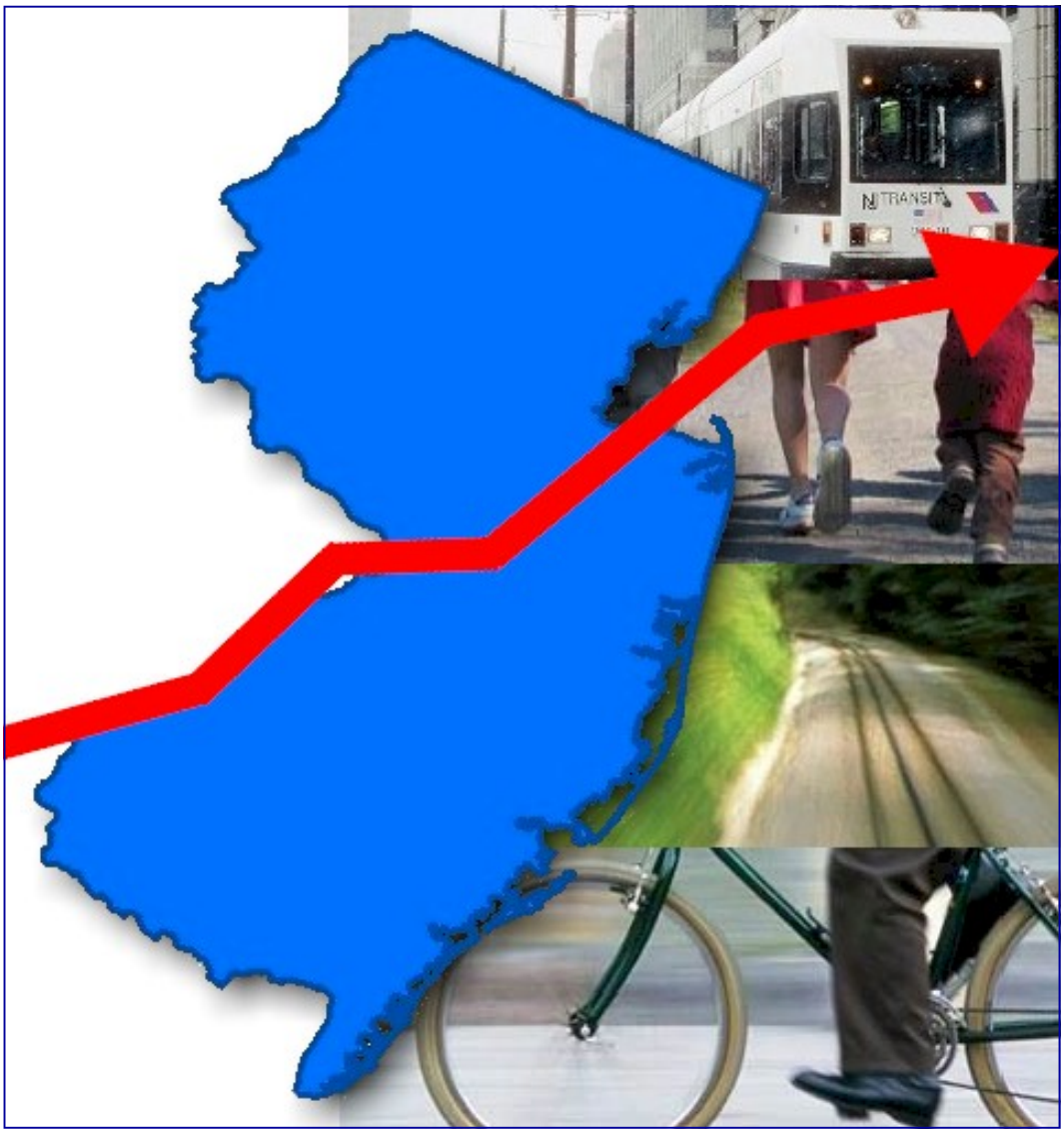
The State of Transportation 2006

Benchmarks for Sustainable Transportation in New Jersey



Tri-State Transportation Campaign

December 2006

The State of Transportation 2006

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. New Jersey has charted several major new directions in transportation in recent years. Since the mid-1990s, NJ Transit has been the eastern United States' leader in developing new mass transit lines and capacity. The New Jersey DOT has recently become involved in corridor planning in partnership with municipal governments to attempt to forestall the future generation of congestion-causing vehicle trips.

The affect of these policies on the real world of travel behavior and transportation conditions needs to be examined. Global trends such as rising fuel prices, increased trade and shipping and vehicle emissions contributing to climate change also have strong potential to shape transportation trends and conditions, and need to be recognized and taken into account by political leaders, government agencies, the business community, municipalities and the citizenry.

In this first, 2006 report, we look back over several years to establish recent trends, to set a context for future developments. Across the set of yardsticks here, we found that the range of years **1997-2004** allowed us to establish the widest consistent set of measures. While not a conventional, round number of years such as a single decade, the period does take 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 residents are traveling now more than ever, with total vehicle miles of travel (VMT— a measure of all driving) and transit use soaring 15 and 30 percent respectively in recent years.
- Mass transit is an increasingly important part of the state's transportation system, with miles traveled on transit growing at twice the rate of driving.
- Freight movement, and particularly truck travel, is growing much faster than passenger travel, and managing this trend looms as a major challenge for state transportation planners.
- The state has made little to no progress in reducing traffic fatalities.
- The number of breakdowns on the state's commuter rail system has declined, though it has increased for the state’s buses.
- 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 2004, energy consumption for transportation, especially gasoline use, continued to increase as residents traded cars for SUVs and light trucks.
- Transportation-related greenhouse gas emissions are rapidly accelerating.

Contents

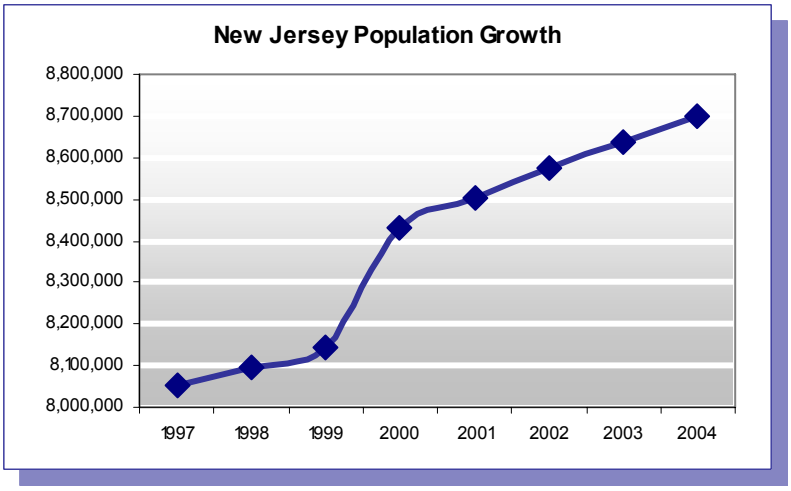
Baseline Conditions

New Jersey's population has grown 8 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.

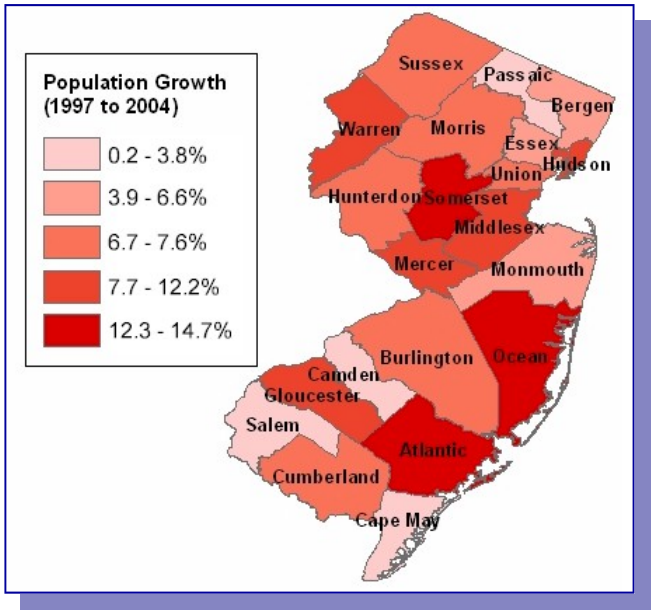
These trends have important implications for the state's transportation system. Sprawling development (both residential and commercial) is not easily served by transit (or accessible on foot or bicycle) and will generate more driving and traffic congestion.

Population

New Jersey added 644,701 residents during the period from 1997 to 2004, a growth averaging about 1 percent per year, or 8 percent total. This is slightly less than the national average of 9.7 percent over the period, but higher than New Jersey's neighbors, New York and Pennsylvania, which saw 6 percent and 3.2 percent growth respectively. It should be noted that the large jump seen from 1999 to 2000 reflects data gleaned from the Decennial Census. This is a much more accurate counting of residents than the yearly population estimates provided by the Census.



Source: U.S. Census Population Estimates by County, 1997-2004.



Source: U.S. Census Population Estimates by County, 1997-2004.

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 cen-

tral shore counties. Growth rates for Northern Jersey were as varied as those in Southern Jersey counties. In absolute growth, Middlesex County saw the largest increase, adding 77,506 people from 1997 to 2004. Ocean County was just behind, adding 70,856 people. On the other end of the spectrum, Salem County added just 106 people during this period, and Cape May County added only 2,826 new residents.

As a group, New Jersey's major cities grew more slowly than the state, with population increasing only 4.8 percent from 1997 to 2004. How-

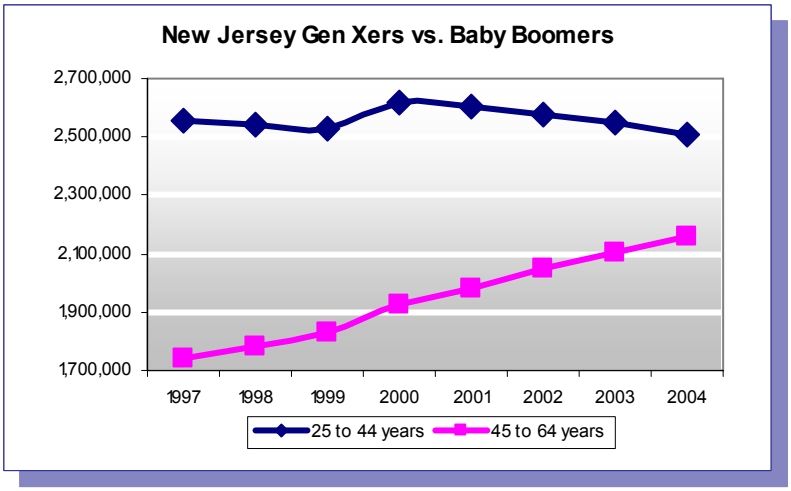
Cities over 50,000	*1997 Population*	*2004 Population*	*Change*
Newark	266,952	280,451	5.1%
Jersey City	230,562	239,079	3.7%
Paterson	148,725	150,869	1.4%
Elizabeth	110,508	124,724	12.9%
Trenton	84,957	85,379	0.5%
Camden	84,291	79,948	-5.2%
Clifton	75,458	79,944	5.9%
East Orange	70,002	68,930	-1.5%
Passaic	61,045	68,662	12.5%
Union City	57,393	66,167	15.3%
Bayonne	60,682	60,748	0.1%
Vineland	55,872	58,009	3.8%
New Brunswick	41,649	50,010	20.1%
Total Major Cities	1,348,096	1,412,920	4.8%

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 5 percent, from 84,291 in 1997 to 79,948 in 1997, New Brunswick's population grew by 20 percent during that period, crossing the 50,000 mark in 2004.

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 24 percent from 1997 to 2004, even as the population aged 25 to 44 years dropped by almost 2 percent. By 2004, one in four New Jersey residents were between the ages of 45 and 64 years, up from less than 22 percent in 1997.

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. STPP's report found that New Jersey fares better on this measure than many states. 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 (compared to just 17 percent of older drivers). 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.

