

## Transportation U.S. Special Report

# U.S. Surface Transportation Funding: Pitted with Potholes

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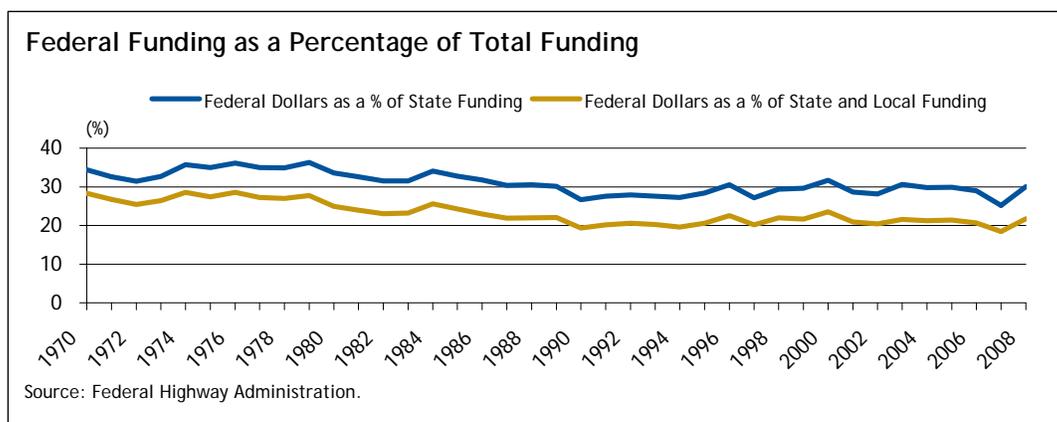
### Related Research

- [Fitch Revises Outlook to Negative on Stand-Alone GARVEE Bonds, March 9, 2011](#)

### Key Changes in U.S. Surface Transportation Landscape

**SAFETEA-LU Expiration Places Hindrance on State DOTs:** The lack of a long-term federal transportation funding reauthorization bill since the expiration in September 2009 of the Safe, Accountable, Flexible Transportation Equity Act, a Legacy for Users (SAFETEA-LU) is a significant impediment to transportation investment in the U.S. Dwindling resources and increasing demands have lead state departments of transportation (DOTs) to question the reliability and sustainability of the role of the federal government in surface transportation, and consequently the way DOTs' fund their obligations and manage the supply/demand aspect of their asset base.

**DOTs Take Control of Their Destiny:** As federal funding for transportation fails to keep up with the pace of inflation and construction costs, it appears that state DOTs may become increasingly less reliant on policy direction and funding (*see chart below*) from the Federal Highway Administration (FHWA) and become much more independent in their approach to maintaining and expanding their surface transportation network using state taxes and service charges, including user fees such as tolls. In addition, alternate forms of procurement such as public-private partnerships are entering the policy playbook as the debate over the role of the private sector in managing infrastructure development now seems to have taken a more constructive tone.



