



Risks to Transportation Funding in Pennsylvania

Pennsylvania Transportation Advisory Committee

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Contents



Purpose

Why Do We Need This Study?

Page 3

Baseline Funding

Projected Funding Amounts
and Sources

Page 10

Risk Analysis

Threats to Projected
Transportation Funding in PA

Page 15

Conclusions

Impacts and Implications

Page 32



Purpose

Why Do We Need This Study?

At Stake:

- Safety
- Mobility
- Economy
- Quality of Life



A safe and reliable multimodal transportation network is essential for Pennsylvania residents, businesses, and visitors.

Improving and maintaining this extensive multimodal system requires stable, sufficient transportation funding.

Projected transportation funding is not adequate to meet Pennsylvania transportation needs

A few examples of unfunded needs

Interstate Highways and Bridges

Approximately \$2.5 billion in additional annual funding is necessary to adequately address interstate system needs.

National Highway System Highways and Bridges

Approximately \$1.8 billion in additional annual funding is necessary to adequately address safety, highway and bridge improvement, and congestion needs.

Public Transportation

Approximately \$1.2 billion in additional annual funding is necessary for public transportation capital, operations, and maintenance costs.

Additional cost pressures further strain existing resources



- Local Roads and Bridges
- Safety and Guiderail Upgrades (\$820M)
- Intelligent Transportation Systems (\$35M)
- Real ID (\$150M through FY 2023-24)
- Driver & Vehicle Services (\$9M/yr through FY 2023-24 to reduce customer wait times)

- MS4 Stormwater Compliance (\$25.5M/yr)
- Emergency Repairs (\$110M over budget to date for FY 2018-19)
 - Flooding
 - Landslides
- ADA Station Upgrades
- Fleet Replacement (\$35M/yr)
- Facility Repairs (PennDOT Buildings) \$5M/yr
- Connected & Automated Vehicles

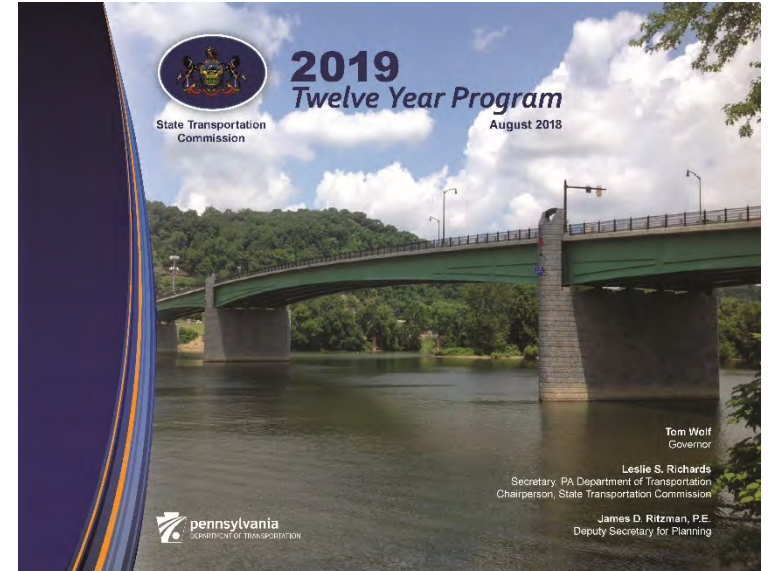
- County Maintenance
 - Flat/Declining Budgets
 - Aging Fleet/Equipment
 - Aging & Deteriorating Buildings
- Difficulty Attracting Candidates; Winter Staffing (\$10M/yr)
- Reduced Purchasing Power (Inflation)

Pennsylvania's projected transportation funding is at risk

Not only is Pennsylvania's projected transportation funding over the next 12 years* insufficient to meet transportation needs, funding may be reduced due to various risks.

Risks include national policy changes, legal decisions, and reduced fuel tax revenue, among others.

Without adequate and reliable transportation funding, improvements in PA over the next 12 years may need to be limited.



*12 years is the planning horizon for Pennsylvania's Twelve-Year Program (TYP) of prioritized transportation projects

The purpose of this study is to consider the significant transportation funding risks and estimate their impacts to the Commonwealth's transportation system.



While no one can predict the future, it is wise to consider the reasonable risk possibilities and estimate their impacts.

This information is critical to our transportation partners, policymakers, and the public to proactively address the threats to transportation funding.

Study Methodology

Step 1

Identify current and projected transportation funding levels

Step 2

Capture estimated transportation funding needs

Step 3

Estimate the financial impacts of transportation funding risks over a 12-year period (through FY 2029-30)

Step 4

Identify the risk impacts and implications



Baseline Funding

Projected Funding
Amounts and Sources

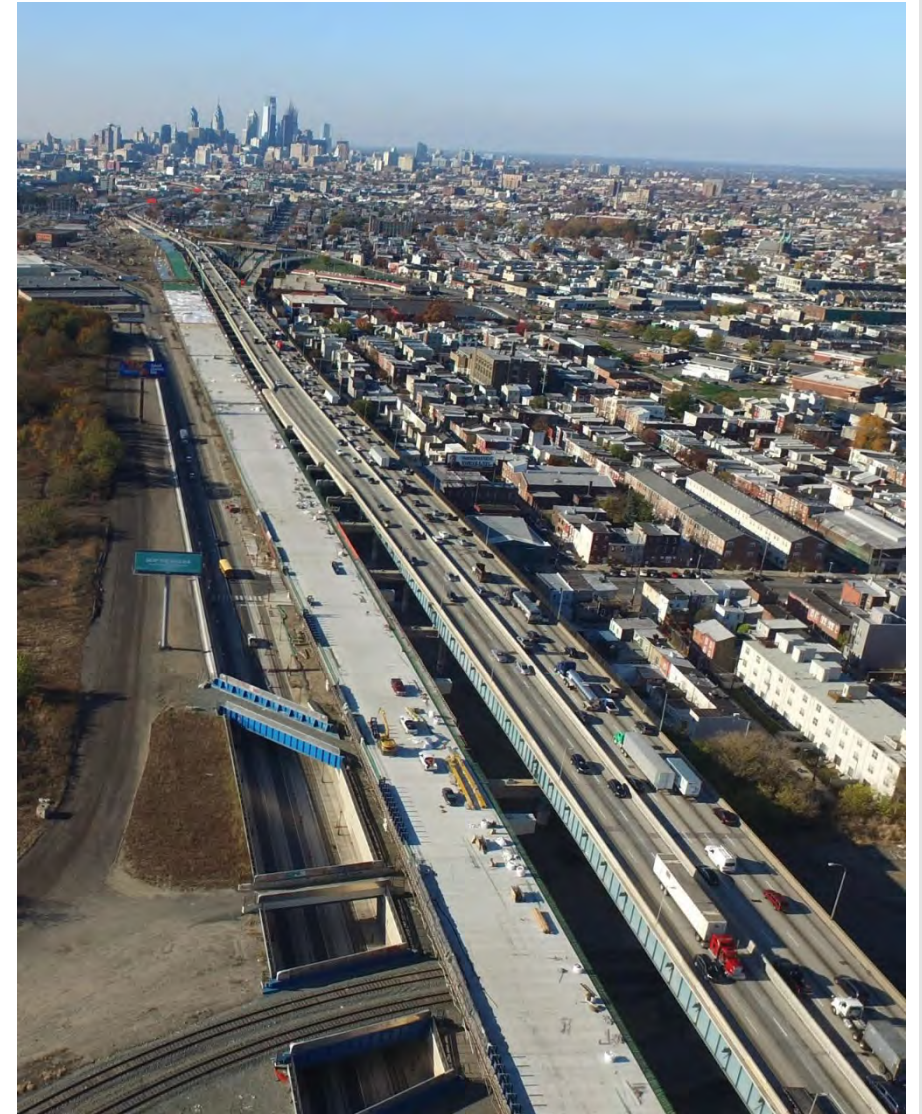
Transportation Funding Sources

Primary Pennsylvania Funds:

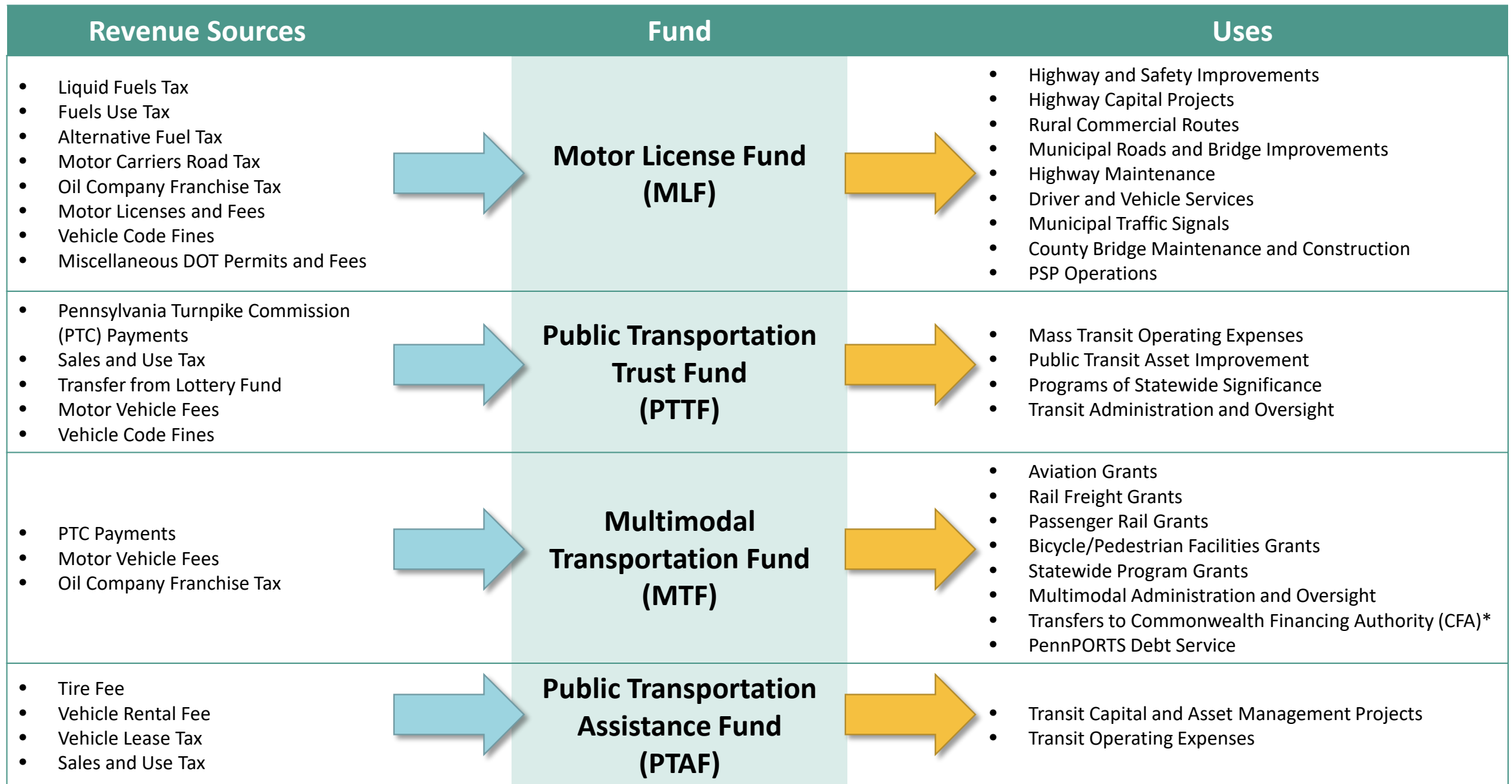
- Motor License Fund (MLF)
- Public Transportation Trust Fund (PTTF)
- Multimodal Transportation Fund (MTF)
- Public Transportation Assistance Fund (PTAF)

