

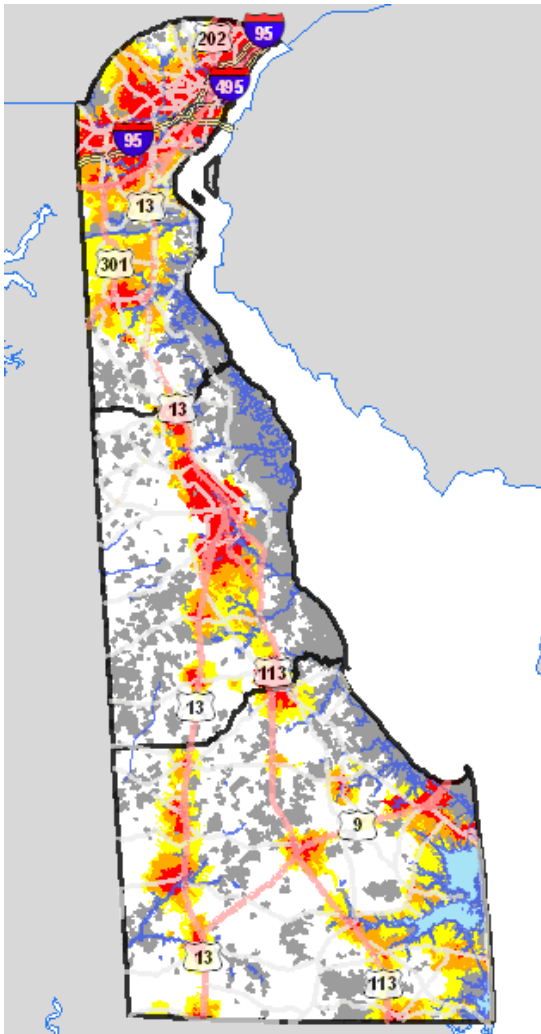
HELPING TO REDUCE GREENHOUSE GAS EMISSIONS BY ENHANCING PUBLIC TRANSIT OPTIONS AND BY WISER LAND USE PLANNING, League of Women Voters of Delaware, April, 2011

Delaware should work toward reducing greenhouse gas emissions by enhancing public transit options and by wiser land use planning. We support the following positions:

Wiser land use planning

Direct development towards growth zones, except for environmentally sensitive areas within those growth zones; assure availability of infrastructure, services and walkability before developing.

Figure 1. State Strategies for Policies and Spending. Source: Delaware Office of State Planning Coordination <http://stateplanning.delaware.gov/strategies/>



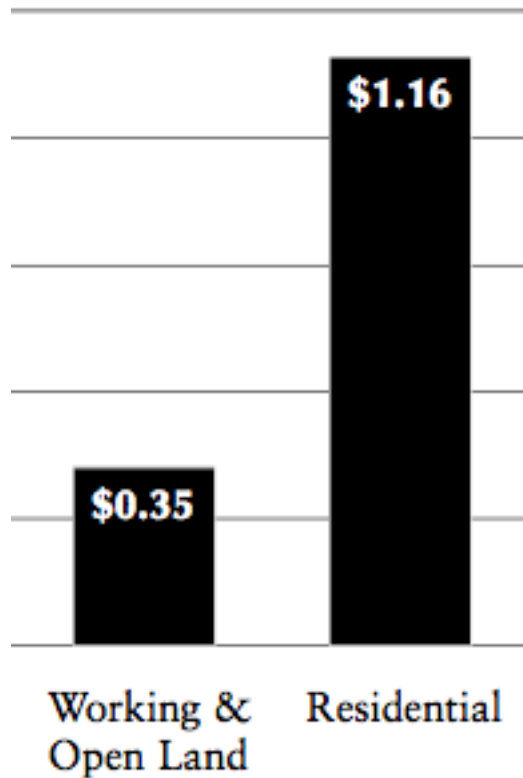
Current efforts by the State Planning Office to encourage the direction of growth into growth zones (see Figure 1) focus on the State Strategies for Policies and Spending, a document which lays down the ideology of smart growth. Additionally, all municipal and county governments are required to submit comprehensive plans to the State Planning Office. The Preliminary Land Use Service is helpful in bringing to the attention of developers issues that may interfere with the approval of their plans. However, none of these efforts carries the force of law.

Reid Ewing and associates, in an exhaustive research study, found that sprawl is the key factor in that rate of growth.¹

California agrees that directing growth towards existing communities is the best way to reduce the number of vehicle miles traveled, and the carbon dioxide emissions associated with it. They have put into law not only a) a State emissions goal but also b) a directive that the State's metropolitan planning organizations plan land use and transportation investments.²

In 2006 the American Farmland Trust (AFT) did a study which ties Delaware's state spending to its growth, blaming sprawl for many of the state's fiscal difficulties.³ The AFT finds that

Figure 2. American Farmland Trust, *Cost of Community Services Studies*, August 2010. <http://www.farmland.org/documents/Cost-of-Community-Services-08-2010.pdf>



Delaware lost 125,000 acres of farmland to development between 1984 and 2005, land consumed not only by larger average house lots but also roads and shopping centers to support them. Before 1984 land for a new house took less than half an acre per home; in 2002 the average new home consumed 1.23 acres, including the support facilities mentioned above. Per capita capital budget increased by almost 250% over the last 20 years, 8 times greater than the state's population increase over that period....but mirroring the increase in land consumption per new unit. School transportation spending (using adjusted dollars) per pupil increased 235% between 1970 and 2005, despite a decline in number of school-aged children. (Also using adjusted dollars, gas prices increased only about 33% over that same period.)

The American Farmland Trust has also done research in which it computes the cost per dollar of revenue raised to provide public services. It's actually a kind of cost-benefit analysis. The AFT and other organizations have done this research in communities across the United States, arriving at median

costs as shown in Figure 2.⁴

Note that community services for agricultural land costs the community only \$.35 for every dollar which farmers pay in taxes to the community. Community services for residences, on the other hand, cost \$1.16 for every dollar which the homeowner pays in taxes. (This "residential" category includes both sprawl and urban homes; we have seen earlier that when one separates this category into sprawl and urban that infrastructure costs for sprawl-located homes are much more costly.)

