

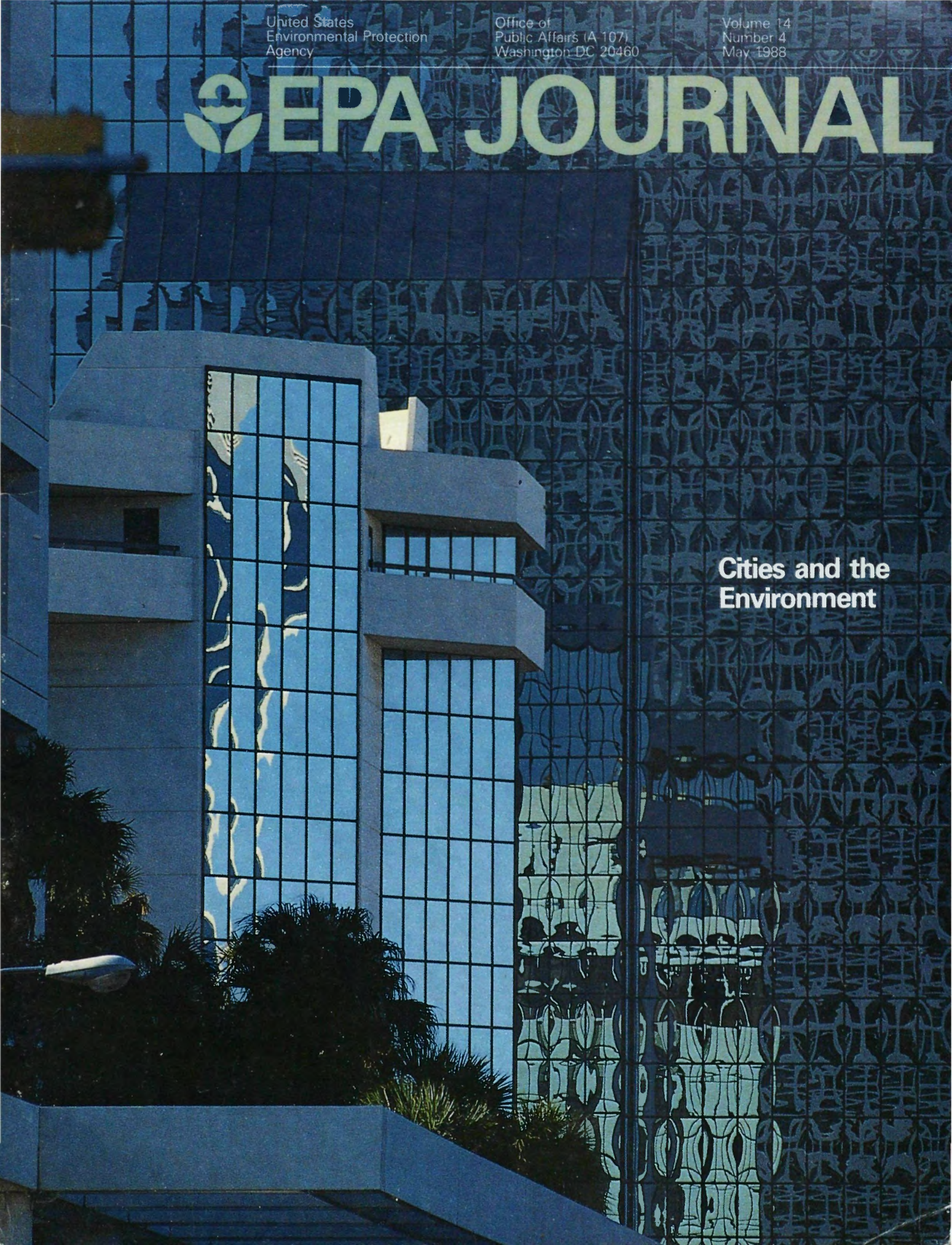
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EPA JOURNAL



**Cities and the
Environment**

Cities and the Environment



Thomas Hopker photo, Woodfin Camp.

The old nursery story of the tribulations experienced by the country mouse who came to visit the city mouse illustrates two points that converge in this issue of *EPA Journal*. First, cities exist in an uneasy relationship with the natural environment—the countryside of green wilderness and wide open spaces. Second, urban environments present special challenges.

Introducing this issue of the *Journal*, EPA Administrator Lee M. Thomas provides an overview of the environmental challenges confronting our cities now and in the immediate future. As Thomas points out, environmentalism as a social movement in this country really originated from conditions in the urban environment. And urban conditions, according to John Kenneth Galbraith, provide the ultimate test of the quality of life in modern society. Professor Galbraith follows Thomas in this issue, with a feature excerpted from

a lecture given at EPA on the subject of “the economic case for the environment.”

Since the environmental movement took hold two decades ago, how much progress has been made on major urban environmental problems in our cities? An article by EPA analyst Arthur Koines tackles this question, with a “scorecard.” A story follows on the solid waste disposal crises facing many cities across the United States, written by William S. Forester of the American Public Works Association. Based on a recent study issued by the National Council on Public Works Improvement, a subsequent piece by Michael E. Bell (now at The Urban Institute) assesses the infrastructure that supports urban America. Among other things, this infrastructure includes the nation’s highway system, water supplies, wastewater treatment facilities, and solid waste and hazardous waste disposal capacities.

The phenomenon of “accidental cities” created as a consequence of urban sprawl is the subject of an article by Luther Propst, an associate with The Conservation Foundation. The *Journal* then features two pieces on urban environments that are quite the opposite of accidental. An essay on urban waterfront development, by urban planning consultants Ann Breen and Dick Rigby, is reprinted as an excerpt. According to an article by Peter R. Stein of the Trust for Public Land, new emphasis is being placed on creating and protecting or rehabilitating parks and green spaces in city environments. On the other hand, in a recent speech excerpted in this issue, master developer James W. Rouse calls our attention to the hidden “second cities” that persist in contrast to the visible success stories of urban revitalization around the country.

Two contributions focus on particular urban environmental problems in

New York City and Jacksonville, Florida, respectively. Christopher Daggett, EPA’s Region 2 Administrator, reports on the continuing struggle to deal with air pollution problems in the Big Apple. Jacksonville has also had to struggle with air pollution—in particular an offensive odor problem that undermined community pride and property values. The story of Jacksonville’s “war on odors” is told by Khurshid K. Mehta and James L. Manning of the city’s Bio-Environmental Services Division.

In a final article on the theme of cities and the environment, Don Bronkema of EPA’s Office of Public Affairs looks back at the history of urban pollution problems.

Concluding this issue of the *Journal* are two regular features, Appointments and Update; and a Letter to the Editor. □

EPA JOURNAL

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Editor's note: The next issue of EPA Journal will be on the Marine Environment.

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The Environmental Challenges of Our Cities

by Lee M. Thomas



Automobiles, key to our individual mobility, are also a major source of environmental problems in our cities.
Steve Delaney photo.

When conversation turns to the topic of environmental protection, images of open spaces, green fields, and blue sky come to mind. It is natural to equate environmental quality with wilderness and pristine settings.

Yet the momentum for what has become one of the most important social movements in our nation's history—environmentalism—actually came from conditions in the urban environment. Pollution from smog and sewage is found in cities far more often than in rural settings.



It is in our cities that air pollutants tend to collect to the point that they can actually be seen, smelled, and felt. The automobile is one of the major sources of the smog that can sting our eyes and choke us. Where cars are found in large concentrations, as is the case in most urban areas, we generally have ozone and carbon monoxide non-attainment problems.

It was the discharge of large volumes of untreated sewage from cities into rivers, streams, bays, and lakes that brought many of our most important water bodies to the brink of disaster 20 years ago. And the continued expansion of urban areas is an important ongoing threat to the existence of valuable wetland resources in some parts of our country.

Lead is a pervasive pollutant found throughout the urban environment. Over the last decade, EPA has undertaken a variety of efforts to address lead problems in cities. And we are making important progress.

The most dramatic improvement has been our phase-down of lead in gasoline. Since 1977, we have cut allowable lead content in gasoline by more than 90 percent. That action has yielded reductions of nearly 90 percent in ambient lead levels in our cities. And that is a significant accomplishment. We are now confronting challenges related to lead in urban soil, drinking water, water distribution systems, and household plumbing.

Yet another major urban environmental challenge is the proper management and disposal of household discards. Municipal solid waste will be a major issue for every American city during the 1990s. Every local government will have to confront the question of where to put the millions of tons of waste generated by our citizens each year.

Traditional landfilling of refuse is becoming more difficult. No one wants a new landfill sited in his backyard. And promising new technologies such as incineration are no less controversial. The public is concerned about potential hazards associated with stack emissions and residual ash.

One of the best ideas for reducing our waste stream is recycling, and it is being tried in many states and cities. EPA supports aggressive recycling programs and believes we can achieve a goal of 25-percent recycling of our urban waste stream over a relatively short period of time. But public education, understanding, and active support will be necessary if we are to succeed.

Finally, cities are the setting for our newest environmental challenge—the indoor environment. Over the last several years, a growing body of scientific evidence has indicated that the air within buildings can become polluted from a variety of sources. Smoking; the use of cleaning solvents and pesticides; fumes from carpeting, furniture, and photocopying equipment; asbestos; radon; and combustion sources: all of these contribute to indoor air pollution. Urban Americans are spending more and more time indoors,

Each of these issues affects us, individually, far more than traditional "big industry" environmental issues of the past two decades.

and the quality of the indoor environment will be an increasingly important issue in the years ahead.

There is a common thread associated with the environmental challenges in our cities. Each of these issues affects us, individually, far more than traditional "big industry" environmental issues of the past two decades. Solving the urban ozone and carbon monoxide problems will require us to change our driving habits. Improving our wastewater treatment systems and expanding our drinking water regulatory program will significantly increase the rates paid by consumers for water and sewer services.

Further regulating solid waste disposal practices will increase our garbage collection costs. Recycling programs will force us to accept the inconvenience of sorting solid waste at the source. And restricting further development of wetlands will impose limits on growth in many desirable areas.

This issue of the *EPA Journal* is devoted to the urban environment and the environmental challenges of the cities. It addresses issues that confront most of us where we live and work—in the urban areas of the United States.

The environmental movement really began in our cities. Clearly, we have made important progress on the urban environmental front over the past two decades. But it is equally clear that the major new challenges confronting us are largely urban challenges as well. □

(Thomas is Administrator of EPA.)

Some Perspectives

by John Kenneth Galbraith

Last November, John Kenneth Galbraith gave an open lecture at EPA headquarters on "the economic case for the environment," during which he discussed urban environmental issues in a broad economic and historical context. The following remarks have been excerpted by EPA Journal from a recorded transcript of Professor Galbraith's lecture:

The test of the quality of life in an advanced economic society is now largely in the quality of urban life. Romance may still belong to the countryside—the future may still belong to the country—but the present reality of life abides within the city.

The "city," however, is not a single entity. Historically, there have been three quite distinct types. It is important to recognize the differences among these cities, not only for the purpose of our discussion here today, but for the general concern of our time.

To begin, there has been over time the political or ecclesiastical city—the capital. Second, there has been the city founded on mercantile trade—the merchant city. Third and most recently, there has been the industrial city. The first two cities have been very successful and serve to show what the city can be. The third, the industrial city, has not been successful.

The capital city was and remains a city with a reputation not only for success, but for grandeur. In past times, it was the extension of the personality of a ruler or a ruling family, or it reflected a priestly tradition. In modern times, the capital city is or can be the expression of the democratic ideal and recruits attention for that reason.

In architecture and urban planning, the capital city was and is a place of style, even magnificence, as well as a

community where quite evidently even the humble want to live. The older of these capitals—Rome, London, Paris, Vienna, Peking, Delhi, Agra—still draw tourists from around the world. The younger political households—Washington, Leningrad, Islamabad—are places of distinction.

Also successful has been the second of the great city types, the merchant city. While the political and ecclesiastical centers have the grandeur of controlled design and creation, the merchant cities exhibit the controlling influence of a shared purpose. To be a merchant was, presumably, to have some perception of style. Accordingly and in keeping, the merchant city was also a place of distinction and pride. Thus the cities of the Venetians and the Florentines, of the Belgians at Bruges, of the Dutch at Amsterdam, and the towns of the Hanseatic League.

To the merchant centers—as to the capital cities—tourists went in dense numbers. And the modern merchant city still generally attracts interest, approval, and people. The shopping areas of New York, London, and Tokyo are regarded with pride.

The quality of life in our cities will be decisive to our economic future.

I now come to the industrial city. Its reputation is much less. The industrial city suggests a world of mean streets, mean houses, poor services, and poor air. In the last century, it was the city of the dark, satanic mills. The industrial city is seen as a world of social tension, anger and occasional outright conflict, and of an affluent minority who are wisely absent—either in the suburbs or behind guarded doors.

That is the reputation, and in no slight measure still the present reality, of the industrial city. To the industrial

city, the tourists do not come—only the sociologists. Unlike the capital and merchant cities, the industrial city does not have a reputation for social, cultural, or political success. The question is: What can be done to redeem the reputation and the reality of the industrial city?

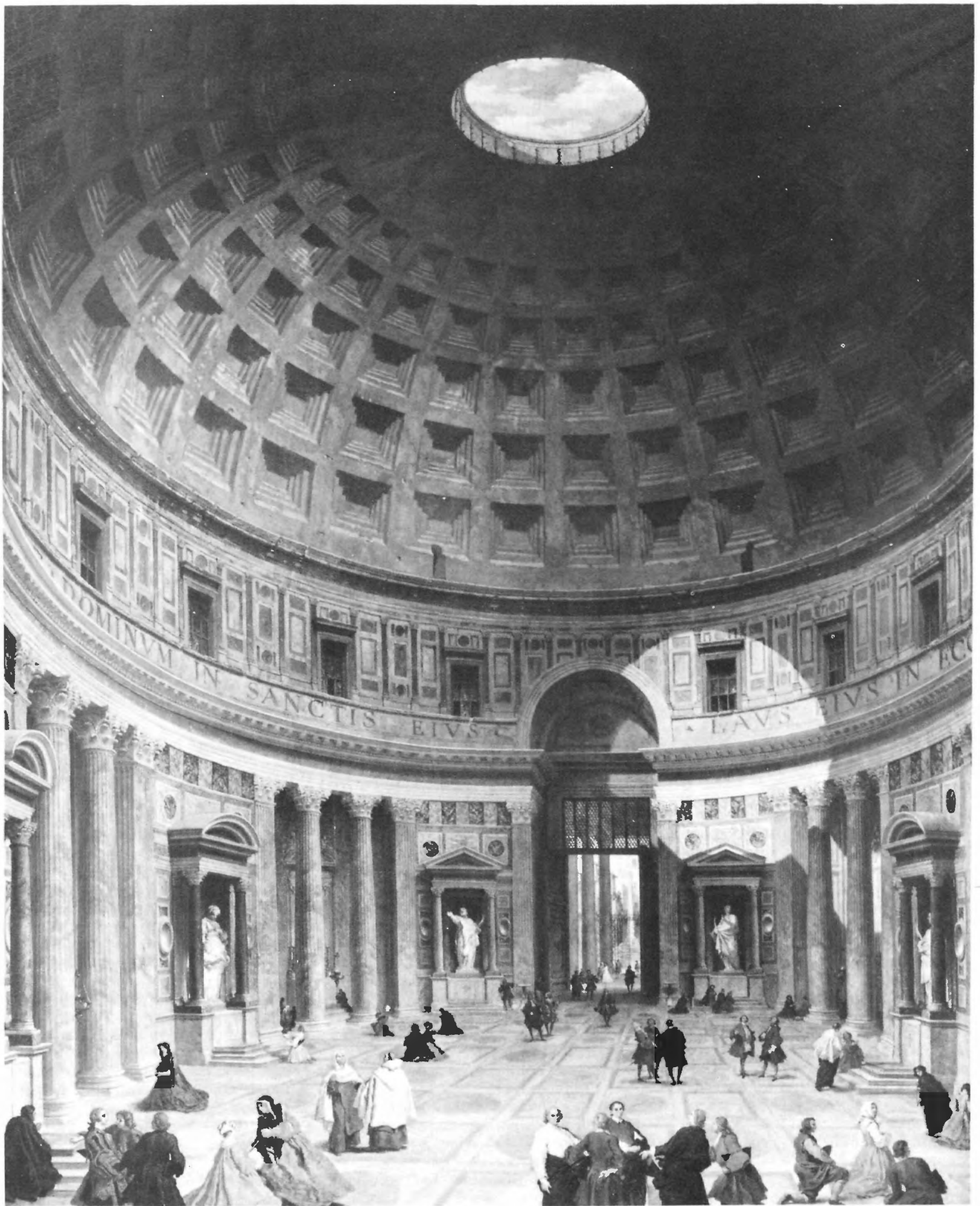
In fact, the industrial city is now changing everywhere in the world, especially in the older industrial countries. It is changing its productive enterprises. It is changing its products and its economic and social structure. All of these changes are for the better.