Primary Federal Fund:

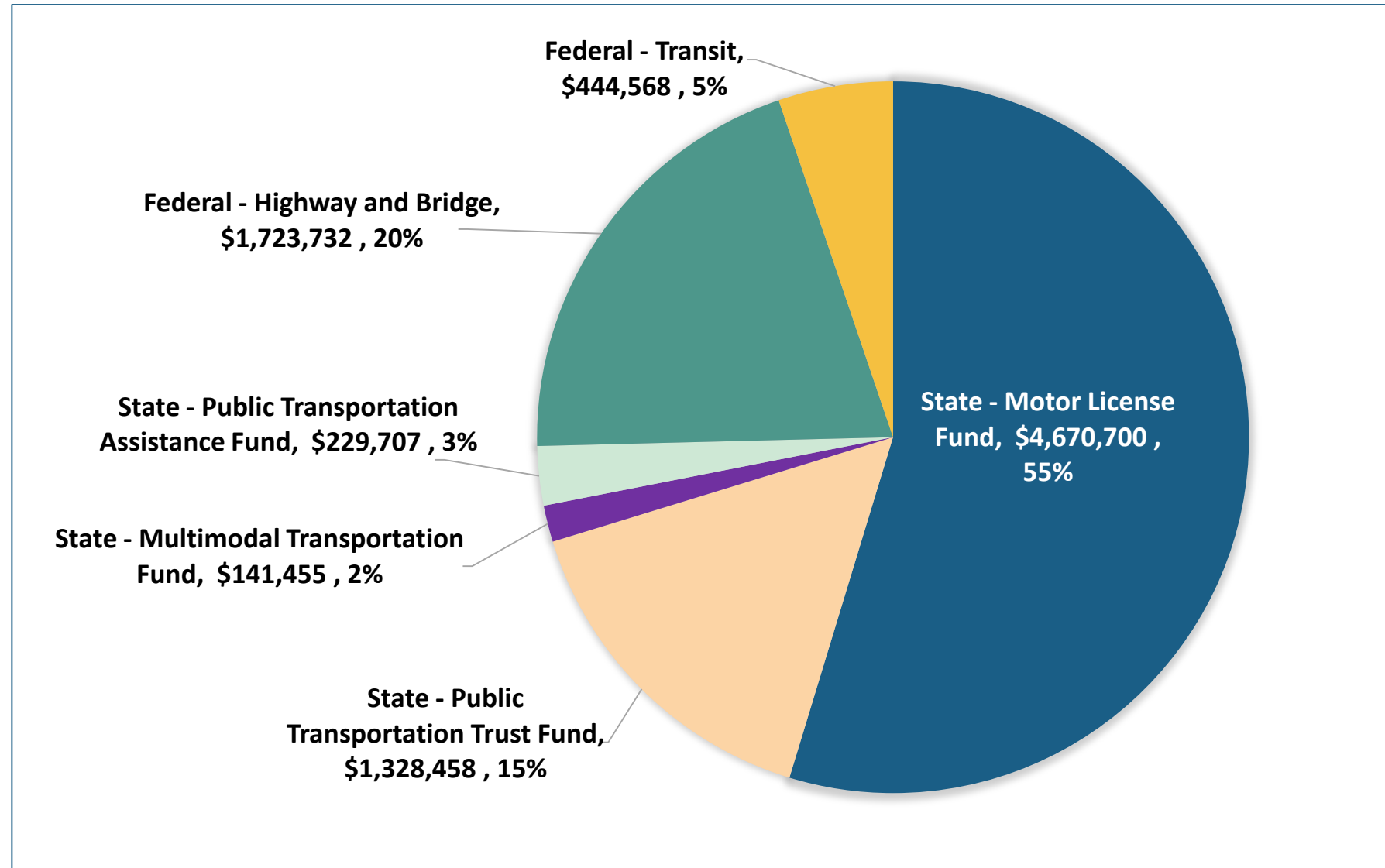
- Highway Trust Fund (HTF), which allocates to states:
 - Highway and bridge funding
 - Public transportation funding



State Transportation Funding Sources and Uses

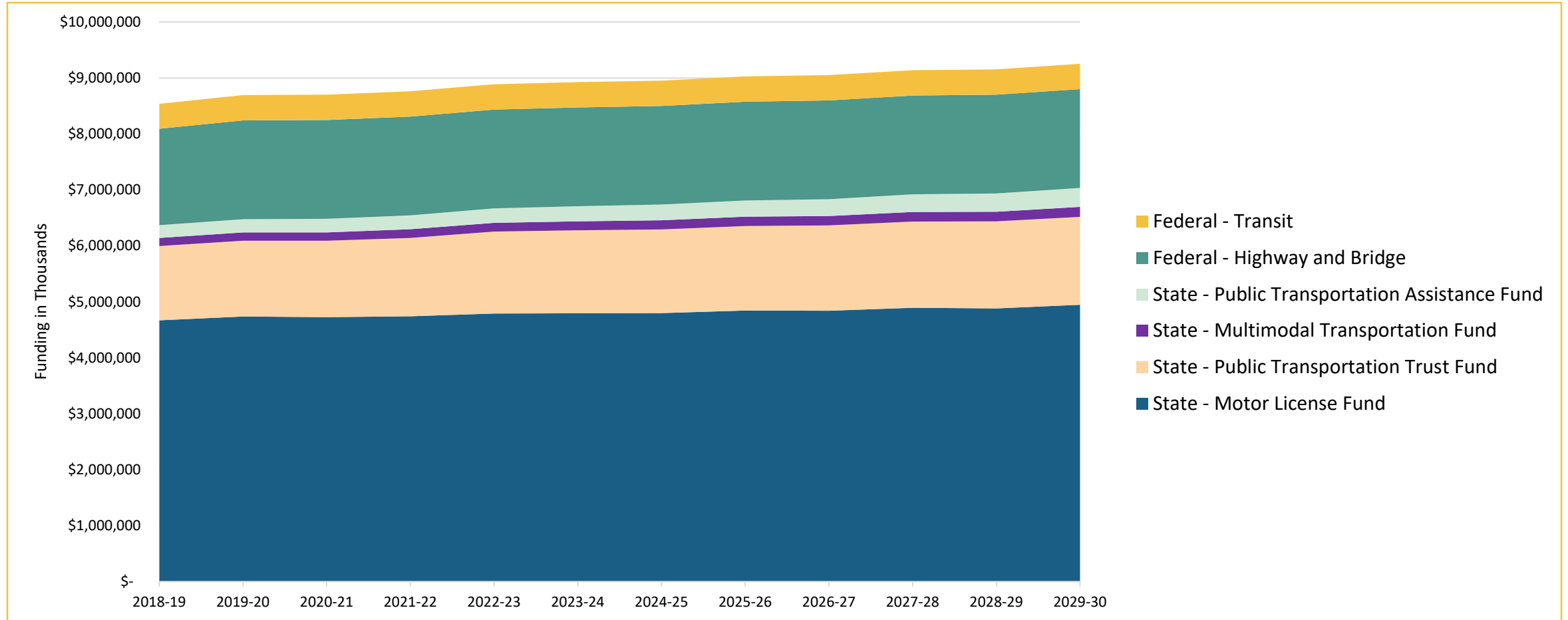


FY 2018-19 Pennsylvania Transportation Funding by Source (in thousands)



Source: PennDOT Bureau of Fiscal Management

Transportation Baseline Funding Projections



Baseline projections assume no risk impacts. Even with no risks considered, funding is expected to increase only about 1 percent over the study period—not even keeping pace with typical inflation.



