

How to create a cooler, greener Houston

Practical ways to shrink city's 'heat island'

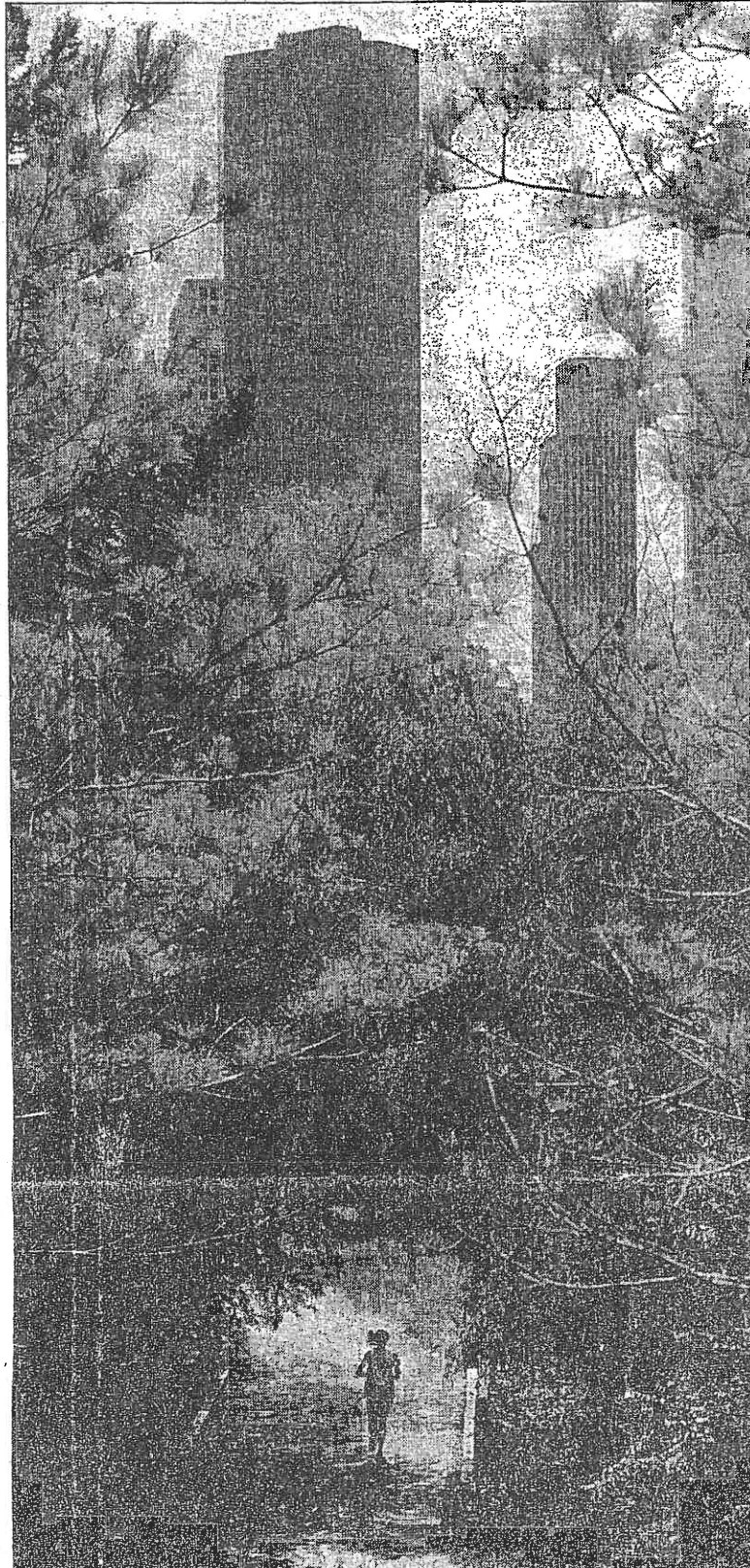
By BILL WHITE

HOUSTON enjoys some of the best weather in the United States much of the year. But on the hottest days of summer people head for the air conditioning when possible. On the hottest days of summer the heat cooks the air pollution to make high levels of ozone, which damages the lungs.

