

# **The Trucks Are Coming**

## **What Growing Truck Traffic Will Mean for New Jersey's Quality of Life**



**Tri-State Transportation Campaign**  
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## What Growing Truck Traffic Will Mean for New Jersey's Quality of Life

***New Jersey's truck traffic is projected to grow by 80 percent over the next two decades.***

### Summary of Findings

An increasingly global economy and expanding U.S. economy, together with continued reliance on trucks to move freight will lead to a crush of new truck traffic moving more goods into, out of, and through New Jersey. The federal government projects that New Jersey's truck traffic will grow by 80 percent over the coming decades. In some New Jersey counties, the growth will be even higher. The top five counties with the largest fore-casted increases in truck travel by the year 2020 are:

1. Sussex County, 107 percent;
2. Passaic County, 93 percent;
3. Cape May County, 86 percent;
4. Atlantic County, 85 percent; and,
5. Mercer County, 84 percent.

Certain New Jersey roadways will likewise bear a much larger share of the expected statewide increase in truck traffic. The top five major roadways with the largest projected truck travel growth are:

1. Kaighn Avenue in Camden County, 549 percent;
2. Crescent Boulevard in Camden County, 331 percent;
3. US-1 in Middlesex County, 321 percent;
4. US-1 in Mercer County, 277 percent; and,
5. I-295 in Mercer County, 254 percent.

(County-level fact sheets available at [www.tstc.org](http://www.tstc.org) provide similar data and more for each New Jersey county.)

This growth in truck traffic will have enormous consequences for New Jersey's quality of life. Specifically, trucks will worsen:

**Traffic Safety.** Per mile traveled, trucks are 20 percent more likely to be involved in a fatal collision than cars. Trucks were involved in 82 traffic deaths statewide in 2002, with Middlesex, Bergen, and Burlington Counties having the highest number of truck-related deaths. By 2020, total truck-related traffic fatalities could grow to as high as 133 statewide.

**Congestion.** By 2020, trucks will comprise 10.4 percent of total traffic, but because of their girth (a single truck takes up as much space as 3 to 4 cars), they will seem to make up 22 percent of total travel. In large part because of the growth in trucks, New Jersey drivers could see delays grow by 755 percent by 2020.

*Wear and Tear on Roads and Bridges.* New Jersey's roads and bridges are already some of the worst in the nation, with roads ranked 7th worst and bridges 8th worst. But the growth in truck traffic will degrade the state's roads and bridges even further. One tractor-trailer causes the same amount of damage as 2,000 to 3,000 cars, and for each additional truck mile driven, maintenance costs increase by \$1.47. By 2020, the 80 percent growth in truck traffic could translate into an additional \$3.7 billion in repair costs for the state.

*Air Pollution and Public Health.* The entire state of New Jersey fails to meet new federal smog standards, and most of the state also fails new standards for fine particulate matter. Trucks are major contributors to the state's air pollution. Diesel exhaust contains both toxic emissions and pollutants, and has been found to worsen or even cause respiratory diseases, exacerbate cardiovascular disease, and in extreme cases, lead to premature death. Higher cancer rates along major truck routes have been linked to carcinogens found in diesel exhaust. As truck traffic grows, air pollution and related public health impacts will likely worsen.

## **Recommendations**

- The state should set aside more construction funding for rail freight in the state transportation trust fund.
- The Port Authority should increase funds it devotes to rail freight improvements in New Jersey in its next capital program.
- Railroads and public agencies should identify innovative new services like "shuttle trains" that can move large quantities of freight between key focal points, like Ports Elizabeth/Newark and distribution centers along the Turnpike and in Eastern Pennsylvania.
- New Jersey transportation planners should seek collaboration with New York officials to consider the most efficient ways to move freight trains across the Hudson/NY Harbor.
- NJ DOT needs to have contingency plans in place to address likely problem corridors like Route 31 and 130 if a federal appeals court upholds the American Trucking Association challenge to the state's rules prohibiting some large trucks from smaller state highways. Truck tolls in those corridors is one possibility.
- The state should create a statewide plan that clusters new distribution centers near ports and other freight entry points or near consumer markets to avoid multiple movements of products.

