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# Reducing the Energy Impact of Transportation in Delaware

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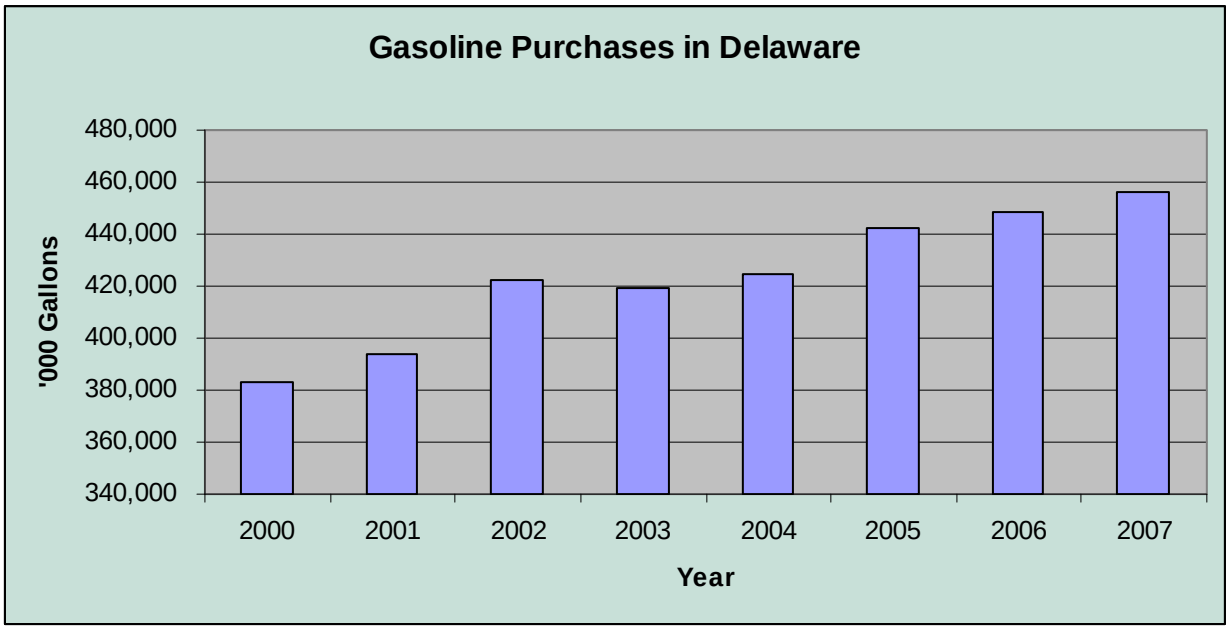
## Background Information

### Delaware's Transportation System

Delaware's transportation system includes 5317 miles of roadways[1] maintained by the Delaware Department of Transportation (DelDOT) (including 41 miles of interstate highway), 925 miles of other roadways, a state-wide bus system, 271 miles of commercial rail lines, including passenger service to Philadelphia via SEPTA.

Transportation system planning is done by DelDOT, with oversight by the Wilmington Area Planning Council (WILMAPCO) and the Dover/Kent County Metropolitan Planning Council. The bus system is operated by DART First State, the Delaware Transit Corporation.

### Car Travel

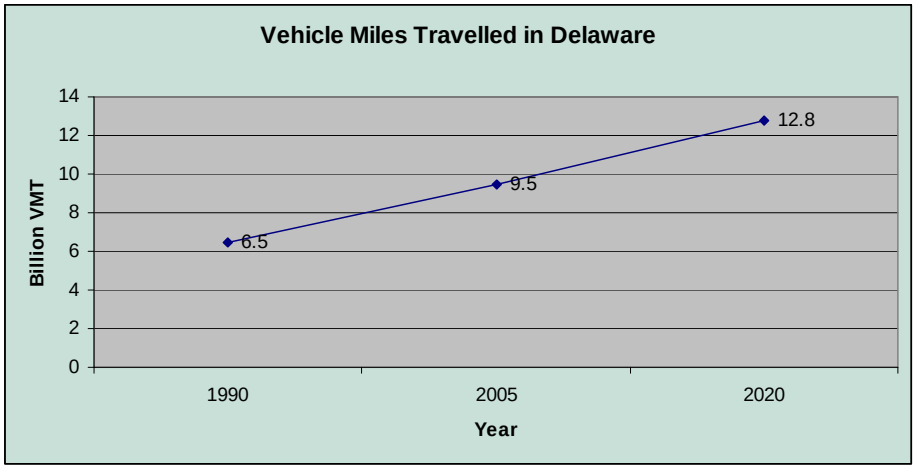



Source: Delaware Department of Transportation, Division of Motor Vehicles. Motor Fuel Tax Administration Report. March 6, 2008

Gasoline purchases in Delaware increased 73 million gallons from 2000 to 2007 (19%), an average annual increase of 2.6%. The Division projects a steady 2% annual increase in sales[2]. Even at that conservative estimate, by 2012, over 512 million gallons of gasoline will be purchased in Delaware.

