

Investing in Delaware's Infrastructure- the case for increased private sector participation

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The condition of our roads, bridges, ports, railroads and all other forms of infrastructure is critical to Delaware's economic development. In 2013, the nation was given a D+ grade by the American Society of Civil Engineers (ASCE) based on its assessment of the country's infrastructure¹. This grade indicates that on average; most of our infrastructure are in poor conditions and are at risk of failure. In order for the nation to maintain its status as the leading global economy, the state of infrastructure must improve. It is estimated that a total investment of about \$3.6 trillion is needed by 2020 to fix the nation's infrastructure¹. With declining tax revenues and budgetary constraints, the Federal government will need to employ strategic and innovative ways to bridge this funding gap. Delaware is no exception in that a similar scenario persists and so officials need to find innovative ways to meet infrastructure funding requirements. The ASCE's 2013 Report Card suggested funding needs of about \$283M, \$222M, and \$530M for drinking water, wastewater and public schools infrastructure¹⁸.

These funding gaps are not only unique to Delaware but is a reflection of the current situation in most States. Consider, the national highway infrastructure for which the Highway Trust Fund (HTF) was established in 1956 to finance the bulk of highways and mass transit facilities in the country. Due to the fund's importance, it has a split classification of both discretionary and mandatory which allows outlays to exceed revenues generated². Effectively, outlays have exceeded revenues and considering the fact that the Federal gas tax is not tied to inflation and so has remained at \$0.184 since 1993. This has limited its purchasing power in recent years. The growing number of fuel-efficient vehicles on the roads today also exacerbates the problem. In Delaware, the State's Transportation Trust Fund (TTF) has lost about 34% of its purchasing power. This is due to the fact that it has remained constant at 23 cents since 1995⁵. A different scenario may have played out had the rate been tied to inflation (Figure 1). A move by Gov. Markell to increase gas tax by 10 cents was opposed by lawmakers last year. As such, state officials may have to delay highway and bridge projects worth about \$600 million for years⁹.

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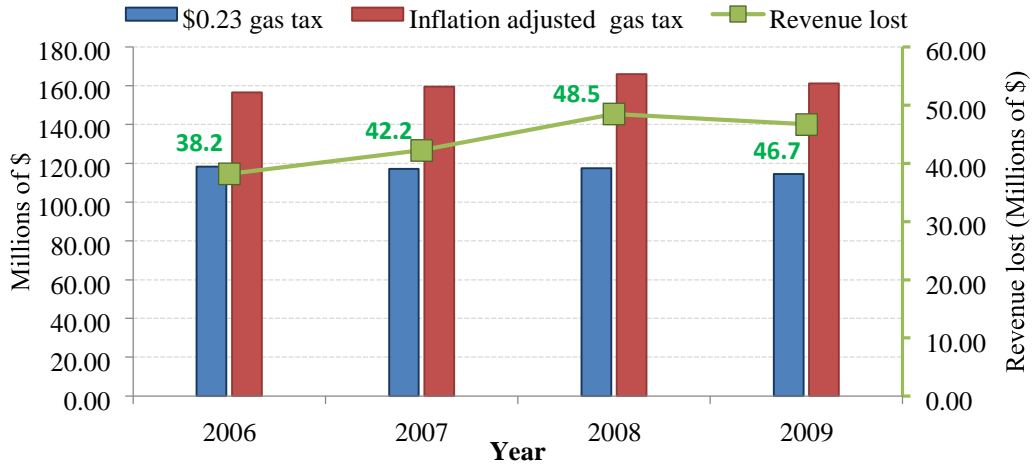


Figure 1. Gas tax revenue for the State of Delaware¹¹

Using data from DelDOT Highway Performance Monitoring System (HPMS)⁶, it can be seen from Figure 2 that the annual vehicle miles travelled in Delaware has been leveling off since 2008. This is an indication that a significant rise in revenue from the gas tax must not be expected if things remain the same. Officials and the general public are usually not in favor of tax and toll raises for obvious reasons but it is interesting to note that one way or the other we still pay for using infrastructure that are in deplorable conditions. The ASCE reports the cost of driving on roads in need of repairs is about \$380.78 per motorist in Delaware¹⁸. On the other hand, estimates from the Federal Highway Administration suggest that each dollar spent on road, highway and bridge improvements results in an average gain of \$5.20 in the form of reduced vehicle repaired cost and reduced road and bridge maintenance costs¹⁰.

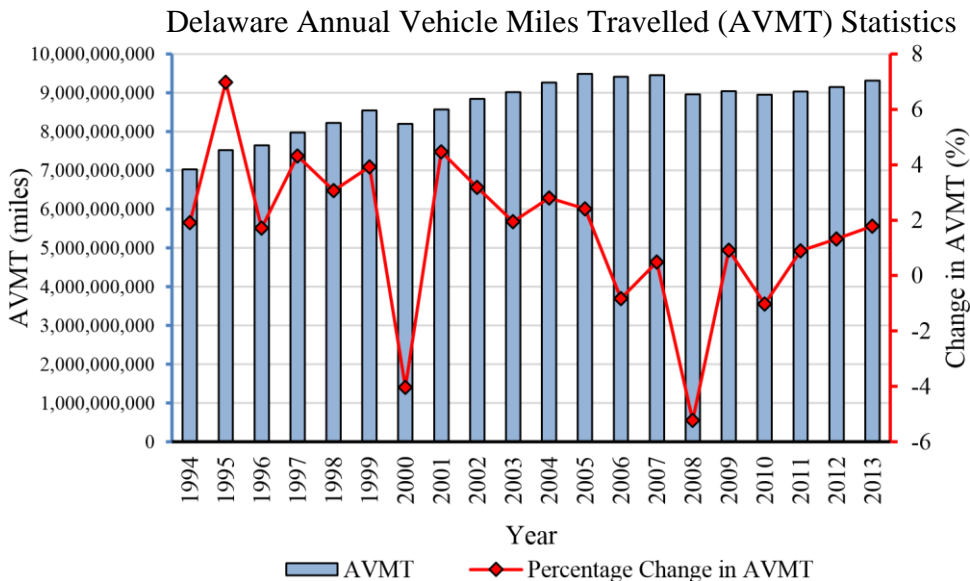


Figure 2. Annual Vehicle Miles Travelled in Delaware.