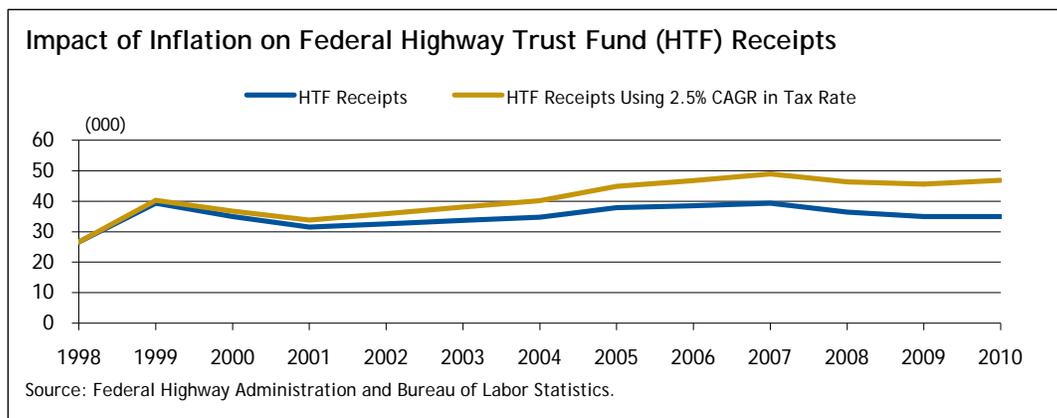
The surface transportation debt that Fitch rates takes the form of grant anticipation and revenue vehicle (GARVEE) bonds, state and local gas tax and other DOT service fee-backed bonds, sales and other tax-supported transit system debt, public authority toll revenue bonds, and privately issued concession debt. The uncertainty of the federal multiyear surface transportation program affects each of these debt securities differently (for more information on Fitch’s recent GARVEE action, see “Fitch Revises Outlook to Negative on Stand-Alone GARVEE Bonds,” dated March 9, 2011). Securities backed by state and locally generated tax and revenue sources are largely unaffected by the increasing void at the federal level. Private concession debt backed by an availability payment stream is also somewhat removed from the issues at the federal level since state DOTs generally view such contracts as being similar to a long-term debt obligation. The story is different for transit systems that rely on formula-based and discretionary federal grants for capital investment and for GARVEE bonds, both of which depend on the federal gas tax and long-term federal surface transportation funding policy.

The significant role that federal funds play in most DOTs’ finances has made their current financial position more strained given the increasing uncertainty associated with this source of revenue. If the void continues it will begin to compromise state efforts to maintain and deliver a 21st century transportation system.

From a credit perspective, lenders secured by new or innovative pledges should look beyond traditional gross lien leverage tests to evaluate a DOTs’ overall level of financial flexibility and specifically identify the revenue stream that is available to pay the obligation. This payment stream is generally subordinate to capital markets debt of the DOT and often on parity with other pay as you go contractual obligations of the state. Understanding credit quality then requires not only sifting through the legal pledge but also the budgetary and administrative policies of the DOT, along with an understanding of what spending can realistically be deferred, if necessary, to meet contractual obligations such as guarantees or availability payments.

## Unsustainable Revenue and Expense Mismatch

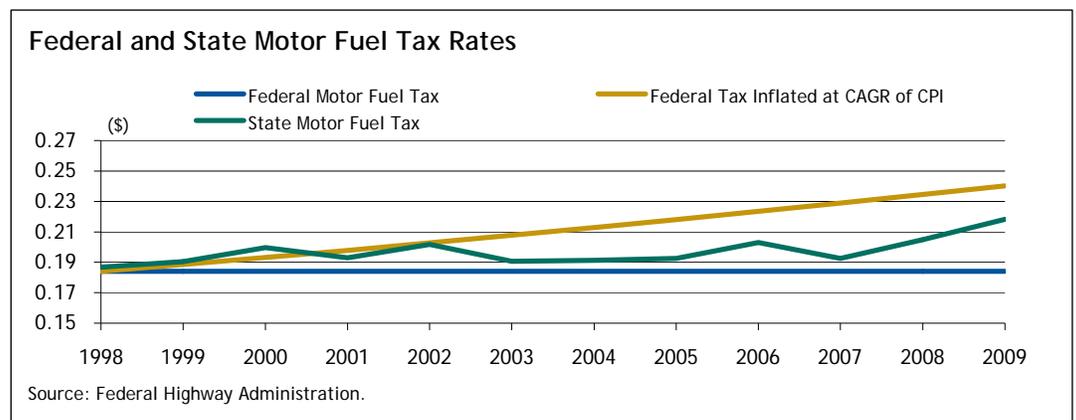
Receipts of the Federal Highway Trust Fund (HTF) generated by the 18.4 cent/gallon federal tax on gasoline have been flat to declining since 2007 following a spike in fuel prices and the impact of the recession, with 2010 receipts down 11% from the 2007 peak. Between 1998 and 2010 HTF receipts grew at a CAGR of about 2.3%, below the 2.5% CAGR in the U.S. Consumer Price Index over the same period. If the federal gas tax rate had been increased commensurately from 1998, receipts in 2010 could be nearly \$47 billion, a 34% increase over the \$34.9 billion actually collected (*see chart below*). Current expectations are that the federal program will only distribute what is

