

Tracking New Jersey's Dynamic Landscape: Urban Growth and Open Space Loss 1986-1995-2002

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Contacts:

John Hasse, Ph.D.
Rowan University
856.256.4500 x3977
hasse@rowan.edu

Richard G. Lathrop, Ph.D.
Rutgers University
732.932.1580
lathrop@crssa.rutgers.edu

The research team of John Hasse of Rowan University and Richard Lathrop of Rutgers University have released a report entitled **Tracking New Jersey's Dynamic Landscape: Urban Growth and Open Space Loss 1986-1995-2002**. The executive summary and full report are available at <http://www.crssa.rutgers.edu/projects/lc/urbangrowth>.

As the most densely populated state in the nation, New Jersey has long struggled with balancing new development to house a growing population with maintaining environmental quality. The results of this study confirm that development pressure has continued at a remarkably robust rate through 2002 and that issues pertaining to the loss of farmland, forest and wetlands continue to be pressing. These findings are based on an analysis of New Jersey 2002 land use update digital map data developed by the New Jersey Department of Environmental Protection. This new data set updates similar maps created for the years 1986 and 1995. This research into the spatial and temporal dynamics of New Jersey land use change was funded by the Geraldine R. Dodge Foundation and the New Jersey Agricultural Experiment Station.

Key findings are:

1) Urban Development Rate: Urban development increased statewide by nearly 106,000 acres during the 1995 – 2002 time period (T2) which is equivalent to approximately 15,000 acres per year. This rate is on par with the rate of development from the 1986 to 1995 period (T1) rate (14,886 acres per year).

2) Urban Growth vs. Population Growth: Urban growth is not as strongly linked to population growth as might be expected. During the 1986-2002 study period urban land increased 20% while population increased only 11%. Between the 1990 and 2000 census, 145 of New Jersey's 566 municipalities actually lost population while their amount of urban land maintained or even grew in size.

3) Development Patterns Became More Sprawling: Large lot housing (greater than 1/2 acre) consumed 67% of the open space that was converted to residential development.

The average size of development tracts decreased while the annual number of developed tracts increased from T1 to T2. At the same time, the location of most of the low-density development was not in the state's smart growth-designated areas.

4) **Loss of Open Space:** As might be expected, the increase in urban development came at the expense of a corresponding loss of open space. The major trends can be summarized as follows:

Farmland: The majority of open space loss was experienced by farmland (55,530 net acres lost), New Jersey continues to lose farmland at an annualized rate of loss (nearly 8,000 acres per year or 7,933 acres per year). This represents a slowdown from the annualized farmland loss during the earlier T1 time period (9,485 acres per year).

Forest: The amount of forest land lost specifically to urbanization was 8,356 acres per year T2('95-'02) and represents an increase in rate vs. T1. This rate is the equivalent of losing 10 Central Parks worth of forest per year or over seventeen football fields worth of forest every day. The increase in the rate of forest loss is of special concern due to all the attendant ecosystem services that forest and wetlands provide such as watershed protection, carbon sequestration, wildlife habitat, and recreation, to name just a few.

Wetlands: New Jersey is losing total wetlands to urbanization at the rate of 3.3 football fields of wetlands every day. While the annual net rate of all wetlands lost to development increased slightly from 1,442 acres per year T1('86-'95) to 1,573 acres per year T2('95-'02), there are some positive trends in that the rate of loss of "natural" wetlands to urbanization has declined.

5) **Increase in Impervious Surface:** One of the direct environmental consequences of development is the creation of impervious surface, which is associated with multiple environmental impacts. During T2('95-'02) impervious surface was being created at the rate of 5,116 acres per year or the equivalent of 1,742 parking spaces being paved every day.

6) **Regional analysis:** The geographic distribution of urban growth has remained consistent throughout the state with most counties experiencing 1995 to 2002 development rates on-par with their 1986 to 1995 rates. Counties standing out as growth hotspots with significant upticks in development rates include coastal counties (Atlantic, Monmouth and Ocean) and Central Jersey counties (Middlesex and Somerset). The Pinelands area experienced a significantly slower rate of development than the rest of the state with growth patterns indicating that the Pinelands Comprehensive Management Plan is effectively guiding development in a manner consistent with the way it was intended.

The findings in this report make it clear that during the 1995 to 2002 time period, New Jersey was still undergoing widespread land use change and development. Once development takes place it sets the land use pattern for a time scale of decades to centuries. Land use policy and decisions occurring at this time are locking the future land use patterns in place as the Garden State marches toward its build-out landscape sometime in the middle of this century. The study confirms that some land use policies such as the Pinelands Comprehensive Management Plan have worked effectively. The study also confirms that policies in other parts of the state have been less effective as

large portions of New Jersey's recent growth embodies many of the problematic characteristics of sprawl. Contrary to other recent reports that suggest an end to sprawl in New Jersey, the land use patterns actually reveal that the Garden State is still sprawling dramatically as of 2002. Whether the recent economic downturn, gasoline prices spikes and shake-up in the housing industry will alter land use change and development patterns going into the near future remains to be seen.