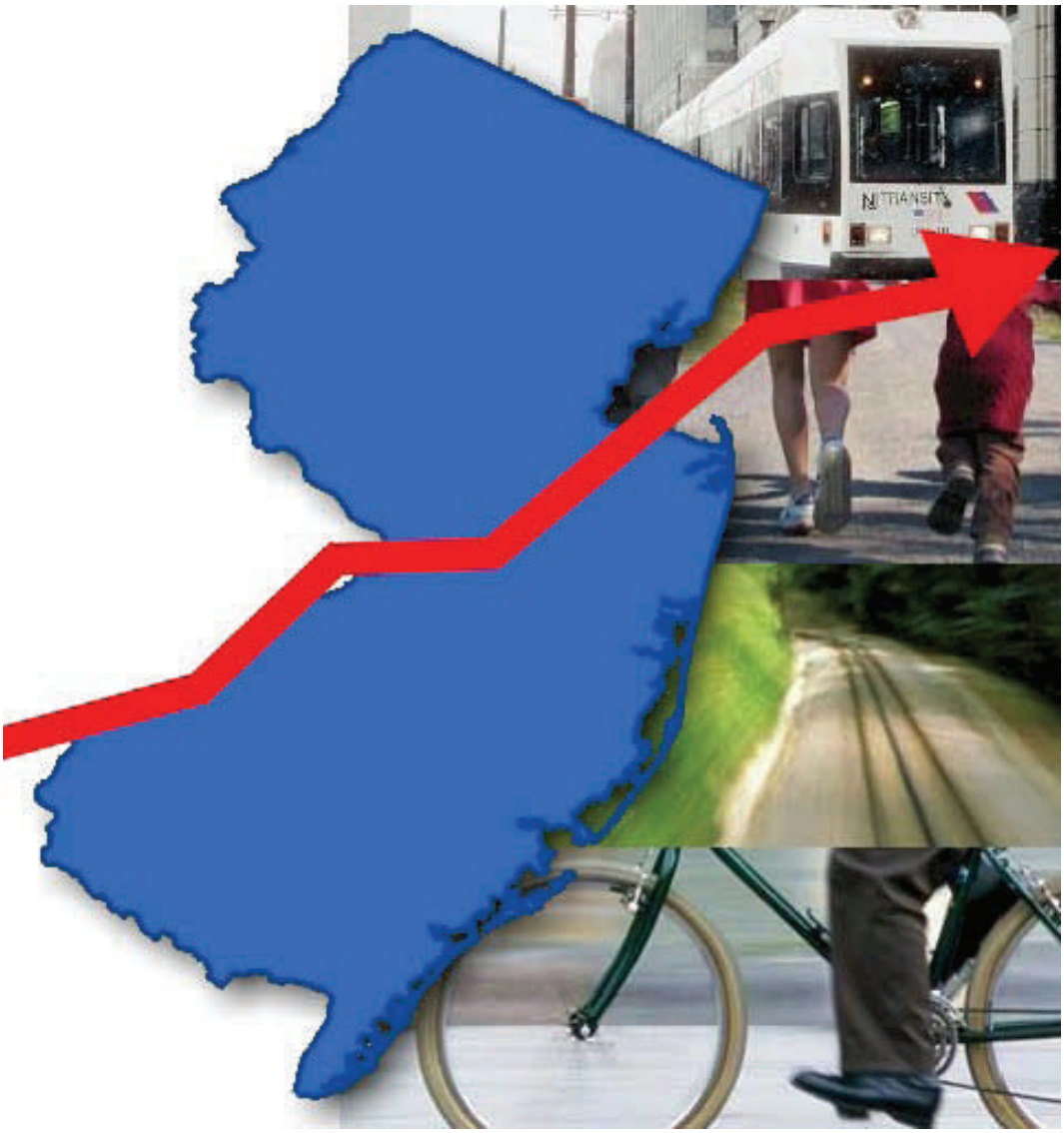
The State of Transportation

Benchmarks for Sustainable Transportation in New Jersey



Tri-State Transportation Campaign

August 2009

The State of Transportation

Benchmarks for Sustainable Transportation in New Jersey

How are New Jersey's transportation systems serving the state's residents today? Is transportation in New Jersey helping the state achieve the general goals of improving the environment and quality of life, bolstering the economies of its cities and towns and containing sprawl development? Is the state's current mix of roads, mass transit service, and freight corridors optimal, or heading in the right direction needed to meet these goals?

These important questions have been difficult for policy makers, planners, academics, advocates and citizens to answer because the necessary data is infrequently compiled and rarely presented in a format useful for year-to-year comparison. It is recorded and kept by dozens of state and federal agencies, from the U.S. Census Bureau to the New Jersey Department of Environmental Protection.

This report attempts to fill that information gap. The Tri-State Transportation Campaign has identified dozens of metrics which help answer questions about the direction of New Jersey's transportation systems, and collected them in this user-friendly, and graphic-rich document.

We intend it as a set of benchmarks from which progress toward a sustainable transportation system can be measured. It is our intention to update the report every two years.

This effort is especially timely now, as Congress debates the reauthorization of the federal transportation funding bill, SAFETEA-LU. The convergence of several factors — the need to jump-start the national economy, fluctuating gasoline prices, concern about climate change and other environmental impacts, and a progressive White House and Congress — has set the stage for the United States to take a new direction in transportation policy and funding priorities.

New Jersey has long been viewed as a model for transportation reform advocates who are encouraged by the state's fix-it-first and smart growth policies. The affect of these policies on the real world of travel behavior and transportation conditions needs to be examined.

In this update to our 2006 report, we examine more than ten years of data. Across the set of yardsticks here, we found that the range of years **1997-2007** allowed us to establish the widest consistent set of measures. The period takes us far back enough — to the rough mid-point of the Whitman Administration and the end of the duration of the first federal transportation reform

bill (ISTEA of 1991), for example — to provide a good perspective on recent history and a strong foundation for measuring transportation performance as we move further into the 21st Century.

Key Findings

Among the dozens of metrics examined, several trends emerged as particularly important:

- New Jersey's modest population growth is geographically disconnected from the state's employment growth.
- New Jersey residents are traveling now more than ever, with miles driven growing 20 percent and transit use soaring 45 percent in recent years.
- The growth in driving has slowed considerably in the most recent year, growing only 0.6 percent from 2006 to 2007.
- Mass transit is an increasingly important part of the state's transportation system, with miles traveled on transit growing more than twice the rate of driving.
- Truck travel continues to grow, jumping 30 percent from 1997 to 2007, but declining in the most recent years.
- Though a far higher percentage of New Jersey residents live within walking distance of an NJ TRANSIT bus stop, the agency has not significantly expanded bus service, even as rail service has grown markedly.
- Traffic fatalities declined to their lowest level in more than a decade in 2007, and preliminary 2008 data show even more significant declines.
- The number of breakdowns on the state's commuter rail and bus systems has held more or less steady in recent years.
- New Jersey has made some progress on fixing its roads and bridges, but the state's road and bridge conditions remain among the worst in the nation, with 82 percent of the state's roads in "less than good condition," and nearly 35 percent of bridges rated deficient.
- Economic growth may be decoupling from increases in driving—the economy appears to be becoming more efficient from a transportation point of view, with fewer miles driven for every dollar of economic activity produced.
- As of 2007, energy consumption for transportation, especially gasoline use, continued to increase, leveling off somewhat in more recent years, a trend likely to accelerate with the 2008 decline in driving.
- Transportation-related greenhouse gas emissions have grown rapidly over the period, though, as with energy consumption, they also appear to be leveling off.

Contents

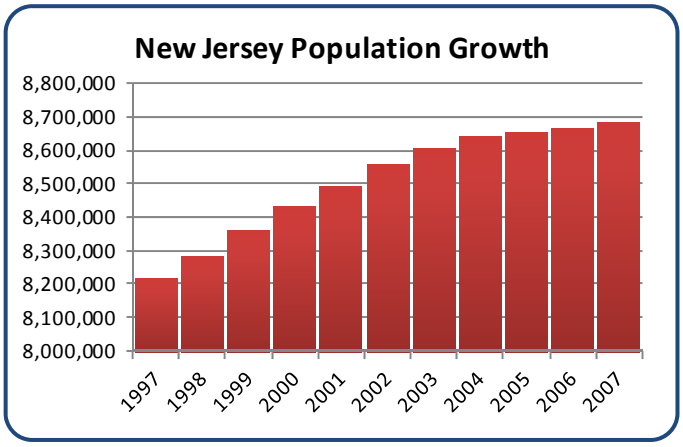
Baseline Conditions

New Jersey's population has grown 5.7 percent in recent years, though growth has been slower in the state's major cities. Gross State Product has grown at a robust rate, even as employment has failed to keep pace. Historically rural counties have enjoyed the fastest job growth.

These trends have important implications for the state's transportation system. Sprawling development (both residential and commercial) is not easily served by transit (or accessible on foot or bicycle) and will generate more driving and traffic congestion.

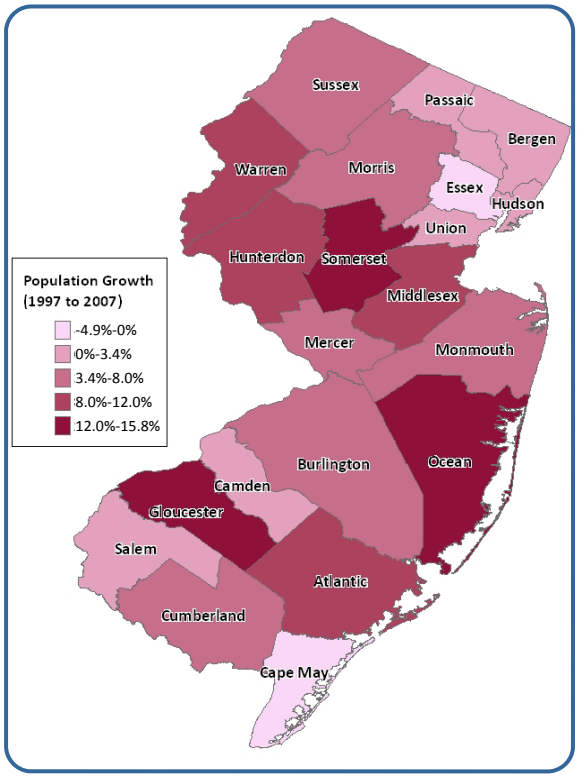
Population

New Jersey added 467,112 residents during the period from 1997 to 2007, a growth averaging about 0.6 percent per year, or 5.7 percent total. This is significantly less than the national average of 11.5 percent over the period, but higher than New Jersey's neighbors, New York and Pennsylvania, which saw 4.1 percent and 1.6 percent growth respectively.



Source: U.S. Census Population Estimates and Intercensal Estimates by County, 1997-2007.

When looked at on a county-by-county basis, population growth patterns are mixed. Growth rates were as varied among big and small counties as they were for urban and rural counties. Some Highlands counties grew at a high rate, while others hardly grew at all, and the same applied for shore counties, though growth was generally higher in central shore counties. Growth rates for Northern Jersey were as varied as those in Southern Jersey counties. In absolute growth, Ocean County saw the largest increase, adding 76,974 people from 1997 to 2007. Middlesex County was just behind, adding 63,526 people. On the other end of the spectrum, Essex County lost 6,687 residents during this period, and Cape May County lost 4,958 residents.



Source: U.S. Census Population Estimates and Intercensal Estimates by County, 1997-2007.

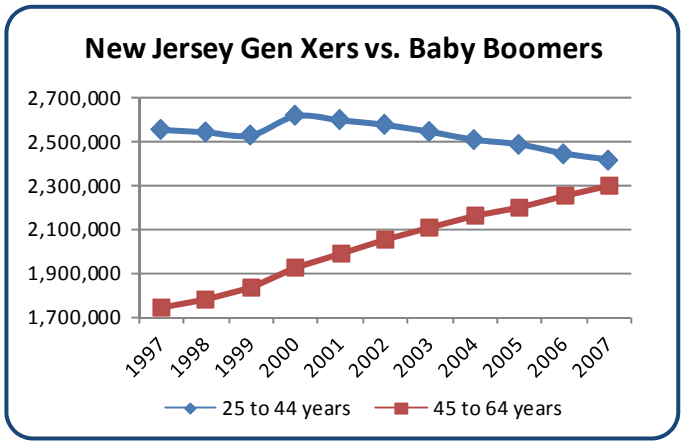
As a group, New Jersey's major cities grew more slowly than the state, with population increasing only 3.6 percent from 1997 to 2007. How-

Cities over 50,000	*1997 Population*	*2007 Population*	*Change*
Newark	266,952	280,135	4.9%
Jersey City	230,562	242,389	5.1%
Paterson	148,725	146,545	-1.5%
Elizabeth	110,508	124,862	13.0%
Trenton	84,957	82,804	-2.5%
Camden	84,291	78,675	-6.7%
Clifton	75,458	78,573	4.1%
Passaic	61,045	67,103	9.9%
East Orange	70,002	65,952	-5.8%
Union City	57,393	62,715	9.3%
Vineland	55,872	58,505	4.7%
Bayonne	60,682	57,886	-4.6%
New Brunswick	41,649	50,534	21.3%
Total Major Cities	**1,348,096**	**1,396,678**	**3.6%**

Source: U.S. Census Population Estimates by City.

ever, growth rates varied widely from city to city. For example, while Camden saw population decline by more than 6.7 percent, from 84,291 in 1997 to 78,675 in 2007, New Brunswick's population grew by 21 percent during that period, adding nearly 9,000 residents during that period.

