

A photograph of a red tractor in a field with a river in the background. The tractor is in the foreground, partially obscured by green foliage. The river flows through the middle ground, reflecting the sky and the surrounding trees. The background shows a line of trees and a house in the distance under a clear sky.

The Climate Change and Land Use Connection

The key to successfully combating climate change lies in efficient urban development that decreases auto use and protects farmland.

BY EDWARD THOMPSON, JR.

Climate change could increase the likelihood of disastrous weather events, including floods.

ALAN HEARTFIELD/ISTOCKPHOTO

Agriculture will be profoundly affected by climate change and can do much to help reduce its impact on us all. But it is in our cities and, particularly, how they continue to grow that most solutions to global warming must be found. The biggest contributor to greenhouse gas emissions in this country is the automobile. (Yes, that includes SUVs and pickups.) In recent decades, both the number of autos and the average number of miles they are driven have steadily increased, with a corresponding increase in greenhouse gas emissions. A growing and increasingly affluent population is partly responsible for this. But there is another cause that is less apparent: urban sprawl.

For the past half century, the predominant pattern of development in America has separated residential, commercial and other land uses, spreading people out and forcing them to get in their cars to go just about anywhere. The result has been that the average “vehicle miles traveled” per household—and greenhouse gas

emissions—has risen faster than both population and the number of vehicles on the road. Not coincidentally, sprawl has also been responsible for increased traffic congestion, polluted air and the needless loss of millions of acres of farmland and wildlife habitat.

Nowhere has this phenomenon had a greater impact than in California, the place where sprawl was invented. Here, state lawmakers recently passed legislation (AB 32) mandating a reduction in greenhouse gas emissions to 1990 levels by the year 2020. This represents an 80 percent decrease over current levels. Without effective action, California greenhouse gas emissions are expected to increase 70 percent during the same period. Governor Schwarzenegger’s blue ribbon Climate Action Team has put together a strategy to achieve this goal, establishing specific greenhouse gas reduction quotas for every source of emissions. By far, the greatest reduction in greenhouse gas emissions—30 million metric tons of carbon dioxide—is expected to come from improved auto



A traffic jam on a California freeway

TIM MCCAIG/ISTOCKPHOTO

technology, particularly electric and hydrogen powered vehicles. The second highest reduction—18 million metric tons of carbon dioxide—is to come from “smart land use and intelligent transportation,” i.e., curbing urban sprawl.

Scientists have established a clear link between the efficiency of urban development—how many people and jobs are accommodated with each acre developed—and vehicles miles traveled as a source of greenhouse gas emissions. For example, in Sacramento, California, neighborhoods that have fewer than four dwellings per acre generate twice the vehicle miles traveled as those with more than 10 residences per acre. Local governments in the Sacramento metropolitan area have adopted a “blueprint” for future growth that takes this into account in planning land use and transportation systems in order to minimize greenhouse gas emissions as well as municipal service costs and the loss of farmland.

American Farmland Trust has been at the forefront of the movement to combat climate change—and, of course, save farmland—by encouraging smarter, more efficient land use patterns that don’t rely exclusively on the auto to get around. In California, for example, we have joined with other nonprofit organizations to form Climate Plan (www.climateplanca.org), a coordinating committee for all of our efforts to persuade developers and state

and local governments to build neighborhoods closer to schools and businesses, revitalize downtowns with mixed-use transit-oriented development, and preserve open land within and around communities. Nationally, AFT was one of the founders of Smart Growth America a decade ago. Smart Growth America recently teamed with the Urban Land Institute to publish *Growing Cooler: The Evidence on Urban Development and Climate Change*, a must read for anyone interested in the subject.

Though climate change has become the defining issue of our time, the solutions to global warming are not new. Indeed, more efficient, livable urban development is part of the solution to many of the challenges facing our country, from the loss of farmland and habitat to the growing tax burden of servicing far-flung development. It is AFT’s hope that this new, undeniably urgent issue will also help call attention to the need to preserve farmland—which may itself become even more important if the globe continues to warm and the impact on agriculture is as predicted. As one of my colleagues has said, “It’s the same nail. But with climate change, we may now have a bigger hammer.”

EDWARD THOMPSON, JR. is the California director of American Farmland Trust.