EVALUATING OPTIONS FOR FUNDING TENNESSEE'S INFRASTRUCTURE NEEDS

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Overview

A healthy infrastructure network is critical to Tennessee's economy. Unfortunately, the funding mechanism behind the state's infrastructure is falling short. At its core is a system of per-gallon taxes on motor fuel and diesel fuel. The taxes are based on quantities of fuel and not prices, so the revenue stream is not able to grow with the economy. Additionally, improvements over time in overall fleet fuel efficiency, aided by the emergence of electric and hybrid-fuel vehicles, have resulted in slower growth in fuel demand over time. The resulting revenue stream is not able to keep pace with increasing demands on our highways. While improvements in fuel efficiency create an important environmental benefit in the form of cleaner air, the slower growth in the demand for gasoline means fewer dollars for highway maintenance. The resulting backlog will eventually place significant demands on the state's overall revenue portfolio.

The state is wise to address this growing problem in the current legislative session. The two major inputs to economic development from the state's perspective are investments in human capital (education and training) and investments in infrastructure. The state has done an exceptional job with its recent substantial investments in human capital, but the outdated highway funding mechanism has constrained the state's ability to keep up with necessary infrastructure investment.

The International Monetary Fund (2014) recently determined that infrastructure investments are highly productive in advanced economies.[1] For example, increasing public investments by one percent of GDP is estimated to increase economic output by up to two percent in some circumstances.[2] Consequently, a pattern of reduced infrastructure spending as a result of decreased revenue translates directly into lower rates of economic growth. Our analysis of Census data on actual expenditures shows that infrastructure spending has been declining across all state and local governments since 2007, not only in inflation-adjusted dollars but also as a share of total government spending.

Tennessee is not alone in facing this issue. A recent report indicates that 19 states have raised gas tax rates since 2012, and 21 states will consider gas tax increases this year.[3] Two proposals have been put forward that focus on addressing the longer-run funding problem facing our state's infrastructure. One,

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[1] International Monetary Fund. "Is it Time for an Infrastructure Push? The Macroeconomic Effects of Public Investment," *World Economic Outlook: Legacies, Clouds, and Uncertainties*, Chapter 3 pp. 75-114, October, 2014.
[2] Specific impacts depend crucially on the macroeconomic environment, and whether investments are funded out of debt or tax revenues.
[3] Carroll, Rory, "U.S. States See Favorable Conditions for Gas Tax Hikes," Reuters, February 8, 2017. Available at http://www.reuters.com/article/us-usa-gasoline-taxes-idUSKBN15N2PG.

the IMPROVE Act, would increase gas and diesel tax rates while cutting business taxes, grocery food sales taxes, and the Hall income tax. The other (referred to here as the Hawk Plan) would simply earmark a percentage of existing general sales tax revenues for infrastructure. Importantly, both of these proposals share two common features:

- They are both targeted at providing needed funds for infrastructure (and both provide a similar level of funding for that specific purpose); and
- they are both essentially revenue-neutral, in that neither bill proposes a net increase or decrease in overall taxes.

In this brief report, we discuss the relative merits of the two proposals from a variety of perspectives.

Economic Impact

Since both proposals essentially redirect a similar level of existing funding for infrastructure purposes and would therefore generate similar levels of infrastructure spending, they would both have similar impacts on the broader state economy. While there may be minor differences in job and income creation and tax revenue generation, it is our opinion that any differences in economic impact from the infrastructure spending should not be a deciding factor in choosing between the two approaches.

However, an incremental economic impact would arise from the IMPROVE Act's provision that allows businesses to elect a single sales factor weighting option for the purposes of apportioning multi-state income. This would allow Tennessee companies—especially manufacturers—to reduce their business taxes if they produce largely in-state but sell primarily out-of-state. Companies that sell primarily in-state would not likely opt for single sales factor weighting because doing so would increase their taxes relative to the existing three-factor apportionment formula. The reduction in business taxes for those opting into single sales factor weighting could generate substantial economic impacts in the form of greater employment and earnings.[4]

On the surface, there may be a concern that higher diesel taxes in the IMPROVE Act might eventually translate into higher prices for consumer goods, and specifically might erode the benefits of the lower tax on grocery food. We find that the proposed tax increase would represent a 1.18 percent increase in overall food shipping costs.[5] Since shipping costs represent about 3.2 percent of food costs, the net impact would be a miniscule 0.04 percent increase in prices, or an additional four cents on a $100 grocery bill. It should also be noted that the optional single sales factor weighting and the overall improvement in infrastructure quality would both contribute to reductions in business costs that should offset any inflationary pressure from the fuel tax increase.

[4] It is worth noting that the economic impact would be even larger if the single sales factor weighting were required, as that would remove the current disincentives to invest in in-state workforce and physical plant.
[5] It costs about $1.70 per mile to operate a diesel truck, and the average truck gets about six miles to the gallon, depending on truck type. A $0.12 increase in the diesel fuel tax rate adds about two cents to the $1.70 cost, or about 1.18 percent.