Baby boomers made up an increasingly large chunk of New Jersey's population, with the population of those aged 45 to 64 growing more than 32 percent from 1997 to 2007, even as the population aged 25 to 44 years dropped by more than 5 percent. By 2007, 26.5 percent of New Jersey residents were between the ages of 45 and 64 years, up from less than 22 percent in 1997.



Source: U.S. Census Population Estimates by County, 1997-2007.

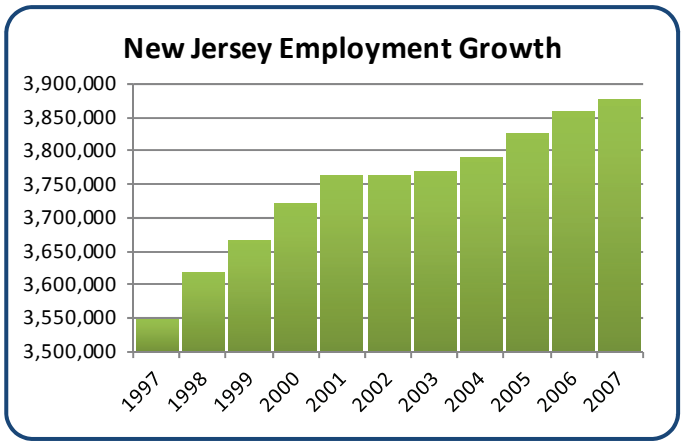
This trend has important implications for the state's transportation system. A 2004 study by the Washington-based Surface Transportation Policy Project found that a significant percentage of older Americans do not drive because of health limitations, safety concerns, or other reasons. In areas where mass transit access is limited, many aging Americans find themselves stranded at home and isolated from family and friends. Still, more than one-fourth of residents 65 years or older do not drive, and of those, more than half stay home on any given day. As New Jersey's Baby Boomers begin to give up their car keys, a growing percentage of the state's population will be sidelined from economic and other activities unless the state's transportation system adapts to ensure their continued safe mobility.

Furthermore, a recent Tri-State Transportation Campaign study found that older residents (65 years and older) are more than twice as likely to be killed while walking than their younger neighbors. As New Jersey's population ages, new programs will be needed to ensure that the state's pedestrian infrastructure accommodates their special needs.

Employment

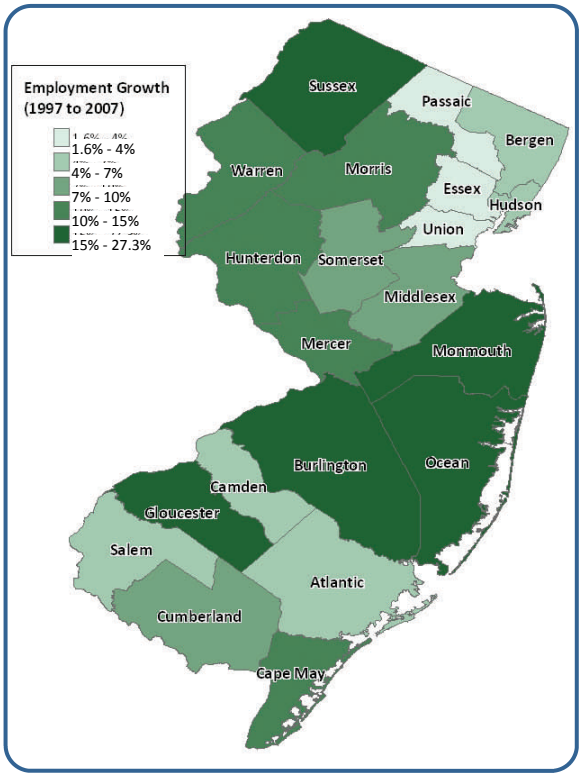
Even as New Jersey's Gross State Product enjoyed substantial growth (see next section) employment failed to keep pace. From 1997 to 2007, the state added just 327,802 jobs, representing growth of just over 9 percent. The growth in jobs was faster than the overall growth in state population, but slower than the 10.6 percent growth in the state's population aged 18 to 64.

Much of the employment growth occurred in New Jersey's historically rural counties. For example, Gloucester and Burlington Counties saw job growth of 27.3 and 21.6 percent, respectively. Ocean County enjoyed dramatic job growth, adding more than 27,000 jobs for a 22.2 percent increase. In contrast, during the same period, Passaic County added just 2,763 jobs, for a 1.6 percent growth in employment, Essex County added only 7,227 jobs, for growth of 2.1 percent, and Union County added only 8,019 jobs, a 3.5 percent increase.



Source: Bureau of Labor Statistics. Quarterly Census of Employment and Wages, 1997-2007.

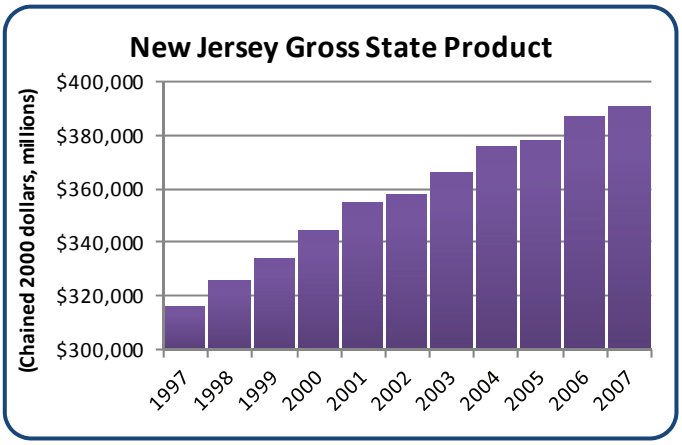
These figures confirm the findings of a 2008 New Jersey Future report, "Getting to Work: Reconnecting Jobs With Transit," which concluded that the decentralization of jobs has led to a 20 percent rise in commute times. The report argues that much of the state's recent job growth has occurred in places without adequate transit service and that this has lengthened commutes.



Source: Bureau of Labor Statistics. Quarterly Census of Employment and Wages, 1997-2007.

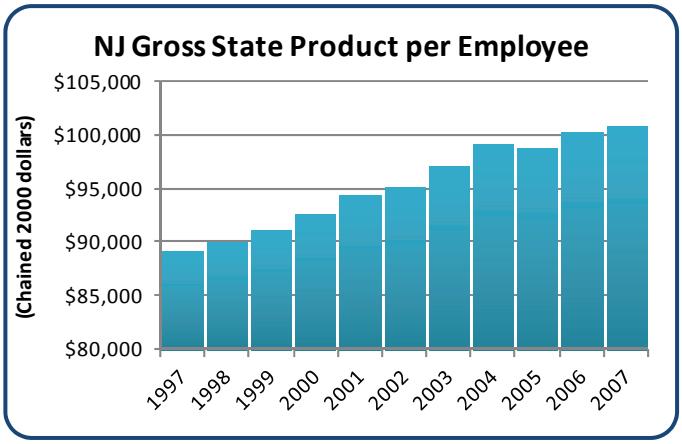
Gross State Product

New Jersey's economy grew at a steady rate during the period 1997 to 2007. Annual Gross State Product (in 2000 dollars) climbed from $316 billion to more than $391 billion, a growth of almost 24 percent.



Source: New Jersey Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2007 (Millions of Chained 2000 Dollars)

This increase is significantly lower than the national rise in Gross Domestic Product. During the same time period, GDP (2000 dollars) jumped from $8.7 trillion to almost $11.5 trillion, a growth of 32.4 percent, according to Bureau of Economic Analysis data. But New Jersey's economic growth nevertheless outpaced its neighbors, New York and Pennsylvania.



Source: Bureau of Labor Statistics. Quarterly Census of Employment and Wages, 1997-2007 and New Jersey Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2007(Millions of Chained 2000 Dollars).

Plotting employment growth against New Jersey's GSP growth reveals that the state's output per worker has increased markedly over the period from 1997 to 2007. That metric grew 13.3 percent, from about $89,000 per worker in 1997 to nearly $101,000 in 2007.

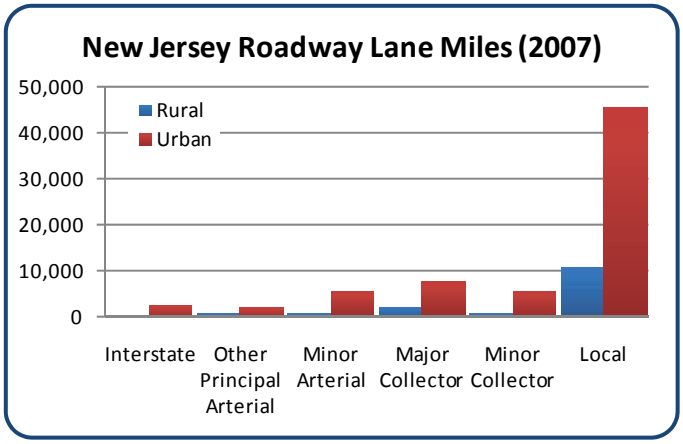
Transportation Systems

New Jersey boasts an extensive, and growing transportation network, with 84,300 lane-miles of roadway, 1,120 miles of commuter, rapid and light rail track, and almost 2,800 miles of freight railroad track. Commuter and light rail service has increased, while bus service has only slightly. And while a large percentage of residents have access to transit service, many origins and destinations are not convenient by transit, and significant portions of the state lack service altogether.

Roadway Mileage

As of 2004, New Jersey had nearly 84,300 lane-miles of Interstates, freeways, expressways, arterials and local roads criss-crossing the state. More than 82 percent of the lane-miles (center-line miles multiplied by the number of lanes for each segment) are in urban and suburban areas. Municipally-controlled roads comprise two-thirds of the state's total mileage.

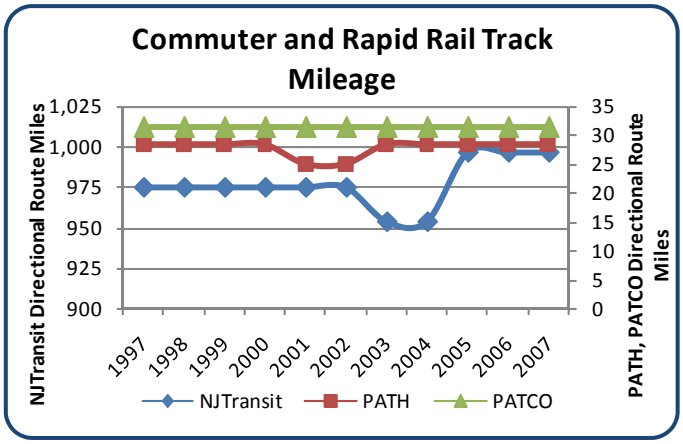
We attempted to examine the trend in lane mileage, but some data proved unreliable. Beginning in 2003, New Jersey DOT embarked on an effort to improve record-keeping of statewide lane mileage. Roads that had previously not been counted, are now included in the dataset, artificially inflating growth over the last several years. Data from 2005, forward is more reliable and consistent. Those figures show a very slight growth of 419 lane miles from 2005 through 2007.



Source: FHWA. Highway Statistics Series, Table HM-60, 1997-2007.

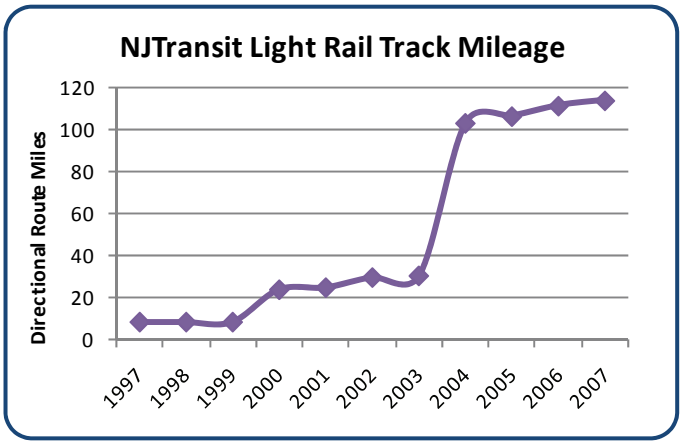
Transit Mileage

New Jersey Transit's eleven commuter rail lines, together with PATH and PATCO trains travel on more than 1,050 miles of track across the state. The PATH system experienced a temporary drop in mileage due to the destruction of the PATH World Trade Center station in 2001. NJ TRANSIT's track mileage also dropped after 2002 due to the elimination of portions of the old Boonton line when it was combined with the Montclair line as part of new direct service to Manhattan. Data from the Federal Transit Administration's National Transit Database shows track mileage



Source: FTA. National Transit Database, Transit Way Mileage—Rail Modes, 1997-2007.

