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PUBLIC TRANSPORTATION

Federal Project Approval Process Remains a Barrier to Greater Private Sector Role and DOT Could Enhance Efforts to Assist Project Sponsors



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Highlights of [GAO-10-19](#), a report to congressional committees

Why GAO Did This Study

As demand for transit and competition for available federal funding increases, transit project sponsors are increasingly looking to alternative approaches, such as public-private partnerships, to deliver and finance new, large-scale public transit projects more quickly and at reduced costs. GAO reviewed (1) the role of the private sector in U.S. public transit projects as compared to international projects; (2) the benefits and limitations of and barriers, if any, to greater private sector involvement in transit projects and how these barriers are addressed in the Department of Transportation's (DOT) pilot program; and (3) how project sponsors and DOT can protect the public interest when these approaches are used. GAO reviewed regulations, studies, and contracts and interviewed U.S., Canadian, and United Kingdom officials (identified by experts in the use of these approaches).

What GAO Recommends

The Federal Transit Administration (FTA) should incorporate greater flexibility in its pilot program through the use of existing tools, such as conditional approvals, to streamline the New Starts process, and develop a sound evaluation plan to assess the pilot program's results. DOT should increase efforts to better equip project sponsors in using these approaches, including developing guidance and providing technical assistance. DOT agreed to consider our recommendations.

View [GAO-10-19](#) or [key components](#).
For more information, contact Susan Fleming at (202) 512-2834 or flemings@gao.gov.

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What GAO Found

In the United States, the private sector role in delivering and financing transit projects through alternative approaches, such as public-private partnerships, has been more limited than in international projects. The private sector role in U.S. projects has focused more on how they are delivered rather than how they are financed, while the private sector role in international projects has focused on both project delivery and financing. Since 2000, seven new large-scale construction projects funded through FTA's Fixed Guideway Capital Investment Program—New Starts program—have been completed using one of two alternative project delivery approaches, and none of these projects included private sector financing. In 2005, Congress authorized FTA to establish a pilot program to demonstrate the advantages and disadvantages of these alternative approaches and how the New Starts Program could better allow for them.

Alternative approaches can offer potential benefits such as a greater likelihood of completing projects on time and on budget, but also involve limitations such as less project sponsor control over operations. The sequential and phased New Starts process is a barrier because it is incompatible with alternative approaches and thus does not allow for work to be completed concurrently, which can lead to delays and increased costs. Under its pilot program, FTA can grant major streamlining modifications to the New Starts process for up to three project sponsors, but has not yet granted any such modifications because FTA has found that none of the projects has transferred enough risk, in particular financial responsibilities, to the private sector. FTA has the ability within its pilot program to further experiment with the use of long-standing existing tools that could encourage a greater private sector role while continuing to balance the need to protect the public interest. This includes forms of conditional funding approvals used by other DOT agencies and international governments. FTA also lacks an evaluation plan to accurately and reliably assess the pilot program's results, including the effect of its efforts to streamline the New Starts process for pilot project sponsors. Without such a plan, agencies and Congress will be limited in their decision making regarding the pilot program.

Transit project sponsors protect the public interest in alternative approaches through, for example, the use of performance standards and financial assessments to evaluate the costs and benefits of proposed approaches. Other governments have established entities to assist project sponsors in protecting the public interest. These entities have better equipped project sponsors to implement alternative approaches by creating a uniform approach to developing project agreements and serving as a repository of institutional knowledge. DOT can serve as a valuable resource for transit project sponsors by broadening its current efforts, including providing technical assistance and encouraging the use of additional financial assessments, among other measures.

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Abbreviations

DOT	Department of Transportation
FTA	Federal Transit Administration

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United States Government Accountability Office
Washington, DC 20548

October 29, 2009

The Honorable James L. Oberstar
Chairman
The Honorable John L. Mica
Ranking Republican Member
Committee on Transportation and Infrastructure
House of Representatives

The Honorable Peter A. DeFazio
Chairman
The Honorable John J. Duncan, Jr.
Ranking Member
Subcommittee on Highways and Transit
Committee on Transportation and Infrastructure
House of Representatives

Many Americans rely on mass transit to reach their jobs, schools, and other activities. In 2008, passengers took over 10.7 billion trips using public transportation, the highest level of ridership in 52 years and a modern ridership record. As national demand for mass transit services increases, more sponsors of transit projects are seeking available federal funding. The Federal Transit Administration (FTA) distributes federal funding to transit agencies for the construction of projects through a variety of formula and discretionary grant programs, including the New Starts grant program for new, large-scale projects.¹ As competition for these federal funds grows more intense, transit project sponsors are increasingly looking for alternative mechanisms to finance and deliver new, large-scale transit projects. Moreover, there is a belief by some in the United States that the conventional approach to delivering and financing infrastructure projects—in which contracts for the design and construction of the transit facility are awarded separately to the private sector—may not always be the most desirable. In transportation, public

¹As used in this report, “New Starts program” refers generally to that part of the Capital Investment Grants program that funds new fixed-guideway capital projects. See 49 U.S.C. § 5309. These systems use and occupy a separate right-of-way for the exclusive use of public transportation services. They include fixed rail, exclusive lanes for buses and other high-occupancy vehicles, and other systems. Selection of a project for assistance under this program results in the signing of a full funding grant agreement which establishes the terms and conditions for federal funds for the project, including the maximum amount of federal funds available, subject to available appropriations.

sector entities including state departments of transportation, local and regional governments, and transit providers are seeking unconventional or “alternative” approaches to delivering and financing their projects that may not only reduce project costs, but also deliver the projects more quickly and efficiently. Generally, these alternative approaches, which can include public-private partnerships, rely on the private sector assuming an enhanced responsibility for performing all or a significant number of functions in connection with a project, in some cases including financial liability. FTA defines public-private partnerships broadly as arrangements that do not use the conventional method of design-bid-build, and has encouraged the use of public-private partnerships to deliver and finance transit projects.

Public-private partnerships for transit differ from those for highways in terms of their ability to generate sufficient revenue to pay for themselves and the need for ongoing public financial assistance. Alternative approaches are more common worldwide for highway projects. For example, as we described in a previous report, highway public-private partnerships are common in France, Spain, Australia, and the United Kingdom.² Highway public-private partnerships projects can take the form of the public sector entering into long-term agreements with the private sector (known as “concession agreements”) in which the private sector finances and constructs a new facility and then operates and maintains it over a specified period of time in return for the right to collect tolls to fund operations and maintenance and to receive a return on their investment. One key difference between highways and transit is that at least in some cases a private entity might be able to charge users sufficient tolls to profitably build and operate a highway, but transit almost always cannot pay for itself from farebox revenues. Public transit systems typically receive government funding to supplement farebox revenues in paying for construction as well operations and maintenance. Therefore, it is important to safeguard the public interest in transit public-private partnerships. In addition, whereas some highway public-private partnership agreements have given private entities substantial authority to set toll rates, governments often retain control of fare levels even when entering into agreements for transit projects that use alternative approaches because transit fare-setting considers, among other factors,

²GAO, *Highway Public-Private Partnerships: More Rigorous Up-front Analysis Could Better Secure Potential Benefits and Protect the Public Interest*, [GAO-08-44](#) (Washington, D.C.: Feb. 8, 2008).

keeping fares low to increase ridership and provide an affordable form of mobility for urban residents, including low-income citizens.

To assist Congress as it prepares for its upcoming surface transportation reauthorization, you asked us to identify key issues as they relate to alternative project delivery and financing approaches, including public-private partnerships. In response to your request, this report addresses (1) the role of the private sector in the delivering and financing of U.S. transit projects compared to other countries; (2) the benefits and limitations of and the barriers, if any, to greater private sector involvement in transit projects and how these barriers are addressed in the Department of Transportation's (DOT) Public-Private Partnership Pilot Program; and (3) how project sponsors and DOT can protect the public interest in transit projects that use alternative approaches.

To address these issues, we reviewed pertinent federal legislation and regulations, including: Federal Register notices and guidance for FTA's Public-Private Partnership Pilot Program and the New Starts Program; DOT's 2007 Report to Congress on the Costs, Benefits, and Efficiencies of Public-Private Partnerships for Fixed Guideway Capital Projects; and other DOT reports. We also collected, summarized, and analyzed in-depth interviews with officials from the three FTA Public-Private Partnership Pilot Program projects—Bay Area Rapid Transit Oakland Airport Connector, Denver Regional Transportation District East Corridor and Gold Line, and Houston Metro North and Southeast Corridors—in addition to Minnesota Metro Transit Hiawatha Corridor and Denver Regional Transportation District Transportation Expansion. As part of the review, we collected descriptions of the projects, copies of the concession or development agreements, and documentation related to the financial structure of such projects. These projects were selected because they are recent examples of ongoing and completed transit projects in the United States that incorporated greater private sector involvement through the use of alternative project delivery or financing approaches or both. We focused solely on projects that have or are expected to go through FTA's New Starts process given that it is the largest capital grant program for transit projects and that any such projects would be reviewed to protect the public interest. In addition to reviewing these domestic projects, we conducted extensive interviews with financial and legal advisors, experts, and private sector officials from Canada and the United Kingdom who are knowledgeable about private sector participation in the delivery and financing of transit projects. Further, we collected information on how the following project sponsors protect the public interest in the following international transit projects: Croydon Tramlink, Docklands Light Railway,

London Underground, Manchester Metrolink, and Nottingham Express Transit in the United Kingdom, and the Canada Line in Vancouver, Canada. To collect the most valuable and relevant information for our review, these international projects were selected, in part, because they are examples of ongoing and completed transit public-private partnerships that incorporate a range of alternative project delivery or financing approaches, or both, and they are in countries that share a similar political structure to the United States. Finally, we conducted a literature review of domestic and international transit projects with greater private sector participation and interviewed FTA and other federal and local officials as well as private sector participants associated with the projects we selected.

