

Executive Summary

Overview

For decades, the funding gap between available revenue and Pennsylvania's transportation infrastructure needs has been increasing. Transportation funding, which is largely supported by fuel-based taxes, has been eroded by reduced fuel consumption (due to higher fuel efficiency and electric/hybrid vehicle use) and inflation, which has reduced the buying power of a dollar. State revenue from Pennsylvania's Motor License Fund, which supports highway and bridge maintenance and improvement projects, has also been shifted to other priorities, further reducing funds available for highways and bridges.

Meanwhile, the need for funding is increasing as Pennsylvania's population has grown and its transportation infrastructure ages. As the funding shortfall has continued, projects to improve the system have been deferred to fund essential maintenance, primarily on Interstate Highways.

Insufficient funding for highways and bridges means that critical projects are delayed or foregone, and it is Pennsylvanians who feel the impacts. Poor highway and bridge conditions result in more time spent driving in congestion, delay, higher vehicle maintenance and fuel costs, and increased emissions. This transportation funding shortfall affects all regions of the state and requires a statewide solution.



PennDOT Pathways Goal and Objectives

Goal:

- » Provide essential infrastructure investment now and for the future.

Objectives:

- » Identify and implement near-term funding solutions
- » Identify and prepare for long-term funding solutions

What is a Planning and Environmental Linkages (PEL) Study ?

A PEL Study integrates the planning and environmental phases of a program or project's development. By integrating environmental analysis steps during planning, the results can be incorporated into subsequent environmental documents prepared in accordance with the National Environmental Policy Act (NEPA) without revisiting those steps, thereby promoting efficiency and potentially accelerating project delivery.



How big is the funding Gap?



Today, there is an \$8.1 billion highway and bridge funding gap, which will grow by about \$400 million per year, reaching \$12.6 billion by 2030.

For the statewide highway and bridge system, which is the focus of this Alternative Funding PEL Study, PennDOT's funding gap is currently **\$8.1 billion** and is forecast to grow to **\$12.6 billion** over the next 10 years.

To solve this systemic funding gap, PennDOT has initiated PennDOT Pathways. This program re-imagines transportation funding and identifies solutions to secure the revenues necessary to meet our transportation needs. **This Planning and Environmental Linkages (PEL) Study** is the first step in the PennDOT Pathways Program to identify potential alternative funding sources, analyze them, and develop a plan for implementation.

What is the purpose of this study?



The purpose of this Alternative Funding PEL Study is to identify the best near- and long-term options to fill the transportation funding gap to provide adequate revenue for maintaining the Commonwealth's highways and bridges in a state of good repair, and to establish a path forward.

How will the study be used?



This PEL Study provides the foundation for near- and long-term funding solutions to maintain and improve the transportation system. It allows for incorporation of PEL Study content into PennDOT's project development process and provides an umbrella document that supports the Statewide Long-Range Transportation Plan (LRTP), Metropolitan Long-Range Transportation Plans, the Comprehensive Freight Movement Plan, and the Statewide Transportation Improvement Program (STIP). Individual projects that become part of the PennDOT Pathways Program will use this document to support their individual NEPA decision-making. Most important, this PEL Study provides the foundation for individual project purpose and need statements and alternatives analyses regarding funding solutions.

What is in the PEL Study? This foundational study accomplishes the following:



Chapter 1

provides a summary of the study purpose and needs and its goals and objectives, and summarizes the outreach process.



Chapter 2

provides background information on the current sources of PennDOT funding and the expenditure needs that are driving the funding gap.



Chapter 3

compares the revenues and expenditures and identifies the funding gap.



Chapter 4

summarizes previous studies that identified and evaluated alternative funding options and identifies the reasonable funding options and early actions that will fund immediate/priority projects.



Chapter 5

provides greater details on the proposed near- to medium-term funding options, namely bridge tolling, managed lanes, and congestion pricing.



Chapter 6

presents near-, medium-, and long-term action plans for addressing the funding gaps.