***The state should set aside more construction funding for rail freight in the state transportation trust fund.***

**By 2020, more than 703 million tons of freight will be shipped into, out of, or through New Jersey annually.**

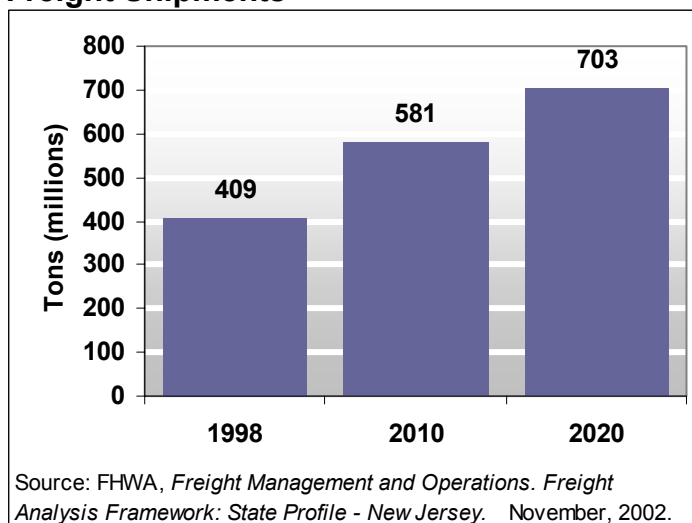
There is broad consensus among freight experts that New Jersey's truck traffic is going to skyrocket in the coming decades. In the New York metro area alone, the Economic Development Corporation (EDC) estimates that truck traffic will grow by 48 percent.<sup>1</sup> The Federal Highway Administration's (FHWA) Freight Analysis Framework puts the statewide figure at an incredible 80 percent.<sup>2</sup>

### **The Growth in Freight**

In 1998, some 409 million tons of freight, valued at \$330 billion passed through New Jersey's ports and airports, and along the state's highways and freight rail network.<sup>3</sup> More recent data puts the total statewide tonnage at 575.9 million tons.<sup>4</sup> Either way, a great deal of freight passes through New Jersey every year, with the state handling between 2.8 and 3.6 percent of the total freight tonnage coming into, going out of, or passing through the United States.

An increasingly global economy and expanding U.S. economy will swell freight traffic nationally, regionally, and locally. Between domestic and international markets, freight tonnage is expected to grow nationwide by 67 percent by 2020.<sup>5</sup> Several regional agencies have estimated that freight traffic just in the New York metro area will grow by between 47 and 70 percent.<sup>6</sup> In the state of New Jersey, freight tonnage is projected to grow by 72 percent, from 409 million tons in 1998 to 703 million tons in 2020.<sup>7</sup>

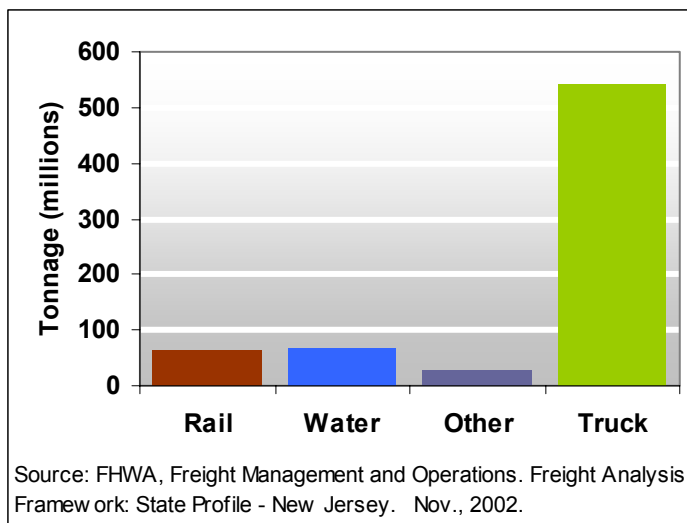
### **Current and Projected Growth in New Jersey Freight Shipments**