The patterns at hand for further improvement of the industrial city are not abstract and theoretical. On the contrary, they derive in part from the solid experience and reputation of successful cities, and also in part from recognizable changes that are already happening in the components of modern industrial life.

Even in industries that produce hard industrial products, industrial life increasingly involves automation, robotization, and other technical processes. In general, such changes have the effect of blurring the old class structures of the industrial cities. Is the man or woman who serves by watching a computer screen a member of the working masses or a member of management? The answer is not clear.

Changes are also under way in cleaning up industrial processes, reducing industrial pollution, and brightening the external aspect of the industrial city. Working to achieve these changes, against more than occasional resistance, is a greatly improved public conscience in these matters. Thirty years ago, when I argued the importance of urban environmental protection in

Rome, a historic capital city, reflects the grandeur of the past. Shown is Giovanni Paolo Pannini's *The Interior of the Pantheon* (c. 1740). National Gallery of Art, Samuel H. Kress Collection.





Venice, an early merchant city, as shown in Francesco Guardi's *View of the Rialto* (c. 1780). National Gallery of Art, Widener Collection.

The *Affluent Society*, the subject was perceived by most people in terms of a rather distant vision. Public perception has changed considerably since then.

Clearly, to overcome its past and present reputation, the industrial city must continue its escape from the environmental disorders that are so much a part of its history. It must do so, not for compassionate reasons, but because clean air, clean water, clean streets, and a healthy workplace are economic imperatives. Simply stated, economic development occurs where people—including executives, engineers, scientists, and the sponsors of new business enterprises in the arts—want to live. And they do not wish to live amidst industrial debris and gloom.

But this is not all. The industrial city must also escape from the social and

cultural environment of its past. In the past, its social environment reflected the broad industrial commitment to *laissez faire*. Apart from some exceptional cases, no one took responsibility for the city's overall design and development—for anything beyond its mere habitability. Its growth and development were autonomous, an act of nature or accident. In contrast, the higher reputation of the capital city or the merchant center depended on the overall authority that explicitly or implicitly assumed responsibility for its design and ongoing development.

The industrial city, to repeat, has lacked the kind of foresight and planning that went into the foundation of the capital and merchant cities. It must, as a very practical matter, have these things in the future. Let there be

no doubt: there is no really good and perhaps no really habitable city where growth, development, and redevelopment are not subject to a competently administered design.

The industrial city must escape tradition in still another respect. Historically, the city was meant to house people cheaply for employment in the factories and mills. Public services—schools, libraries, hospitals, parks, public sanitation, even the services of the police and courts—were deemed good insofar as they were cheap. To support such services, levies had to be borne either directly by the industries, or by the wage earners of the city. Such services were seen, especially, as costs to the competitive position of the industrial firms, something to be kept to a minimum.

In other words, the public standard of living was seen as a threat to, or a



deduction from, the private living standard. Some of these attitudes persist. We still seek to maximize the private standard of living. We still seek to minimize the public standard of living. A TV set is a valued amenity; public schools are a social cost. Privately purchased books are part of our living standard. Public libraries are a burden on the public budget. Clean houses are essential for our quality of life; clean streets are not. The affluent accept the private cost of security guards, but resist the public cost of the police. These attitudes, we must now recognize, are among the obsolete legacies of our industrial past and must be changed to accord with the present reality.

In the post-industrial city, the public living standard must be seen as no less

There is no really good and perhaps no really habitable city where growth, development, and redevelopment are not subject to a competently administered design.

important than the private living standard. Public services must be wholly on a par in their quality with private consumption. It follows that the great modern city, the post-industrial city, will be expensive to develop and maintain. As a society, accordingly, we must squarely face facts concerning the expenditures that will be required to sustain the post-industrial city. The costs of public services do not simply rise proportionately as urban populations increase. Sometimes they rise exponentially. Nevertheless, these expenditures will be economically functional; they will be necessary if we are to ensure the further development of the industrial city.

The quality of life in our cities will be decisive to our economic future, and the quality of urban life depends heavily on the quality of public services. We must outgrow fears concerning the adverse effect of the burden of taxes on industrial development. Instead, from a wholly pragmatic political standpoint, it is time to focus our attention on the demands of modern industry, and the quality of our educational and other public service systems. Here again I speak not in any theoretical way about something that is hard to establish in fact. There is solid proof. Consider as an example the state of Massachusetts, which has long been subject to attack for its high taxes. A popular term used by the politically unlettered was "Taxachusetts." In Massachusetts these past years, a combination of good environmental protection and good public services—including colleges, universities, museums, and cultural life generally—has been a powerful attraction to new enterprises. Consequently, the people of Massachusetts enjoy high prosperity and full employment. The state's older industrial cities and towns have largely escaped the exceedingly grim reputation of their industrial past. To some of

them—for example the one-time textile town of Lowell, which is now a center of high-technology industry—even the tourists come in numbers.

A central responsibility for urban design and development, environmental protection, a high standard of public services including education: all of these, to repeat, are vital steps toward redeeming the future for our industrial cities. In addition, we need also to have positive economic support for some of the central characteristics of advanced economic development. In particular there is the importance we should now attribute to the arts.

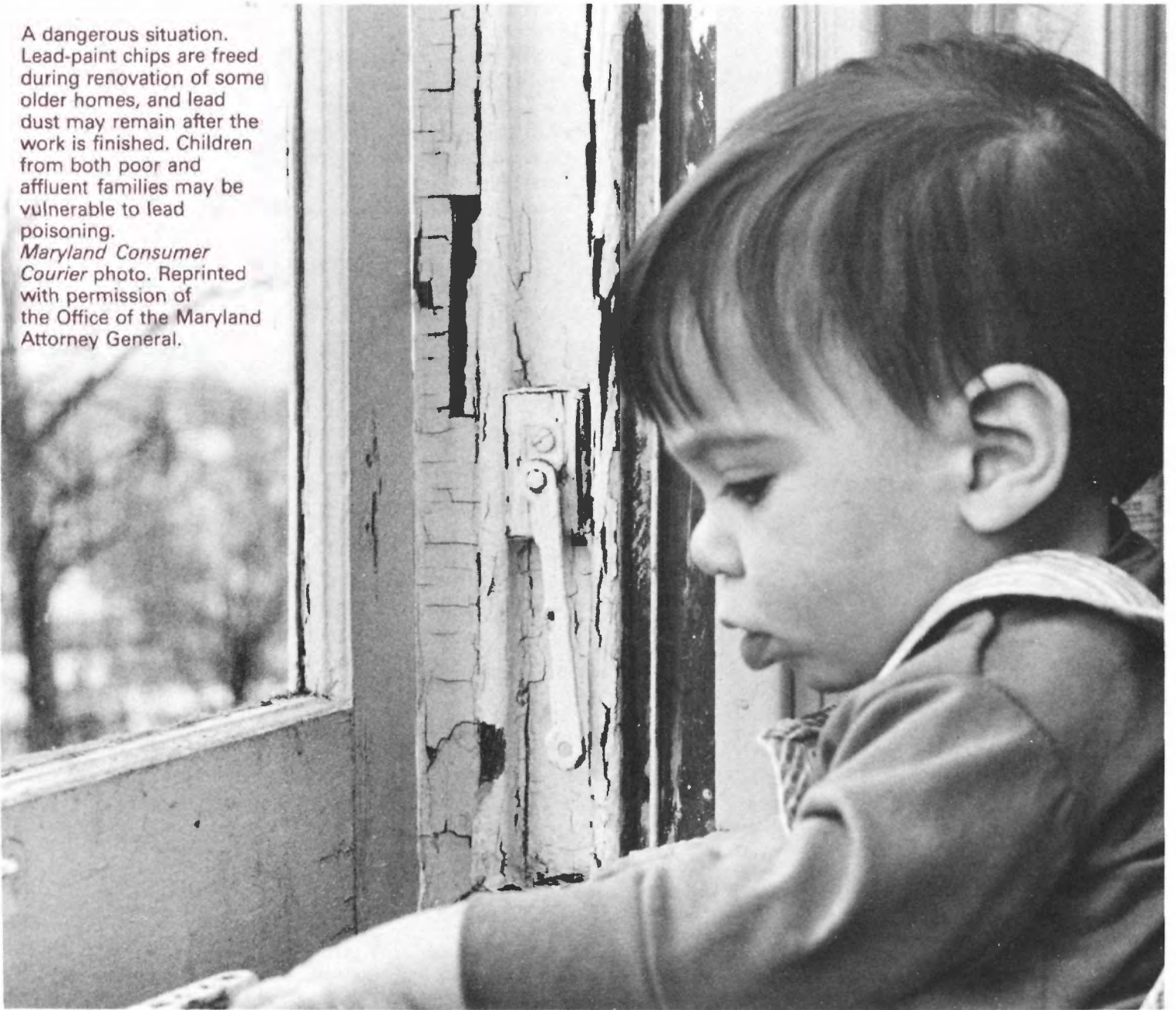
There is a long-standing belief that out on the cutting edge of economic development are the engineers and the scientists. I don't want to diminish their role. But beyond the engineers and the scientists, there are the artists. After things work well, people want them to look well. After good function comes the rather more difficult problem of good design, and beyond well-designed products there are entertainment and the enjoyment of life.

Artistic enterprise, like environmental controls, is central to our future, part of our means of escape from the failings of the urban industrial past. Clean air, clean and safe streets, good public services, serious attention to artistic endeavor: all of these are imperatives if we are to succeed in bringing our industrial cities up to a standard that historically has been achieved in our merchant cities around the world, and particularly in our capital cities. □

(Galbraith is Paul M. Warburg Professor Emeritus at Harvard University and the author of numerous books including The Affluent Society, The New Industrial State, Economics in Perspective, and most recently, Capitalism, Communism and Coexistence.)

A dangerous situation. Lead-paint chips are freed during renovation of some older homes, and lead dust may remain after the work is finished. Children from both poor and affluent families may be vulnerable to lead poisoning.

Maryland Consumer Courier photo. Reprinted with permission of the Office of the Maryland Attorney General.



A Scorecard on the Urban Environment

by Arthur Koines

Perpetual to-and-fro excites the citified citizen, robs him of deeper sympathy, of the meditation and reflection once his as he lived and walked under clean sky among the fresh greenery to which he was born companion.
(From *The Living City*, 1970)

Even Frank Lloyd Wright, architect and champion of the American city, saw a conflict between city living and our natural environment. Nearly two decades have passed since *The Living City* was published in 1970. It has also been nearly two decades since Earth Day propelled the United States into an era of environmental consciousness.

What can we say about our attempts since then as an urban society to find a balance between the lure of the city and our birthright of a clean environment? In the parlance of our workaday lives, how should we score our commitment and actions in addressing the environmental problems of our cities? I have answered this question for myself by looking at progress on four

environmental problems that are common to most of our major cities. You may wish to draw up your own scorecard and do the same.

Municipal Waste Management and Urban Sprawl

People make garbage—the more people, the more garbage. This is perhaps the simplest calculus in the field of environmental protection. In our cities, that simple calculus translates into literally mountains of garbage annually.

Making decisions on what to do with all the garbage we create is very difficult. The search for places to manage municipal garbage has become a painful political process, often taking several years to complete and offering no guarantee of success. The two major waste management alternatives—traditional landfilling and incineration (increasingly the option of choice)—can be designed to provide high levels of human health and environmental protection. Yet even with gold-plated pollution controls, neither of these management options has proven to be an antidote for the “not in my back yard” (NIMBY) attitude of residents living in the vicinity of potential sites.

History suggests that simply locating waste management facilities in areas far away from current urban populations may not be the answer. This strategy was used over the past 30 years to locate our current municipal landfills. But the enormous suburban, and more recent exurban, growth around large cities has overtaken these once-remote sites. Today, the operators of many of these same landfills face stiff public opposition to their requests for time extensions on their operating permits.

In recent years, some city waste managers have dispensed with cost concerns and begun exporting garbage to management sites outside their political jurisdictions. This strategy has its risks, as evidenced by New York's “garbage barge” experience of last year. As I see it, the garbage barge did not evoke atypical reactions from the local governments that rejected the New York waste it carried. In fact, our general attitudes toward accepting other people's waste are best reflected in our current waste management practices. Today, there are roughly 6,000 active municipal waste disposal sites in the United States. By contrast, there are only about 3,000 counties, or similar political jurisdictions. Conclusion? Isolationism in dealing with waste

management is almost universal and deeply etched in the value systems of local governments.

The long-term solution to the waste management dilemma faced by our cities lies in changing attitudes toward garbage creation and management. The American public must learn to accept modest lifestyle controls in the form of programs for recycling and reusing household waste materials. Local governments must find the political will to cooperate with nearby jurisdictions to find locations for new waste management facilities that are both environmentally sound and politically feasible. Waste management must be given priority in long-range urban planning to avoid future conflict over competing land uses caused by urban sprawl. These solutions, among others, are now being considered by EPA's municipal solid waste task force, formed last year to provide federal leadership to resolve the deepening waste management crisis. It is not at all clear, though, that the political will now exists at the local level to make those solutions a reality.

Air Toxics and the “Urban Soup”

What do buses, air conditioners, and the corner dry cleaner have in common? They all testify to the comfort, convenience, and efficiency of our modern urban society. They are also ubiquitous sources of toxic air pollutants that combine in large cities with other sources of pollutants to form the “urban soup.”

The urban soup is often composed of dozens of chemical compounds. An EPA study of air toxics risks in Philadelphia, conducted in 1984, identified over 100 different chemical compounds in the city air. A more recent study in Baltimore found over 250 different chemical compounds in that city's air. Most can be traced back to discrete sources (e.g., a power plant) or source types (e.g., cars). Yet we are able with current monitoring technology to measure ambient concentrations of only a handful of these substances. We are able to evaluate the public health implications of exposure for fewer still. As a result, local policy debate over safe levels of control for air toxics in the urban soup seems to focus as much on what is not known as what is known about the problem.

What is clear about the urban soup is that its multiplicity of causes defies a uniform, national policy solution. With this in mind, EPA established the Air Toxics Strategy in 1986, which divides

the responsibility for taking action on air toxics problems between the federal and state governments. The strategy has three elements:

- EPA will use its federal Clean Air Act authorities to regulate sources of air toxics that are found to have national significance. These may include sources that pose human health risks that are large enough to warrant a national program response.
- States will address sources that may not represent problems large enough to receive national attention, but that pose unacceptable risks in the areas where they do occur.
- Federal research will develop information and analytic methods to help state and local governments better understand the complex nature of the urban soup.

Federal, state, and city authorities seem to be several years away from implementing programs to manage important air toxics risks. Basic research must continue to expand the body of knowledge needed by regulators to define manageable problems from out of the urban soup. In spite of its slow start, the federal/state partnership established by the Air Toxics Strategy offers a promising framework for planning and progress.

Multimedia Lead

The story of lead in our major cities has taken as many turns as a good mystery novel. In response to growing evidence that lead in the ambient air caused anemia and other such blood disorders, EPA set a National Ambient Air Quality Standard (NAAQS) for the substance in 1978. Over the decade of 1975-1985 the Agency conducted a gasoline lead phase-down to remove the major source of lead in the air. The results of these efforts stand as one of the EPA's major achievements. Within a few short years, lead levels in the ambient air declined dramatically. In large metropolitan areas, where automobile emissions had caused particularly high levels of lead in the ambient air, health experts observed encouraging declines in blood lead levels in the American public. Unfortunately, the story does not end there.