Risk Analysis

Threats to Transportation
Funding in PA

Risk A: Federal Transportation Funding Reduction

OVERVIEW

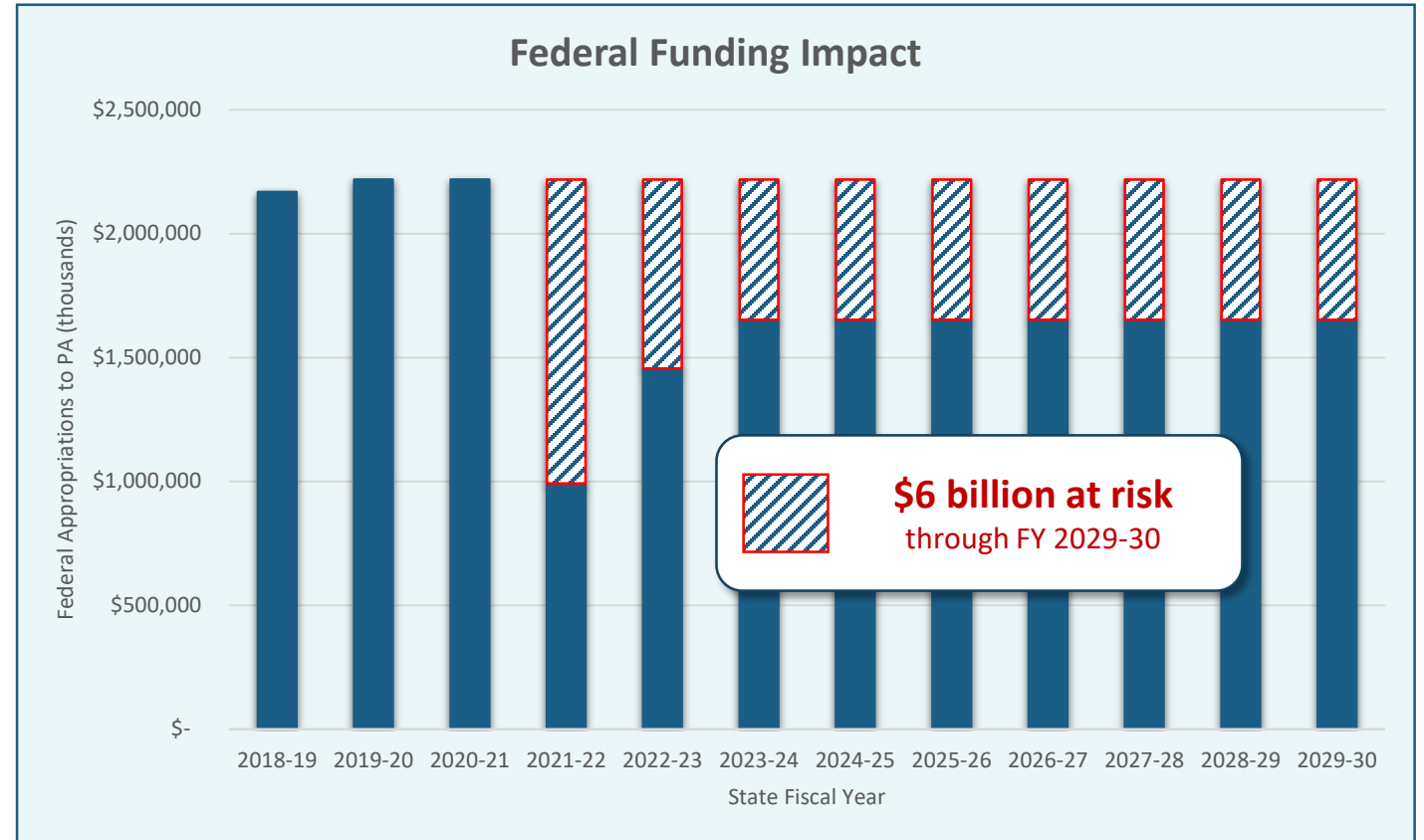
IF...

...federal appropriations are reduced beginning in Federal Fiscal Year 2021 due to the insolvency of the Highway Trust Fund...

...THEN

...Pennsylvania's highway and public transportation funding through FY 2029-30 could be reduced by a cumulative \$6 billion.

More detail next page



Risk A: Federal Transportation Funding Reduction

DESCRIPTION

ASSUMPTIONS

Baseline Projection: Assumes that federal transportation funding stays at FAST Act levels through Federal Fiscal Year 2020, then remains flat.

Risk Projection: Assumes that federal transportation funding is reduced beginning in Federal Fiscal Year 2021 and follows the reduction “cliff” projected by the American Association of State Highway and Transportation Officials (AASHTO) based on the maximum amount of federal funds available for distribution to the states while maintaining a \$5 billion balance in the Highway Trust Fund.

What could happen?

The Highway Trust Fund, which is the primary source of federal transportation funding, is projected to experience a severe shortfall by Federal Fiscal Year 2021 at current spending levels.

Federal transportation funding to all states could be severely reduced. Pennsylvania’s federal funding could likely drop by more than half in the first year.

How likely is it to happen?

This risk scenario has a medium likelihood of occurring.

Crises have been averted since 2008 by transfers from the General Fund to the Highway Trust Fund totaling \$140 billion. This short-term solution may be used again.

However, the inadequacy of federal gas tax revenues to fully fund the Highway Trust Fund creates a level of uncertainty in sustaining the fund into the future. The federal gas tax was last increased in 1993 and is not indexed to inflation.

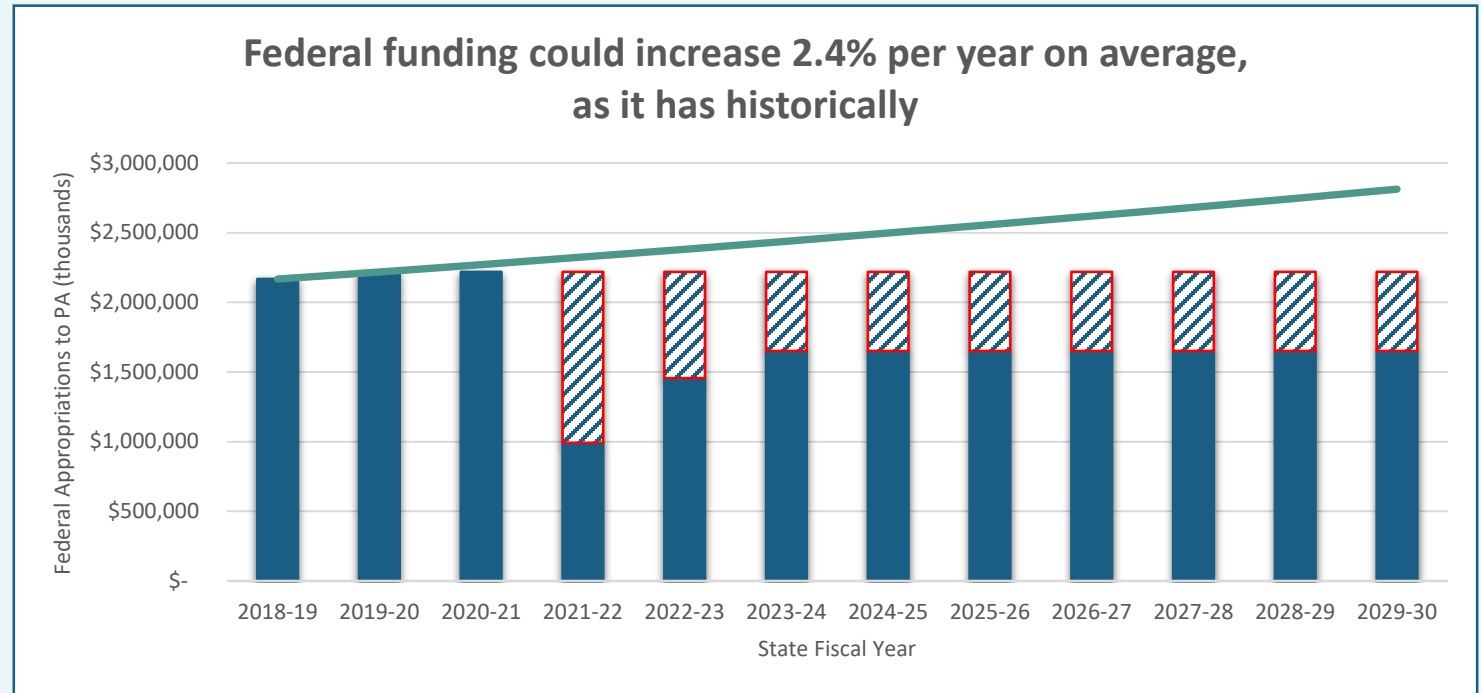
Risk A: Federal Transportation Funding Reduction

IMPLICATIONS

What are the implications?

The loss of \$6 billion in cumulative federal funding for transportation improvements could severely impact Pennsylvania's transportation programs and system conditions. Federal funding comprises nearly a quarter of Pennsylvania's transportation budget.

It could be impossible to meet basic obligations under this scenario without a substantial increase in state sources of transportation funding.



It is also possible that federal transportation funding will increase gradually, as indicated by the green line on the above chart.

This could be possible if the next transportation bill increases annual transportation funding and if Congress takes action to make the HTF solvent and/or to designate replacement funding sources.

