Trends in New Jersey Land Use:

Addressing Obesity Through Planning

New Jersey Future

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Smart Growth research, policy and advocacy organization

Development that protects open space and farmland, revitalizes communities, keeps housing affordable, and provides transportation choices

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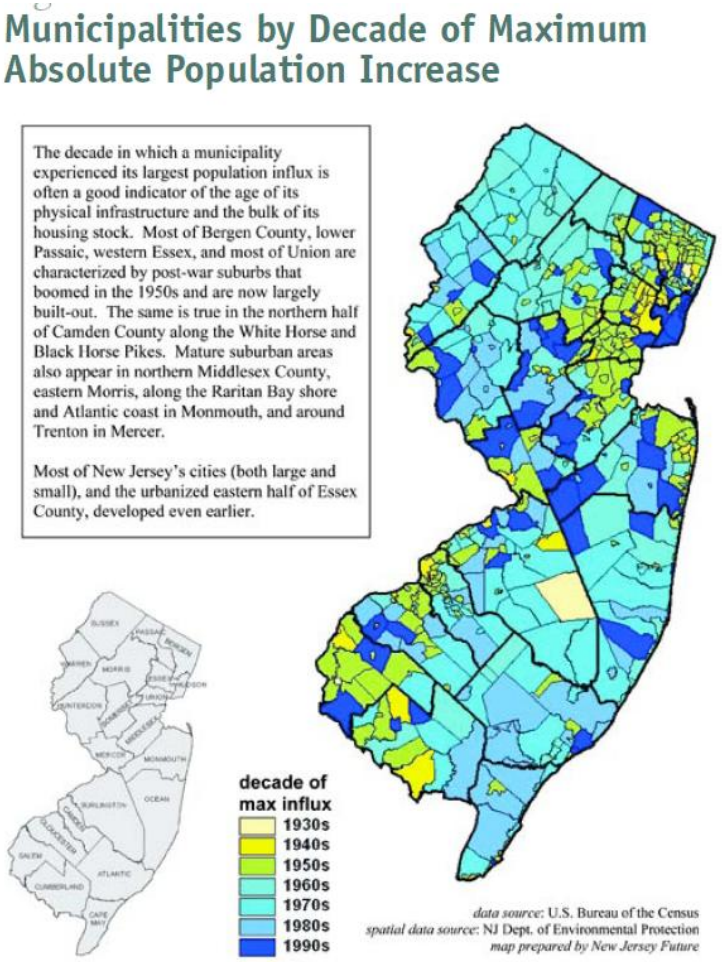
Land-Use in New Jersey: Overview

- Most developed state in the nation
- Highest population density in the nation
- Second highest rate of transit ridership
- Large portion of land is either protected open space or falls under the jurisdiction of one of three regional areas
  (The Pinelands, Highlands and Meadowlands)

Spreading out from the Urban Core

- Post-war suburbs (yellow and green) were built in the 1940s and 50s
- 2000 – 2010 saw the fastest growth in South Jersey
- Immigrants are repopulating some of our cities



**Moving Out, NJ Future, 2006*

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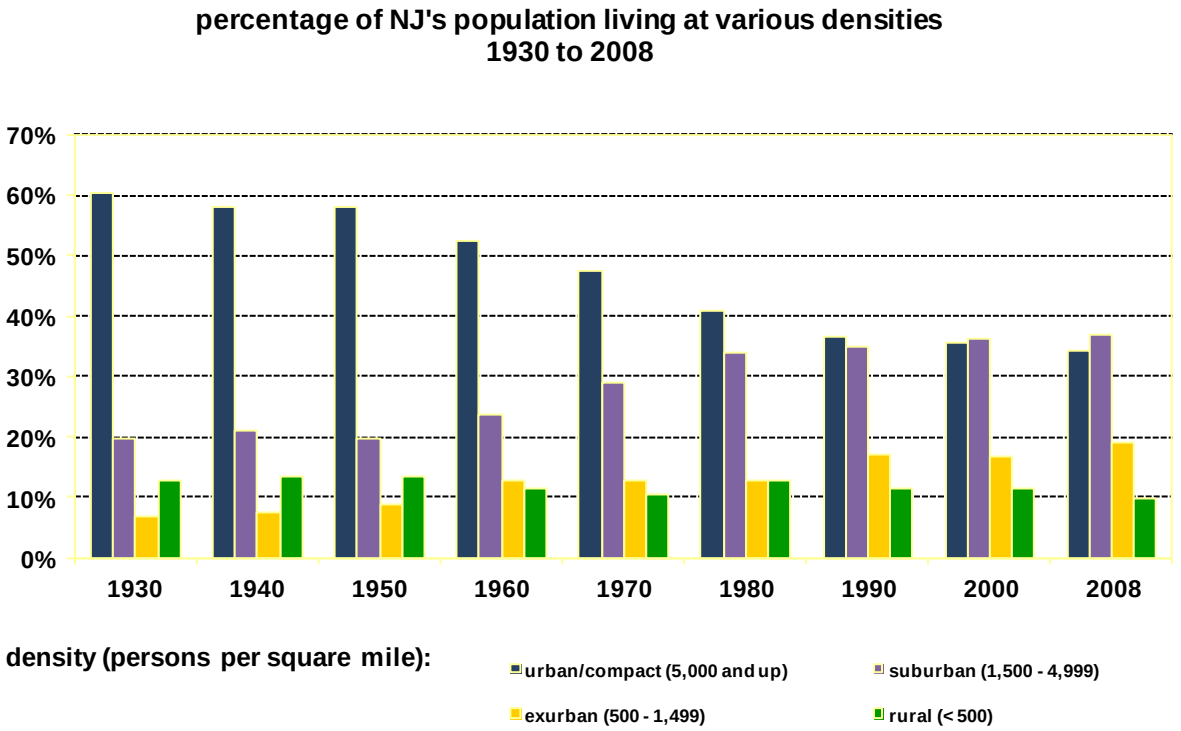
“De-densification”

