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Infrastructure Banks and Debt Finance to Support Surface Transportation Investment

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Summary

Investment in surface transportation infrastructure is *funded* mainly with current receipts from taxes, tolls, and fares, but it is *financed* by public-sector borrowing and, in some cases, private borrowing and private equity investment. This report discusses current federal programs that support the use of debt finance and private investment to build and rebuild highways and public transportation. It also considers legislative options intended to encourage greater infrastructure financing in the future.

The federal government's largest source of support for surface transportation infrastructure is the highway trust fund (HTF), which is funded principally by taxes on gasoline and diesel fuel. Funds from the HTF are distributed to state governments and local transit agencies for projects meeting federal standards. State governments, local governments, and transit agencies must also contribute their own resources because grants from the HTF do not meet states' entire surface transportation capital needs. The federal government supports additional infrastructure spending by providing a tax exclusion for owners of municipal bonds, or "munis," issued by state and local governments. The federal government also supports project finance through loan programs, such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, which can help leverage private investment via public-private partnerships (P3s), and through federally authorized state infrastructure banks (SIBs).

All of these financing mechanisms impact the federal budget, although none are as costly as federal grant funding. With less federal support, financing places a greater burden on state and local governments to identify revenue sources to repay loans or to provide a return to private investors. In many cases, nonfederal revenue to finance a project is provided by a highway or bridge toll, but it could be a pledge of future sales tax or real estate tax revenue.

There are many legislative options that Congress might consider in modifying the federal role in surface transportation financing. This report considers five:

1. Creation of a new type of tax credit bond, such as the American Fast Forward Bonds.
2. More funding for the TIFIA program, which already has received enough applications to almost exhaust the budget authority made available for FY2013 and FY2014.
3. Greater encouragement for P3s, including creation of a federal office that could provide technical advice and consulting services and help develop the P3 market.
4. Creation of a national infrastructure bank (I-bank), an independent federal agency with financing and project expertise that would provide low-cost long-term loans on flexible terms.
5. Enhancement of SIBs that already exist in many states, possibly with dedicated federal funding.

Contents

Tables

Contacts

Introduction

Most spending on surface transportation infrastructure is done on a pay-as-you-go *funding* basis, meaning today's expenditures are derived from today's revenue sources such as taxes, tolls, and fares. Only a relatively small proportion is *financed* through public or private borrowing or private (equity) investment. Because government budgets at all levels are strained, however, there is great interest in financing highway and public transportation capital improvements. This is particularly true for very large and costly "mega-projects," such as major interstate highway bridges, which are difficult to construct on a pay-as-you-go basis. New York's planned $3.9 billion Tappan Zee Bridge replacement, for example, dwarfs the state's federal highway funding of about $1.6 billion a year, and approaches the state's typical annual highway capital spending of about $5.4 billion.[1] The toll bridge will be largely financed using municipal bonds and a federal loan.[2]

The federal government supports surface transportation infrastructure financing mainly by providing a tax preference for municipal bonds. Other mechanisms include federal loan programs, such as the Transportation Infrastructure Finance and Innovation Act (TIFIA) program, which can help leverage private investment via public-private partnerships (P3s), and federally authorized state infrastructure banks (SIBs). All have costs for the federal government, but, as this report explains, some have greater costs than others. Nevertheless, none are as costly as federal grant funding. This is because project financing relies more heavily on revenue streams created at the state or local level, revenue streams that are required for the repayment of loans or to provide a return to private investors. In many cases, revenue to finance a project has been provided by a highway or bridge toll, but it could be, among other possibilities, a pledge of future sales tax or real estate tax revenues.

This report outlines current federal programs that support the financing of surface transportation infrastructure investment and the relative impact these have on the federal budget. It goes on to discuss legislative options for modifying the federal role, including provisions related to tax credit bonds, dedicated federal funding for SIBs, and the creation of a national infrastructure bank.

[1] Federal highway funding: Federal Highway Administration, "Revised Apportionment of Federal-aid Highway Program Funds for Fiscal Year (FY) 2013," Notice N 4510.765, July 19, 2013, http://www.fhwa.dot.gov/legsregs/directives/notices/n4510765/. For New York highway capital spending, see Federal Highway Administration, *Highway Statistics, 2011*, Table HF-2, http://www.fhwa.dot.gov/policyinformation/statistics/2011/.

[2] Freeman Klopott and Brian Chappatta, "N.Y. Thruway Pays Least as Tappan Zee Loan Prepared: Muni Credit," *Bloomberg*, September 5, 2013, http://www.bloomberg.com/news/2013-09-05/n-y-thruway-pays-least-as-tappan-zee-loan-prepared-muni-credit.html.

Paying for Surface Transportation Infrastructure

Surface transportation infrastructure, the focus of this report, includes the 4-million-mile highway system, as well as more than 70 rail transit systems and 1,200 public bus systems.[3] Public-sector spending on this infrastructure totaled nearly $240 billion in 2011, the latest year for which data are available (**Table 1**), in addition to an unknown amount of private investment. Roughly three-quarters of the $240 billion was spent on highways and one-quarter on public transportation. The public-sector spending was evenly divided between capital investments such as land acquisition, construction, resurfacing of highways, and purchase of transit vehicles, and operations and maintenance (O&M), including such items as highway maintenance and law enforcement, transit vehicle operation, and administration. Capital costs were more than half of total highway expenditures and about one-third of public transportation expenditures.

Table 1. Surface Transportation Infrastructure Expenditures, 2011

	Highways[a]		Public Transportation		Total	
	Percent	Million $	Percent	Million $	Percent	Million $
Capital	55.9	$101,612	30.8	$17,057	50.0	$118,669
Operations and maintenance	44.1	80,275	69.2	38,362	50.0	118,637
Total	**100.0**	**181,887**	**100.0**	**55,419**	**100.0**	**237,306**

Sources: Federal Highway Administration, *Highway Statistics 2011,* HF-10; American Public Transportation Association, Public Transportation Fact Book, 2013, Appendix A, Historical Tables, Tables, 65 and 70, http://www.apta.com/resources/statistics/Pages/transitstats.aspx.

a. Does not include interest on debt ($10.8 billion in 2011) and bond retirement ($13.7 billion in 2011).

About half of all receipts for highway expenditures are generated by state governments, about $105 billion in 2011, with local governments generating 30%. The remainder comes from federal aid. Most highway spending is done on a pay-as-you-go basis, with a large majority of the revenue coming either from user fees, such as fuel taxes and tolls, or from general funds (**Table 2**). Bond issuance, excluding short-term notes and refundings, raised only about 13% of the total revenue collected for highway purposes in 2011. These bonds were issued mainly by state agencies, with local governments accounting for 31% of issuance.

[3] Federal Highway Administration, *Highway Statistics 2011*, Table HM-220; American Public Transportation Association, *Public Transportation Fact Book, 2012*, Washington, DC, Table 1, http://www.apta.com/resources/statistics/Documents/FactBook/APTA_2012_Fact%20Book.pdf.

Table 2. Revenues Used for Highways by Collecting Agency, 2011

	Federal		State		Local		Total	
	%	Million $	%	Million $	%	Million $	%	Million $
Highway user revenues	71.6	$28,056	59.9	$62,570	7.4	$4,512	46.4	$95,138
Motor-fuel and vehicle taxes	71.6	28,056	52.1	54,417	4.4	2,684	41.6	85,157
Tolls	0.0	—	7.8	8,153	3.0	1,828	4.9	9,981
Other taxes and fees	28.3	11,067	14.2	14,884	67.0	41,017	32.7	66,968
Property taxes and assessments	0.0	—	0.0	—	16.0	9,808	4.8	9,808
General fund appropriations	27.3	10,681	5.9	6,215	42.0	25,715	20.8	42,611
Other taxes and fees	1,0	386	8.3	8,669	9.0	5,495	7.1	14,550
Investment income and other receipts	0.1	38	8.2	8,528	11.7	7,188	7.7	15,754
Bond issue proceeds	0.0	—	17.7	18,553	13.9	8.525	13.2	27,078
Total receipts	100.0	39,161	100.0	104,536	100.0	61,242	100.0	204,939

Source: Federal Highway Administration, *Highway Statistics 2011*. Table HF-10.