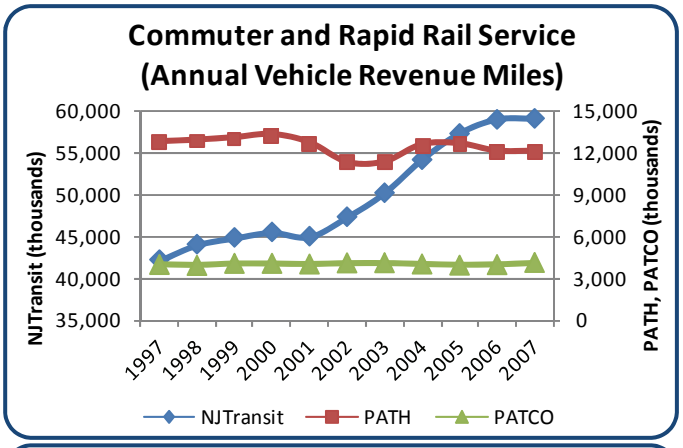
increasing significantly in 2005. NJ TRANSIT could not explain this increase, except to speculate that perhaps light rail mileage had been lumped in with the commuter rail track mileage (see below for a discussion on light rail service). No new or expanded NJ TRANSIT commuter rail service has been implemented in recent years.

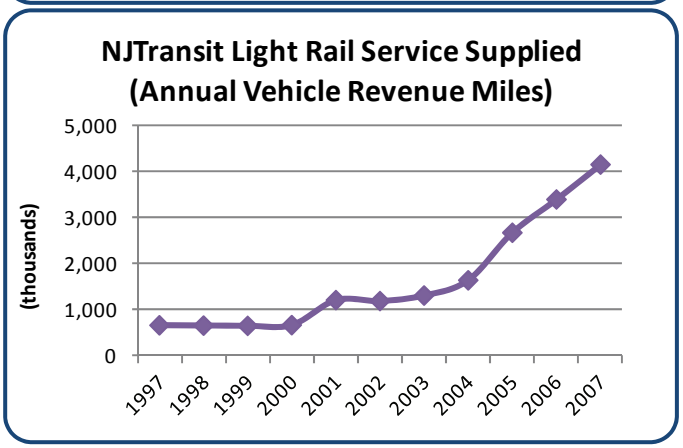


Source: FTA. National Transit Database, Transit Way Mileage—Rail Modes, 1997-2007.

NJ TRANSIT's light rail system expanded dramatically from 1996 to 2007, growing from the nine-mile Newark subway system to more than 114 miles with the addition of the Hudson-Bergen Light Rail and the Camden-Trenton River Line. The Hudson-Bergen line began operation as a 15-mile route in 2000 and has added another 10 miles since then. The 67-mile River Line began operation in 2004.

We gauged dedicated bus lane mileage according to the number of directional route miles exclusively designated for buses, plus high occupancy vehicle lanes permitting bus travel. Most of these lane miles are on the New Jersey Turnpike. Today, buses in New Jersey travel on about 36 miles of controlled roadway, a figure which grew more than 19 percent from 2006 to 2007 as NJ Transit expanded its express bus service. Promises of future bus rapid transit lines will increase this figure even further.





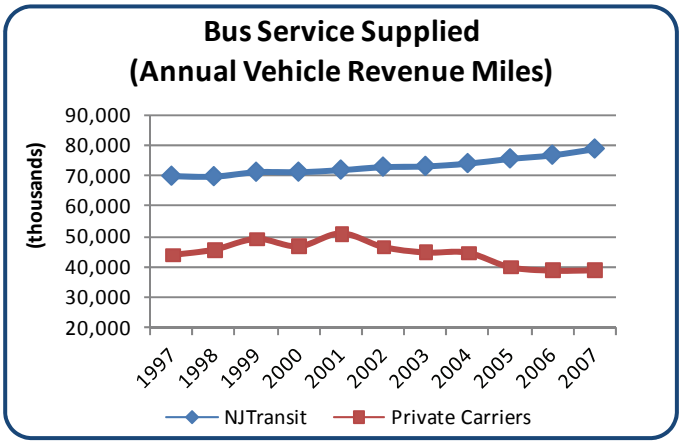
Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007.

Mass Transit Service

New Jersey residents have significantly more transit service available to them today than they did in 1997. From 1997 to 2007, the annual vehicle revenue miles (the number of miles traveled by each mass transit bus, train or light rail vehicle while in service) traveled by New Jersey's various state- and privately-run transit services grew 19.5 percent. Service provided by the largest operator, NJ TRANSIT, grew by nearly 35 percent. All together, New Jersey's transit services traveled al-

most 580,000 miles daily in 2007.

NJ TRANSIT commuter service expanded by 40 percent, while light rail service, with the addition of the Hudson-Bergen and RiverLine systems, skyrocketed more than six-fold over the period. In Southern Jersey, PATCO service held constant. PATH service had declined only slightly as of 2007, a remarkable feat given the destruction of the World Trade Center PATH station in 2001.



Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007.

The state's bus service did not enjoy the same dramatic expansion. NJ TRANSIT bus service grew by only 13 percent from 1997 to 2007, and private carrier service actually declined by 11.5 percent. Some rail system and service expansion absorbed bus riders, helping suppress growth in bus riding. Even so, buses provide far more transit service than New Jersey's high profile rail system.

Sidewalks

New Jersey is one of only a handful of states across the country to embark on a comprehensive tally of it's pedestrian infrastructure. NJDOT's County Road Sidewalk Inventory uses video records to document and map sidewalks, crosswalk signals and signage on 13,200 miles of county roadway. The data allow Tri-State, for the first time, to compare the availability of pedestrian infrastructure across counties, and will permit us to track the state's and counties' progress toward improving walkability in future editions of this report.

Not surprisingly, our analysis shows that sidewalks are far more prevalent in the state's more urban counties. For example, nearly 90 percent of Hudson County's roadway mileage is covered by sidewalks, compared to just 2.2 percent in Sussex County. Bergen County boasts the most extensive network of sidewalks, with more than 550 miles of paved sidewalks throughout the county. This compares to fewer than 14 miles in Sussex County.

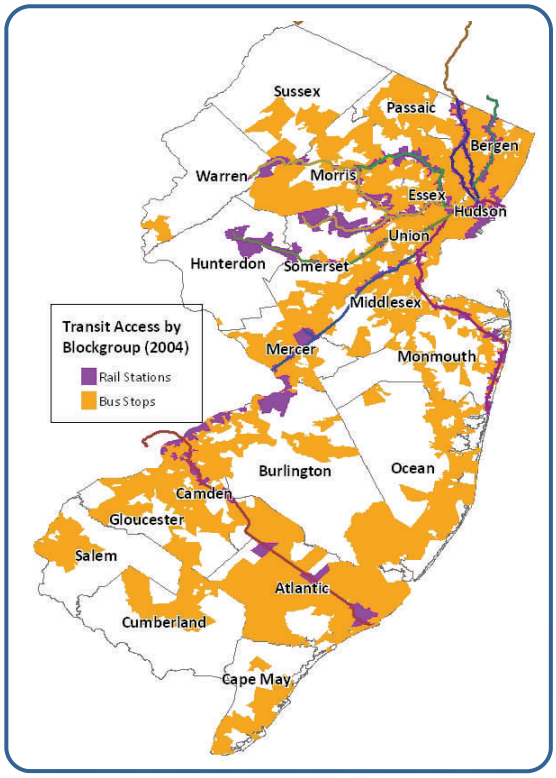
County	*Sidewalk Mileage*	*Percent of County Roadway Mileage with Sidewalks*
Atlantic	89.3	12.1%
Bergen	553.1	64.3%
Burlington	181.2	17.3%
Camden	387.7	50.6%
Cape May	86.3	21.4%
Cumberland	49.6	4.7%
Essex	283.0	65.3%
Gloucester	121.4	15.2%
Hudson	212.2	88.7%
Hunterdon	18.5	3.8%
Mercer	145.7	39.7%
Middlesex	263.3	42.9%
Monmouth	237.3	31.6%
Morris	140.1	24.6%
Ocean	289.8	23.1%
Passaic	267.5	55.4%
Salem	33.7	4.7%
Somerset	116.3	23.1%
Sussex	13.8	2.2%
Union	251.6	69.8%
Warren	20.0	3.9%
Statewide	**3,761**	**27.7%**

Source: NJDOT. County Road Sidewalk Inventory. 2008.

Accessibility of Mass Transit

New Jersey residents benefit from an extensive mass transit network, with rail and/or bus service accessible to a majority of residents and worksites. But large areas of the state lack service. Some of the counties experiencing the fastest population and employment growth in the state, such as Somerset, Ocean and Warren have the least transit service. Importantly, the presence of a rail station or bus stop is only one measure of transit access. If service is infrequent, or doesn't travel to the destinations residents and workers need to reach, living and working near a transit stop does not equate with having access to transit service.

Only a small fraction of New Jersey's residents live in a area with a NJ TRANSIT, PATCO or PATH rail station nearby. Just three percent of residents live in a Census block group (the smallest geographical unit of analysis, typically containing between 600 and 3,000 people, with an ideal size of 1,500 people) with a rail station. However, park-and-ride lots mean that rail service is accessible to far more residents than just those living within walking distance of a station (catchment areas tend to average between 3 and 5 miles). According to NJ TRANSIT, an incredible 75 percent of New Jersey residents live within 5 miles of a NJ TRANSIT rail station.



Source: NJ TRANSIT, Rail and Bus System Map, 2004.

A smaller share of New Jersey job sites are located near rail stations. Just 1.4 percent of New Jersey workers work in a Census tract with a rail station, though a large number of New Jersey commuters work in Philadelphia or New York City, both with significant rail service.

Census Tracts, however, can be quite large geographic areas covering dozens of square miles. (The Census describes tracts as "small, relatively permanent statistical subdivisions of a county." They usually contain between 2,500 and 8,000 persons.) The presence of a rail station in a Census Tract therefore does not necessarily indicate transit accessibility. Census Block Groups provide a more accurate way to assess transit accessibility, but workplace data was not available for all block groups in the state.

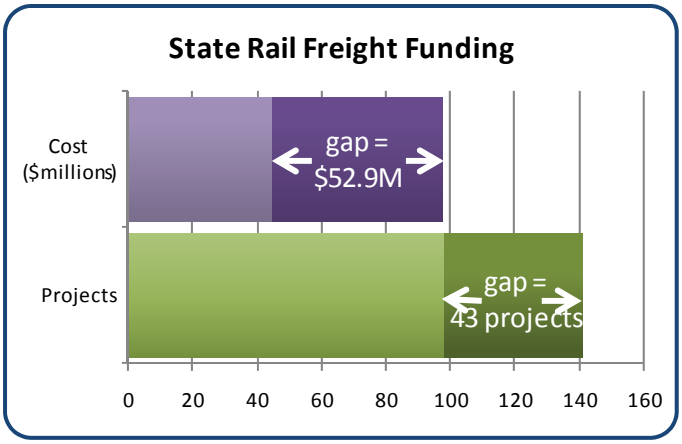
A larger share of New Jersey residents and workers had access to NJ TRANSIT bus service. Fifty-four percent of residents live in a block group with at least one NJ TRANSIT bus stop. And 81 percent of workers work in a Census tract with at least one bus stop.

Rail Freight Mileage

New Jersey boasts an extensive freight rail network, with 2,825 miles of track operated by Class I, Local, Regional, Canadian and other rail roads as of 2006, the most recent year for which data was available from the Bureau of Transportation Statistics.

Northern New Jersey port expansion will significantly increase the demand for rail capacity — by 300 percent according to the North Jersey Transportation and Planning Authority. But the state has not made rail freight the priority it needs to be.

From Fiscal Year 2003 through Fiscal Year 2007 the state received more than 140 applications for eligible rail freight improvement projects. But budgetary constraints meant that the state was only able to fund 98 of those projects, at a cost of $44.9 million. That left a shortfall of nearly than $53 million in needed improvements.



Source: NJDOT. State Rail Plan Summary. 2007. http://www.state.nj.us/transportation/freight/rail/pdf/railsummaryplan.pdf

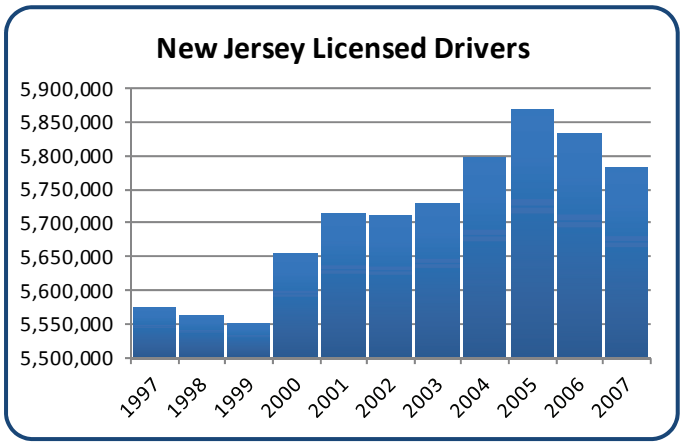
Nevertheless, some progress is being made to expand rail freight capacity. The number of containers moved using the Port of New York/New Jersey's ExpressRail system has nearly tripled from 1997 to 2007. As of 2007, more than 358,000 containers had been moved on that system, which seeks to improve on-dock rail freight connectivity. And several future projects, including the Liberty Corridor, are expected to improve connectivity even further.