[1] Road miles – calculated in one direction for each road.
[2] JFC hearing 2/29/2008

The increase in gasoline purchases reflects increasing vehicle miles travelled (VMT) by cars. Travel on Delaware's major highways increased by 45% from 1990 to 2005 (6.5 billion VMT in 1990 to 9.5 billion VMT in 2005. Vehicle travel is expected to increase by another 35 percent by 2020, reaching 12.8 billion VMT.[3]

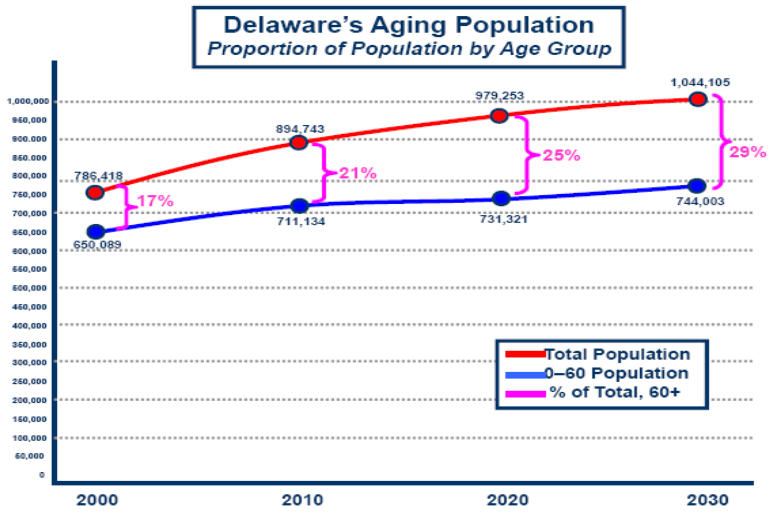



Public Transportation

Rail transit is provided from Newark and Wilmington to Philadelphia on the SEPTA R2 line. Ridership, as measured by passenger trips, has increased 42%, from 723 thousand in FY03 to 1 million in FY07.

Bus transit operated by DART First State includes both fee-based fixed route bus service and demand response service statewide. Between FY03 and FY07, fixed route ridership grew 11%, from 7.5 million passenger trips to 8.3 million. Over the same period, demand response trips grew 43%, from 569 thousand to 812 thousand.

[3] "The Cost of Traffic Congestion in Delaware: The State's 25 Worst Traffic Jams and Needed Steps to Relieve Traffic Congestion." TRIP. June 2007. http://www.tripnet.org/DelawareCongestionReportJune2007.pdf




Source: Delaware Population Consortium, October 26, 2006

## Transportation Related Air Emissions

For 2002, air pollution emissions from on-road sources (cars and trucks) were:

| | $NO_x$ | $SO_2$ | $PM_{2.5}$ |
|---|---|---|---|
| Tons per Year | 21,341 | 584 | 415 |
| Percent of Total Emissions | 37.4% | 0.7% | 5.8% |

Source: Delaware Department of Natural Resources & Environmental Control, Air Quality Management Section. Analysis of 2002 Emissions from Delaware Electricity Generating Units (EGUs). Email from David Fees, 2/19/2008.

The DNREC Air Quality Management Section estimates the annual pounds per household of mobile emissions (cars) that are projected for new developments. These are:

- 153.5 lbs of Volatile Organic Compounds (VOC)
- 127.1 lbs of NOx
- 93.8 lns of SO2
- 8.3 lbs of Fine Particulate Matter (PM)
- 12,839.2 lbs of CO2

The location of the development affects the estimated emissions; emissions are higher for developments located in areas of the state designated as level 4 (the areas where growth is not desired, typically farther away from towns and other communities). For example, a typical development of 100 units located 10 miles outside the growth area will have an additional 59 tons (not pounds) per year of VOC emissions, 77 tons per year of NOx emissions and 1 ton per year of PM emissions, than the exact same development built in the growth area.

## Bicycle Transportation

Rails to trails master plan – June 2006
http://deldot.gov/information/projects/rails_to_trails/pages/master_plan_toc.shtml

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## Key Questions for the Work Group

1. How can we reduce the transportation-related energy use in Delaware?
2. How can we better move people around the state or reduce the VMT?
3. How can we increase use of mass transit?
4. What will happen if oil rises to $300/barrel or $10/gallon?
5. What can be done to moderate price shocks?
6. What transportation technologies should Delaware be incentivizing?