

How a 'Green House of the Future' Can Impede Environmental Progress

It's fun to think about how innovative technology and creative design someday might radically change the look and performance of a fully sustainable single-family home.

The Wall Street Journal got into the game recently with a report on concepts by four architectural firms that the newspaper asked to imagine the "Green House of the Future."

But **how much can cool-looking, zero-carbon houses of the future contribute to meeting the nation's challenges**: creating a healthier environment; achieving energy independence; and arresting climate change by burning less fossil fuel to run vehicles, generate electricity, and heat, cool and light buildings?

The four houses envisioned in the Journal report display inventive form-making and incorporate the full gamut of green design techniques, some currently available and some theoretical. The houses, which would be built with recycled, high-tech and naturally green materials, would depend on renewable energy sources -- solar, wind, geothermal, biomass.

Speculating about visionary green houses is tantalizing, but **much greater benefits accrue at a larger scale. Entire metropolitan regions need to be green**. This means creating more compact land-use patterns; diverse transportation options that **enable fewer automobile trips**; greater mixing of land uses at higher densities; and, of course, greener residential, commercial and civic buildings.



BY ROGER K. LEWIS FOR THE WASHINGTON POST

Focusing on hypothetical designs of free-standing houses can even be a distraction. It **can mask a more serious aspect of the challenge**: the diminished sustainability of low-density, residential subdivisions in suburbia where most free-standing houses of the future are likely to be situated.

No matter how green individual homes are, **suburban sprawl is intrinsically anti-green**. It generates infrastructure inefficiency; car dependency and rising fossil fuel demand; carbon-emitting, time-wasting road congestion; and, despite availability of inexpensive land at ever-greater distances from jobs, escalating development, construction and public service costs.

Fighting sprawl while implementing large-scale sustainability strategies also requires **preserving, expanding and retrofitting existing neighborhoods and buildings**, including single-family houses. Use of what's already built saves immeasurable amounts of energy and resources. **Transforming neighborhoods**, buildings and infrastructure to **accommodate new functions** may be the best way for architects and the real estate industry to help create a greener planet.

Unfortunately, regulatory, political, market and financial hurdles often stand in the way of transforming cities and suburbs to make them greener. **Outdated zoning and building codes can be obstructive**. Citizens may oppose change, especially in their own neighborhood. Consumers frequently resist design innovation. And some tactics for making greener environments require front-end capital investment that stresses project budgets or violate conventional financing formulas.

To make America greener, we must shift focus. We need less attention on how to shape the individual house and more attention on how to shape -- and reshape -- communities. And we must focus attention on changing rules and public attitudes that make green design harder to achieve.

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We have been thinking with an automobile frame of mind for so long that we do not realize it.

- *Cities were invented BEFORE we invented cars.*
- *The suburbs weren't invented UNTIL we invented cars.*

That is why a map of a suburb looks so different than the map of a city. But, in the "[Time Domain](#)" they are identical.

You do not WALK to do anything in the detached single-family home suburb except to walk your dog or to jog. The reason: nothing is close enough to walk to.

The Public Health ramifications are profound. Obesity is US health problem #1. Remedy? Just walk more.

Further, auto accidents kill and injure people and do much property damage — beyond energy waste and pollution.

This is exactly what I am proposing for the Woodmont Triangle, in Bethesda, as a model to show how to grow an old, rail-served neighborhood in a smart growth TOD (Transit Oriented Development) manner without destroying it at the same time.

** Please visit the [Woodmont Triangle](#) page of my website and read the few short paragraphs at the top, then look at the Cover Page; section 9; section 8. {see pg 2 sec. 22 for **Time Domain**}*

*The required zoning principle is simple:
Maximize sources and destinations of pedestrians
within walking distance of rail stations.*