Percentage of NJ’s Population Living at Various Densities, 1930 to 2008

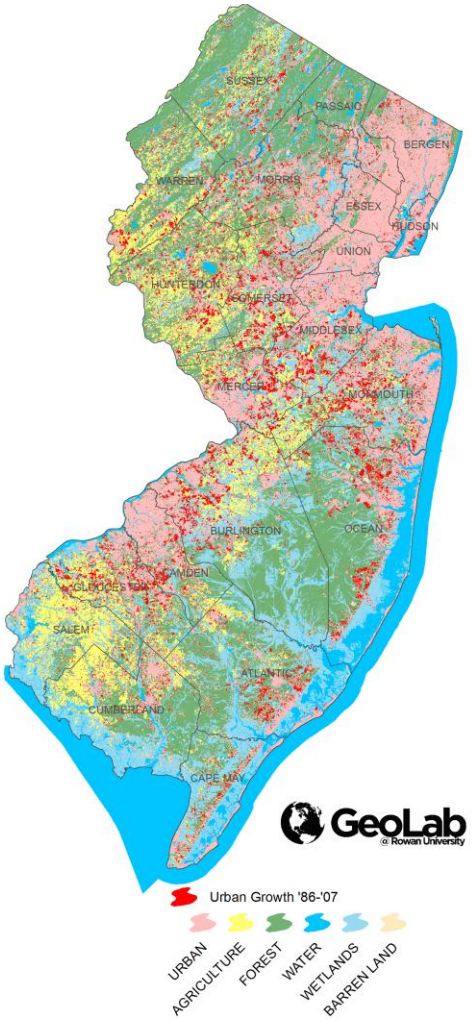
- Newly-developed acres grew **1.3 times as fast as population between 1995 and 2002 (down from 2.3 times as fast between 1986 and 1995)**



**Tim Evans, New Jersey Future*

Rapid Loss of Open Space, 1986 - 2007

- NJ more developed than anything else (30%)
- Developed footprint grown 25% since 1986
- Suburbanization accelerated 2002 – 2007



Changing Landscapes in the Garden State,

Rowan & Rutgers, 2010

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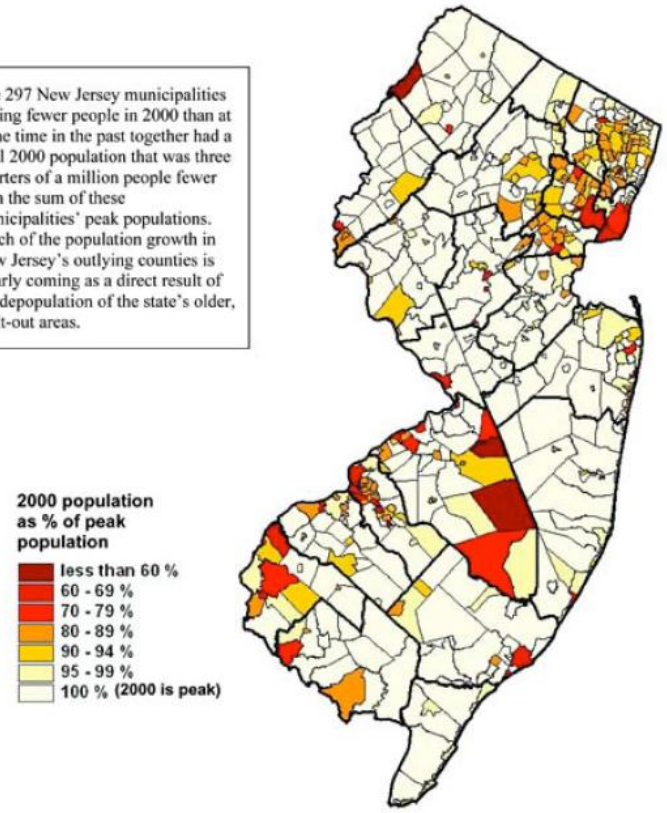
Urban Areas Have Lost People…

Figure 7

2000 Census Population as a Percent of Peak Population, by Municipality

The 297 New Jersey municipalities having fewer people in 2000 than at some time in the past together had a total 2000 population that was three quarters of a million people fewer than the sum of these municipalities' peak populations. Much of the population growth in New Jersey's outlying counties is clearly coming as a direct result of the depopulation of the state's older, built-out areas.



data source: U.S. Bureau of the Census
spatial data source: NJ Dept. of Environmental Protection
map prepared by New Jersey Future

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Some recent trends are encouraging

- New Jersey's 8 "urban centers" accounted for only 3.9% percent of residential building permits issued statewide in the 1990s
- Their share tripled to 11.8% in the 2000s.