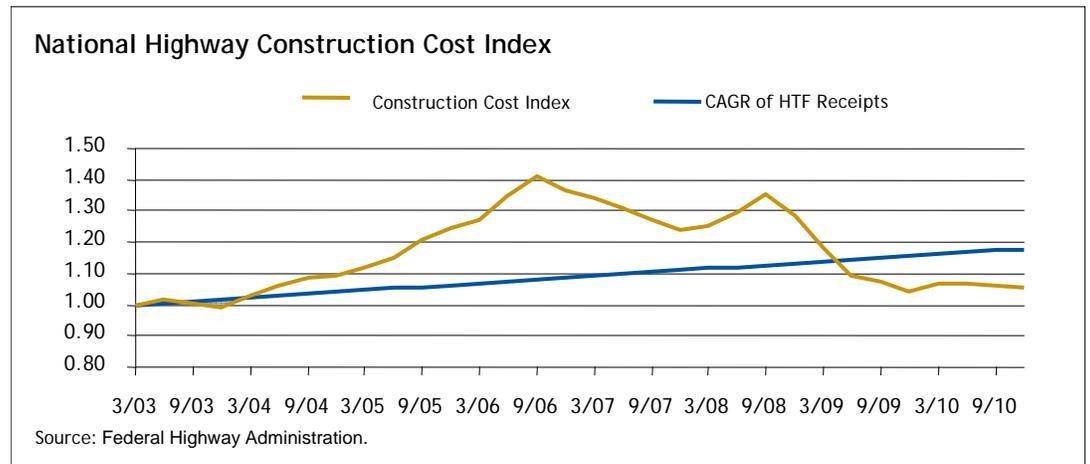


deposited in the HTF going forward without an increase in the tax rate. This will entail a reduction of approximately 15% to the program over a two- to three-year period since the current HTF balance will be drawn down, and result in an erosion of recently achieved highway performance metrics.

At the state level fuel taxes have been increased more frequently but the weighted average (weighted by consumption/state) is only modestly higher at 21.9 cents/gallon. It should be noted that in many states, new revenue sources have helped supplement slower growth in fuel tax revenue. Over time, this has reduced federal revenue as a percentage of total DOT resources (*see chart on page 1*). Although a number of states are proposing to increase their own fuel tax rate, significant political opposition remains. A proposed 3-cent increase in Connecticut was recently blocked, and in New Hampshire a short-term reduction in the tax rate has been proposed.