Note: About $1.5 billion was drawn from reserves in 2011, providing $206 billion available for expenditure. The $206 billion in expenditures comprises disbursements for capital, operations and maintenance, administration and research, highway law enforcement and safety, interest on debt, and bond retirement.

Like spending on highways, spending on public transportation is mostly done on a pay-as-you-go basis. The major sources of funds are passenger fares, dedicated taxes, particularly sales and fuel taxes, and general funds.[4] Although there is little information on bond issuance or private investment in public transportation, data published by the U.S. Department of Transportation (DOT) indicate that bond issuance amounted to about $4 billion in 2009, about 7% of funds generated in that year. Local government provided the most support, followed by passenger fares and other operating income, state government, and the federal government (**Table 3**).[5]

[4] U.S. Department of Transportation, *Conditions and Performance Report, 2010*, Washington, DC, exhibit 6-17, https://www.fhwa.dot.gov/policy/2010cpr/pdfs/chap6.pdf.

[5] U.S. Department of Transportation, Research and Innovative Technology Administration, Bureau of Transportation Statistics, *Government Transportation Financial Statistics*, Table 17a, http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/government_transportation_financial_statistics/2012/pdf/entire.pdf.

Table 3. Public Transportation Revenue Sources, 2011

Source	%	Million $
Transit agency funds	26.9	15,602
Passenger fares	23.4	13,558
Other earnings	3.5	2,044
Government funds	73.1	42,392
Local government	32.5	18,870
Directly generated	11.5	6,685
General funds	21.0	12,185
State government	21.1	12,247
Federal government	19.4	11,274
Total	**100.0**	**57,993**

Source: American Public Transportation Association, Public Transportation Fact Book, 2013, Appendix A, Historical Tables, Table 92, http://www.apta.com/resources/statistics/Pages/transitstats.aspx.

Financing Infrastructure Investment

Although less than one-fifth of surface transportation infrastructure expenditures are financed rather than being paid from current revenues, financing mechanisms are extremely important for large projects and, in some cases, are routinely part of state and local transportation budgets. Financing is normally not arranged at the federal level, as the federal government builds few transportation projects directly. Most state and local government budget rules require that debt financing only be for capital investment, not O&M. These general principles, however, have numerous exceptions not only across states but also across all government entities tasked with providing infrastructure.[6]

Municipal Bonds

"Municipal bonds" is a broad reference to a class of debt instruments that receive preferential income tax treatment. Generally, the interest on municipal bonds is excluded from federal income taxes, both individual and corporate. This tax preference for public purpose bonds is estimated to reduce federal revenues by $34.4 billion in FY2014 and $202.5 billion over the FY2014-FY2018 budget window.[7] Federal law allows for several variants of municipal bonds, not all of which can be used for surface transportation purposes.

Municipal bonds issued for transportation represent a significant share of total annual issuance. In calendar 2012, $55.3 billion was issued for transportation projects, including not only highways

[6] For more on budgeting for capital investment, see National Association of State Budget Officers, "Capital Budgeting in the States," November 1999, available at http://www.nasbo.org/sites/default/files/CapitalBudgeting1999.pdf.

[7] Office of Management and Budget, FY2014 Budget, *Supplemental Materials: The Tax Expenditure Budget, Table 16-1*, April 10, 2013. The Build America Bond program also generates what are identified as outlays in the budget. Almost all the bonds issued under the BAB program are considered public purpose and they produce outlays of approximately $3.2 billion annually. The outlay scoring is described later in this section.

and public transportation, but also airports, bridges, tunnels, seaports, and parking facilities.[8] Most of this financing was traditional governmental bonds backed by either a specific revenue stream or as a general obligation of the issuing entity.

Municipal bonds issued for transportation and secured by revenue generated by the project financed with the bonds, such as a toll or user fee, would be considered private activity bonds in most cases. Congress has approved limited use of tax-exempt private activity bonds for selected transportation projects as outlined in section 142 of the Internal Revenue Code (IRC). These include airports, docks and wharves, mass commuting facilities, high-speed intercity rail facilities, and qualified highway or surface freight transfer facilities. The Secretary of Transportation must approve the use of PABs for qualified highway or surface freight transfer facilities and the aggregate amount allocated must not exceed $15 billion. As of August 9, 2013, $7.8 billion of the $15 billion had been allocated (**Table 4**).

Because qualified private activity bonds are dependent on the success of the project for bond repayment, they have a greater level of default risk than general obligation bonds. Bonds that carry more risk compensate the investor for that risk through higher interest rates. Thus, the interest rates issuers must pay on qualified private activity bonds are generally higher than those on general obligation bonds. In many cases, users of the project will pay for the additional cost.

Municipal bonds cause a loss in general economic welfare, because the amount of the reduction in federal revenue exceeds the benefit conferred on the issuer.[9] The holder of a tax-exempt bond receives a benefit equal to the amount of the interest payment multiplied by the holder's marginal tax rate. For example, an individual in the top bracket of 39.6% receives a tax benefit of $39.60 for every $100 in interest received. The issuer benefit is the difference between the taxable interest rate and the tax-exempt interest rate. On November 1, 2013, the yield on A-rated tax-exempt bonds with a 10-year maturity was 2.81% and the yield on A-rated corporate bonds with a 10-year maturity was 3.71%.[10] Thus, an A-rated issuer of $1 million of tax-exempt bonds would face an annual payment of $28,100, versus $37,100 if the bonds were taxable. The issuer is receiving an annual saving of $9,000, whereas a top-bracket investor in the bonds benefits from a much greater $14,691.60 annual reduction in tax liability ($37,100 x 39.6%).

[8] Thomson-Reuters, *Decade of Bond Finance*, data as of July 9, 2013.

[9] Sammartino, Frank, Congressional Budget Office, "Federal Support for State and Local Governments Through the Tax Code," Testimony for Senate Finance Committee Hearing, April 25, 2012.

[10] See http://www.bondsonline.com/Todays_Market/Composite_Bond_Yields_table.php, accessed November 4, 2013.

Table 4. Private Activity Bonds Allocated by the Secretary of Transportation for Qualified Highway or Surface Freight Transfer Facilities

As of August 9, 2013

Project	PAB Allocation ($ thousands)
Total Allocated	$7,804,487
Bonds Issued	$3,831,292
Capital Beltway HOT Lanes, VA	$589,000
North Tarrant Expressway, TX	$400,000
IH 635 (LBJ Freeway), TX	$615,000
RTD Eagle Project, Denver, CO	$397,835
CenterPoint Intermodal Center, Joliet, IL	$150,000
CenterPoint Intermodal Center, Joliet, IL	$75,000
Downtown Tunnel/Midtown Tunnel, Norfolk, VA	$675,004
I-95 HOT/HOV Project, VA	$252,648
East End Crossing, Ohio River Bridges, KY-IL	$676,805
Bonds Not Issued	$3,973,195
Knik Arm Crossing, AK	$600,000
CenterPoint Intermodal Center, Joliet, IL	$700,000
CenterPoint Intermodal Center, Kansas City, MO	$475,000
U.S.36 Managed Lanes/BRT Phase 2, CO	$100,000
East End Crossing, Ohio River Bridges, IN	$98,195
Goethals Bridge, NY	$1,200,000
North Tarrant Expressway, TX	$450,000
I-77 Managed Lanes, NC	$350,000

Source: Federal Highway Administration, "Private Activity Bonds," http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/private_activity_bonds/index.htm.