Jersey City, 2006

**Built Out But Still Growing, New Jersey Future, 2010*

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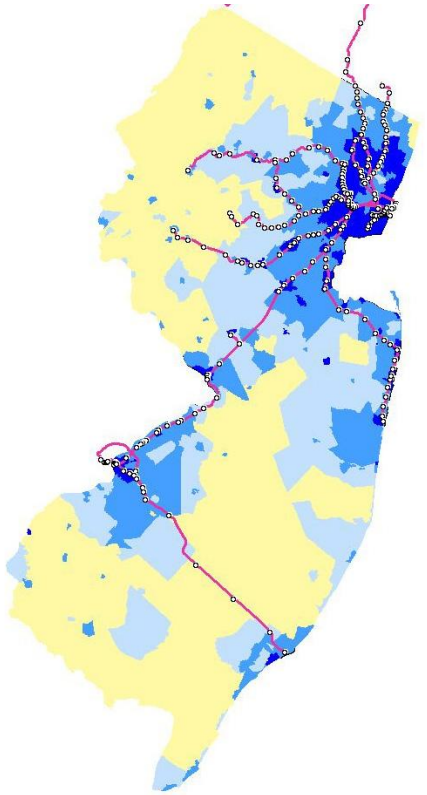
Transit Rich New Jersey

- **224** rail stations
- Approximately **70 percent** of New Jersey residents live within **5 miles** of a train station
- **1.9 million** jobs (50%) are located in towns served by rail transit
- **Potential Health Impact of Switching From Car to Public Transportation When Commuting to Work, December 2010,**
  - Alfredo Morabia, MD, PhD, Franklin E. Mirer, PhD, Tashia M. Amstislavski, MA, Holger M. Eisl, PhD, Jordan Werbe-Fuentes, BA, John Gorczynski, AAS, Chris Goranson, MGIS, Mary S. Wolff, PhD and Steven B. Markowitz, MD
  - Commuting by public transportation rather than by car increased energy expenditure (+124 kcal/day; $P < .001$) equivalent to the loss of 1 pound of body fat per 6 weeks.



**Getting to Work, New Jersey Future, 2008*

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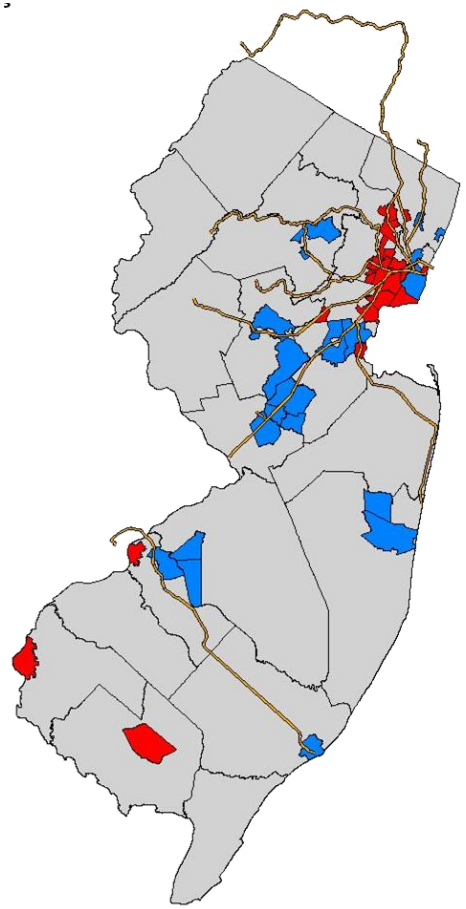
But Jobs are Dispersing

Job losses near transit;
job gains along the highway

20 largest job-gaining and job-losing municipalities, 1980-2003:

20 largest job losses

20 largest job gains



*Getting to Work, New Jersey Future, 2008

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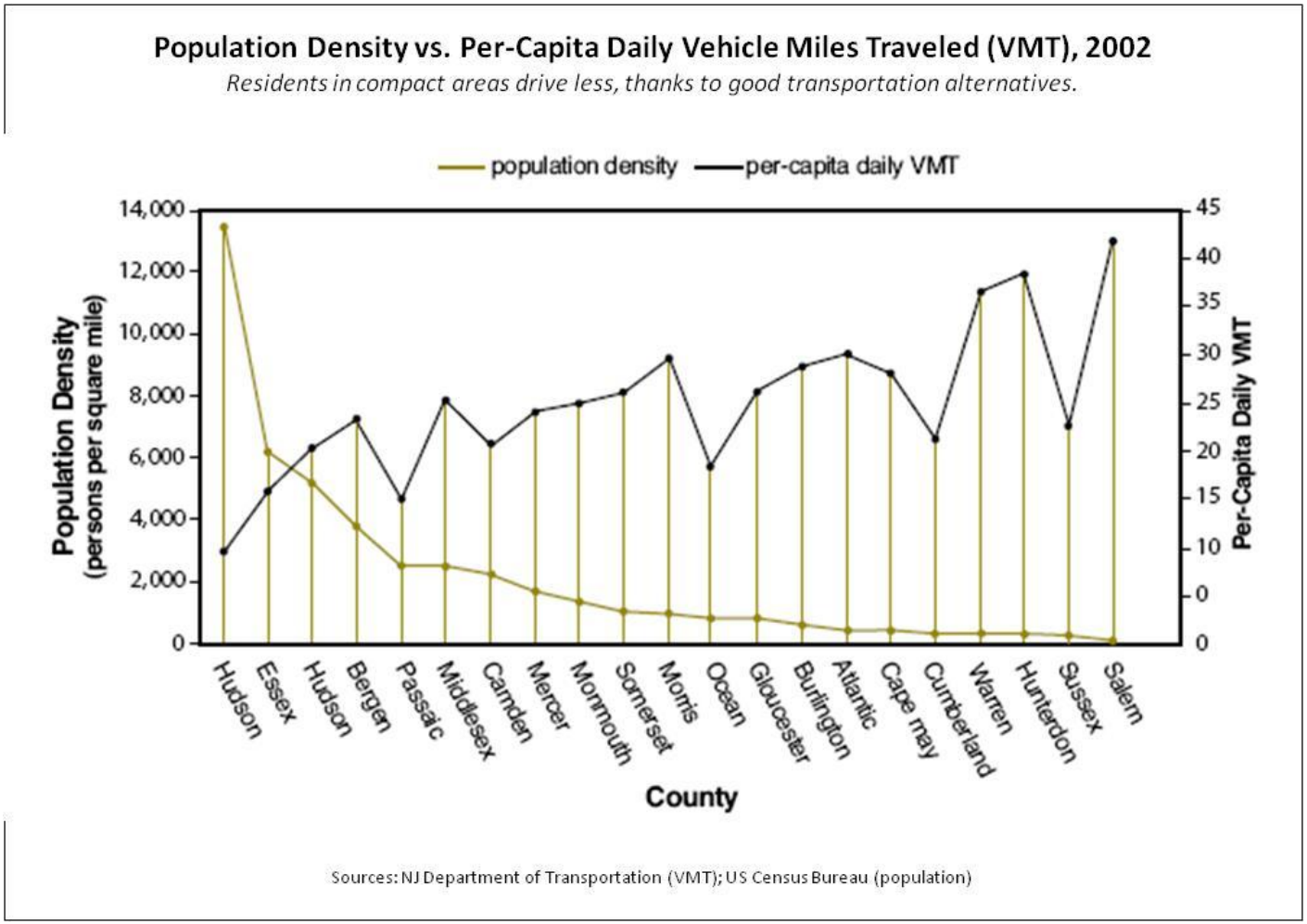
Population Density Effects Vehicle Miles Travelled, and thus GHG Emissions