We conducted this performance audit from October 2008 through October 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

Private sector participation and investment in transit is not new. In the 1800s, the private sector played a central role in financing early transportation infrastructure development in the United States. For example, original sections of the New York City Subway were constructed from 1899 to 1904 by a public-private partnership. New York City sought private sector bids for the first four contracts to construct and finance segments of the initial subway system. Ultimately, a 50-year private sector lease to operate and maintain the system was used. Another example is the City of Chicago's "L" transit system, which was built from the 1880s through the 1920s and operated by the Chicago Rapid Transit Company, a privately owned firm. The construction of the system was financed by the private sector. In following years, transportation infrastructure development became almost wholly publicly funded. Conditions placed on federal transportation grants-in-aid limited private involvement in federally funded projects. More recently, there has been a move back towards policies that encourage more private and public blending of funding, responsibility, and control in transportation projects. The federal government has progressively relaxed restrictions on private participation in highway and transit projects serving public objectives. This change in federal policy toward considering transit projects that use alternative

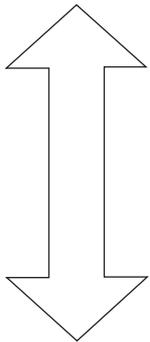
approaches has also created an opportunity for states to reexamine their own public-private partnership policies.

Conventional transit projects generally follow a “design-bid-build” approach whereby the project sponsor contracts with separate entities for the discrete functions of a project, generally keeping much of the project responsibility and risk with the public sector.³ FTA defines alternative approaches, including public-private partnerships, as those that increase the extent of private sector involvement beyond the conventional design-bid-build project delivery approach. These alternative approaches contemplate a single private sector entity being responsible and financially liable for performing all or a significant number of functions in connection with a project. In transferring responsibility and risk for multiple project elements to the private sector partner, the project sponsor often has less control over the procurement and the private sector partner may have the opportunity to earn a financial return commensurate with the risks it has assumed (see fig. 1).

³Design-bid-build is the approach with which FTA’s New Starts project evaluation process is aligned.

Figure 1: Range of Private Sector Role in Transit Projects That Use Alternative Approaches

Extent of private sector role	Type of alternative approach	Private sector role in project delivery and finance
Greater private sector role	<ul style="list-style-type: none"> • Build-own-operate • Design-build-finance-operate-maintain • Design-build-finance-operate • Build-operate-transfer • Design-build-operate-maintain • Design-build-operate • Design-build 	<ul style="list-style-type: none"> • Constructs, owns, and operates the project (without transferring it to the public sector project sponsor); fully finances the project • Designs, constructs, operates, and maintains the project; partially or fully finances the project • Designs, constructs, and operates the project; partially or fully finances the project • Designs, constructs, and operates a project for a specified time before transferring ownership to the public sector project sponsor • Designs, constructs, operates, and maintains the project; does not finance the project • Designs, constructs, and operates the project; does not finance the project • Designs and constructs the project; does not finance the project
Lesser private sector role		



Source: DOT and GAO.

With these alternative approaches, many of the project risks that would normally be borne by the project sponsor in a design-bid-build approach are transferred to or shared with the private sector. Risk transfer involves assigning responsibility for a project risk in a contract so that the private sector is accountable for nonperformance or errors. Project sponsors can transfer a range of key project risks to the private sector, including those related to design, financing, construction performance and schedule, vehicle supply, maintenance, operations, and ridership. For example, design risk refers to whether an error causes delays or additional costs, or causes the project to fail to satisfy legal or other requirements. Ridership risk refers to whether the actual number of passengers on the transit system reaches forecasted levels. However, some risks may not be transferable.

Much of the federal government’s share of new capital investment in mass transportation has come through FTA’s New Starts program.⁴ Through the New Starts program, FTA identifies and recommends new fixed-guideway transit projects—including heavy, light, and commuter rail, ferry, and

⁴As used in this report, “New Starts program” refers generally to the capital investment grants program. See 49 U.S.C. § 5309.

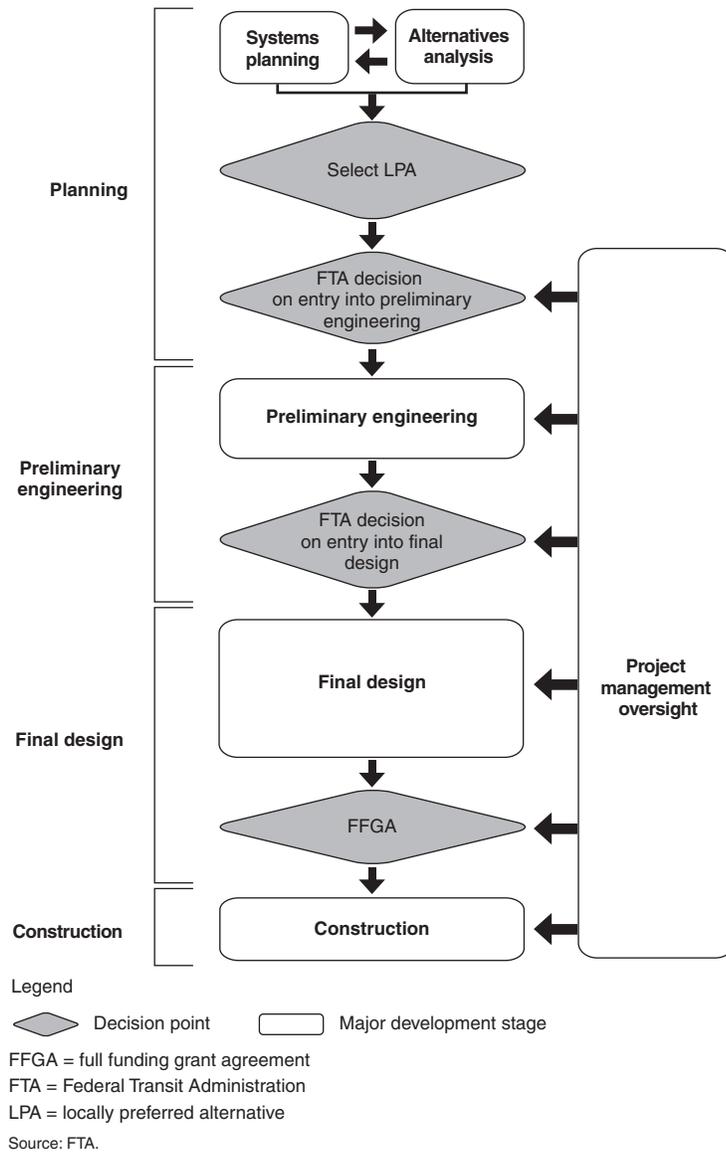
certain bus projects—for federal funding. Over the last decade, the New Starts program has resulted in funding state and local agencies with over \$10 billion to help design and construct transit projects throughout the country and is FTA’s largest capital grant program for transit projects. Moreover, since the early 1970s, a significant portion of the federal government’s share of new capital investment in mass transportation has been initiated through the New Starts process, resulting in full funding grant agreements.⁵ FTA must prioritize transit projects for funding by evaluating, rating, and recommending potential projects on the basis of specific financial commitment and project justification criteria. Using criteria set by law, FTA evaluates potential transit projects and assigns ratings to them annually. These evaluation criteria reflect a range of benefits and effects of the proposed project, such as cost-effectiveness, as well as the ability of the project sponsor to fund the project and finance the continued operation of its transit system. FTA uses the evaluation and rating process to decide which projects to recommend to Congress for funding. As part of the New Starts process, FTA approves projects into three phases: preliminary engineering (in which the designs of project proposals are refined),⁶ final design (the end of project development in which final construction plans and cost estimates, among other activities, are completed), and construction (in which FTA awards the project a full funding grant agreement, providing a federal commitment of funds subject to the availability of appropriations)⁷ (see fig. 2).

⁵Full funding grant agreements establish the terms and conditions for federal funds available for the project, including the maximum amount of federal funds available, subject to the availability of appropriated funds.

⁶To gain approval for entry into preliminary engineering, a project must (1) be identified through the alternatives analysis process; (2) be included in the region’s long-term transportation plan; (3) meet the statutorily defined project justification and financial criteria; and (4) demonstrate that the sponsors have the technical capability to manage the project during the preliminary engineering phase.

⁷Final design is the last phase of project development before construction and may include right-of-way acquisition, utility relocation, and the preparation of final construction plans and cost estimates.

Figure 2: New Starts Planning and Development Process



We have previously identified FTA’s New Starts program as a model for other federal transportation programs because of its use of a rigorous and systematic evaluation process to distinguish among proposed New Starts

investments.⁸ However, we and other stakeholders and policymakers have also identified challenges facing the program. Among these challenges is the need to streamline the New Starts project approval process. Our past reviews, for example, found that many project stakeholders thought that FTA's process for evaluating New Starts projects was too time consuming, costly, and complex.⁹ The New Starts grant process is closely aligned with the conventional design-bid-build approach, whereby the project sponsor contracts with separate entities for the design and construction of the project.