In the early 1980s new research uncovered evidence of health effects at lead blood levels well below those that prompted EPA's promulgation of the lead NAAQS and lead phase-down.

Continued on next page

These health effects, such as hypertension in older males and learning disabilities in children, are insidious and frightening. More recently, high lead levels were found in drinking water delivered through pipes constructed with lead solder. In response, EPA is planning to propose new, lower standards for lead in drinking water. But the story continues.

Since the 1960s, lead-based paint, used in over half of the older homes in many cities, has been known as a cause of lead exposures in young children living in low-income housing. More recently, the legacy of lead-based paint has resurfaced under the most unlikely of circumstances. Many decaying inner-city neighborhoods have been restored in recent years through a trend called gentrification, the purchase and renovation of old homes by young, affluent buyers. The renovation of these old homes has been found to release lead-paint chips during the period of home renovation and lead dust long after the work is completed. The result: a wave of lead poisoning cases among children from affluent families.

Baltimore records over 600 cases of lead poisoning among young children each year. Some of these cases can be attributed to renovation activity in older homes in which the children live. But the people of Baltimore found the political will to act, and, last year, Baltimore amended its housing regulations to require lead-paint

abatement actions in homes found to have high levels of lead dust. At this point, I hope it is safe to say that the story of lead in our cities has reached its denouement.

Rivers in Urban Areas

Most major U.S. cities grew up around rivers. This is no historical accident. In an amicable relationship spanning nearly three centuries, our nation's rivers nurtured the growth of cities by providing convenient transportation and reliable water supplies. Yet in the late 1960s we were forced as a society to admit that the relationship between cities and rivers had turned predatory. Cities were using rivers as repositories for municipal and industrial wastes to the point where the waterways were unable to restore themselves.

In 1972 Congress enacted the Clean Water Act (CWA) in an effort to find a balance between the demands of our modern urban society and the health of the nation's rivers. To this day, regulatory activities born of the CWA and its amendments command the largest share of combined federal, state, and local environmental resources. The lion's share of these water programs' resources is used in cities to finance the construction of sewage treatment plants. We found the political will to act on the problem. But what have we to show for our efforts?

Since 1972, the federal government has helped finance the building of over

15,000 sewage treatment plants in urban areas. Eighty percent of these treatment plants now operate in full compliance with relevant federal and state standards. Most importantly, controls on municipal sewage discharges to rivers, as well as controls on direct industrial discharges, have dramatically improved water quality in our rivers. The Cuyahoga River, so choked with pollution in 1970 that certain stretches posed fire hazards for Cleveland, now shows few visible signs of human and industrial waste. The South Platte River, which runs through the heart of Denver, today adds to the area's sources of outdoor recreational enjoyment, even though nearly 70 percent of its downstream flow is contributed by the metropolitan sewage treatment plant.

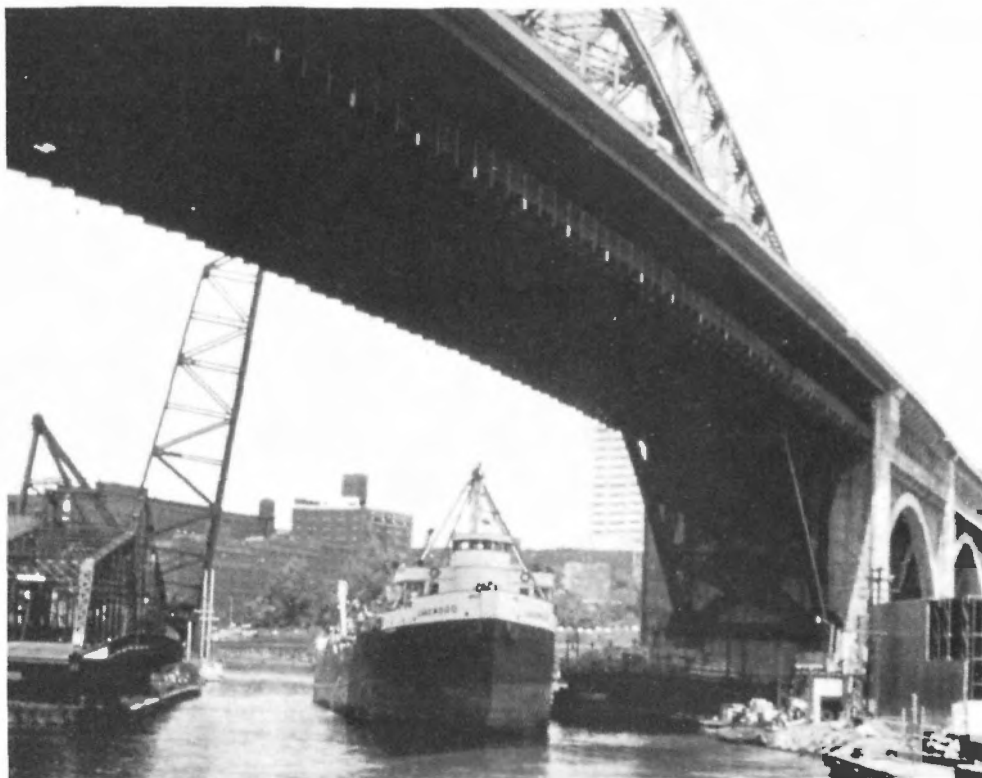
More work is needed to restore the relationship between cities and rivers. And with the eventual phase-out of the CWA Construction Grants Program, the cost of future water quality gains must be borne increasingly by state and local governments. Yet the predation of our rivers by the cities they helped to create seems to have ended. In its place we can see a more peaceful coexistence, and, in some cases, renewed friendship.

Scorecard

So how did cities fare on your environmental scorecard? Looking across the scores on my own, I see successes, failures, and false starts. These results are at once gratifying, frustrating, and cause for hope. But more than anything, they make us wonder about the future of our cities. Irrepressible social and economic forces cause cities to grow, and as they grow, history suggests, so do their environmental problems. If only our scorecards showed evidence of the unwavering commitment and political will needed to manage urban environmental problems. An environmental scorecard is but a device to remind us of the need to monitor progress in addressing environmental problems in our cities. That is a task we should do honestly and often. □

(Koiner is Chief, Geographic Studies Branch, EPA Office of Policy, Planning, and Evaluation.)

Cleveland's Cuyahoga River is a much cleaner waterway today. Before the Clean Water Act was passed in 1972, some stretches were so full of industrial wastes that they posed a fire hazard. Greater Cleveland Growth Association photo.



Solid Waste: There's a Lot More Coming

by William S. Forester

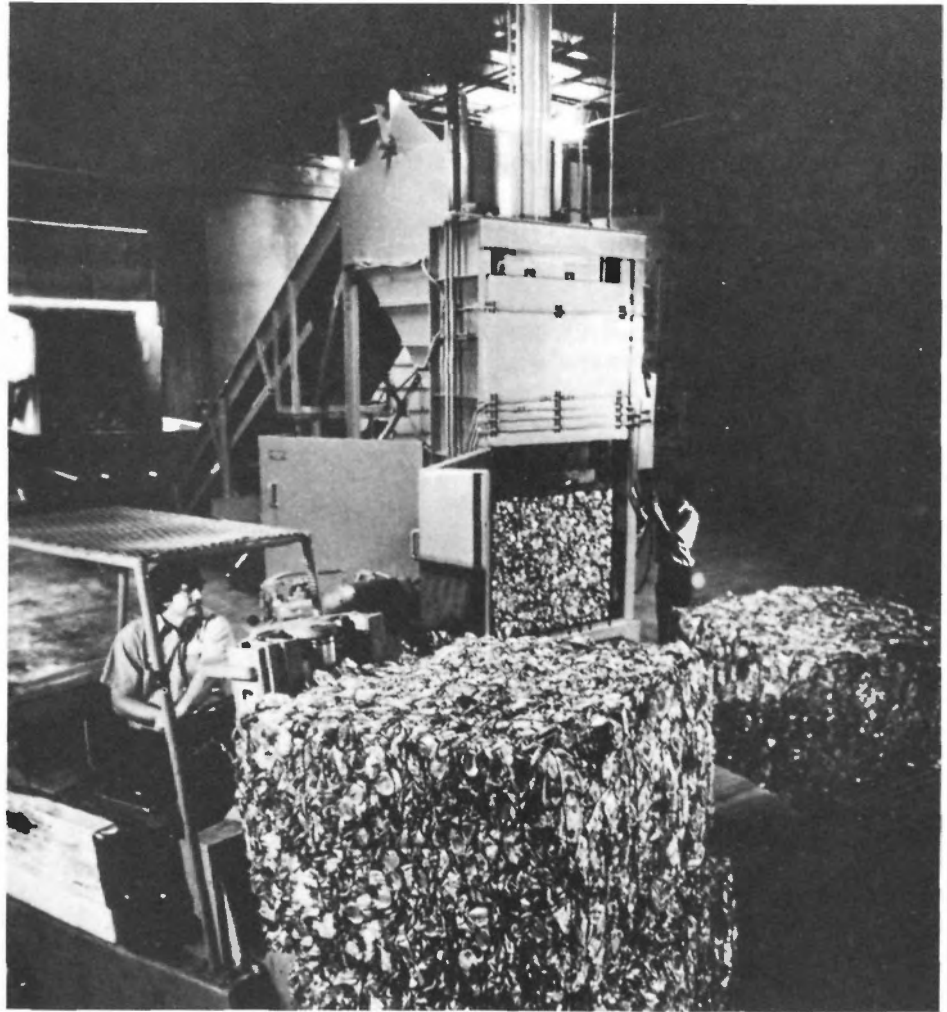
Cities throughout the United States are struggling to deal with solid waste disposal crises. The amounts of municipal solid waste produced have continued to increase, while disposal capacity in the nation's landfills is decreasing at a rate that has staggered local officials. City budgets for some solid waste management agencies have quadrupled during the 1980s, causing at least one city official to feel fortunate to have wastes hauled away at any cost.

A few selected cities are faring well, with enough disposal capacity to last into the next century. The national figures, however, tell a tale that has unsteadied even those with no immediate problem.

As a nation, we currently produce about 160 million tons of municipal solid waste per year, with a 20-percent increase expected by the year 2000, according to EPA figures. This translates as approximately 3.4 pounds of garbage now being produced per person per day, as compared to about 2.7 pounds per day in 1960 (and roughly 4 pounds per day projected by 2000). A survey conducted last summer by the American Public Works Association (APWA) suggested that the current figure may be even higher, as much as 7 pounds per person per day.

At the same time, disposal capacity is decreasing. When the Resource Conservation and Recovery Act (RCRA) was enacted in 1976, an estimated 30,000 landfills were in operation. A survey done by EPA in 1984 revealed that the impact of increased environmental concern had eliminated open dumping and reduced the number of official municipal landfills to 9,284. An even more recent survey by EPA last summer reveals this number has been reduced even further, to 6,584.

The APWA survey found that approximately 92 percent of solid waste nationwide is disposed of in landfills.



Some landfills are compacting and bailing solid waste in order to use available space more efficiently. *Waste Age* photo.

About 40 percent of those responding to the APWA survey said their communities will run out of landfill capacity within the next five years.

The impact of the disposal crisis hit Boston in 1986. That year city officials signed collection and disposal contracts totaling \$27 million. This compared with \$13 million for the year before, an increase of more than 100 percent. Director of Public Works Joseph Casazza points out these new contracts averaged \$62.50 per ton, with individual contracts going as high as \$86.00 per ton. Robert Mehegan, executive secretary for the Public Works Department, says he shudders to think what the costs will be next year when the city negotiates for new collection and disposal contracts.

Boston was forced to close its incinerator in 1975 because of stringent air emissions regulations. Faced with court action, it also closed its landfill in June 1980. Plans for a new waste-to-energy incinerator are currently at "dead-end," says Mehegan, because of citizen and environmental group opposition.

This pattern of diminished capacity and increased costs is repeated in

Philadelphia. In December 1984, city officials were told that the Kinsley Landfill in nearby New Jersey no longer could accept the 40 percent of Philadelphia's trash being disposed of there. This was the final straw, according to Bruce Gledhill, Philadelphia's chief sanitation official. Gledhill also points out that the city's solid waste bills quadrupled between 1981 and 1987, with the average current disposal costs being \$75.00 a ton. Philadelphia went through a phase of deciding between refuse-derived fuel and mass-burning incineration, but this was made moot when the incineration project lost local political support.

To get rid of their solid waste, some cities thus are forced to transport wastes great distances to other disposal areas, which increasingly are vocal about not wanting other people's trash. A portion of Philadelphia's solid waste now goes to a waste-to-energy facility at Baltimore, Maryland. The rest goes to rural areas in Pennsylvania, Ohio, West Virginia, and Kentucky.

Continued on next page

In California, one-way haul distances of more than 70 miles are reported. A city in Florida recently announced that it was examining the feasibility of transporting all of its solid waste to a resource recovery facility to be constructed on a Caribbean island. An official of one major East Coast city, when asked where that city's waste was going, responded: "We don't ask—the issue is too sensitive."

Chicago joined the growing number of crisis cities this year when it found that private disposal firms in the Chicago area were interested in accepting far smaller amounts of the approximately 75 percent of its solid wastes that is landfilled. The city, which seeks bids annually for the portion of its solid waste not going to the Northwest Incinerator, was shocked to discover that some of the bids coming in for this year were three times last year's. Until negotiations were undertaken with local private firms, there were concerns that portions of the waste could not be gotten rid of at any price.

Chicago responded by setting up an Advisory Commission of experts and concerned citizens. One result has been a city ordinance mandating recycling. Plans are to recycle 25 percent of the city's waste by the year 2000, according to Acting Mayor Eugene Sawyer.

A different pattern is seen in some sunbelt cities in the American Southwest. Unlike long-established cities in the East and Midwest, these cities have increased greatly in size only recently, and have had the luxury of available landfill space. Dallas has capacity in its large McComb Landfill for that facility to last well into the next century. Phoenix and Los Angeles have their solid waste disposal needs under control.

Nationwide, however, these cases are exceptions. The characteristic most often shared is the frantic look for solutions, and, to date, solutions have been hard to come by. Siting for any type of new solid waste management facility has been greatly hampered by citizens and protest groups that do not want them in, or even near, their neighborhoods, fearing environmental pollution and depressed property values.

While the siting of landfills has been greatly slowed, the siting of incinerators has been brought virtually to a standstill in some communities. The issues of dioxins in stack emissions and of organics and heavy metals in ash have

stiffened local opposition to solid waste incineration. The impact of this standstill is considerable, given that incineration can reduce the volume of solid waste by 90 percent and its weight by 75 percent.

Many cities have turned to ambitious recycling programs, and there is promise these programs can significantly reduce solid waste by 15 to 50 percent. In addition to Chicago, Philadelphia and Berkeley have adopted goals of recycling 50 percent of their trash. The state of New Jersey hopes to

The characteristic most often shared is the frantic look for solutions, and to date, solutions have been hard to come by.

recycle 25 percent of its solid waste by 1991. Smaller communities like Wellesley, Massachusetts, and Marion County, Oregon, already have successful programs in place.

As the figures show, however, recycling can provide only a partial solution. The broader problem remains even if recycling reduces volumes by as much as 50 percent. A recent report on solid waste management by the National Council on Public Works Improvement points out that a full array of practices and technologies must be brought to bear if problems are to be solved.

The Council's report also states the need to put the national policy formulated in RCRA into effect. As a nation, we must reduce waste production at the source, we must recycle as much as we can, and we must reduce as much of what remains as possible, landfilling only treated residuals.

In addition, we must bring into play solutions that are social, cultural, and political, as well as technical. In many ways these will be the most difficult. Our multi-jurisdictional system of local governments does not lend itself to area-wide problem-solving. A small community adjacent to a large city cannot, at the expense of and against the interests of its citizens, accept waste disposal responsibility for its larger neighbor. Solutions must be framed by higher levels of government with jurisdictions that cross local boundaries. There have to be area-wide planning and trade-offs for those residents most severely affected.