Risk B: Vehicle Sales Tax Provision Repeal

OVERVIEW

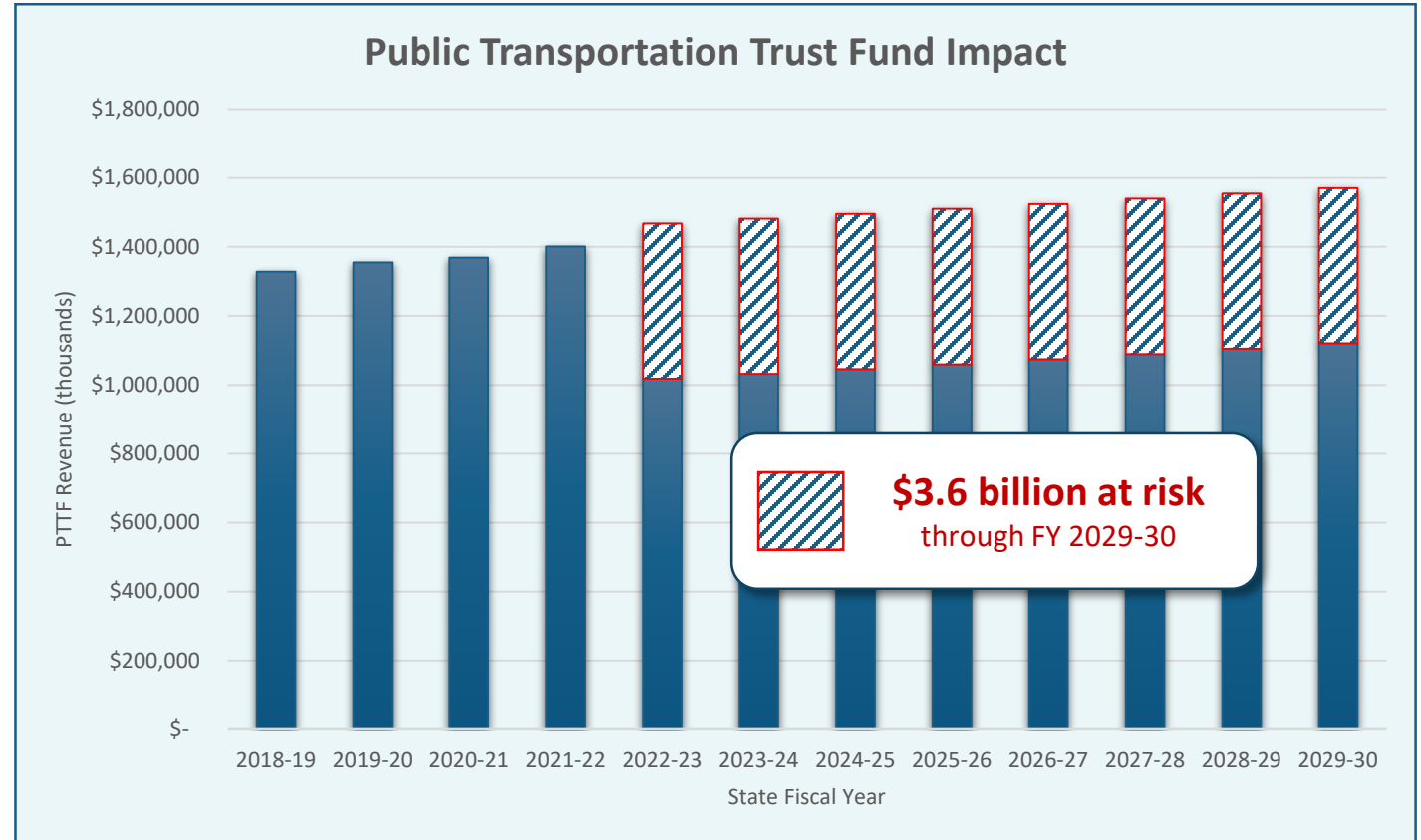
IF...

...Act 89 is amended to repeal the vehicle sales tax transfer that begins in FY 2022-23, when Pennsylvania Turnpike Commission (PTC) payments are reduced...

...THEN

...public transportation funding through FY 2029-30 could be reduced by a cumulative \$3.6 billion.

More detail next page



Risk B: Vehicle Sales Tax Provision Repeal

DESCRIPTION

Background

The PTC is mandated (by Act 44 of 2007 and Act 89 of 2013) to make payments to PA's Public Transportation Trust Fund (PTTF) of \$450 million per year through FY 2021-22 and \$50 million per year through 2057.

To replace the net loss of \$400 million and augment funding, \$450 million per year (at minimum) in vehicle sales tax revenue is to be transferred to the PTTF beginning in FY 2022-23. For FY 2018-19, total vehicle sales tax revenue is budgeted to be \$1.42 billion.

What could happen?

Act 89 could be amended to repeal the vehicle sales tax provision.

How likely is it to happen?

This risk has a low likelihood of occurring as it would require amending current law.

Pressure to reduce transfers out of the state General Fund, however, makes this a possibility.

What are the implications?

The loss of \$450 million per year to the PTTF would be a 32% funding reduction for public transportation operating and capital programs.

A funding shortfall could affect public transportation agencies statewide. Capital projects could be unfunded and operations could be reduced, impacting services to many—including those who depend on public transportation.

Risk C: Pennsylvania Turnpike Commission Pending Litigation

OVERVIEW

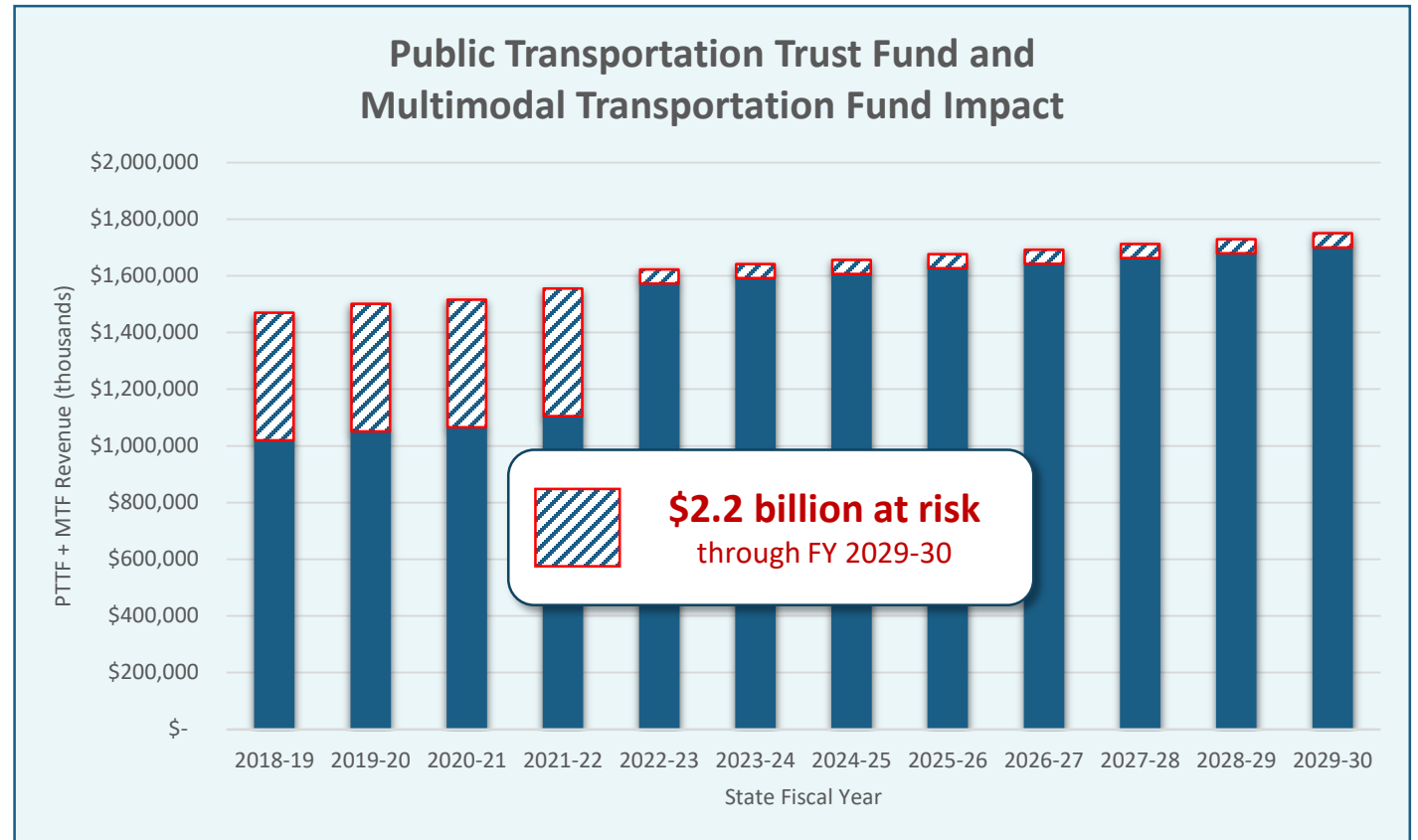
IF...

...litigation by national motor carrier organizations against the PTC continues to prevent payments by the PTC to the PTF and MTF...

...THEN

...transportation funding through FY 2029-30 could be reduced by a cumulative \$2.2 billion.

More detail next page



Risk C: Pennsylvania Turnpike Commission Pending Litigation

DESCRIPTION

Background

National motor carrier groups have brought a lawsuit against the PTC, challenging the constitutionality of transferring toll revenue to fund public transportation.

What could happen?

If the lawsuit continues to prevent PTC payments, the PTTF would not recover the \$450 million per year through FY 2021-22, or the \$50 million per year through 2057.

How likely is it to happen?

The outcome of the legal challenge is uncertain.

What are the implications?

One implication of the litigation has already occurred—the due dates for the payments from the PTC to PennDOT (into the PTTF) have been extended.

Public transportation agencies could be affected, with less funding available to meet public transportation operating and capital costs.

The potential \$2.2 billion loss includes a \$360 million cumulative reduction in Multimodal Transportation Fund (MTF) revenue, which would affect municipalities. Funding for bicycle and pedestrian projects, streetscapes, and other MTF improvements would be severely restricted.

\$5.8 Billion Impact if Vehicle Sales Tax and Legal Challenge Risks Occur

IF...