Chapter 7

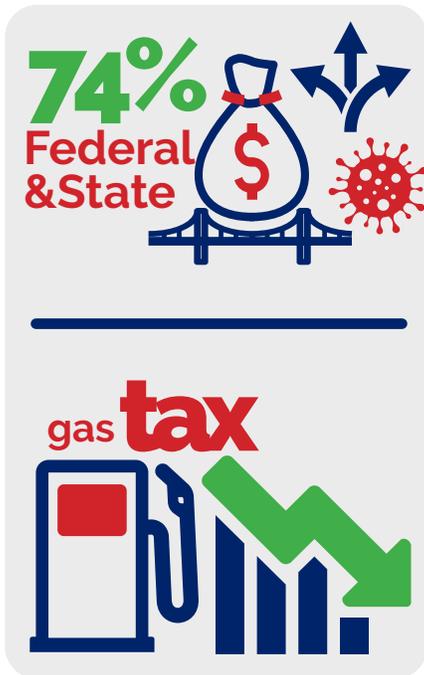
presents a proposed methodology for analyzing impacts on low-income and minority populations from potential funding solutions.



Chapter 8

presents a framework for considering potential mitigation strategies should a project proposed under the program be found to have environmental impacts.

Key Study Findings:



Major sources of revenues are declining:

- » A vast majority of Pennsylvania's transportation funding comes from State and Federal gas taxes. In particular, our highway and bridge program relies on gas taxes for 74 percent of its funding. Gas tax revenues are decreasing, driven in large part by improving vehicle fuel efficiency and increasing use of hybrid and electric vehicles. Such declines are expected to continue and worsen over time.
- » The purchasing power of gas taxes has declined substantially because the taxes have not been adjusted for inflation over time. For example, the Federal gas tax has not been increased since 1993.
- » The Pennsylvania Turnpike Commission (PTC), an entity separate from PennDOT, currently transfers \$450 million per year to PennDOT; by law this amount will be reduced to \$50 million per year starting in fiscal year 2022-23 and running through fiscal year 2056-57.
- » As a result of declining fuel sales, a reduction of \$4.9 billion in State-generated revenue is forecast between 2018 and 2030.
- » The COVID-19 pandemic has exacerbated the reduction in gas tax collection; reductions in travel due to the pandemic have resulted in substantial reductions in collection of fuel taxes and vehicle registration fees. The COVID-19 pandemic presents additional funding uncertainty, as it may affect long-term travel patterns.

PennDOT needs are substantial and increasing, resulting in large funding gaps.

- » PennDOT owns and maintains 40,000 miles of highways and 25,400 bridges and supports another 80,000 miles of local roads and 6,600 local bridges with funding and inspections.
- » A lack of funding means that maintenance is often deferred, resulting in higher costs in the long run.
- » The majority of Pennsylvania's funding needs, and more than 86 percent of PennDOT's overall funding gap, is related to Pennsylvania's highway and bridge system.
- » Available funding for highways and bridges is currently \$6.9 billion per year, while the identified funding need is \$15 billion, resulting in a funding shortfall of \$8.1 billion. That funding gap is projected to increase another \$4.5 billion to \$12.6 billion by 2030.
- » PennDOT has historically spent between \$450 and \$500 million per year on the Interstate Highway System, while funding of approximately \$1.2 billion annually is required to meet operations and maintenance needs. At these levels, the Interstate Highway System in Pennsylvania is underfunded by approximately 60 percent.
- » In addition to funding needs to preserve and maintain existing highways and bridges, projections also include an unmet need of \$2.1 billion (as of FY 2020-21) for highway and bridge improvements, including capacity expansion, modernization, and upgrades. This \$2.1 billion unmet need for improvements applies primarily to the Interstate system rather than non-Interstate National Highway System routes, and is expected to increase to \$3.3 billion over the next 10 years.

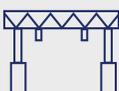


Not being able to meet our transportation needs has real costs and impacts on Pennsylvanians.