Travel Trends

The number of New Jersey drivers has fallen in recent years, after peaking in 2005. At the same time, vehicle registrations have continued to grow, with the exception of more recent years. Miles driven has grown steeply, particularly for trucks. But the big news is the growth in mass transit use. The number of miles traveled on buses and trains grew at twice the rate of driving.

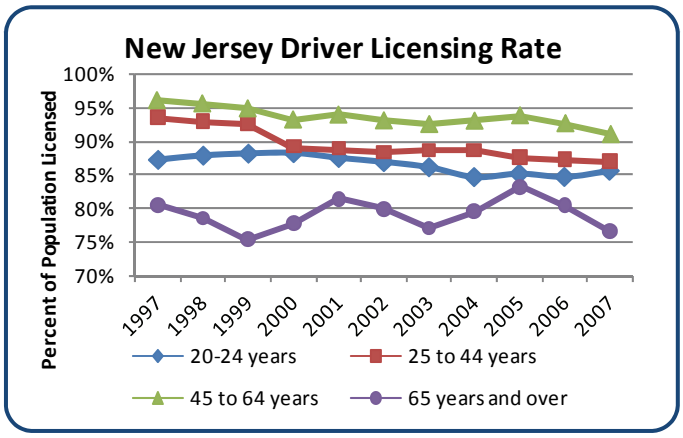
Drivers

There are just over 200,000 more licensed drivers on New Jersey's roadways today than there were in 1997. But though that number represents a 3.7 percent growth over the period, in recent years, the number of drivers has slipped below 2004 levels, after peaking in 2005.



Source: FHWA. Highway Statistics Series, Table DL-22, 1997-2007.

As a percentage of the total population, licensed drivers declined from 69.2 percent to 66.6 percent, a drop of nearly 4 percent. One possible explanation for this decline is that the state has implemented more stringent requirements for proof of identification and residence.



Source: FHWA. Highway Statistics Series, Table DL-22, 1997-2007.

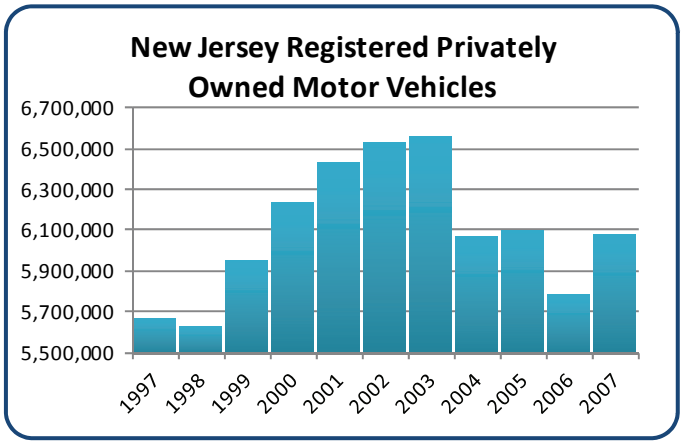
The largest drop was for drivers aged 25 to 44. In 1997, 93.6 percent of New Jersey residents in this age group held a drivers license. That fell to 86.9 percent by 2007.

Licensing rates also fell significantly for New Jersey residents aged 45 to 64 years, declining by 5.2 percent over the period. The next largest decline was for residents aged 65 years and older. Over the period, licensing rates have fluctuated considerably, but as of 2007, the percentage of that age cohort with a driver's license had fallen by 4.8 percent from 1997 rates. New Jersey residents aged 20 to 24 saw only a slight decline in licensing rates.

Despite the 2001 implementation of a statewide phased-licensing program for New Jersey's youngest drivers, the licensing rate for those aged 19 years and under actually increased by 11 percent over the period. As of 2007, 10.9 percent of residents 19 years old and younger held a driver's license.

Vehicles

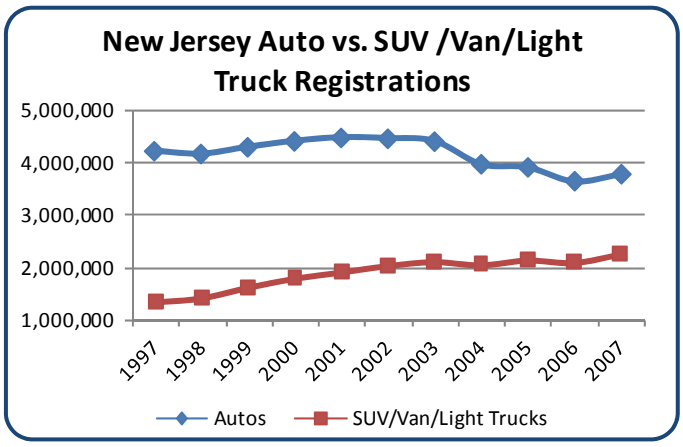
New Jerseyans registered nearly 419,000 more vehicles in 2007 than in 1997, a rise of more than 7 percent. That being said, there were two sharp declines in vehicle registrations during the period, a 7 percent drop from 2003 to 2004 and a 5 percent decline from 2005 to 2006. Vehicle registrations jumped back up in 2007, but not to the levels seen in 2003.



Source: FHWA. Highway Statistics Series, Table MV-1, 1997-2007.

Even so, New Jersey has more registered vehicles than it does licensed drivers, and 2 vehicles for every 3 residents (including children). In 2007, there were 1.05 private vehicles for every licensed driver. This rate is higher than in 1997, but significantly lower than the 2003 peak of 1.14.

Pickup trucks, minivans, and SUVs have grown significantly more popular in New Jersey. From 1997 to 2007, traditional passenger car registrations dropped about 10.3 percent. During that same period, registration of light trucks grew more than 67 percent. By 2007, the gap between auto and light truck registrations had shrunk to just 1.5 million vehicles. That said, the data does not reflect 2008's economic recession and record high gasoline prices, which undoubtedly slowed light truck sales. Anecdotal evidence suggests that Americans are beginning to abandon their love affair with SUVs and pickups and starting to return to sedans and compact cars; the early evidence of that trend may be reflected in the slight uptick in auto registrations in 2007.

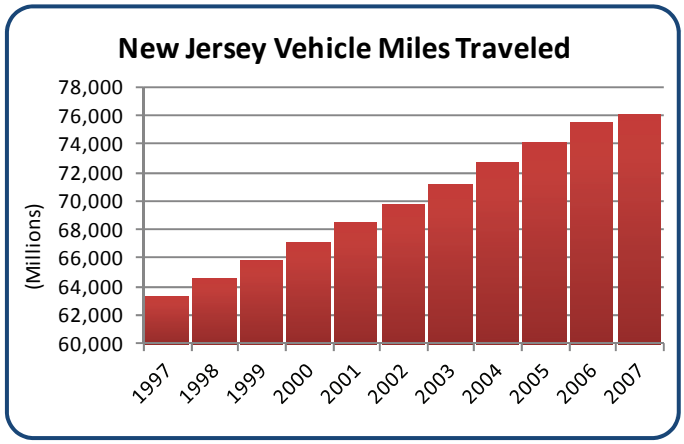


Source: FHWA. Highway Statistics Series, Table MV-1, 1997-2007.

The number of vehicle-less New Jersey households has dropped slightly in recent years, and stood at 11.6 percent as of 2007. This is a decline of 10 percent since 1990, and a drop even from 2000, when annual data first became available through the Census American Community Survey and showed 11.9 percent of families did not own a car. Still, New Jersey has a much higher percentage of vehicle-less households than the national average, which was 8.7 percent as of 2007.

Driving—Passenger Cars

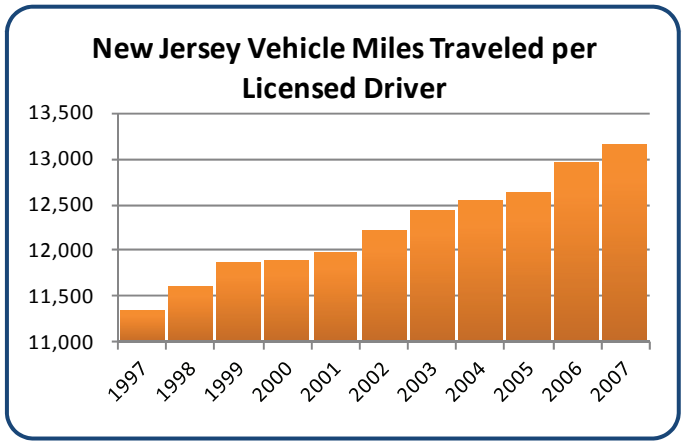
The growth in miles driven in New Jersey slowed considerably in 2007, increasing only 0.6 percent from 2006 to 2007. That represents a stark change from the trend over the last decade, when the growth in miles driven held steady at about 2 percent annually. Over the period, vehicle miles traveled (VMT) grew by 20.2 percent, amounting to nearly 12.8 billion additional miles driven in the state annually. By 2007, drivers were logging almost 76.1 billion miles each year in New Jersey—more than 208 million miles daily, equivalent to 870 trips from the earth to the moon each day.



Source: NJDOT. New Jersey's Annual Certified Public Road Mileage and VMT Estimates, 2008.

We expect that more recent data will reflect a decline in vehicle miles traveled as drivers cutback in response to the economic recession and higher gasoline prices. Nationally, VMT declined by 3.6 percent through December 2008, and on New Jersey's major tolled roads, the Turnpike and the Garden State Parkway, traffic was also down through the summer of 2008.

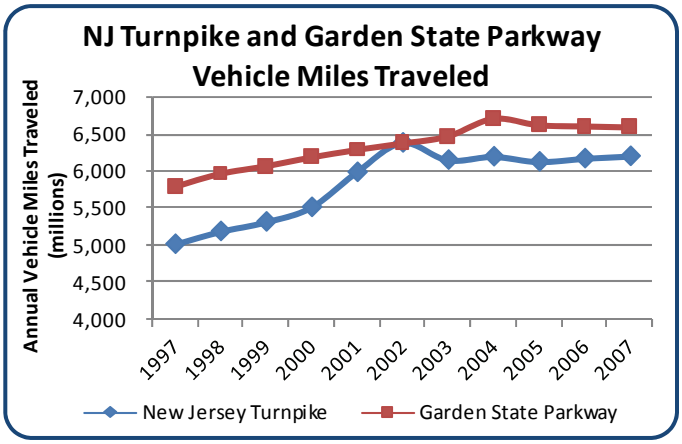
A rough calculation dividing total statewide VMT by total New Jersey licensed drivers finds that the average driver logged more than 13,150 miles in 2007. This is significantly less than the national average of 14,726 miles per driver, and likely reflects New Jersey's higher than average transit use and relatively compact development (the real average is less still because of Turnpike through traffic and other traffic by out of state drivers). Still, New Jersey motorists are driving about 1,800 more miles annually today than they were in 1997, a growth of 16 percent.



Sources: FHWA. Highway Statistics Series, Tables PS-1 and DL-22, 1997-2007.

Traffic on New Jersey's major north-south highways -- the Garden State Parkway and the Turnpike -- is up significantly since 1997, but has fallen in more recent years. Over the period, the number of vehicles on the Turnpike and the Parkway has grown 27 and 27.5 percent, respectively. But from 2006 to 2007, the number of vehicles traveling on the Turnpike has dropped by more than 1 percent, while growing just 0.6 percent on the Parkway. Preliminary 2008 figures for the Turnpike show a decline of 2.7 percent, a trend that is likely to hold true for the Parkway as well.

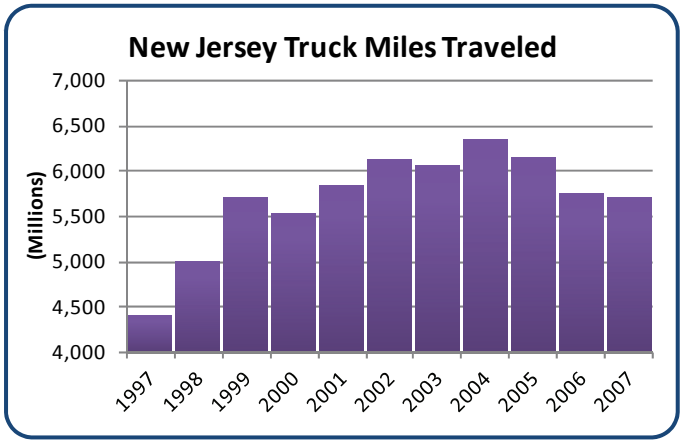
This recent data is especially interesting given that the Turnpike Authority projects to widen both highways are predicated on continuing robust traffic growth. For the Turnpike, growing truck traffic was identified as a primary reason for widening, though, as discussed below, those numbers have fallen even more dramatically than for passenger vehicles.