This comparison is important because many elected officials tell their constituents that it makes sense to change farmland into residential development because the residential development owners pay higher taxes than farmers, so it's to their advantage to develop the farmland. Yes, residential homeowners do indeed pay higher taxes, but the costs to provide infrastructure are also much higher. The problem in Delaware is that many of these community services are provided by the state and not by the political bodies which make the decisions. The County reaps the benefits and the state (all the taxpayers in the state) pays. For example, in Delaware the state (all the taxpayers in the state) pays the following portions of infrastructure and services:⁵

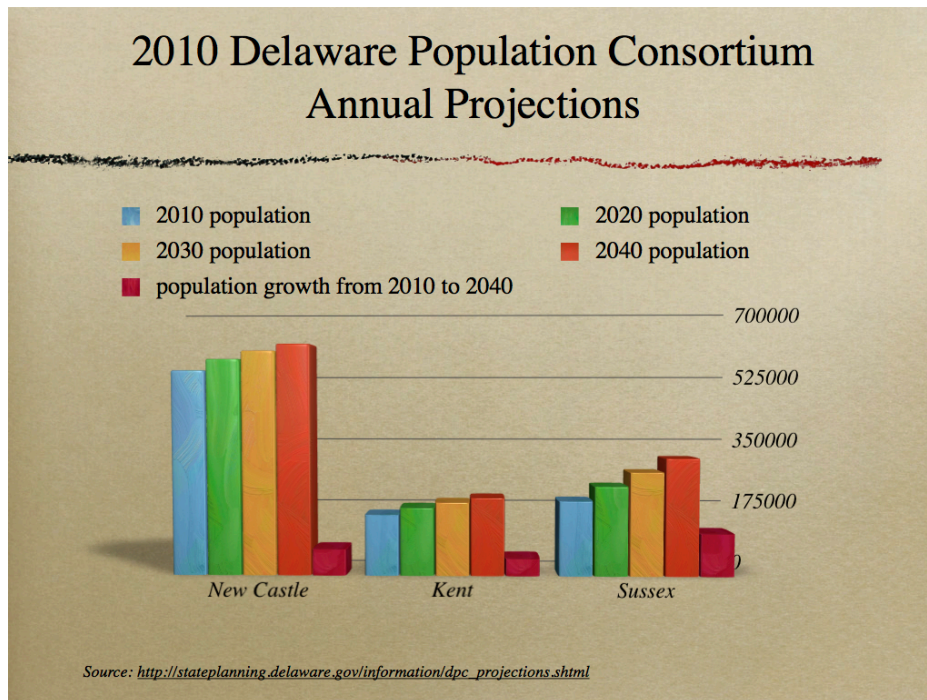
school transportation	100%
roads	90%
public school operation	70%
public school construction	60-80%
paramedics	40%
the state's largest police force	

We will look at some possible paths forward in terms of this and the next two sections after the final section.

Build compact, or dense, development within established development areas in which pedestrians can safely and conveniently access services.

If Delaware is successful in directing growth toward existing communities, we're going to have a lot of people in one place.

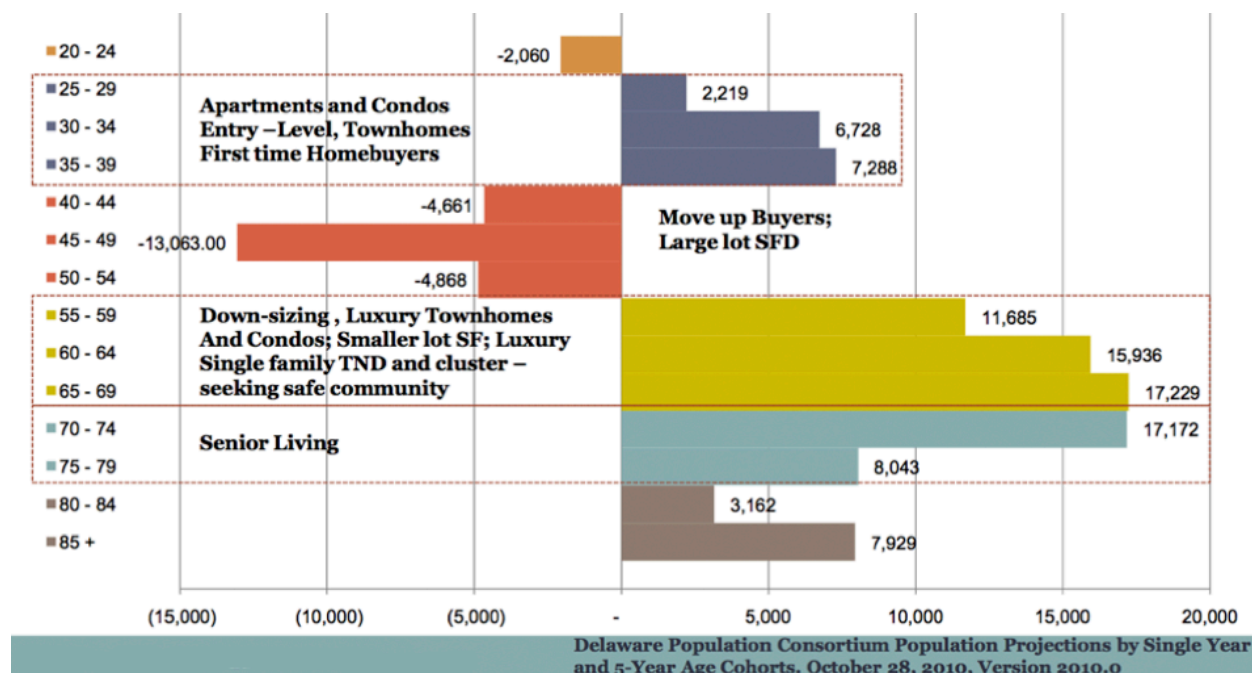
Figure 3. Source: Delaware Population Consortium Annual Projections Source: http://stateplanning.delaware.gov/information/dpc_projections.shtml



Many people think that we will need to have compact development, or increased density in order to accommodate these folks. We will define density as the number of dwelling units in a given area; most often the given area is an acre. Delaware Housing Office defines compact development as development that contains a variety of housing types

and land uses clustered together to make the most efficient use of infrastructure and services. In the Pike Creek Valley, for example, the density is 4 dwelling units, or du, per acre. The Overlook in Dover has a density of 6.53 du/acre. The Villages of Five Points in Lewes has a density of 2.53 du/acre. Another way to look at density is that for

Figure 4. Delaware's Projected Total Population Growth by Age, 2010 to 2020

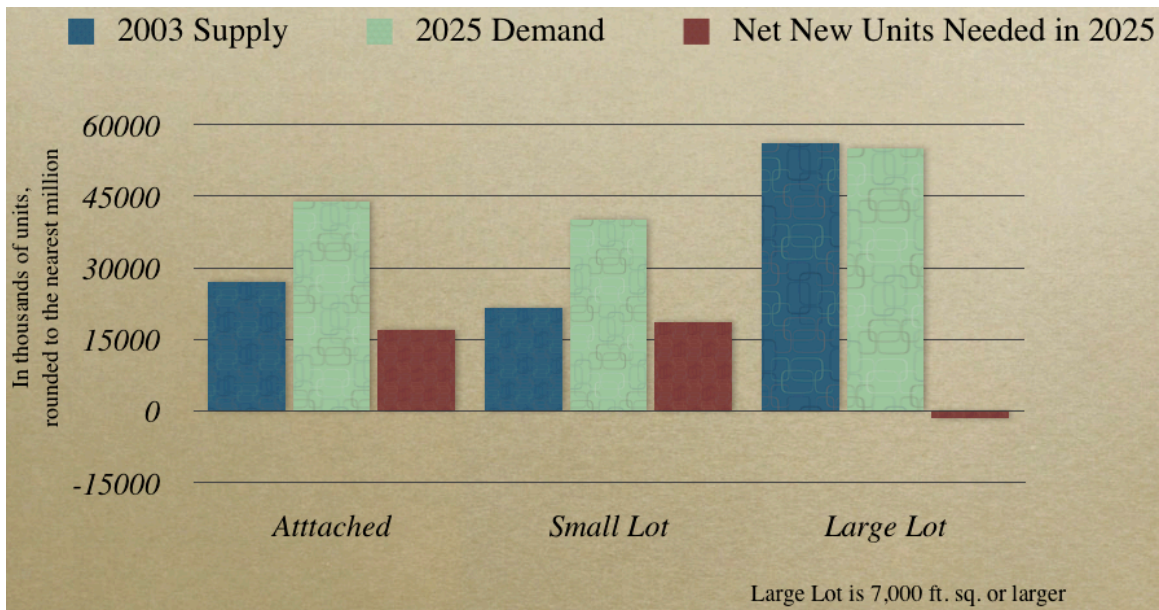


minimal public transit service, DART says they need 4 du/acre, and to provide full service that number needs to be up at about 16 du/acre.