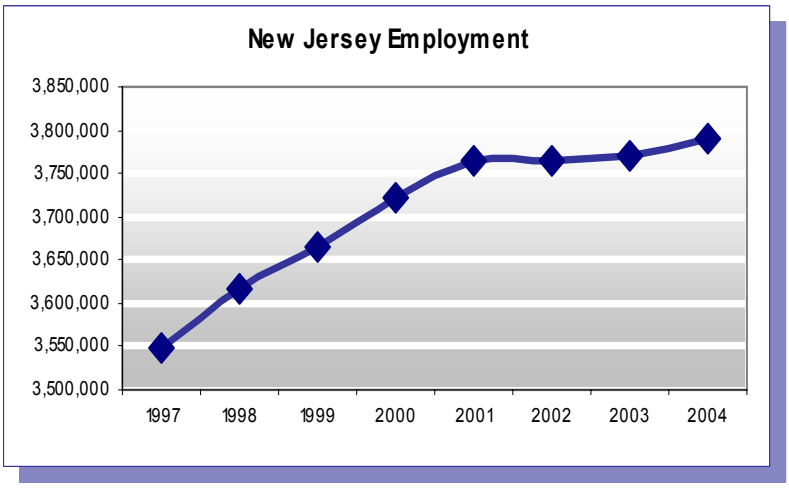


Source: U.S. Census Population Estimates by County, 1997-2004.

Employment

Even as New Jersey's Gross State Product enjoyed substantial growth (see next section) employment failed to keep pace. From 1997 to 2004, the state added just 242,000 jobs, representing growth of less than 7 percent. Increase in jobs was slower than growth in total state population, especially for the population aged 18 to 64.

Much of the employment growth occurred in New Jersey's historically rural counties. For example, Gloucester and Sussex Counties saw job growth of 21 and 23 percent, respectively. During the same period, Essex County added only 4,076 jobs, for growth of 1.2 percent. Union



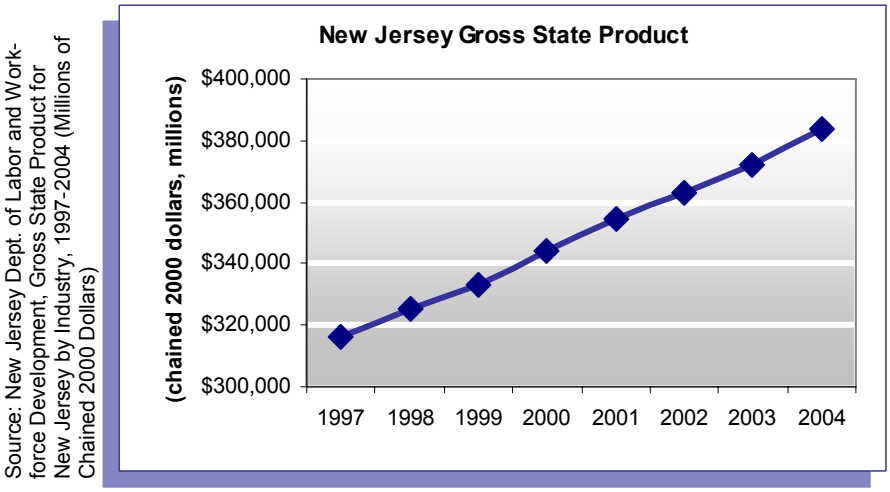
Source: Bureau of Labor Statistics. Quarterly Census of Employment and Wages, 1997-2004.

County added only 6,000 jobs, a 2.7 percent increase.

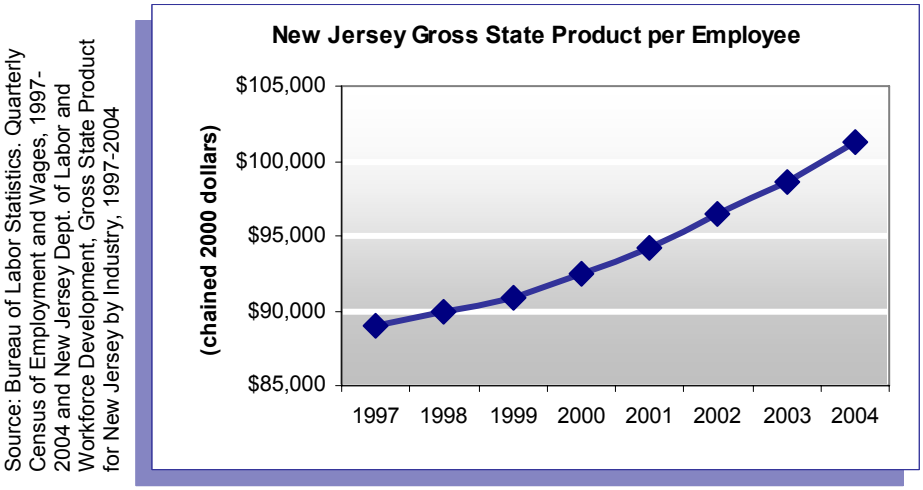
Gross State Product

New Jersey's economy grew at a steady rate during the period 1997 to 2004. Annual Gross State Product (in 2000 dollars) climbed from $316 billion to nearly $384 billion, a growth of more than 20 percent.

This increase is slightly lower than the national rise in Gross Domestic Product. During the same time period, GDP (2000 dollars) jumped from $8.7 trillion to almost $10.8 trillion, a growth of 23.6 percent, according to Bureau of Economic Analysis data. But New Jersey's economic growth nevertheless outpaced its neighbors, New York and Pennsylvania.



Source: New Jersey Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2004 (Millions of Chained 2000 Dollars)



Source: Bureau of Labor Statistics. Quarterly Census of Employment and Wages, 1997-2004 and New Jersey Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2004

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 2004. That metric grew 13.6 percent, from about $89,000 per worker in 1997 to over $101,200 in 2004.

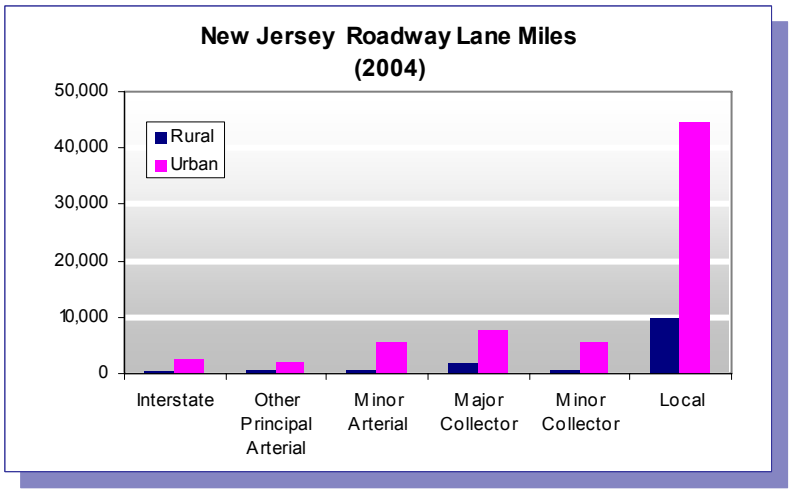
Transportation Systems

New Jersey boasts an extensive, and growing transportation network, with 83,000 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 83,000 lane-miles of Interstates, freeways, expressways, arterials and local roads criss-crossing the state. More than 80 percent of the lane-miles (center-line miles multiplied by the number of lanes for each segment) are in urban and suburban areas. Local 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. The revised 2004 data should provide an accurate baseline by which we can examine the trend in roadway mileage going forward from this report, but we do not establish any recent trend here. Nonetheless, the data is critical in part because it helps determine how much federal transportation funding the state receives. It is also an important gauge of how well the state is implementing its fix-it-first infrastructure philosophy, and the smart growth principle of directing development into areas with mature infrastructure.



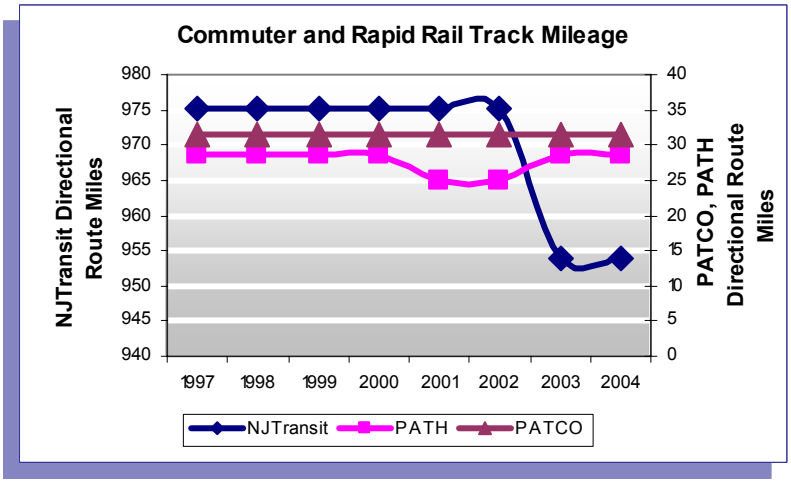
Source: FHWA. Highway Statistics Series, Table HM-60, 1997-2004.

Transit Mileage

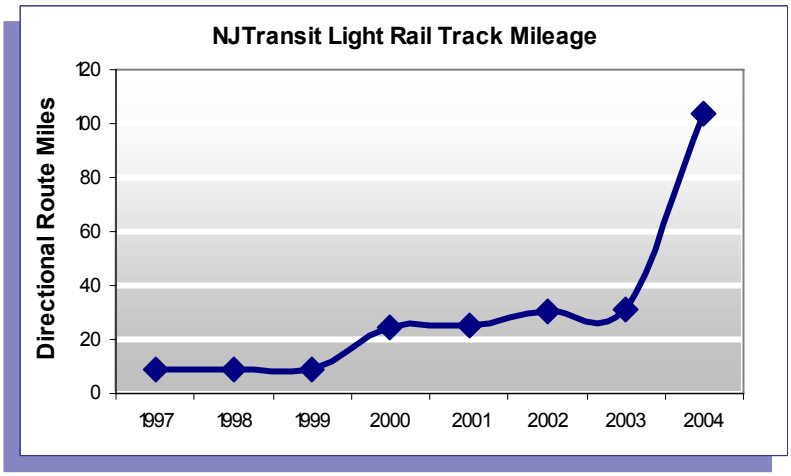
We gauged dedicated bus lane mileage according to the number of directional route miles exclusively designated for buses, plus high occu-

pancy vehicle lanes permitting bus travel. Most of these lane miles are on the New Jersey Turnpike, though promises of future "Bus Rapid Transit" (BRT) routes in the state may expand this mileage. Today, buses in New Jersey travel on about 30 miles of controlled roadway, a figure which has remained the same since 1996.

New Jersey Transit's eleven commuter rail lines, together with PATH and PATCO trains travel on more than 1,000 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. NJTransit'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.



Source: FTA. National Transit Database, Transit Way Mileage—Rail Modes, 1997-2004.



Source: FTA. National Transit Database, Transit Way Mileage—Rail Modes, 1997-2004.

NJTransit's light rail system expanded dramatically from 1996 to 2004, growing from the nine-mile Newark subway system to more than 100 miles with the inclusion 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.

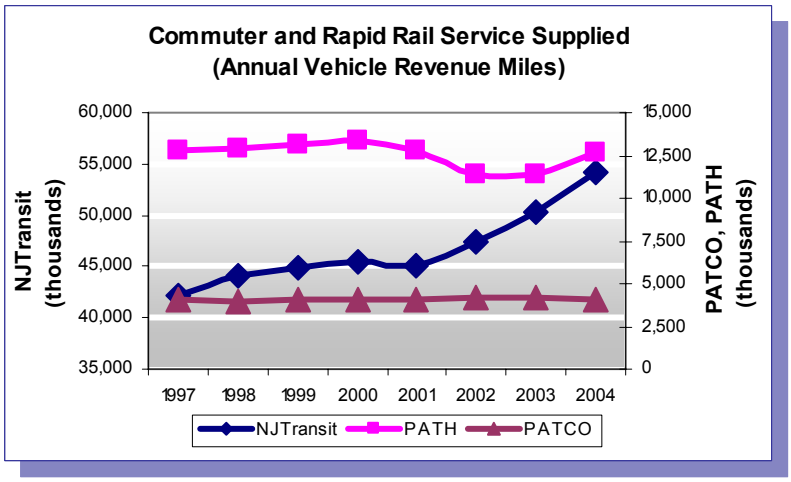
Mass Transit Service

New Jersey residents have significantly more transit service available to them today than they did in 1997. From 1997 to 2004, 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

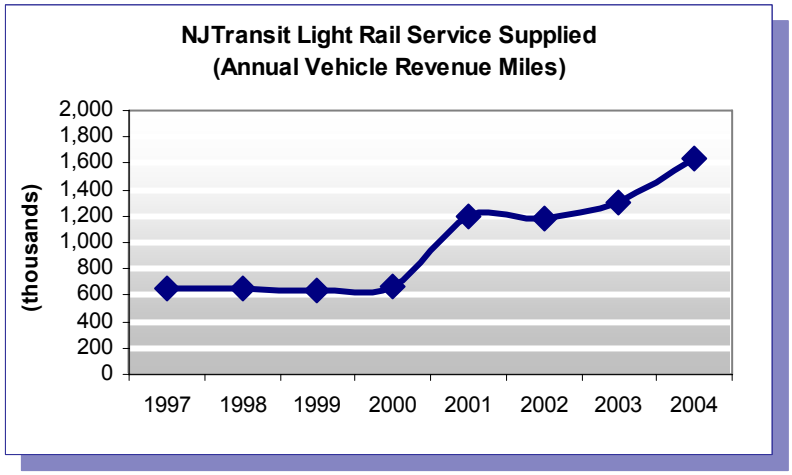
various state- and privately-operated transit services grew 15.5 percent. Service provided by the largest operator, NJTransit, grew by 23 percent. All together, New Jersey's transit services traveled more than half a million miles daily in 2004.