## The Growth in Truck Traffic

The vast majority of New Jersey's freight travels by truck. Currently, 74 percent, or 302 million tons of freight are transported into, out of, or through the state by truck. By 2020, trucks will carry an even larger share – 77 percent, or 541 million tons of freight annually. As a result, the tonnage of cargo carried by trucks is projected to grow 79 percent, from 1998 to 2020.<sup>8</sup> And New Jersey's highway network will see an astonishing 80 percent growth in truck traffic.<sup>9</sup>

## New Jersey's Freight Movement by Mode (tons moved, 2020)



The two maps on the next page illustrate the impact of this truck growth on New Jersey's roadways. Even in 1998, many of New Jersey's main corridors, especially those within the New York and Philadelphia metro areas, as well as between the two urban centers, are burdened with significant truck volumes. But by 2020, truck traffic will grow considerably worse. Trucks will continue to crowd the New Jersey Turnpike and urban highways around the New York and Philadelphia metro areas. But truck traffic will also spill over to other corridors like Kaighn Avenue and Crescent Boulevard in Camden County, US-1 in Middlesex and Mercer Counties, and I-295 in Mercer County. Just about every corridor, in every part of the state will be impacted.

Truck traffic will grow faster in some New Jersey counties than others. Sussex County ranks at the top, with truck traffic expected to more than double, growing by 107 percent. Passaic County is next on the list with an expected truck growth of 93 percent over the next couple of decades. Cape May and Atlantic Counties are just behind with a truck growth of 86 and 85 percent respectively.<sup>10</sup>

***The tonnage of cargo carried by trucks is projected to grow 79 percent.***

## Estimated Average Annual Daily Truck Traffic on New Jersey's Major Roadways

1998



2020



Source: FHWA, Office of Freight Management and Operations. Freight Analysis Framework. Nov., 2002.

### Growth in Truck Travel on New Jersey Roadways (1998 to 2020)

County Name	Roadway	1998 Daily Truck VMT	2020 Projected Daily Truck VMT	Growth in Truck VMT
Camden	Kaighn Ave	7,314	47,473	549%
Camden	Crescent Blvd	9,309	40,158	331%
Middlesex	US-1	87,851	369,462	321%
Mercer	US-1	30,059	113,313	277%
Mercer	I-295	61,948	218,993	254%
Middlesex	Outerbridge Crossing (SR-440)	7,439	25,657	245%
Middlesex	SR-440	18,874	55,997	197%
Hunterdon	US-202	22,124	64,904	193%
Warren	SR-57	31,048	87,826	183%
Passaic	SR-20	8,342	23,492	182%

Source: TSTC analysis of FHWA's Freight Analysis Framework, 2002.

### Growth in Truck Travel (1998 to 2020)

County Name	1998 Daily Truck VMT	2020 Projected Daily Truck VMT	Growth in Truck VMT
Sussex	227,224	469,202	106.5%
Passaic	227,016	437,595	92.8%
Cape May	57,656	107,056	85.7%
Atlantic	235,605	435,290	84.8%
Mercer	578,981	1,067,869	84.4%
Middlesex	1,181,905	2,168,776	83.5%
Monmouth	476,637	867,524	82.0%
Ocean	178,390	322,106	80.6%
Warren	316,255	570,872	80.5%
Morris	650,557	1,174,000	80.5%
Somerset	474,182	854,711	80.2%
Camden	442,865	793,278	79.1%
Essex	489,391	869,374	77.6%
Bergen	670,274	1,190,219	77.6%
Burlington	732,507	1,279,651	74.7%
Gloucester	412,735	714,369	73.1%
Salem	182,212	315,166	73.0%
Union	493,893	849,460	72.0%
Hudson	338,195	575,299	70.1%
Hunterdon	255,361	434,294	70.1%
Cumberland	102,447	171,314	67.2%
<b>Statewide</b>	<b>8,724,288</b>	<b>15,667,425</b>	<b>79.6%</b>

Source: TSTC analysis of FHWA's Freight Analysis Framework, 2002.