The Delaware Population Consortium projects a total population of 1,120,523 by 2040, compared with 895,173 in 2010⁶, with the greatest number of new folks, 111,745, coming to live in Sussex County. That's a 57% increase over their 2010 population of 196,945. New Castle County, by contrast, will increase by only 13%, and Kent by 29%. Figure 3 shows details of this growth.

The most compelling demographic information, however, is found in a breakdown of the population growth by age groups (see Figure 4). Here we see a marked decrease in one category--the 40-54 year age range. This is the age group which has historically been interested in large lot single family dwellings. Since the projection is that there will be a decrease in this age group, it follows that there will be less need for housing of that type. The baby boomers that show up in the 55 and older groups, however, show a marked increase in number. These are the folks that historically downsize and choose townhomes, condos and smaller lot single family homes. Since there will be a lot more

Figure 5. U.S. 2003 Housing Supply vs. 2025 Housing Demand Source: A.C. Nelson, *Leadership in a New Era*, *Journal of the American Planning Association*, 2006 <http://law.du.edu/>



of these people, we would logically expect a much greater need for small lot and attached housing in coming years.⁷

Not surprisingly, the projections for housing on a national level conform to the expectations expressed in Figure 4. Figure 5 illustrates these national projections. We see that in 2003 we already had enough large lot homes to satisfy the needs for Americans in 2025, but that there will be a clear need for attached and small lot housing in 2025.⁸ These homes will be for the people whom we see in Figure 4 are in the expanding demographic: those in the 55 and over age groups. Or as Reid Ewing so eloquently puts it, “We have too much of the big stuff already.”⁹

Although written questionnaires about housing preferences often give a negative picture, when people are given visual surveys, with pictures, the results invariably favor smaller lots, smaller homes, mixed housing types, open spaces, narrower streets with sidewalks and commercial development within walking distance.¹⁰ Malizia and Goodman find that “higher-density developments [are] being shortchanged by opinion surveys.”¹¹ A recent Center for Clean Air Policy report notes that more and more people now prefer to live in walkable communities.¹²

Studies have found that infrastructure costs per housing unit drop dramatically with increased density. But we don’t need scientific studies to tell us that we will spend far less for taking kids to school, for buying and installing sewer pipes, for paying for sidewalks and streets, for providing police and paratransit, for installing water pipes if there are shorter distances between homes. On a national level, research shows an 11% savings in cost for infrastructure in compact development.¹³

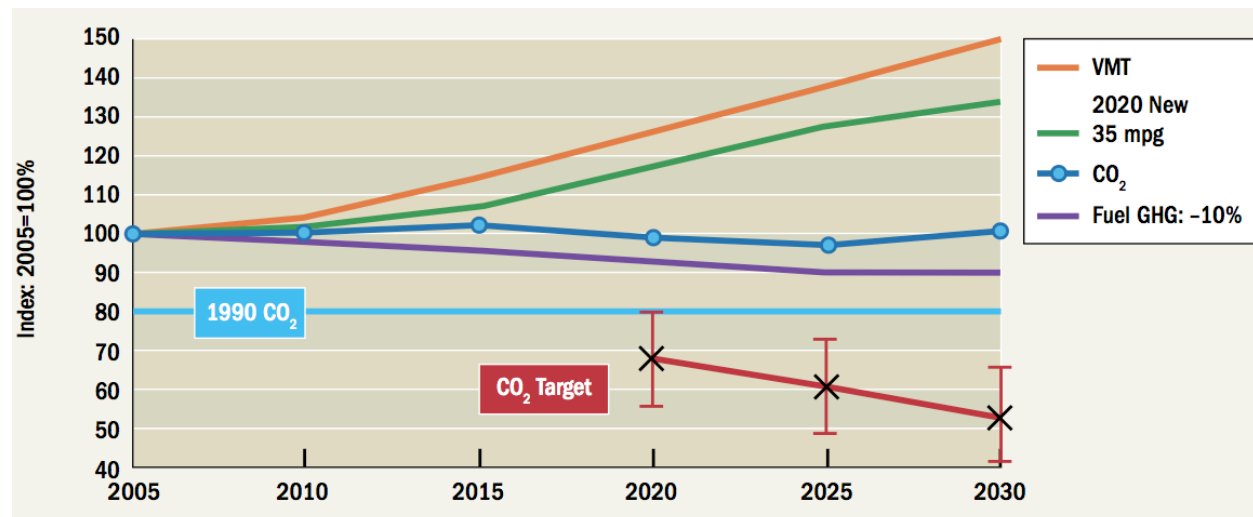
There are some myths circulating that density is bad for a few reasons. One is that single family home values will decline near a dense development. The Census, in combination with HUD, found that between 1997 and 1999 the value of a single family home went up 2.9% per year if within 300 feet of multi-family housing, while single family homes not in close proximity to multi-family housing increased only 2.7% in price.

What about the possibility of greater crime rates in high density areas? There is no evidence that that will occur. Although research in this area is scant, at least 2 studies show that the crime/density belief is more myth than fact. The University of Alaska presents data that show no relationship between housing density and delinquency.¹⁴ A GIS analysis, using data from a Texas community, shows that high crime rate is not necessarily linked to high-density development, but more to the low socioeconomic status of the perpetrators.¹⁵

Research suggests that towns with higher density employment and residential centers attract more young educated workers because these folks are attracted to the nearby amenities. Ania Wieckowski writes that “the suburbs have lost their sheen: Both young workers and retiring Boomers are actively seeking to live in densely packed, mixed-use communities that don’t require cars--that is, cities or revitalized outskirts in which residences, shops, schools, parks, and other amenities exist close together.”¹⁶ Peter Katz shows the results of his research: Well-designed urban density brings many times the net tax benefit per acre than single-use, lower density suburban form of development. For example, he says, a Wal-Mart might bring in to the county coffers something like \$3,000 per acre per year and then something like \$80,000 per acre for high-density, central area development.¹⁷