NJTransit commuter service expanded by 28 percent, while light rail service, with the addition of the Hudson-Bergen and RiverLine systems, more than doubled over the period, increasing 150 percent. In Southern Jersey, PATCO service held constant. PATH service had declined only slightly as of 2004, a remarkable feat given the destruction of the World Trade Center PATH station in 2001.

The state's bus service did not enjoy the same dramatic expansion. NJTransit bus service grew by only 6 percent from 1997 to 2004, and private carrier service grew less than 2 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.



Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.



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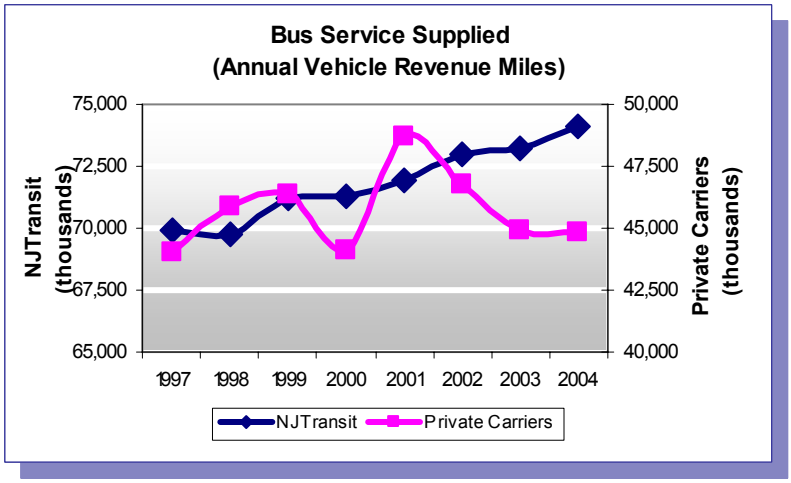
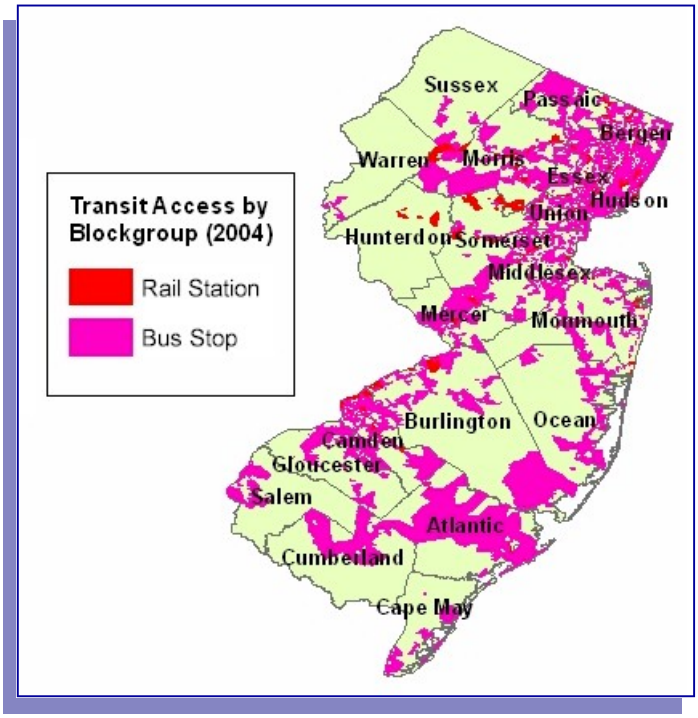


Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.

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 NJTransit, 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).



Source: NJTransit, Rail and Bus System Map, 2004.

An even 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.

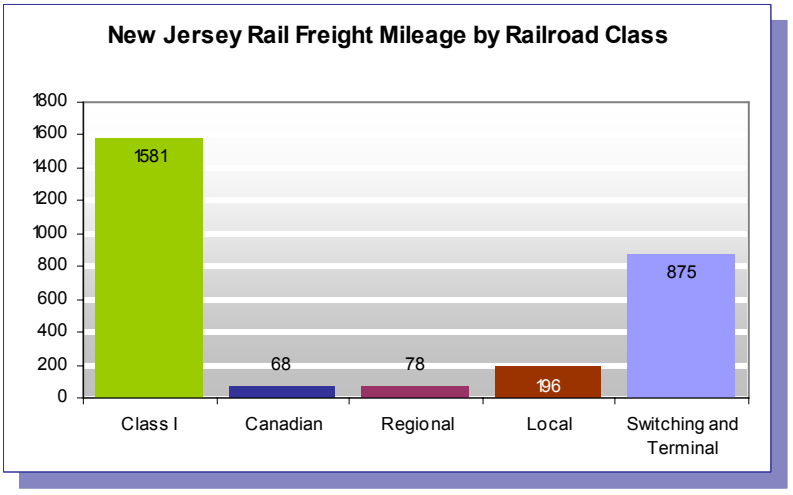
Census Tracts, however, can be quite large geographic areas covering dozens of square miles. (The Census describes tracts as "small, relatively permanent statistical subdivisions of a county." They usually contain between 2,500 and 8,000 persons.) The presence of a rail station in a Census Tract therefore 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 NJTransit bus service. Fifty-four percent of residents live in a block group with at least one NJTransit bus stop. And 81 percent of workers work in a Census tract with at least one bus stop (though the use of Census tracts has significant limitations, as discussed above).

Rail Freight Mileage

New Jersey boasts an extensive freight rail network, with nearly 2,800 miles of track operated by Class I, Local, Regional, Canadian and other rail roads as of 2003, the most recent year for which data was available from the Bureau of Transportation Statistics.

We attempted to examine trends in rail freight mileage over time, but data from previous years proved unreliable.



Source: Bureau of Transportation Statistics. State Transportation Profiles. Miles of Freight Railroad Operated by Class of Railroad.

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 a priority, allocating just $10 million per year in recent Capital Programs.

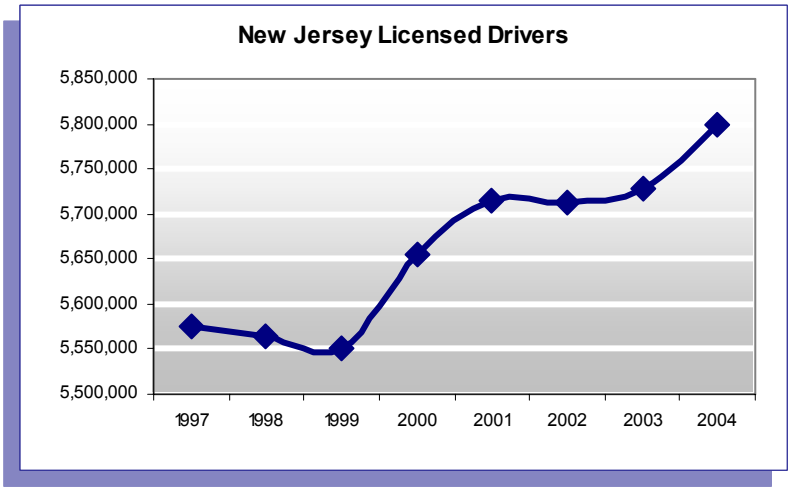
Nevertheless, some progress is being made to expand rail freight capacity. New Jersey DOT has identified 25 projects (at a cost of $27.6 million) that are eligible for state funds. Some of the major projects currently in the pool include Woodbine Secondary Track Expansion on the Cape May Seashore Line ($2.1 million), upgrading the CSX crossover at the West Trenton Rail Station ($2.4 million), the addition of six tracks at the Jak-Jon Property for short line expansion ($4.2 million) and upgrading the Salem Running Track from Swedesboro to Woodbury on a Conrail line ($6.6 million).

Travel Trends

Drivers licensing rates have fallen in recent years, especially for the population aged 25 to 44. At the same time, vehicle registrations have continued to grow, with the exception of the most recent year. 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.

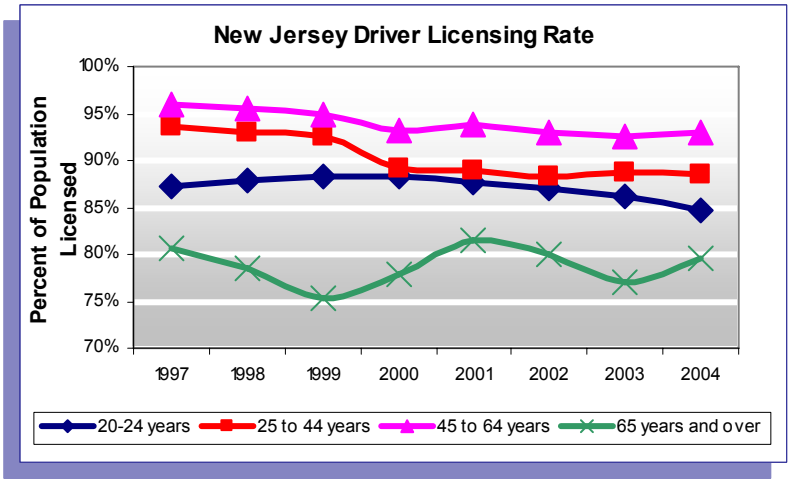
Drivers

There are slightly more licensed drivers on New Jersey's roadways today than there were in 1997. From 1997 to 2004, the number of licensed drivers grew by just over 220,000, a growth of only 4 percent.



Source: FHWA. Highway Statistics Series, Table DL-22, 1997-2004.

As a percentage of the total population, licensed drivers declined from 69.2 percent to 66.7 percent, a drop of nearly 4 percent.



Source: FHWA. Highway Statistics Series, Table DL-22, 1997-2004.

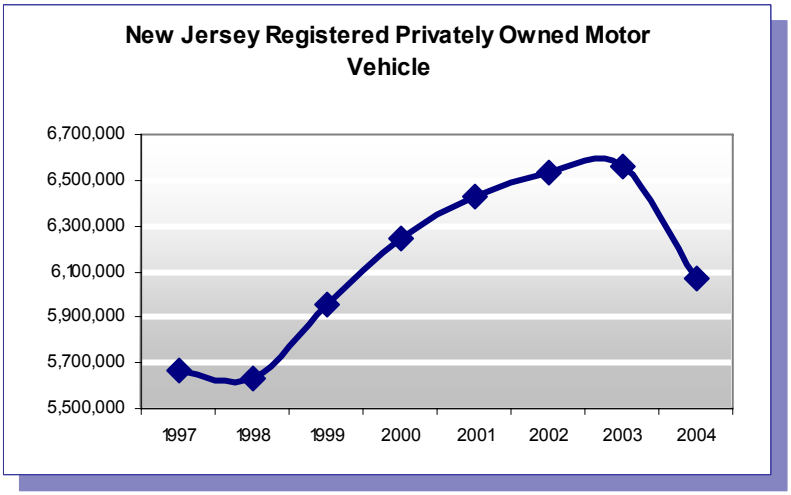
Surprisingly, the largest drop was for drivers aged 25 to 44. In 1997, 93.6 percent of New Jersey residents in this age group held a drivers license. That fell to 88.6 percent by 2004.