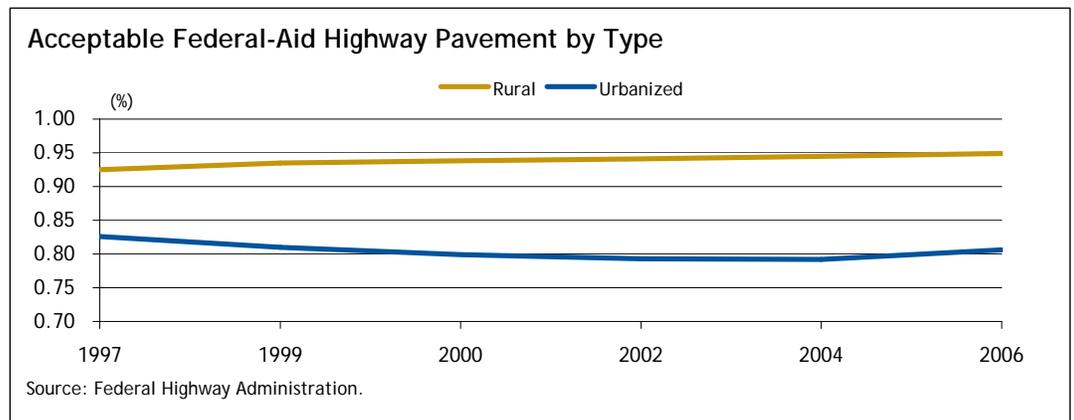
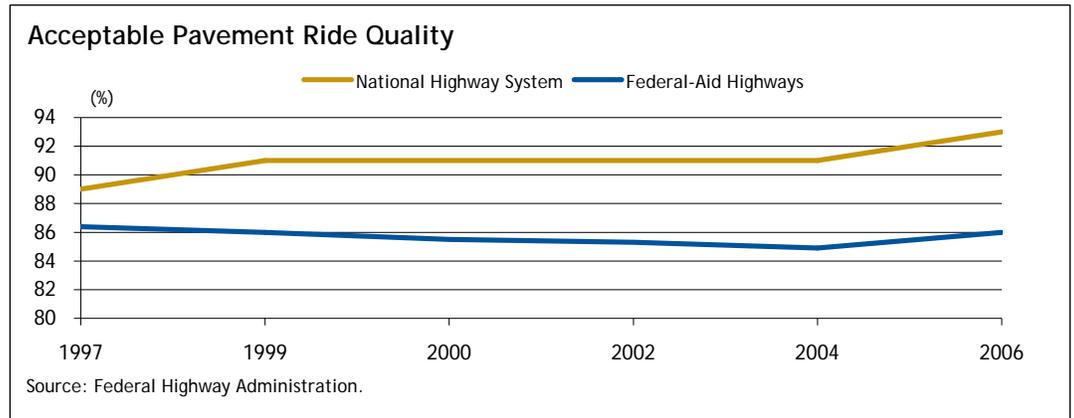
On the expense side, DOTs were hit with rapidly growing construction costs driven in part by the U.S. housing boom between 2003 and 2008, and also by rapid economic growth in Brazil, China, and India. Robust growth in these economies is expected to continue over the next few years, indicating higher cost growth is likely to return when the pace of U.S. economic growth picks up. This will be especially true if policymakers refocus on infrastructure improvement. In the interim, the significant economic pullback in the U.S. has put the National Highway Construction Cost Index back to 2004 levels. While DOTs are currently enjoying the benefit of lower costs, FHWA's previous index indicates that construction bid prices grew at a CAGR of 5.6% between 1995 and 2006, or 2.4x the CAGR in HTF receipts.





Another issue to consider is that areas of interstate highway system are now more than 50 years old as construction of the system began in 1956, and the segments added in the mid-70s and 80s are now 25–35 years old. This is the time frame when highways, even those that have been maintained at the highest standards, begin to require complete reconstruction. In most project financings, structural features require advance deposits from annual cash flow to cover estimated maintenance needs in the future. State DOTs on the other hand generally do not fund maintenance in this way. Rather, they determine what maintenance expenses are essential and often defer some or all of the remaining needs to preserve resources for new projects, which otherwise would have to be deferred. However, there is a practical limit to employing patchwork rehabilitation strategies to preserve some level of new project funding. On a net present value basis, this approach is also more expensive, providing small sums today at the cost of significant rehabilitation tomorrow. With critical maintenance needs looming and revenue falling far behind inflation, the current paradigm needs to be reevaluated.