Tax Credit Bonds

In addition to traditional municipal bonds, state and local governments may issue tax-favored "tax credit bonds" (TCBs).[11] TCBs take one of two forms: (1) investor credit or (2) issuer credit (direct payment). TCBs were first issued in the form of Qualified Zone Academy Bonds (QZABs), which were created by Taxpayer Relief Act of 1997 (TRA 1997; P.L. 105-34) for school districts to use for school renovation (not including new construction), equipment, teacher training, and course materials. The school district is required to partner with a private entity that contributes 10% of bond proceeds for the project.[12] Build America Bonds (BABs) were created by the

[11] For more, see CRS Report R40523, *Tax Credit Bonds: Overview and Analysis*, by (name redacted).

[12] 26 U.S.C. 54E(d)(1)(A). The private entity must donate an amount equivalent to 10% of the bond proceeds. Services of employees as volunteer mentors would satisfy the 10% private partnership requirement.

American Recovery and Reinvestment Act of 2009 (ARRA; P.L. 111-5) and could be used for any type of capital investment. Approximately $40 billion of BAB proceeds (or roughly 22% of total issuance) was used for transportation projects before the legal authorization to issue such bonds expired on December 31, 2010.[13]

QZABs featured an investor credit only. The credit was intended to be set equal to 100% of the interest costs. In contrast, BABs featured the direct pay option in addition to the investor credit option and the credit rate was set at 35%.

Investor Credit

For QZABs with a 100% credit for investors, the method for determining the tax credit rate is the responsibility of the Secretary of the Treasury. The credit rate for investor credit TCBs is set higher than the municipal bond rate to compensate for the credit's taxability noted earlier. Generally, to attract investors, the credit rate should yield a return greater than the prevailing municipal bond rate and at least equal to the after-tax rate for corporate bonds of similar maturity and risk. Importantly, however, the investor must evaluate the potential that in any given year, there may not be a tax liability for the credit offset. This additional risk reduces the value of the credit. Entities without US income tax liability, such as US pension funds and certain international investors, would find the investor tax credit of little value.

For issuers of investor tax credit bonds, the interest cost should be less than, or at least equal to, the next best financing alternative. In almost all cases, tax-exempt bonds would be the next best alternative for governmental issuers. For 100% tax credit bonds like QZABs, where the federal government is effectively paying all of the interest for the issuer, there is no question that the tax credit bond has a lower interest cost for issuers than does tax-exempt bonds. As the credit rate drops the issuer incurs a greater share of the interest cost.

Direct-Pay Bonds

The direct-pay tax credit bond model was first made available with BABs. In contrast to the earlier versions of tax credit bonds with only the investor credit option, BABs offered issuers the option of receiving the tax credit directly (or direct payment) from Treasury rather than offering the credit to investors. BAB issuers all chose the direct payment over the investor credit.

As long as the marginal tax rate that cleared the municipal bond market was lower than the credit rate on BABs of 35%, then municipal issuers would likely have chosen the BAB option. However, when the market clearing marginal tax rate rose, the alternative to BABs, traditional tax-exempt bonds, became relatively more attractive to issuers and investors alike.[14] The increase of marginal tax rates with enactment of the American Taxpayer Relief Act of 2012 (P.L. 112-240), reduced the attractiveness of BABs relative to traditional tax-exempt bonds.

[13] Thomson-Reuters, *The Bond Buyer 2013 Yearbook*, Spring 2013.

[14] Researchers have determined that the federal government subsidy for BABs "… disadvantages individual U.S. taxpayers, who are the main holders of municipal bonds, and benefits new entrants in the municipal bond market." New entrants would include international investors and pension funds. See Ang, Andrew, Vineer Bhansali, and Yuhan Xing, "Build America Bonds," *National Bureau of Economic Research, Working Paper 16008*, May 2010.

The implementation of the sequester for FY2013, as provided for in the Budget Control Act of 2011 (P.L. 112-25), further diminished the value of the direct pay BABs. Under the interpretation of the Office of Management and Budget (OMB), the payments were reduced 7.6% for all direct pay bonds in FY2013.[15]

The BAB, in cases where the issuer claims the direct payment, was modeled after the "taxable bond option," which was first considered in the late 1960s. In 1976, the following was posited by the then president of the Federal Reserve Bank in Boston, Frank E. Morris:

> The taxable bond option is a tool to improve the efficiency of our financial markets and, at the same time, to reduce substantially the element of inequity in our income tax system which stems from tax exemption [on municipal bonds]. It will reduce the interest costs on municipal borrowings, but the benefits will accrue proportionally as much to cities with strong credit ratings as to those with serious financial problems.[16]

A U.S. Treasury Department report on BABs estimated that through March of 2010, the bonds had saved municipal issuers roughly $12 billion in interest costs. Not long after creation of the direct pay model for BABs, Congress expanded the direct payment option beyond BABs to include issuers of "new" CREBs, QECBs, QZABs, and QSCBs. The taxable bond option has been well received by issuers and investors. The Securities Industry Financial Markets Association (SIFMA) reports that through 2010, almost $181.4 billion in BABs were issued.[17]

Grant Anticipation Bonds

Grant anticipation bonds are tax-exempt securities issued by state and local agencies and backed by federal grants expected to be received in the future. The best-known variant is the Grant Anticipation Revenue Vehicle (GARVEE) bond, backed by a pledge of future federal highway apportionments. Similar bonds, known as Grant Anticipation Notes (GANs), may be backed by a pledge of future federal public transportation apportionments or by anticipated discretionary funding such as New Starts grants to build rail transit lines. In 2012, almost $2 billion of GARVEE bonds were issued by the states.[18]

Private Financing via Public-Private Partnerships (P3s)

Private investment in surface transportation projects can be obtained by a involving a private entity that borrows money from banks, issues bonds, and/or provides equity investment. Because of the costs of putting together such deals, private financing tends to be more suitable for large and costly projects rather than smaller, more routine ones. The public sector often retains a significant role in projects involving private finance, including a public funding or financing

[15] See the OMB Report Pursuant to the Sequestration Transparency Act of 2012 (P.L. 112-155), available at http://democrats.budget.house.gov/sites/democrats.budget.house.gov/files/stareport.pdf.

[16] Morris, Frank E., "The Taxable Bond Option," *National Tax Journal*, vol. 29, no. 3, September 1976, p. 356.

[17] The data are available at http://www.sifma.org/research/statistics.aspx.

[18] Federal Highway Administration, "Grant Anticipation Revenue Vehicles (GARVEEs)" website, http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/garvees/garvee_state_by_state.htm.

component. Private investments, therefore, are usually made in the context of a contractual arrangement with the public sector known as a public-private partnership, or "P3."[19]

In general, P3s involve greater private sector responsibility for projects tasks than in the traditional model of project delivery, in which private companies bid for separate planning, design, or construction contracts offered by the public sector. Most P3s in surface transportation have been of the design-build variety in which project design and construction are combined into a single contract. Some involve more complicated design-build-finance-operate-maintain contracts, in which the private entity receives a concession to operate the project and collects fees from users for a specified period following the completion of construction.

Only a few P3s have involved long-term private financing. According to one study, from 1989 through early 2011 there were 96 transportation P3s worth a total of $54.3 billion in the United States. Of these, 11 projects, built at a total cost of $12.4 billion, included a long-term private financing component.[20]

To be viable, P3s involving private financing typically require an anticipated project-related revenue stream from a source such as vehicle tolls, container fees, or, in the case of transit station development, building rents. In some cases, private-sector financing is backed by "availability payments," regular payments made by government to the private entity based on negotiated quality and performance standards.[21] Private-sector resources may come from an initial payment to lease an existing asset in exchange for future revenue, as with the Indiana Toll Road and Chicago Skyway, or they may arise from a newly developed asset that creates a new revenue stream. Either way, a facility user fee is often the key to unlocking private-sector participation and resources.