In 2005, Congress authorized FTA to establish the Public-Private Partnership Pilot Program to demonstrate (1) the advantages and disadvantages of transit projects that use alternative approaches for new fixed-guideway capital projects and (2) how FTA's New Starts program can be modified or streamlined for these alternative approaches.¹⁰ The pilot program allows FTA to study projects that incorporate greater private sector involvement through alternative project delivery and financing approaches; integrate a sharing of project risk; and streamline design, construction, and operations and maintenance. FTA can designate up to three project sponsors for the pilot program. Projects selected under the pilot program will be eligible for a simplified and accelerated review process that is intended to substantially reduce the time and cost to the sponsors of New Starts projects. This can include major modifications of the requirements and oversight tools. For example, FTA may offer concurrent project approvals into preliminary engineering and final design. Further, FTA may modify its risk-assessment process—which aims to identify issues that could affect a project's schedule or cost—as well as other project reviews. The modification of any of FTA's New Starts requirements and oversight tools will be on a case-by-case basis if FTA determines enough risk is transferred to and equity capital is invested by

⁸GAO, *Public Transportation: Improvements Are Needed to More Fully Assess Predicted Impacts of New Starts Projects*, [GAO-08-44](#) (Washington, D.C.: July 25, 2008).

⁹GAO, *Public Transportation: Better Data Needed to Assess Length of New Starts Process, and Options Exist to Expedite Project Development*, [GAO-09-784](#) (Washington, D.C.: July 31, 2009); [GAO-08-44](#); and GAO, *Public Transportation: Future Demand Is Likely for New Starts and Small Starts Programs, but Improvements Needed to the Small Starts Application Process*, [GAO-07-917](#) (Washington, D.C.: July 27, 2007).

¹⁰Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, Pub. L. No. 109-59, title III, § 3011 (c).

the private sector.¹¹ In addition to major modifications, FTA may also make use of other tools (not unique to the pilot program) to expedite the review process. These include Letters of No Prejudice that allow a project sponsor to incur costs with the understanding that these costs may be reimbursable as eligible expenses (or eligible for credit toward the local match) should FTA approve the project for funding at a later date.¹² FTA can also use Letters of Intent to signal an intention to obligate federal funds at a later date when funds become available.¹³ Finally, Early Systems Work Agreements obligate a portion of a project's federal funding so that project sponsors can begin preliminary project activities before a full funding grant agreement is awarded. FTA has employed a contractor to determine whether risk is effectively transferred from the public to private sector for its pilot program projects, and will consider private sector due diligence as a substitute for its own.

From a public perspective, an important component of analyzing the potential benefits and limitations of greater private sector involvement is consideration of the public interest. Although, in transportation, no definition of public interest exists at the federal level, nor does federal guidance identify public interest considerations in transportation, consideration of the public interest in transit may refer to the many stakeholders in public-private partnerships, each of which may have its own interests. Stakeholders include public transit authorities, transit agency employees, mass transit users and members of the public who may be affected by ancillary effects of a transit public-private partnership or alternative project delivery approach, including users of bus and highways, special interest groups, and taxpayers in general. Moreover, defining the public interest is a function of scale and can differ based on the range of stakeholders in addition to the geographic and political domain considered. For the purposes of its pilot program, FTA has stated that the

¹¹Equity capital is money raised by a business by selling shares of ownership, or potential ownership, of the business. DOT has noted that transit public-private partnerships typically do not require the private partner to take on certain project risks (such as ridership/revenue) or involve a significant equity investment by the private partner.

¹²Letters of No Prejudice also allow a project sponsor to incur costs using nonfederal resources, with the understanding that the costs incurred subsequent to the issuance of the letters may be reimbursable as eligible expenses or eligible for credit toward the local match should FTA approve the project for funding at a later date.

¹³Through a Letter of Intent, FTA announces its intention to obligate an amount from future available budget authority to a project, subject to the availability of appropriations.

public interest refers to the due diligence that FTA typically conducts as a public entity with a financial interest in a transit project.

Private Sector Roles in the Delivery and Financing of U.S. Transit Projects Have Been Narrower Than in Some Other Countries

In the United States, the private sector has played a more limited role in the delivery and financing of transit projects than in some other countries. Since 2000, seven New Starts projects were completed using alternative approaches (see table 1). These projects have focused on delivery, rather than financing, and have used either the design-build or the design-build-operate-maintain delivery approach, in which the private sector role is to design and construct the project or to design, construct, operate, and maintain the project, respectively. In addition, to date, no completed New Starts projects have been privately financed and therefore, none of these projects have used private equity financing.

Table 1: Completed U.S. New Starts Transit Projects That Have Used Alternative Approaches

Project name	Alternative approach used	Year completed
New Jersey Transit Hudson Bergen Minimum Operable Segment 1	Design-build-operate-maintain	2002
Bay Area Rapid Transit Extension to San Francisco International Airport	Design-build	2003
Minneapolis Metro Transit Hiawatha Light Rail	Design-build	2004
Washington Metropolitan Area Transportation Largo Metrorail Extension	Design-build	2004
Denver Regional Transportation District Transportation Expansion Light Rail	Design-build	2006
New Jersey Transit Hudson Bergen Minimum Operable Segment 2	Design-build-operate-maintain	2006
South Florida Commuter Rail Upgrades	Design-build	2006

Source: FTA.

However, there have been very few examples of completed non-New Starts-funded new fixed-guideway projects that have been privately financed. One project, the Las Vegas Monorail, a 4-mile fixed-guideway system serving the resort corridor along Las Vegas Boulevard in Nevada, was financed with tax-exempt revenue bonds issued through the state of Nevada and with contributions from the area resorts and hotels.¹⁴

As previously mentioned, Congress authorized FTA to establish its Public-Private Partnership Pilot Program to demonstrate the advantages and disadvantages of these approaches in transit. As established, the pilot

¹⁴GAO, *Highways and Transit: Private Sector Sponsorship of and Investment in Major Projects Has Been Limited*, [GAO-04-419](#) (Washington, D.C.: Mar. 25, 2004).

project studies those projects that use alternative approaches that integrate a sharing of project risk and incorporate private equity capital in order to illustrate where FTA can grant greater flexibility of some of its New Starts requirements to projects within the pilot program. However, to date, only one of the pilot projects is expected to incorporate private equity capital. FTA designated three project sponsors for its Public-Private Partnership Pilot Program in 2007:

- **Bay Area Rapid Transit**—The Oakland Airport Connector project is to be a 3.2-mile system that will connect the Oakland International Airport to the Bay Area Rapid Transit’s Coliseum Station and the rest of the transit system. In its original iteration, the Oakland Airport Connector planned on using a design-build-finance-operate-maintain project delivery approach that included private sector financing. However, lower-than-expected ridership predictions due to the economic climate, among other factors, led Bay Area Rapid Transit to move forward with a different alternative approach for its project—now design-build-operate-maintain—and undergo a new request for qualified bidders and request for proposals process. According to Bay Area Rapid Transit, a contract will be awarded in December 2009.
- **Metropolitan Transit Authority of Harris County (Houston Metro)**—North and Southeast Corridor projects are to provide improved access to Houston’s Central Business District. This project was also originally to use a design-build-finance-operate-maintain approach that included private sector financing, but no bidders on the project proposed an equity investment, so it is instead using a design-build-operate-maintain approach. Issues related to price and risk transference led Houston Metro to switch private partners and the new partner chose not to provide financing for the project. Groundbreaking for the construction of the two projects occurred in July 2009.
- **Denver Regional Transportation District**—East Corridor and Gold Line pilot projects are to connect the city’s main railway station with its airport and other parts of the city. The project is using a design-build-finance-operate-maintain approach, which includes financing by the private sector partner. The private sector partner will be selected through a competitive proposal process to deliver and operate the project under a long-term agreement. In September 2009, Denver Regional Transportation District released a request for proposals to prequalified teams.

One ongoing New Starts project did not apply to be part of the pilot program, but is using an alternative approach. The Dulles Silver Line is

using the design-build approach with partial funding of the local share coming from area businesses generated through a tax-increment financing district to connect Washington, D.C., metropolitan area's transit system with one of the area's three major airports.

In contrast, international project sponsors have delivered transit projects using a wider range of alternative approaches, including public-private partnerships, beyond the more commonly used design-build in the United States (see table 2). According to World Bank officials and a World Bank-sponsored report, transit public-private partnerships have been implemented in Australia, Brazil, Canada, France, Hong Kong, Malaysia, the Philippines, South Africa, Thailand, and the United Kingdom. Furthermore, international project sponsors have incorporated private equity investment financing for some of their projects. According to World Bank officials, the United Kingdom and Canada are leading countries for private equity investment in transit, and the United Kingdom has the most experience using different public-private partnership models. International projects also generally require a government subsidy to supplement farebox revenues for construction as well as operations and maintenance.

Table 2: Selected Ongoing and Completed Transit Projects in Canada and the United Kingdom That Have Used Alternative Approaches

Project name	Alternative approach used	Year completed
Docklands Light Railway Lewisham, London City Airport, and Woolwich Arsenal Extensions	Design-build-finance-maintain	1999, 2005, and 2009
Croydon Tramlink light rail	Design-build-finance-operate-maintain	2000
Manchester Metrolink Phase II light rail	Design-build-finance-operate-maintain	2000
London Underground Maintenance	Maintain	2003 ^a
Nottingham Express light rail	Design-build-finance-operate-maintain	2004
Canada Line light rail	Design-build-finance-operate-maintain	2009

Source: World Bank and GAO.

^aThis refers to the date when the London Underground's two maintenance contracts took effect.

Examples of several projects in the United Kingdom and Canada that we reviewed include the following:

- **The Docklands Light Railway** serves a redevelopment area east and southeast of London. Transport for London, the public sector project sponsor, used three separate design-build-finance-maintain concession agreements to construct system extensions as well as a single franchise to operate trains over the entire system. All three extensions

were financed in part or full using private equity investment, and the Lewisham Extension was the United Kingdom's first transportation public-private partnership for both project delivery and financing.