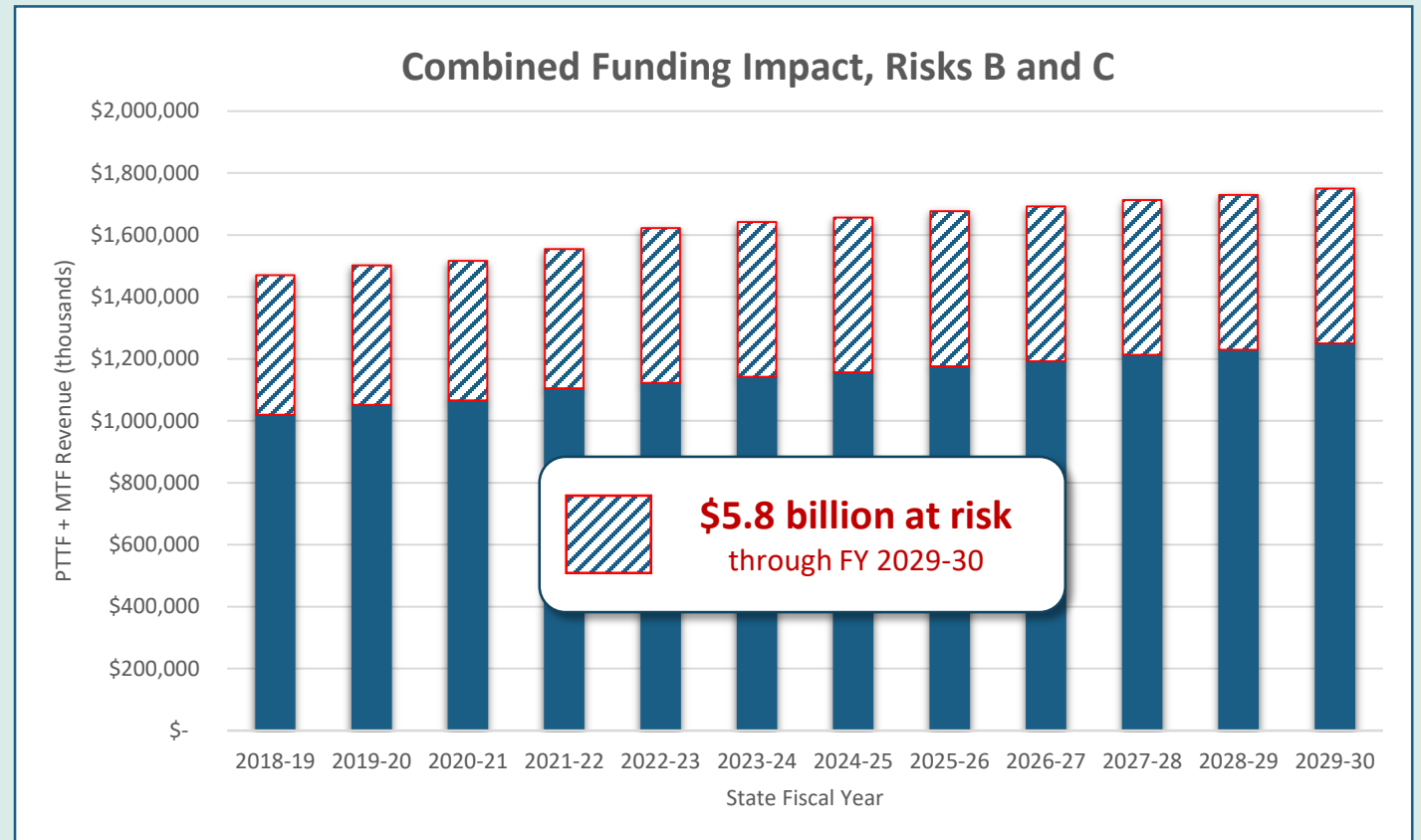
...the vehicle sales tax provision is repealed (Risk B),

AND

If the PTC is prevented from transferring a portion of toll revenue to PennDOT (Risk C)...

...THEN

...funding to the PTF and MTF could decrease by a cumulative \$5.8 billion through FY 2029-30.



This compound scenario could adversely impact public transportation and multimodal projects.

Risk to PTC of Extending Act 89 Provisions

IF...

If Act 89 of 2013 is extended another five years, requiring PTC to continue making payments of \$450 million per year to the PTTF through FY 2026-27...

...THEN

...PTC could incur more than \$2 billion in new debt.

How likely is it to happen?

- The need to amend legislation is a significant hurdle that reduces the likelihood of this risk.

What are the implications?

- PTC could be responsible for an average of \$154 million in additional annual debt service.
- PTC could experience a bond rating downgrade.
- Nearly 60% of all PTC revenue could go to debt service.
- Capital projects, including new interchanges, could be limited, reducing anticipated local economic growth.
- Annual toll rates could need to be increased even higher than the current 6% per year increase.

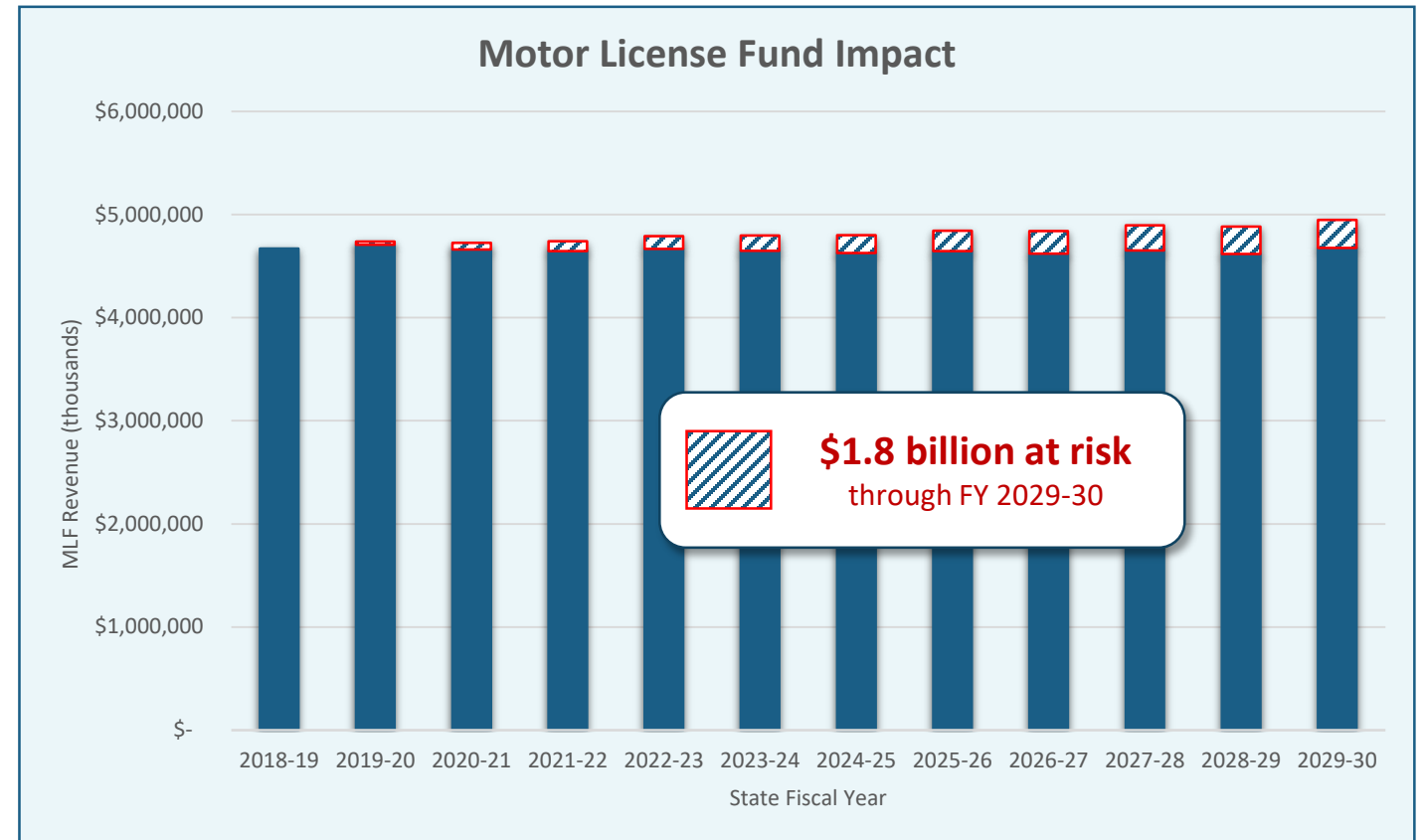
IF...

...the PA Fiscal Code were amended to halt the anticipated stepdown of the Motor License Fund (MLF) transfer to the Pennsylvania State Police (PSP)...

...THEN

...transportation funding through FY 2029-30 could be reduced by a cumulative \$1.8 billion.

More detail next page



Assumptions: This illustrative scenario assumes the MLF transfer amount is held at FY 2018-19 levels (\$770 million). Various scenarios are possible.

Risk D: PSP Transfer Statutory Revision

DESCRIPTION

Background

Current fiscal code steadily reduces the amount transferred from the MLF to the PSP, down to \$500 million per year by FY 2029-30. The intent is to make more funds available for transportation.

What could happen?

Fiscal pressures to pay for PSP functions could result in revisions to the PA Fiscal Code, increasing the transfer amount from the MLF to the PSP.

Various scenarios are possible.

How likely is it to happen?

This scenario has a medium likelihood of occurring due to the essential nature of PSP functions and pressure to reduce transfers out of the General Fund.

The Fiscal Code is amended when the General Assembly enacts a state budget. This dynamic and unpredictable process could make this scenario possible.

In addition, no further progress has been made to identify a dedicated replacement funding source. Further, existing demands on the General Fund exceed revenues available.

What are the implications?

\$1.8 billion less could be available through FY 2029-30 to fund transportation projects.

