

## URBANISM AS ENVIRONMENTAL RESTORATION

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*"We recognize that physical solutions by themselves will not solve social and economic problems, but neither can economic vitality, community stability, and environmental health be sustained without a coherent and supportive physical framework."*

*– Charter of the New Urbanism*

New Urbanism needs to lead the way with sustainable solutions for urban areas that restore the natural environment. Sustainable development balances economic development, ecological preservation and intergenerational equity, goals stated in this quote from the charter. This discussion focuses primarily on the ecological aspect, considering it a necessary prerequisite to economic growth and quality of life for future generations.

### *Global Climate Change*

If we remember 2006 as the year that New Urbanism became mainstream, we will remember 2007 as the year that global warming became part of the public's consciousness. In light of the announcement in February by the IPCC that human-induced climate change is likely to cause more drastic environmental changes in the 21st century than we have seen previously, New Urbanists need to more fully understand their role in climate change.

The built environment significantly affects climate change. The major contributors to carbon dioxide emissions are transportation uses (33 percent) and the residential and commercial sectors (21 percent and 17 percent, respectively) in 2004. Emissions can be reduced by traveling less or by alternative modes of transportation as well as by increasing the energy efficiency of buildings.

### *Greening the Built Environment*

Another prominent shift is the rise of green building standards. Since this time last year, green building has also become mainstream with 40-50 green building programs in the country.

These green building programs offer a way to measure the "greenness" of a building. The business mantra that "if you can't measure it then you can't manage it" is addressed by green building standards that benchmark a building's performance. Building owners and managers improve energy efficiency to reduce the environmental impact of their properties and to improve their bottom line through lower operating costs. For new construction, additional costs can be paid back in 2 to 4 years as new technology is becoming less expensive. Furthermore, consumers are demanding green buildings. The ability to measure green improvements and understand their cost implications has been important to their increasingly widespread adoption.

Whether using traditional or contemporary architecture, all New Urbanist developments can and should use green building standards. If we want to remain leaders in design and development, green buildings are a must. Maybe we go beyond current green design

practice and question how a building functions. The chimney, originally used for heating and cooking, represents a functional element of how we used to live our lives. Will that function be provided by solar panels in the future that subsequently integrated into new designs in a beautiful and elegant manner?

#### *Measurement at the Neighborhood Scale: LEED-ND*

In addition to the increase of green building standards, there is now a rising emphasis on improving the environmental performance of land use. Since the relationship between land use and transportation affects travel distance, opportunities exist to reduce carbon dioxide by making travel from place to place more efficient. New Urbanism has been promoting the walkable, transit-oriented neighborhood all along, but we need to be more cognizant of how it can reduce greenhouse gas emissions and lesson other environmental impacts.

LEED for Neighborhood Development offers us the best opportunity to measure projects and assess their environmental performance. Its standards will be refined over time, with shifts based on both environmental impact and ability change development practice. How should the LEED-ND standards change in the future? If we want to be environmental stewards in the 21<sup>st</sup> century, we need to understand the cause and effect relationship between our design decisions and their environmental impact.

There are significant challenges to the implementation of sustainable practices. Can we physically embed sustainability into the urban infrastructure? Produce codes that incorporate building performance, building orientation and local materials? Find ways to recycle the waste that the redevelopment of suburbia might produce? Many questions need to be answered, yet even more need to be asked.

#### *The Regional to Global Scale*

Beyond reducing greenhouse gas emissions, we also need to consider how global warming may impact the communities we design and develop. We should be proactive about lessening the negative impacts that climate change will have on places over time. This includes understanding the role that sea-level rise may have on low-lying coastal communities. Whether some of these low areas are protected with extensive pumping systems like the Netherlands or are built to be easily moveable to higher ground, we need to be aware that our land might change in our lifetime.

We need to think about how to retain the places that we have, while not expanding into areas where affordable water (or other resources) may not be available. But can we convince our neighbors to do the same?

Our natural resources play a vital role in supporting our planet, many of which are showing signs of stress. The trees that produce oxygen and clean the air serve a valuable function that cannot be replaced with man-made technology at a reasonable cost. The oceans that are home to the fish we eat need to be maintained, if they are to continue to provide us with food. The benefit of these environmental features needs to be fully taken into account in the long-term planning of our urban regions to ensure there will be adequate resources to provide the same benefits for the next generation beyond our own.

#### *The Environment and Economics*

Although some wonder how much it will cost to take greater care of our environment, the cost of inaction is much greater. Taken together, a low estimate of what our environment provides us for free, has been shown to be worth more than the world gross domestic product. We have far more to gain by addressing our environmental problems by forming new industries, creating new technologies and producing new designs, all of which would expand our economy.

The environment is now a fiduciary responsibility of the business community. Company shareholders are asking for information about how the company is addressing climate change, environmental toxins and other issues that pose significant future risk. With the beginning of carbon trading, global environmental problems now have a monetary cost assigned to them. There is also a fundamental shift in thinking as many companies see addressing environmental problems as a value-added proposition instead of an expense to be shifted off the balance sheet.

### *Improving Communities*

As Henry David Thoreau said, “What's the use of a fine house if you haven't got a tolerable planet to put it on?” Consumers are becoming more aware of environmental problems that are harmful to their health and are choosing green buildings for their health benefits. Neighborhoods can contribute to health in many ways, from providing more desirable environments for walking and bicycling as well as reducing distances that must be traveled for daily goods. Additionally, provisions to ensure clean water, clean air and viable natural areas are important on all scales. These goals need to be accomplished within cities, where half of the global population now lives.

Although global climate change presents an immediate environmental problem, we also should make sure our actions are socially just. We share this planet together and an acceptable environment should not be provided for only those willing to pay a high premium. Considering that air pollution can travel from China to California, environmental problems know no boundary. We need to figure out viable ways to provide a clean environment for everyone.

### *Making a Positive Contribution*

Progress is emerging with more sensitive treatment of environmental areas in many New Urbanist projects. The newest developments are featuring green instead of gray infrastructure and preserving more sensitive natural areas. However, there is still room for improvement in our approach to environmental sustainability.

We need to consider the life-cycle of all the products and components of every New Urbanist plan to understand how they might be reused or recycled when their current use needs to be changed. The cradle to cradle concept considers how things can be used, recycled, and used again without losing any material quality. While we can begin with building materials that can be recycled or reused, we also need to think about cities too. How can we use and reuse our existing buildings and infrastructure while allowing them to change over time as our cities grow and lifestyles change?

Conventional wisdom has always assumed that human development equals harm to the environment and the best we can do is limit that harm. While previous development did hurt our environment, what if that wasn't the case? Can we envision development that actually improves our environment? Development that cleans and reuses brownfields,

restores wetlands and fosters beneficial natural processes all within a highly urbanized city? Create a city that has the environmental impact of a forest?

The Charter of the New Urbanism recognizes the link between the physical framework of development and sustainability – environmental health, economic vitality and community stability. However, providing a physical framework that is merely supportive of environmental health is not broad or bold enough. We need to consider a physical framework that improves environmental health since community stability and economic vitality cannot be sustained without a healthy environment. We must transition from creating sustainable development that maintains what we currently have, to restorative development that fixes the harm we imposed on our landscape.

We will ask ourselves for the rest of our life what we have done to help lessen global warming and the harmful effects of climate change. It is a worldwide problem, but it is one we have the responsibility to address as designers and developers of cities. Throughout every New Urbanist neighborhood and for every project that follows the charter, the added responsibility of restoring our environment is upon us and we need to act, starting now.