- **The Croydon Tramlink light rail project** was a 99-year design-build-finance-operate-maintain agreement to develop the new system. In this project, payments to the private sector partner during operations were based entirely on ridership revenue, but the project sponsor retained the authority to set fares. The private sector partner faced financial difficulties, and the concession was ultimately bought by Transport for London.
- **The Manchester Metrolink Phase II light rail project** was a 17-year concession agreement wherein the private partner had responsibility to design, construct, finance, operate, and maintain this project. The project was designed to expand the Metrolink System in order to connect two of the city's existing stations. The private partner provided over one-half of the project's funding for construction. The public sector terminated the concession to further expand the system.
- **The London Underground maintenance projects** included agreements entered into between London Underground and two private sector partners to maintain and upgrade the system's infrastructure, including track, tunnels, trains, and stations. In return, the private sector would receive periodic payments based on its performance. One of the two private sector partners subsequently went bankrupt, and the concession agreement was then taken over by Transport for London.
- **The Nottingham Express Transit light rail project** used a 27-year contract to design, build, finance, operate, and maintain a new transit line. Payments to the private sector were based on performance and ridership revenue, meaning that the private sector assumed some risk that actual ridership would not reach forecasted levels. Along with this transfer of risk, the private sector was also given the ability to set fares. The project is in the ninth year of its contract.
- **The Canada Line light rail project** in the Vancouver area is a 35-year design-build-finance-operate-maintain concession agreement developed to link Vancouver with its international airport and neighboring employment and population centers in anticipation of the 2010 Winter Olympics. A separate entity was created to oversee the project's development and the private partner provided one-third of

the project's funding, including private equity capital, in exchange for periodic payments based on performance and ridership.

While FTA's Pilot Program Is Expected to Demonstrate Potential Benefits and Limitations in Using Alternative Approaches, New Starts Process Remains a Barrier for Pilot Projects

Pilot Program to Demonstrate Potential Benefits and Limitations to Using Alternative Approaches

FTA's pilot program is expected to demonstrate potential benefits to using alternative approaches in transit.¹⁵ Project sponsors we interviewed cited a range of potential benefits, such as achieving cost and time savings, as well as potential advantages to the public sector, such as increased financing flexibility (see table 3). DOT outlined some of these same benefits and advantages in its 2007 Report to Congress on transit public-private partnerships and we similarly reported on them in 2008 for highway public-private partnerships.¹⁶ However, as we said then, benefits are not assured and should be evaluated by weighing them against potential costs and trade-offs.

¹⁵Department of Transportation, *Report to Congress on the Costs, Benefits, and Efficiencies of Public-Private Partnerships for Fixed Guideway Capital Projects* (December 2007).

¹⁶[GAO-08-44](#).

Table 3: Potential Benefits for Project Sponsors

Potential benefits
With the transference of risk, better adherence to cost and schedule targets
Enhanced efficiencies and service improvements
Increased financial flexibility and more predictable funding

Source: GAO.

Among the benefits from using alternative approaches, project sponsors told us that they may better meet cost and schedule targets as well as achieve cost and time savings by transferring risks to the private sector. With transit projects that use alternative approaches, project sponsors can transfer a range of key project risks to the private sector, such as those related to design and its effect on construction that would normally be borne by the project sponsor, so that the private sector is accountable for errors or nonperformance. By transferring these project risks, the project sponsor creates incentives for the private sector to keep the project on schedule and on budget as, for example, the private sector would be responsible for any excess costs incurred from design errors. In addition, when a project sponsor transfers multiple project risks to the private sector, it can potentially reduce the total cost and duration since a single contractor can concurrently perform project activities that would typically be carried out consecutively by multiple contractors under the conventional design-bid-build approach.

Project sponsors, stakeholders, and transit experts we interviewed told us that potential cost and time savings can be key incentives for using alternative approaches. For example, FTA reported that Minnesota Metro Transit's Hiawatha Corridor (one of the seven completed New Starts projects that used an alternative approach) was completed 12 months ahead of schedule compared to using the conventional design-bid-build approach by allowing design and construction schedules to overlap. This saved an estimated \$25 million to \$38 million since early completion led to avoided administration costs using a design-build alternative approach. Denver Regional Transportation District and the private sector completed the Transportation Expansion project 22 months ahead of schedule and within budget. In the United Kingdom, the three Docklands Light Railway extensions were built using design-build-finance-maintain approaches, and were completed 2 weeks to 2 months ahead of schedule. However, the use of alternative approaches does not guarantee cost and schedule benefits. For example, the design-build approach used by the South Florida Commuter Rail Upgrades saved 4 to 6 years by completing all upgrades as

a single project, but incurred slightly higher costs than estimated for the conventional design-bid-build approach.

Project sponsors may be able to benefit from certain efficiencies and service improvements by transferring long-term responsibility of transit operations and maintenance in addition to design and construction to the private sector. DOT's 2007 Report to Congress on transit public-private partnerships stated that the private sector may be able to add value to transit projects through improved management and innovation in a project's construction, maintenance, and operation. Project sponsors and stakeholders we interviewed stated that alternative approaches promote the use of performance measures (such as train capacity and frequency) rather than specific design details (such as the type of train). This allows the private sector to potentially generate and apply innovative solutions in the design of the transit system, adding value to the project. For example, because Denver Regional Transportation District's Transportation Expansion Light Rail project (another of the seven New Starts projects) used a design-build approach, a lessons-learned report following the project's completion stated that the project sponsor was able to incorporate 198 design modifications identified by the private sector partner during development to improve overall quality of the transit system while remaining on budget. A conventional design-bid-build contract is generally not flexible enough to allow for such design modifications without additional costs because contracts often specify the use of technical or other specifications.

When the long-term responsibilities of transit operations and maintenance are transferred, the private sector potentially has a greater incentive to make efficient design decisions. This is because the private sector can be held responsible for the condition of a transit project for longer durations than under the conventional design-bid-build approach. Houston Metro officials told us that for an earlier project that used the conventional design-bid-build approach, the project's warranty terms did not hold the construction firm responsible long enough to cover defects such as faulty track and concrete. As a result, Houston Metro had to file claims to remedy these defects. Houston Metro officials stated they chose to build its North and Southeast Corridor pilot project using design-build-operate-maintain contract in part to hold the private sector entity responsible for the quality of the project's construction for a longer period of time.

A greater private sector role in transit projects can also potentially offer certain advantages to the public sector, including increased financial flexibility and more predictable operations and maintenance funding. For

example, Denver Regional Transportation District officials said that they will make payments tied to operations to the private sector over a number of years to, in part, pay for the private sector's partial financing for the East Corridor and Gold Line pilot projects. By using the design-build-finance-operate-maintain approach, Denver may have more financing flexibility by potentially extending the payments 20 years longer than if a bond were used and the private sector were not involved in financing the project. With a longer payment period, project stakeholders told us that the transit agency could conserve funds in the short term to help it construct other new transit projects on time.¹⁷ Additionally, alternative approaches may help ensure more predictable funding for maintenance and operations since these activities can be subject to unpredictable public sector budget cycles under the conventional design-bid-build approach. Because alternative approaches for transit projects may include operations and maintenance standards in the contract, the private sector might be responsible to fund these activities within the overall contract price.

FTA's pilot program is also expected to demonstrate the potential limitations to using alternative approaches in transit, including some of those addressed in DOT's 2007 Report to Congress on transit public-private partnerships (see table 4). One limitation is that some project risks should not be transferred to the private sector. For example, it may be too costly for project sponsors to transfer certain risks, such as ridership and environmental remediation, because the private sector may want to charge an additional premium to take them on. Ridership risk refers to whether the actual number of passengers achieves forecasted levels. According to officials we interviewed, environmental remediation risk refers to whether the cleanup of hazardous materials and other conditions at a project site leads to increased project costs or schedule delays, and can encompass conditions that are identified as well as those that are not identified during surveys of a project site. Past experience in projects demonstrates the difficulty of transferring these risks to the private sector.

¹⁷The East Corridor and Gold Line projects are part of Denver Regional Transportation District's 12-year FasTracks initiative to expand transit by building six new transit corridors and extending three existing corridors.

Table 4: Potential Limitations for Project Sponsors

Potential limitations

Not all risks can be transferred, including ridership and environmental remediation risk

Reduced flexibility and control in operations

Additional public sector costs, such as transaction costs and higher-priced financing

Source: GAO.

According to officials we interviewed, ridership risk may be difficult to transfer to the private sector if transit project sponsors are reluctant to forfeit full fare-setting authority. For example, Denver Regional Transportation District chose not to transfer ridership risk for its East Corridor and Gold Line pilot projects given that it wanted to retain the right to set fares in order to keep fares uniform systemwide. Another example is the United Kingdom’s Croydon Tramlink project, which transferred ridership risk but not the ability to set fares. Officials we interviewed stated that the private partner progressively faced financial difficulties due to low ridership revenue, which led to the collapse and ultimate buyback of the partnership by Transport for London.

Additionally, if a transit project is built as an extension of an existing system, the private sector partner may not want to operate a single segment of a publicly owned system. According to officials, private investors are reluctant to assume ridership risk of any portion of a system operated by an entity they do not control. These officials said that in many cases, the private sector partner would need the authority to increase or decrease transit fares based on ridership trends and the number of transit users to assume greater ridership risk. However, because raising fares involves political considerations, including equity for low-income transit users, officials told us that most project sponsors retain the right to set fares and are unwilling to forfeit fare-setting control.