Source: New Jersey Turnpike Authority Operations Department Annual Accident, Mileage and Volume Statistics for Turnpike and Garden State Parkway, 1997-2008.

Driving—Trucks

Truck travel has fallen significantly in the last few years, after peaking in 2004. Truck travel jumped 44 percent from 4.4 billion miles in 1997 to 6.3 billion miles in 2004, far faster than the growth in passenger VMT over the same period. But from 2004 through 2007, truck VMT dropped by 10 percent to 5.7 billion miles. Trucks also made up a shrinking share of the vehicles on New Jersey's roadways. In 2004, trucks comprised almost 9 percent of the total miles traveled. By 2007, trucks made up only 7.5 percent of the state's total VMT.



Source: NJDOT. Travel Activity by Vehicle Type, 1997-2007.

This recent data may reflect the slowing economy. Previous forecasts, including a 2002 study from the Federal Highway Administration projected an 80 percent growth in truck travel from 1998 to 2020. And NJDOT's 2007 Comprehensive Freight Study projects that statewide truck traffic will grow by more than 113 percent from 2002 through 2030, almost double the growth rate projected for all traffic. However, an update to the FHWA analysis puts New Jersey truck growth at only 27 percent from 2002 through 2035.

The economic slowdown begun in late 2007 and continuing through 2008 and into 2009 may be contributing to the decline in trucking as shipments overall begin to fall off.

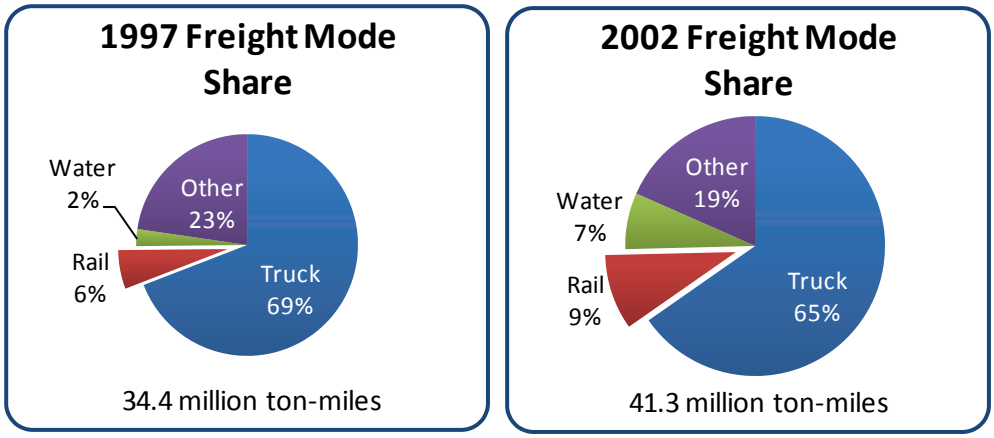
Freight traffic into, out of, and through New Jersey continued to grow at a steady clip. From 1997 to 2002 (the most recent year for which data was available) tonnage grew by just over 15 percent, while ton-miles grew by about 14

	1997		2002		Change	
	Ton-miles (millions)	Share of Total	Ton-miles (millions)	Share of Total	Ton-miles (millions)	Share of Total
Truck	23,813	69%	26,997	65%	13%	6%
Rail	1,963	6%	3,853	9%	96%	64%
Water	851	2%	2,891	7%	240%	183%
Other/ Multiple	7,818	23%	7,600	18%	-3%	-19%
Total	34,445		41,341		20%	

Source: U.S. Census Bureau, 1997, 2002 Economic Census, Transportation - Commodity Flow Survey

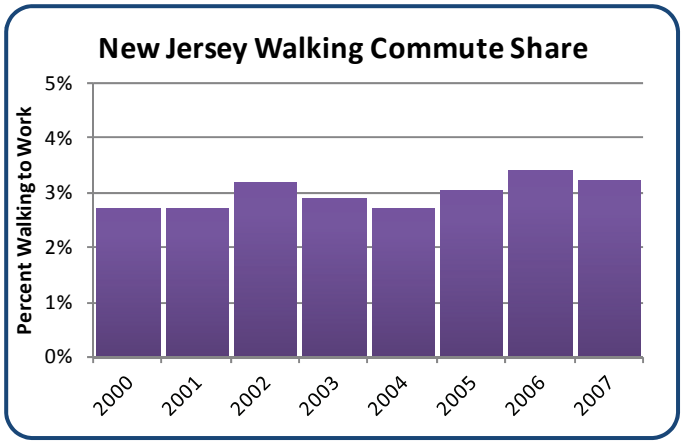
percent. Trucks continued to carry most of New Jersey's freight, hauling 65 percent of total ton-miles in 2002. However, that is a 6 percent decline over 1997, when trucks carried 69 percent of total ton-miles in the state. Rail and waterborne freight are making up the difference, carrying two and three times as many ton-miles, respectively, as they did in 1997.

Source: U.S. Census Bureau, 1997, 2002 Economic Census, Transportation - Commodity Flow Survey



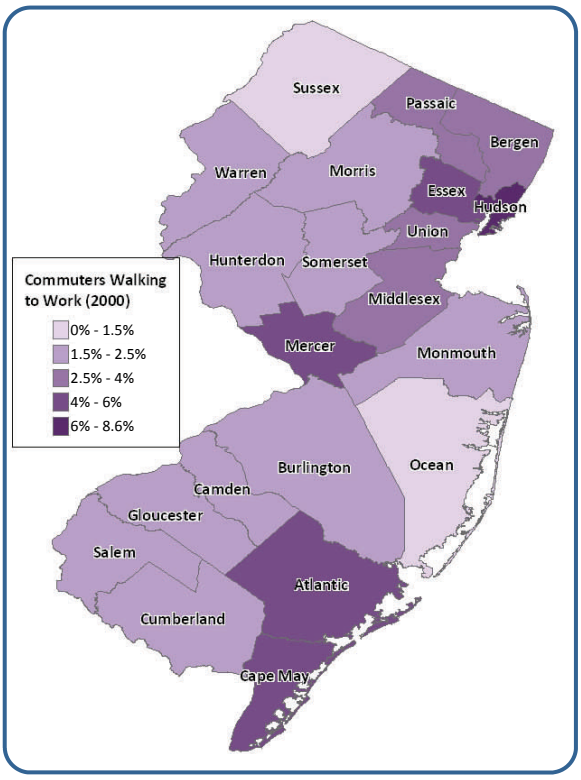
Bicycling and Walking

The share of New Jersey workers walking to work has grown by almost 20 percent, from 2.7 percent in 2000 to 3.2 percent in 2007. This is better than the trend nationally, which declined by 4 percent.



Source: U.S. Census Bureau. American Community Survey, 2000-2007.

Walking is concentrated in urban areas of northern Jersey and in the Trenton area, though counties such as Atlantic and Cape May also show significant walking rates, possibly because shore tourism-based economies rely on clustered beachfront villages (and Atlantic City).

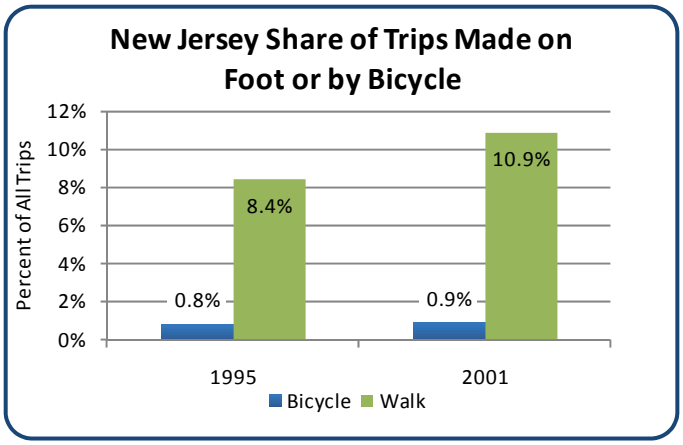


Source: U.S. Census Bureau. Decennial Census, 2000.

Census data on walking and cycling, while most consistent and available at a fine geographic scale, only considers the trip to work (comprising about 20 percent of all trips), and then only looks at the mode used most frequently and for the greatest distance.

However, data from the Federal Highway Administration's periodic survey of travel behavior examines mode choice for *all trips*. According to that survey, the share of all trips made on foot has grown 30 percent from 1995 to 2001, to almost eleven percent of trips. Bicycling grew slightly during that period, to not quite 1 percent of total trips.

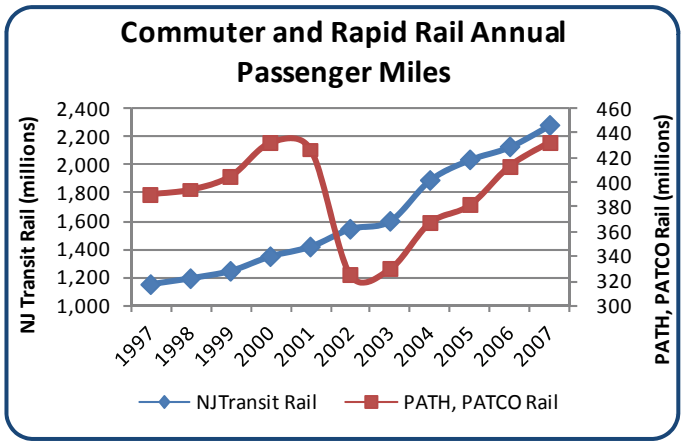
Anecdotal evidence from around the state suggests that this trend is continuing and even growing in more recent years as fluctuating gasoline prices and the economic recession spur more residents to leave their cars at home and bicycle or walk instead.



Sources: FHWA. Nationwide Personal Transportation Survey, 1995 and National Household Travel Survey, 2001.

Mass Transit Use

Growth in transit use far outpaced the rate of increase for driving, with total annual passenger miles traveled on New Jersey's state-operated bus and rail systems, as well as privately-operated bus service, and PATCO and PATH service jumping almost 45 percent from 1997 to 2007.

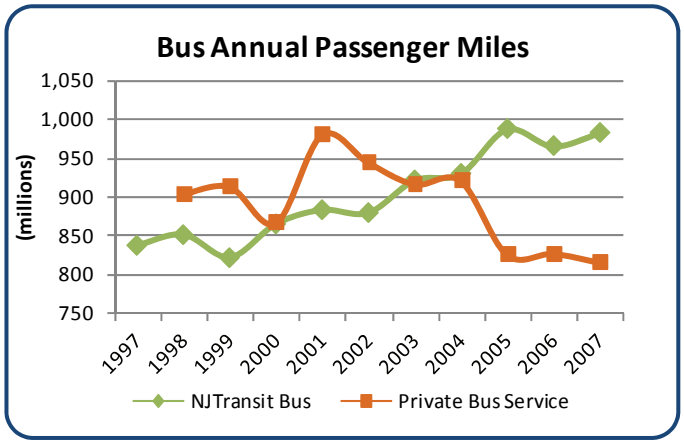


Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007.

The number of passenger miles traveled on NJ TRANSIT's commuter rail nearly doubled, from 1997 to 2007. In 2007, riders traveled nearly 2.3 billion miles on NJ TRANSIT's 11 rail lines. The surge in ridership results from service expansion such as the start of direct access to Penn Station on the Montclair and Boonton Lines in 2002, as well as increased frequency of service on other lines. Preliminary figures for 2008 indicate that the growth has continued and even accelerated as New Jerseyans flocked to transit in response to high gas prices through most of 2008. Preliminary data shows this trend holding even after gas prices dropped.

Use of PATH and PATCO rail service fell off after 2001, with annual passenger miles declining 6 percent from 1997 to 2004. PATH service, in particular, was hard hit by the September 11th terrorist attacks which destroyed the World Trade Center PATH station and forced closure of others. In 2004, PATH ridership began to recover and in 2007 it reached its highest levels to date.

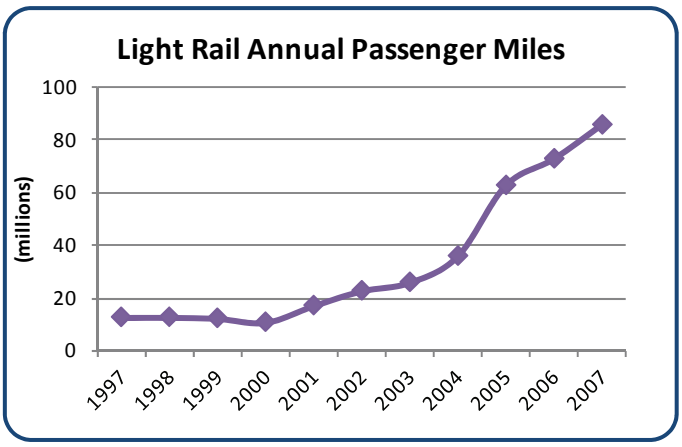
Travel on NJ TRANSIT's bus service has grown 17 percent from 1997 to 2007, with riders logging almost 983 million miles in 2007. Since 1998, the first year for which complete data were available, use of private bus service has fallen by nearly 10 percent.



Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007.