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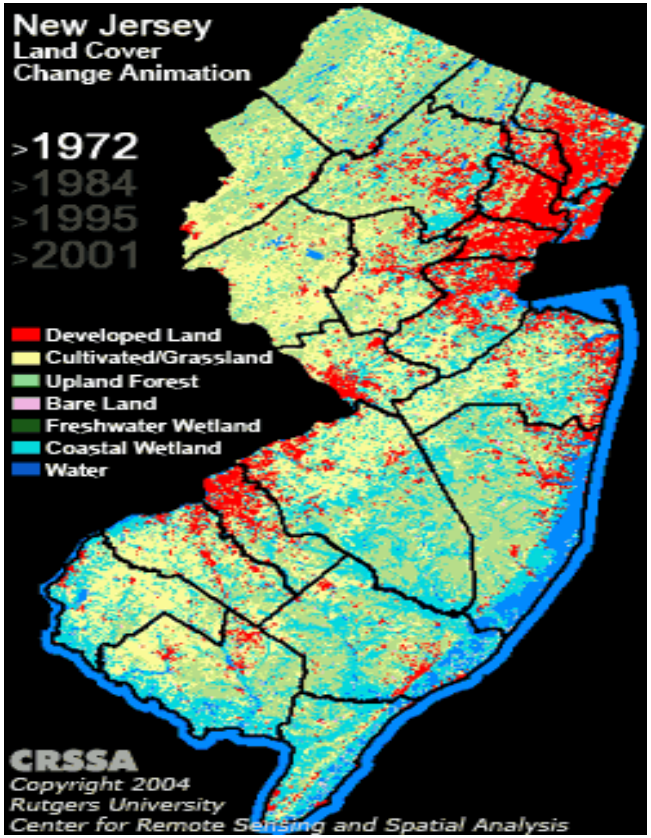
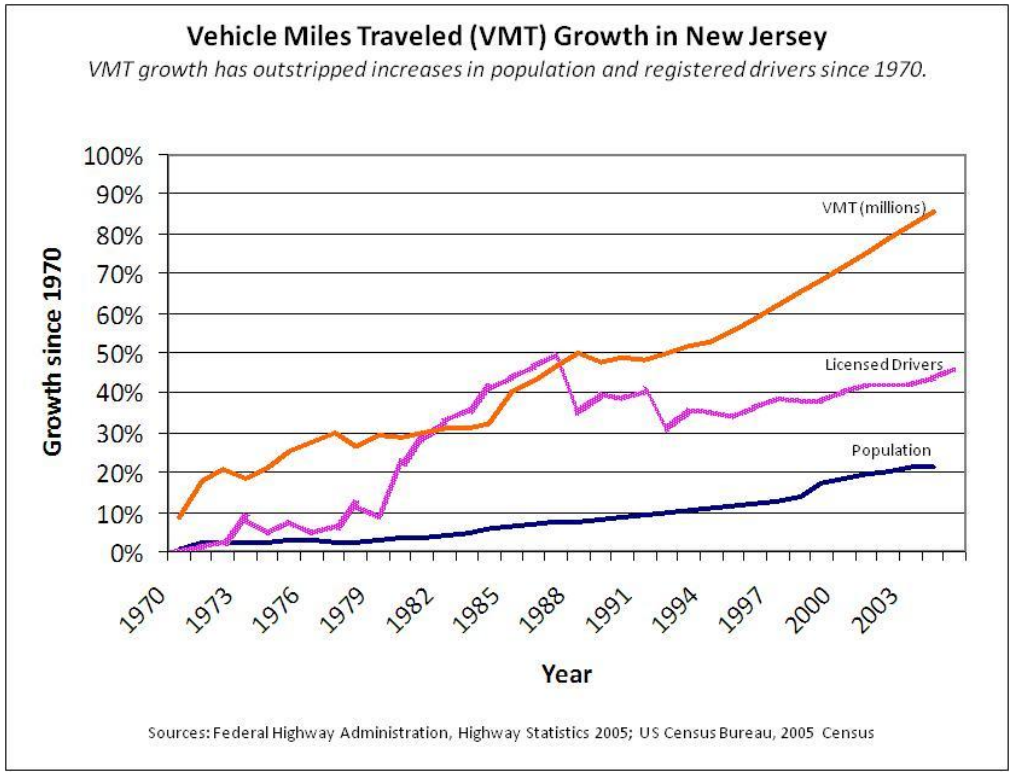
As Land Use Has Spread Out, VMT Has Risen Dramatically