Some project sponsors that have tried to transfer ridership risk while retaining fare-setting authority have run into difficulties. According to project sponsors and transit experts, the Bay Area Rapid Transit’s Oakland Airport Connector project initially tried but ultimately was unable to transfer ridership risk in part because the private sector concessionaire (under the project’s original iteration) would not have fare-setting authority. This was also the case with the Canada Line, where the agreement was structured to incorporate a limited transfer of ridership risk to the private sector partner. Although the project sponsor wanted to transfer full ridership risk to the concessionaire, it learned that private

investors would not finance a deal with full ridership risk transfer due to their inability to control factors that influence ridership such as transit fares. As such, the project sponsor decided to transfer limited ridership risk to the private sector by basing 10 percent of its payments to the private sector partner during operations and maintenance on ridership figures.¹⁸ According to project sponsors, this transfer of ridership risk was done to induce the concessionaire to increase ridership by providing quality customer service.

Officials we interviewed also stated that environmental remediation risks may be difficult to transfer to the private sector because of the additional premium the private sector charges to address unknown factors. Denver Regional Transportation District originally planned to transfer all environmental remediation risk for its East Corridor and Gold Line pilot projects' long-term design-build-finance-operate-maintain concession. This caused the private sector to estimate a \$25 million charge for taking on this risk, according to Denver Regional Transportation District officials we interviewed. When the project sponsor decided to retain one aspect of the environmental risk related to several unknown remediation elements, the private sector dropped the cost estimate of transferring the remaining environmental risk from \$25 million to \$9 million. Moreover, as we have previously reported regarding highway public-private partnerships, it may be inefficient and inappropriate for certain risks to be transferred to the private sector due to the costs and risks associated with environmental issues.¹⁹ Permitting requirements and other environmental risks may become too time-consuming and costly for the private sector to address and may best be retained by the public sector given its stewardship role within the government. According to officials we interviewed, although the Canada Line's concession agreement transferred all key construction risks (i.e., cost overruns) to the private sector, the public authority retained risks associated with permitting and other environmental risks such as unknown contaminated soils. Further, for one early highway public-private partnership in California, the project sponsor attempted to transfer environmental permitting risk to the private sector. However, the private

¹⁸Although Canada Line structured its concession agreement to transfer 10 percent of ridership risk to the private sector, a financial advisor ran sensitivity tests on the ridership risk and determined that the actual ridership risk transferred was 1 percent once risk variance was accounted for.

¹⁹[GAO-08-44](#).

sector partner spent more than \$30 million dollars over a 10-year period and never obtained final approval to proceed with construction.²⁰

Another potential limitation in transit projects that use alternative approaches is the project sponsor's loss of control and reduced flexibility in transit operations. Because the transit project sponsor enters into a contractual agreement that gives the private partner a greater decision-making role, the project sponsor may lose some control over its ability to modify existing assets or implement plans to accommodate changes over time such as extensions, service changes, and technology upgrades. For example, in the United Kingdom, the project sponsor for Manchester Metrolink had to break two existing public-private partnership concession agreements to accommodate extensions to its system. Consultants to the Manchester project told us that breaking a concession agreement can be very expensive and can damage the relationship between the project sponsor and the private sector partner. Similarly, to accommodate increased ridership, the project sponsor for Docklands Light Railway decided to build platform expansions. However, the private sector partner was not willing to take on this additional work, requiring the project sponsor to take the extra steps to hire another party to build the platform extensions and negotiate the handover of the platforms to the private sector partner for maintenance.

Transit projects that use alternative approaches may also introduce transaction costs to the project sponsor through legal, financial, and administrative fees in addition to higher-priced financing in cases where the transit project is privately financed. According to officials we interviewed, transit public-private partnerships often require the advisory services of attorneys, financial experts, and private consultants to successfully execute the steps necessary to finalize the project's agreement. These additional services and transaction fees represent additional public sector costs that the conventional project delivery approach may not necessarily require. For example, the project sponsor for the London Underground spent the equivalent of \$112 million or approximately 1.1 percent of the concession agreement's total price to cover legal expenses, financial services, and administrative fees. Officials we interviewed also stated that Denver Regional Transportation District anticipates spending \$15 million in advisory fees for its East Corridor and Gold Line pilot projects' request for proposals submittals. In addition to

²⁰ [GAO-04-419](#).

transaction costs, public-private partnerships incur added costs when the private sector provides the financing for the project. The municipal bond market in the United States generally provides public transit agencies a cheaper source of funding because they can borrow more cheaply than the private sector. Officials also stated that the effects of the recent economic recession and failed credit markets have stymied the private sector's ability to raise revenues and provide affordable long-term debt for large transit projects due to tight lending conditions.

FTA New Starts Project Approval Process Is a Barrier to a Greater Private Sector Role in Transit

While we have previously identified FTA's New Starts grant program—which funds new, large-scale transit projects—as a model for other federal transportation programs because of its use of a rigorous and systematic evaluation process to distinguish among proposed investments, the New Starts project approval process is not entirely compatible with transit projects that use alternative approaches in that the process is sequential and phased with approvals granted separately and at certain decision points. Therefore, the New Starts process serves as a potential barrier because transit projects that use alternative approaches often rely on the concurrent completion of project phases to meet cost and schedule targets and to accrue savings and other potential benefits. Congress recognized New Starts as a potential barrier, as it authorized FTA to establish a Public-Private Partnership Pilot Program in part to identify ways to streamline the process. According to DOT's 2007 Report to Congress as well as project sponsors, their advisors, and private sector partners, the New Starts project approval process, while appropriate for the type of transit projects that have been developed over several decades, poses particular challenges for project sponsors using alternative approaches for their transit projects. The challenges they raised include (1) delays, (2) additional costs, and (3) the loss of other potential benefits, such as enhanced efficiencies and improved quality.

Delays

The sequential and phased New Starts project approval process can create schedule delays as project sponsors await federal approval. The amount of time it takes for FTA to determine whether a project can advance can be significant. A 2007 study on the New Starts program by Deloitte, commissioned by FTA to review the New Starts process and identify opportunities for streamlining or simplifying the process, found that the New Starts process is perceived by project sponsors as intensive, lengthy, and burdensome. The Deloitte study found that FTA's prescribed review times of 30 and 120 days for entry into the preliminary engineering and final design phases, respectively, are apparently arbitrary and actual review times are generally longer. In particular, the study found that FTA's

risk-assessment process delayed project development.²¹ Consultants to the Dulles Silver Line project sponsor told us that through the New Starts process, FTA has complete control over a project's schedule, and project sponsors have to put project work on hold while waiting for FTA's approval to advance into the next project phase. They also told us that construction activities on the Dulles Silver Line could not begin until the approval of a full funding grant agreement—as design and construction activities cannot be completed at the same time—and so some of the time-savings benefits of the design-build approach were lost. For the East Corridor and Gold Line pilot projects, Denver Regional Transportation District officials also told us that since enough design work will be completed during the New Starts preliminary engineering phase to request bids from the private sector, no additional design work is needed during final design and construction of the project. However, Denver officials said that, as required by New Starts, they will again prepare the design documentation for the final design and full funding grant agreement approval phases, potentially contributing to schedule delays. FTA officials told us that the resubmission of the documentation is necessary because the private sector can bid to provide something different than what was agreed upon under preliminary engineering. Houston Metro's private sector partner told us it would like to begin some construction activities on the North and Southeast Corridors, but will not be able to begin until a full funding grant agreement is awarded. As a result, the private sector partner has to delay its work until the funding process is completed. FTA officials responded that they allowed Houston Metro to carry out some construction activities in advance of their receiving a full funding grant agreement. Moreover, Houston Metro officials told us that FTA required them to submit and resubmit entire project documents to FTA multiple times, which led to delays. FTA officials told us the length of time for reviews depends on a number of factors, most importantly the completeness and accuracy of the project sponsor's submissions, and that project sponsors could help to avoid such delays by improving their submissions.²² For example, FTA officials stated that Houston Metro's projects have changed repeatedly, thus requiring multiple submittals.

Additional Costs

In addition to the costs of delays, the design of the New Starts project approval process—which is closely aligned with the conventional design-bid-build approach—may also contribute to additional project costs borne

²¹Deloitte Development LLC, *New Starts Program Assessment* (Feb. 12, 2007).

²²[GAO-09-784](#).

by the public sector when other alternative approaches are used. Project sponsors and other stakeholders for Denver Regional Transportation District's East Corridor and Gold Line pilot projects told us that the private sector must maintain its financial commitment to a project for up to several months to allow for FTA, Office of Management and Budget, and congressional review of the full funding grant agreement.²³ For example, Denver Regional Transportation District officials anticipate adhering to the sequential and phased New Starts approach to its project in order to accommodate delays from waiting for the reauthorization of the existing transportation bill, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users, and awarding a full funding grant agreement for the project. However, Denver Regional Transportation District officials told us that following this approach will likely increase the cost of the project. FTA officials told us that these additional costs stem from a lack of funding available in a surface transportation authorization period rather than FTA's New Starts requirements. Additionally, for the Dulles Silver Line, tax-increment financing funding—funding from incremental tax revenue increases generated by new construction or rehabilitation projects around the new transit line—was a major funding source for the project, contributing up to \$400 million to the \$2.6 billion project. The Dulles Silver Line project consultants told us that the project risked losing the tax increment financing funding as it took 5 years to receive a full funding grant agreement when the project sponsor originally estimated that it would take 2 to 3 years. FTA officials stated that several factors, including the decision to reexamine a tunnel option, contributed to challenges surrounding the Dulles Silver Line.