Fiscal Soundness

On the surface, both of these proposals would have a similar impact on the state's budget in that no net new tax revenue is created. That being said, the IMPROVE Act represents a substantial shift in the revenue portfolio in Tennessee as additional tax dollars from gas and diesel taxes are offset by reductions in business taxes, sales taxes on grocery food, and Hall income taxes. This has important implications for the distribution of the tax burden across households of varying income levels.

When it comes to fairness and the distribution of the tax burden, the IMPROVE Act has two key advantages relative to the Hawk Plan. First, by shifting more of the burden onto the fuel taxes (at higher rates) and simultaneously reducing the sales tax on grocery food, *the IMPROVE Act shifts more of the tax burden onto higher-income households*. This is based on the empirical fact that as household income grows, spending on gasoline and motor oil rises more quickly than spending on food at home. Evidence for this is provided by The Pew Charitable Trusts in their recent examination of Bureau of Labor Statistics Consumer Expenditure Survey Public-Use Microdata.[6] The following table presents average spending in 2014 by major income group on gasoline and motor oil and food at home, and shows that spending on gasoline and motor oil rises more quickly with income than spending on food at home.

Income Group:	**Average Spending on Gasoline and Motor Oil**	**Average Spending on Food at Home**
Lower Third	$2,095	$3,380
Middle Third	$2,787	$4,160
Upper Third	$4,007	$5,200

Source: The Pew Charitable Trusts, 2016.

As shown in the table, the upper third of all households (sorted by income) spent nearly twice as much on gasoline and motor oil, on average, as the lower third. However, the upper third only spent about one-and-a-half times as much on food at home as the lower third. By increasing taxes on fuel and reducing them on grocery food, the IMPROVE Act therefore shifts more of the combined tax burden onto higher-income households and represents a reduction in the regressivity of the state's tax system.[7]

Second, *the IMPROVE Act shifts more of the state's tax burden onto out-of-state taxpayers*. According to internal analysis by the Tennessee Department of Revenue, slightly more than 50 percent of the diesel fuel tax revenue received by the state of Tennessee in 2016 was paid by non-Tennessee truckers.[8] While similar data do not exist for non-diesel gas purchases, the state's position at the crossroads of America makes it reasonable to assume that a significant share of gas taxes are paid by non-residents

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[6] For more details, see *Household Expenditures and Income* by The Pew Charitable Trusts (March 2016), at http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2016/03/household-expenditures-and-income.

[7] It is not clear whether a full consideration of the other components of the IMPROVE Act would change our basic conclusion regarding its effects on the distribution of the state's tax burden. The benefits of the business tax reduction will accrue to a broad range of Tennesseans across all income groups, and the Hall income tax is already being gradually phased out.

[8] Due to the International Fuel Tax Agreement, diesel fuel taxes are apportioned to the states on the basis of miles driven, regardless of where the fuel is purchased and where the taxes are initially paid. See https://www.iftach.org/index.php.

who are either passing through or visiting our many tourist destinations. This is not likely the case with our sales tax on grocery food (or our sales tax more broadly), which can similarly be assumed to be primarily paid by Tennesseans.

It is also worth noting that the IMPROVE Act focuses on the existing dedicated revenue sources to address the longer-term infrastructure funding problem in Tennessee. This is particularly important as the state considers the broader question of *recession readiness*. Specifically, Tennessee's ability to weather a future economic downturn will be a function of (a) available rainy-day fund balances and (b) flexibility with general revenue fund sources. While both of these proposals limit future contributions to the rainy day fund by shifting the state's spending portfolio towards infrastructure and away from all other purposes (including contributions to the rainy day fund), the Hawk Plan reduces future revenue flexibility by earmarking a substantial share of our most important source of tax revenue for roads rather than other key needs that may arise.

Our recent report on Tennessee's recession readiness examines the historic performance of revenues and expenditures in an effort to determine whether existing and predicted balances will protect the state from future downturns. While we find that the state is currently prepared to handle moderate recessionary downturns, projected reserves "would be insufficient to finance maintenance level expenditures should a severe recession occur."[9] It is important to recognize that the last two years of impressive sales tax revenue growth were well above the longer-run underlying trend, and that the sales tax continues its longer-term decline as a share of the economy. It would be wise for the state to consider the longer-run budget pressures and recession readiness in the process of charting a funding course for future infrastructure investments.

Effect on Bond Rating

On initial evaluation, it is not obvious that either one of these proposals would be worse than the other when it comes to jeopardizing the state's AAA bond rating. They have a similar fiscal impact and direct a similar amount of revenues to infrastructure. However, our experience with the ratings agencies suggests that they would look more favorably upon the IMPROVE Act because it represents a more stable and sustainable solution to the longer-term infrastructure problem. It also addresses the fact that our existing earmarked gas tax has not seen a rate increase since 1989. Additionally, the indexing of the tax rates to the Consumer Price Index will improve the ability for the gas tax to meet the state's infrastructure needs well into the future. As noted above, further earmarking of the state's major revenue source—the general sales tax—places the rest of the state budget at greater risk, especially in recessionary times when less revenue would be available for all other non-infrastructure needs.

[9] "Tennessee's Fiscal Condition and Recessions: Major Findings," Boyd Center for Business and Economic Research, September, 2016.