As noted above, P3s delivering new assets involving private financing have typically been large-scale projects of regional or national scope that rely on public funding and financing in addition to private financing. One example is the $2 billion I-495 High-Occupancy Toll Lanes project that opened for traffic on the Washington beltway in November 2012. Delivered by a P3 between Capital Beltway Express, LLC (a joint venture of Fluor and Transurban), and the Virginia Department of Transportation, the project included about $380 million in private equity and $589 million in private activity bonds, but also a $589 million federal TIFIA loan and almost $500 million in state funding (**Table 5**).

[19] For more information, see CRS Report RL34567, *Public-Private Partnerships (PPPs) in Highway and Transit Infrastructure Provision*, by (name redacted).

[20] William Reinhardt, *The Role of Private Investment in Meeting U.S. Transportation Infrastructure Needs*, The American Road & Transportation Builders Association Transportation Development Foundation, Washington, DC, May 2011, http://www.artba.org/mediafiles/transportationp3whitepaper.pdf.

[21] Major improvements to I-595 near Fort Lauderdale, FL, are being made by a private company that will design, build, finance, operate, and maintain the facility for 35 years with availability payments made by the Florida Department of Transportation (FDOT). Toll rates on the new express lanes will be set by FDOT, and revenue collected will be retained by the state. See Florida Department of Transportation, *I-595 Improvements, District 4, Project Overview*, November 1, 2012, http://www.i-595.com/documents/PressRoom/Newsletters/Archived-Overviews/2012-11-01_I-595_Project_Summary.pdf.

Table 5. Sources of Funds for Virginia I-495 High-Occupancy Toll (HOT) Lanes

Source of Funding	Million $
Private activity bonds	$589
TIFIA loan	589
Commonwealth of Virginia grant	409
Private equity	348
VDOT change-order funding	86
Interest income	47
Total cost	2,068

Source: Federal Highway Administration, "TIFIA Project Profiles," http://www.fhwa.dot.gov/ipd/project_profiles/va_capital_beltway.htm.

The "public" in public-private partnerships typically refers to a state government, local government, or transit agency. The federal government, nevertheless, exerts influence over the prevalence and structure of P3s through its transportation programs, funding, and regulatory oversight. Probably the main way in which the federal government has encouraged P3s and private financing is through the TIFIA program, which was greatly enlarged in the 2012 surface transportation reauthorization, the Moving Ahead for Progress in the 21st Century Act (MAP-21; P.L. 112-141). MAP-21 also included other provisions to enhance P3s (§1534). These included requiring the U.S. Department of Transportation (DOT) to compile and make available best practices in the use of P3s and to develop standard P3 model contracts. MAP-21 also allows DOT to provide technical assistance on P3 agreements.

One of the purported advantages of P3s is risk transference from the public agency to the private partner. The many different types of risks in the development and operation of infrastructure include the risk that construction and maintenance will cost more than planned and, with toll facilities, the risk that there will be less demand, and thus revenue, than estimated.[22] Transferring these and other risks to the private sector is not necessarily a money saver, as the private partner will require compensation for assuming them, but it provides greater certainty for the public sector. However, not all the risks can or should be shifted to the private sector. As the Government Accountability Office points out, a major risk associated with transportation infrastructure projects that the private sector is unlikely to be able to accept is the delay and uncertainty associated with the environmental review process.[23]

Detractors argue that, at least in some cases, the transfer of risk in a P3 may prove illusory as major miscalculations may force the public sector to renegotiate the P3 contract or to assume project ownership.[24] Difficulties with the 40-mile extension of SH-130 near Austin, TX, opened in October 2012, financed and built by a P3 between the Texas Department of Transportation (TxDOT) and a private partner, illustrate the point. The toll road has had much lower traffic

[22] Federal Highway Administration, "Typical PPP Risk Allocation," http://www.fhwa.dot.gov/ipd/pdfs/faq_3.pdf.

[23] Government Accountability Office, Highway Public-Private Partnerships: More Rigorous Up-front Analysis Could Better Secure Potential Benefits and Protect the Public Interest, GAO-08-44, Washington, DC, February 2008, http://www.gao.gov/assets/280/272041.pdf.

[24] Engel, E., R. Fischer, and A. Galetovic, "Privatizing Highways in the United States," *Review of Industrial Organization*, 2006, Vol. 29, pp. 27-53.

volumes than forecast and, therefore, is generating much less revenue than the concessionaire needs in order to repay its loans. In March 2013, in an effort to get more trucks to use the toll road, the state decided to subsidize the toll for trucks for one year. TxDOT is paying the concessionaire $6 million as compensation for lost revenue.[25] In October 2013, the project's debt was substantially downgraded and a rating agency stated the concessionaire is at risk of defaulting in 2014. This may force the state to terminate the concession and take full responsibility for the road. These problems also imperil a $430 million federal loan to the project.[26]

Federal Loan Programs

There are several federal loan programs for surface transportation infrastructure. This section discusses the TIFIA program and the Railroad Rehabilitation and Improvement Financing (RRIF) program. Not discussed are Section 129 loans, which allow states to lend apportioned federal highway funding to support a project with a dedicated revenue stream (23 U.S.C. §129(a)(8)). According to the Federal Highway Administration (FHWA), Section 129 loans have been used to finance two projects.[27] One reason for this limited use may be that TIFIA provides a separate funding source for loans to similar types of projects.[28]

Transportation Infrastructure Finance and Innovation Act (TIFIA)

TIFIA, enacted in 1998 as part of the Transportation Equity Act for the 21st Century (TEA-21),[29] provides federal credit assistance in the form of secured loans, loan guarantees, and lines of credit for construction of surface transportation projects. Loans and loan guarantees can be provided up to a maximum of 49% of project costs; lines of credit can be for an amount up to a maximum of 33% of project costs. Projects eligible for TIFIA assistance include highways and bridges, public transportation, intercity passenger bus and rail, intermodal connectors, and intermodal freight facilities. As of August 26, 2013, according to FHWA, TIFIA had provided assistance of $11.3 billion to 34 projects. The overall cost of the projects supported is estimated to be $44.7 billion.[30]

Several features of TIFIA financing make it attractive to project sponsors, including private-sector partners. Federal credit assistance provides funds at a low fixed rate (the Treasury rate for a similar maturity). Loans are available for up to 35 years from the date of substantial completion, repayments can be deferred for up to five years after substantial completion, and amortization can be flexible. TIFIA financing is also available with a senior or subordinate lien, but is typically used as subordinate debt meaning it is in line to be repaid after the project operational expenses and senior debt obligations. However, the TIFIA statute includes a provision which requires that in the event of a project bankruptcy, the federal government will be made equal with senior debt

[25] *Public Works Financing*, "SH 130 Liquidity Alarm," March 2013, p. 22.

[26] *Tollroads News*, "At Year 1 TX130/5&6 has very little traffic (ADT<6k), revenues low, Moody's thinks may default mid-2014," October 22, 2013, http://www.tollroadsnews.com/node/6791.

[27] Federal Highway Administration, "Section 129 Loans: Activity to Date," http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_credit_assistance/section_129/activity_to_date.htm.

[28] For more information see Federal Highway Administration, *Innovative Finance Primer*, Washington, DC, May 2002, p. 21, http://www.fhwa.dot.gov/innovativefinance/ifp/ifprimer.pdf.

[29] 23 U.S.C. §601 et seq.