When asked about this data, Department of Motor Vehicles officials suggested that New Jersey's phased licensing system in which driving privileges are extended gradually to applicants under 21 years, explained the drop in licensed drivers. This new licensing system, which was implemented in 2001, also raised the basic driver license age from 17 to 18 years. The Campaign's analysis refutes this hypothesis, though no obvious explanation presents itself in the data.

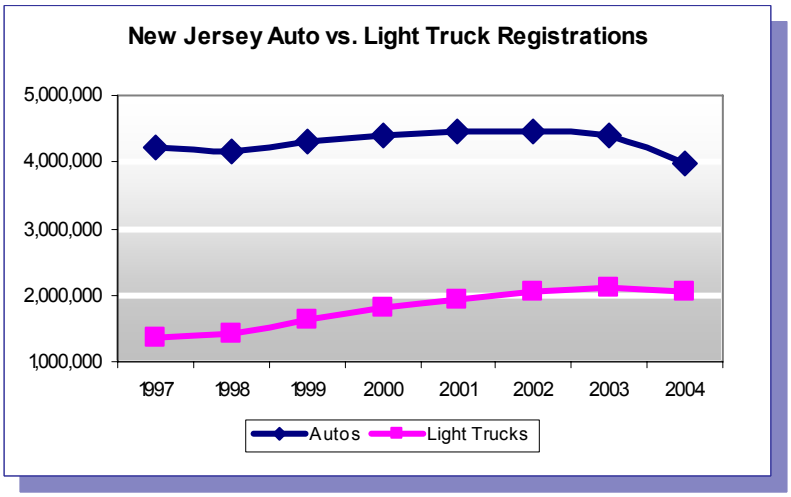
Vehicles

New Jerseyans registered 402,000 more vehicles in 2004 than in 1997, a rise of 7 percent. That being said, there was a sharp decline in registered vehicles in 2004. The number of registered vehicles fell more than 7 percent from 2003 to 2004, to just above the figure in 1999.

Even so, New Jersey has more registered vehicles than it does licensed drivers, and 2 vehicles for every 3 residents (including children). In 2004, 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.



Source: FHWA. Highway Statistics Series, Table MV-1, 1997-2004.



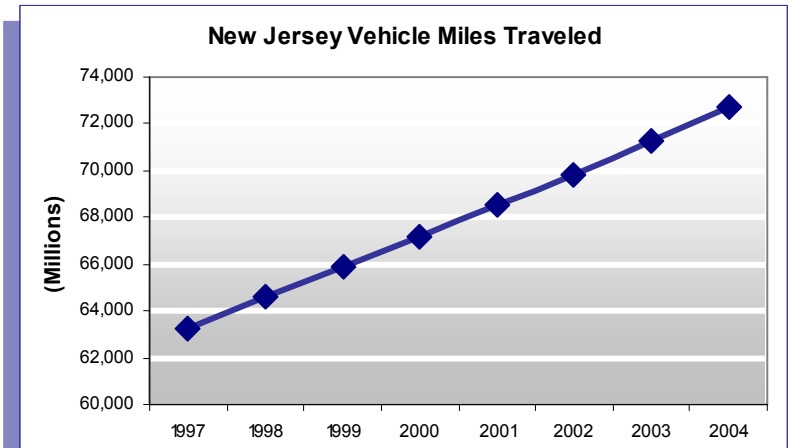
Source: FHWA. Highway Statistics Series, Table MV-1, 1997-2004.

Pickup trucks, minivans, and SUVs have grown significantly more popular in New Jersey. From 1997 to 2004, traditional passenger car registrations dropped about 6 percent. During that same period, registration of light trucks grew more than 52 percent. But more recent data indicate that 2004 represented the peak year for light truck sales and that higher gasoline prices have caused a slump in SUV sales. We expect 2005 and 2006 vehicle registration data to show declining light truck registrations.

The number of vehicle-less New Jersey households has dropped slightly in recent years, and stood at 11.4 percent as of 2004. This is a decline of more than 11 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.

Driving—Passenger Cars

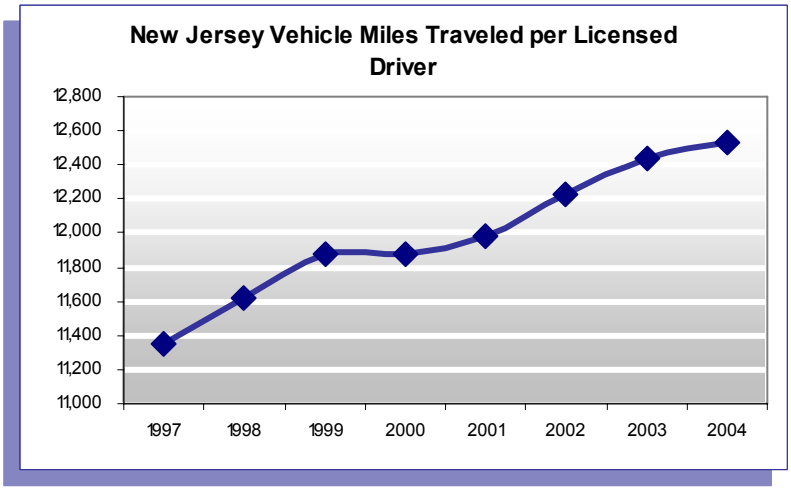
The number of miles driven on New Jersey's roadways continued to grow at a steady rate of about 2 percent per year, for a total of almost 15 percent growth from 1997 to 2004. That amounts to 9.4 billion additional miles driven in the state annually. By 2004, drivers were logging almost 72.7 billion miles each year in New Jersey—almost 200 million miles daily, equivalent to 840 trips from the earth to the moon each day. It should be noted that federal government estimates are based on traffic counts at a large sampling of locations and may be subject to some error. This might explain the apparent straight-line growth in driving.



Source: NJDOT. New Jersey's Annual Certified Public Road Mileage and VMT Estimates, 2005.

These vehicle miles traveled (VMT) figures include a significant number of through-trips, made by nonresidents. The Turnpike, in particular, is a primary route used by interstate travelers and freight trucks.

A rough calculation dividing total statewide VMT by total New Jersey licensed drivers finds that the average driver logged more than 12,500 miles in 2004. This is significantly less than the national average of 14,895 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 1,200 more miles annually today than they were in 1997, a growth of 10.4 percent in less than a decade.

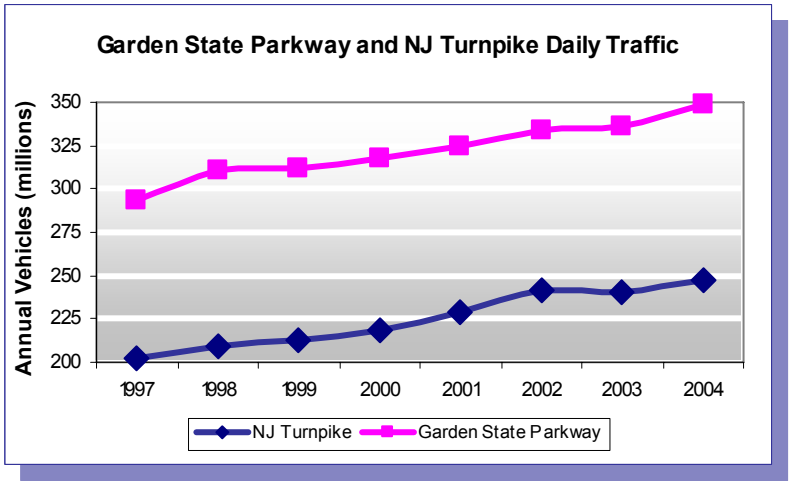


Sources: FHWA. Highway Statistics Series, Tables PS-1 and DL-22, 1997-2004.

Traffic on New Jersey's major north-south highways -- the Garden State Parkway and the Turnpike -- has skyrocketed in just a few years, according to Turnpike Authority

data. In 2004, nearly 350 million vehicles traveled on the Garden State Parkway, up 19 percent from 1997.

NJDOT data show that growth is even higher on selected segments. For example, traffic at GSP milepoint 14 in Middle Township in Cape May County grew 44 percent from 2000 to 2004.



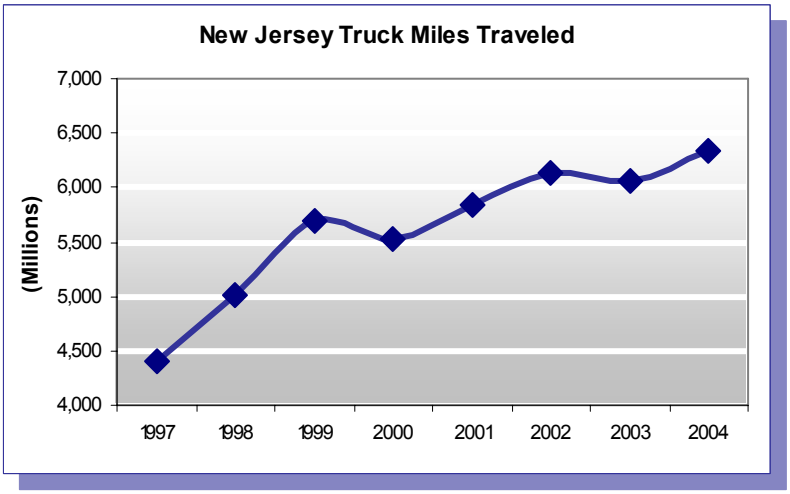
Source: New Jersey Turnpike Authority. Annual Count of Revenue Vehicles, 1997-2004. Obtained by TSTC via an Open Public Records Act request. Data show the number of vehicles paying tolls at any toll booth.

Traffic volumes grew even faster on the Turnpike. More than 247 million vehicles traveled on the Turnpike in 2004, an increase of 22 percent over traffic volumes in 1997. Bordentown Township in Burlington County saw a 30 percent growth in traffic. And traffic grew more than 26 percent at milepoint 106 in Newark.

Driving—Trucks

Truck travel has grown far faster than passenger vehicle travel in New Jersey. From 1997 to 2004, truck travel grew by 44 percent, compared to 15 percent for all vehicles. Trucks logged more than 6.3 billion miles in 2004, up nearly 2 billion miles from 1997. Trucks also made up a growing share of the vehicles on New Jersey's roadways. In 2004, trucks comprised almost 9 percent of the total miles traveled, up from 7 percent in 1997, an increase of 25 percent.

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 percent. Trucks continued to carry most

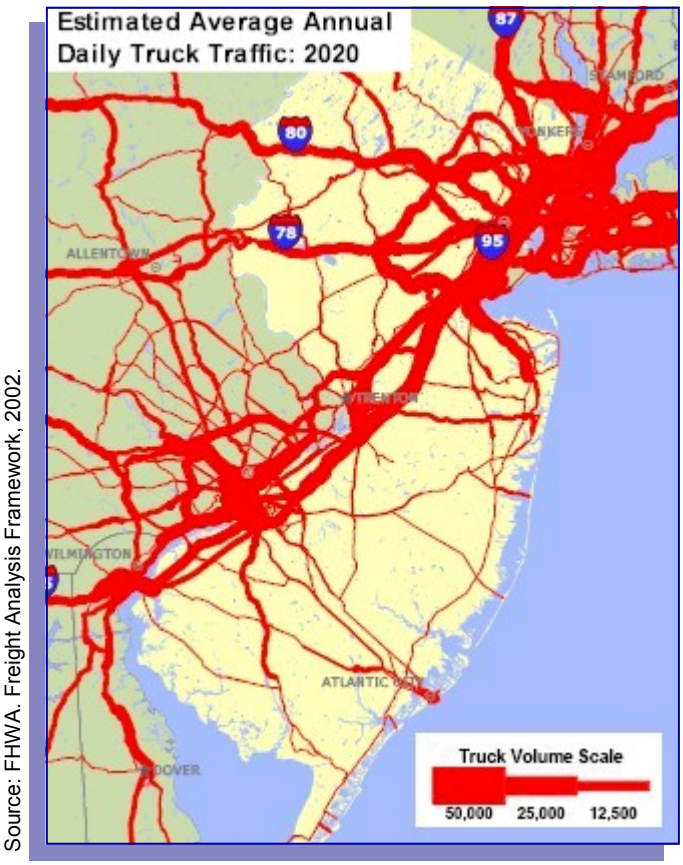


Source: NJDOT. Travel Activity by Vehicle Type, 1997-2004.