Loss of Other Potential Benefits

FTA's New Starts project approval process may also limit other potential benefits, such as enhanced efficiencies and design improvements, when transit projects use alternative approaches. For example, Denver Regional Transportation District officials told us that the New Starts project approval process requires that specific design details be included and that this requirement can prohibit a project sponsor from instead leaving such design specifications to the private sector, thus possibly limiting the ability to find innovative and cost-effective solutions for the project. When a project sponsor specifies the exact number of vehicles for the project, the private sector partners must incorporate that design detail into their

²³FTA's funding recommendations are made in the President's budget and are included in FTA's annual New Starts Report to Congress, which is released each February in conjunction with the President's budget. There is a 60-day statutory review period for Congress before the award of a full funding grant agreement.

scope, whether or not that exact number of vehicles is really needed. Due to the New Starts requirements, another project sponsor told us that it had been discouraged from using an alternative project delivery approach again after having what it believed to be a prior successful experience that included enhanced efficiencies and design improvements. A Minnesota Metro Transit official told us it initially wanted to use the design-build approach for its ongoing Central Corridor project based on the success of previously using this approach for the Hiawatha Corridor—a completed New Starts project that received a full funding grant agreement in 2000. However, Minnesota Metro Transit determined that it would have to complete 60 percent of the Central Corridor project’s design to meet FTA’s New Starts requirements for final design. DOT’s 2007 Report to Congress also cited a similar challenge regarding project design requirements. These requirements are not consistent with alternative approaches where project sponsors look to involve the private sector after only one-third, for example, of the design work is completed. Therefore, Minnesota Metro Transit decided to use the conventional design-bid-build approach to construct the project. In commenting on a draft of our report, FTA officials recognize that while additional steps could be taken to facilitate alternative approaches to transit projects, they also believe that other barriers beyond the federal approval process affect the use of these approaches, including those beyond the immediate reach of the program such as reduced available private equity capital resulting from the recent economic recession.

Greater Use of Existing Tools and an Evaluation Plan Can Help Strengthen FTA’s Pilot Program

To address these challenges of the New Starts project approval process for transit projects that use alternative approaches, Congress and FTA have taken steps to streamline New Starts by establishing the Public-Private Partnership Pilot Program. And to date, FTA has agreed to provide all three of the pilot program project sponsors with some level of relief, including expediting its risk assessment and providing Letters of No Prejudice earlier than traditionally allowed in the New Starts process to Houston Metro, and granting a waiver from federal performance bonding requirements to the Bay Area Rapid Transit Oakland Airport Connector pilot project, which FTA has also done for non-pilot program projects.²⁴

²⁴The purpose of a performance bond is to provide project sponsor funds to complete the project in the event the private sector partner defaults on the contract. FTA’s standard contract language requires contractors on federally funded projects to hold performance bonds for 100 percent of the contract price to ensure the performance of the private sector partner.

FTA has also stated its amenability to waiving its risk assessment—which aims to identify issues that could affect a project’s schedule or cost—and financial reviews, concurrently approving the project into the New Starts final design phase²⁵ while awarding an Early Systems Work Agreement for Denver Regional Transportation District’s East Corridor and Gold Line pilot projects.²⁶

However, because FTA officials told us that none of the pilot projects has demonstrated a sufficient transfer of risk or financial investment by the private sector to enable FTA to relax its normal New Starts evaluation requirements for such approvals, FTA has yet to grant three pilot project sponsors any major streamlining modifications of the New Starts project approval process, such as the awarding of concurrent approvals into the New Starts phases. Thus far, FTA has only assessed the Houston Metro pilot project to determine the extent to which FTA could streamline the New Starts process. In its November 2008 report, FTA determined that it would not relax, modify, or waive its risk assessment and financial capacity reviews prior to advancement into final design because Houston Metro retains risks in a number of critical risk areas including finance since there is no equity capital investment by the private sector partner.²⁷ Houston Metro officials said that they considered transferring more risk to the private sector to meet FTA’s threshold to waive certain New Starts evaluation requirements, but decided against doing so because of their concern that the private sector assuming certain risks to meet FTA’s threshold may potentially increase private sector bids and that they would still be able to achieve some of the benefits of using an alternative approach without equity capital investment by the private sector.

While it may be too early for FTA to grant major streamlining modifications with the other two pilot projects, FTA still has the ability as part of its pilot program to further experiment with the use of existing tools that could encourage a greater private sector role while continuing to

²⁵As part of the New Starts process, FTA approves projects into three phases: preliminary engineering (in which the designs of project proposals are refined), final design (the end of project development in which final construction plans and cost estimates, among other activities, are completed), and construction (in which FTA awards the project a full funding grant agreement, providing a federal commitment of funds subject to the availability of appropriations).

²⁶Because of limited funding commitment authority, FTA cannot entertain a full funding grant agreement at this time.

²⁷This report was prepared with the assistance of PricewaterhouseCoopers.

balance the need to protect the public interest. FTA has the ability to use conditional approvals in the New Starts process, such as (1) Letters of Intent that announce FTA's intention to issue a full funding grant agreement that would in turn agree to obligate a New Starts project's full federal share from future available budget authority, subject to the availability of appropriations, provided that a project meets all the terms of a full funding grant agreement and (2) Early Systems Work Agreements that obligate only a portion of a New Starts project's federal share for preliminary project activities, such as land acquisition. Over the past 30 years, FTA has made very limited use of these tools by only granting three Letters of Intent and four Early Systems Work Agreements to transit projects. The Deloitte study noted that New Starts project sponsors miss the opportunity to use alternative methods including design-build and design-build-finance-operate-maintain because of the lack of early commitment of federal funding for the projects, suggesting that the greater use of these tools could be beneficial. However, use of these tools is not without risk. We have previously noted that limitations to FTA making greater use of these tools, including Letters of Intent, could be misinterpreted as an obligation of federal funds when they only signal FTA's intention to obligate future funds. Furthermore, Early Systems Work Agreements require a project to have a record of decision for the environmental review process that must be completed under the National Environmental Policy Act²⁸ and require the Secretary to find that a full funding grant agreement for the project will be made and that the agreement will promote more-rapid and less-costly completion of the project.²⁹ Finally, under current statute, both of these tools—Letters of Intent and Early Systems Work Agreement—count against FTA's available funding for New Starts projects under the current surface transportation authorization.

We found that the governments of the United Kingdom and Canada use conditional approvals to help encourage a greater private sector role in transit projects. The United Kingdom's Department for Transport grants a conditional approval announcing the government's intent to fund a project

²⁸The National Environmental Policy Act requires federal agencies to evaluate and in some instances prepare detailed statements assessing the environmental impact of and alternatives to major federal actions significantly affecting the environment. In the transportation context, the National Environmental Policy Act evaluation may measure the impact of different alternatives by the extent to which the alternative meets the project purpose, need, and consistency with the goals and objectives of any local urban planning.

²⁹[GAO-09-784](#).

before it receives private sector bids provided that cost, risk transference, and scope do not change. If those conditions are not met, the project loses its government funding. This conditional approval occurs after the department reviews projects, in part to address the risk of cost increases, and thus provides a signal of project quality to the private sector to help maintain a competitive bidding process. Similarly, Transport Canada officials told us that it makes a formal announcement to state its intent to provide federal funds to a transit project after conducting its initial review of a project and before formally committing funds that allow project sponsors to move forward in development and engaging the private sector. If the agreed-upon cost, schedule, and risk transference are not met, the government withdraws its funding. United Kingdom Department for Transport officials told us that they have experience withdrawing funding when such conditions have not been met.

We also found that other U.S. Department of Transportation modal administrations use similar conditional approvals to help encourage greater private sector involvement in projects. The Federal Aviation Administration uses Letters of Intent in its Airport Improvement Program to establish multiyear funding schedules for projects that officials said allow project sponsors to proceed with greater certainty regarding future federal funding compared to the broader program and also help prevent project stops and starts.³⁰ The Federal Aviation Administration has granted 90 of these multiyear awards since 1988. The Federal Highway Administration grants early conditional approvals to highway project sponsors seeking Transportation Infrastructure Finance and Innovation Act funds to streamline the process and allow private sector bidders to incorporate these funds into their financial plans without having to individually apply as otherwise required. The Federal Highway Administration has also carried out three pilot programs that have allowed projects to move more efficiently through its grant process by modifying some of its requirements. These pilot projects waived certain aspects of the federal-aid highway procurement provisions, such as moving forward with final decision prior to a National Environmental Policy Act decision, and allowed federally funded highway projects to use alternative approaches including design-build. One of these pilot programs is cited by the Federal Highway Administration as having helped pave the way for

³⁰ According to Federal Aviation Administration officials, the agency annually grants a onetime, set amount of funding to project sponsors under the broader Airport Improvement Program.

design-build to become the standard project delivery approach in highway projects. Another pilot program allowed the Federal Highway Administration to waive regulations and policies so project sponsors in two states could contract with the private sector at a much earlier point in the project development cycle than was previously allowed.

In addition to not yet granting project sponsors any major streamlining modifications to the New Starts process, FTA does not have an evaluation plan to accurately and reliably assess the pilot program's results, including the effect of its efforts to streamline the New Starts projects for pilot project sponsors. We have previously reported that to evaluate the effectiveness of a pilot program, a sound evaluation plan is needed and should incorporate key features including: well-defined, clear, and measurable objectives; measures that are directly linked to the program objectives; criteria for determining pilot program performance; a way to isolate the effects of the pilot program; a data analysis plan for the evaluation design; and a detailed plan to ensure that data collection, entry, and storage are reliable and error-free.³¹ Without such an evaluation plan, FTA is limited in its decision making regarding its pilot program, and Congress will be limited in its decision making about the pilot program's potential broader application. FTA officials told us that they have not yet developed an evaluation plan for its pilot program given that the projects are all ongoing, far from completion, and still working through the New Starts project approval process.