[30] Federal Highway Administration, "TIFIA Portfolio," http://www.fhwa.dot.gov/ipd/tifia/projects_project_profiles/.

holders. This is referred to as the "springing lien" and has led some to ask whether TIFIA financing is truly subordinate. The springing lien issue notwithstanding, TIFIA financing is generally thought to lower project risk, thereby helping to secure private financing at rates lower than would otherwise be possible.

There are a number of eligibility criteria for TIFIA assistance. One of the key eligibility criteria is creditworthiness. To be eligible, a project's senior debt obligations and the borrower's ability to repay the federal credit instrument must receive investment-grade ratings from at least one nationally recognized credit rating agency. The TIFIA assistance must also be determined to have several beneficial effects: fostering a public-private partnership, if appropriate; enabling the project to proceed more quickly; and reducing the contribution of federal grant funding. Other eligibility criteria include a threshold project cost of $50 million ($25 million for rural infrastructure projects and $15 million for intelligent transportation system projects),[31] satisfying planning and environmental review requirements, and being ready to contract out construction within 90 days after the obligation of assistance. One further eligibility requirement is that loans must be repaid with a dedicated revenue stream, typically a project-related user fee but sometimes dedicated tax revenue. **Table 6** provides examples of projects that have received a TIFIA loan and the primary means by which the loan is to be repaid.

Table 6. Selected TIFIA-Assisted Projects

Project	Project Type	TIFIA Loan Amount (Million $)	Primary Revenue Pledge
I-495 Capital Beltway HOT Lanes (Virginia)	Highway	$589	Facility tolls
I-595 Corridor Roadway Improvements (Florida)	Highway	603	Availability payments
Denver Union Station Projects (Colorado)	Intermodal	146	Sales tax/real estate increment tax
SR 520 Floating Bridge (Washington)	Highway	300	Facility tolls
Dallas Area Rapid Transit Project Orange Line Extension (Texas)	Transit	120	Sales tax revenue

Source: Federal Highway Administration, "TIFIA Credit Program Overview," Updated June 2013, http://www.fhwa.dot.gov/ipd/pdfs/tifia/bkgrnd_slides_june_2013.pdf.

Limiting the federal share of project costs, encouraging private finance, and insisting on creditworthiness standards are ways in which the program attempts to rely on market discipline to reduce and limit the federal government's exposure to losses.

Another advantage from the federal point of view is that a relatively small amount of budget authority can be leveraged into a large amount of loan capacity. Because the government expects its loans to be repaid, an appropriation need only cover administrative costs and the subsidy cost

[31] The law also provides eligibility for projects whose total expected costs are 33.3% of the amount of federal highway assistance apportioned in the most recent fiscal year to the state in which the project is located.

of credit assistance. According to the Federal Credit Reform Act of 1990 (§502 5A), the subsidy cost is "the estimated long-term cost to the government of a direct loan or a loan guarantee, calculated on a net present value basis, excluding administrative costs." A typical rule of thumb is that the average subsidy cost of a loan is 10%, meaning that $1 million of budget authority can provide $10 million of loan capacity. MAP-21 greatly enlarged TIFIA by increasing its funding from $122 million annually to $750 million in FY2013 and $1 billion in FY2014. DOT estimates that after administrative costs and application of the obligation limitation it will have about $1.6 billion in total for credit subsidy support in FY2013 and FY2014.[32] Assuming an average subsidy cost of 10%, this provides DOT with the capacity to lend about $16 billion.

Railroad Rehabilitation and Improvement Financing (RRIF) Program

Federal credit assistance is also available for railroads through the Railroad Rehabilitation and Improvement Financing (RRIF) Program. Financial assistance to railroads dates back to 1976, but the RRIF was established in TEA-21 and subsequently expanded with modification in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA; P.L. 109-59, 45 U.S.C. §821 et seq.). The Federal Railroad Administration (FRA) is authorized to provide loans and loan guarantees up to a total of $35 billion of unpaid principal, with $7 billion reserved for freight projects benefitting railroads other than the large Class I railroads. Direct loans can be up to 100% of a project's cost and for a maximum term of 35 years. Interest is charged at the U.S. Treasury rate of a similar maturity. Eligible borrowers are state and local governments, government-sponsored authorities and corporations, railroads, joint ventures that include at least one railroad, freight rail shippers served by one railroad wanting to connect a facility to a second railroad, and interstate compacts. Eligible projects include buying or improving rail facilities and equipment, refinancing debt for such purposes, and developing new rail or intermodal facilities. Operating expenses are not an eligible purpose.

The RRIF does not receive an appropriation from Congress, but allows project sponsors to pay the subsidy cost (termed the credit risk premium in RRIF). FRA evaluates applications for RRIF assistance by eligibility and the ability to repay a loan in terms of the applicant's creditworthiness and the value of collateral offered to secure the loan. These factors determine the credit risk premium that must be paid.[33]

Since TEA-21, there have been 33 loan agreements totaling $1.7 billion. Loans have ranged in size from $563 million, made to Amtrak in 2011, to $56,000, made in 2011 to C&J Railroad. Most loans have been made to Class II and Class III freight operators that are unable to get loans with comparable interest rates in the private market. Loans are typically at the lower end of the range. The mean size of a loan is $52 million, but the median is $17 million.

In the last few years there has been greater interest in the RRIF program from less traditional borrowers, namely sponsors of proposed privately owned and operated high speed passenger rail projects. Federal financing of these sorts of projects may be more risky than usual because the applicants are seeking much larger amounts of money, the projects involve developing new

[32] Department of Transportation, "TIFIA FAQs," July 2013, http://www.fhwa.dot.gov/ipd/tifia/faqs/index.htm.

[33] Federal Railroad Administration, "Notice Regarding Consideration and Processing of Applications for Financial Assistance Under the Railroad Rehabilitation and Improvement Financing (RRIF) Program," 75 *Federal Register* 60165-60168, September 29, 2010, http://www.fra.dot.gov/eLib/details/L02706.

markets for passenger rail travel, and, in some cases, the applicants may have no collateral or collateral of little value if the project does not succeed.

One example is the proposal for a new, privately owned and operated high speed intercity passenger rail service between the outskirts of Los Angeles (Victorville) and Las Vegas, a distance of about 185 miles. The private sponsors of this project, known as XpressWest, estimate its cost at $6.9 billion and have applied to borrow the majority of the funds from the RRIF program, with an additional $1.4 billion coming from private investors.[34] In June 2013, according to a letter from the Secretary of Transportation to XpressWest, FRA suspended its review of the application, primarily it appears because XpressWest could not satisfy Buy America provisions that require iron, steel, and manufactured goods for a project financed with a RRIF loan be produced in the United States.[35]

Another project sponsor that has reportedly applied for a RRIF loan is Florida East Coast Industries, which has proposed building a privately owned and operated intercity passenger rail service from Miami to Orlando, passing through Fort Lauderdale and West Palm Beach.[36] Known as All Aboard Florida, the service would run on 200 miles of freight track which is owned by an affiliated company, Florida East Coast Railway, and requires the development of 30 miles of new track between Cocoa and Orlando.

State Infrastructure Banks

Another source of financing for surface transportation projects is state infrastructure banks (SIBs). Most of these were created in response to a federal state infrastructure bank program originally established in surface transportation law in 1995 (P.L. 104-59). According to a recent survey, by 2012, 32 states had established a federally authorized SIB. Several states, among them California, Florida, Georgia, Kansas, Ohio, and Virginia, have an SIB that is unconnected to the federal program.[37] Local governments have also begun to embrace the idea. For example, the City of Chicago has established a nonprofit organization, the Chicago Infrastructure Trust, as a way to attract private investment for public works projects.[38] Another example is Dauphin County, PA, which has established an infrastructure bank to loan funds to the 40 municipalities within its borders and to private project sponsors. Funds for the loans are derived from a state tax on liquid fuels.[39]

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[34] XpressWest, "Media Kit," http://www.xpresswest.com/pdf/XpressWest_Media_Kit.pdf.