	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

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.

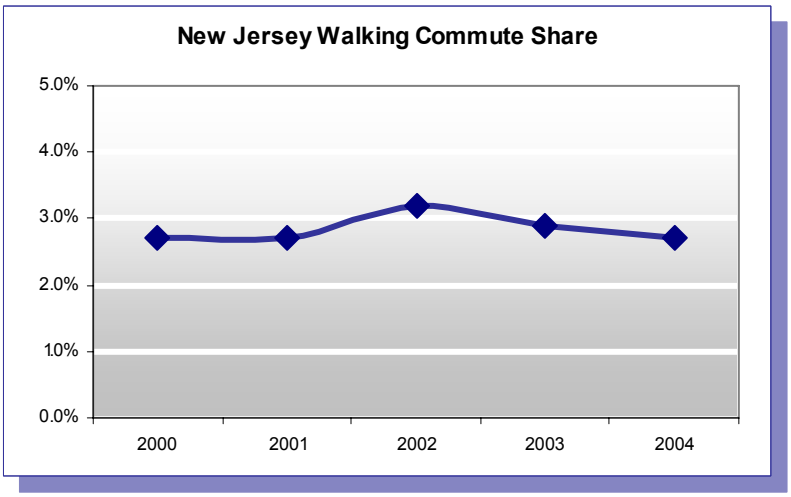


Source: FHWA. Freight Analysis Framework, 2002.

Nevertheless, truck traffic continues to clog the state's major roadways, especially in the urban areas and along the Turnpike. Federal data analyzed by the Tri-State Transportation Campaign and presented in a 2005 report show that by 2020, today's truck traffic will increase by approximately 50 percent. (To read the report, visit http://www.tstc.org/reports/thetrucksarecoming.pdf)

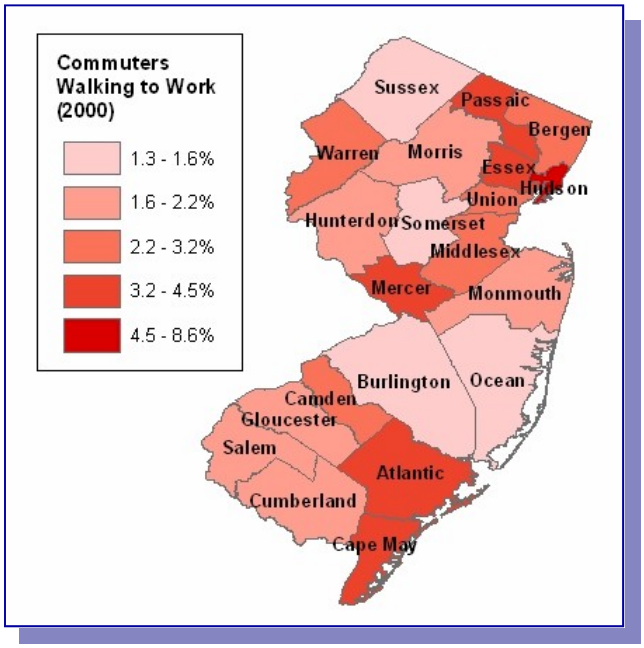
Bicycling and Walking

The share of New Jersey workers walking to work has held steady at 2.7 percent from 2000 to 2004, though it did increase slightly in 2002. This is better than the trend nationally, which declined 11 percent.



Source: U.S. Census Bureau. American Community Survey, 2000-2004.

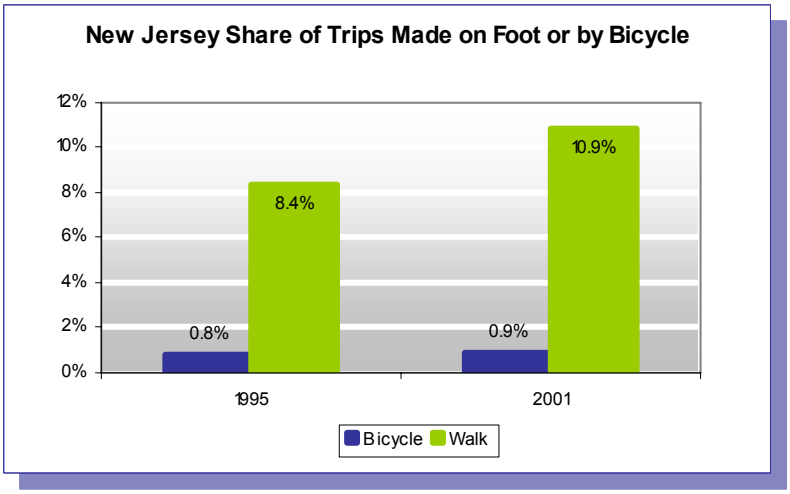
Walking is focused in urban areas of northern Jersey and in the Trenton area, though counties such Atlantic and Cape May also show significant walking rates, possibly because shore tourism-based economies rely on clustered beach-front villages (and Atlantic City).



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.

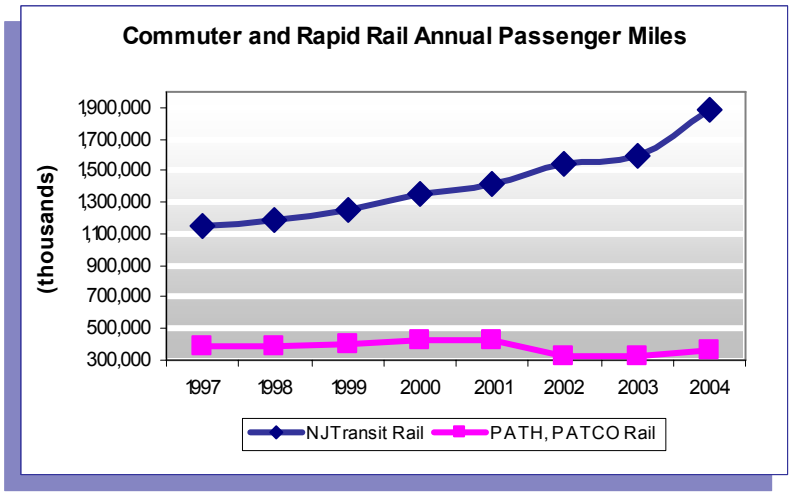


Sources: FHWA. Nationwide Personal Transportation Survey, 1995 and National Household Travel Survey, 2001.

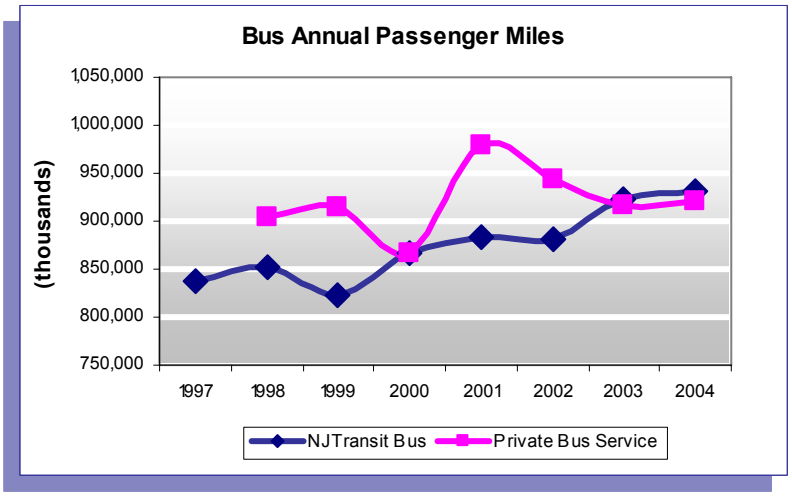
Mass Transit Use

Growth in transit use 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 30 percent from 1997 to 2004.

The number of passenger miles traveled on NJTransit's commuter rail service grew dramatically, by 64 percent, from 1997 to 2004. In 2004, riders traveled nearly 1.9 billion miles on NJTransit'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. 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.



Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.

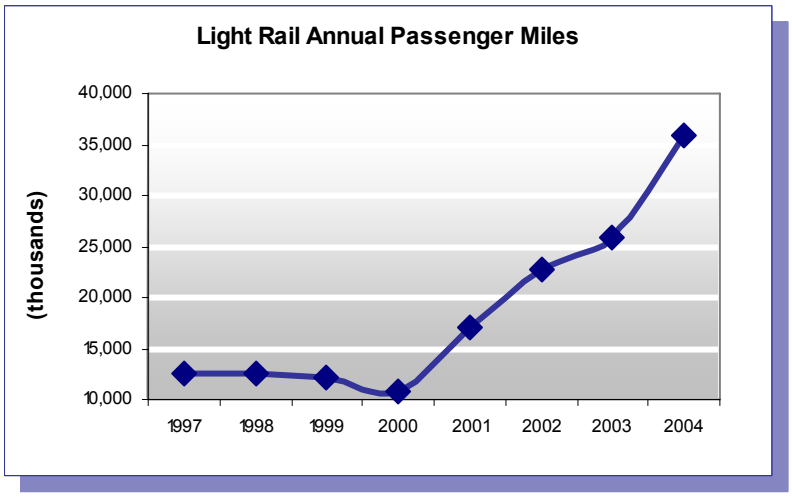


Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.

Use of NJTransit's bus service has grown 11 percent from 1997 to 2004, with riders logging more than 930 million in 2004. Since 1998, the first year for which complete data were available, use of private bus service has grown about two percent.

Use of NJTransit's Light Rail service nearly tripled from 1997 to 2004, 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 River-Line in 2003.

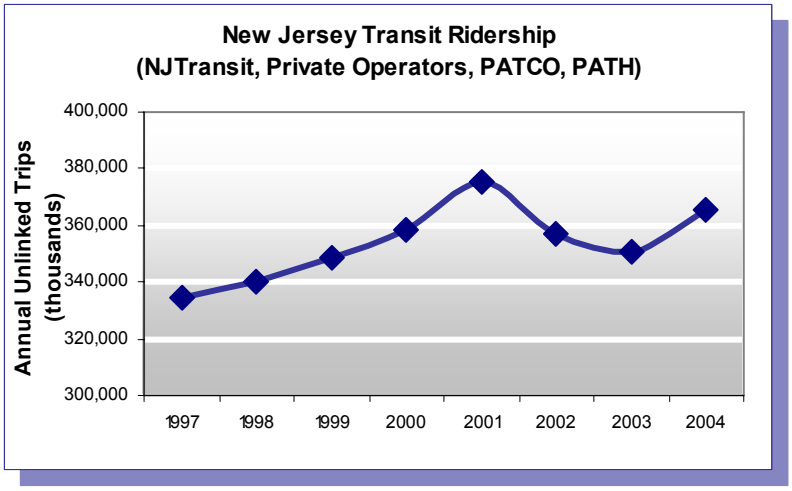


Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.

Transit ridership (individual passenger trips) fell off markedly after the September 11th 2001 terrorist attacks. However, in recent years it has rebounded. Preliminary 2005 data from NJTransit show that ridership on the state's primary transit systems has surpassed 2001 levels.

Rail ridership grew 15 percent from 1997 to 2004, three times faster than bus ridership growth (5 percent). Yet buses continue to serve more transit passengers, carrying 57 percent of transit riders in 2004, compared to 42 percent for rail (with ferries and other options carrying the balance).

Per person, transit miles traveled grew by more than 20 percent from 1997 to 2004. In 2004, every man, woman, and child in New Jersey logged 480 miles on the state's various transit systems. Car travel still dominates, however; in 2004, New Jersey residents traveled 17 times as many miles in cars and trucks than in transit vehicles.



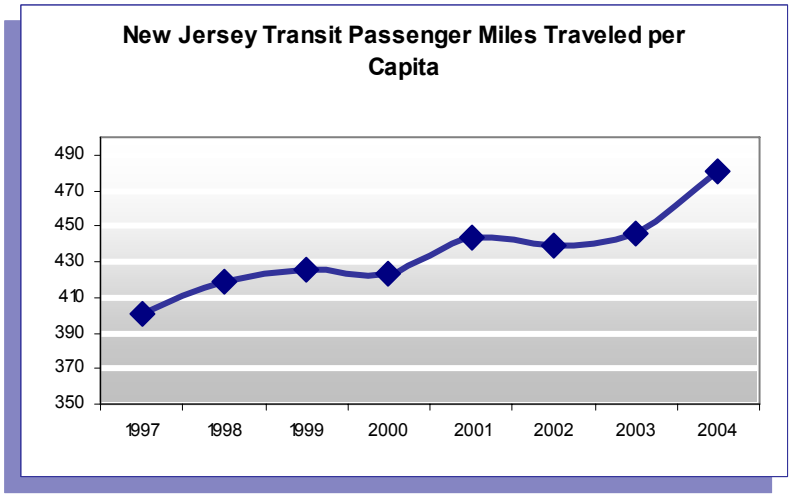
Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.