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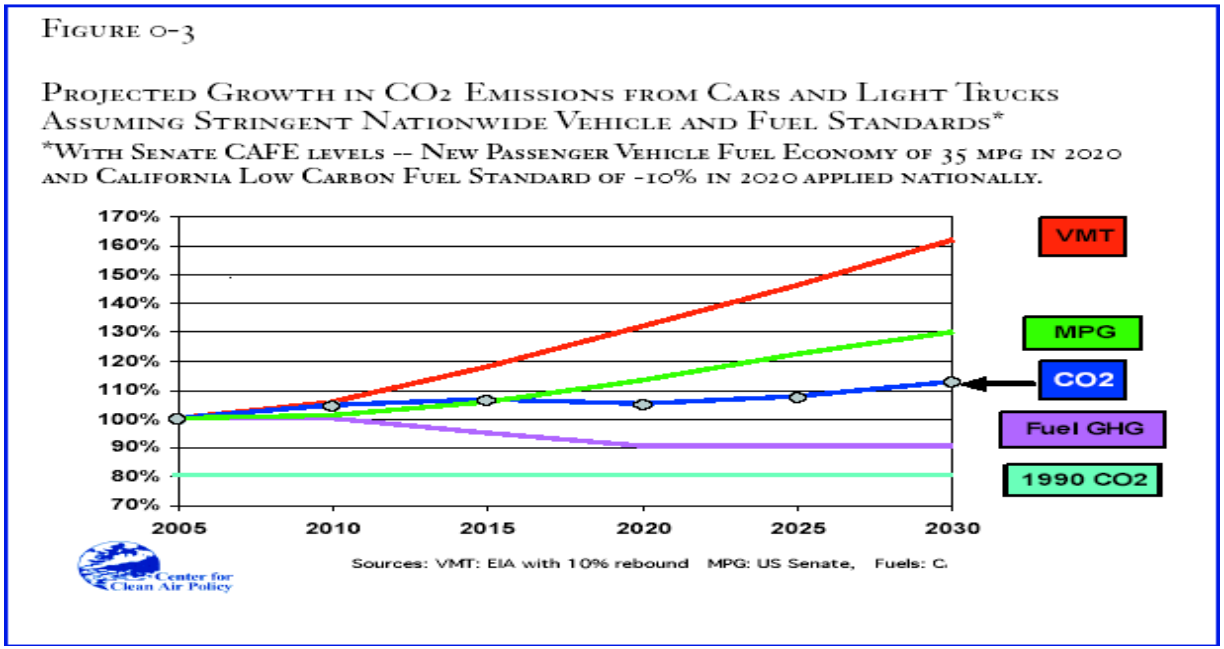
And VMT is Projected to Grow



- VMT growth is projected to outstrip any gains from tighter fuel economy or low carbon fuel standards

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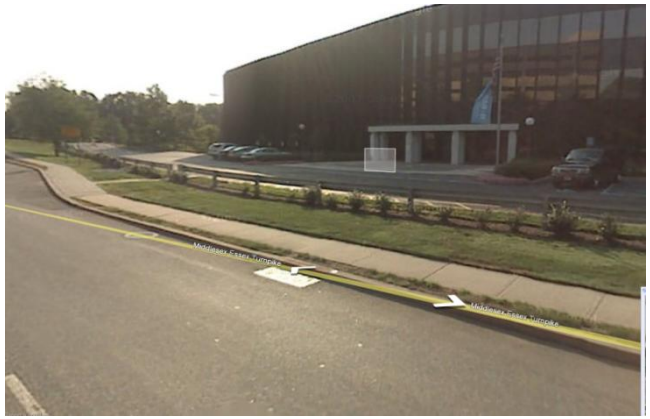
How Can We Lower VMT through Land-Use?

- Density
- Design
- Connectivity of Destinations
- Transportation Options

Design

Do: Exchange Place



Don't: Metro Park

- Should encourage pedestrian activity
- Mix of uses
- Linked to transit when possible
- **Changes in Physical Activity and Travel Behaviors in Residents of a Mixed-Use Development**
  - Karen G. Mumford, PhD, Cheryl K. Constant, PhD, Jennifer Weissman, MPH, Jean Wolf, PhD, Karen Glanz, PhD
  - Adults who move to a denser, mixed-use neighborhood increase their levels of walking for both recreation and transportation, decrease their automobile travel, and increase their use of public transportation.