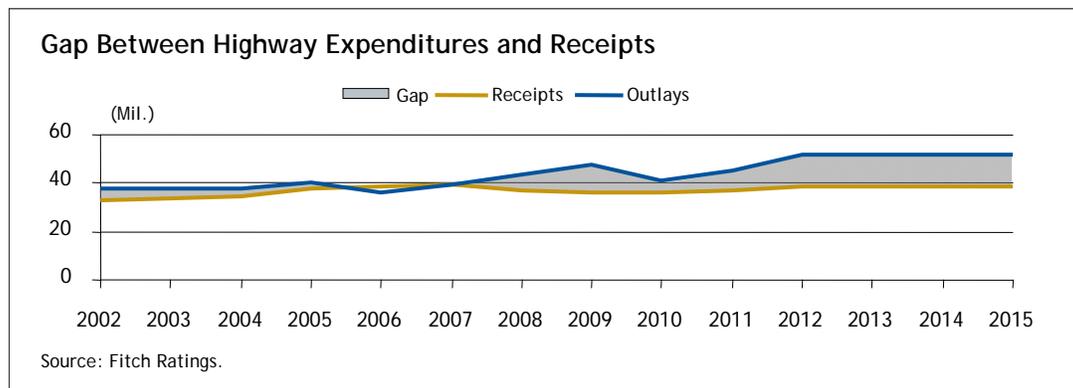
The “2008 Conditions and Performance Report,” which is the most recent issued by the U.S. DOT, presents a mixed picture of the system’s health. Overall, the National Highway System (NHS), which includes tolled roads, shows “acceptable” pavement ride quality increasing from 89% in 1997 to 93% in 2006, the last year in which data is available, with “good” quality coming in at 57% in 2006. Federal-aid highways show a lower level of performance as seen in the first chart on page 5, and only achieved a “good” rating on 47% of the system. Structurally deficient bridges have dropped from 18.1% in 1996 to 12.6% in 2006, reflecting the safety emphasis on these facilities. However, looking further at the data performance of urbanized Federal-aid highway pavement is actually declining compared with rural pavement, indicating that performance improvements may not be occurring where most travel occurs (*see the second chart on page 5*).



The report also highlights that congestion is worsening, albeit at a slower rate, with the average daily percentage of vehicle miles traveled under congested conditions increasing from 24.9% in 1997 to 28.7% in 2005. While the condition report overall could be viewed as positive, the improvements were essentially delivered by spending down the balance in the HTF through 2007 as annual receipts were much less than outlays. While stimulus funds provided via the American Reinvestment and Recovery Act will provide a short-term fix, improvements could quickly fall away absent an increase in revenue, be it from tolls or from state and/or federal gas taxes. The chart on page 6 highlights how the performance gains were funded and the gap that exists beyond federal fiscal 2011 if nothing is done.

Discussions with DOTs have led Fitch to conclude that there are increasingly less resources for needs beyond basic maintenance due to the structural imbalance outlined above. Absent any change, it is Fitch's view that even maintenance needs will be significantly strained in a few short years due to rapidly growing maintenance and rehabilitation costs associated with aging infrastructure, causing performance levels to worsen. Fitch sees signs that the vacuum of federal policy direction is leading some DOTs to take control of their own destiny through increased use of tolling and/or increased or new revenue streams and, as they do, they are confronting the question of sustainability.

Under a model where DOTs assert more control over their future and depend on internally generated resources for additional revenues, they will likely look for ways to reduce maintenance expense growth and avoid the overspending brought about by deferring maintenance until major rehabilitation is necessary. This should result in an increased focus on lifecycle costs analysis. Moving to a user-financed model brings more



attention to this often ignored part of programmatic responsibility, as drivers will want robust service and their toll dollars to stay local. The use of leverage also requires more discipline as lenders want to make sure the asset is as attractive to drivers as possible.

## Possible Options

An increase in federal revenues coupled with a plan for addressing maintenance and prioritizing system expansion is one possible outcome. From a policy perspective, the system could potentially benefit from a more coordinated policy. However, the gas tax is regressive and has proven that it doesn't keep pace with construction costs due in part to political resistance but also because the fleet of vehicles is becoming more fuel efficient. Such a bold federal step could also trigger a substitution of state funding. As a result, if a solution is found in the near term, the same problem could resurface a decade or two from now.