Mode Share

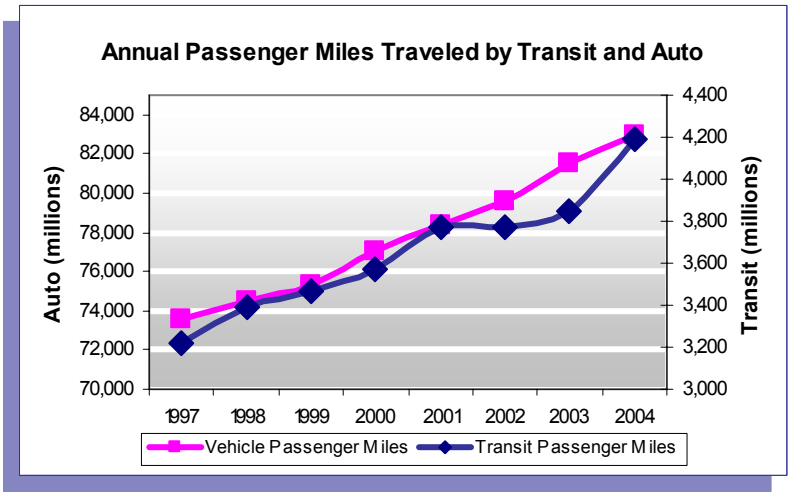
New Jersey residents increasingly rely on transit to get to work, school, visit friends and run errands. The share of total state passenger miles traveled by transit has grown 14.5 percent from 1997 to 2004, while driving's overall share of miles declined by 0.6 percent.

That said, driving continues to dominate travel in the state. More than 95 percent of all passenger miles traveled were made in private cars in 2004. Just under 5 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 2004 Census data, 10.7 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 Pennsylvania, with 5 percent of commute trips by transit, gets even half of New Jersey's mass transit commuting rate.



Source: FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.



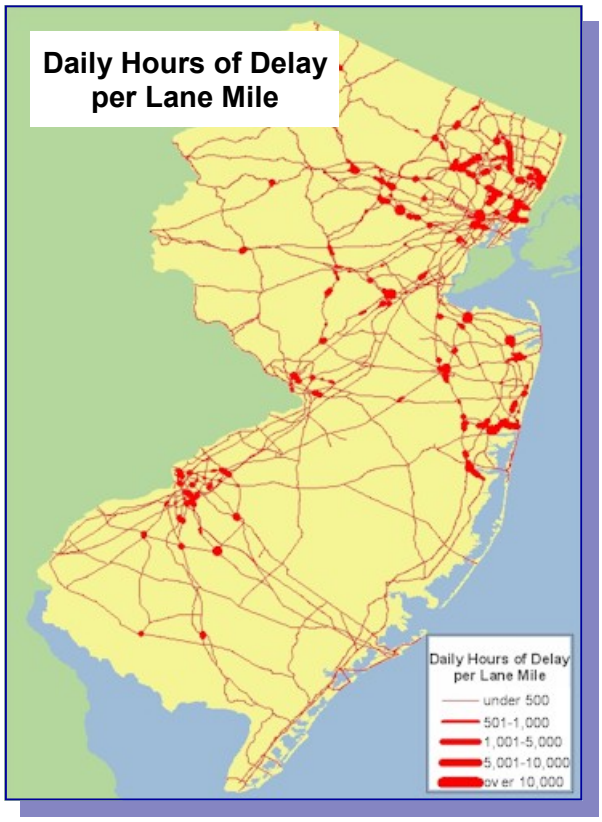
Sources: FHWA. Highway Statistics Series, Table PS-1, 1997-2004 and FTA. National Transit Database, Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004. Note: Vehicle Passenger Miles is estimated by multiplying VMT by an average 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 reliability has improved slightly, while bus breakdowns have increased.

Traffic Congestion

With vehicle travel continuing to grow at a rapid pace, traffic congestion is worsening across New Jersey. In 2001, according to NJDOT data, New Jersey residents spent more than 500 million hours annually stuck in traffic due to everyday congestion and incidents. That amounts to almost 60 hours per resident, or nearly 88 hours per driver.



Sources: NJDOT. 2003 Congestion Management System (CMS), version 3.1

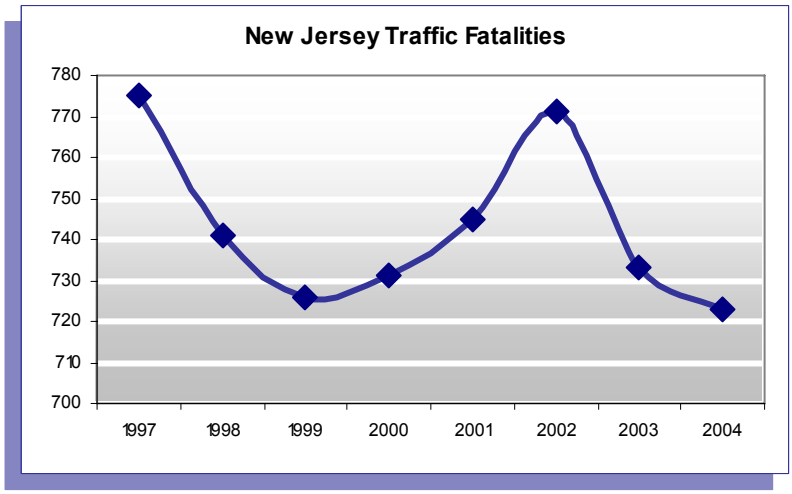
The Texas Transportation Institute's annual Urban Mobility Study is the best known source of congestion trends. However, that study tracks congestion data only for selected "urbanized areas," as defined by the Federal Highway Administration, across the U.S. Only 2 New Jersey areas are included — New York-Newark and Philadelphia — however, these areas together cover almost the entire state.

According to the 2005 Urban Mobility Study, annual delay per person has grown considerably in both of New Jersey's urban areas. In the New York-Newark urbanized area, delay per person grew 15 percent, from 20 hours in 1997 to 23 in 2003. In the Philadelphia urbanized area, which includes sprawling areas of southern New Jersey, delay grew even faster, from 15 hours per person to 21 hours, an increase of 40 percent.

Average commute times have increased just over two percent from 2000 to 2004, growing from 28.7 minutes to 29.4 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.

Traffic Fatalities

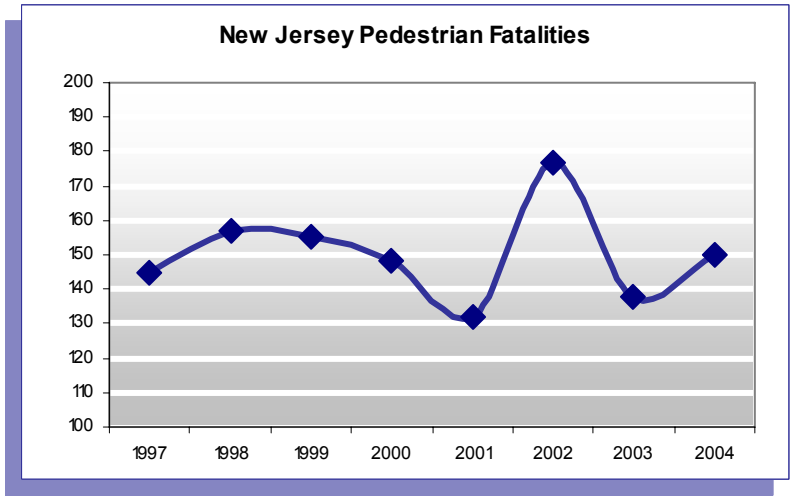
In 2004, 723 motorists, pedestrians, and bicyclists were killed in traffic crashes on New Jersey's roadways. This is significantly fewer fatalities than the 775 killed in 1997. However, it does not represent a general downward trend in traffic deaths. Fatalities have not dropped below 720, and preliminary 2005 and year-to-date 2006 data show dramatic upswings in traffic deaths (to 758 in 2005, the second highest number since 1997).



Source: NJ Dept. of Law and Public Safety, 1997-2004.

Per capita traffic fatalities have dropped 13.6 percent from 96 per 1 million residents in 1997 to 83 in 2004. And the number of miles driven between traffic fatalities has grown more than 23 percent during the period 1997 to 2004 to 100,523.

Pedestrian fatalities meanwhile have grown during this period, with 150 pedestrians killed in 2004 compared to 145 in 1997. But again, year-to-year data vary within a fairly defined range rather than describing a clear upward or downward trend. Pedestrian fatalities average around 150 per year. Per capita, pedestrian fatalities declined by just over 4 percent.



Source: NJ Dept. of Law and Public Safety, 1997-2004.

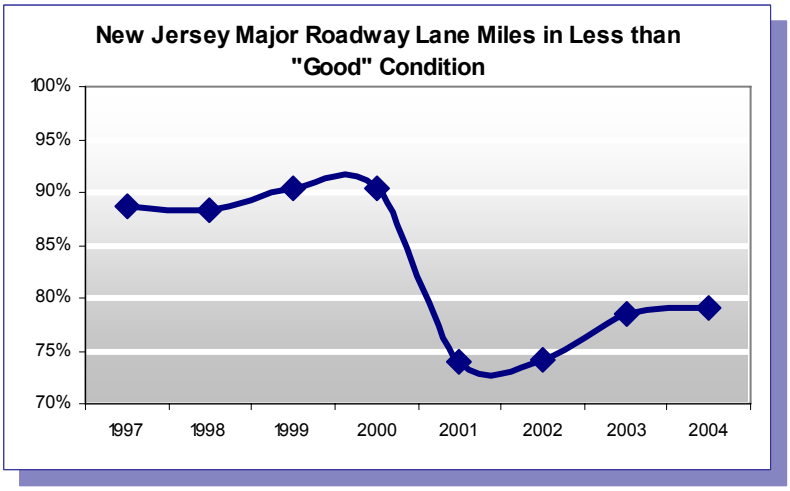
Pedestrian fatalities remain approximately 20 percent of total traffic fatalities. This is significantly higher than the national average of 11 percent, according to National Highway Traffic Safety Administration data.

Road and Bridge Conditions

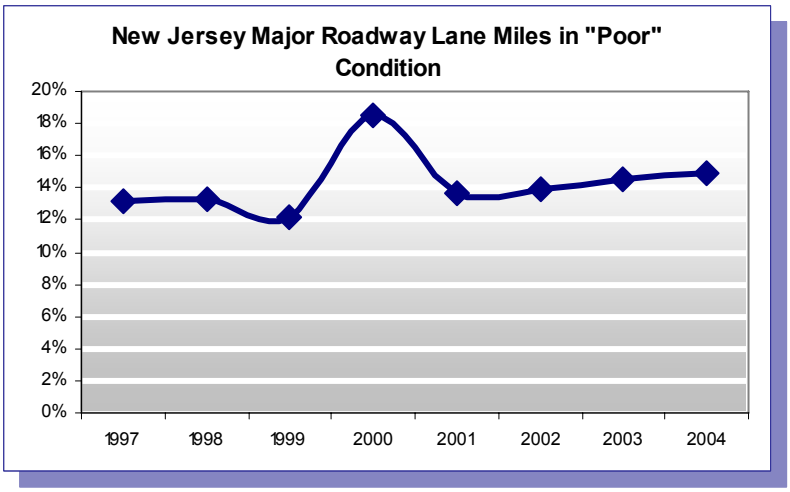
Almost 80 percent of New Jersey's major roadway lane miles were rated in “less than good” condition in 2004. (Based on the International Roughness Index in which a score of less than 95 is considered "good;" a score of more than 170 on Interstates, and more than 220 for other roads is "poor.") This represents 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 declining slightly in recent years. Most of the improvement was among roads rated mediocre or fair. The percentage of lane miles rated “poor” grew 13.6 percent, to almost 15 percent, the highest rate in the nation.