Use of NJ TRANSIT's Light Rail service has grown almost sevenfold from 1997 to 2007, largely due to the opening of the Hudson-Bergen Light Rail line in 2000, several subsequent extensions of that system, extension of the Newark subway, and the launch of the Camden-Trenton RiverLine in 2003.

Passenger miles traveled by NJ TRANSIT commuter rail grew almost six times as fast as the agency's bus ridership growth over the period. Yet buses continue to serve more transit passengers, carrying almost 63 percent of NJ TRANSIT riders in 2007, compared to 29 percent for commuter rail (light rail carrying the balance).



Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007.

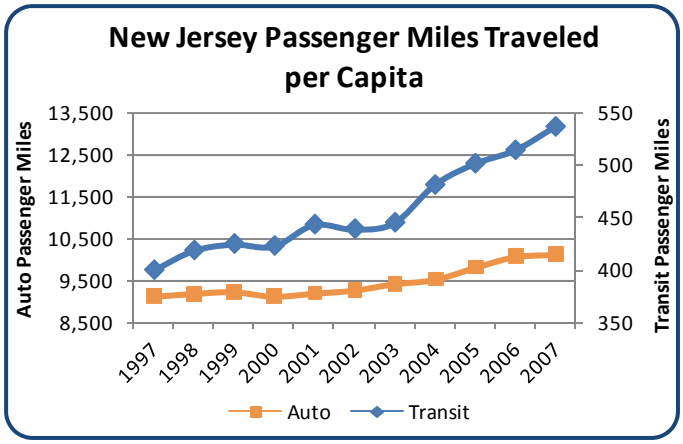
Per person, transit miles traveled grew by more than 34 percent from 1997 to 2007, three times as fast as the 11.5 percent growth in per capita driving. In 2007, every man, woman, and child in New Jersey logged 536 miles on the state's various transit systems. Car travel still dominates, however; in 2007, New Jersey residents traveled 16 times as many miles in cars and trucks than in transit vehicles.

Mode Share

New Jersey residents increasingly rely on transit to get to work, school, visit friends and run errands. The number of miles traveled annually by transit per person grew an astonishing 34 percent, a rate that is three times the growth rate for the number of miles traveled by auto per capita.

That said, driving continues to dominate travel in the state. Ninety-five percent of all passenger miles traveled were made in private cars in 2007. Five percent of all miles traveled were by mass transit.

A higher share of work trips are taken on public transit in New Jersey compared to most of the United States. According to 2007 Census data, 10.4 percent of commute trips were by mass transit. With the exception of New York State, the share of public transit work trips is higher in New Jersey than in any other state. Within the mid-Atlantic region and excepting New York and Washington, D.C., only Maryland (with 8.4 percent of commute trips by transit) and Pennsylvania (with 5.1 percent), get close to New Jersey's



Sources: FHWA. Highway Statistics Series, Table PS-1, 1997-2007 and FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007. Note: Vehicle Passenger Miles is estimated by multiplying VMT by an average vehicle occupancy rate of 1.25 persons per vehicle.

Factors Affecting Travel Choice

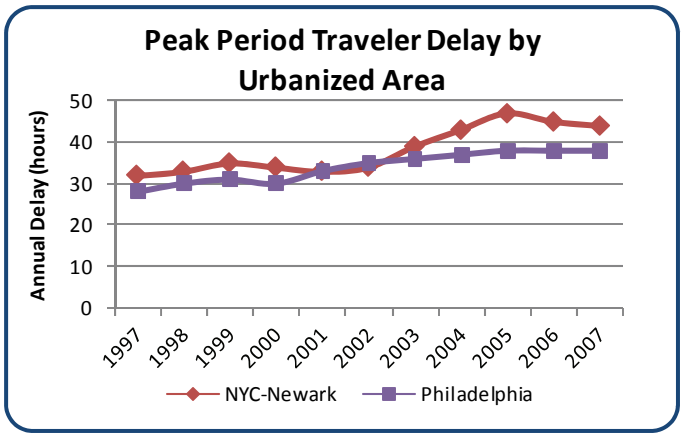
Congestion across the state is worsening, with New Jersey residents wasting half a billion hours annually stuck in traffic. The state has made little progress in reducing traffic deaths. Road conditions continue to lag, though the state has made maintenance and repair a priority. Commuter rail and bus reliability has held more or less steady.

Traffic Congestion

A 2007 poll of Garden State Parkway, New Jersey Turnpike, and Atlantic City Expressway drivers found that 26 percent of respondents perceive congestion to be worse than it was just two years ago. Only 15 percent of respondents feel that congestion has improved.

The Texas Transportation Institute's annual Urban Mobility Study is the best known source of congestion trends. However, that study tracks congestion data only for selected "urbanized areas," as defined by the Federal Highway Administration. Only two New Jersey areas are included — New York-Newark and Philadelphia — however, these areas together cover almost the entire state.

According to the 2009 Urban Mobility Study, annual delay per peak period traveler has grown considerably in both of New Jersey's urban areas. In the New York-Newark urbanized area, delay grew 38 percent, from 32 hours in 1997 to 44 in 2007. Delay grew at the rate of 36 percent in the Philadelphia urbanized area, which includes sprawling areas of southern New Jersey, from 28 hours per peak period traveler to 38 hours.



Source: Texas Transportation Institute. *2007 Urban Mobility Study*. Sept. 2007.

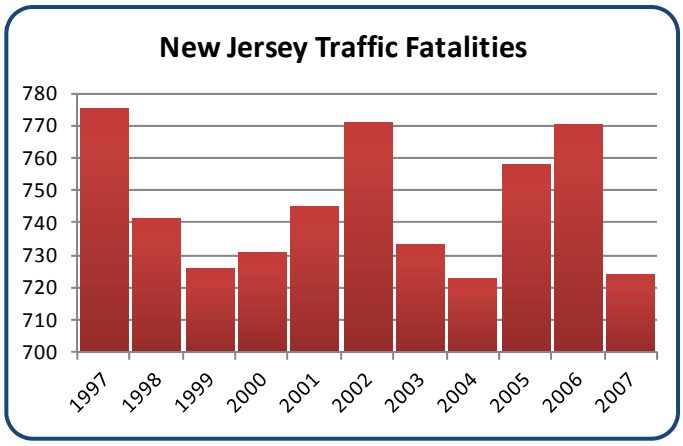
Average statewide commute times have increased 3.8 percent from 2000 to 2007, growing from 28.7 minutes to 29.8 minutes, according to data from the Census American Community Survey. There is significant year-to-year variability however, making it difficult to discern a trend.

Future years may show some improvement in congestion, however, as New Jersey residents curb their driving. TTI's Urban Mobility Study shows a slight drop in New York metro area annual delay from 2005. And a 2009 report from the traffic technology firm Inrix found that congestion had declined by more than 25 percent in both the New York and Philadelphia metro areas from 2007 to 2008. That report concluded that even a small decline in the number of miles driven can trigger big improvements in congestion.

Traffic Fatalities and Injuries

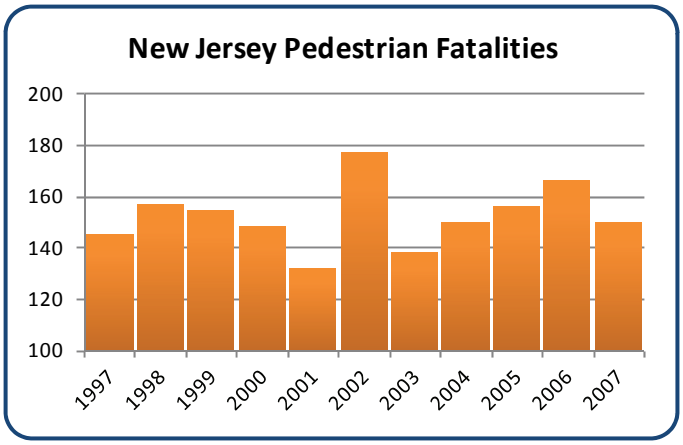
In 2007, 724 motorists, pedestrians, and bicyclists were killed in traffic crashes on New Jersey's roadways. This is significantly fewer fatalities than the 775 killed in 1997. However, it does not reflect the dramatic 18.2 percent decline in fatalities in 2008, to 592 total fatalities statewide, 132 fewer deaths than in 2007. This recent plunge in fatalities most likely results from the decline in vehicle miles traveled statewide, expected to drop three percent over the previous year.

Per capita traffic fatalities have dropped 13.6 percent from 96 per 1 million residents in 1997 to 83 in 2007. And the number of miles driven between traffic fatalities has grown more than 23 percent during the period, from 81,649 in 1997 to 2007 to 105,073.



Source: NJ Dept. of Law and Public Safety, 1997-2007.

Data analysis from the Transportation Safety Resource Center at Rutgers University shows that traffic injuries have fallen steeply, from 79,786 in 2003 to 68,806 in 2007, a decline of 13.8 percent in just five years.

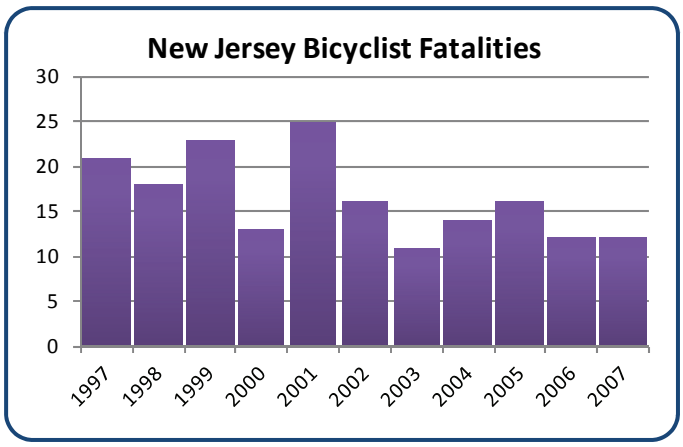


Source: NJ Dept. of Law and Public Safety, 1997-2007.

Pedestrian fatalities meanwhile have grown during this period, with 150 pedestrians killed in 2007 compared to 145 in 1997. However, as with total traffic fatalities, year-to-year data vary within a fairly defined range (averaging about 150 per year) rather than describing a clear upward or downward trend. As with total traffic fatalities, pedestrian fatalities have declined significantly in the most recent year, dropping to 137 in 2008.

Pedestrian fatalities remain approximately 20 percent of total traffic fatalities. This is significantly higher than the national average of 11 percent, according to National Highway Traffic Safety Administration data.

Bicyclist fatalities have declined steadily over the decade, dropping from 21 in 1997 to 12 by 2007. The average annual fatalities from 1997 through 2001



Source: NJ Dept. of Law and Public Safety, 1997-2007.

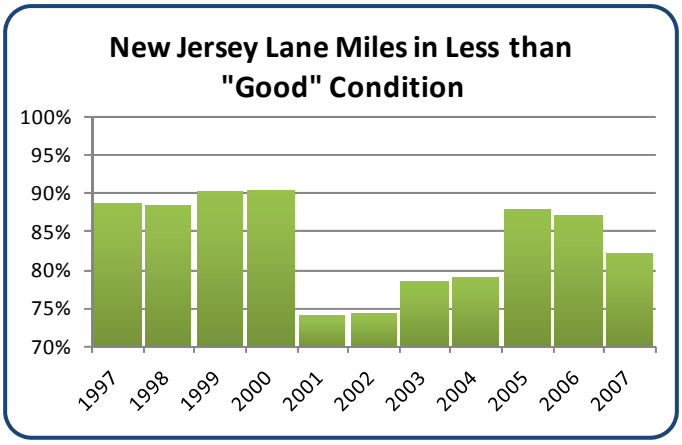
was 20, but dropped to just 13.5 from 2002 on. However, preliminary data for 2008 show the trend reversing itself, with the number of cyclists killed in traffic collisions doubling over the previous year. New Jersey law enforcement officials have theorized that the spring and summer spike in gasoline prices motivated more residents to bicycle to work or to run errands.

Road and Bridge Conditions

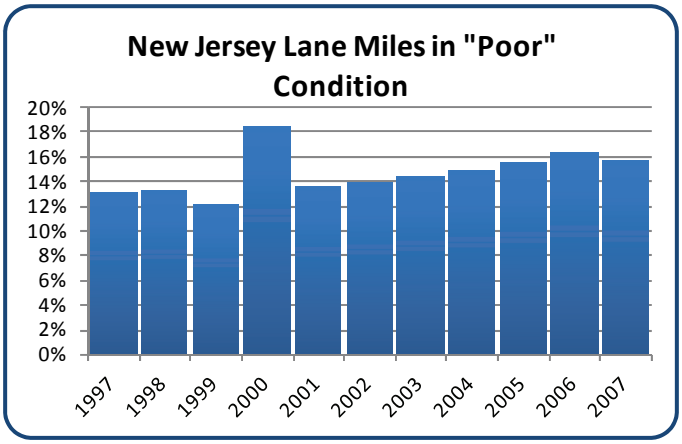
Eighty-two percent of New Jersey's major roadway lane miles were rated in "less than good" condition in 2007.* New Jersey's roads rank 3rd worst in the country by this metric, behind Hawaii and Rhode Island. Still, this represents an improvement from 1997, when just under 89 percent of lane miles were rated "poor," "mediocre" or "fair."