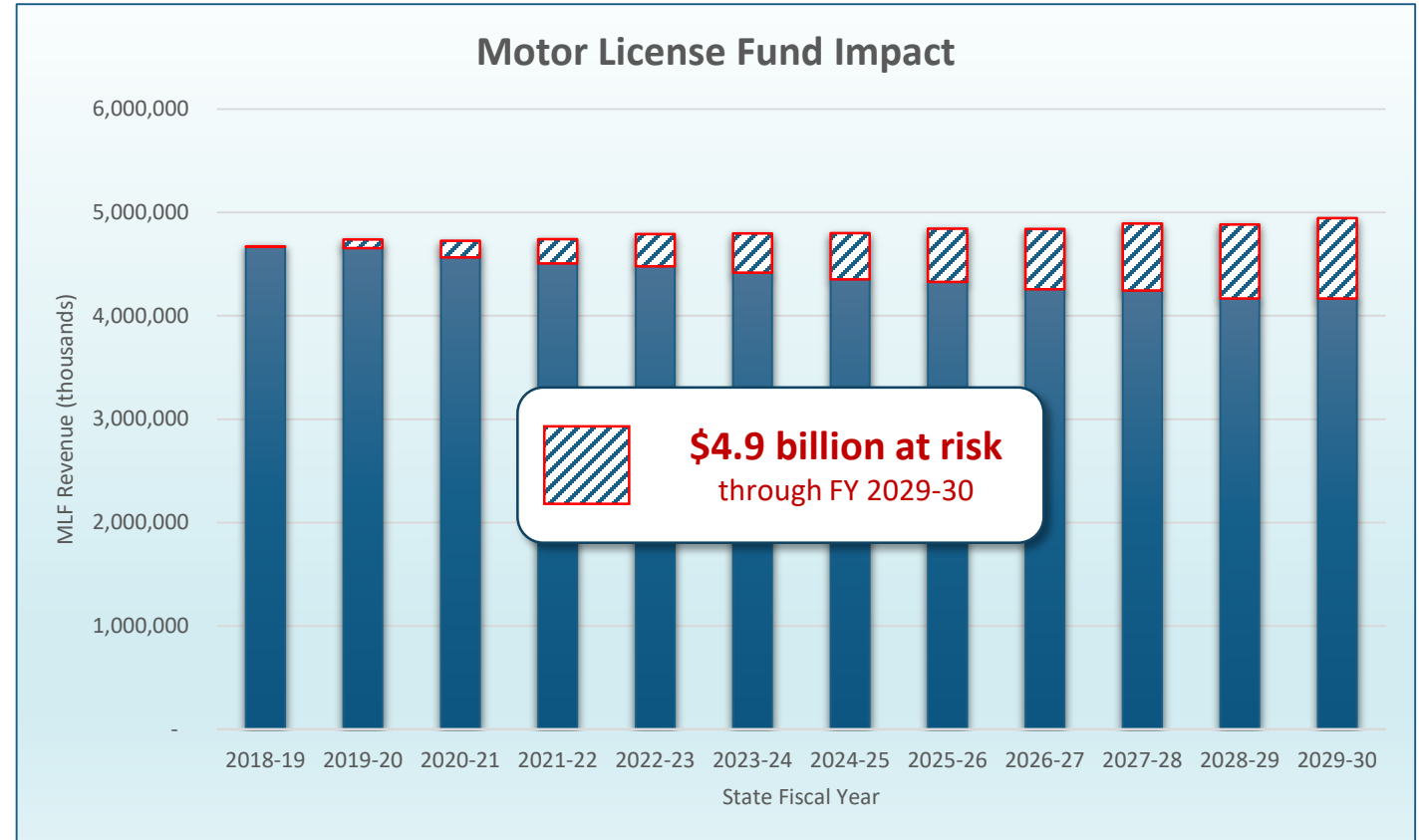
View the PA Legislative Budget and Finance Committee's report: [PA State Police Cost to Provide Safety on Public Highways](#)

IF...

...tax receipts to the Motor License Fund are reduced due to declining motor fuels sales and vehicle licenses and fees...

...THEN

...transportation funding could be lowered. The scenario described on the following page puts this reduction at a cumulative \$4.9 billion through FY 2029-30.



Risk E: Reduced Motor License Fund Tax Receipts

DESCRIPTION

Assumptions

Baseline Projection: Fuel tax revenues are nearly flat. Licenses and Fees increase by roughly 1.6% per year, less than the projected rate of inflation.

Moderate Risk Scenario: Fuel usage follows the roughly 2% per year declining trend for transportation energy consumption (in bbl oil equivalent) for the “High Oil Price” case in the U. S. Energy Information Administration’s *Annual Energy Outlook 2018*. Average wholesale price does not exceed the \$2.99 floor used in setting the tax rate per gallon. License and fee revenues are the same as for the baseline.

What could happen?

Two major trends could reduce gasoline and diesel consumption:

- Increased fuel efficiency of gasoline- and diesel-powered vehicles
- Increased sales of alternative fuel vehicles

As a result, Liquid Fuels Tax revenues could decline, perhaps by approximately 2% per year.

Further, the projected very slow population growth could tend to reduce vehicle ownership growth, registration and license fees, and vehicle-miles traveled.

How likely is it to happen?

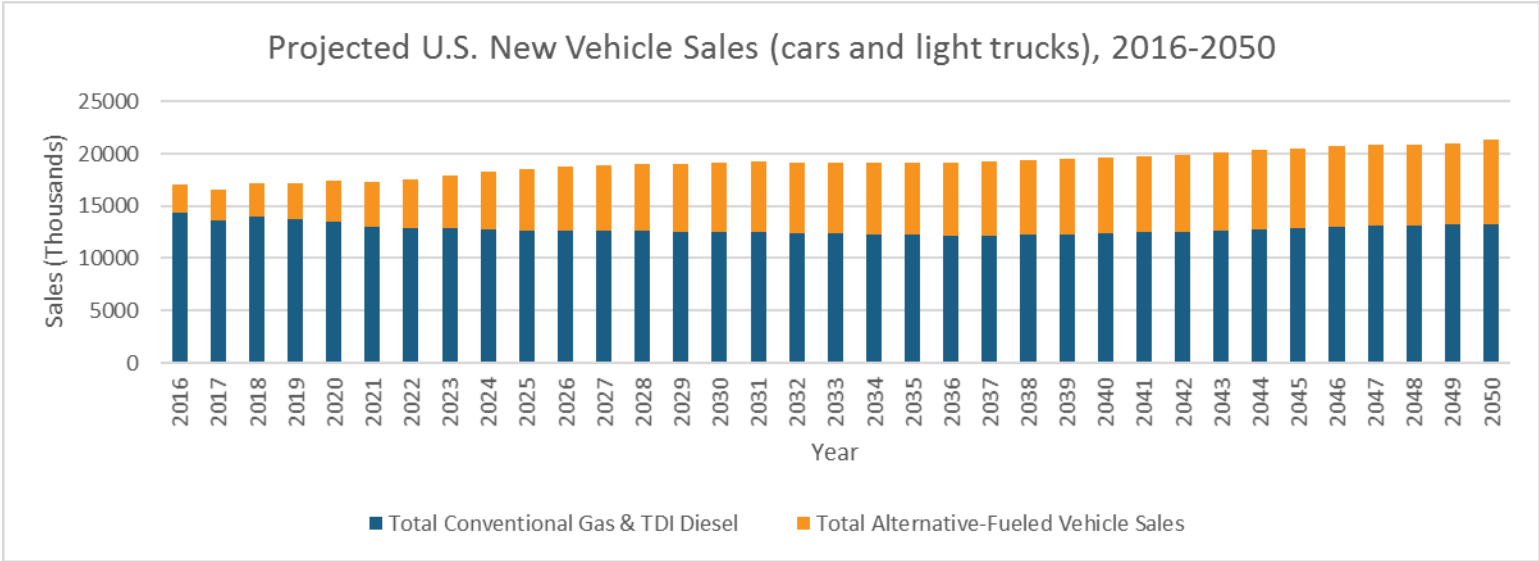
Predictions related to these trends vary greatly.

The reported industry investments to increase electric vehicle production suggest that it is reasonably likely that fleet fuel economy could increase and could offset potential growth in vehicle miles traveled, resulting in lower fuel use.

Further, the collection mechanisms for the PA Alternative Fuel Tax are inadequate to capture additional tax revenue from increased use of alternative fuels.

Risk E: Reduced Motor License Fund Tax Receipts

DESCRIPTION



Source: U.S. Energy Information Administration

44% of the new cars and light trucks sold in 2050 will be alternative fuel vehicles, according to U.S. Energy Information projections.



What are the implications?

- The PA Liquid Fuels Tax is the primary Motor License Fund revenue source (more than 75% in FY 2017-18). A fairly conservative scenario with gradual adoption of alternative fuel vehicles could reduce revenues into the Motor License Fund by a cumulative \$4.9 billion through FY 2029-30.
- Revenues, presently not growing fast enough to keep up with inflation, could fall even further behind.
- Approximately \$4.9 billion (8%) less funding could be available for highway maintenance and construction compared to baseline projections.

An 'Extreme Disruption' Scenario – Rapid Adoption of Vehicle Technology

RethinkX, a think tank, projects a rapid adoption of all-electric highly automated vehicles starting in 2021 and transforming transportation by 2030.

RethinkX's report [Rethinking Transportation 2020-2030](#) projects an 80% smaller vehicle fleet, 70% fewer new vehicles sold each year, 90% less oil consumption by passenger vehicles, and 50% less oil consumption by trucks by 2030.

While this extreme disruption scenario is outside the mainstream view and does strain credulity at first glance, the study authors consider it not merely possible but also likely. They note for example that their projections assume use of technology that already exists.

The scenario they describe is based purely on predicted behavior changes driven by cost

Such a scenario could result in Liquid Fuels Tax revenues at less than half of their current level.

differentials, not conjecture about changing lifestyle preferences.

Even if the scenario is unlikely to be realized in the analysis period, it does illustrate the scale of disruption that transportation finance should be prepared for in the longer term.