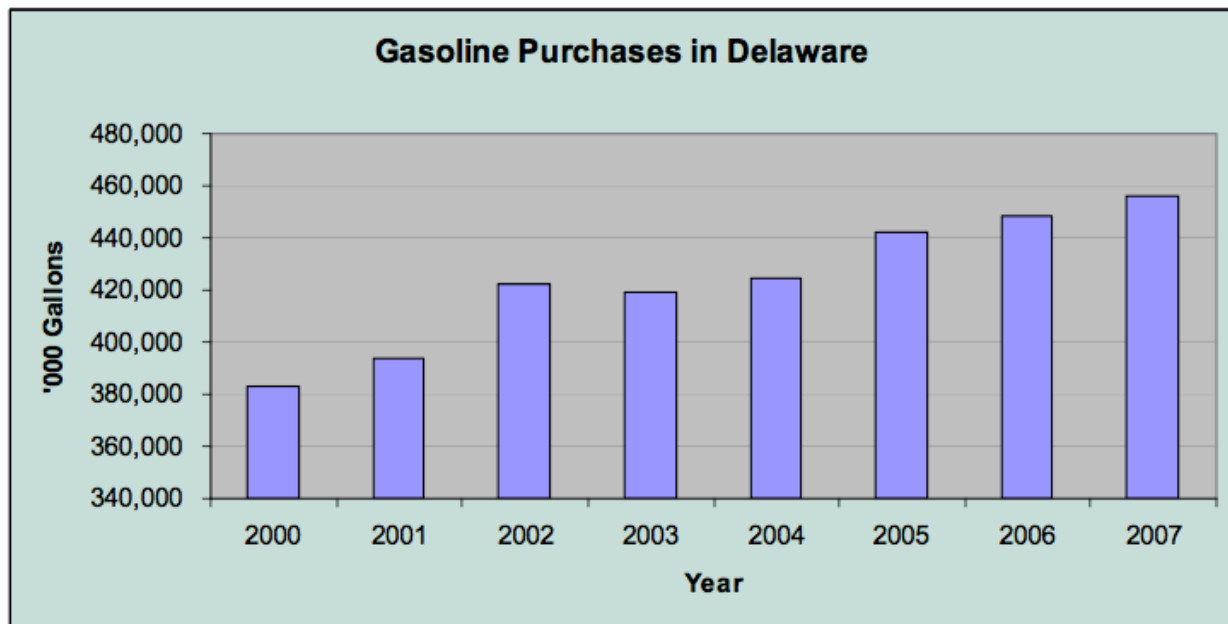
Reduce vehicle miles traveled.

Figure 6. Projected Growth in CO₂ Emissions from Cars and Light Trucks Source: Reid Ewing et al, *Growing Cooler: The Evidence on Urban Development and Climate Change*, Washington, D.C.: The Urban Land Institute. 2008 <http://www.uli.org/ResearchAndPublications/Reports/~media/Documents/ResearchAndPublications/Reports/GrowingCooler.ashx>



Vehicle miles traveled, or VMT, is one of the three elements that we need to consider when looking at transportation-generated carbon dioxide. The other two are vehicle efficiency and low greenhouse gas (GHG) fuels. Reid Ewing et al have computed that vehicle efficiency and low greenhouse gas fuels will certainly reduce these emissions, but given the steady increase in VMT due to both population growth and what Americans feel is the need to drive more, those gains will be wiped out (see Figure 6).¹⁸ A strange irony is that the more efficient the car, the more miles one is likely to travel.¹⁹ Only if we can get emissions down to levels well below those of 1990, many researchers feel, will we be able to effectively halt climate change.^{20,21} The 1990 CO₂ emissions level is represented by the straight light blue line in Figure 6. Nationally,

Figure 7. Source: Delaware Department of Transportation, Division of Motor Vehicles. Motor Fuel Tax Administration Report. March 6, 2008

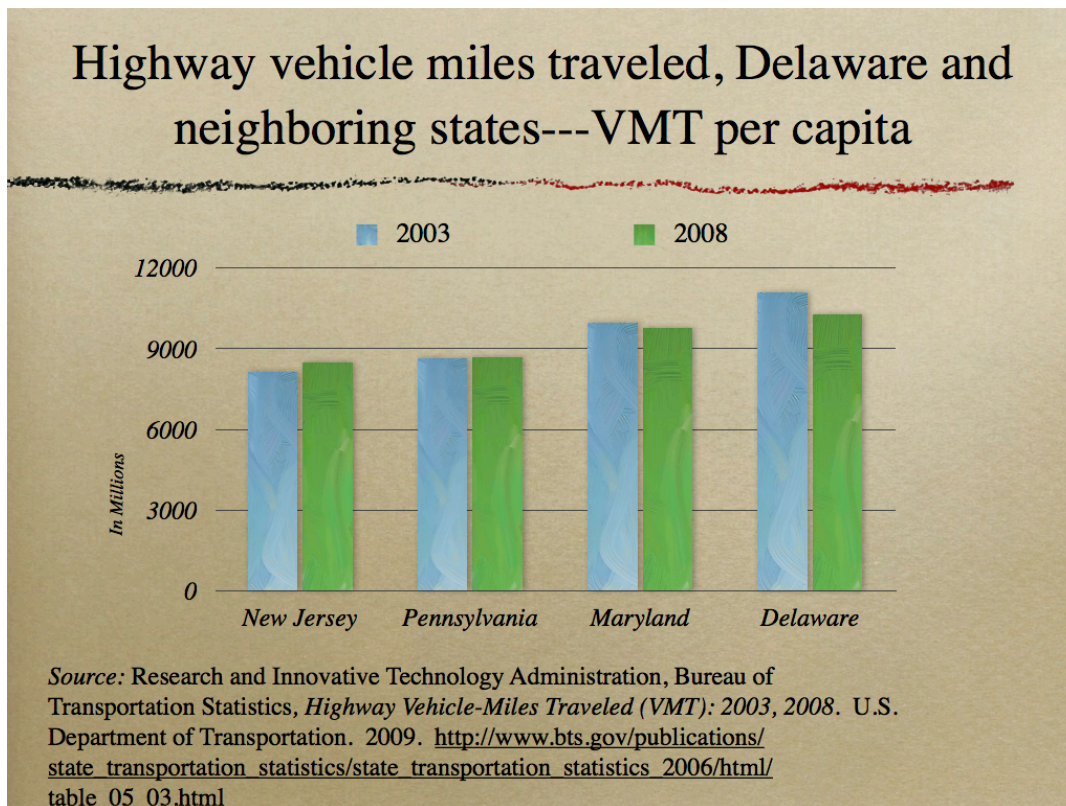


vehicle-generated emissions are roughly 30% of the whole emissions picture.

Figure 7 shows the steady climb in Delaware gasoline purchases from 2000 to 2007, a climb which mirrors the increase in vehicle miles traveled. This is an annual average increase of 2.6%. And the end does not appear to be in sight because Delaware's vehicle travel is projected to increase by another 35% by 2020.²²

Nor does Delaware compare well with neighboring states in terms of VMT. As you see from the chart in Figure 8, Delaware has more vehicle miles traveled per capita than New Jersey, Pennsylvania and Maryland. In 2008, the average number of vehicle miles traveled per capita in Delaware was 11,272 miles. Maryland, the next highest in VMT, had a per capita amount of 9,767 miles.