All of the improvement occurred between 2000 and 2001, with road conditions returning to near 1997 levels in recent years, and then showing slight improvement again in 2007. Most of the improvement was among roads rated mediocre or fair. The percentage of lane miles rated "poor" grew more than 20 percent, to almost 16 percent, the highest rate in the nation (excluding D.C.). A recent report from the American Association of State Highway and Transportation Officials found that New Jersey's poor roads cost drivers an additional $596 per year in car repair and maintenance expenses.

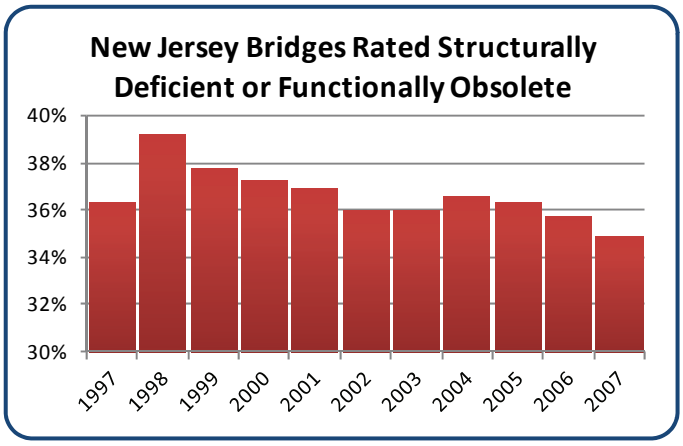
During the same period, there has been more improvement in the state's bridges. In 1997, 36.3 percent of the state's 6,448 bridges were found to be structurally deficient or functionally obsolete. That grew to a high of just over 39 percent in 1998, and then fell throughout the period to 34.9 percent in 2007. As of 2007, New Jersey has the eighth highest percentage of deficient bridges in the country (excluding D.C.).



Source: FHWA. Highway Statistics Series, Table HM-64, 1997-2007.



Source: FHWA. Highway Statistics Series, Table HM-64, 1997-2007.



Source: FHWA. National Bridge Inventory, , 1997-2007.

Since 2001, the state has embraced a "fix-it-first" policy, making road and bridge maintenance a priority over new expansion. That policy seems to be working. Bridges have been especially prioritized, and this focus is reflected in

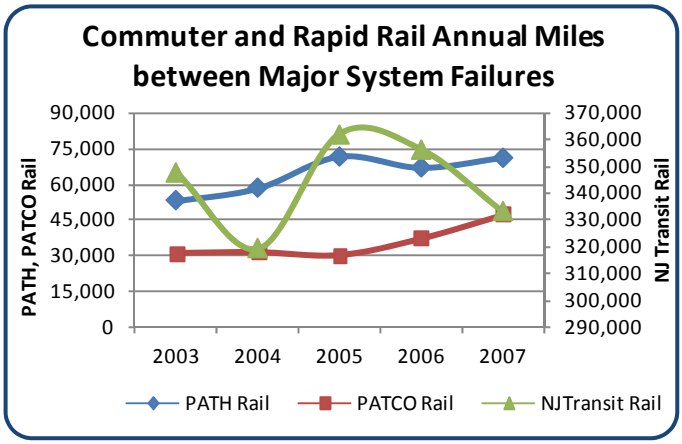
*Based on the International Roughness Index in which a score of less than 95 is considered "good;" a score of more than 170 on Interstates, and more than 220 for other roads is "poor."

the improvement in bridge conditions.

That said, in recent years that state has begun to backslide somewhat on prioritizing fix-it-first projects, putting new emphasis on major roadway widening plans such as those to expand the Garden State Parkway and the New Jersey Turnpike. The Campaign's 2009 analysis of the New Jersey Department of Transportation Capital Plan revealed that even without those major expansion projects, the state's proposed Fiscal Year 2009 transportation budget shifts more funding to capacity additions than in recent years, with the trend accelerating in future years.

Reliability of Mass Transit

The reliability of NJ TRANSIT commuter rail held more or less steady over the period 2003 to 2007 (prior data was deemed unreliable and was omitted), with the number of miles traveled between major system failures declining by 4 percent over the period. By 2007 NJ TRANSIT railcars were traveling a remarkable 330,000 miles between breakdowns. However, the year-to-year variability over such a short period makes it difficult to say conclusively that rail reliability is clearly trending to the better.



Sources: FTA. National Transit Database, Revenue Vehicle Maintenance Performance: Details by Transit Agency Directly Operated Service, 2001-2004 and Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 2001-2007; NJ TRANSIT and PATH data.

The PATCO system showed significant improvement, with the number of miles traveled between major mechanical failures growing by 53 percent, from just under 30,700 miles in 2003 to nearly 47,000 miles by 2007. Similarly, the PATH rail system showed a 34 percent increase in the number of miles traveled between major system failures, traveling more than 71,000 miles between failures in 2007. Importantly, PATH and PATCO trains traveled significantly fewer miles between failures than NJ TRANSIT, with PATH and PATCO trains traveling tens of thousands of miles between failures compared to NJ TRANSIT's hundreds of thousands of miles.

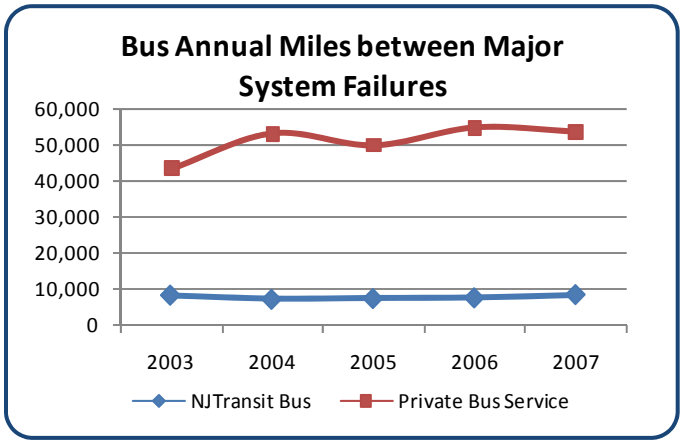
Fleet-wide, the system was slightly younger in 2007 than in 2001, with the average railcar age just over 21 years in the most recent year. This is significantly older than FTA guidelines which suggest an average fleet age of 12 to 15 years. It should be noted that the PATH system is in the process of replacing its entire fleet of railcars.

By another measure of reliability, on-time performance, NJ TRANSIT's commuter rail service is highly variable and largely dependent on Amtrak rail service. NJ TRANSIT's busiest rail line, the Northeast Corridor Line, reported the systems worst on-time performance, with just over 85 percent of trains arriving at the scheduled time. The Northeast Corridor Line shares track with Amtrak, which takes precedence over NJ TRANSIT trains.

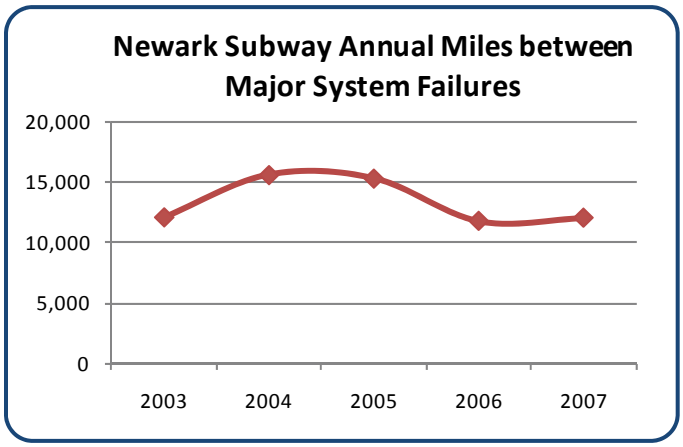
New Jersey's private bus carriers are in better condition now than they were in 2003, with miles traveled between failures growing almost 24 percent to 53,842.

Meanwhile, the condition of NJ TRANSIT buses has held more or less steady, ranging between 7,400 and 8,700 miles traveled between failures over the period. Interestingly, NJ TRANSIT bus conditions have failed to improve even as the fleet has grown younger. In 2001, the average NJ TRANSIT bus was 9.5 years old. That dropped to 8.4 years in 2007.

The sharp contrast between private bus carriers and NJ TRANSIT buses likely reflects the very different markets that they serve. While the private bus carriers largely serve commuters traveling into New York City with much of their mileage racked up on highways, NJ TRANSIT buses serve local routes, traveling on sometimes poorly-maintained local roads.



Sources: FTA. National Transit Database, Revenue Vehicle Maintenance Performance: Details by Transit Agency Directly Operated Service, 2001-2004 and Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 2001-2007.



Sources: FTA. National Transit Database, Revenue Vehicle Maintenance Performance: Details by Transit Agency Directly Operated Service, 2001-2004 and Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007.

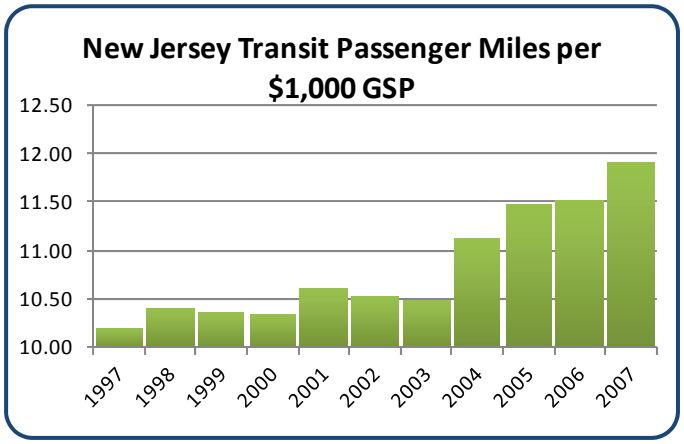
Finally, the Newark Subway system's reliability held just about steady over the period from 2003 to 2007, with the number of miles traveled between failures ending at just over 12,000 in 2007, after a slight improvement in 2004 and 2005.

Transportation & the Business Cycle

The state's economy has grown more transit-oriented and less car-oriented over the period. The trend toward an economy more dependent on trucking seems to have reversed itself in recent years.

Transit

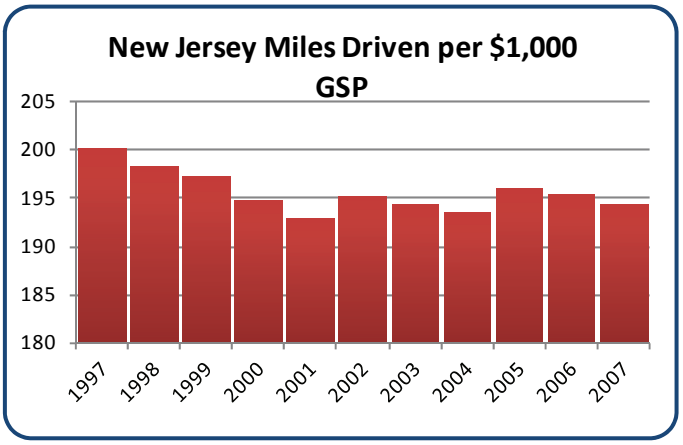
From 1997 to 2007, the state's economy become more transit-oriented. The number of mass transit passenger miles per $1,000 of Gross State Product grew nearly 17 percent, from 10.2 in 1997 to 11.9 in 2007. This indicates that greater numbers of New Jersey residents used transit to get to and from work, to conduct their shopping, to visit restaurants or movie theaters, or otherwise spend or earn money.



Sources: NJ Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2007 (Millions of Chained 2000 Dollars) and FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2007.

Transportation Efficiency of New Jersey's Economy

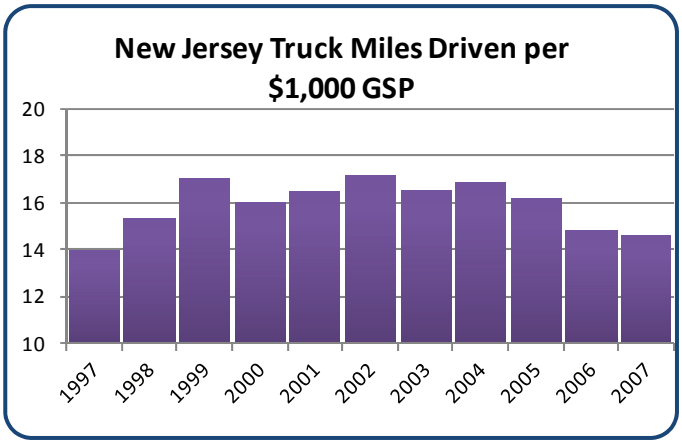
The corollary to that finding is that the state's economy became slightly more highway efficient during the same period. In 1997, residents drove 200 miles for every $1,000 in Gross State Product earned or spent. That dropped by nearly 3 percent to about 194 miles in 2007. This may reflect growth in transit use statewide. It may also reflect the 13.3 percent jump in output per worker (see "Baselines"), as fewer workers (and fewer drivers) are required to produce a larger GSP.