Houstonians can and should lower outdoor air temperature by increasing vegetation and using paving and roofing materials that absorb less heat. A cooler, greener Houston makes our community a better place to live and work by improving air quality, upgrading the appearance of our city, reducing utility bills and making daily life more comfortable.

I asked top national scientists to study whether we could cool Houston down with a mix of affordable new roofing and paving materials and more trees and vegetation. Computer analysis of Houston's weather and pollution show these measures can cool down Houston and measurably improve the quality of our air. According to nationally known scientist and author Dr. Joe Romm, "cooling down Houston is neither wishful thinking nor rocket science."

Houston has become what scientists call an "urban heat island." Anyone who goes from a park to a parking lot in the summer knows about "heat islands." You see the heat island when the weather news shows lower temperatures in the suburbs and surrounding counties in all directions.



Carlos Antonio Rios/Chronicle

Trees frame a jogger running along Buffalo Bayou near Memorial Drive with the downtown Houston skyline looming in the background. Creating additional green space is one key component of strategies for making the city cooler.

White, a Houston businessman and board member of The Greater Houston Partnership and Texas' Environmental Defense, is a founding member of Houston's Quality of Life Coalition.

We can measure how cities can heat up or cool down. For example, Los Angeles' annual peak temperature dropped steadily by five degrees from 1890 to 1935, as an arid desert became green citrus groves. Since then, peak summer temperatures have climbed by six degrees as asphalt and black roofs replaced those trees.

Materials used for ground cover and roofs make a big difference in the temperature of air at ground level, where folks breathe. Satellite imagery shows a huge difference in the surface temperature of Houston depending on the nature and color of the surface.

Houston has the leadership to support rebuilding our city to better suit its climate. An unusual combination of Houston's political, business and environmental leaders jointly wrote last summer to the state and federal authorities encouraging research on cooling Houston and noting the benefits. The mayor, county judge, Greater Houston Partnership, AFL-CIO, Business Coalition for Clean Air, Sierra Club and Environmental Defense joined hands as neighbors, and committed to develop a plan to increase vegetation and change roofing and paving materials.

The broad public support for this effort can be measured by the amazing energy in Houston's Coalition for Quality of Life, which has mushroomed in one year from a handful of people to a force of more than 50 civic, business and environmental groups. A packed conference room of scientists, citizens and public officials last month met in The Woodlands, a community designed to be cooler, to form

See COOLER on Page 5C.

Cooler

Continued from Page 1C.

working groups to plan for a cooler Houston.

Imagine some of the advantages of a cooler Houston:

■ Trees can replace billboards along our highways. Neighborhoods can become urban forests.

■ A citywide park system can stretch along each mile of all of Houston's numerous bayous, a broad corridor of green space, with improved recreation for families and better flood control. We can build a new Hermann or Me-

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morial Park.

■ Houstonians need no longer bake their houses with black asphalt roofs. HL&P has noticed for years that summer electricity use goes up both with daily temperatures and "cumulative heating days," because our buildings absorb so much heat. Affordable roofing materials that reflect the sun's light absorb a fraction of the heat and could cut the average utility bill by more than \$100 a year. Lower-income Houstonians, who often live in one-story houses with asphalt shingles and no insulation, would benefit the most.

■ Use of light aggregate material for the paving of streets and parking lots could lower summer surface temperature by more than 20 degrees, saving huge dollars spent to fix heat-related potholes and buckling typical of black asphalt. Hot roads also fry cars, pushing auto air conditioning and fuel consumption to the limit.

■ Ship Channel industries should be encouraged to secure their future by investing heavily in trees and vegetation to improve air quality. Many of these plants, so important to our regional and national economy, have hit an emissions limit under federal law. Regulators have endorsed a mechanism for "emissions trading," permitting credits for investment in measurable offsetting pollution reduction approved by the regulators. And, as a manager of BP's giant refining complex stated recently, a Houston with cleaner air makes it easier for employers to attract and retain skilled workers.

Houston as we know it today would not exist without the billions invested in air conditioning. For Houston to keep moving forward in the future, we need to plan ahead to build a cooler, greener Houston outdoors and we need to get started today.