[35] Letter from Ray LaHood, Secretary of Transportation to Anthony Marnell, II, Chairman XpressWest, June 28, 2013, http://www.scribd.com/doc/154207442/Ray-LaHood-s-letter-to-XpressWest. See also Steve Tetreault, "Feds Halt Loan Review for Las Vegas-to-California High-speed Train," Las Vegas Review-Journal, July 12, 2013, http://www.reviewjournal.com/news/nevada-and-west/feds-halt-loan-review-las-vegas-california-high-speed-train.

[36] Dan Tracy, "All Aboard Florida Seeks Federal Loan," *Orlando Sentinel*, March 18, 2013, http://articles.orlandosentinel.com/2013-03-18/news/os-train-loan-feds-20130318_1_federal-loan-largest-loan-loan-repayment.

[37] Robert Puentes and Jennifer Thompson, "Banking on Infrastructure: Enhancing State Revolving Funds for Transportation," Brookings Institution, September 2012, http://www.brookings.edu/~/media/research/files/papers/2012/9/12%20state%20infrastructure%20investment%20puentes/12%20state%20infrastructure%20investment%20puentes.pdf.

[38] Chicago Investment Trust, http://www.shapechicago.org/.

[39] Jeff Frantz, "Dauphin County Creates Infrastructure Bank for Road Improvements," *PennLive*, March 1, 2013, http://www.pennlive.com/midstate/index.ssf/2013/03/dauphin_county_creates_infrast.html; http://www.dauphincounty.org/government/about-the-county/Pages/News.aspx?NewsID=220.

As part of the federal transportation program, a state can use its allocation of federal surface transportation funds to capitalize an SIB. There are some requirements in federal law for SIBs connected with the federal program (23 U.S.C. §610), but for the most part their structure and administration are determined at the state level. Most SIBs are housed within a state department of transportation, but at least one (Missouri) was set up as a nonprofit corporation and another (South Carolina) is a separate state entity.

Most SIBs function as revolving loan funds, in which money is directly loaned to project sponsors and its repayment with interest provides funds to make more loans.[40] Some SIBs, such as those in Florida and South Carolina, have the authority to use their initial capital as security for issuing bonds to raise further capital as a source of loans. This is known as a leveraged SIB, and repayment of its loans is used to repay bondholders.[41] SIBs also typically offer project sponsors other types of credit assistance, such as letters of credit, lines of credit, and loan guarantees.

In general, state infrastructure banks have not been very significant participants in financing surface transportation projects. According to one survey, between 1995 and 2012 federal and nonfederal SIBs entered into about 1,100 agreements worth a total of $9 billion, an average of about $8 million per agreement. However, SIB activity has varied widely from state to state. Eight states, Pennsylvania, Ohio, California, Texas, Florida, Kansas, Missouri, and Arizona, account for three-quarters of SIB loans, and five states, South Carolina, Florida, Arizona, Texas, and California, account for three-quarters of the agreement value.[42] The same survey found that 71% of the projects helped by SIBs were highway projects, which accounted for 88% of the value of all projects supported by SIBs. Aviation, water, transit, rail, and other types of projects accounted for the remaining activity.

Several reasons may explain the generally low level of activity of state infrastructure banks.[43] It has been suggested that the capitalization of the banks has lagged because the federal funds that could be used have already been committed to traditional projects. Another suggestion is that there are relatively few small, local projects which have the ability to generate sufficient revenue to repay a loan. Tolling, for example, is often infeasible (due to low traffic volumes) or unpopular. Because projects funded by a federally authorized SIB must comply with federal regulations on matters such as environmental review and prevailing wages, project sponsors may decide it is cheaper and quicker to use funding from another source. Other concerns include how an SIB may affect a state's debt limit and credit rating, and also issues with creating an independent entity that can engage in off-budget financing.[44] In some places, state law may inhibit the creation of an SIB.

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[40] Under federal transportation law SIBs can provide assistance to any entity with an eligible project. A state may limit this to project sponsors of its choice (e.g., local governments).

[41] See Federal Highway Administration, "State Infrastructure Banks: Frequently Asked Questions," Innovative Program Delivery Website, at http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_credit_assistance/sibs/faqs.htm#12; Jonathan L. Gifford, *State Infrastructure Banks: A Virginia Perspective*, School of Public Policy, George Mason University, Research Paper, November 24, 2010, http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1714466.

[42] Robert Puentes and Jennifer Thompson, September 2012.

[43] See U.S. General Accounting Office, *State Infrastructure Banks: A Mechanism to Expand Federal Transportation Financing*, GAO/RECD-97-9, October 1996, pp. 13-19, http://www.gao.gov/archive/1997/rc97009.pdf; Federal Transit Administration, *Update on State Infrastructure Bank Assistance to Public Transportation*, July 15, 2005, http://www.fta.dot.gov/documents/2005_SIB_Report_Final.pdf; Federal Highway Administration, *State Infrastructure Bank Review*, Washington, DC, February 2002, at http://www.fhwa.dot.gov/ipd/pdfs/finance/sib_complete.pdf.

[44] These concerns were raised in New York in the wider context of public-private partnerships, see State of New York, Office of the State Comptroller, "Controlling Risk Without Gimmicks: New York's Infrastructure Crisis and Public (continued...)

Federal Budget Impact of Debt Finance Alternatives

The budget impact of federal assistance for debt finance depends on several factors specific to the type of bond. In addition, the perspective of evaluation is important. From the federal government perspective, if the intent of assistance is to encourage more investment in the selected activity, then the assistance must reduce the cost to the issuer (i.e., the borrower, typically state and local government) below the next best alternative. Federal assistance for debt finance is typically of two varieties, a tax preference or credit assistance.

A federal tax preference for debt finance is generally limited to the following tactics: (1) excluding interest paid from income of investors and (2) providing a tax credit to investors or issuers. As for credit assistance, the federal government could provide (1) federal guarantee of debt instrument and (2) direct loans from the federal government. The budget impact of these four mechanisms can be viewed in general terms along a continuum.

Direct loans could confer a fairly significant incentive for borrowers though the potential budget impact would depend on the level of risk of the selected projects. Loan guarantees would offer similar benefits to issuers, though the structure of the guarantee could limit the risk exposure of the federal government. For example, the federal guarantee could be limited to a portion of the principal borrowed, thereby reducing the federal financial responsibility in the event of default. The nature of credit assistance for capital projects, however, would be most attractive for projects that face the highest alternative financing costs. Generally, this means the riskiest projects would be the most likely applicants for federal credit assistance, in which case, a credit assistance program could be relatively expensive from a budget perspective.

The use of tax preferences reduces the risk to the federal government relative to credit assistance, but there can still be a significant revenue impact. Tax credit bonds, particularly those with a high credit rate and a long term to maturity, offer the largest subsidy for the issuer. Accordingly, these bonds would generate potentially the largest revenue loss. Tax-exempt bonds offer a significantly smaller subsidy to issuers, but unlike tax credit bonds, they also provide a tax preference for investors. When both the issuer and investor subsidies are taken together, the revenue loss from tax-exempt bonds can exceed the revenue loss associated with a tax credit bond with a low rate and limited term.

The impact on the budget of the four debt finance alternatives presented here depends critically on the details of the specific proposal. Generally speaking, however, for a given amount of potential new capital investment, the largest potential impact would accompany direct loans. With direct loans, the federal government could potentially lose all proceeds loaned to the project. The potential budget impact of a tax-exempt bond subsidy, in contrast, is limited to the taxes that would have been collected on the interest payments on the debt.

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Private Partnerships," January 2011, p. 12, http://www.osc.state.ny.us/reports/infrastructure/pppjan61202.pdf.