## Truck Traffic Impacts

Trucks evoke a visceral sense of anxiety from most people. And for good reason. Trucks contribute disproportionately to traffic crashes and deaths, traffic congestion, wear and tear on roads and bridges, and air pollution.

### Traffic Safety

In 2002, trucks were involved in collisions which killed 82 New Jersey residents, representing about 10.5 percent of total traffic fatalities in the state for that year. For every 100 million miles driven, New Jersey's large trucks are involved in crashes resulting in 1.3 traffic fatalities. This compares to a rate of just 1.1 for passenger vehicles. It should be noted that most large truck drivers have very good safety records. However, the size and weight of large trucks makes truck-related collisions especially deadly.

**Truck-related traffic deaths could grow to as high as 133 by the year 2020.**

Middlesex County, with 13 fatalities in 2002, had the largest number of truck-related traffic fatalities in New Jersey. Bergen County was just behind, with 10 fatalities, followed by Burlington County with 9, Monmouth County with 8, and Mercer and Somerset Counties each with 6 truck-related traffic fatalities.<sup>11</sup>

These tragic deaths can be expected to grow more numerous as truck traffic increases. Assuming the fatality rate per mile driven for trucks remains constant, truck-related traffic deaths could grow to as high as 133 by the year 2020.

Certain New Jersey roadways seem to be especially prone to truck-related collisions and fatalities. The table to the right shows that the New Jersey Turnpike through Mercer County is the worst, with 5 traffic deaths on that stretch of road in 2002 alone. With 4 fatalities, I-287 in Somerset County is ranked just behind, followed by two stretches of the

### Large Truck Traffic Deaths

County Name	2002	2020 Projected
Atlantic	5	8
Bergen	10	16
Burlington	9	14
Camden	1	2
Essex	4	6
Gloucester	1	2
Hunterdon	3	5
Mercer	6	10
Middlesex	13	21
Monmouth	8	13
Morris	3	5
Ocean	5	8
Passaic	1	2
Salem	2	3
Somerset	6	10
Union	3	5
Warren	2	3
<b>Statewide</b>	<b>82</b>	<b>133</b>

Source: TSTC analysis of National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS), 2002.



Turnpike, running through Middlesex and Bergen Counties, tied for third, with 3 fatalities on each. With 13 fatalities in all across five counties, the Turnpike emerges as New Jersey's most dangerous road for truck fatalities by far.

**Most Dangerous New Jersey Roads for Large Truck Traffic Fatalities (2002)**

County Name	Roadway	Deaths
Mercer	NJ Turnpike (I-95)	5
Somerset	I-287	4
Middlesex	NJ Turnpike (I-95)	3
Bergen	NJ Turnpike (I-95)	3
Morris	I-287	2
Monmouth	CR-539	2
Monmouth	SR-36	2
Middlesex	Perrineville Rd.	2
Hunterdon	I-78	2
Essex	Main Street	2
Burlington	I-295	2
Burlington	I-700	2
Bergen	SR-17	2
Atlantic	US-30	2

Source: TSTC analysis of National Highway Traffic Safety Administration's Fatality Analysis Reporting System (FARS), 2002.

*Congestion*

Trucks are a major source of the traffic congestion woes that plague New Jersey's roadways. Each large truck takes up about the same amount of road space as 3 or 4 passenger cars, and because of their poorer handling and greater propensity to be involved in collisions, contribute disproportionately to congestion.

On any given day, trucks put nearly 17 million miles on New Jersey's roadways, which adds up to more than 6 billion miles annually, accounting for about 8.8 percent of total travel.<sup>12</sup> But because trucks take up 3 to 4 times as much road space as passenger vehicles, their impact on congestion is much greater. Using the conservative estimate of 1 truck to 3 passenger vehicles, New Jersey's trucks feel like they comprise more than 22 percent of the total miles driven.