Figure 8. Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Highway Vehicle-Miles Traveled (VMT): 2003, 2008*. U.S. Department of Transportation. 2009. http://www.bts.gov/publications/state_transportation_statistics/state_transportation_statistics_2006/html/table_05_03.html



The American Association of State Highway and Transportation Officials (AASHTO) is a standards setting body which publishes specifications and guidelines for highway design throughout the U.S. They recommend that VMT be capped at no more than 5 trillion miles by 2055, “reflecting a

50% cut in growth below the growth in current trends towards 7 trillion miles....” And then, “This can only happen if distances between origins and destination....shrink, and trip choices increase.”²³ This is, of course, a goal for our nation as a whole, though it represents a macrocosm of the choices we have as an individual state.

Some possible solutions

A path forward is not altogether clear, though it may be helpful to look at a number of suggestions from Delaware planners and decision makers, as well as reports from other states which have been successful in reducing carbon dioxide emissions generated by transportation.

- Enlarge the master plan concept, as in southern New Castle County, in Georgetown and Milford. Disparate stakeholders have been brought together in working out these somewhat more regionally-configured plans, now in various stages of design and implementation.
- Give the force of law to both the State Strategies for Policies and Spending and to the Preliminary Land Use Service
- Give to the Director of the State Office of Planning Coordination Cabinet status.
- Give to the Director of the State Office of Planning Coordination veto power over large development projects proposed for Level 4 areas.

- Mandate that DelDOT refuse connections to roadways in areas not planned for development.
- Upzone, or greatly increase density allowances in growth areas.
- Downzone in non-growth areas, as Cecil County (with 1 dwelling unit per **20** acres in some of their agricultural lands) has done.
- Significantly increase real estate transfer taxes in Level 4 areas and decrease them in Levels 1-2.
- Increase transaction areas and in other ways reform the Transfer of Development Rights (TDR) process.
- Set an ambitious goal to reduce GHG emissions by 80% below 1990 levels by 2050 (as California has done).
- Sub-allocate to the two metropolitan planning organizations and to one county government (Sussex, which has no MPO) the responsibility for planning its land use and transportation in order that the goal in the previous bullet would be met.
- Create a carbon impact fee for new development, as mentioned later under the transit section.
- Tax vehicle miles traveled through the Department of Motor Vehicles.
- Set maximum limits on parking spaces in order to encourage transit.
- Require that new developments include bus pull-outs.
- Require street connectivity in order to help reduce VMT.

¹ Source: Reid Ewing et al, *Growing Cooler: The Evidence on Urban Development and Climate Change*, Washington, D.C.: The Urban Land Institute. 2008 <http://www.uli.org/ResearchAndPublications/Reports/~media/Documents/ResearchAndPublications/Reports/GrowingCooler.ashx>

² ClimatePlan Partners, *ClimatePlan: Strategic Plan, 2009-2011*, [date unknown]. http://www.climateplanca.org/StrategicPlan_web.pdf

³ American Farmland Trust, *Trends in Delaware's Growth and Spending; Technical Report*. May 2006.

⁴ American Farmland Trust, *Cost of Community Services Studies*, August 2010. <http://www.farmland.org/documents/Cost-of-Community-Services-08-2010.pdf>

⁵ Office of State Planning Coordination, *Presentation on State Strategies for Policies and Spending Update*, 2010

⁶ Delaware Population Consortium Annual Projections Source: http://stateplanning.delaware.gov/information/dpc_projections.shtml

⁷ Horton, Karen, Philip McGinnis, David Edgell, *Emerging from the Housing Crisis*, Institute for Public Administration, Delaware Office of State Planning Coordination, Delaware Realtors and Delaware State Housing Authority, 2010 http://www.destatehousing.com/AffordableHousingResourceCenter/toolbox_2010ppt.pdf

⁸ Nelson, A.C., *Leadership in a New Era*, Journal of the American Planning Association, 2006 <http://law.du.edu/images/uploads/rmlui/conferencematerials/2007/Thursday/DrNelsonLunchPresentation/NelsonJAPA2006.pdf>

⁹ Ewing, Reid, *The Demand for Smart Growth: What Survey Research Tells Us*, American Planning Association, December. 2007 http://cmpweb.arch.utah.edu/files/Research_Dec07.pdf

- ¹⁰ Frye, Thomas, jr., *The Surprising Realities of Apartment Living*, October, 2003 <http://www.djc.com/news/co/11149499.html>
- ¹¹ Malizia, Emil and Jack Goodman, *Mixed Picture: are higher-density developmnents being shortchanged by opinion surveys?* Urban Land, July, 2000. <http://www.nmhc.org/Content/ServeFile.cfm?FileID=182>
- ¹² Pew Center for Global Climate Change, *Planning for Our Future*. February 2011. <http://www.pewclimate.org/blog/nigron/planning-our-future>
- ¹³ Source: Burchell, R.W., G. Lowenstein, W.R. Dolphin et al, *Costs of Sprawl--2000*. Washington, D.C.: Transportation Research Board, National Academy Press. 2002.
- ¹⁴ University of Alaska, *The Strength of Association: Housing Density and Delinquency*. July, 2004.
- ¹⁵ Li, Jianling and Jack Rainwater, *The Real Picture of Land-Use Density and Crime: A GIS Application*, Proceedings, Esri Conference, July 2008.
<http://proceedings.esri.com/library/userconf/proc00/professional/papers/PAP508/p508.htm>
- ¹⁶ Wieckowski, Ania. *Back to the City*, Harvard Business Review, May 2010. <http://hbr.org/2010/05/back-to-the-city/ar/1>
- ¹⁷ Katz, Peter. *Mobility and the Modern Metropolis: Public Transit in an Era of Diminishing Resources*. a talk in Madison, Wisconsin. April 26, 2010
- ¹⁸ Reid Ewing et al, *Growing Cooler: The Evidence on Urban Development and Climate Change*, Washington, D.C.: The Urban Land Institute. 2008 <http://www.uli.org/ResearchAndPublications/Reports/~media/Documents/ResearchAndPublications/Reports/GrowingCooler.ashx>
- ¹⁹ Todd Litman, *Comparing Transportation Emission Reduction Strategies*, Victoria Transport Policy Institute, Nov., 1999. http://www.peoplepoweredmovement.org/site/images/uploads/Comparing_Emission_Reduction_Strategies.pdf
- ²⁰ Kyoto Protocol http://en.wikipedia.org/wiki/Kyoto_Protocol
- ²¹ National Academy of Sciences, *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia* <http://www.nationalacademies.org/includes/StabilizationTargets> Final.pdf
- ²² "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>
- ²³ Springer Science, *Reducing Climate Impacts in the Transportation Sector*, p.120, Davis: Springer Science+Business Media B.V. 2009. http://books.google.com/books?id=3bz9ltl6WgEC&printsec=frontcover&dq=Springer+Science,+Reducing+Climate+Impacts+in+the+Transportation+Sector+AASHTO&source=bl&ots=ceTUH-XJrI&sig=Q74mwWC_dVe1kf0GYAPDjm16CI8&hl=en&ei=Z-97TdWeC8XUgAet9anaBw&sa=X&oi=book_result&ct=result&resnum=1&sqi=2&ved=0CBcQ6AEwAA#v=onepage&q&f=false