The draft report mandated by the 1984 Hazardous and Solid Waste

Amendments to RCRA and prepared by EPA's Office of Solid Waste, *Solid Waste Disposal in the United States: A Report to Congress*, addresses precisely this approach. It recommends specific roles for federal, state, and local governments, involving long-term planning that would require communities to work together. This obviously will not be popular in some quarters and must be approached with the wisdom of Solomon if we are to succeed.

The precise roles for the various levels of government are defined, first, for the federal government, which must revise the national criteria under RCRA for municipal solid waste landfills. Also, the federal government must increase technical assistance to state and local governments, foster research, and promote recycling and source-reduction.

State and local government responsibilities would include ensuring that landfills are provided, establishing a dependable future source of funding for their programs, and strengthening enforcement. States and localities must undertake improved long-term solid waste management planning, and, as required by federal law, must adopt the new federal criteria.

Specific legislative recommendations are for RCRA to be amended to require states to develop enforceable solid waste management plans, and it is here that the strongest outcries may be heard. This potential criticism can be softened, but only by including the citizenry initially and comprehensively, and by informing the citizenry in terms the layperson can understand. Otherwise the necessary consensus will not be formed.

Thus, we begin by looking at what constitutes a city in new kinds of ways. This new concept involves the entire urban area, not just the old inner core set off by political boundaries at some point in the city's past. The waste management problem does not recognize these boundaries and the challenge is to get citizens to realize that a solution must come from the area at large.

Current fears are not unfounded and must be dealt with. Waste management is a basic urban need and must be provided. Nothing short of the success of our cities is at stake. □

(Forester is Director of Intergovernmental Relations for the American Public Works Association.)

All the King's Horses and All the King's Men...

by Michael E. Bell



The collapse of a 100-foot section of Connecticut Turnpike Bridge into the Mianus River in June 1983 caused many states to intensify inspections of pin-connected bridges. Sara Krulwich photo, *New York Times* Pictures.

For centuries, cities have been centers of economic production and exchange as well as havens for intellectual development and discussion, and for cultural interaction. Today, nearly 85 percent of the U.S. population lives and works in metropolitan areas.

Too often we tend to take the infrastructure of city life for granted—except when there is a major failure of one type or another. But the cities we live in simply would not be possible if it were not for effective ways to reliably transport goods and people, to provide clean and safe drinking water, and to safely dispose of society's wastes.

Previous generations invested in such infrastructure to make life as we know it today possible. Between 1888 and 1914, the number of waterworks grew from 1,000 to 10,000; sewer miles increased from 6,000 to 30,000; and transit miles from 5,000 to 35,000. Thus, much of the core infrastructure standing in

America's older cities today was put in place around the turn of the century. This is our inheritance from the generations of Americans before us. However, a recent study of the nation's infrastructure concludes that we are in danger of squandering that inheritance.

In 1984, Congress and the President created the National Council on Public Works Improvement to study and report on the state of the nation's infrastructure. The Council's final report, *Fragile Foundations: A Report on America's Public Works*, concluded that the quality of America's infrastructure is barely adequate to fulfill current requirements and is insufficient to meet the demands of future economic growth and development. The report also concluded that unless steps are taken now to dramatically enhance the capacity and performance of the nation's infrastructure, our generation will forfeit its place in the American tradition of commitment to the future. We will default on our obligation to the future, and succeeding generations will have to

compensate for our failure and shortsightedness.

The findings of the Council are reinforced by the conclusions of a recent Urban Institute study conducted for EPA on the impact of global climate changes on urban infrastructure. That study concluded that the cost impacts of global climate change on urban infrastructure will be much larger if infrastructure providers fail to respond to incremental changes now. The Council's evaluations of the state of major categories of infrastructure that support urban America are summarized below.

Highways

The overall performance of the nation's system of highways, streets, roads, and bridges has been good. During the 1960s, while the country was building the Interstate Highway System, the capacity of the road network grew continually. Since the completion of the majority of the Interstate System, the increase in system capacity has slowed and the capacity even decreased in some areas as roadways reached the end of their useful life. In 1984, however, capacity once again began to grow, due to additional capital spending made possible by the five-cent increase in the federal tax on motor fuel.

While highway system investment levels have varied over time, the number of vehicle-miles travelled on the nation's transportation network has risen steadily since 1960, at an average annual rate of three percent. As a result, existing highways, streets, roads, and bridges are being used with increasing intensity. In general, pavement condition has been improving since 1985; however, congestion is an increasing problem, particularly in rapidly growing urban and suburban areas. It has been estimated, for example, that congestion in Los Angeles County results in \$507 million in wasted time and 72 million gallons of wasted gasoline annually.

Since 1960, vehicle-miles travelled per dollar of public spending have increased by 3.5 percent annually. This suggests that either the nation is making more productive use of its roads and bridges, or the public sector is not spending enough to meet growing transportation needs, in essence borrowing against past investments. To a certain extent, both were true through 1984. Beginning in 1985, increased user taxes, supporting greater investment, have helped spending keep closer to need. However, given increasing

population, regional shifts, and growing intersuburban travel patterns, the capacity of the nation's urban highway and road network will have to expand further to avoid serious problems in the future.

Water Supply

In the water supply arena the story is much the same as for our highway Cloverleaf in San Mateo, California. Highway capacity will need to keep expanding to meet increasing demands. U.S. Department of Transportation photo.

system. The few statistical studies of the nearly 60,000 water systems nationwide reveal a largely self-sufficient cross-section of publicly and privately owned utilities, the majority of which produce a high-quality product at reasonable cost. Yet, national numbers can mask significant regional problems. One such regional concern is the deterioration of storage and distribution systems in older cities, mostly in the Northeast. Also, some water systems in western states are beginning to have allocation problems as urban and rural

users compete for limited regional supplies.

In general, public water systems in all regions of the country face potential performance difficulties for one or more reasons, including:

- Artificially low, subsidized pricing conventions that exacerbate revenue shortfalls and encourage over-consumption;
- Compliance with increasingly strict water purity standards, particularly among small systems with limited funds;



- Acute or chronic source contamination, especially where public systems are supplied by ground water.

Wastewater Treatment

In terms of wastewater treatment, the situation is even more troubling. Over 75 percent of the U.S. population is served by secondary wastewater treatment plants. The purpose of such treatment is to protect the nation's drinking water supply and the environment generally. However, despite a \$44-billion federal investment

in sewage treatment facilities since 1972, water quality has not increased significantly; nor has it deteriorated over this period, despite population growth and rapid industrial expansion.

This lack of improvement in water quality is due, at least in part, to uncontrolled sources of pollution such as run-off from farmland and highways. In addition, overall productivity at many wastewater treatment facilities has been declining, resulting in an increase in the number of water quality violations.

Solid Waste

The prognosis concerning municipal solid waste is even more serious. (See article on page 11.)

Disposing of urban America's garbage is quickly reaching crisis proportions, as illustrated last summer by the efforts of the town of Islip, New York, to ship its garbage by barge to a distant landfill, only to have it returned after more than a month and over 6,000 miles of travel looking for a dump site. Given the long lead time necessary for siting and developing landfills or waste-to-energy facilities, progress needs to start now to avoid serious problems in the not-too-distant future.

Hazardous Waste

The prognosis is no better for the safe disposal of hazardous wastes. Each year, U.S. industries generate more than two tons of hazardous wastes for every man, woman, and child in the country. These wastes, even when properly treated, pose significant risks to the environment and public health. Very little is known, however, about the current capacity of U.S. hazardous waste management facilities to deal with the problem. The vast majority of treatment, storage, and disposal facilities (about 95 percent) are on-site and managed by individual private firms.

The Bureau of the Census estimates that the private costs of hazardous waste management totalled nearly \$2.5 billion in 1984—a 75-percent increase in real spending since the passage of the Resource Conservation and Recovery Act (RCRA) in 1976. However, for some industries, the cost of hazardous waste management is equivalent to less than one-third of one percent of industry-wide sales. Again, given the long lead time required for siting and developing hazardous waste storage and disposal facilities, progress needs to begin today to avoid serious consequences in the not-too-distant future.

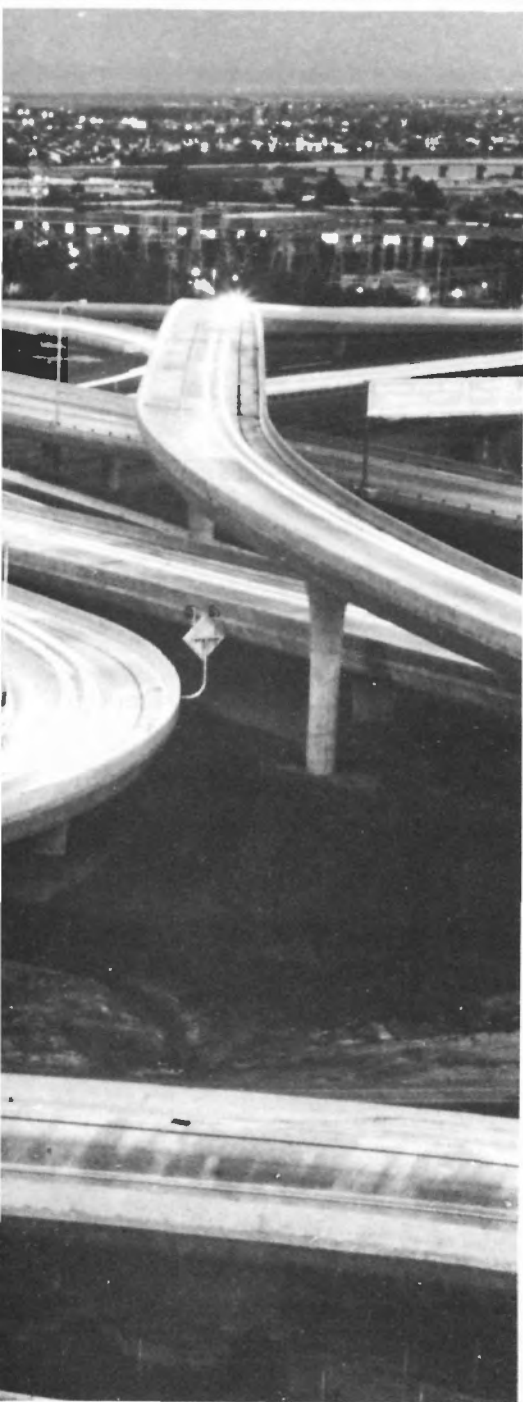
Recommendations

In summary, America's urban infrastructure is not in ruins, but there are important current and emerging problems that must be addressed. If the nation does not make a commitment now to address these problems, there is a real risk that declining infrastructure capacity will jeopardize the productivity of our economy and our quality of life. No single approach is adequate to ensure the future viability of America's infrastructure. A broad range of measures is necessary to make a meaningful difference by the turn of the century. The National Council on Public Works Improvement recommended the following steps as part of a strategy for improving the nation's infrastructure:

- A national commitment, shared by all levels of government and the private sector, to increase capital spending by as much as 100 percent.
- Clarification of the respective roles of the federal, state, and local governments in infrastructure construction and management to increase accountability.
- More flexible administration of federal and state mandates to allow cost-effective methods of compliance.
- Financing of a larger share of the cost of public works by those who benefit from services.
- Strong incentives for maintenance of capital assets and the use of low-capital techniques such as demand management, coordinated land-use planning, and waste reduction and recycling.
- Additional support for research and development to accelerate technological innovations and for training of public works professionals.

Progress on all of these matters is important. The longer the delay in implementing such a comprehensive strategy, the greater the cost to the nation, and each of us individually, as our cities become increasingly unable to satisfy their historical roles as economic and cultural centers. □

(Dr. Bell, who is Senior Research Associate at The Urban Institute, is the former Deputy Executive Director and Study Manager of the National Council on Public Works Improvement. This article draws on material from the Council's final report entitled Fragile Foundations: A Report on America's Public Works.)



Problems on the Urban Frontier

by Luther Propst



Every year, a quarter of a million acres of cropland are converted to urban development, rights-of-way, highways, and airports. J. Clark photo, U.S. Department of Agriculture.

A wave of poorly managed growth is transforming America's suburbs and small towns, changing some suburbs into "accidental cities" and some small towns into suburbs. This transformation is bringing to these communities many of the drawbacks of big cities, such as traffic congestion, with few of the positive qualities that can make cities exciting and enjoyable places. While citizens, officials, and planners ponder what to do, some of the ingredients critical to making a community more livable—open space, rivers and other natural features, scenic and productive agricultural lands, historic buildings—are rapidly deteriorating or disappearing. How can localities effectively manage growth and protect their "special places"?

Consider two examples. Fairfax County, Virginia (just west of Washington, DC) and Orange County, California (just south of Los Angeles) appear to be doing quite well. Both counties are booming with commercial and residential development. Yet on November 3, 1987, in a Fairfax County election widely viewed as a referendum on local development, voters swept out of office an 11-year incumbent regarded as the architect of the county's rapid growth and resultant snarled traffic.

Similarly, on June 7, 1988, voters in conservative Orange County approved a dramatic and far-reaching growth control initiative, which requires new development to comply with strict traffic flow, park dedication, flood control, and emergency services response time requirements. The measure will virtually shut down large-scale development throughout the county.

These are only two of the many areas in the United States reeling from the consequences of unplanned growth. From Maine to Florida and California, "close-in" suburbs are becoming accidental cities, with many of the negative and few of the positive characteristics of traditional downtowns. In Fairfax County, recently rural Tysons Corner sustains 70,000 jobs, but in the words of one consultant, "community life and institutions are almost entirely lacking in a way we normally understand downtowns as functioning. It's not a service center for the community. There's no historic identity, no schools, hospitals, government centers, libraries."

Among the many consequences of unplanned, mindless growth, traffic congestion seems to be attracting the

most widespread attention. Suburban roads are increasingly crowded, and "rush hour" periods and commutes are steadily lengthening. Nationally, the number of cars is growing twice as fast as the number of people. Motorists are traveling twice as many miles per person as they did in 1960. In 1975, two in five urban interstates were congested at rush hour. Ten years later, it was three in five.

Understanding the spread of the accidental city requires a look at changes in the nature of suburban areas. Once almost solely residential, many suburbs now have "more jobs than bedrooms." Two-thirds of all jobs created between 1960 and 1980 were in suburbs, a shift that has brought a corresponding change in commuting patterns. The number of people who commute to a suburb has grown twice as fast as the number commuting to a central city. Now, nearly half of all commuters travel to a suburb to work. The long-accepted vision of urban regions, which assumed that most

workers would have jobs downtown, is increasingly becoming obsolete.

Signs of unhappiness with the consequences of rapid growth are everywhere. Growth management initiatives often provide the most convenient lever that citizens can pull to exert control over local quality of life, and they are pulling it. According to the California Association of Realtors, in 1987 Californians in various communities voted on 57 initiatives to tighten growth controls; over 70 percent of these initiatives passed.

Citizens are also speaking with their wallets. In November 1987, voters approved bond issues in Maine, New Jersey, and Pennsylvania, representing \$230 million of funding to help preserve open space, recreation lands, agricultural lands, historic sites, and decaying urban areas. In Rhode Island, state and local bond issues were approved to spend \$126 million for open-space preservation. In June 1988,



Planned communities such as Greenbelt, Maryland, were a new idea in 1936 when Greenbelt Project Manager Richard Wallace showed President Franklin D. Roosevelt this map. The community reflects the planned integration of commercial, residential, and recreational facilities. City of Greenbelt, Maryland, photo.

California voters approved a state-wide initiative to spend \$776 million to acquire coastal areas, parklands, and wildlife habitat.