Conclusions

Impacts and Implications

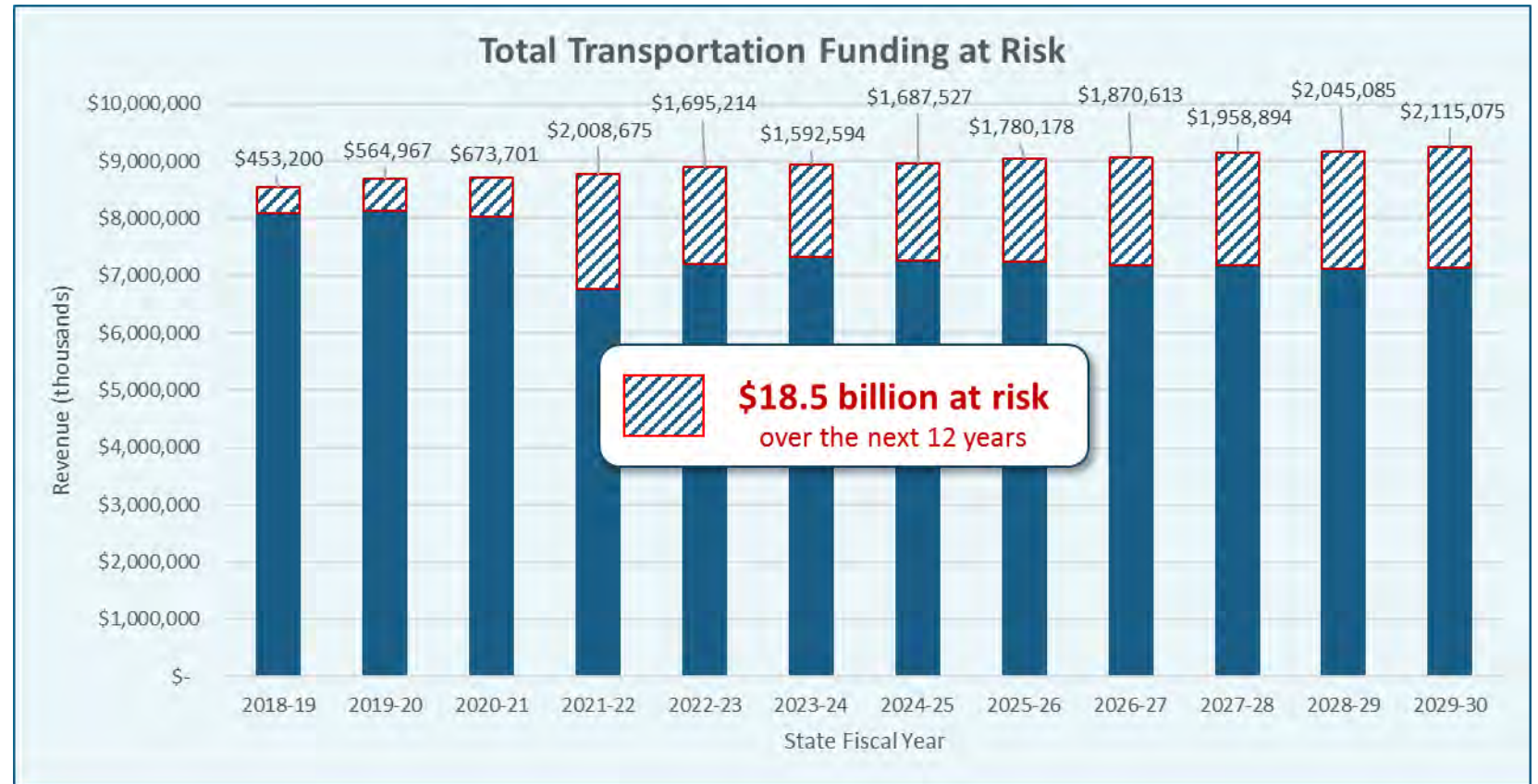
Considering the Impacts and Implications

If the Commonwealth of Pennsylvania experiences a reduction of transportation funding as described in the previous section, the transportation system will see significant impacts.

This section briefly highlights some of the direct and indirect implications.



Total cumulative risk impact to Pennsylvania transportation funding: \$18.5 billion in reduced spending



Comparing \$18.5 billion to Pennsylvania's 2017 Twelve-Year Program (TYP) costs, that amount would buy:

- 6 years of highway and bridge projects, or
- 8 years of public transportation projects.

\$18.5 billion Risk by Fund

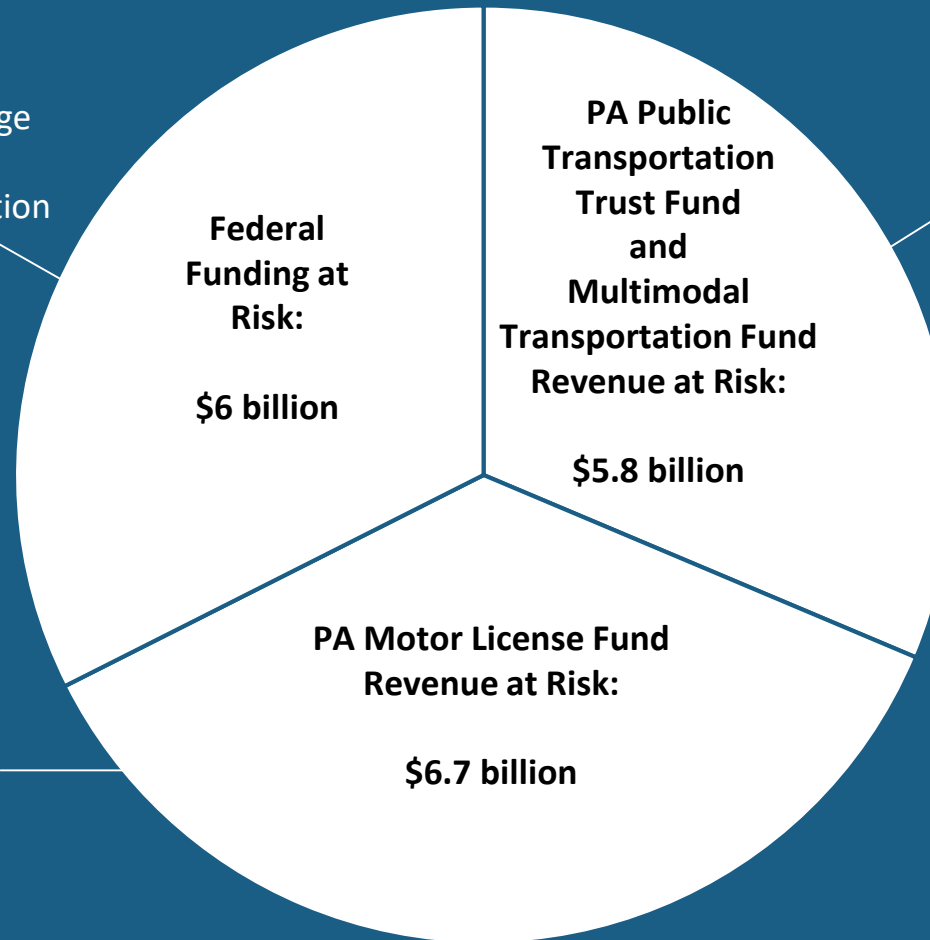
PA TRANSPORTATION FUNDING AT RISK BY FUND TOTAL POTENTIAL IMPACT THROUGH FY 2029-30

Purposes:

- Highway and bridge construction
- Public transportation capital projects

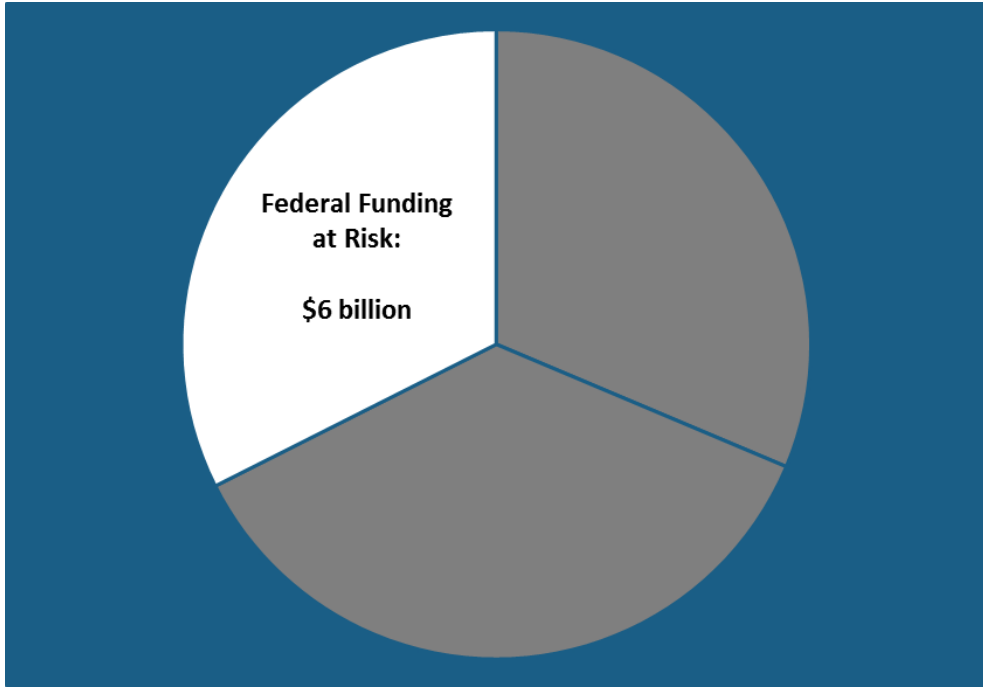
Purposes:

- Highway and bridge construction, maintenance, repair, and safety projects
- Payments to PA State Police



Purposes:

- Public transportation operating and capital costs
- Programs of statewide significance
- Multimodal grants

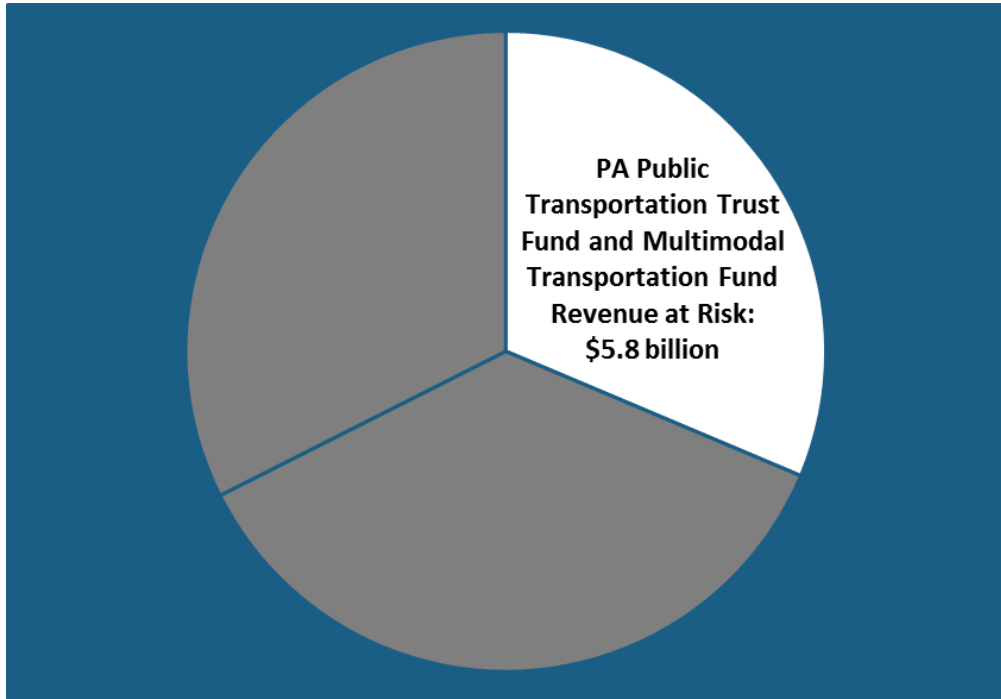


What does \$6 billion in federal transportation funding buy?