On the national level, to avoid the HTF from becoming insolvent last year, the US House of Representatives approved a short-term fix in July, 2014. Insolvency of the fund would have resulted in the loss of over 700,000 jobs tied to infrastructure development and management³. Estimates indicate \$3 trillion funding to fill the gaps by 2020 and so it behooves officials at the national and local levels to come up with permanent solutions⁴. State transportation officials and lawmakers are still in the process of exploring alternatives to address the issue. An option that can also be explored by the State is the use of public-private partnerships (P3s) which involves increased private sector participation in project development.

Innovative Financing Approaches for Delaware's Infrastructure

Traditional infrastructure development contracts involve the private sector having the limited role of construction according to design specifications of the government in design-bid-build contracts⁷. In public-private partnerships, private sector partners are allowed to perform varying roles during design, construction, operation and maintenance. Such partnerships can range from design-build (DB) contracts where the role of designing and building are bundled together and awarded to the private contractor; to design-build-finance-operate-maintain (DBFOM) in which private partners finance, design, build, operate and maintain the asset within an agreed upon timeframe. In a P3, the private sector recovers its initial investment with profits through tolls or availability payments from the public sector. P3 alternatives should be considered more in Delaware as it has several inherent benefits when the due diligence is done before agreements are finalized. With increased private sector participation, risks involved in project delivery can be shared among the private and public sectors which can be beneficial to both parties. Also, innovation by the private sector is encouraged based on the level of flexibility defined by the contractual agreement. P3s can also lead to timely delivery of projects since the private sector has the capability of providing the upfront financing within a shorter time as opposed to government selling bonds which may take some time since it can be subjected to frustrating political negotiations. For the private sector, P3s allow them to invest in inflation-related assets which guarantee a stable source of revenue due to often 'monopolistic' nature of public infrastructure. The first major step that the State needs to take will be to assign a task force or a dedicated agency to study critical success factors from successful P3 projects such as the I-495 Express lanes in Virginia which ended up supporting about 31,000 jobs⁸. Apart from Virginia, Texas and Florida are other States which have made major strides in P3 projects. These must be studied further by Delaware if the issue of infrastructure funding needs is to be addressed.

References:

- [1] 2013 Report Card for America's Infrastructure. ASCE. March 2013.<http://www.infrastructurereportcard.org/a/documents/2013-Report-Card.pdf>. Accessed: 9/11/2014
- [2] Puro S. et al. The Highway Trust Fund and the Treatment of Surface Transportation Programs in the Federal Budget. Congress of the United States. Congressional Budget Office (CBO). June 2014.<http://www.cbo.gov/sites/default/files/cbofiles/attachments/45416-TransportationScoring.pdf>. Accessed: 9/16/2014
- [3] Weisman J., Baker P. House Passes Interim Fix for Highway Trust Fund. The New York Times.http://www.nytimes.com/2014/07/16/us/politics/house-passes-interim-fix-for-highway-trustfund.html?_r=0. July 15, 2014. Accessed: 9/16/2014
- [4] American Society of Civil Engineers (ASCE), Economic Development Research Group. Failure to Act: The Economic Impact of Current Investment Trends in Surface Transportation Infrastructure. 2011.
- [18] 2013 ASCE Report Card. Delaware Key Facts. <http://www.infrastructurereportcard.org/delaware/delaware-overview/>. Accessed: 3/4/2015
- [5] Koch, B. (2014). Investing in Del.'s infrastructure, transportation fund. <http://www.delawareonline.com/story/money/business/2014/12/06/investing-delawaresinfrastructure-transportation-fund/20022559/>. Accessed: 3/4/2015 [6] DelDOT HPMS Program. Delaware Annual Vehicle Miles Travelled. <http://www.deldot.gov/information/projects/hpms/2013/DVMT2013.pdf> Accessed: 3/4/2015
- [7] Eno Center for Transportation P3 Working Group (2014). Partnership Financing: Improving Infrastructure through Public-Private Partnerships. <http://www.enotrans.org/wpcontent/uploads/wpcontent/uploads/wpsc/downloadables/P3-paper-04-14.pdf> Accessed: 3/4/2015
- [8] Office of Public-Private Partnerships. I-495 Express Lanes. <http://www.p3virginia.org/projects/i-495express-lanes/> Accessed: 3/4/2015
- [9] Offredo, J. (2015). Lawmakers still searching for infrastructure funds. <http://www.delawareonline.com/story/firststatepolitics/2015/03/03/delaware-infrastructure-fundbond-bill/24280249/> Accessed: 3/4/2015
- [10] TRIP-A National Transportation Research Group (2014). Key Facts about Delaware's Surface Transportation System and Federal Funding.
- [11] www.civildatanalytics.com Accessed: 3/4/2015