An important report on the American landscape makes specific recommendations responsive to concerns about the consequences of urban sprawl. The 1987 report prepared by the President's Commission on Americans Outdoors, entitled *Americans Outdoors: The Legacy, The Challenge*, speaks to the need for protecting "special places" as an essential component of quality of life. The Commission urges state and local governments to help shape urban growth, recommending that:

Communities [should] target parts of their local heritage, including open space and natural, cultural, scenic, and wildlife resources and build prairie fires of action to encourage that growth occur in appropriate areas and away from sensitive resources. We each have the choice whether we want our communities as they grow to become a jumble of unsightly development and noisy concrete deserts, or whether we will preserve fresh, green pockets and corridors of living open space that cleanse our air and waters and refresh our populations.

To some, the Commission's call may seem unrealistic: can communities today really afford to protect local environmental assets, open space, and other amenities? Given the economic outlook, however, there is mounting evidence that communities cannot afford not to. Research shows that a community's livability or quality of life is an important factor in retaining existing businesses and attracting new ones. This is true particularly in the fast-growing and high-skill sectors of the economy, such as health care, computer programming, engineering, electronics, and professions such as law and accounting.

The challenge of growth must be met locally. Zoning and other forms of land-use authority in the United States rest primarily with local government. Moreover, local officials and citizens clearly have the most intimate understanding of their situations when it comes to crafting appropriate solutions to problems. Yet few of the

localities in the path of growth may be able to anticipate its consequences in time to respond effectively, and citizens may despair that mindless growth inevitably will degrade their community. Yet there are signs that communities can and will take significant steps to protect their local environment and quality of life.

For example, residents in towns such as Westmont, Pennsylvania, Kennebunkport, Maine, and Grosse Pointe, Michigan, have gone to great lengths to protect their majestic elm trees. For different reasons, the urban

There are signs that communities can and will take significant steps to protect their local environment and quality of life.

renovation efforts of Austin and Baltimore have reaped much acclaim. Austin has built a popular trail system along the creeks in the limestone hills around the city, and Baltimore has built a festive market place using its harbor as a drawing card (see article on page 19).

San Antonio, Texas, has improved its urban environment by focusing on a small river that at one time was to be destroyed. When the San Antonio River flooded downtown San Antonio in the mid-1920s, proposals were made to control the river by burying it under concrete. However, a young architect had a vision of the river as a beautiful canal lined by trees, a flagstone walkway, shops, and art galleries. It took over 30 years, but today the Riverwalk is a great amenity for downtown and the focal point of the city's tourist and convention trade.

In Sanibel Island, Florida, emphasis is being placed on protecting vegetation to help maintain the original appearance of the barrier island on which the city is built. The city reviews each site plan and advises developers on how to avoid destroying natural vegetation. If indigenous species and natural vegetation are destroyed in the development process, they must be replaced or compensated for elsewhere on the site. The Sanibel-Captiva Conservation Foundation runs a native plant nursery, which can supply plants to developers and homeowners for landscaping or revegetating sites damaged during construction.

Obviously, not every community has a scenic river or subtropical vegetation

to protect. Nearly all, however, have some asset—often unnoticed—that can serve to make the community distinctive. Near Boston, the Massachusetts town of Lowell has used such unlikely assets as old factory buildings to spur a downtown renaissance. A crucible of the Industrial Revolution in the 1800s, Lowell declined in this century. Buildings were abandoned; unemployment skyrocketed in the 1960s and 1970s. Out of seemingly grim prospects, the community created a vision of Lowell that celebrates its heritage from the Industrial Revolution. Lowell gained federal designation as a national historic park. With federal planning assistance, the local government restricted the demolition of old factories and has used them as the foundation for a revitalized downtown, which includes museums, historic tours, senior housing, and a revitalized business community.

To emulate the success of such places, communities across the United States are realizing that they must manage growth more effectively. But what specifically do communities manage for? What does it take for a community to protect its local environment and build upon its distinctive assets? The Conservation Foundation has launched an ambitious new initiative called "Successful Communities," which combines long-term involvement in specific "leadership communities" with policy research and development, a growth-management guidebook, and newsletter service. The Successful Communities initiative also provides other services to determine what factors lead to successful communities and how other communities can produce similar successes.

Ultimately, the burden rests with America's changing suburbs and small towns to recognize and react to their particular predicaments in positive ways. The alternative is final victory for urban sprawl, as accidental cities fill in the spaces between traditional cities, devouring natural beauty and cultural assets while creating an unsightly urban mass with no sense of place and little worth caring about. □

(Propst is an associate with The Conservation Foundation. This article is based in part on materials prepared for the Foundation by Todd K. Buchta and Christopher J. Duerksen.)

Festival Markets: Show-Stealers of the Waterfront

by Ann Breen and Dick Rigby



Baltimore's Harborplace, looking out on pleasure boats and historic craft. Baltimore Office of Promotion and Tourism photo.

To many observers, the festival marketplace symbolizes the epitome of current efforts to turn underused urban waterfronts into commercial centers. The very popularity of such installations as Boston's Quincy Market and San Francisco's Ghirardelli Square, the two pacesetters, has made them controversial. With a proliferation of festival markets now on waterfront sites from Norfolk to New Orleans and Long Beach, critics lament that they are trendy, glitzy tourist traps, monuments to America's consumeritis. In Progressive Architecture, Nory Miller dismissed Baltimore's Harborplace, for example, as a cross between Atlantic City's Boardwalk and a touch of Disneyland. "The buildings of Harborplace are a mash of cliches—high tech, antique store, postmodern, 19th century band shell and pavilion-by-the-sea—not well reconciled to each other nor resolved in themselves." ...

Says Marty Millspaugh, former president of Charles Center-Inner Harbor Management, Inc., the quasi-public development organization in Baltimore: "Downtown (in the 1950s) there was a sense of impending disaster. Department stores were closing. Employment had been static for twenty years. Retail sales were falling off. The rebirth or renewal of the old Inner Harbor and the area around it has done more to rekindle the spirit, or *esprit de corps* let's say, of the whole city, and turned a collective inferiority complex into an aggressive and expanding economic development movement. Nothing like this had happened to Baltimore since the war between the states." ...

Two trends are at work. One is the sign of revival of cities in general, and the other is the waterfront redevelopment phenomenon (see accompanying sidebar). James Rouse, developer of Harborplace and other festival markets, viewed the situation facing American cities in the 1980s this way: "The suburbs sucked the blood out of the central cities and left behind some of the urban basket cases we see today." ...

Recalling Baltimore's once shabby image as "Washington's Brooklyn," other cities could well say, "If Baltimore can do this, so can we." Many a mayor has come to the Inner Harbor and phoned home to announce an intent to transform his or her waterfront with a festival market. What this reaction overlooks is the twenty-five years of planning, the crucial cooperation between business and political leadership, and plain good luck that went into Baltimore's transformation.

What is also underestimated is the beauty and glamor the presence of nearby bodies of water lend to what otherwise would just be a particular kind of shopping mall. The river, lake, or harbor views afforded from the porches, plazas, and promenades of the waterfront festival market buildings offer a dramatic contrast to enclosed, inwardlooking suburban shopping malls ringed by moats of blacktop. In Norfolk's Waterside, ample public areas afford views of a marina with a major shipyard and working harbor. In Baltimore's Harborplace, porches look out on a scene of pleasure craft, historic vessels, paddlewheelers, and cruise vessels. In San Francisco's Ghirardelli Square, patios offer splendid glimpses of the bay. In New Orleans' Jackson Brewery project, overlooks enable the

public to see and enjoy the Mississippi with ocean-going vessels close by....

Opened June 1, 1983, Waterside on the Elizabeth River in downtown Norfolk typifies the kind of financing behind waterfront development. This project, the first by the Enterprise Development Co. that James Rouse headed after his retirement from the firm bearing his name, cost \$14 million and contains 80,000 square feet (Baltimore's Harborplace has 75,000 square feet in each of two structures). Waterside Associates, with a local developer and Enterprise Development Company as partners, used a \$9 million advance from the city, while the rest came from banks. \$22 million has been invested by the city in public improvements along the downtown waterfront, most recently in a marina and deepwater berth beside the marketplace. Other publicly-supported improvements include a parking garage,

bulkheading, a nearby park, and land acquisition. Part of the payoff to the city, besides the intangible improvements to its image, is a new payroll for hundreds, an increase in tax revenues, plus added tourist dollars.

How Waterside fares in Norfolk is seen as a real test of the waterfront festival market phenomenon. The market is considerably smaller than the ones in Boston or Baltimore (the Norfolk area has just over one million people, half of Baltimore's size). Initial reports

Two trends are at work. One is the sign of revival of cities in general, and the other is the waterfront redevelopment phenomenon.

are positive—6 million visitors recorded annually—and a second market structure will be added soon. This is not to say there was not a shakeout among merchants.

Norfolk's apparent success, duplicated in part in Toledo at the newer Portside project (also by Enterprise Development Company) is fueling what already had aspects of a fad. Waterfront festival markets abound. In place or under construction are at least 10 festival markets throughout the United States and more are being planned.

Whether we like it or not, the festival market is a key to cities' revival efforts. They work because they are slick, controlled environments for the affluent. They are safe and secure. There are no derelicts or bag ladies in festival marketplaces. They are attractive. They attract.

Thus, Marc Older of the Boston Redevelopment Authority reflects on



The New England Aquarium, along with old Faneuil Hall at Quincy Market, draws thousands of tourists to downtown Boston. Ken Mallory photo.

what the Faneuil Hall/Quincy Market has meant to Boston: "(The marketplace) brings in thousands of tourists, and we're happy about that...."

In years to come festival markets may be credited with reintroducing the suburban public to cities. By providing a comfortable, fun atmosphere in which to rediscover the urban environment, replacing fear with positive feelings, the festival market serves as kind of midway station.

Waterfront development is also occurring at a time when dissatisfaction with suburban lifestyles is growing. As traffic, noise, crime, and dirt follow suburban expansion, couples—especially those without children—may well wonder why they spend time commuting. Why not move downtown to the waterfront?

There's a downside to every boom. The rediscovery of the waterfront has now attracted investors and developers

by the score. Boston represents the trend. Current proposals there would populate major sections of the downtown waterfront with high-rise and high-income housing, joining many such installations already in place both downtown and in the Charlestown Navy Yard.

With rediscovered waterfronts and opportunities for major private profits, what is left for the public, whose water is the attraction in the first place? Is a waterfront walkway a sufficient return for the major municipal investments that have underwritten not only festival marketplaces but numerous other private developments as well?

For there are public uses to which waterfront settings lend themselves beautifully. As Boston's Hatch Shell has demonstrated for years, riverside setting for outdoor concerts is a combination of experiences enjoyed by all. Detroit's Hart Plaza, Chicago's Lakefront, Seattle's

Waterfront Park, and Miami's new Bayfront Park are just a few of the varied examples of waterfront public parks. And then there are the much-visited aquaria in Boston, Seattle, Baltimore, and Monterey....

The question for concerned citizens—now that the festival markets and waterfront redevelopment phenomena have caught hold—is whether their municipal decisionmakers are aware of the public interest in and the desirability in preserving portions of the waterfront for major civic, educational, or artistic installations. Is there a collective will to make public facilities correspond with what is certain to be massive private investment on the waterfront for years to come? □

(Reprinted with permission from the 1987 issue of the *New England Aquarium journal*, *Aquasphere*. This issue featured "harbor portraits.")

Waterfront Development in Review

The redevelopment of urban waterfront lands is occurring at a feverish pace in communities across North America. Many factors are responsible for making the waterfront a focus of attention, including:

Water Quality

Improved water quality has made harbor living far more attractive than it was in the past. Thanks to an effort that began in earnest in the 1970s, funding of waste-treatment plants has now surpassed highway construction as the largest national public works program in United States history. Reduced phosphates in water allow more oxygen, contributing to healthier fish populations. Holding basins for dredge waste spills, and efforts to curb runoffs and clean up toxic waste dumps have all had their beneficial effect.

Obsolescence

Changing industrial and port technologies have resulted in outmoded industrial facilities and port areas which have been abandoned along many waterfronts. Such land can be relatively inexpensive to purchase, even allowing for clean-up costs, and it does not require displacement of neighborhoods.

Downtown Renewal

In many communities where central downtown revival undertaken in the

1960s and 1970s has run its course, the nearby waterfront area becomes the next logical focus for the business and political leadership.

Precedents

With knowledge of healthy redevelopments in such cities as San Francisco, Newport, Savannah, Boston, Baltimore, Toronto, Vancouver, and Seattle, and news of dramatic new projects in Toledo, Norfolk, Detroit, and New Orleans, communities in all sections are interested in their own waterfront success story.

Historic Preservation

Abandoned warehouses and factories lend themselves to restorations for varied new uses, including residences and shops, qualifying for substantial tax credits. Refurbished old vessels or replicas, the focus of the maritime preservation movement, enrich many waterfront settings.

Back to the City

A visible segment of today's society is showing a preference for city lifestyles. Beyond those few urban pioneers that opt to live downtown, there is a larger group—young childless adults and "empty nesters," for example—that may be bored with suburban settings, tired of the commute, and interested in more dynamic downtown offerings, if

personal safety and security is provided.

Fitness

Increased public interest in healthy, outdoor activity has led to a demand for more boating slips, fishing facilities, park space, and pathways for jogging, biking, and walking.

Federal Funding

Many U.S. waterfront projects, and Canadian projects to an even greater extent, have been made possible by federal grants to help with the initial public improvements often necessary to attract private investment. Today's projects along the Detroit River stem, in part, from the city's ability to secure federal funds for establishing parks. Likewise federal funds played critical roles in the Baltimore and Toledo projects. Toronto's waterfront is a federal project.

Views

Water views are a major selling point in the real estate market. Both Toronto and Detroit are examples of cities where downtown sites for condominiums had never developed, whereas waterfront sites sold readily. Although most apparent in residential construction and adaptation along the shoreline, office and commercial installations, notably restaurants, show this same increased value for water views.

Reconnecting Cities and Nature

by Peter R. Stein

From the Platte River Greenway, which meanders through downtown Denver, to the recently initiated Hudson Waterfront Walkway, a riverside corridor with spectacular views of Manhattan: urban open spaces are receiving renewed and enlightened interest in their protection, creation, and rehabilitation. Across the United States, governments, concerned citizens, state agencies, and private corporations are working collaboratively to increase our urban park and recreation resources.

This rekindled appreciation of the value and benefits of a liveable urban environment has many roots. Historical examples include Frederick Law Olmstead's pioneering achievements as demonstrated by Central Park in New York, Golden Gate Park in San Francisco, privately created spaces such as Gramercy Park in lower Manhattan, and Louisburg Square on Beacon Hill in Boston. Yet even though the history of urban development in America has been laced with open spaces, consistent attention to the provision of such amenities has until recently been lacking. Now real estate developers, community organizations, and city governments all have come to view parkland as a means to add economic value, social benefits, and ecological attributes in both workplace and residential settings.

Social Benefits

Green spaces in cities provide an oasis from the hectic lifestyle urban dwellers have to contend with. From large public parks such as Fairmount Park in Philadelphia to community vegetable gardens in low-income neighborhoods, green spaces provide opportunities for both passive and active recreation. They provide a location for quiet contemplation and serve as a common meeting ground for people from all walks of life.

Parks in the city also offer an immediate opportunity for people to make a contribution toward improving their environment. Local citizens acting through voluntary organizations such as "friends of the parks" groups, land

trusts, or regional or nonprofit national conservation organizations, are playing an ever-increasing role in the creation, maintenance, and stewardship of urban park resources.

This citizen involvement yields more than improved city parks. Active participation by local residents brings people together and fosters mutual enjoyment and responsibility for a place. These cooperative efforts to improve urban open space resources often lead to increased cooperation in other aspects of neighborhood life. Community groups working together initially to create or protect a neighborhood garden have gone on to tackle additional issues including crime, youth development, education, housing, and employment problems. Involvement in parks close to home also encourages appreciation of more distant natural areas, far-off mountain ranges, or pristine lakes and streams. This helps build a land ethic, a community stewardship of natural resources, so that generations in the future may have a parks legacy to enjoy.