Illustrative Examples:

It costs an average of \$2.5 million per lane-mile to reconstruct an interstate highway. \$6 billion could reconstruct half of PA's total interstate miles.

It costs approximately \$1 million per mile to rehabilitate a lower-volume roadway. Six billion dollars could rehabilitate 6,000 miles of low-volume roadways in Pennsylvania.



What does \$5.8 billion in PTTF and MTF funding buy?

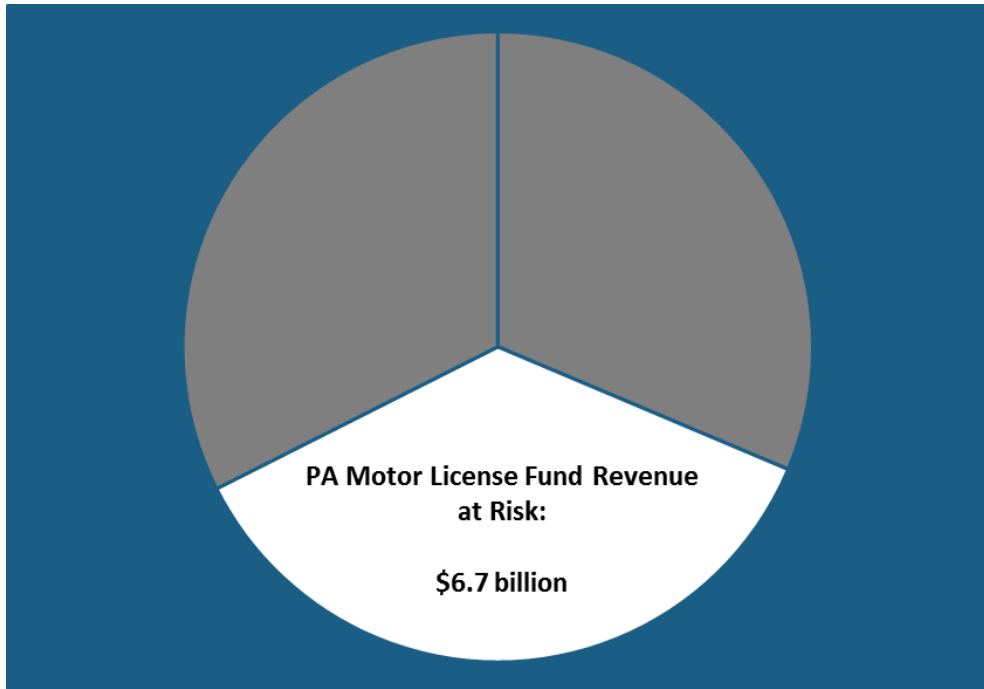


Illustrative Example:

A 40-foot bus running on compressed natural gas (CNG) costs approximately \$500,000.

\$5.8 billion equals 11,600 buses

\$5.8 billion is equivalent to about five years of public transportation state-of-good-repair funding.



What does \$6.7 billion in MLF funding buy?

Illustrative Example:

It costs approximately \$4 million to reconstruct a typical two-lane bridge over an interstate highway. \$6.7 billion could reconstruct 1,675 bridges—more than half of PA's interstate bridges.

Potential Impacts to Highways and Bridges



- Deferred resurfacing could lead to greater long-term costs for reconstruction as roadway quality could degrade more quickly.
- More bridges may need to be weight-restricted or closed.

Potential Impacts to Public Transportation



- Public transportation service is essential for many citizens, as well as for businesses for their labor supply, and could be reduced—the Commonwealth supports more than half of public transportation system operating budgets.
- Capital projects (e.g., new buses, trains, and transportation centers) for transit agencies statewide could be further limited.
- Reduction of service and rolling stock could also contribute to greater traffic congestion.

Potential Impacts to Rail Freight, Ports, Aviation, and Bicycle & Pedestrian



Projects funded through the MTF could be in jeopardy. These include sidewalks, pedestrian lighting, traffic signals, crosswalks, bike lanes, trails, airport access road improvements, and other improvements.

The Port of Philadelphia (PhilaPort) expansion is projected to increase revenue by \$30 million. Reduced funding for the expansion and the surrounding roadway network could have adverse effects on projected economic growth.

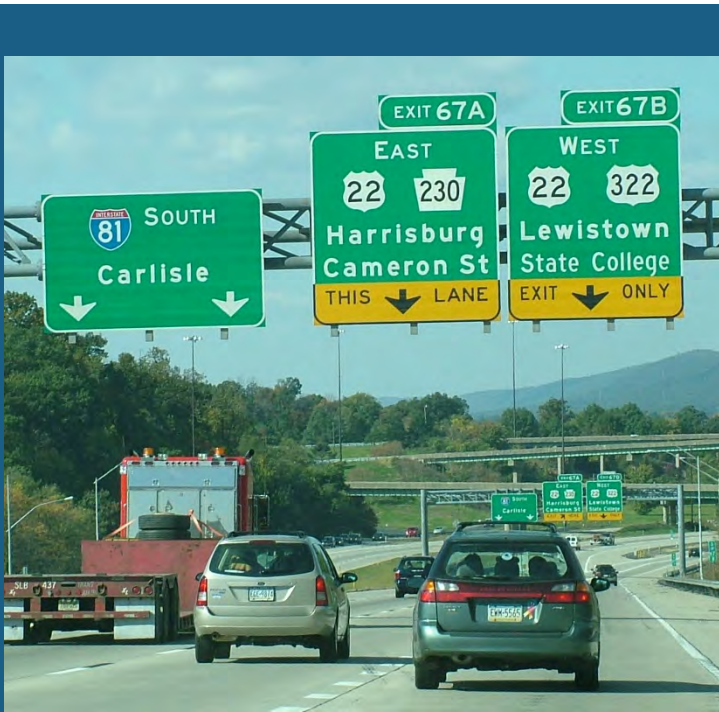
Pennsylvania has 67 operating railroads with more than 5,600 miles of freight lines. The state approved 27 rail freight grants in 2017 that will help sustain more than 400 jobs. Loss of funding could impact jobs in the rail freight sector and lead to an overall decline in connectivity.

Indirect Implications: Safety

Public safety could become more uncertain

- Although 94% of fatalities are caused by driver behavior, infrastructure conditions can affect safety.
- If Pennsylvania's transportation system deteriorates due to insufficient funding, public safety could be reduced.

Safety is PennDOT's first priority.



Indirect Implications: Congestion

Congestion could increase

- Nationwide, congestion already comes at a great cost in terms of delay and pollution.
- Freight and logistics, a dynamic sector of the PA economy, relies on transportation system efficiency—delay makes these industries less competitive.
- For example, in the Philadelphia metropolitan region, congestion in 2014 cost auto commuters an average of 48 hours or \$1,112 per year (2015 Urban Mobility Scorecard).
- Further increases in delay could make transportation a significant barrier to day-to-day mobility and access.



Indirect Implications: Economy

Pennsylvania's economy could weaken

- Transportation is one of several factors that are key to economic competitiveness and efficiency.
- The cost of moving people and goods as well as overall access are of fundamental importance to economic well-being.
- Transportation could become the most significant factor related to Pennsylvania's economic health if funding risks are not addressed properly.

Every \$1 billion spent on:

- Public transportation capital projects sustains **15,900 jobs**
- Public transportation operations sustains **24,200 jobs**
- Highway operations sustains **17,810 jobs**

Source: American Public
Transportation Association

Summary

Alternative state transportation funding sources and mechanisms may be required in light of system improvement needs, cost pressures, and funding risks.

- As the Keystone State, Pennsylvania must have a modern and efficient transportation system for the long term.
- The necessary investment to keep this system in a safe state of good repair is great, and present resources do not cover the needs.
- The risks to transportation funding discussed in this report could further compound this problem.
- For the foreseeable future, risks to transportation funding will be an essential focus.

About the Transportation Advisory Committee

The Pennsylvania Transportation Advisory Committee (TAC) was established in 1970 by Act 120 of the State Legislature, which also created the Pennsylvania Department of Transportation (PennDOT).

TAC has two primary duties. First, it "consults with and advises the State Transportation Commission and the Secretary of Transportation on behalf of all transportation modes in the Commonwealth." In fulfilling this task, TAC assists the Commission and the Secretary "in the determination of goals and the allocation of available resources among and between the alternate modes in the planning, development, and maintenance of programs, and technologies for transportation systems."

TAC's second duty is "to advise the several modes (about) the planning,

programs, and goals of the Department and the State Transportation Commission." TAC undertakes in-depth studies on important issues and serves as a liaison between PennDOT and the general public.

TAC consists of the following members: the Secretary of Transportation; the heads (or their designees) of the Department of Agriculture, Department of Education, Department of Community and Economic Development, Public Utility Commission, Department of Environmental Protection, and the Governor's Policy Office; two members of the State House of Representatives; two members of the State Senate; and 18 public members—six appointed by the Governor, six appointed by the President Pro Tempore of the Senate, and six appointed by the Speaker of the House of Representatives.

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