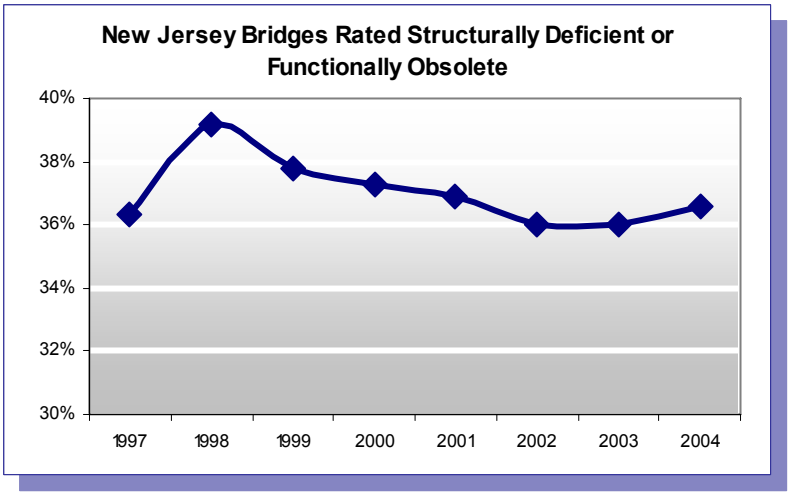
During the same period, there has been more improvement in the state’s bridges. In 1997, 36.3 percent of bridges were found to be structurally deficient or functionally obsolete. That grew to a high of just over 39 percent in 1998, and then fell throughout the period to 36.6 percent in 2004.



Source: FHWA. Highway Statistics Series, Table HM-64, 1997-2004.



Source: FHWA. Highway Statistics Series, Table HM-64, 1997-2004.



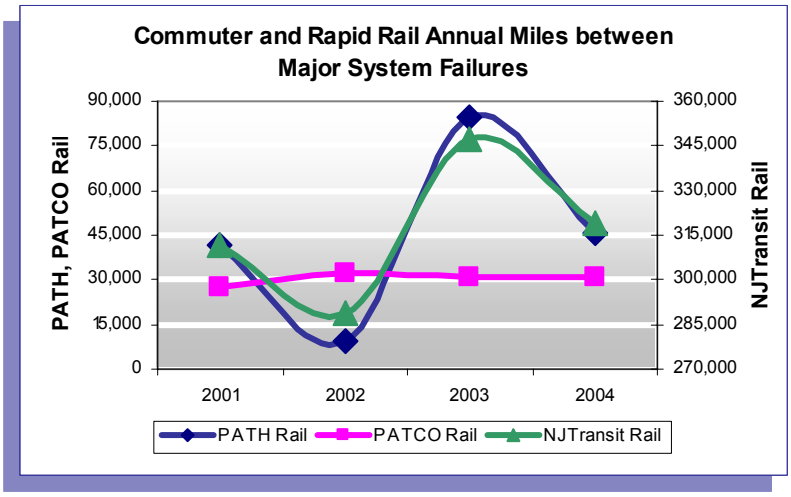
Source: FHWA. National Bridge Inventory, , 1997-2004.

In recent years, the state has embraced a “fix-it-first” policy, making road and bridge maintenance a priority over new expansion. Bridges have been especially prioritized, and this focus is reflected in the improvement in bridge conditions. We expect road and bridge conditions to improve further in coming years. Many extensive repair projects take several years to complete.

Reliability of Mass Transit

All three of the state's rail systems showed improvement over the period. The condition of NJTransit commuter trains improved by 2 percent from 2001 to 2004, with the number of miles traveled between failures growing to 319,000. 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.

Both the PATH and PATCO systems showed even greater improvement, though year-to-year variability again makes it difficult to assess their overall reliability. Importantly, PATH and PATCO trains traveled significantly fewer miles between failures than NJTransit. In 2002, for example, PATH rail service experienced more than 1,200 failures, so that it averaged fewer than 10,000 miles between failures. This could be the result of system repairs and service changes forced by the September 11, 2001 terrorist attacks which destroyed the World Trade Center PATH station.



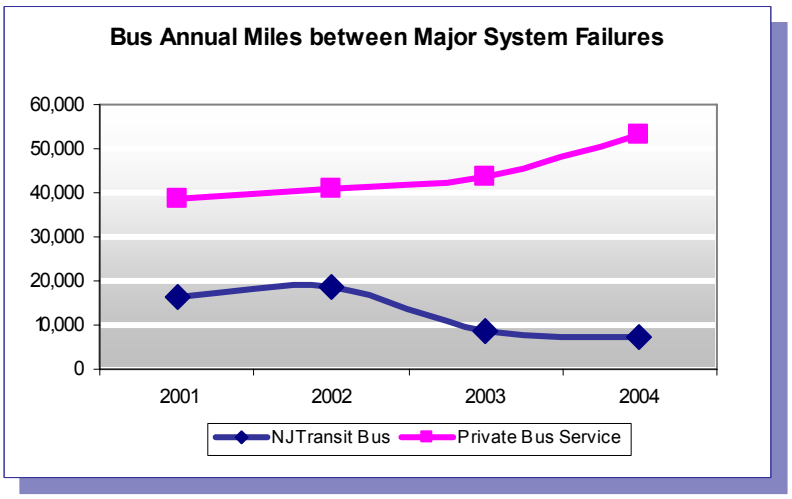
Sources: FTA. National Transit Database, Revenue Vehicle Maintenance Performance: Details by Transit Agency Directly Operated Service, 2001-2004 and Transit Operating Statistics: Service Supplied and Service Consumed: Details by Transit Agency DO and PT Service, 1997-2004.

Fleet-wide, the system was slightly younger in 2004 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.

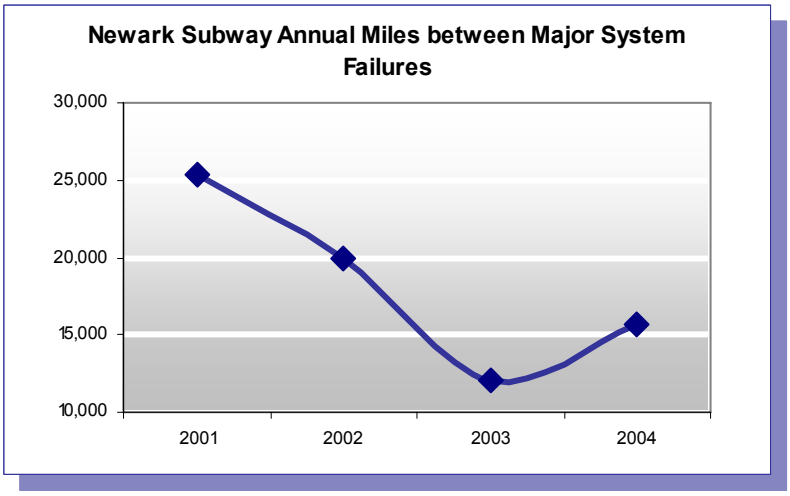
New Jersey's private bus carriers are in better condition now than they

were in 2001, with miles traveled between failures growing 37 percent to almost 53,400. But NJTransit buses are in far worse condition, traveling fewer than half as many miles between failures in 2004 as they did in 2001. NJTransit buses experienced a remarkable 11,600 major mechanical failures in 2004, up from 5,125 in 2001. On average, NJTransit buses traveled only 7,400 miles between failures in 2004.

Interestingly, the decline in bus conditions has occurred even as the fleet has grown significantly younger. In 2001, the average NJTransit bus was 9.5 years old. That dropped to 5.6 years in 2004, bringing the state's bus fleet to within the FTA guidelines suggesting a 6-year fleet average. It should be noted, however, that most of the new buses put into service during this period were New York City-bound, not the urban, intra-city buses that serve the majority of New Jersey's bus riders.



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, 1997-2004.



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, 1997-2004.

NOTE: New Jersey Transit bus reliability data recently provided to the Campaign contradicts the data reported in the federally-maintained National Transit Database used for this report. According to NJTransit, the number of miles traveled between major mechanical failures increased more than 16 percent, from 6,294 in 2001 to 7,315 miles in 2004.

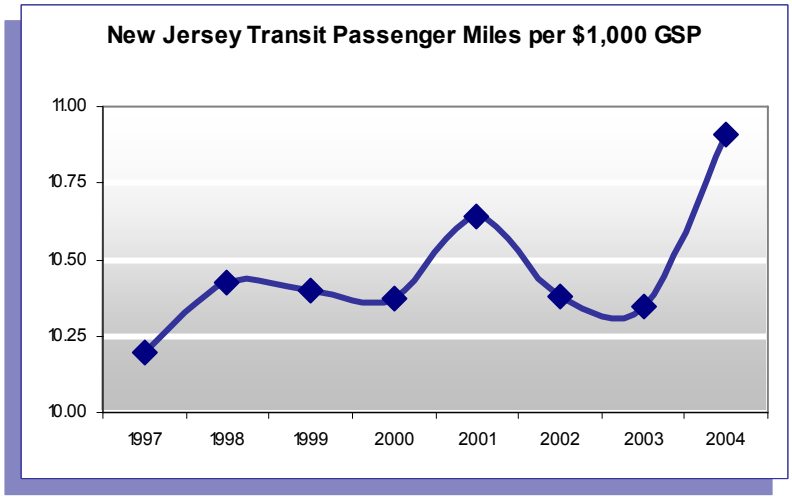
Finally, the Newark Subway system suffered a dramatic decline in reliability, with miles traveled between failures dropping 38 percent from almost 25,300 to about 15,600.

Transportation & the Business Cycle

The state's economy has grown more transit-oriented and less car-oriented over the period, and more dependent on trucking.

Transit

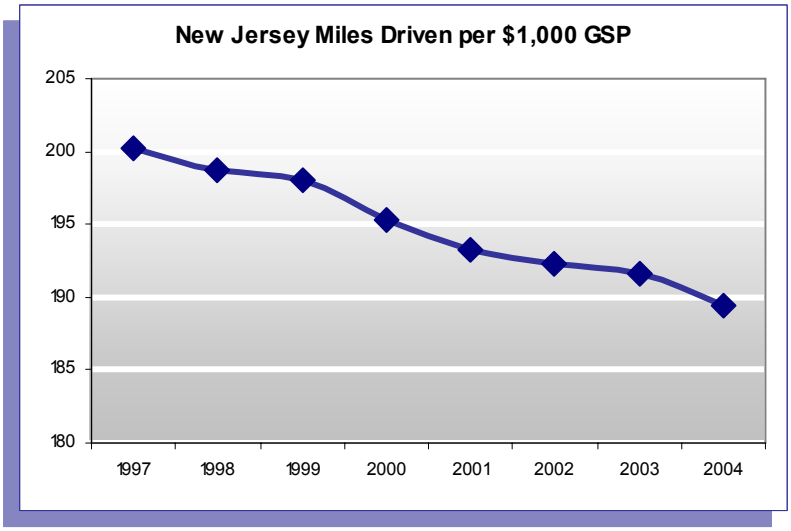
From 1997 to 2004, the state's economy become more transit-oriented. The number of mass transit passenger miles per $1,000 of Gross State Product grew 7 percent, from 10.2 in 1997 to 10.9 in 2004.



Sources: NJ Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2004 (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, 1997-2004.

Transportation Efficiency of New Jersey's Economy

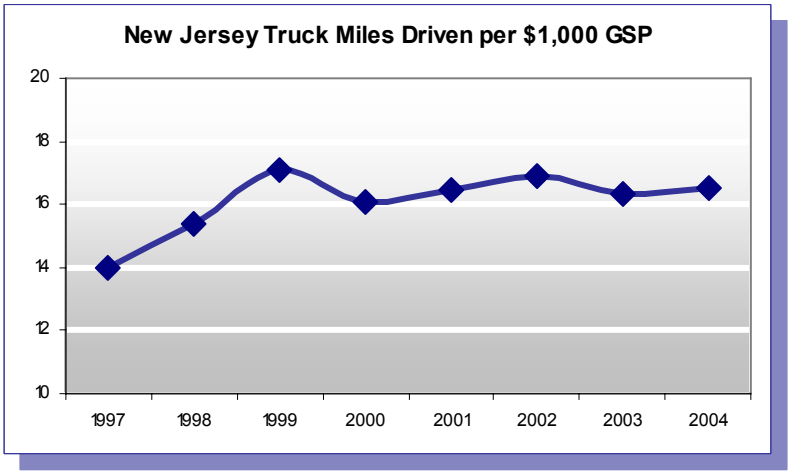
The state's economy became more highway efficient during the same period. In 1997, residents drove 200 miles for every $1,000 in Gross State Product earned. That dropped by 5 percent to under 190 miles in 2004. This may reflect growth in transit use statewide. It may also reflect the 13.6 percent jump 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, 1997-2004 (Millions of Chained 2000 Dollars) and FHWA, Highway Statistics Series, Table PS-1, 1997-2004.