³¹GAO, *Equal Employment Opportunity: DOD's EEO Pilot Program Under Way, but Improvements Needed to DOD's Evaluation Plan*, [GAO-06-538](#) (Washington, D.C.: May 5, 2006) and GAO, *Equal Employment Opportunity: Pilot Projects Could Help Test Solutions to Long-standing Concerns with the EEO Complaint Process*, [GAO-09-712](#) (Washington, D.C., Aug. 12, 2009).

Project Sponsors Have Sought to Protect the Public Interest in Various Ways and DOT Can Provide Guidance and Technical Assistance

Project Sponsors Protect the Public Interest in Various Ways, Including through Competitive Procurement Practices as Well as Performance Specifications and Standards

The alternative approaches we reviewed have protected the public interest in various ways to ensure the public receives the best price for a project and to create incentives for the private sector partner so that the project progresses and operates based on agreed-upon objectives.

Competitive Procurement Practices

Project sponsors we interviewed have attempted in part to protect the public interest in transit projects that use alternative approaches by ensuring the use of competitive procurement practices. These practices are not unique to alternative approaches and are sometimes used in conventional procurements. Competitive procurement practices are generally required to be used for federal funding. For example, federal law and regulations generally require federal contracts to be competed unless they fall under specific exceptions to full and open competition. Nevertheless, project sponsors told us that maximizing the use of these competitive procurement practices—such as encouraging multiple bidders to value and price projects—helps to ensure that the public sector receives the best bid when using these partnerships and approaches. European Union countries are required to have multiple bidders for procurements. Procurements with only one bidder are less competitive and can result in less attractive bids. For example, although Bay Area Rapid Transit prequalified three contractors for the first version of its Oakland Airport Connector, two contractors withdrew during the negotiation period due to concerns about the project affordability. Bay Area Rapid Transit negotiated with the sole remaining bidder on costs for nearly a year but

then let the Request for Proposals expire with no proposals submitted.³² To encourage the participation of multiple bidders, Minnesota Metro Transit Hiawatha Corridor and Denver's Regional Transportation District's Transportation Expansion light rail offered proposal stipends to private sector entities that submitted formal bids to help defray the costs of developing proposals. However, while serving as an incentive for potential private sector partners, stipends add costs that must be weighed against the benefits they provide.

Project sponsors that we interviewed have also encouraged early and sustained interaction with the private sector to test the project's marketability and whether and in what form private sector participation is advantageous. Such feedback can be obtained through bidder information sessions and from consultants. Project sponsors then conduct a request for qualified bidders to gain more detailed input from the private sector on a project prior to the issuance of a request for proposals (which solicits the formal bids). The request for qualified bidders can establish a higher threshold of responsibility for private partners compared to traditional procurements in which a private partner is selected based primarily on bid price. Thus, sustained and iterative interaction between the project sponsor and the private sector can refine the project's scope and terms and determine how best to include the private sector. For example, all three of FTA's pilot projects as well as Minnesota Metro Transit's Hiawatha Corridor project used a request for qualifications to select bidders and solicit the private sector's review of project details. In addition, Minnesota Metro Transit told us that input from the private sector produced several good ideas that were incorporated into the project, such as a shared risk fund to provide an incentive for the private sector to reduce construction delays. Furthermore, the Canada Line project sponsor used a list of essential elements agreed upon by the public agencies funding the project as a basis for negotiating with potential bidders.

Performance Specifications and Standards

Project sponsors that we interviewed seek to protect the public interest in alternative approaches through an emphasis on performance. Performance specifications focus on desired project performance (such as frequency of train arrivals at a station) and not design details (such as the type of train). Project sponsors and consultants told us that detailed

³²Bay Area Rapid Transit is currently undertaking another request for proposals for the project and is allowing a less-expensive cable-propelled technology to compete.

specifications that have been in conventional project delivery approaches can restrict what bidders can offer. When specifications are focused on performance, bidders can offer a range of design and technology options as well as follow best practices that meet overall project objectives. According to Denver's Regional Transportation District, the East Corridor and Gold Line pilot projects initially had a 700-page design specification document for their commuter rail vehicles. After industry review and feedback that the specifications would lead to customized vehicles that would be expensive and difficult to operate and maintain, the project sponsor responded by creating a 15-page performance specifications document for the vehicles. An advisor to the project sponsor noted that the use of design specifications is more challenging with transit projects than in highways and other sectors given the technology issues and environmental concerns. The advisor also said that projects with a range of technology options must undergo the environmental review process at the highest possible level of design given the effect of different technologies on the environment. In contrast, one project sponsor noted that performance specifications should not be used when conditions of the facility or surrounding environment, for example, are unknown as unforeseen circumstances could occur that would require more specific design specifications.

Project sponsors we interviewed have also sought to use performance standards to protect the public interest. These standards are what the private sector partner must meet to be compensated during the project's construction, operations, and maintenance phases, helping to ensure adequate performance. If the private sector partner does not meet the standards, then it is penalized with no, reduced, or delayed payments, and penalties can escalate if poor performance continues. Standards for construction include delivering a completed project or project element within a set schedule. For example, the Canada Line private sector partner had 400 milestones that it needed to complete and have certified in order to continue to receive timely payments during the project's construction period. Performance standards for operations and maintenance, also called key performance indicators, cover all aspects of service including the availability, frequency, and reliability of service and conditions of facilities. For example, the London Underground chose to emphasize key performance indicators in four areas—availability, capability, ambience, and service points—by creating performance targets and to tie monthly payments to these based on the private sector partner's actual performance. Some projects have also incorporated standards that link to increased ridership to provide incentives for the private sector partner to provide good customer service. For example, Nottingham Express Transit

has 20 percent of its payments to the private sector based on ridership. Additionally, the draft concession agreement for Denver’s Regional Transportation District East Corridor and Gold Line pilot projects incorporate levels of payment deductions that accelerate when low performance, such as delayed trains and littered or unclean railcars, persists. If low performance continues over a period, the project sponsor can terminate the concession agreement and rebid the project to another private partner.

Financial Mechanisms

Project sponsors we interviewed also protect the public interest in transit public-private partnership and other alternative approaches through the incorporation of private equity capital. When a private sector partner finances a project using equity capital, the private sector uses payments received from the project sponsor to repay its costs plus provide a return on investment. Since the private sector partner borrows to finance its costs—that is, it has equity at risk if it does not meet standards—it will be unable to meet its financial obligations from these milestone payments if those standards are not met. This situation can create incentives for the private sector partner to deliver according to the terms of the agreement. At the same time, financial advisors to project sponsors told us that bank lenders protect their investments by ensuring that the private sector properly develops a concession agreement and then delivers on it. The public interest is thus further protected by this integration of responsibilities because the bank lender and concessionaire provide additional project oversight through the monitoring of cost overruns and schedule delays, among other issues. According to the Canada Line private sector partner, it provided 17 percent equity in the project. For the Croydon Tramlink, the private sector partner contributed 30 percent of project costs. In the case of the Canada Line, the private sector partner did not miss any of its 400 payment milestones.

Flexibility

To better protect the public interest, project sponsors have also incorporated clauses into project agreements that allow for flexibility under certain circumstances. Project sponsors that we interviewed noted the importance of having the ability to periodically revisit agreement terms in long-term concessions to protect the public interest given that unforeseen circumstances may occur that make the concessionaire unable to meet performance standards. For example, Houston Metro’s North and Southeast Corridor projects’ concession agreement incorporated this flexibility by including an operations and maintenance agreement for the first 5 years after service begins with the option for renewal. According to a consultant that works on the project, this approach was chosen in part because the project sponsor wanted an option to revisit the contract.

Internationally, both of the London Underground's maintenance 30-year concession agreements are reviewed for scope of work and costs by a public-private partnerships arbiter every 7.5 years. Moreover, the concessionaire has the ability to request an extraordinary review by the arbiter if costs rise above a specified threshold due to circumstances outside the private sector partner's control.

Periodically revisiting terms, or shorter concession periods, can also allow for changes such as system extension. One of the Docklands Light Railway extensions has breakpoints at the years 2013 and 2020 in its concession agreement that give the project sponsor an option to break and buy back the agreement for a set price. In contrast, in the previously mentioned example of Manchester Metrolink, concessions for phase 2 were terminated by the project sponsor to allow for system expansion in a third phase which was not procured as a public-private partnership. According to consultants we interviewed, the terminations could have been avoided if the initial concessions had been shorter. Shorter concession periods are thus being used as a means to revisit terms and rebid if desired.

In addition to clauses that allow project sponsors to revisit concession agreement terms, other clauses that allow for flexibility can also protect the public interest. For example, Denver Regional Transportation District's draft concession agreement includes clauses specifying both triggers that could lead to default and terms of compensation in case of default as well as termination provisions that detail the condition of the transit asset at the end of the concession when it is transferred back to the project sponsor. These provisions help to minimize disputes. Other advisors to project sponsors told us that a clause specifying the sharing of "refinancing gains" between the project sponsor and concessionaire could also help to protect the public interest. Refinancing gains refer to savings that occur when the private sector revises its repayment schedule for its equity investment by taking advantage of better financial terms. As we have noted in our report on highway public-private partnerships, the private sector can potentially benefit through gains achieved in refinancing their investments and these gains can be substantial. The governments of the United Kingdom as well as Victoria and New South Wales, Australia, require that any refinancing gains achieved by private concessionaires generally be shared with the government.