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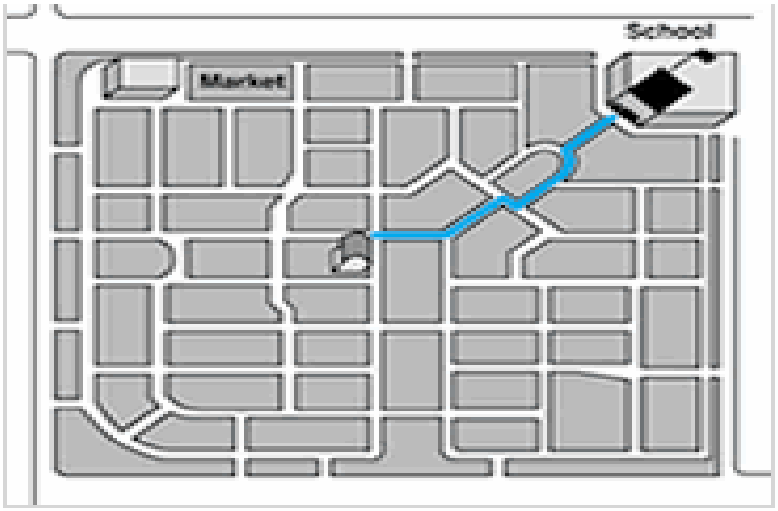
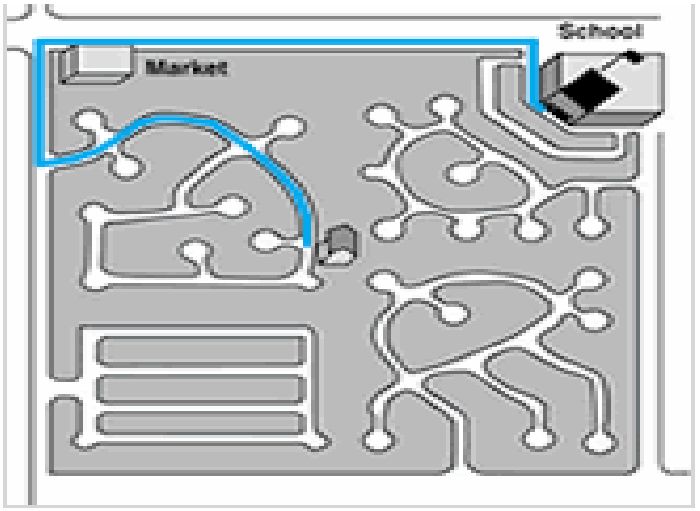
Other Design Factors

More of this:



Street Connectivity - Many Options

And less of this:



Lack of Connectivity - Few Options

*Transpo Group

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Connectivity of Destinations

- More housing near transit stations
- Reconnecting jobs with transit centers
- Mix of uses (retail, housing, entertainment, office)

Transportation Options

- Majority of Americans want to walk, bike and take transit more if it were more available.
- More transit service
- Complete Streets

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Complete Streets

Accommodate ALL Users for ALL Trips Safely & Efficiently

- Public transit users
- Bicyclists & Pedestrians
  - All ages
  - All abilities
- Motorists

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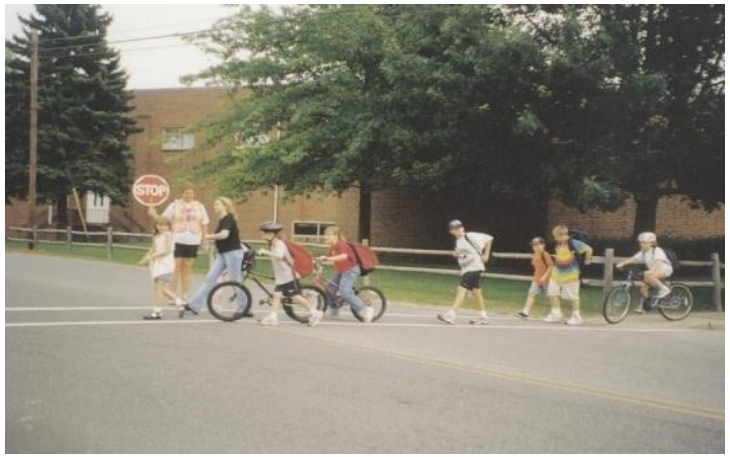
About a third of Americans don't drive

- Older people who don't drive
- All children under 17
- Some people with disabilities
- Many low income people who cannot afford automobiles.
- Those that prefer a car-free lifestyle



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Existing Streets are Inadequate

- No sidewalks for pedestrians
- Lanes are too narrow for motorists to share with bikes
- Streets are too wide, too dangerous to cross on foot
- No accommodations for people with disabilities