Enhancing Public Transit Options

Modify Delaware's paratransit fee schedule to establish separate classifications for ADA* and non-ADA service. Reform the system to establish fairer pricing for non-ADA paratransit use. Tighten eligibility requirements for all paratransit use in situations where the state has discretion.**

***ADA refers to the Americans for Disabilities Act requirement that paratransit service be provided within a 3/4 mile radius of all fixed-route bus service routes. Both origins and destinations must be within the required radius.**

****Non-ADA refers to paratransit trips which either originate or end outside the 3/4 mile radius.**

ADA paratransit: (federally mandated transport service for the disabled to be complementary to the fixed route system)

The Federal Americans With Disabilities Act was passed in 1990. It requires that paratransit service be provided within a 3/4-mile radius of public bus routes. Responsibility is on transit agencies for developing a process that limits eligibility to disabled persons living within the 3/4-mile radius of a fixed route but who explicitly need paratransit and cannot ride fixed route buses. Fares may not be more than 1 1/2 times the fares on fixed routes.

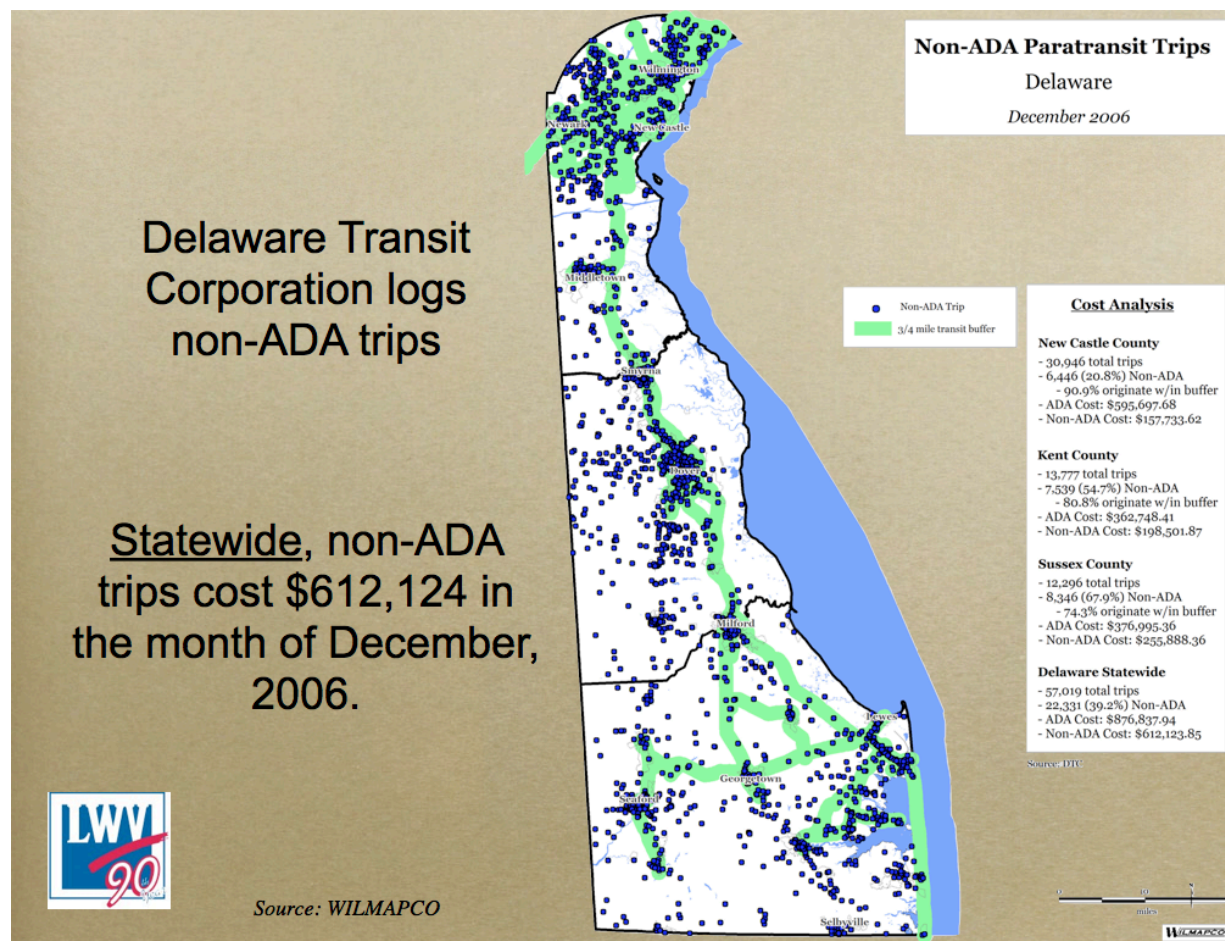
Non-ADA paratransit: (premium level on-demand, door-to-door transport service for eligible riders outside the 3/4 mile radius of fixed routes)

Delaware has chosen to provide non-ADA paratransit though there is no federal mandate requiring this. Furthermore, by not differentiating between ADA and non-ADA paratransit, rides outside the ADA mandated radius of fixed routes are being charged under the same formula as ADA rides (no greater than double the fee for fixed route rides). Delaware is the only state to provide paratransit service exceeding ADA requirements to such an extent and with a statewide scope. This policy provides uniform paratransit service statewide irrespective of location, trip purpose or actual trip cost.

It has been pointed out that providing this level of service "is a logical outcome of the application of a socially responsible rationale." Policy makers believed that "providing comprehensive community-based support and services offers more cost effective services, increased community options and a better quality of life to persons with disabilities." If the value of community supported services, including the need for greater mobility options is advocated, then should the sole cost burden for paratransit rest in the transit budget? In fact, in March, 2011, the Transportation Trust Fund Task Force listed placing the operating costs of paratransit in the general fund as one of their options.