New Jersey's traffic congestion is slated to worsen considerably in the next two decades, with travel delay growing almost exponentially, by more than eight times its current level. The Federal Highway Administration (FHWA) projects that total miles driven in New Jersey will grow by about 51 percent during that

time period.<sup>13</sup> But with truck traffic expected to grow by 80 percent during that period, trucks will obviously add disproportionately to the state's growing congestion. By 2020, trucks may comprise as much as 10.4 percent of the total miles driven in the state. Factoring in their added bulk, trucks will seem to make up more than one-quarter of the state's total traffic. In large part because of added truck traffic, New Jersey drivers will see travel delay increase by 755 percent.<sup>14</sup>

Some New Jersey counties will fare worse than others. For example, delay in Sussex County is projected to grow by more than 14 times the current level, a figure not surprising given that trucks already make up almost 20 percent of that county's total traffic, and are expected to make up 25 percent by 2020. In fact, analysis of the growth in delay and the percentage of truck traffic in 2020 shows a strong correlation between the two factors.<sup>15</sup>

#### *Wear and Tear on Roads and Bridges*

Heavy duty trucks cause disproportionate damage to New Jersey's roads and bridges. A single pass by a typical tractor-trailer causes about the same amount of road damage as 2,000 to 3,000 passenger vehicles.<sup>16</sup> Large trucks also cause significant damage to bridges, contributing to bridge deck fatigue, and stressing the bridge structure.



Separate crashes on November 9th involving two overturned trucks shutdown express lanes on Route 1/9 for more than 3 hours. Photo: Noah K. Murray/ *The Star-Ledger*. Used with permission from *The Star-Ledger*.

New Jersey already has some of the nation's worst roads and bridges. The condition of the state's major roads ranked 7<sup>th</sup> worst in the country, with 74 percent of all major roads in less than good condition in 2002. An astonishing 83 percent of New Jersey's major urban roads are in less than good condition.<sup>17</sup> New Jersey's bridges fare only slightly better. With nearly 37 percent of the state's bridges rated as structurally deficient or functionally obsolete, New Jersey has the 8<sup>th</sup> worst bridges in the country.<sup>18</sup>

With truck traffic projected to grow by 80 percent in the coming decades New Jersey's roads and bridges can be expected to suffer even greater wear and tear. The American Association of State Highway and Transportation Officials (AASHTO) estimates that for every additional truck mile driven, highway maintenance costs will grow by \$1.47.<sup>19</sup> For New Jersey, which is expected to see truck traffic grow by about 2.5 billion miles just on its major highways, this translates into an additional annual cost of \$3.7 billion by the year 2020, and a total cost of almost \$40 billion over two decades. Taxpayers will be asked to shoulder much of this burden. But motorists will also pay out of pocket for the blown tires and shocks caused by rutted and potholed roads and bridges.

#### *Air Pollution and Public Health*

Freight trucks are almost exclusively fueled by diesel, which when burned, produces toxic emissions as well as pollutants such as the smog precursor nitrogen oxide (NOx) and particulate matter (PM). Exposure to this diesel exhaust can worsen or even cause the onset of respiratory disease such as asthma, exacerbate cardiovascular disease, and, in extreme cases, lead to premature death.<sup>20</sup> Children, the elderly, and people with existing respiratory problems are especially at risk. Diesel exhaust is also a known carcinogen – among its most dangerous components are benzene, arsenic, dioxins, and formaldehyde – and has been linked to higher cancer rates along major truck routes.<sup>21</sup>

For most residents it's no surprise that the state of New Jersey suffers from air pollution. The entire state fails to meet both the old and new federal standards for ozone, and the EPA has recently classified most of the state as failing to meet new federal standards for fine particulate matter.<sup>22</sup> In recent years, New Jersey's urban residents have suffered through increasingly unhealthy air. In the greater Philadelphia region (which includes Burlington, Camden, Gloucester, and Salem counties in New Jersey), the number of days of unhealthy air rose by 50 percent from 22 in 2000 to 33 in 2002. In Jersey City, the number of days in which air pollution was at unhealthy levels doubled, from just 4 in 2000 to 8 in 2002. In the Middlesex-