Legislative Options

Tax-Preferred Bonds

Tax credit bonds and tax-exempt bonds have often been used to encourage additional investment in selected sectors. As described earlier, public-sector debt finance is afforded unlimited access to tax-exempt bond financing for infrastructure projects under current law where generally applicable taxes (e.g., income taxes, sales taxes, and property taxes) are used to repay the debt. These are often called "revenue bonds." Governments have also acted as conduits for private-sector investment for a variety of projects delineated in the Internal Revenue Code (IRC). Nongovernmental issuers, such as nonprofit hospitals and other nonhospital, nonprofit entities, can also issue tax-exempt bonds.

America Fast-Forward Bonds

The Obama Administration's FY2014 budget includes proposals that would receive some measure of federal assistance for bond financing for infrastructure projects. The proposed America Fast Forward (AFF) Bond would be similar to the now expired BAB, but would offer a 28% direct payment to issuers, significantly less than the BAB program. In contrast to BABs, AFFs would also allow issuances for section 501(c)(3) nonprofit entities and for all private activities subject to the state-by-state volume cap.

The reduced credit amount of 28%, however, may limit interest in the bonds by issuers, particularly in light of possible budget sequester in future fiscal years. BAB payments, as well as all other direct payments for tax credit bonds, were reduced by 8.7% from March 1, 2013 through September 30, 2013.[45] The estimated budget impact of AFF bonds is a minimal $1 million over the 2014-2023 budget window.

Private Activity Bond Proposals

The Administration's FY2014 Budget proposal includes two provisions that would allow for an increase in the issuance of tax-exempt, qualified private activity bonds for transportation projects. Under current law, the use of tax-exempt, qualified private activity bonds for transportation projects is limited to a fixed $15 billion for the life of the program. The $15 billion is allocated to specific projects by the Secretary of Transportation. The Administration's FY2014 budget proposal includes a provision to increase this amount to $19 billion. Under current law, these bonds can be issued for "(1) any surface transportation project, (2) any project for an international bridge or tunnel for which an international entity authorized under Federal or State law is responsible, or (3) any facility for the transfer of freight from truck to rail or rail to truck."[46]

[45] For the IRS notice, see http://www.irs.gov/Tax-Exempt-Bonds/Effect-of-Sequestration-on-Certain-State-and-Local-Government-Filers-of-Form-8038CP.

[46] U.S. Department of Treasury, "General Explanation of the Administration's Fiscal Year 2014 Revenue Proposals," April 2013, p. 116.

This provision would reduce revenue $515 million over the 2014 to 2023 budget window if enacted.

The Administration's FY2014 budget includes several other provisions that would likely expand the issuance of private activity bonds, but not necessarily for transportation-related projects. The provision most likely to lead to additional investment in transportation infrastructure is the proposal to eliminate the government ownership requirement for certain projects financed with tax-exempt private activity bonds. This change would allow the bonds to be used for privately owned airports, docks and wharves, and mass commuting facilities. If enacted, it is projected to generate a revenue loss of $3.76 billion over the 2014 to 2023 budget window.

Changes to TIFIA

Another option for Congress is to increase funding for or otherwise adjust the TIFIA program. MAP-21 greatly enlarged the TIFIA program, but there have already been enough applications to almost exhaust the budget authority made available for FY2013 and FY2014. In FY2013, as of July 24, 2013, DOT had received requests for a total of $15.8 billion in loans to help finance 31 projects.[47] Total loan capacity over the two years covered by MAP-21 is about $16 billion.

Even though the TIFIA program has proven attractive to project sponsors, there may be some reluctance to enlarge the program again so soon. DOT is continuing to adjust to the much larger program and other changes made in MAP-21. As of September 30, 2013, only two of the project applications for FY2013 credit assistance had led to executed credit agreements. Moreover, with more budget authority available and eventually more projects receiving credit assistance, there is a greater risk that at least one project will run into financial difficulties, all else being equal. One possibility, therefore, is to let DOT have more time to implement the changes made in MAP-21 and for an evaluation of the results before any more changes are made.

Public-Private Partnerships

In addition to greatly enlarging the TIFIA program, MAP-21 included several other provisions to encourage the creation of P3s at the state and local level. Under these provisions, DOT is required to compile and make available best practices in the use of P3s and to develop model P3 contracts. MAP-21 also allows DOT to provide technical assistance on P3 agreements. An option going forward would be to set up a federal P3 unit or agency which, in addition to providing technical advice, could also provide consulting services in a fee-for-service arrangement, and could possibly help to develop the P3 market. Such entities exist in several other countries, such as Partnerships BC in British Columbia, Infrastructure Partnerships Australia, and Partnerships UK.[48]

[47] Testimony of Anthony Foxx, Secretary of Transportation, U.S. Congress, Senate Environment and Public Works, Oversight Hearing on Implementation of MAP-21's TIFIA Program Enhancements, 113th Cong., 1st sess., July 24, 2013, http://www.epw.senate.gov/public/index.cfm?FuseAction=Files.View&FileStore_id=9a3ecfde-0783-4744-ace6-d825ff352fe1.

[48] Robert Puentes, "Strengthen Federalism: Establish a National PPP Unit to Support Bottom-Up Infrastructure Investment," Brookings Institution, November 2012, http://www.brookings.edu/~/media/research/files/papers/2012/11/13%20federalism/13%20public%20private%20infrastructure%20investment.pdf; Organization for Economic Cooperation and Development (OECD), *Dedicated Public-Private Partnership Units: A Survey of Institutional and Governance Structures*, Paris, 2010; Christine Farrugia, Tim Reynolds, and Ryan J. Orr, "Public-Private Partnership (continued...)

Critics of P3s argue that the amount of private money involved in P3 deals is often a small share of the total, or subsidized by the public sector, or both; that risk transfer from the public to the private sector is often illusory; and that P3 contracts can limit the proper use of and government decisions about the transportation system.[49] MAP-21 included the requirement that best practices complied by FHWA "shall include polices and techniques to ensure that the interests of the traveling public and State and local governments are protected in any agreement entered into with the private sector for the development, financing, construction, and operation of transportation facilities." But others have argued for stronger actions they argue will protect the public interest, such as those in the proposed Surface Transportation Authorization Act (STAA) of 2009.[50]

The STAA of 2009 would have made P3s entered into by agreements at the state and local level, but involving federal-aid highway funds, subject to various federal requirements. These included a requirement for an evaluation of the costs and benefits of the P3 against traditional public delivery methods, new requirements regarding public information and public involvement, and a prohibition against noncompete clauses in P3 agreements (which could prevent public authorities from providing new, competitive infrastructure near a privately controlled facility). To ensure compliance with these new requirements, the act proposed to create within the FHWA an Office of Public Benefit (OPB) to "provide for the protection of the public interest in relation to highway toll projects and public-private partnership agreements on Federal-aid highways" (§1204).

Critics of greater oversight worry, however, that requirements like these will dampen, if not extinguish, the desire of states and the private sector to pursue tolling and P3 agreements because of the extra time, expense, and uncertainties that they may entail. A possible major source of uncertainty is the requirement that the OPB review and approve a P3's compliance with new public transparency requirements. One critic suggested this review and approval might be forthcoming only late in the process when design and financing details have been settled. Because of the substantial time and money it takes to develop projects early on, risking disapproval at this juncture would likely be unacceptable to project partners, thus, the thought is, few projects would ever be advanced.[51]

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Agencies: A Global Perspective," Collaboratory for Research on Global Projects, Stanford University, Working Paper #39, August 2008, http://crgp.stanford.edu/publications/working_papers/Farrugia_etal_PPPAgencies_WP0039.pdf.