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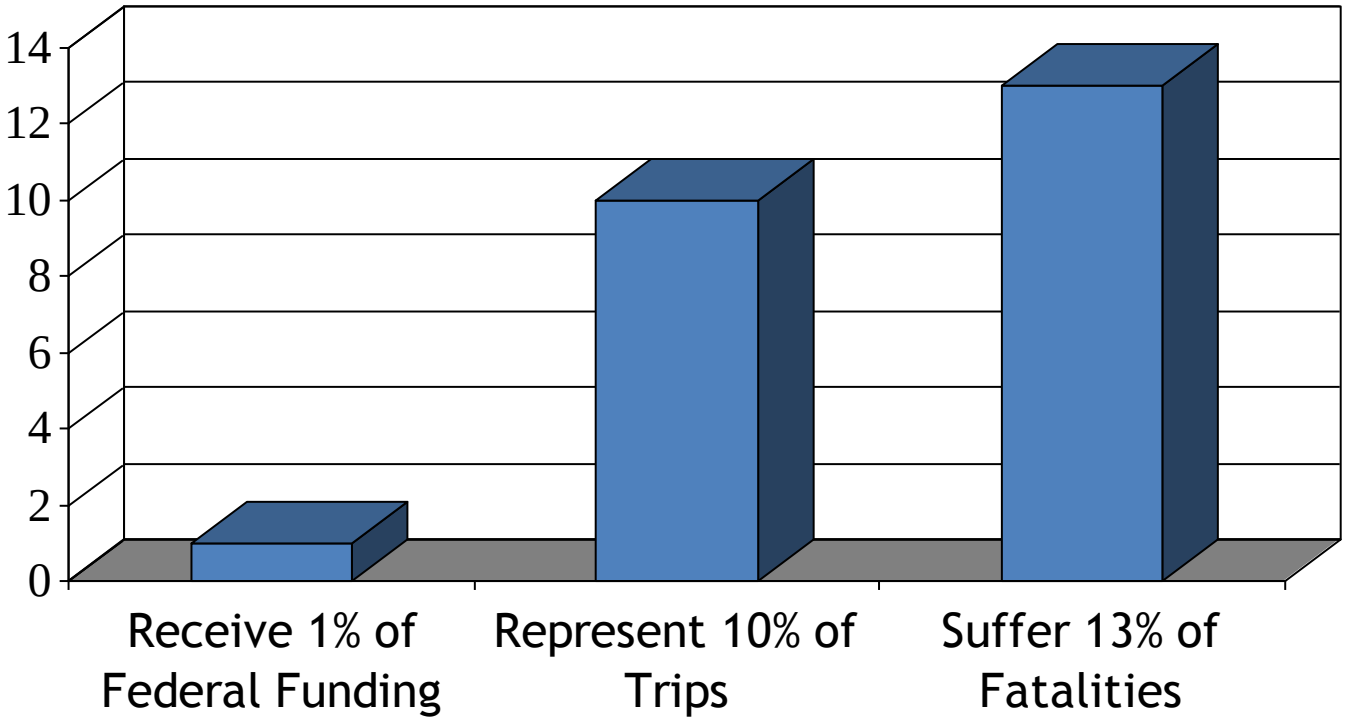
Incomplete Streets Are Unsafe

Pedestrians and Bicyclists...



Source: FMIS, NHTS, FARS federal databases

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Many Types of Complete Streets

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Complete Streets Benefits

- Improve Safety
- Provide Connections
- Promote Healthy Lifestyles
- Create More Livable Communities
- Reduce Congestion & Greenhouse Gas Emissions
- Make Fiscal Sense

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Supportive Research

- **Walking and Cycling to Health: A Comparative Analysis of City, State, and International Data, October 2010**
  - John Pucher PhD, Ralph Buehler PhD, David R. Bassett PhD, Andrew L. Dannenberg MD, MPH
  - We examined aggregate cross-sectional health and travel data for 14 countries, all 50 US states, and 47 of the 50 largest US cities through graphical, correlation, and bi-variate regression analysis on the country, state, and city levels. At all 3 geographic levels, we found statistically significant negative relationships between active travel and self-reported obesity. At the state and city levels, we found statistically significant positive relationships between active travel and physical activity and statistically significant negative relationships between active travel and diabetes.
- **The Street Level Built Environment and Physical Activity and Walking, January 2011**
  - Marlon G. Boarnet, Ann Forsyth, Kristen Day, J. Michael Oakes
  - The Irvine Minnesota Inventory (IMI) was designed to measure environmental features that may be associated with physical activity and particularly walking. The results are also useful in showing which built environment variables are more reliably associated with walking for travel—characteristics of the sidewalk infrastructure, street crossings and traffic speeds, and land use are more strongly associated with walking for travel, while factors that measure aesthetics are typically less strongly associated with walking for travel.

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New Jersey Future 2011 CS Report Recommendations

- Consider low-cost bike/ped improvements on resurfacing projects
- Reward Local Aid projects that include Complete Streets
- Reform maintenance requirements for sidewalks
- Integrate ADA compliance with Complete Streets
- Develop standards for local policies
- Exempt new sidewalk construction from DEP stormwater regulations

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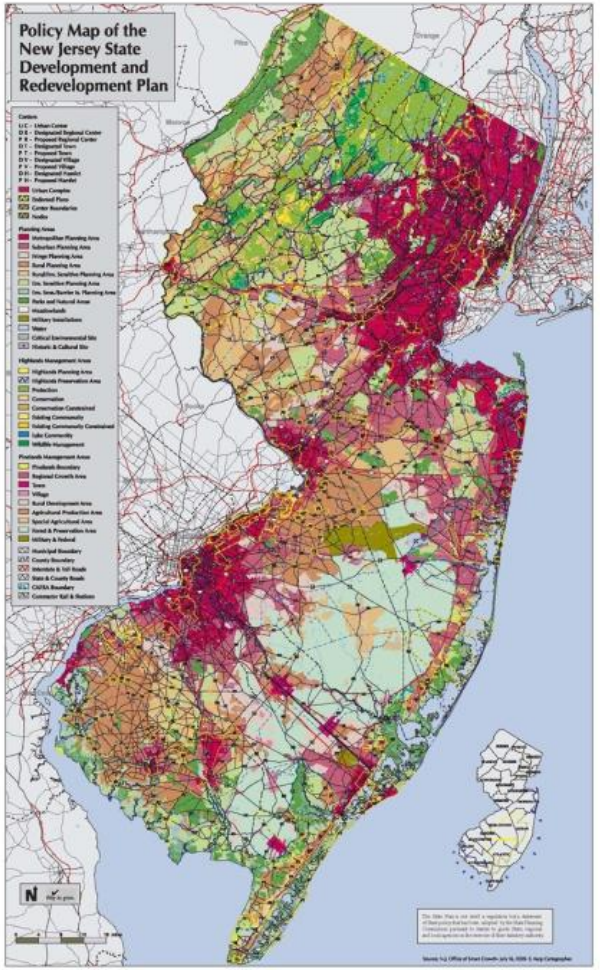
New Jersey State Plan