The Telegraph Hill neighborhood in San Francisco provides one example of what citizen groups can accomplish. In April 1986, a coalition comprised of neighbors, community groups, elected officials, the Trust for Public Land (TPL), and caring citizens across the nation succeeded in preventing a construction project that would have irreparably damaged the unique open space of Grace Marchant's garden on the slopes of Telegraph Hill. This beautiful, sloping, verdant hillside was created over a 20-year period by local residents under the leadership of Grace Marchant.

Concerned neighbors founded the Friends of the Garden (FOG) to stop the proposed construction of a house on Grace's garden site. FOG took its concerns to City Hall, and two San Francisco supervisors in turn asked TPL, a national land conservation organization, to help. TPL staff and FOG volunteers, with the support of city officials, the *San Francisco Examiner*, and a local developer, launched a fundraising campaign whereby supporters of the garden could "adopt" square inches of the garden.

An outpouring of public support and private contributions from corporations and foundations helped TPL and FOG exceed the original goal for the Square Inch Campaign. Future maintenance of the garden has thus been assured by an endowment created with the surplus funds.

Economic Benefits

Open spaces, when properly planned and cared for, are an asset to both residential and commercial development. The private real estate development sector is demonstrating its understanding of the added value of urban open-space amenities by adding plazas, atriums, roof-top gardens, and outdoor recreation space to new developments. From the Rouse Company's well-designed open-space program for Columbia, Maryland, to the extensive esplanade and open-space network planned for Battery Park City in New York, major housing, commercial, and mixed-use developments are including elaborate open-space elements in their designs. Not only do these elements enhance a project from an aesthetic point of view, but such green spaces allow the developer to create a marketing advantage by appealing to Americans' increased demand for high-quality living environments.

For municipal governments, parks provide an indirect, but very significant benefit due to the increased property tax assessments on buildings near parkland. Beyond the fiscal benefit of additional tax revenues, cities with well-managed park and open-space systems provide themselves and their citizens with a competitive edge in attracting new jobs and new development, as well as retaining existing employers who might otherwise contemplate a move to greener pastures. Parks are part of the package that keeps cities vital. This reduces the pressure to convert suburban and exurban landscapes into tract housing and shopping malls, which generally serve to heighten infrastructure problems, destroy productive farmland, and despoil wildlife habitat.

For America's older cities, open spaces are an essential ingredient in the revitalization process. Lack of amenities, unimaginative urban design, poor planning, as well as social and economic ills all contributed to the decline and abandonment of many inner-city neighborhoods. As these areas are rejuvenated, concerned citizens, elected officials, city managers, and private real estate developers are joining together in efforts to integrate park and open-space resources into the revitalization efforts.

A revitalization project in a very dense neighborhood on Manhattan serves as an example. The project has managed to marry the usually antagonistic elements of city

government, a local community organization, and a private real estate development corporation, all interested in preserving a significant public open space. Under a precedent-setting agreement among the TPL, real estate developers Jerome Kretchmer and Joseph Wasserman, and West Side Community Garden, Inc. (a local land trust), a permanent community garden is being developed on 18,000 square feet of land alongside new condominium townhouses on Manhattan's Upper West Side.

Twelve years ago, local residents cleared the rubble from an 89,000-square-foot, city-owned urban renewal site and created an award-winning garden. When the city announced in 1977 that the land would be sold for development, community and open space organizations rallied to save the garden. After negotiations among TPL, the gardeners, the developers, and the local community planning board, agreement was finally reached last fall. The design includes a terraced floral amphitheatre,

meandering landscaped paths, benches, trees, and individual garden plots.

Environmental Attributes

Green space in the city is more than pastoral views and a place for recreation. It is the place for cleansing the urban environment. Vegetation in parks cleans the air and, along with water resources, helps to mitigate extremes in temperature. Parks in urban stream valleys and protected urban wetland areas provide natural storm-water management solutions at a cost far below artificial, man-made systems. Urban greenbelts and large expanses of preserved open space in cities also allow for significant ground-water recharge and aquifer replenishment.

Networks of urban parklands also form the initial segments of greenways by linking inner-city open spaces with suburban and rural parkland. For example, Cleveland Metroparks and Akron Metroparks provide urban linkages to Cuyahoga Valley National Recreation Area, thereby allowing city

dwellers access to a national resource and re-establishing the connection between people and their natural environment.

Conclusion

Urban parks are key components to the well-being of America's cities. As places for social interaction, they are unique and indispensable. As elements necessary to sustain quality of life values and thereby attract and/or retain industry, they cannot be duplicated. Each acre of parkland in a crowded metropolitan area yields environmental benefits in excess of 100 acres of parkland located in more remote areas, according to an estimate by the American Society of Landscape Architects. These factors combine to make protection and stewardship of urban green spaces a true national priority. □

(Stein is Senior Vice President of the Trust for Public Land.)

City life. Steve Delaney photo.





Suffering in the Second City

by James W. Rouse

Urban revitalization is a recurring theme in this issue of *EPA Journal*. From Ghirardelli Square in San Francisco to a community garden preserved amidst condominiums on Manhattan's Upper West Side, from Baltimore's Harborplace to San Antonio's Riverwalk—highly successful renewal efforts around the country stand as evidence that a remarkable rebirth of our cities is under way.

On the other hand, there are many urban environments that are still waiting for their success stories. In many inner-city communities, residents typically experience less than their fair share of everything except economic, social, and environmental problems. Certainly urban blight tends to include a convergence of environmental hazards such as lead in chipped paint, lead in plumbing systems, and crumbling asbestos, to name just a few.

One of the most influential figures in urban development is James W. Rouse, who master-minded Baltimore's Harborplace and numerous other successful renovation projects and founded the community of Columbia, Maryland. In the last few years, through his Enterprise Foundation, Mr. Rouse has used his talents to help transform certain impoverished inner-city neighborhoods by providing decent, affordable housing for the very poor. In

Robert Shafer photo, Folio, Inc.

the following remarks, excerpted by *EPA Journal* from a recent speech delivered by Mr. Rouse, he speaks of the impoverished "second cities" that persist in nearly every American city.

Two cities ... exist in almost every city in America.

There is the sparkling, growing city of fine new office buildings, hotels, restaurants—of new institutions of art, music, education, entertainment that mark the extraordinary rebirth of the American center city.

There is new vitality, new life, new spirit downtown in cities across the country—Baltimore feels like a new city. The spirit of the people soars with pride in what has happened and with high expectancy for the future. There is a new sense of community among the people of Baltimore—centered on the inner harbor.

And in Washington, which never tumbled as far as Baltimore, there is new strength, new energy, growth and confidence about the future of the center city.

These are the cities of those who are making it.

But right alongside in almost every city is a second city of those who are

not making it—the city of the poor. It is like a Third World city—the city of people who are struggling to survive in miserably unfit housing in wretched, disorderly neighborhoods—with too little food, too little health care, too little work, and too little training for work, too little education, too little happiness, too little hope. It is like another nation where we are growing people who feel left out, abandoned, separated from the opportunities for the good life that abounds all around them.

For the most part, the people of this country—leaders in business, banking, government, the managers of our wealth and our institutions—do not know how millions and millions of people in our country live. We think we do. We have read the dismal figures, seen pictures of dilapidated housing in derelict neighborhoods, but most of us have not walked those streets, stepped inside those houses, climbed the stairs in those apartments, have not seen good people with clean, decent families huddled in that miserable housing, paying outrageous rents; have not looked into the saddened, sullen faces; felt the hopelessness, the distrust, suspicion, and separation that pervades their life and all around them.

Let me tell a little story that illustrates that feeling—that suspicion and distrust.

Jubilee Housing is known by many as a nonprofit group that has performed miracles in transforming wretched buildings and miserable lives in northwest Washington. Their work began in 1973 with the purchase of the Ritz and Mozart, once fine buildings, home for 90 very poor families—no doors on the front; the lobbies were the street. Mail boxes ripped off the walls, elevators that didn't run, five-floor walk-ups. Garbage and trash thrown down the elevator shafts out of fury and frustration. The stench made one gag. This was their home. Think of it. Now with over 50,000 hours of volunteer work and a little cash, the Ritz and the Mozart have been restored to decent buildings with new hope for the families living there.

One day I was working with Rosa Hatfield to help raise money for Jubilee. Rosa, a black woman with very low income, lived in the Ritz with her three children. She had been very suspicious of Jubilee's takeover, had gradually turned around to become a co-worker and manager of the Ritz. We had come to know one another well enough to talk frankly with each other.

One day, I turned to Rosa and asked, "Rosa, what did you think when all those white people came in here to fix up these apartments?" Her reply was, "I thought the same thing everyone else thought: what are they going to do to us now."

There in a sentence was the mood that burns inside the hearts and minds of millions of very poor people who feel abandoned and stepped on by our society.

Most of us don't know those lives and don't know:

- That there are more than 32 million people living in poverty in the United States, up from 25 million 10 years ago.
- While the number of poor people seeking housing has increased, the quantity of housing affordable to them has declined. Therefore, the cost of housing has gone up—way up.
- Of the 13 million families with incomes under \$10,000 a year, nearly half—42 percent—pay more than 50 percent of their income for housing. Think of it, over half their income in rent—and at incomes of \$7,000 a year—more than half pay more than 70 percent of their incomes for housing.
- The pools of jobless at the heart of our cities are 30-40 percent, sometimes 50 percent of the population in the areas.
- About 48 percent of all young, black men seeking work are jobless. This means that a kid graduating from high school—or quitting before he

graduates—has about an equal chance of work or hustle—hustling to survive, petty crimes, drugs, then larger crimes, with families living in fear. Trapped in these urban jungles.

And now the new phenomenon that arises from our national unawareness—and inattention to these conditions—the homeless—the picture of men and women asleep along the sidewalk; of families with no place to spend the night—shocks us all.

And who are the homeless?

A 1985 study of homelessness by the Maryland Department of Human Resources reports that:

- The leading causes of homelessness include the lack of low-income housing, unemployment, eviction, release from an institution. And, of course, there are the drug addicts, alcoholics, and those who simply choose to live outside of society.
- Twenty-two percent of the homeless were children; 28 percent were in family groups; 36 percent were females.
- In central Maryland counties (that excludes Baltimore City), family groups predominated, with 40-50 percent of the homeless being children.

A recent *Washington Post* survey showed that 25 percent of the people in shelters were working, but with no place to live. National estimates show 30-35 percent of the homeless are families. A *Los Angeles Times* study showed 44,000 families living in cars or garages in Los Angeles.

Is this our country? Can this really be America?

Homelessness has drawn the attention of the media, of caring people, of the politicians as has nothing else relating to the housing of the poor.

Homelessness has awakened us to the desperate need of the poor.

And in this, there is hope. For as the homeless open us up to caring, we are led to the conditions behind the homeless—to the millions and millions of near-homeless—the people at the edge who are paying rent they cannot afford, often for housing that is unfit, who have little in reserve—who live with the knowledge and the fear that one setback and they are on the street....

We are the wealthiest country in the world, with the highest problem-solving capability in the history of mankind.

Surely we have the capacity to match our resources to our deep concern for the dignity and well-being of our people. □



Jubilee Housing, a nonprofit group in Washington, DC, buys and renovates run-down apartment buildings, then rents them to low-income tenants. Jubilee Housing photo.



The Choices Are Getting Tougher

by Christopher Daggett

Once again, the Big Apple is on the move. In 1975, wracked with chronic mismanagement and urban decay, New York City teetered on the brink of bankruptcy. Now, the pace of New York is phenomenal as old-line manufacturing has given way to a dynamic financial, communications, and service-industry Wonderland. Glittering office tower construction projects race to completion, and even the once-quiet suburbs have themselves become independent commercial and industrial centers and created suburbs of their own.

New York's economy is moving fast, but not its transportation. City traffic, on average, now creeps along at about 11 miles an hour, and, in terms of related air quality problems, New York is going no place fast.

The city's urban ecology problems are legion. New Yorkers use 1.5 billion gallons of increasingly scarce water each day, piping it in from the Catskill Mountains 120 miles away. Another 1.7 billion gallons, enough to fill Yankee Stadium to the top 10 times over, are created daily in raw sewage and storm water. And while the city sanitation department figures out how to dispose of 27,000 tons of refuse a day, landfills that ring the city continue to close. Even so, the city, with 60 new skyscrapers built below 60th Street since 1980, continues to grow.

Despite such assaults on the ecology, New York City is becoming an increasingly popular place to live and work. But the economic growth and neighborhood renewal notwithstanding, New York's aging arteries are clogged with shiny new cars, and the lungs of 19 million metropolitan area residents clogged with air the government says is too polluted to breathe.

Few, if any, of the problems that EPA Region 2 has had to grapple with are as difficult, frustrating, and complex as the struggle to attain clean air standards for

ozone and carbon monoxide in the New York area.

Six months after the national Clean Air Act (CAA) deadline for attaining those health-related standards came and went, ozone levels throughout the region continue to exceed them by almost 50 percent. The central city districts exceed the carbon monoxide standard by well over 50 percent.

Since CAA enactment in 1970, the New York metropolitan area has, in fact, made major strides toward reducing the concentration of air pollutants. Sulfur dioxide and particulate matter—once major pollutants here—have been reduced to healthful levels. Gone are the black smogs that took hundreds of lives in 1953, '62, '63, '66, and '70.

Reductions were also made in carbon monoxide and ozone levels, but progress on these two motor vehicle-related pollutants has been difficult to achieve. It is estimated that automobiles emit 60 percent of all manmade, ozone-producing hydrocarbons and 98 percent of manmade carbon monoxide. Therefore, the motor vehicle must be at the center of our air pollution control efforts.

Reducing such pollution is a critical health issue. Carbon monoxide impairs normal functioning of the heart and lungs; ozone can cause permanent damage to the respiratory system.

Over a 15-year period, New York's far-reaching, comprehensive control programs for carbon monoxide and ozone have not been successful. There are three basic reasons for this. First, the economic boom has increased congestion and vehicle miles traveled much more than anticipated. Rush hours begin earlier and end later as whole populations from the suburbs awaken earlier and earlier to beat the morning gridlock. Second, state and city

The height of a smog episode in New York City in 1963. While air quality has improved, "going that last mile" to achieve clean air in our cities is proving to be a challenge of historic proportions. AP/Wide World photo.

officials have been hard-pressed to find effective control measures without identifying non-traditional approaches that challenge deep-rooted assumptions about personal mobility. And third, key measures have been opposed by special interests and local businesses, thereby undercutting the effectiveness of enforcement programs.

The causal chain is clear. Carbon monoxide and ozone pollution are created by increased traffic both in the city and its massive suburbs. The traffic, in turn, results from an inability to sufficiently expand the roads and mass transit systems.

Zoning laws in communities just outside the city permit a great deal of dispersed business and residential development, especially along major access gates into the city. Not designed for heavy local traffic or the lines of autos commuting to the city, such roads are jammed with vehicles throughout the work day and on weekends. Because property taxes are the primary income source for municipalities, communities seek to create new commercial and corporate centers to boost their revenues from farms and residences, spurring a "rateables chase" to lure larger companies to the countryside. The end result is an increased transportation need and a mobile source air pollution problem shared by city and country cousins.

An even more fundamental shift in consumption patterns is also at the root of the development/transportation/air pollution quagmire. In greater numbers than ever before, people are living alone and demanding more housing and automobiles. The number of single-person households has doubled in the last generation. The number of private autos has far outpaced population growth. And the promise of increased prosperity as a result of New York's economic resurgence has brought these people and their demands to the city's doorstep.

In trying to accommodate both economic development and environmental quality, policy-makers have found the search for new and economically painless control measures a difficult one. Across the Hudson River from New York City, New Jersey legislators, concluding that only state-wide land-use planning to limit development can relieve highway and air pollution problems, are attempting to tackle the whole problem.

Facing estimates of a rise in the state's population of 1.3 million, an additional one million jobs, and 212 million additional square feet of office space over the next 20 years, New Jerseyans are considering a plan that would redirect development patterns to focus on those areas that have already experienced growth, especially depressed inner-city areas in Newark, Trenton, Camden, and Jersey City. This could avoid the cost of providing expensive roads and mass transit to each new commercial center built too far away from existing ones. At the

Over a 15-year period, New York's far-reaching, comprehensive control programs for carbon monoxide and ozone have not been successful.

same time, environmentally sensitive areas left relatively untouched by development would be protected.