Sources: New Jersey Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2007 (Millions of Chained 2000 Dollars) and FHWA, Highway Statistics Series, Table PS-1, 1997-2007.

Goods Movement

The state economy relied slightly more on trucking in 2007 than in 1997. The number of truck miles traveled per $1,000 of Gross State Product grew by just under 4.4 percent, to 14.6 truck miles traveled for every $1,000 dollars of economic output produced in the state. This number represents a sharp decline from the peak of 17.1 miles in 1999, with the decrease occurring mostly in the last three years. Should this downward trend continue, one could argue that the state's freight system is steadily growing more efficient and less dependent on trucking.



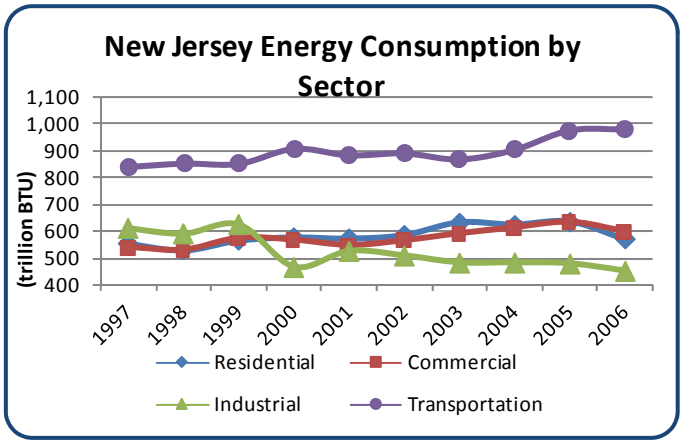
Sources: New Jersey Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2007 (Millions of Chained 2000 Dollars) and NJDOT. Travel Activity by Vehicle Type, 1997-2007.

Energy and Environmental Impacts

Energy consumption for transportation has grown, with gasoline consumption up significantly and fuel economy dropping somewhat. This corresponds to a large increase in greenhouse gas emissions, though air pollutant emissions from cars and trucks has fallen.

Energy Consumption

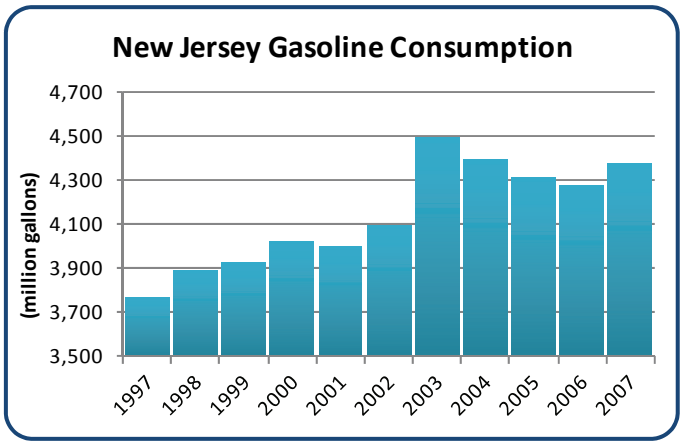
New Jersey residents consume far more energy for transportation than for residential, commercial or industrial uses. And though total energy consumption for the state has grown only slightly (2.5 percent) in recent years, largely driven by a significant drop in industrial energy consumption, progress has been hampered by the growth in energy use for transportation (including transit). In 1997, New Jersey residents consumed 838 trillion BTUs for transportation. By 2006 (the most recent year for which data is available) that had grown more than 17 percent to 981 trillion BTUs. The transportation sector now accounts for more than 37 percent of total energy consumption in the state.



Source: Energy Information Administration. State Energy Consumption, Price, and Expenditure Estimates, 1960-2006.

Recent data from the Federal Highway Administration examines the trend in gasoline consumption. That data shows a significant increase in gasoline use over the period from 1997 to 2007. New Jersey residents consumed nearly 4.4 billion gallons of gas in 2007, up 16.0 percent since 1997. This amounts to more than 500 gallons annually per capita.

The growth in gasoline consumption, however, does appear to be slowing or even reversing itself. After peaking in 2003, gas use dropped in the years 2004, 2005 and 2006, growing again in 2007. Preliminary data show marked declines in gasoline consumption in 2008, as higher prices and then the economic recession suppressed driving.

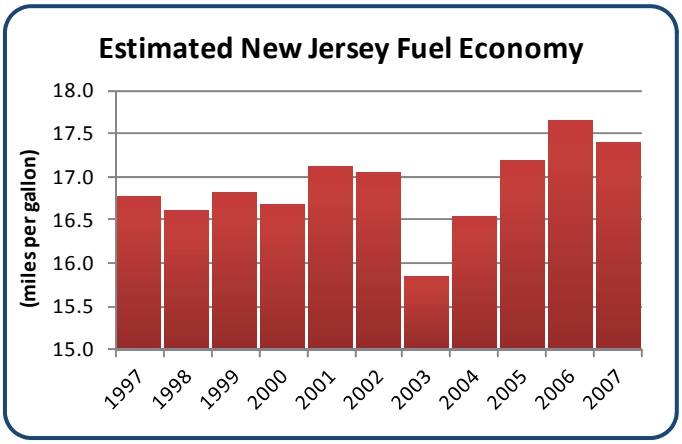


Source: FHWA, Highway Statistics Series, Table MF-33GA, 1997-2007.

The slowdown in gasoline consumption may be attributed not just to suppressed driving, but also to improving

fuel economy. In 1997, New Jersey residents averaged 16.8 miles per gallon. That bottomed out at 15.8 miles per gallon in 2003 and then improved to 17.7 miles per gallon in 2006, falling slightly in 2007 to 17.4 miles per gallon. As more New Jersey residents turn to fuel efficient vehicles in response to fluctuating gas prices, fuel economy can be expected to continue to improve going forward.

Fuel economy as measured here may also be slightly low because of the "border effect" created as large numbers of non-residents and truckers purchasing gasoline in New Jersey (which has one of the nation's lowest motor fuel taxes), even as they do most of their driving in neighboring states.

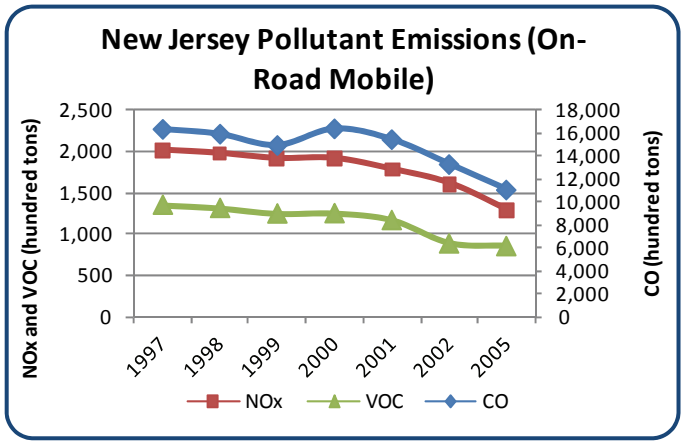


Source: FHWA, Highway Statistics Series, Tables PS-1 and MF-33GA, 1997-2007.

Air Pollution

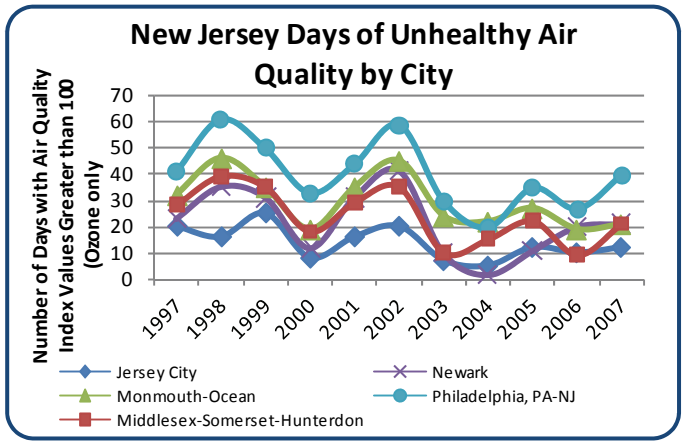
Though the relative scarcity of air quality monitoring stations in the state makes it difficult to pinpoint changes in air quality, U.S. EPA data indicate a dramatic decline in air pollutant emissions from cars and trucks, all attributable to vehicle fleet turnover and federal emissions control mandates. Carbon monoxide (CO) emissions from motor vehicles have dropped more than 32 percent from 1997 to 2005 (the most recent year for which data is available). Nitrogen oxides (NOx) emissions from motor vehicles have fallen 36 percent. And motor vehicle-related volatile organic compounds (VOC) emissions plunged 37 percent during the period. The most dramatic reduction in motor vehicle-related emissions occurred in fine particulate matter (PM 2.5). Those emissions fell almost 54 percent during this period. While heavy duty construction vehicles and other off-road mobile sources are a primary contributor of this especially harmful pollutant, light duty motor vehicles and diesel trucks are also significant sources, particularly because they are present in high numbers in virtually all locations.

The five New Jersey cities for which air quality data was available have shown significant improvement over the period, beginning in 2003. Jersey City had just 12 days of unhealthy levels in 2007, compared to a high of 25 in 1999. Newark, Middlesex-Somerset-Hunterdon, and Monmouth-Ocean each had 21 days of unhealthy ozone levels in 2007, down from near or more than 40 days



Source: US EPA, Criteria Pollutant Emissions Summary Files, 1997-2005.

earlier in the late 1990s and early 2000s. But the year-to-year variability shows no clear improvement in air quality, even as emissions from the transportation sector have declined. Transportation emissions may be especially concentrated in these cities so that the air quality trends don't necessarily reflect statewide declines in emissions. In these cities, poor air quality may also be driven by emissions from non-transportation sources and/or influenced by especially hot weather.

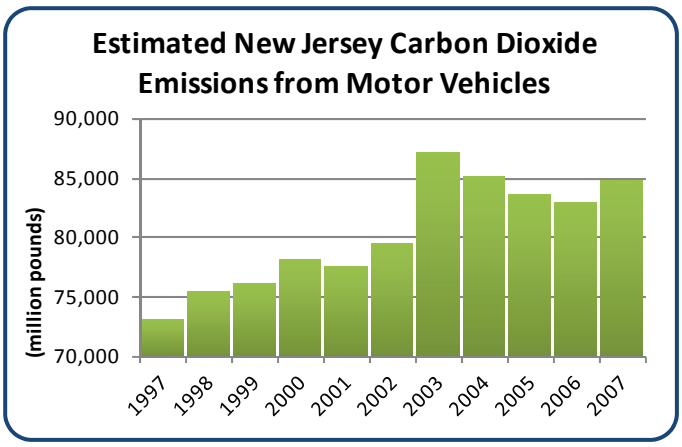


Source: US EPA, Number of Days with Air Quality Index Values Greater than 100 at Trend Sites, 1990 - 2004, and All Sites 2007 (Ozone Only).

Greenhouse Gas Emissions

According to "The Carbon Boom," a recent report from NJPIRG, the transportation sector is responsible for 54 percent of New Jersey's total carbon dioxide emissions (compared to 28 percent nationwide, according to the U.S. Department of Transportation).

Emissions of carbon dioxide, a primary greenhouse gas, from motor vehicles rose steadily throughout much of the period, with a significant jump from 2002 to 2003. More recently, emissions have declined somewhat, rising again in 2007. Overall, New Jersey motorists emitted almost 85 billion pounds of carbon dioxide in 2007, up 16 percent from 1997 levels. This growth mirrors the growth in New Jersey gasoline consumption (page 30), because carbon dioxide emissions are directly proportionate. As with gasoline consumption, we expect carbon dioxide emissions to fall in 2008 as driving slowed.



Source: FHWA, Highway Statistics Series, Tables PS-1 and MF-33GA, 1997-2007 and US EPA, Emission Facts: Average Carbon Dioxide Emissions Resulting from Gasoline and Diesel Fuel, 2005. Note: Because CO2 emissions are derived by multiplying gasoline consumption by 19.4 pounds, this trend follows the trend in gas consumption.

Per capita carbon dioxide emissions have also grown steadily during this period, rising almost 8 percent from 1997 to 2007. As of 2007, annual carbon dioxide emissions per resident came to nearly 9,800 pounds.

Methodology

This report was prepared by the Tri-State Transportation Campaign staff over a period of nearly a year. Campaign staff reviewed dozens of sources, culling the most indicative data to tell the story of how New Jersey's transportation system has performed in recent years.

With a few exceptions, each metric includes the trend over time, typically the period from 1997 to 2007. This period was selected because 1997 was commonly the earliest year for which data was available, and 2007 was the most recent year for which complete data was available. In a few cases, data were not available for this time period, and the Campaign instead used the most similar range of years available.

In most cases, federal data was utilized. This was because federal data was deemed most consistent over the period examined, and also because it was relatively easy to track down and compile.

Sources for each of the metrics are carefully identified alongside the accompanying charts or maps.

TRI-STATE TRANSPORTATION CAMPAIGN

350 W 31st Street
New York, NY 10001
p: (212) 268-7474 f: (212) 268-7333
www.tstc.org