- » **With insufficient funds**, PennDOT often must delay routine maintenance work. Delaying repairs leads to additional costs in the future, with the compounding effects of aging bridges, increasing demand, and increasing construction costs. This means Pennsylvanians will need to pay more money for these repairs in the long run.
- » **Roadways require regular repair and re-surfacing work.** If PennDOT is unable to effectively complete repairs, it impacts the traveling public. For example, a commuter driving an average of 30 miles per day could spend up to \$548 extra each year in vehicle maintenance costs driving on poor-quality pavement.
- » **Lack of adequate funding** may require delaying or foregoing capacity improvement projects that could ease congestion. Not resolving congestion can cause 62 hours of delay per year for commuters in urban areas or approximately 325 million hours of delay per year for all 22 of Pennsylvania's urban areas.
- » **Assuming an average fuel price of \$2.51 per gallon**, congestion translates to an annual cost of up to \$65 per commuter in urban areas due to wasted fuel. Statewide, fuel wasted in all urban areas due to congestion costs Pennsylvanians around \$348 million per year.

Funding Options Considered

PennDOT evaluated a number of potential funding options, including:

 Sales Taxes	 Personal Income Tax	 Real Estate, and Property Taxes;	 Fuel /Gas Tax Increases
 Other Taxes and Fees	 Mileage Based User Fee	 Various forms of Tolling	

Each potential option comes with its own opportunities and challenges in terms of the degree to which it can fill the funding gap, the time needed for implementation, the approvals needed for implementation, and the effects on various stakeholder groups, including the traveling public. PennDOT evaluated these various factors and identified the options that could be advanced in the near term, versus those that would require longer-term coordination and legislative or other authority.

A solution in the near term (2-4 years) is essential because we have bridges in critical need of repairs today. Bridges in poor condition require frequent inspections and unexpected repairs that take limited funds away from other maintenance activities. When those repairs can not be completed in a timely manner due to lack of funds, that can ultimately lead to weight restrictions, lane closures, and capacity restrictions. When lanes of traffic are removed from crucial bridges, traffic congestion can form, and travel times can be greatly impacted. Longer travel times cause more than just headaches for drivers; they also lead to additional spending on gas and vehicle maintenance. For truck drivers, these additional costs can have major impacts onstate and regional supply chains.

Results of the Analysis

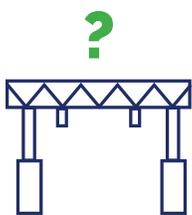
A key part of the PEL Study was to determine funding solutions that could be feasible in the near term (2 to 4 years) to provide needed revenue relief quickly, and to prioritize other potential solutions that could take longer to implement but still may be feasible to help meet the transportation needs over the longer term.

Near-Term/Medium-Term Plan

Based on the analysis, each of the potential funding options has some merit and could be considered as part of PennDOT's long-term strategy in securing sustainable and dedicated revenue for highways and bridges. However, without action by the legislature and/or others, PennDOT only has the independent authority to implement the following potential solutions: (1) Bridge Tolling and (2) Managed Lanes. As such, these are the only options that could be advanced in the near-term.

Of the potential funding options studied, congestion pricing was identified as a possible medium-term solution. Congestion pricing would require acceptance into a national pilot program for implementation; it would take time to work through the application process for the pilot program.

Why Tolling?



- » Those that use the facility pay for it.
- » Provides dedicated funding that is used to construct/maintain the bridge/roadway from which the toll was collected.
- » Helps keep the local and regional transportation funding program from being diverted to the interstate program.
- » Toll collection systems already exist in Pennsylvania, lowering the cost of collection.
- » PennDOT has the authority/mechanisms to implement and collect tolls.

(1) Bridge Tolling (Near-Term)



Bridge tolling would collect a toll at select major bridges within the Commonwealth to fund their replacement or rehabilitation, and to provide a dedicated source of revenue for their maintenance.

Which Bridges? Major bridges in need of replacement or rehabilitation would be considered for bridge tolling. Major bridges include substantial structures based on physical size, location, and cost to replace or rehabilitate. Structures that are in a condition that warrants timely attention for safety, and would experience disruptions and community impacts if weight restrictions or closure were imposed, would be prime candidates.

(2) Managed Lanes (Near-Term)



A managed lane is a lane added to an existing highway where the traffic is regulated by charging a toll to use the new lane and/or by encouraging carpooling or transit use. A managed lane can take the form of either an Express Lane, where all users are charged a toll for use, or A High-Occupancy Toll (HOT) lane, which allows high-occupancy vehicles (HOV) free passage while single-occupancy vehicles are charged a toll.