- Vision of growth in compact walkable cities, regional centers, villages & already developed areas
- Blueprint for infrastructure spending
- NJ State Strategic Plan
- Shaping NJ Recommendation



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Additional Research

- American Public Health Association
  - Research on Health and Transportation

  http://www.apha.org/advocacy/priorities/issues/transportation/featured_research.htm

- Public Health Law and Policy
  - Built Environments as Determinants of Health

  http://www.phlpnet.org/sites/phlpnet.org/files/Factsheet_HealthPerspective.pdf

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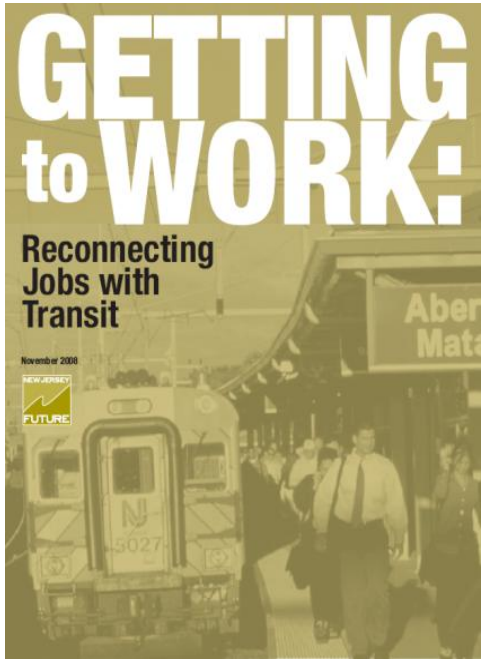
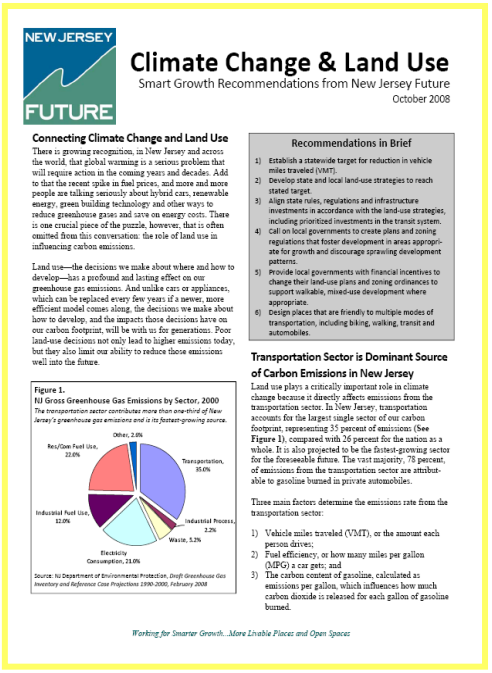
New Jersey Future Resources





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Climate Change & Land Use

Smart Growth Recommendations from New Jersey Future

October 2008

Connecting Climate Change and Land Use

There is growing recognition, in New Jersey and across the world, that global warming is a serious problem that will require action in the coming years and decades. Add to that the recent spike in fuel prices, and more and more people are talking seriously about hybrid cars, renewable energy, green building technology and other ways to reduce greenhouse gases and save on energy costs. There is one crucial piece of the puzzle, however, that is often omitted from this conversation: the role of land use in influencing carbon emissions.

Land use—the decisions we make about where and how to develop—has a profound and lasting effect on our greenhouse gas emissions. And unlike cars or appliances, which can be replaced every few years if a newer, more efficient model comes along, the decisions we make about how to develop, and the impacts those decisions have on our carbon footprint, will be with us for generations. Poor land-use decisions not only lead to higher emissions today, but they also limit our ability to reduce those emissions well into the future.

Recommendations in Brief

1) Establish a statewide target for reduction in vehicle miles traveled (VMT).
2) Develop state and local land-use strategies to reach stated target.
3) Align state rules, regulations and infrastructure investments in accordance with the land-use strategies, including prioritized investments in the transit system.
4) Call on local governments to create plans and zoning regulations that foster development in areas appropriate for growth and discourage sprawling development patterns.
5) Provide local governments with financial incentives to change their land-use plans and zoning ordinances to support walkable, mixed-use development where appropriate.
6) Design places that are friendly to multiple modes of transportation, including biking, walking, transit and automobiles.

Figure 1.
NJ Gross Greenhouse Gas Emissions by Sector, 2000
The transportation sector contributes more than one-third of New Jersey's greenhouse gas emissions and is its fastest-growing source.

Source: NJ Department of Environmental Protection, *Draft Greenhouse Gas Inventory and Reference Case Projections 1990-2000, February 2008*

Transportation Sector is Dominant Source of Carbon Emissions in New Jersey

Land use plays a critically important role in climate change because it directly affects emissions from the transportation sector. In New Jersey, transportation accounts for the largest single sector of our carbon footprint, representing 35 percent of emissions (See Figure 1), compared with 26 percent for the nation as a whole. It is also projected to be the fastest-growing sector for the foreseeable future. The vast majority, 78 percent, of emissions from the transportation sector are attributable to gasoline burned in private automobiles.

Three main factors determine the emissions rate from the transportation sector:

1) Vehicle miles traveled (VMT), or the amount each person drives;
2) Fuel efficiency, or how many miles per gallon (MPG) a car gets; and
3) The carbon content of gasoline, calculated as emissions per gallon, which influences how much carbon dioxide is released for each gallon of gasoline burned.

Working for Smarter Growth...More Livable Places and Open Spaces

Filling in the Gaps:

Assessing the Implementation of NJDOT's Complete Streets Policy

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September 2011

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