Demand for non-ADA service from areas outside the 3/4-mile radius has exploded. In fact, 41% of paratransit rides in 2008 were non-ADA with origins or destinations outside ADA limits. Kent and Sussex County paratransit serves elderly non-drivers as well. All paratransit applicants are screened for eligibility and must reserve ahead for their trips. There were 2 - 300 paratransit applications per month in 2008 and demand continues to escalate (5,532 additional rides between April '09 and April '10--a 7.5% increase in that period). Paratransit riders have increased 71% since 2003 according to DeIDOT's Secretary. The expected increase each year guarantees that paratransit will take an ever larger slice of the Delaware Transit Corporation's budget in the future under the

Figure 1. Source: WILMAPCO



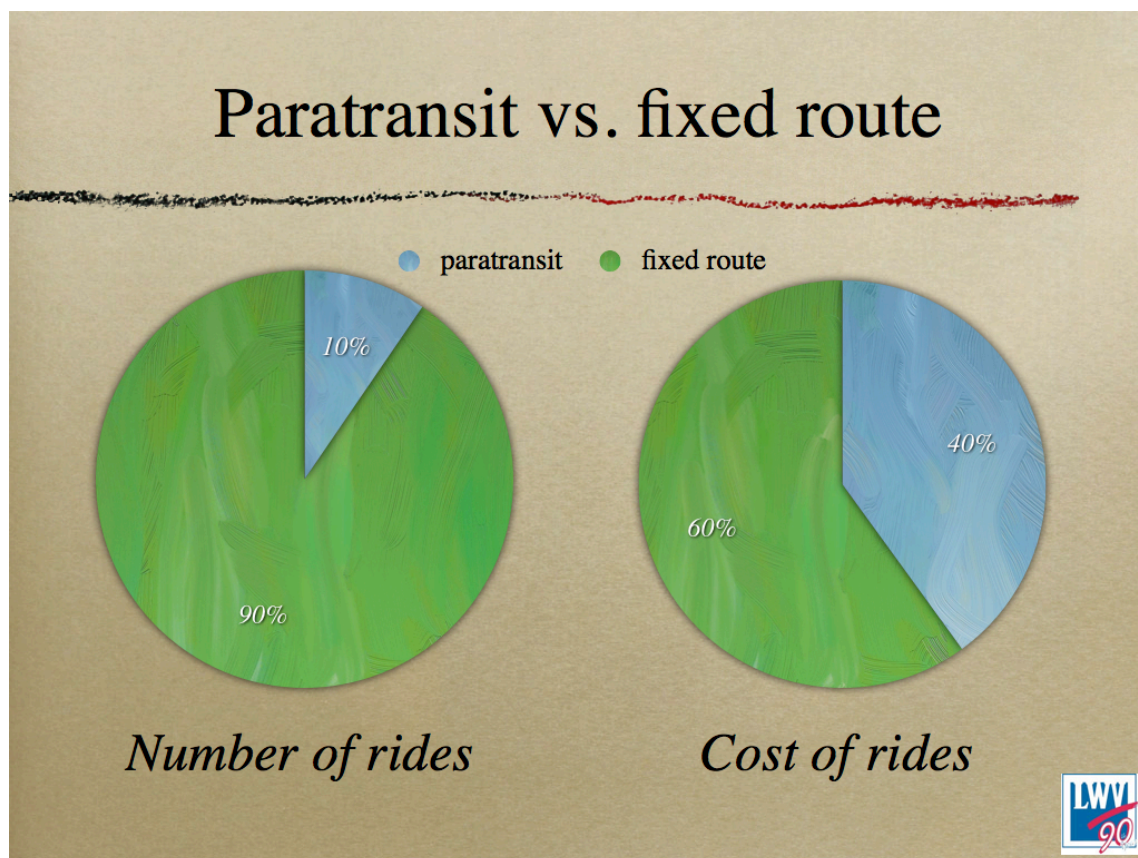
present structure.

Paratransit clientele in fact has more transportation choice than is available to the regular population. This comes at a significant cost to DART and to individuals who could use expanded public transit service if it were more available. Neither paratransit nor fixed route riders pay the full cost of the ride. The cost to DART for a paratransit ride is \$32.18 for which the rider pays \$2 in New Castle County; Kent and Sussex disabled and elderly riders pay only \$1 with the counties paying DART the other \$1. Rides on

fixed routes cost DART \$4.91 of which the public transit rider pays \$1.15. According to News Journal reporting, Delaware riders now pay about 64% of SEPTA rail costs in the state, while fixed route DART bus rider payments have fallen to only 15%, and Paratransit riders to 5%” of the cost of the ride.

While both fixed route and paratransit rides are subsidized, the very large subsidy to paratransit serves only 9.5% of all DART's riders, while over 90% use the fixed route service (see Figure 2). However, this small percentage of paratransit use accounts for 40% of Delaware's total transit budget which includes costs for both bus and train train service.

Figure 2.



The issue is not the number of ADA paratransit users, or even the number of rides outside the ADA mandate. Indeed, we need to be able to serve an increasing number of disabled and elderly non-drivers in coming years. As long as fixed route service is inaccessible to those with disabilities (and/or elderly non-drivers) riders can be certified as eligible because they are unable to use the fixed route system. Fixed route buses are wheelchair accessible but too many bus stops are not-- lacking curb cuts, lighting, shelter, and safe access—or even a bus route. The escalating cost of providing paratransit is absorbing resources needed for expansion and improvements in the fixed

route system that could make it more accessible and available to those who have had to resort to paratransit as well as to the general public.

In addition to general demographic change, Delaware's tax system is especially favorable to the elderly which accounts for significant in-migration of retirees. In 2007 Delaware ranked "as the nation's top tax-friendly state" for retirees. This population group in Delaware was projected to rise to nearly 30% by 2030. In addition in 2008, of the age group 65-74 in Delaware, 27.9% were disabled and of those over 75, 49.9% were disabled. Statistics confirm what we all know: the elderly are hardest hit by disability and we must pay attention to the impact this has on transportation needs. The issue is how to pay for the service in a way that doesn't disadvantage those who could and would use fixed route transit if it were more available, more accessible, and more convenient.

The placement of elder housing in areas not serviced by convenient fixed routes, or any fixed route service at all, is contributing significantly to the need for expensive non-ADA paratransit. The disconnect between land use and elder housing creates the demand-driven nature of paratransit in low-density land use where the population cannot be served cost-effectively by fixed routes.

The UD Institute for Public Administration in its 2007 report (Framing the Issues of Paratransit Services in Delaware) recommends:

- modifying paratransit service delivery to establish two service classifications;
- increasing the base fare (last raised in 1989) for both fixed route fares and corresponding ADA paratransit fares to account for inflationary costs and to correspond to regional transit;
- adopting pricing strategies to provide incentives for patrons to use less costly accessible fixed route service;
- establishing "premium charges" for the premium-level service of non-ADA paratransit;
- screening strictly for a particular need for paratransit;
- addressing lack of connection of land use, transit accessibility and placement of elder housing;
- improving fixed route bus stops access (sidewalk infrastructure, curb cuts, lighting, shelter, etc)
- adopting revenue reforms (research and assess additional federal government options for funding non-ADA service; conduct a fiscal analysis to project impacts from regional and statewide growth; investigate innovative options to finance Transit Oriented Development).

