), followed by telecommunications fleets (12) and combination electric and natural gas fleets (12). Three fleets serve electric and water utilities, and three more are linked to natural gas utilities.

A LIGHT & MEDIUM TRUCK survey also provided some insight into truck purchasing plans. Based on responses from 25 fleet managers, utilities will buy at least 14,171 trucks in the next 12 months, which represents a slight decline from the 14,914 trucks purchased during the previous 12 months.

Rank	Company Name/Location	Services	Total Vehicles 2007	Type of Engine	Maintenance Services
1	Verizon Communications New York	Telecommunications	60,000	Gas, Diesel, CNG	PM, HD
2	AT&T <sup>1</sup> San Antonio	Telecommunications	42,043	Gas, Diesel	
3	Comcast Corp. Philadelphia	Telecommunications	35,756	Gas, Diesel, Hybrid Electric, Flex-Fuel	Outsourced
4	Cox Communications <sup>1</sup> Atlanta	Telecommunications	13,010	Gas, Diesel	
5	Qwest Communications Denver	Telecommunications	12,681	Gas, Diesel	PM, HD, EO
6	Indianapolis <sup>2</sup> Power & Light Co., Indianapolis	Electric	8,575	Gas, Diesel	
7	Charter Communications <sup>1</sup> St. Louis	Telecommunications	8,469	Gas, Diesel	
8	Embarq Inc. <sup>1</sup> Overland Park, Kan.	Telecommunications	8,324	Gas	
9	Pacific Gas & Electric Co. San Francisco	Natural Gas/Electric	7,713	Gas, Diesel, CNG, Flex-Fuel, Electric, LNG	PM
10	American Electric Power Columbus, Ohio	Electric	7,650	Gas, Diesel, Hybrid Electric	PM, HD, EO
11	Southern Company Atlanta	Electric	6,694	Gas, Diesel	PM, HD, EU
12	Dominion Resources Inc. Richmond, Va.	Electric/Natural Gas	5,623	Gas, Diesel, CNG	PM, HD
13	National Grid Westborough, Mass.	Electric/Natural Gas	5,613	Gas, Diesel, Hybrid Electric, Biodiesel	PM, HD
14	Sempra Energy San Diego	Electric/Natural Gas	5,413	Gas, Diesel, CNG, Biodiesel	PM
15	Atmos Energy Corp. Dallas	Natural Gas	5,400	Gas, Diesel, Hybrid Electric	Outsourced
16	Time Warner Cable Inc. Stamford, Conn.	Telecommunications	5,000	Gas	
17	CenterPoint Energy Inc. <sup>2</sup> Houston	Electric/Natural Gas	5,000	Gas, Diesel	
18	PacificCorp. Portland, Ore.	Electric	4,807	Gas, Diesel, CNG, Biodiesel, E85	PM, HD, EU
19	KeySpan Corp. Brooklyn, N.Y.	Natural Gas/Electric	4,400	Gas, Diesel, CNG, Biodiesel	PM, EO, HD
20	Southern California Edison Rosemead, Calif.	Electric	4,244	Gas, Diesel, Electric	PM, HD
21	FirstEnergy Corp. Akron, Ohio	Electric	4,238	Gas, Diesel	PM, EO, HD
22	Duke Energy Corp. Charlotte, N.C.	Electric	4,124	Gas, Diesel, Hybrid Electric, Biodiesel	PM, HD
23	Exelon Corp. Chicago	Electric	3,846	Gas, Diesel, Biodiesel, LPG, Hybrid Electric	