Which Lanes? Managed lanes work best in corridors with recurring peak-period congestion. In selecting managed lane candidates, PennDOT would consider factors such as the connectivity of the network, congestion levels, travel time, potential for increasing capacity, traffic growth, and physical and geometric conditions of the roadway.

(3) Congestion Pricing (Medium-Term)



Congestion pricing would toll all lanes where regular, recurring, and persistent congestion exists, with the goal of encouraging users to shift their travel patterns to off-peak periods, consolidate trips, carpool, or take alternative modes of transportation.

Which Corridors? Corridors would be selected where regular, recurring, and persistent congestion exists. Therefore, congestion pricing is typically implemented in urban areas. In selecting congestion pricing corridors, PennDOT would consider factors such as congestion levels, travel time, potential for transit or other mode shifts, traffic growth, and financial viability. Other considerations for identifying potential locations include the potential for diversion, the environmental effects of diversion, and the project's ability to meet congestion reduction and revenue goals.

What about environmental impacts?

Tolling can potentially have two primary impacts on communities:

- » **Diversion Impacts:** Various effects can occur on local communities from vehicles avoiding the toll by using alternative routes. Increased traffic congestion along toll diversion routes has the potential to affect neighborhood character, quality of life, and mobility
- » **Financial Impacts:** The financial impacts of paying a toll or managing a toll payment account can create financial burdens.

For specific projects identified as candidates for tolling, a more detailed and refined assessment of community effects would be performed as part of the NEPA process within each individual project's development phase. In particular, impacts to low-income or minority populations within the communities affected by the toll must be considered. To address potential environmental justice impacts, PennDOT has laid out methodological guidance to be followed during the environmental approval process (see Chapter 7).

If the environmental review of a tolling project indicates the potential for adverse impacts, measures to mitigate those impacts will be evaluated. Chapter 8 presents a framework for evaluating potential mitigation measures that can be effective in avoiding, minimizing, or mitigating impacts from tolling.

Long-Term Plan



The PEL Study identified a considerable number of potential funding solutions that could be implemented over the medium or long term. These other funding mechanisms would require legislative changes or implementation by third parties. PennDOT will work with elected officials and other transportation partners to examine these other potential solutions.

Next Steps

PennDOT has prepared this draft PEL Study with input from the public and stakeholders. (See Chapter 1 for a summary of the outreach efforts and input received to date.)

After comments are reviewed and incorporated, a final PEL Study will be published. If tolling solutions move forward to be part of PennDOT Pathways, environmental analyses will be undertaken to evaluate the environmental impacts of tolling within the individual NEPA processes for those projects. PennDOT will continue to evaluate potential projects for funding through bridge tolling, managed lanes, and congestion pricing and will move forward with an examination of other long-term funding solutions through additional studies and outreach efforts. These future longer-term efforts may be evaluated via a supplement to this PEL Study or be conducted as stand-alone studies.

This PEL Study report has been prepared in accordance with 23 United States Code (USC) Section 168 as well as with 23 Code of Federal Regulations (CFR) 450.212. Under these authorities, analyses conducted during planning may be incorporated directly or by reference into subsequent environmental documents prepared in accordance with the National Environmental Policy Act (NEPA), provided that the studies were adequately documented; interested Federal, State, local, and Tribal agencies were involved; a reasonable opportunity for public review and comment on the PEL Study was provided; and the Federal Highway Administration (FHWA) was engaged.

PennDOT Needs Your Input

PennDOT has issued this draft PEL document for a 30-day public review (April 29, 2021 to June 1, 2021) and welcomes your comments.

For more information on the funding needs or Pathways Program:

To make comments on this PEL Study:

- » Visit the website at: <https://www.penndot.gov/about-us/funding/Pages/Contact-Us.aspx>
- » Email: PennDOTPathways@pa.gov
- » Call the hotline: 717-325-6129

For more information on the funding needs or Pathways Program:

- » Visit the Transportation Funding page on PennDOT's website: <https://www.penndot.gov/about-us/funding/Pages/default.aspx>
- » Call the hotline: 717-325-6129

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