Goods Movement

The state economy relied more on trucking in 2004 than in 1997. The number of truck miles traveled per $1,000 of Gross State Product grew more than 18 percent, to 16.5 truck miles traveled for every $1,000 dollars of economic output produced in the state.



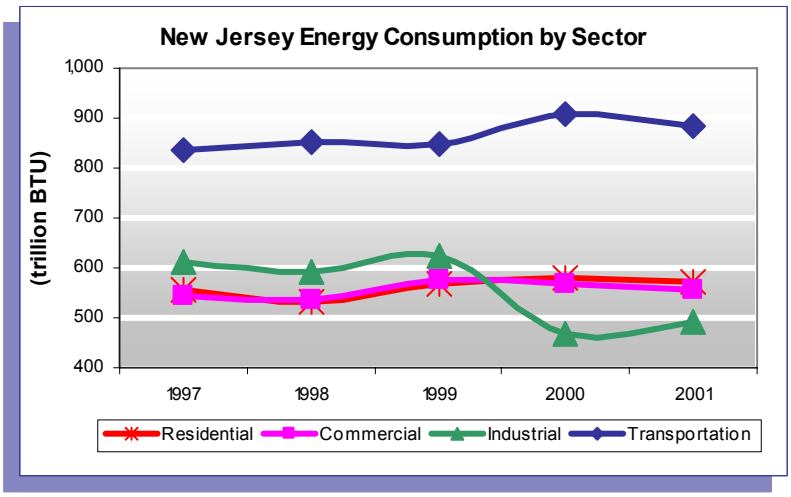
Sources: New Jersey Dept. of Labor and Workforce Development, Gross State Product for New Jersey by Industry, 1997-2004 (Millions of Chained 2000 Dollars) and NJDOT. Travel Activity by Vehicle Type, 1997-2004.

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.

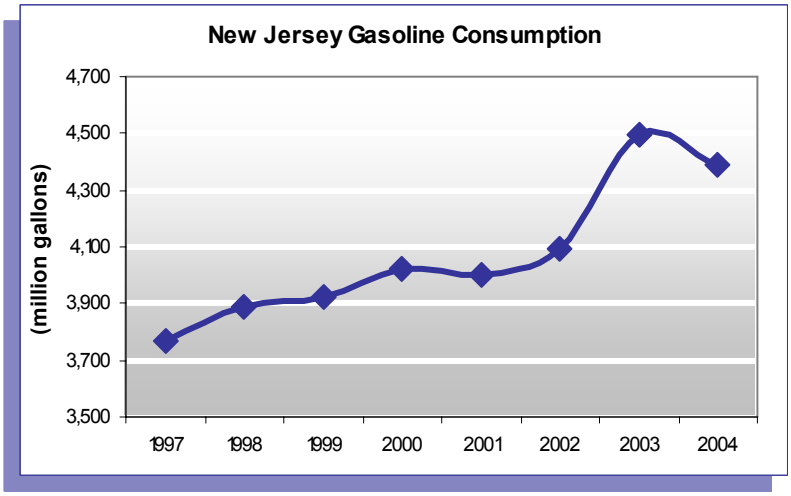
Energy Consumption

New Jersey residents consume more energy for transportation than for residential, commercial or industrial uses. And though total energy consumption for the state has declined in recent years, largely driven by a significant drop in industrial energy consumption, energy use for transportation (including transit) has grown. In 1997, New Jersey residents consumed 838 trillion BTUs for transportation. By 2004 that had grown more than 5 percent to 882 trillion BTUs. The transportation sector now accounts for more than 35 percent of total energy consumption in the state.



Source: Energy Information Administration. State Energy Consumption, Price, and Expenditure Estimates, 1960-2001.

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 2004. New Jersey residents consumed 4.4 billion gallons of gas in 2004, up 16.5 percent since 1997. This amounts to more than 500 gallons annually per capita.

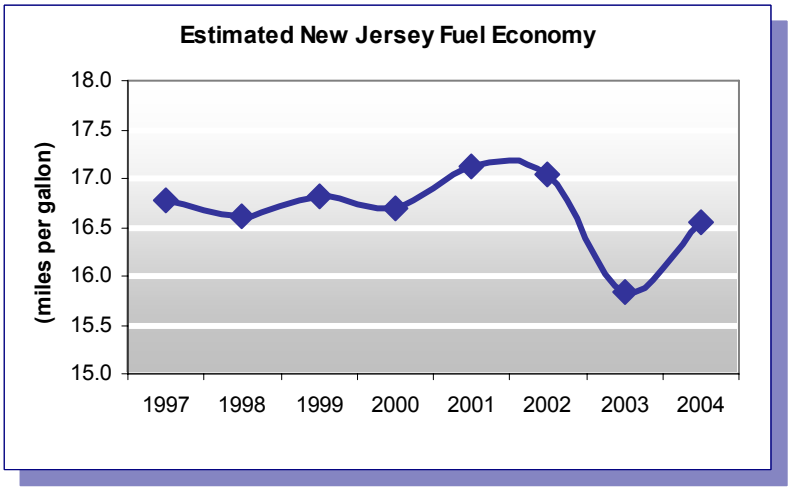


Source: FHWA, Highway Statistics Series, Table MF-33GA, 1997-2004.

In fact, gasoline consumption has grown even faster than vehicle miles traveled, indicating that fuel economy has declined over the period. In 1997, New Jersey residents averaged 16.8

miles per gallon. That dropped slightly to 16.6 miles per gallon in 2004. This is a reflection of New Jersey's changing vehicle fleet. While the total number of vehicles in the state grew only 7 percent from 1997 to 2004, the number of low-mileage minivans, pickups, SUVs and other light trucks grew 52 percent.

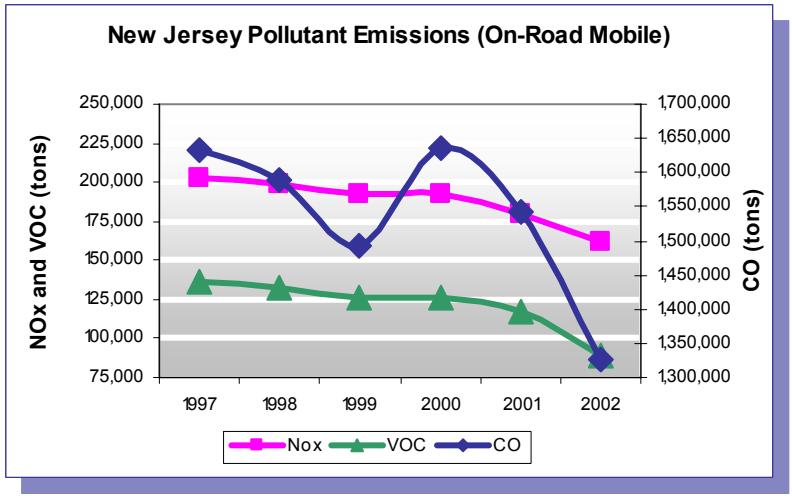
Fuel economy as measured here may also be slightly low because of the "border effect" created as large numbers of non-residents and truckers purchasing gasoline in New Jersey (which has one of the nation's lowest motor fuel taxes), even as they do most of their driving in neighboring states.



Source: FHWA, Highway Statistics Series, Tables PS-1 and MF-33GA, 1997-2004.

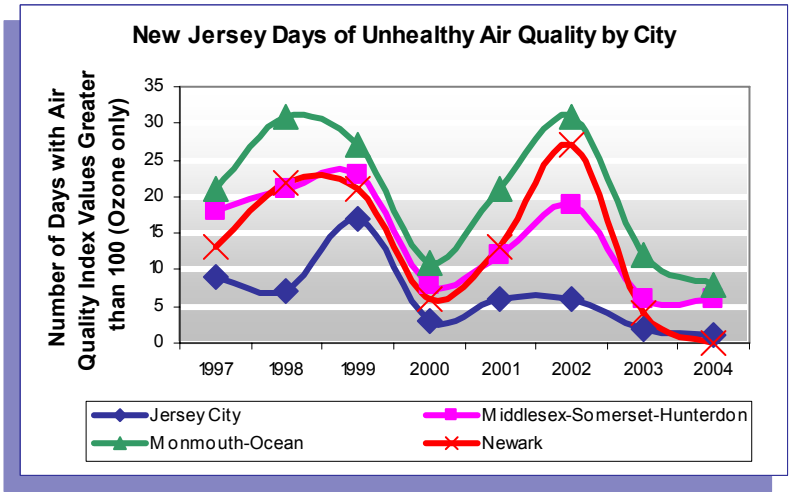
Air Pollution

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 almost 19 percent from 1997 to 2002 (the most recent year for which data is available). Nitrogen oxides (NOx) emissions from motor vehicles have fallen 20 percent. And motor vehicle-related volatile organic compounds (VOC) emissions plunged nearly 35 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 47 percent during this period. While heavy duty construction vehicles and other off-road mobile



Source: US EPA, Criteria Pollutant Emissions Summary Files, 1997-2002.

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.

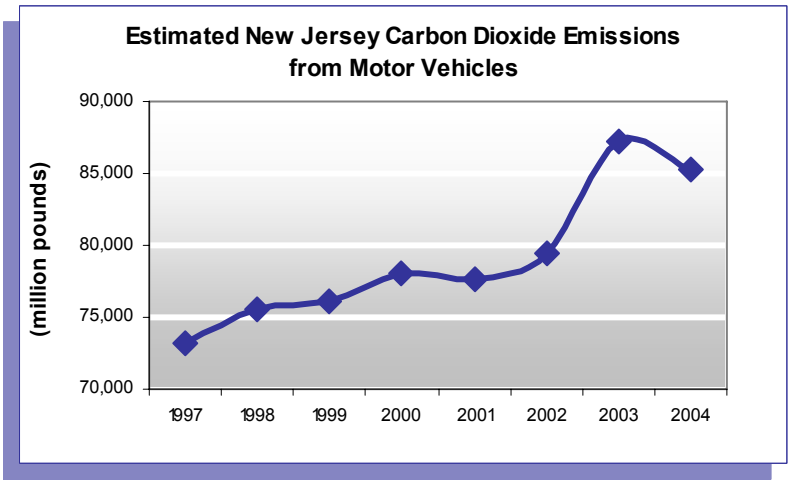


Source: US EPA, Number of Days with Air Quality Index Values Greater than 100 at Trend Sites, 1990 - 2004, and All Sites 2004 (Ozone Only).

The four New Jersey cities for which air quality data was available experienced their best air quality in years in 2004. Newark had 0 days of unhealthy ozone levels in 2004, down from a high of 27 in 2002. And Jersey City had just 1 day of unhealthy ozone levels in 2004, down from a high of 17 in 1999. 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.

Greenhouse Gas Emissions

Emissions of carbon dioxide, a primary greenhouse gas, from motor vehicles have been rising steadily in recent years, with a significant jump from 2002 to 2003. Overall, New Jersey motorists emit more than 85 billion pounds of carbon dioxide annually, up 16.5 percent from 1997 levels. This growth mirrors the growth in New Jersey gasoline consumption (page 30),



Source: FHWA, Highway Statistics Series, Tables PS-1 and MF-33GA, 1997-2004 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.

because carbon dioxide emissions are directly proportionate.

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).

Per capita carbon dioxide emissions have also grown steadily during this period, rising almost 8 percent from 1997 to 2004. As of 2004, annual carbon dioxide emissions per resident came to 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 2004. This period was selected because 1997 was commonly the earliest year for which data was available, and 2004 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.

The Campaign would like to thank Courtney Carroll and Dan Stessel of NJ Transit for patiently tolerating our multiple inquiries, as well as Tim Evans at NJ Future and Doug O'Malley of Environment New Jersey for reviewing our findings.

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