Rank	Company Name/Location	Services	Total Vehicles 2007	Type of Engine	Maintenance Services
24	<b>Sprint Nextel Corp.</b> <sup>1</sup> Reston, Va.	Telecommunications	3,800	Gas, Diesel	
25	<b>Cablevision Systems Corp.</b> <sup>1</sup> Bethpage, N.Y.	Telecommunications	3,647	Gas, Diesel	
26	<b>CenturyTel Inc.</b> Monroe, La.	Telecommunications	3,555	Gas, Diesel, Propane, CNG	PM
27	<b>Public Service Electric &amp; Gas Co.</b> Newark, N.J.	Electric/Natural Gas	3,516	Gas, Diesel, Biodiesel	PM, HD, EU
28	<b>PPL Corp.</b> <sup>3</sup> Allentown, Pa.	Electric/Natural Gas	3,400	Gas, Diesel	PM, HD, EO
29	<b>Xcel Energy</b> Minneapolis	Electric	3,342	Gas, Diesel, Biodiesel	PM, EU
30	<b>Consolidated Edison Co. Inc.</b> New York	Electric	3,262	Gas, Diesel, Biodiesel, CNG	PM
31	<b>Citizens Comm. Co./Frontier Comm. Solutions</b> , Stamford, Conn.	Telecommunications	3,100	Gas, Diesel	
32	<b>Los Angeles Department of Water<sup>2</sup> &amp; Power</b> , Los Angeles	Water/Electric	2,967	Gas, Diesel	
33	<b>Ameren Corp.</b> St. Louis	Electric/Natural Gas	2,832	Gas, Diesel, Hybrid Electric	PM, HD, EU
34	<b>DTE Energy Co.</b> Detroit	Electric/Natural Gas	2,773	Gas, CNG, Biodiesel	PM, EU, HD, EO
35	<b>Progress Energy</b> Raleigh, N.C.	Electric	2,645	Gas, Diesel, Flex-Fuel, Hybrid Electric, Hydrogen	PM, HD, EO
36	<b>Allegheny Energy Inc.</b> <sup>3</sup> Greensburg, Pa.	Electric	2,561	Gas, Diesel	
37	<b>Pinnacle West Capital Corp./ Arizona Public Service Co.</b> , Phoenix	Electric	2,500	Gas, Diesel, CNG, E85, Biodiesel	PM, HD
38	<b>Oncor Electric Delivery</b> Dallas	Electric	2,453	Gas, Diesel, Hybrid Electric, Biodiesel	Outsourced
39	<b>Entergy Corp.</b> New Orleans	Electric	2,411	Gas, Diesel	
40	<b>Florida Power &amp; Light Co.</b> Juno Beach, Fla.	Electric	2,311	Gas, Diesel, Hybrid Electric	PM, EO, EU
41	<b>CMS Energy<sup>2</sup></b> Jackson, Mich.	Electric	2,226	Gas, Diesel	
42	<b>Northeast Utilities</b> Hartford, Conn.	Electric	2,191	Gas, Diesel	PM, HD
43	<b>Tennessee Valley Authority</b> Knoxville, Tenn.	Electric	2,073	Gas, Diesel	
44	<b>Nicor Gas</b> Naperville, Ill.	Natural Gas	2,002	Gas, Diesel, CNG, Flex-Fuel	
45	<b>Alliant Energy</b> Madison, Wis.	Electric/Natural Gas	1,802	Gas, Diesel, Biodiesel, E85	PM, HD
46	<b>SRP</b> Tempe, Ariz.	Electric/Water	1,598	Gas, Diesel, CNG, LPG, Biodiesel	PM, EU
47	<b>Tucson Electric Pwr./Unisource Energy Corp.</b> , Tucson, Ariz.	Electric/Natural Gas	1,500	Gas, Diesel, Flex-Fuel, Biodiesel	PM, HD
48	<b>Southwest Gas Corp.</b> Las Vegas	Natural Gas	1,350	Gas, Diesel, Hybrid Electric, CNG, LNG,	PM, EO
49	<b>NiSource Inc.</b> <sup>2</sup> Merrillville, Ind.	Electric/Natural Gas	1,345	Gas, Diesel	
50	<b>Tacoma Public Utilities<sup>3</sup></b> Tacoma, Wash.	Electric/Water	1,060	Gas, Diesel, Flex-Fuel, Hybrid Electric	

#### FOOTNOTES

1. Data from Automotive Fleet magazine
2. Data from 2006
3. Data includes all pieces of equipment

Research: Kyle White

#### KEY

- PM:** Preventive Maintenance  
**HD:** Hydraulics  
**EO:** Engine Overhauls  
**EU:** Equipment Upfitting

## Infrastructure Repair Needs Escalate

(continued from page 2)

the next three decades.