The federal government could decide to partially or completely devolve the program to the states. States would then need to replace the federal tax with their own, but also face the tough decision of increasing the overall rate further to generate a net increase of new revenue to bring the system up to par and maintain it adequately going forward. With this option, the central policy coordination may be lost but the redistribution of gas taxes from one state to another falls away. However, recurring problems may arise as elected officials will still need to raise tax revenue to keep pace with costs and state DOTs will still have to choose between maintenance and new projects.

Another option is for states to increasingly adopt a user pay model, with a public operating approach for established assets and an alternative funding mechanism such as a guarantee or public-private partnership to deliver new projects. This model separates the maintenance versus new project decision. While contentious, the ability to toll the interstates provides another means to ensure timely reinvestment in these critical assets while generating new revenues with manageable risk and also freeing up a significant share of DOT resources. However, there is no central policy direction and, like gas taxes, tolls are not very popular.

Another alternative is a vehicle miles traveled (VMT) tax that would be unaffected by fuel prices or fuel efficiency gains and would stay where collected. While a popular option, successful implementation of a VMT tax requires a long lead time given technological impediments.

Also, the concept of an infrastructure bank or simply increased funding through the Transportation Infrastructure Finance Innovation Act (TIFIA) program would supplement the options described above.

## Alternative Funding Mechanisms

While the introduction of tolls and fares can be controversial, the benefit of user financed surface transportation is that the users directly benefit from the toll or fare that they pay. Plus, by definition, self-supporting assets do just that: cover lifecycle costs with operating revenues. Under a user-pay paradigm, it is more difficult to divert operating revenues budgeted for lifecycle costs to a DOT's new program budget, particularly if there is project or system debt that needs to be serviced first. Self-supporting assets, particularly those subject to an indenture, can cross subsidize new projects, but only with residual revenue after covering lifecycle needs and debt service. Even if there is no cross subsidy provided, the removal of base operating and maintenance expenses from a DOT's budget can provide needed subsidy or essential capital to address needs elsewhere on the system, and put the framework on a more sustainable path. Recent legislation submitted by the U.S. DOT indicates that there may be increasing support for this approach since the legislation would allow for greater use of tolling on existing facilities.

An additional benefit is that under a tolling approach, DOTs can reduce or even eliminate the need to cover FHWA matching funds with precious cash as lifecycle costs funded with tolls act as a substitute, freeing up further resources to cover projects not supported with tolls. Moreover, a concession arrangement requires the asset to be handed over in a specified level of condition, one that would generally allow for the asset to be rebid and, thus, maintained for another 20–30 years at no additional cost to the DOT.

One thing all approaches have in common is increased revenue, be it in the form of a toll or a tax, which is exactly the reason federal officials find the solutions hard to adopt but there is no way around this. Current resources are insufficient to provide for adequate maintenance and expansion.

## Other Advances Help Spur Change

Technological advances can make the decision to implement alternative financing mechanisms more palatable for elected officials and DOTs alike. Drivers that take advantage of electronic tolling are less sensitive to toll increases than those paying in cash. Plus, the advent of all electronic tolling allows for a simpler and less costly conversion from a non-tolled facility to a tolled one. Further, electronic tolling methods allow toll rates to be changed in small increments on a regular basis, a process that is less political than the current one involving 30%–50% increases every five to 10 years, and affords DOTs the opportunity to manage travel demand through time of day pricing as opposed to adding highway miles. Raising any type of new revenue, toll or otherwise, is difficult. However, from an implementation perspective, the dramatically increased flexibility and relatively straightforward introduction of electronic tolling means that tolling free assets is an easier decision operationally and brings significant future flexibility.