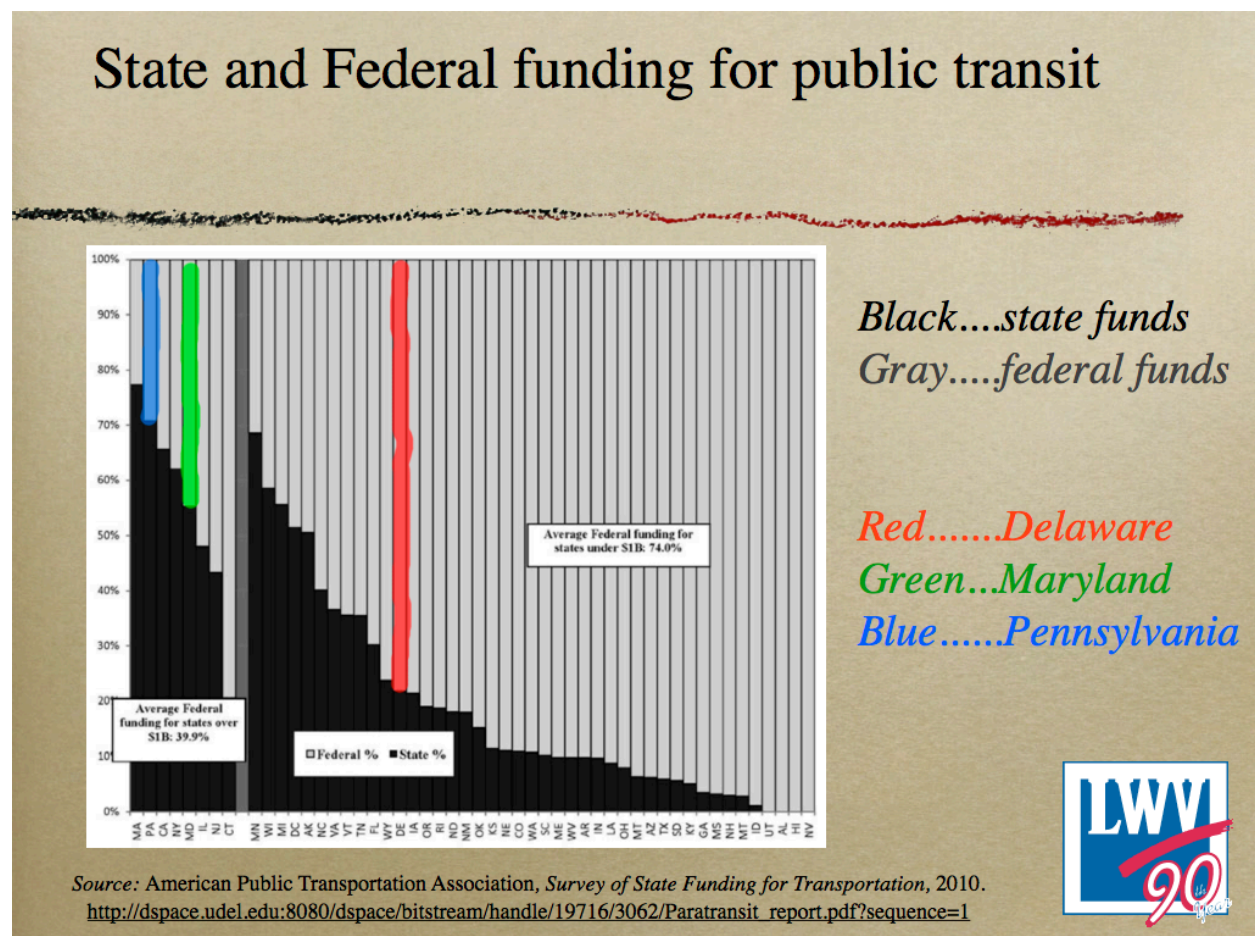
Establish a dedicated funding stream for public transit; explore a variety of funding sources.

Recognizing the importance of public transit in helping reduce Delaware's vehicle miles

traveled (VMT), the Governor's Energy Advisory Work Group report shows that transit is significantly underfunded in Delaware. The Work Group has recommended establishing a dedicated funding stream for public transit and raising fixed-route transit capital spending to 20% of total transportation spending. This is an ambitious goal, particularly when you keep in mind that it refers to fixed-route transit only, excluding paratransit which consumes 40 % of the transit budget.

Most of the state support of transit operations comes from the Transportation Trust Fund (TTF) which in turn is funded primarily from fuel taxes, vehicle registration fees, tolls. Forecasts are that the TTF will be unable even to meet the state's immediate highway needs. Public transit annually must argue its case for funding from the TTF against the pressures for highway funding. The national average for transit's capital investment is 20% of total transportation spending. In Delaware this % has rarely risen as high as 10%; the 2009-12 Transportation Improvement Plan calls for a transit investment of 8%. It should be noted that allocations in Delaware's total transportation budget are hard to compare with other states in that almost every road in the state is DelDOT's financial responsibility. Most states relegate maintenance and preservation responsibility and costs to the counties.

Figure 3.



Only Delaware, Texas, Vermont, and Kansas allocate all their state's support of transit to a single fund such as the TTF. Other states combine assessments from an array of sources such as gas tax, general fund, registration/license/title fees, vehicle rental fees, property and income taxes, lottery, etc. Most states depend on federal funds to help support public transit (see Figure 3). Since 1997, 2.86c per gallon of the federal fuel tax has been dedicated to the Federal Mass Transit Account. Delaware's federal fund transit grant furnishes 80% of its total transit budget and may be used for both operational and capital expenses.

Fares cover only about 40% of the costs of transit. Transit costs include both fixed route service and paratransit and rides on both services are subsidized by DART: the cost to the rider for fixed route rides is \$1.15 (cost to DART is \$4.91); cost to the New Castle County riders of paratransit is \$2.00 (DART's cost per ride is \$32.18). Kent and Sussex paratransit is further subsidized by the counties to provide paratransit at \$1 per ride. Fares, of course, may be raised (and should be as recommended by the UD Public Policy Institute study in 2007) to keep pace with inflation and correspond with neighboring states. This increase also would permit an increase in ADA paratransit fares.

The WILMAPCO Regional Transportation Plan for 2030 recommends identifying “dedicated funding sources for transit operating and capital budgets that will keep pace with inflation,” such as a Transit Trust Fund. Possible sources of revenue to such a Trust Fund could include:

- expanding advertising on buses inside and outside, in bus shelters and on DART fare cards, etc.
- newspaper racks and collection box on buses for local newspaper with a commission on each paper sold;
- offer to outside organizations access to in-house driver training for customer sensitivity, defensive driving, etc;
- vehicle license tax dedicated to a Transit Trust Fund;
- revised development impact fees (Developers in NCCo who have built along existing transit routes have been required by the County to construct transit passenger amenities, as directed by DTC. However this process has not been applied to development occurring away from transit service areas, or in areas where the passenger amenities are already in place. A transit impact fee schedule would enable DTC to “bank” the developer's cost of an improved bus stop and shelter where the shelter exists, while assessing that same cost to development that is along future transit routes, with fees increasing as the distance to transit service increases since this development creates the greatest cost on infrastructure.)

The Transportation Workgroup from the Governor's Energy Advisory Council floated a further recommendation:

- Separating the funding source for transit from the remainder of the transportation budget and earmarking an amount of every dollar of fuel sold in Delaware to fund DART.

With a heightened awareness of the land use and transportation issues which affect transportation-generated carbon dioxide emissions in Delaware, we can work together to find solutions that will provide both a finer quality of life and a safer future.

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