"The lesson in Atlanta's story is not just that we paid for it," Franklin said at a recent utility conference, "but that we turned the corner in people's understanding the value of investment in water infrastructure."

Across the country, utility officials are looking at ways to muster resources to modernize water systems and improve electric power distribution networks.

In Los Angeles, Ronald Deaton, general manager of the Department of Water and Power, the nation's largest municipal utility, has proposed increasing base rates 9% over three years and including a new power reliability surcharge to cover the cost of replacing, upgrading and repairing critical electric infrastructure that is 40 to 70 years old.

"The old infrastructure needs to be replaced and upgraded for our customers to continue to experience superior reliability," Deaton said in submitting a \$4.2 billion budget proposal for 2007-08.

The Los Angeles utility serves 640,000 water customers and 1.4 million electric customers and ranks No. 32 on L&MT's Top 50 Utility and Telecom list.

Nicholas DeBenedictis, chairman of Aqua America Inc., a publicly owned water utility serving 927,000 customers and 2.8 million residents in Pennsylvania and 12 other states, said the water industry is the most capital intensive.

Aqua spent \$271.7 million in 2006 to upgrade and expand water and wastewater systems, an amount equal to more than half of the company's annual revenue of \$533.5 million.

"Water treatment plants, sewer and distribution lines and storage facilities ensure protection of public health," DeBenedictis said. "That's why infrastructure upgrades are necessary to sustain our water quality."

To provide the means to make those investments, DeBenedictis said, Aqua's strategy is to continue to buy up smaller water operations and "take advantage of economies of scale to gain efficiencies."

There are an estimated 53,000 water systems in the United States and 84% of them serve fewer than 3,300 people. "The need for consolidation is obvious," he said.

For electric utilities, a surge in outside investment is expected to help meet the need for greater investment in transmission and distribution lines.

An example is the takeover of TXU Corp., the largest investor-owned utility in Texas, by Kohlberg Kravis Roberts & Co. and Texas Pacific Group, two prominent private equity buyout firms.

TXU Chairman C. John Wilder said outside investment is cru-



Workers replace pipes in Atlanta as part of the city's water and sewer infrastructure improvements.

Department of Watershed Management, Atlanta

cial to meeting customers' demand for "economical, reliable and environmentally efficient power."

Wilder said "the right energy answer will take years to unfold and require access to a source of capital willing to invest in new forms of sustainable energy and products to help customers use electricity more efficiently."

TXU generates electricity from nuclear and coal-fueled plants and buys wind-generated power. TXU's Oncor Electric Delivery unit distributes electricity to more than 3,000 points and ranks No. 38 on the L&MT Top 50.

Electricity demand is projected to increase by 19% by 2015, but capacity will increase by only 6%, according to the North American Electric Reliability Council.

Council President Rick Sergel said capacity margins are projected to drop below minimum target levels in Texas, New England, the mid-Atlantic, the Midwest and the Rocky Mountain areas in the next two to three years.

The need for infrastructure investment has stirred the pot in Washington, where the Bush administration has proposed ending the long-held policy of providing federal matching grants to fund water projects, for instance, and replacing it with a "full-cost pricing" formula in which local utilities rely on higher fees and private bond financing to pay for capital improvements.

The Clean Water Council, a coalition representing construction and engineering firms, suppliers and labor organizations, applauded the passage

by the House of Representatives in March of a proposal that would authorize \$14 billion over four years to replenish EPA's Clean Water State Revolving Fund.

Eben Wyman, vice president of government affairs for the National Utility Contractors Association, Arlington, Va., said the association supports increased federal funding, but it's not enough.

Wyman said utility industry officials "are open to any and all funding sources," including public-private partnerships and a dedicated trust fund like the Highway Trust Fund. Water users would pay a "flush tax," or a fee based on the number of gallons used, for instance, to finance infrastructure projects. ◦



Dept. of Watershed Management, Atlanta

*"The lesson in Atlanta's story is not just that we paid for it, but that we turned the corner in people's understanding the value of investment in water infrastructure."*

— Atlanta Mayor Shirley Franklin