The proposals face monumental opposition from both municipalities and development interests. Home rule is a fiercely defended tradition. But New Jersey leaders understand that until they are willing to reconsider the public's right to private transportation and the notion that developers can build anything, anywhere, at any time, transportation problems will continue. If the political and economic will can be mustered, New Jersey's solution might begin to decrease the spread of new development and increased traffic.

New Jersey's control problems, however, are quite different from those of New York City, where snarled and choking traffic has long been at intolerable levels and changing land-use patterns is a moot question. Therefore, different solutions are called for.

In theory, the traffic congestion problem can be separated from the air pollution problem. If cars can be made to run cleaner, then the large number of autos will only cause headaches for commuters and traffic engineers, not lung problems associated with current levels of ozone and carbon monoxide.

The potential solutions for New York are fourfold:

- Land-use-based controls like those proposed for New Jersey
- Mass transit
- Emission controls
- Cleaner-burning fuels for motor vehicles.

While the last three have been on the table for some time, they continue to promise cleaner air at the least cost.

Mass transit offers the most comprehensive solution, aiming not only to solve the traffic and air pollution problems, but to give back the many hours of individual productivity currently lost in the traffic jam. For example, dramatic improvements in New York City's subway system, providing new and refurbished cars free of graffiti and policed more heavily than ever, have resulted in increasing ridership. But even if all the money needed to make such service available could be raised, the city fathers really couldn't count on getting New Yorkers out of their beloved automobiles.

The answer for New York City, where fully a third of all Americans who take public transportation live, is clearly to create more incentives to take mass transit and more disincentives to drive a car. In the Washington, DC area, drivers must form carpools to use certain highways, and in Denver, carpools enjoy dollar-a-day parking in town. New York officials have considered levying a \$10 penalty on all single-occupant vehicles entering the city, or an outright ban on some Manhattan traffic.

The best measures, however, are often not sticks but carrots. For example, the U.S. tax code currently encourages automotive transportation by allowing companies to include the cost of employee parking as a business expense. Similar tax benefits could encourage employee use of mass transit or car pooling. And thinking even more creatively, the train ride to work in the morning could be made attractively productive for commuters by equipping them with phones or even, as in one European experiment, with computer terminals and wide desks whose costs have been underwritten by employers.

How much are we now paying in lost vehicle time? The person with an hour commute loses the equivalent of more than one working day a week to traffic. Those with two hours each way—and their numbers are growing—lose two days and no doubt experience tension and illness that result in poor work performance. Imagine the windfall if these workers' productivity could be improved by using this time more effectively!

One significant accomplishment in the fight for clean air has been placement of emission controls on motor vehicles, with state inspection

and Maintenance (I/M) Programs to enforce these controls. But experience shows that for urban areas, this has not been enough to control the air pollution problem.

Nevertheless, "conventional wisdom" currently suggests that if New York State's I/M program for motor vehicles were operating at peak effectiveness, or if the program were enhanced, little else would be needed to attain the carbon monoxide standard. If Congress or EPA would tighten control measures nationwide, according to this line of thinking, the problem would solve itself.

Some state and local groups like this reasoning because, in effect, it removes the burden of making state and local decisions related to land use, transportation, and other pollution problems. But, in fact, this conventional wisdom is faulty: nothing could be further from the truth. Congress, still debating reauthorization of the Clean Air Act, is still far from tightening controls. And while EPA has proposed more effective vapor recovery systems and legislation to control gasoline volatility, there is serious concern that without action on the part of localities, the pollution problems will worsen.

The New York I/M Program is clearly not achieving the degree of emissions control it was designed to produce. A well-designed and efficiently operating system would certainly result in more emissions reduction. But EPA analysis shows that unacceptable levels of carbon monoxide would exist now and persist in the future even if the I/M Program were enhanced and operating in a fully effective manner.

Obviously, emission controls offer only a partial solution to the carbon monoxide and ozone problems, but so long as New Yorkers imagine that state I/M Program improvements or swift Congressional action alone will do the trick, they are missing an opportunity to help solve their air quality problem by themselves.

Switching to alternative fuels is perhaps a promising solution that separates the traffic and pollution problems. Although economic and technical obstacles to making the switch will be formidable in a society that has been running on gasoline for almost a century, there are significant ways cities such as New York can encourage at least a partial transition.

In the New York Borough of Queens, six New York City buses have begun running on methanol in an experiment that authorities hope will lead to

conversion of the municipal fleet of 20,000 vehicles. Queens may then go on to convert its army of privately owned yellow cabs and every other centrally fueled fleet of over 50 vehicles to methanol use.

This local effort in Queens and similar programs in California and Colorado can spur the alternative fuel industry to overcome economic and technical obstacles to broader use of methanol and other clean-burning fuels like ethanol and compressed natural gas. However, a realistic look at how far and how fast alternative fuel switching can go leads to considering it only a partial solution.

Whatever specific measures are taken to answer the air pollution challenge, none of them can be effective without the support of many different interests in New York City. Anywhere you go, there is a limit to how much government agencies can do when dealing with problems of this scope. In the New York metropolitan area, where such issues affect hundreds of government jurisdictions, thousands of businesses and manufacturers that are critical to the economy, and millions of people, government agencies quickly reach that limit. The number of local, city, regional, state, interstate, national, and even international interests and jurisdictions that can and do become involved in any given environmental decision in New York is spectacular; as a result, the quality of the decisions can suffer. It is becoming increasingly apparent that sound environmental policy and decision-making just can't be separated from sound land-use planning, transportation, and economic development. And given that many of

these issues are local ones, the only practical approach is cooperative analysis, planning, and action.

People who care about New York and are proud of its resurgence and revitalization do not really want EPA, the Congress, or the courts to dictate how the problems will be solved. The decisions to be made require the combined wisdom and joint efforts of the chambers of commerce, financial and labor leaders, urban and transportation planners, industrial councils, environmental organizations, and elected officials. Those groups opposing local steps to solve the problems, because such actions may hurt their interests, do not imagine that EPA will consider using its authority to impose development limitations or other tough measures in its Congressionally mandated efforts to protect human health and the environment. They could be very wrong.

There are few choices left in Wonderland. The suburbs are overflowing; the air, land, and water resources are under untold strain. And yet many people are more concerned than ever with keeping the very land-use and transportation privileges that are choking the area. Efforts must be made now to implement improved land-use policies, mass transit, effective emissions control, and alternative fuels to reach the air quality standards that will let New Yorkers breathe easier. □

(Daggett, Administrator of EPA's Region 2 since 1984, will become Commissioner of New Jersey's Department of Environmental Protection this August.)



Congestion in Midtown. New York City Department of Transportation photo.



Jacksonville's odor patrol runs around the clock on weekdays. Weekends are slated for inclusion soon.

Hatching an Environmental Battle Plan in Jacksonville

by Khurshid K. Mehta and James L. Manning

Blessed with a moderate climate, sandy beaches, and a number of historic sites, Jacksonville, Florida, has all the ingredients of a beautiful all-American city and tourist mecca. The mile-long Riverwalk, the Landing Marketplace, the Convention Center, and the riverfront skyscrapers give the downtown a sparking vitality. The "Old South" dogwoods, the gentle scents of jasmine, cool ocean breezes, and the meandering St. John's River provide a salubrious quality of life. But there is something that prevents the city from being considered one of the nation's most liveable places: it has an unenviable reputation as "the city that smells bad."

The annual record of complaints is one way of characterizing an area's odor problem. In 1987, three-quarters of Jacksonville's approximately 2,000 air pollution complaints were odor-related. The complaints amounted to 200 per 100,000 population; the national average for metropolitan areas is 29 per 100,000.

Complainants reported nausea, vomiting, headache, irritated eyes, noses, and throats and loss of sleep. Although some felt these were psychosomatic effects rather than real illness, Jacksonville's citizens didn't really care whether the cause was toxicological or a matter of perception.

Regardless of the underlying cause, the unpleasant sensation associated with malodorous exposure posed a threat to one's sense of well-being. Further, the effects of the odors included reduced property values and loss of community pride. Many felt acutely embarrassed when visitors encountered the bad smells as they came into town from the airport.

Public resentment of the odor problem and its associated stigma has grown steadily over the years. It intensified in March 1984 when a local television documentary, "The Smell of Money," was aired. Three years later, it reached a political crescendo when in April 1987 Thomas Hazouri was elected Mayor on a platform that highlighted ridding the city of its odors.

Mayor Hazouri moved quickly. He expanded the city's air pollution control staff and led the effort that strengthened municipal environmental ordinances and initiated a major attack on the source of the problem.

The odoriferous conditions are caused primarily by emissions from two Kraft pulp mills (Kraft paper is the heavy brown paper used in bags and other products), two organic chemical manufacturing facilities, and the

municipal Buckman Sewage Treatment Plant, all of which are located close to population centers.

The pulp mills release malodorous Total Reduced Sulfur (TRS) compounds into the air. These compounds contain hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide and are emitted at several points in the manufacturing process. In addition, wood chips cooked in white alkaline liquor at elevated temperatures release turpentine. When the turpentine vapor condenses, it forms liquid crude sulfate turpentine (CST), which contains TRS compounds.

The chemical plants, in turn, use the CST from the pulp mills as a raw chemical feedstock. (In fact, they use about 70 percent of all CST generated by Kraft pulp mills throughout the United States.) At the chemical plants, the CST is distilled into several major components, including, ironically, a wide variety of flavoring and fragrance compounds. As the CST is unloaded, transferred, stored, and processed, leaks and spills release the malodorous compounds into the air.

The wastewater from the plants contains TRS and terpenes, which go into the public sewers and arrive at the publicly owned wastewater treatment plant and are stripped from the wastewater by aeration. Many complaints about offensive odors from the treatment plant are attributed to those compounds as they complete Jacksonville's "vicious odor loop," which begins with cooking wood chips and winds up in the sewage treatment plant.

After assuming office in June, Mayor Hazouri declared a "war on odors," proposing revisions to the city's environmental ordinance that would "put teeth into the existing bill" and enable swift enforcement against violators. The bill, strongly supported by citizens and environmental groups, was enacted by the City Council on March 23, 1988. Three major features are:

- It raises civil penalties for air, water, odor, and noise pollution regulations from \$500 to \$10,000 per offense per day.
- It adds a nuisance provision making a source subject to civil penalties of \$10,000 if it causes emissions that result in the validation of five or more complaints from different households within a 90-day period.

- It creates an "odor nuisance" standard (as evidenced by validation of five complaints from different households within a 90-day period), which subjects violators to civil action initiated by the city Department of Health, Welfare, and Bio-Environmental Services (HWB) as well as criminal action by the State Attorney General's Office.

As a result, Jacksonville is the only jurisdiction in the country to have stipulated this kind of "nuisance" standard.

Enforcing the nuisance provisions requires a methodical and rigorous approach to validating odor complaints. Inspectors scrupulously follow established protocols. First they obtain all pertinent information about a

There is something that prevents the city from being considered one of the nation's most liveable places: it has an unenviable reputation as "the city that smells bad."

complaint (e.g., odor description, duration, location, etc.). Next, perimeter surveys are done at the complainant's home and at the suspected source. Inspectors collect data about wind movement, odor intensity, and atmospheric conditions. Because odor episodes often are transitory, only a small percentage of the complaints can be validated in spite of even the most expeditious action by the inspectors.

Jacksonville also runs a round-the-clock odor patrol on weekdays and plans to extend it to the full seven days because of complaints that odors tend to get worse over weekends.

Basically, the new law provides three regulatory mechanisms for odor abatement: enforcement against the sources, development of ambient odor standards, and development of industry-specific emission/work practice standards. The overall strategy uses the nuisance provisions and ambient standards as the driving force for developing the industry-specific standards which will be the key, ultimately, to resolving the problem by abating odors at their source. Industry-specific standards are easier to enforce because most of them are objective; since emissions are measured at the source, there is no problem of tracing culpability. By the same token, enforcement of nuisance provisions and

ambient standards takes substantial resources to find the culpable source.

Abatement plans requiring industry-specific measures have been adopted by the Environmental Protection Board both for mills and for the sewage treatment plant. The pulp mills will have to control emissions from digesters, multiple-effect evaporators, recovery furnaces, lime kilns, and smelt-dissolving tanks through either incineration or scrubbing. TRS emissions will be continuously monitored with state-of-the-art monitors on the stacks. One mill already has decided to replace two old lime kilns with a new one and has reduced its TRS emissions from an estimated 200 parts per million (ppm) to 5 ppm. The mill will also replace existing digest systems and will burn all non-condensable gases in the power boiler, thereby reducing TRS emissions at that source from 10,000 ppm to 5 ppm. The other mill is renovating its non-condensable gas collection system and will incinerate the gases from the multiple-effect evaporator system. It also is installing a new mud-washing system for the lime kilns and will replace three recovery furnaces with one large one.

These actions will have a salutary impact on odors since the new equipment is subject to New Source Performance Standards far more stringent than those for the existing systems.

Abatement plans for the sewage treatment plant include covering existing grit and pre-aeration chambers and ducting the gases to odor control compost reactors, which have proven more effective than previously used activated carbon adsorption media. And because the sewer treatment plan changes will only partially abate the odors, the city's Water Services Division is developing pretreatment standards to limit TRS compounds in industrial wastewater discharges.

The chemical plants are the only ones in the United States using turpentine to derive terpenes used as synthetic flavors and fragrances. They are highly competitive, and information on their processes is confidential. Nonetheless, the urgency of the odor problem and heightened public awareness have led to the creation of a special task force composed of agency personnel and plant representatives to identify reasonable odor abatement measures. In plans submitted to Mayor Hazouri last October, each company identified

approximately 40 specific steps to be implemented within a year. These included ducting odorous gases from storage tanks and distillation columns to an incinerator, replacing steam-jet vacuum devices with mechanical pumps, collecting gases from loading and unloading operations, steam-cleaning product tanks in enclosed areas, providing special treatment of contaminated waters, and improved housekeeping to minimize leaks and hasten spill cleanup.

The HWB Department is confident that implementation of the various plans will bring significant relief, and soon, since most of the proposals should be implemented by mid-May 1989.

Although ambient standards are hard to enforce because of the need to trace an exceedance to the culpable source, they are important to evaluating the efficacy of industry-specific abatement measures and determining the need for further emission controls at the source. The HWB Department, therefore, plans to use the ambient standards for odors similarly to the way they are used for criteria air pollutants; i.e., exceedance of the standard establishes the need for

After assuming office, Mayor Hazouri declared a "war on odors."

further controls on contributing sources. Developing ambient standards will involve a new odor measurement laboratory that has two kinds of dynamic olfactometers. One, used with a trained odor panel, measures suprathreshold odor intensities by comparison with a stepped series of concentrations of a standard odorant. The other measures odor persistence by determining dilutions-to-threshold. Both use a sensory approach and are already in operation.

The development of the ambient TRS rule is the first priority. With an October 1988 completion deadline, the goal is to set TRS compound ambient standards on the basis of olfactory objectionability. When Jacksonville's standards are adopted, they will be the first ambient TRS standards in the nation.

Two approaches are being tried. In one, grab samples of ambient air are collected in a stainless steel,

teflon-lined container and analyzed on a gas chromatograph with a Flame Photometric Detector. The second approach uses a more conventional sulfur-dioxide analyzer in conjunction with a thermal oxidizer. The first method has better mobility but is limited by the number of samples that can be analyzed. The second is quasi-mobile but has the advantage of generating continuous data.

Thus, with the political will at its disposal, Jacksonville, "the bold new city of the South," has bitten the environmental bullet to put into action a plan that will abate the odor problem that has plagued it for years. Its citizens truly look forward to seeing the city's stigmatized reputation for odors relegated to the past and forgotten and its true potential as a beautiful, "all-American city" realized. □

(Mehta is an Air Pollution Control Engineer and Manning is Deputy Director of Bio-Environmental Services, Jacksonville, Florida.)

Kraft pulp and paper mill in Jacksonville, Florida.