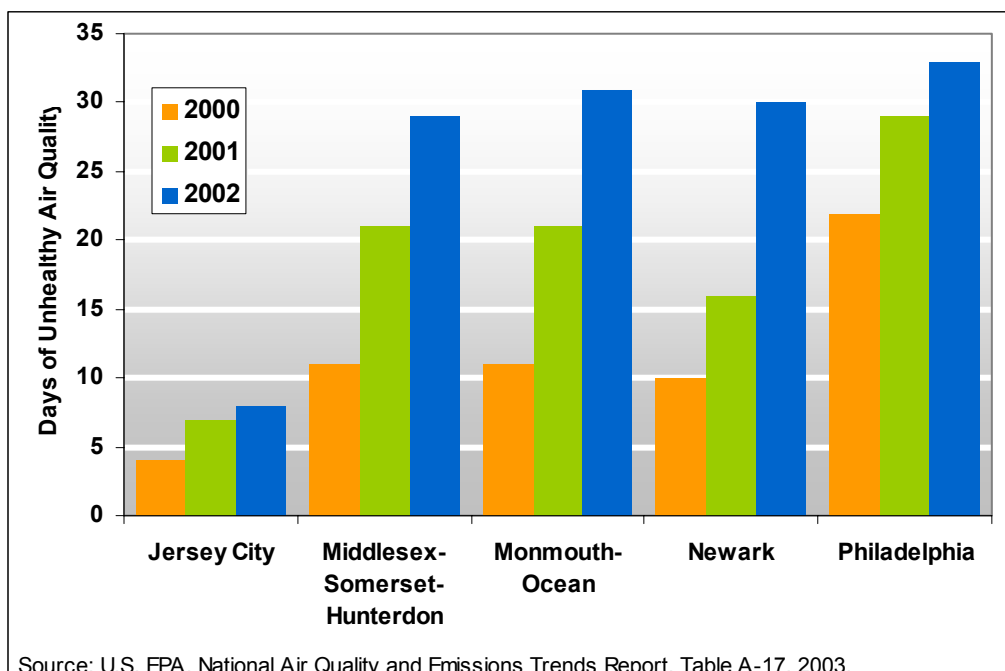
***The growth in truck traffic will cause an additional \$40 billion in wear and tear costs on New Jersey's roads over the next two decades.***

**With truck engines lasting 30 years or more, it could take decades for cleaner trucks to find their way to New Jersey roads.**

Somerset-Hunterdon, Monmouth-Ocean, and Newark regions, the number of days of unhealthy air tripled or almost tripled to 29, 31, and 30 days respectively.<sup>23</sup>

New federal standards for diesel fuel, as well as diesel engines may hold the promise of reduced emissions in coming years. But implementation of these regulations will be sluggish, even as truck traffic continues to grow at a record pace. Many trucking firms plan to buy as many new trucks as they can handle before the regulations take effect. A recent *Journal of Commerce* article cited the major national trucking firm Schneider, which “expects to step up purchases by 30 to 50 percent in advance of the new rules.”<sup>24</sup> With truck engines lasting 30 years or more, it could take decades for cleaner trucks to find their way to New Jersey roads. In the meantime, burgeoning truck volumes will negate per-truck emission gains for the foreseeable future. Total air pollution from trucks will drop by at most 17 percent, assuming 40 percent of New Jersey’s trucks are equipped with cleaner engines by 2020. It will take a full generation for these technologies to have a significant impact in improving air quality, and even then, their benefit will be greatly diminished unless the growth in truck traffic slows.

**Air Quality Trends in New Jersey’s Metro Areas (2000-2002)**



## Recommendations

- The state should set aside more construction funding for rail freight in the state transportation trust fund.
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- Railroads and public agencies should identify innovative new services like “shuttle trains” that can move large quantities of freight between key focal points, like Ports Elizabeth/Newark and distribution centers along the Turnpike and in Eastern Pennsylvania.
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- The state should create a statewide plan that clusters new distribution centers near ports and other freight entry points or near consumer markets to avoid multiple movements of products.

## Endnotes

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