[49] Jean Shaoul, Anne Stafford, and Pam Stapleton, "The Fantasy World of Private Finance for Transport via Public Private Partnerships," Discussion Paper 2012-6, Roundtable on Public Private Partnerships for Funding Transport Infrastructure: Sources of Funding, Managing Risk, and Optimism Bias, 27-28 September, 2012, http://internationaltransportforum.org/jtrc/DiscussionPapers/DP201206.pdf; Ellen Dannin, "Crumbling Infrastructure, Crumbling Democracy: Infrastructure Privatization Contracts and Their Effects on State and Local Governance," *Northwestern Journal of Law and Social Policy*, Volume 1, Issue 6, Winter 2011, pp. 47-93.

[50] The bill was marked up in the House Subcommittee on Highways and Transit on June 24, 2009, but was never formally introduced, hence, it remained unnumbered. A copy of the draft bill is available from the authors.

[51] D.J. Gribbin, "Public Private Partnerships and the Surface Transportation Authorization Act of 2009," *Public Works Financing*, June 2009, pp. 7-10.

National Infrastructure Bank

The central idea of a national infrastructure bank, or "I-bank," would be to provide low cost, long-term loans on flexible terms, much like the TIFIA program. However an I-bank might have more independence than TIFIA, which is controlled by the U.S. Department of Transportation, and as a separate organization might be able to build up a specialized staff. Funding could come from an appropriation to pay for administrative costs and the subsidy cost of credit assistance, although in some formulations an I-bank would raise its own capital through bond issuance.

An I-Bank would most likely be set up to help a much wider range of infrastructure projects than TIFIA finances. These might include water, energy, and telecommunications infrastructure projects. One potential issue in the I-Bank's design, though, is that it could face pressure to allocate available funds among various sectors, which would be at odds with the aim of lending to the most creditworthy projects regardless of sector.

Many different formulations of an I-bank have been proposed over the past few years. Four I-bank proposals that have been introduced in the 113th Congress are the National Infrastructure Development Bank Act (H.R. 2553) by Representative DeLauro, the American Infrastructure Investment Fund Act (S. 387) by Senators Rockefeller and Lautenberg, the Partnership to Build America Act (H.R. 2084) by Representative Delaney, and the Building and Renewing Infrastructure for Development and Growth in Employment (BRIDGE) Act (S. 1716) by Senator Warner (**Table 7**).

The Partnership to Build America Act (H.R. 2084) proposes to create the American Infrastructure Fund (AIF) as a wholly owned government corporation. The AIF would be funded with $50 billion using repatriated foreign earnings. The companies repatriating the earnings would receive tax benefits in return for investing a certain share of the earnings in 50-year bonds paying 1%. Transportation facilities would be only one of a number of infrastructure sectors eligible for help from the AIF. The others would be energy, water, communications, and education. The AIF would be authorized to make both loans and loan guarantees to eligible projects. In addition, H.R. 2084 would also permit the AIF to make equity investments (i.e., an ownership stake) up to a maximum of 20% of project costs.

Table 7. Infrastructure Bank Bills Introduced in the 113th Congress

	H.R. 2084	S. 387	H.R. 2553	S. 1716
Name	American Infrastructure Fund	American Infrastructure Investment Fund	National Infrastructure Development Bank	Infrastructure Financing Authority
Type	"Wholly owned Government corporation"	"Fund"	"Wholly owned Government corporation"	"Wholly owned Government corporation"
Institutional location	Unclear	Department of Transportation	Unclear[a]	Unclear
Governance	Eleven-member board of trustees: four appointed by President, seven selected by bond holders	Executive director appointed by President. Eight-member board of directors: the Secretaries of Treasury, Commerce, Energy, and HUD, the Administrator of EPA, and three DOT officials	Seven-member board of directors, all appointed by President; President designates board chairperson and vice-chairperson	Seven-member board of directors, all appointed by President; President designates board chairperson
Eligible infrastructure projects	Construction, maintenance, improvement, or repair of a transportation, energy, water, communications, or educational facility	Transportation-related	Transportation, energy, environmental, telecommunications[b]	Transportation, energy, water. Super-majority of board of directors may make modifications to list of eligible project types.
Types of credit assistance	Loans, loan guarantees, equity investment	Loans, loan guarantees	Loans, loan guarantees, payment of interest subsidy on American Infrastructure Bonds (AIB) issued by project sponsor	Loans, loan guarantees
Funding	$50 billion in bonds bought with repatriated foreign earnings; may issue its own bonds; fees	$10 billion appropriation; fees	$25 billion appropriation; amounts equivalent to taxes paid by AIB holders; may issue own bonds; fees	$10 billion appropriation; fees; payment of subsidy cost

Sources: H.R. 2084, S. 387, H.R. 2553, S. 1716, 113th Congress.

a. The Treasury Secretary would have some authorities over the NIDB, such as the power to audit the bank. Otherwise, the institutional location is not clear.

b. Environmental includes drinking water and wastewater treatment facilities, storm water management systems, flood gates, dams, levees, dredging, open space management systems, wetland restoration, infill development, solid waste disposal facilities, hazardous waste facilities, and industrial site cleanup or remediation projects.

The American Infrastructure Investment Fund Act (S. 387) proposes to create the American Infrastructure Investment Fund within the Department of Transportation. Only transportation projects would be eligible for assistance. Financial assistance to projects would be limited to loans and loan guarantees. The act authorizes an appropriation of $5 billion in FY2013 and FY2014.

The National Infrastructure Development Bank Act (H.R. 2553) proposes to create the National Infrastructure Development Bank (NIDB) as a wholly owned government corporation. The NIDB would be authorized to aid transportation, energy, environmental, and telecommunications infrastructure projects. In addition, to providing loans and loan guarantees, the NIDB would be permitted to subsidize the interest on a new type of taxable bond called an American Infrastructure Bond (AIB). AIBs could be issued by eligible infrastructure project sponsors. An amount equivalent to the federal taxes paid by AIB holders would be credited to the NDIB for assistance other eligible infrastructure projects.

The Building and Renewing Infrastructure for Development and Growth in Employment (BRIDGE) Act (S. 1716) proposes to create the Infrastructure Financing Authority (IFA) as a wholly owned government corporation. The IFA would be authorized to provide loans and loan guarantees to sponsors of projects in transportation, energy, and water. Modifications to the list of eligible project types would be possible by a vote of five or more of the seven-member board of directors. The act authorizes an appropriation of $10 billion to capitalize the authority. The act also authorizes the collection of fees from applicants and for recipients of assistance to pay all or part of the federal government's subsidy cost. The act would create an Office of Technical and Rural Assistance within the IFA to identify and develop projects for financing in cooperation with project sponsors. At least 5% of the budget authority made available by the BRIDGE Act would have to be used to assist rural projects.

Limitations of an I-bank include its duplication of existing programs, such as TIFIA and the Wastewater and Drinking Water State Revolving Funds. It may also not be the lowest-cost means of increasing infrastructure spending. The Congressional Budget Office has pointed out that a special entity that issues its own debt would not be able to match the lower interest and issuance costs of the U.S. Treasury. Others have argued that a national infrastructure bank would represent an unnecessary centralization of authority from the state and local level to the federal level. An alternative would be to enhance the operation of state infrastructure banks.

State Infrastructure Banks

Instead of creating a national infrastructure bank, it has been suggested that something be done to enhance the state infrastructure banks that already exist in many states. One of the biggest stumbling blocks to federally authorized SIBs has been capitalization. This is because federal grant funds that could be used to capitalize a SIB have typically been committed elsewhere. For this reason, one idea is to provide federal funds to states specifically dedicated to SIBs. For example, during the surface transportation reauthorization debate that led to the enactment of MAP-21, it was proposed that $750 million per year be dedicated to SIBs (H.R. 7, 112th Congress). Another proposal was to authorize SIBs to issue a type of tax credit bond (S. 1436, 112th Congress). Neither proposal was enacted.

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