It Didn't Happen Yesterday

by Don Bronkema

Camille Pissarro's *Boulevard des Italiens, Morning, Sunlight*, offers an idyllic view of Paris in days past. Many people welcomed the automobile as a respite from animal droppings. National Gallery of Art, Chester Dale Collection.

The sudden burgeoning of urban centers in the ancient Middle-East nearly 6,000 years ago, historians say, led directly to a number of striking social developments, including specialization of labor, social stratification, organized governments, accumulation of capital, a leisure class, and the birth of science. Even the earliest cities were accompanied by a number of negative features, among them warfare and the pathology of life in large groups. The latter is familiar to everyone: crime, noise, impersonality, anomie, and—of course—pollution.

Those who think bad air, contaminated water, and mountains of waste are strictly modern developments might be surprised to learn that people have been complaining about them for thousands of years. Studies in comparative ecology have found that by the time the early hill-towns of Anatolia reached populations of 5,000-7,000, people could no longer just dump their garbage and broken crockery out the back door. If they wanted to control vermin and alleviate stench, their refuse had to be carried to the city limits and disposed of in a special repository.

That's what archaeologists found among the ruins of Catal Hüyük in present-day Turkey: a municipal waste disposal facility. This was not a sanitary landfill, to be sure, but a place where citizens were perhaps obliged to dump their discards.

Later on, according to other specialists, Egyptian hieroglyphs refer to regulation of the smoke of cooking fires, and Babylonian texts describe the proper disposal of animal carcasses. In Harappan India, a government official was designated to oversee the filtering of silt from drinking water in time of floods.

It's hard to know for sure when drunks and rowdy teen-agers first became a problem, but Chinese scrolls copied from the third century BC show imperial proscriptions against carousing after sundown. In early Europe, acoustic pollution became such a problem that Draco of Athens tried to regulate traffic and Caesar outlawed all wagon haulage between 12 midnight and 6AM. Repeat offenders were crucified, a common means of execution in those days. We

also know from Tacitus that the Roman army was under orders to bury its garbage to discourage marauding animals and to keep the enemy from learning where it had been and the size of its forces.

You might think that in the medieval period, with its small, widely separated villages, environmental conditions would not have been a major concern. But the surviving records of town councils show that bad air and water, noise, and junk were often discussed and sometimes dealt with harshly. Reportedly Edward IV of England got so fed up breathing the fumes from countless coal fires in the 15th century that he denounced London and banned the burning of this high-BTU fuel altogether when the smog became intolerable.

Cities, of course, are great habitations for rats, and rats mean fleas. Europe was repeatedly exposed to the bubonic plague, and during those times the major environmental problem was how to dispose of thousands of rotting corpses. Many of the fields beyond the walls where corpses were buried en masse later became unofficial dumps and then in the 18th century became exclusive neighborhoods for the rich and the rising bourgeoisie.

In Victorian times, vast sewers were built to handle the human waste of London, then the world's largest conurbation at three million people. Unfortunately, municipal planners left out the treatment phase, and tons of raw sewage poured down the Thames right past the Houses of Parliament. So insufferable was the stench that Prime Minister Gladstone is said to have ordered lime-soaked sheets hung over the stained-glass windows so that debate could proceed on her Majesty's budget.

It's hard to imagine now, but at the turn of the century one of the most visible and aggravating aspects of city pollution was animal droppings—not from dogs, but from tens of thousands of horses. Urban historian Lewis Mumford estimated that some 126,000 tons of horse manure—one ton per animal—were being deposited on the streets of New York every year, and conditions were no better in Paris or Berlin or Moscow. London had twice the population of New York and four times as many horses, resulting in about 500,000 tons of droppings per year. No wonder London sustained an army of bootblacks and streetsweepers.

So when the automobile was introduced, the futurists of the day thought it was a godsend that would do away with all those horses. It did, in fact. But the exhaust products of the internal combustion engine may be even worse. Aside from their impact on the human cardiopulmonary system, vehicle emissions are believed to contribute to acid rain and may speed up the dissolution of ozone in the upper troposphere, with unforeseeable consequences for life forms and global climate.

Those who think bad air, contaminated water, and mountains of waste are strictly modern developments might be surprised to learn that people have been complaining about them for thousands of years.

The striking aspect of urban pollution today is that it is no longer confined to a few enclaves in Europe or the United States. It is a global phenomenon. And some cities around the world are seen by experts as being ecologically out of control.

Moreover, vast megalopolises stretch hundreds of miles so that the exurbs of one city sprawl into the outskirts of another. They have even been given fanciful names like Boswash (Boston-Washington, DC) and San-San (San Francisco-San Diego) in this country and Tokohama (Tokyo-Yokohama) in Japan. By the year 2000, according to demographers, more than half the world's people will reside in vast, sprawling metroplexes.

One cannot leave this subject without confronting the outlook for urban impact of natural disasters. As cities spread, they intrude into areas that emergency relief experts consider to be at risk during dam breaks, volcanic eruptions, tornadoes, tsunamis, earthquakes, and hurricanes. Cities may also be vulnerable to water shortages if regional aquifers become depleted.

In addition, if the "greenhouse effect" continues unabated, urban areas may be massively affected because of rising temperatures, droughts, falling reservoirs, the dieback of indigenous flora and, not least, rising sea levels. Many of the world's supercities are coastal; a rise in sea level of even a meter or so—not inconceivable by the year 2050—could put some coastal

cities out of commission. That would mean the loss of trillions in capital and the relocation of tens of millions of city dwellers.

And yet our vision of urban life to come need not be so hellish.

For example, according to press accounts, air pollution has been cut dramatically in the larger Japanese cities by a combination of vehicle exhaust controls, inspections, and computerized traffic management. From downtown Tokyo, it is reportedly possible to see the top of Mt. Fuji on three times as many days as 10 years ago. Ankara, Turkey, is banning the combustion of brown coal. The European nations are inching toward agreements on transboundary acid rain, and in West Germany and Japan sulfur dioxide (SO₂) and nitrogen oxides (NO_x) are gradually being contained with the assistance of American technology. The Soviets have experienced a new environmentalism under glasnost, and Pravda has admitted that the resource base of the USSR has been heavily damaged.

In communications with the World Bank, a number of developing nations, like Indonesia, Brazil, and Zimbabwe, have acknowledged the importance of conserving untrammelled biomes as renewable resources and places of respite for their own urbanites as well as rich tourists. Fertility rates (except in areas like Benin, Niger, Somalia, Tanzania, and Oman) are slowly coming down around the world, with effective action programs in such previously unlikely places as Barbados, Antigua, Thailand, Singapore, Hong Kong, and Taiwan. Such programs always affect the cities first because that's where resources are concentrated.

In the United States, we have spent hundreds of billions on pollution control, most of it affecting urban locations, over the past 17 years. Some worthy gains in air quality have been made, and in water quality we are at least holding our own.

We do have the potential to reconfigure our approach to the urban environment. Much can be achieved with political consensus and the full mobilization of social institutions. And the march of technology can be expected to bring new breakthroughs, making new systems available for pollution prevention, waste disposal, and urban design and transportation. □

(Bronkema is Editor of EPA Times, the monthly newsletter of EPA.)

Appointments



R. Augustus (Gus) Edwards has been named Acting Director, Office of Public Affairs, within the Office of External Affairs (OEA).

Edwards is not unfamiliar with OEA; he has been Deputy Assistant Administrator for External Affairs since 1986 and will continue in this capacity while serving as Office Director for Public Affairs. Prior to his appointment in April 1986 as Deputy Assistant Administrator, he served as a consultant to OEA.

From 1983 to 1986 he worked as an Administrative Assistant (chief of staff) to U.S. Senator Paul Trible (R-Virginia). He also served as Administrative Assistant to U.S. Representative Trible from 1977 to 1983. From 1975 to 1977 he served as Special Assistant to U.S. Representative Thomas N. Downing (D-Virginia). Edwards has also served as a political journalist with several newspapers, including the *Daily Press* and *Times-Herald*, in Newport News, Virginia.

Edwards received his Bachelor's degree from George Washington University.

Lawrence W. Reiter has been named Director of the Agency's Health Effects Research Laboratory (HERL).

Dr. Reiter has served in several positions during his career including Adjunct, Assistant, and Associate Professor at three major universities. He began his career at EPA in 1973 as a



Research Pharmacologist in the Experimental Biology Division, Neurobiology Branch. He then became Neurotoxicology Program Coordinator in the same division. In 1980, he became Director, Neurotoxicology Division, HERL, a position he has held until the present.

In addition to his responsibilities at EPA, Dr. Reiter is an active participant in several societies including the Society of Toxicology, for which he is Vice President-Elect of the Neurotoxicology Section.

Dr. Reiter received a Ph.D. degree from the University of Kansas Medical Center in 1970 after earning a B.A. from Rockhurst College in 1965.



Russ Dawson has been named Acting Deputy Director, Office of Public Affairs, in the Office of External Affairs (OEA).

Dawson joined EPA in October 1983, working as a speech writer for the Office of Solid Waste and

Emergency Response. From January 1985 through June 1988 Dawson served as a Special Assistant to the Administrator, responsible for EPA communications strategy planning and implementation. Dawson's background includes working as a journalist from 1972 to 1982.

Dawson received his Bachelor's degree from the University of Maryland.

Scott A. Hajost has been appointed to the position of Deputy Associate Administrator for International Activities.

Hajost has worked with the U.S. Department of State in the Office of the Legal Adviser as an Attorney Adviser for Oceans, International Environmental, and Scientific Affairs. In that position Hajost served as the department's legal expert on environmental and marine pollution matters and Antarctica; he was responsible for substantive knowledge of international and domestic law and policy relating to the environment.

Hajost has chaired many associations, including the International Environmental and Natural Resources Committee of the International Law Section, Federal Bar Association.

Hajost received Bachelor's and Master's degrees in history from the University of Dallas and Miami University, respectively, and his J.D. from the University of Toledo College of Law. □



Update

A review of recent major EPA activities and developments in the pollution control program areas

AIR

GM Drops Challenge

EPA has announced that General Motors Corp. has withdrawn its legal challenge to a recall ordered by EPA in August 1985; instead the company will repair the 82,600 1981 Pontiacs and Buicks affected by the order, to correct excessive emissions of hydrocarbons.

Though GM will not begin recalling the cars until September, its decision to withdraw the request for a hearing assures owners the cars will be repaired.

The affected cars—Pontiac LeMans, LeMans Wagon, Grand Prix, Catalina, Bonneville, and Firebird; and Buick Regal, Century, and Century Wagon models equipped with 4.3-liter eight-cylinder engines—failed to meet the 2.0-grams-per-test (gpt) evaporative-emission standard. GM will install a vacuum-control valve in the evaporative-control system to increase the amount of air drawn through the charcoal in the evaporative canister, increasing its ability to trap the hydrocarbons.

New Clean-Air Plans

The Agency has sent letters to the governors of 44 states and the mayor of the District of Columbia notifying them that their air-pollution-control programs for achieving the ozone and carbon-monoxide standards have been found substantially inadequate and requiring that revisions to these programs be made.

EPA's Regional Administrators signed the letters to the states included in their respective regions.

EPA Administrator Lee M. Thomas stated, "As Congress debates various changes to the Clean Air Act, there are actions EPA must take to

Letter to the Editor

ensure progress toward our goal of cleaner air for all American cities. New planning efforts for meeting the ozone or carbon-monoxide standards must begin without delay."

With regard to revision of the clean-air plans, EPA believes that, even before the issuance of a final policy, the states should take certain fundamental steps necessary to continue to make progress in attaining the ozone or carbon-monoxide standards. The states will be required to correct discrepancies between EPA's guidance and the earlier approved State Implementation Plans; to satisfy any unfulfilled commitments in the State Implementation Plan to adopt control measures; and to begin updating the base-year emissions inventory for the defined planning area.

WATER

Acid Rain in Eastern Streams

EPA has said that 2.7 percent (5,429 kilometers) of the combined length of the 500 streams recently surveyed were acidic, with the large majority of the acidity most likely due to acid rain.

This figure is a result of a major research effort to survey streams in the mid-Atlantic and southeastern United States for acid rain damage.

The Agency found that 4.4 percent of the combined length of streams surveyed in the mid-Atlantic were acidic and that almost half (47.6 percent) had a low capacity to neutralize acid and thus might become acidic in the future. Only 0.6 percent of the combined length of streams in the southeastern portion of the survey were acidic, but 49.3 percent had a low capacity to neutralize acidity.

According to Courtney Riordan, Director of the Agency's Office of

Environmental Processes and Effects, "EPA's stream survey is a fully documented, statistically designed survey showing a broader geographical extent of environmental effects from acid rain than we previously realized."

TOXICS

EPA Fines DeLonghi

The Agency has entered into a consent agreement and final order with DeLonghi America, Inc., which requires the company to pay a civil penalty of \$500,000 for importing and exporting oil-filled radiator heaters contaminated with polychlorinated biphenyls (PCBs). The agreement also requires DeLonghi to establish consumer and retailer programs for those who own the PCB-contaminated heaters.

As part of the consent agreement, DeLonghi will send out notices to approximately 70,000 warranty card holders of oil-filled radiator heaters that were manufactured before June 1986 and have the model numbers 5108, 5108T, or 5307. The notices mention that DeLonghi heaters with the serial number 86-20 or lower contain recycled oil and may be contaminated with PCBs. DeLonghi also agreed to set up a toll-free telephone line by the end of June to help consumers and retailers with their questions about the heaters.

DeLonghi imported for domestic sale 485,000 oil-filled radiator heaters, some of which were contaminated with PCBs. DeLonghi then exported approximately 37,500 radiator heaters, some of which were PCB-contaminated. □

Dear Editor:

We wish to take issue with the April 1988 edition of the *EPA Journal* (Vol. 14, No. 3), nominally dedicated to "Agriculture and the Environment."

We were amazed to see that the *Journal* failed to even address a major environmental problem affecting a substantial part of our population: pesticide exposure of farmworkers. Farm laborers are mentioned twice, in passing, in 41 pages of text, and notably omitted from a discussion of "groups...[challenged to achieve] respect for each other's goals" (p. 34).

Such a glaring omission is not an isolated incident in the *Journal*; rather, it is characteristic of EPA itself (farmworker protection concerns also received negligible attention in the *Journal's* May 1987 edition on "Pesticides" [Vol. 13, No. 4]).

Farmworkers (substantially Hispanic) will continue to be invisible to EPA policy-makers as long as EPA continues to avoid placing minority employees in substantive, policy-making roles. Hispanic-American employees now make up about one percent of the substantive policy-making positions in EPA, less than 1/2 of one percent of all Senior Executive Service (SES) positions, and none of the SES positions filled in the last three years.

In the absence of input from a balanced management team, EPA will no doubt continue to suffer the lack of credibility so visibly illustrated by the farmworkers' walkout of EPA's "negotiated" farmworker protection rule-making with farm and agricultural interests. This lack of balance is nowhere more apparent in the relative importance both EPA and the *Journal* apply to protecting endangered species versus protecting minority farmworkers. In many respects, EPA's proposed pesticide endangered species regulations are more protective of the bluntnosed leopard lizard and the snail kite than regulations protecting minority farmworkers.

EPA has taken steps in recent years to improve its recruitment efforts for entry-level positions. However, at the policy-making level, EPA has failed to integrate either its staff or its approach to environmental problems impacting minority population.

Signed,

Sylvia Correa
Alex Varela
Gary Snodgrass-Hortensio
Mario Salazar

Editor's note: As this issue of EPA Journal went to press, the Agency issued proposed new worker protection regulations that revise and expand the farmworker standards originally established by EPA in 1974. The public is invited to comment on these proposed new standards during a formal comment period that closes the first week in October 1988. A story on the national standards being proposed by EPA is planned for a forthcoming issue of the Journal.



Victory in a hotly contested race for Chairman of the Board of Supervisors in Fairfax County, Virginia (suburban Washington, DC). In this election, urban growth was the key issue, and the majority favored a more cautious approach. Debra Gertler photo, *Fairfax Journal*.