Beyond technological advances, the re-emergence of private financing as an option in the U.S. has also spurred DOTs to reconsider the way they do business, from adopting design-build approaches that limit cost overruns and better allocate risks to recognizing that the assets they manage do have economic value that can be tapped. Also, the private approach has caused DOTs to consider lifecycle costs more thoroughly in their evaluation of public versus private financing of future projects. For an initial equity contribution, a DOT can get a project built and maintained for a 30- to 40-year period. When the asset is turned over, it will be in relatively good condition (pursuant to the requirements in the concession) and can possibly be re-let at no cost, including capacity enhancements. DOTs can utilize an availability payment structure in order to

retain revenue risk (both upside and downside) so as to manage the political considerations that go along with any decision to toll. Alternatively, the user finance approach allows the DOT to transfer the revenue risk, and the associated political risk of implementing toll increases, to the private sector through a concession, or to another public entity such as a regional toll authority or a public manager of a specific asset.

## Evidence of Devolution

Fitch is seeing evidence that DOTs are looking inward to finance the future as opposed to looking to the federal government for a solution. This can be seen in a number of states:

- Act 44 provides the Pennsylvania DOT with support in the form of an annual payment of \$450 million derived from the Pennsylvania Turnpike.
- The New Jersey Turnpike is expected to transfer more than \$1.3 billion to the New Jersey DOT over the next 10 years.
- The New Hampshire Turnpike purchased a section of I-95 from New Hampshire DOT to achieve the same end, removing operating expenses on a self-supporting asset and receiving an up front payment of \$50 million with another \$70 million payable over 18 years.
- The Texas DOT sponsored a number of toll projects through a concession method and has also agreed to provide a guarantee for the North Texas Tollway Authority's (NTTA) SH161 and Chisolm Trail toll road projects.
- California is utilizing an availability payment mechanism in its acquisition of the Presidio Parkway, retaining the right to toll the project in the future.
- Florida used this same approach in constructing managed lanes on I-595 and also the Port of Miami Tunnel where a private entity is building and managing the assets while the Florida DOT controls tolling decisions.
- The Port Authority of New York and New Jersey is expected to seek proposals for the replacement of the Goethals Bridge and several Midwestern states are evaluating the use of private sector participation to assist in the construction, operation, and financing of critical Mississippi and Missouri river bridge replacements.
- North Carolina is developing new projects as tolled facilities and is simultaneously pursuing public and private approaches.

## Implications for Lenders

There are many ways to fund road projects and maintenance. Given the difficult political environment, DOTs are more carefully evaluating all of the assets they manage to determine how best to cover the need for both future projects and lifecycle costs. Many are taking the necessary steps to adopt well thought out plans and carefully manage the implementation of that plan going forward. In the face of large funding challenges, Fitch believes that DOTs will increasingly utilize a combination of availability payment structures, pure user pay concessions and state guarantees to pay for new projects, allowing existing revenue streams to cover operating expenses and lifecycle needs associated with assets that require a subsidy.

For all states the repayment source for the availability payment, equity contribution under a concession, or DOT guarantee will come after the payment of existing gas tax or GARVEE bonds. It is also likely that the obligation will come after the payment of salaries and expenses and existing contracts, making it essentially a general obligation of the DOT. In addition to the DOTs' revenue sources and responsibilities, lenders need to carefully evaluate DOT managers as they are ultimately responsible for tending cash

flow and leverage and deciding who gets paid first. Lenders should also closely examine DOT criteria for selecting projects to backstop since not all assets are self-supporting, or essential from an economic standpoint, regardless of how rosy the traffic and revenue forecast may be. Poor project selection and minimal limits on extending guarantees could lead to higher than expected financial support and ultimately cut into the resources available to make availability or guarantee payments.

In Fitch's view, lenders should remain cautious as DOTs wade into the new paradigm of surface transportation funding and pay close attention to the nature of the pledge they are getting. In cases where the security is equivalent to a general obligation of the DOT with no priority of payment, there is the risk that DOT managers will add leverage that is senior or prioritize other requirements over contractual payments for guarantees and availability payments. Fitch notes that such a decision should not be made lightly as it would seriously constrain DOTs' ability to benefit from alternative financing arrangements going forward but this does need to be taken into consideration when lending funds.

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