Project Sponsors Also Protect the Public Interest by Using Financial Assessments

Some foreign governments have recognized the importance of protecting the public interest in public-private partnerships through the use of quantitative and qualitative public interest assessments. We have also previously reported that more rigorous, up-front analysis could better secure potential benefits and protect the public interest.³³ The use of quantitative and qualitative public interest tests and tools before entering into transit public-private partnerships can help lay out the expected benefits, costs, and risks of the project. Conversely, not using such tools can potentially allow aspects of the public interest to be overlooked. For example, a Value for Money analysis is a tool used to evaluate if entering into a project as a public-private partnership is the best project delivery option available. Internationally, the United Kingdom, and British Columbia in Canada, among others, require a Value for Money analysis for all transportation projects over a certain cost threshold. For example, all transportation projects in the United Kingdom that exceed about \$24 million must undergo a Value for Money analysis to receive project funding, while projects in British Columbia must conduct a Value for Money analysis if project costs total more than about \$46 million. Domestically, Florida requires a Value for Money analysis for public-private partnerships, one of which was recently conducted on the I-595 Corridor Roadway Improvements Project in Broward County. A Value for Money assessment was also completed for the Bay Area Rapid Transit's Oakland Airport Connector at the request of FTA.

In general, Value for Money evaluations examine total project costs and benefits and are used to determine if a public-private partnership approach is in the public interest for a given project. Value for Money tests are often done by comparing the costs of doing a proposed project as a public-private partnership against an estimate of the costs of procuring that project using a public delivery model.³⁴ Value for Money tests examine not only the economic value of a project but also other factors that are hard to quantify, such as design quality and functionality, quality in construction, and the value of unquantifiable risks transferred to the private sector. In the United Kingdom, Value for Money analysis includes qualitative factors such as the viability, desirability, and achievability of the project in addition to the quantitative factors.

³³[GAO-08-44](#).

³⁴This is known as the Public Sector Comparator, which is a hypothetical scenario that estimates the Net Present Value of the expected life-cycle costs to the public agency if it were to pursue the public-private partnerships project versus a traditional procurement.

Provinces such as Canada's British Columbia and Australia's Victoria also include qualitative factors in their financial assessments, including Value for Money analysis. Government officials stated that including both quantitative and qualitative factors in financial assessments such as Value for Money analysis provides a more comprehensive project assessment. In addition to determining whether a public-private partnership is advantageous over a publicly delivered project, project sponsors and government officials noted that a Value for Money analysis is also a useful management tool for considering up front all project costs and risks that can occur during a project's lifetime, which is not always done in a conventional procurement.

Project sponsors can also use financial assessments such as Value for Money analysis for other reasons. For example, Value for Money analysis can assist in determining which project delivery approach provides more value. Project sponsors can assess if one public-private partnership option is more advantageous than another if it is decided that private participation in a project is beneficial. For example, Bay Area Rapid Transit used a Value for Money analysis in its original iteration of the Oakland Airport Connector to assess which alternative project delivery approach (design-build-operate-maintain or design-build-finance-operate-maintain) would be more advantageous. Project sponsors can also use Value for Money to give a range of possible project costs when coupled with a sensitivity analysis. For example, a sensitivity analysis developed for the Canada Line suggested that project costs could have varied from \$47 million more to \$270 million less than expected, depending on the level of risk. A further example of how project sponsors can use Value for Money is to enhance communication about a project. Project sponsors noted that since Value for Money analyses are often publicly available, such as in the United Kingdom, they can lead to more-informed discussions and provide transparency in the selection of the project delivery approach. Thus, they can be good planning and communication tools for decision makers.

Government officials and consultants that perform financial assessments, such as Value for Money analysis, cautioned that the assessments are not without limitations. For example, officials and consultants told us that these analyses are inherently subjective and rely on assumptions that can introduce bias. Assessments can include the assumption that the public sector will likely have higher construction costs due to a history of cost overruns. In the United Kingdom, an "optimism bias" of 15 percent is added to the public sector comparator in part to account for this. Consultants noted that there is subjectivity in valuing risks as detailed data

on the probability of particular project risks occurring are unavailable. Thus consultants use data from past projects and their own professional views to conduct the analysis. In sum, government officials and consultants noted that Value for Money analysis should be considered as a tool rather than the sole factor in assessing whether to do a public-private partnership.

Although Limited in the United States, Some Other Countries Further Protect the Public Interest by Providing Guidance and Technical Assistance

Some countries have further protected the public interest in transit projects that use alternative approaches by establishing quasi-governmental entities to assist project sponsors in implementing these arrangements. Entities such as Partnerships UK, Partnerships Victoria, and Partnerships BC are often fee-for-service and associated with Treasury Departments on the provincial and national levels. These quasi-governmental entities all develop guidance such as standardized contracts and provide technical assistance to support transit projects that use alternative approaches. According to an advisor for project sponsors, contracts for these partnerships and approaches generally follow a standard model such as a framework for assigned risk between the project sponsor and private sector, with the particularities of local legislation and project specifics written into them. The United Kingdom's standard contract outlines requirements as well as factors to consider from a project's service commencement through termination, which is periodically updated to reflect lessons learned.³⁵ For example, after the government of the United Kingdom required the private sector to share any refinancing gains with the project sponsor, the standard contract was subsequently updated. Furthermore, the quasi-governmental entities provide technical assistance to support transit projects that use alternative approaches. For example, Partnerships BC provides project sponsors assistance on conducting a Value for Money assessment to determine whether private sector participation in a project is beneficial. In addition to this assistance, these entities provide other varied services to facilitate public-private partnerships across different sectors. For example, Partnerships UK reviews project proposals for the government; Partnerships Victoria offers training for the province; and Partnerships BC advises project sponsors to help develop and close public-private partnership contracts in British Columbia.

³⁵Her Majesty's Treasury, *Standardisation of Private Finance Initiative Contracts, Version 4* (London: March 2007).

Quasi-governmental entities can further protect the public interest through the benefits they provide. According to government officials in the United Kingdom and Canada, these entities create a consistent approach to considering public-private partnerships, such as understanding a project's main risks, which can reduce the time and costs incurred when negotiating a contract. Further, by using standardized contracts developed by these entities, project sponsors can reduce transaction costs—such as legal, financial, and administrative fees—of implementing transit projects that use alternative approaches. Moreover, project sponsors and consultants told us that entities like Partnerships UK and Partnerships BC can foster good public-private partnerships and help further protect the public interest by ensuring consistency in contracts and serving as a repository of institutional knowledge. Without the services provided by these quasi-governmental entities, project sponsors that plan to or use alternative approaches for a transit project will develop them on a case-by-case basis because they lack institutional knowledge and a centralized resource for assistance.

While DOT has established an office to support project sponsors of highway-related public-private partnerships, DOT does not provide similar support for transit projects. In a previous GAO report, we noted that formal consideration and analysis of public interest issues had been conducted in U.S. highway public-private partnerships, and that DOT has done much to promote the benefits, but comparatively little to assist states and localities weigh potential costs and trade-offs of these partnerships.³⁶ Since that report, the Federal Highway Administration's Office of Innovative Program Delivery has been established to provide support for highway-related public-private partnerships by providing an easy, single-point of access for project sponsors and other stakeholders. The office is intended to offer outreach, professional capacity building, technical assistance, and decision-making tools for highway-related public-private partnerships. In addition, FTA officials told us that they have plans to develop an online toolset for employees to help them provide technical assistance to project sponsors on these alternative approaches. This assistance is to include checklists to help determine whether a project should use an alternative approach, risk matrices that provide an overview and explanation of risks transferred using such an approach, and a financial feasibility model that can be used to quantitatively compare the use of an alternative approach with the conventional approach to transit

³⁶ [GAO-08-44](#).

projects. Furthermore, in June 2009, the House of Representatives' Committee on Transportation and Infrastructure's surface transportation reauthorization blueprint proposed that an Office of Expedited Project Delivery be created within FTA to provide assistance to transit project sponsors much as we have outlined earlier in this report.³⁷ However, such support is not currently available for project sponsors of transit projects that use alternative approaches. Project sponsors and their advisors noted that as there is little public sector institutional knowledge about public-private partnerships in the United States, projects may be carried out without the benefit of previous experiences. It is even more challenging to conduct transit projects that use alternative approaches in the United States given the variation in relevant state laws and local ordinances that project sponsors and other stakeholders must navigate. Furthermore, FTA's New Starts evaluation requirements for transit projects seeking federal funding do not include an evaluation of whether the public is receiving the best value for its money as compared to other delivery approaches. Thus project sponsors, advisors, and government officials noted that such an entity in the United States could be valuable in further protecting the public interest in public-private partnerships.

Conclusions

FTA distributes billions of dollars of federal funding to transit agencies for the construction of new, large-scale projects; as such, it is critical that the public interest is protected and federal funding is spent responsibly. Project sponsors are looking to transit projects that use alternative approaches to deliver and finance new transit projects, along with federal funds. However, because of its sequential and phased structure, FTA's New Starts program is incompatible with transit projects that use these approaches. Congress recognized this concern when it authorized FTA to establish the Public-Private Partnership Pilot Program to illustrate how New Starts evaluation requirements can be streamlined to better accommodate the use of alternative approaches in transit projects. However, the pilot program has not yet illustrated how this can be done. This is because, on the one hand, FTA has determined that no pilot project has demonstrated enough of a transfer of risk—in particular a financial investment by the private sector—for FTA to consider granting major modifications to streamline its New Starts evaluation requirements. On the

³⁷House of Representatives, Committee on Transportation and Infrastructure, "The Surface Transportation Authorization Act of 2009: A Blueprint for Investment and Reform" (June 18, 2009).

other hand, the potential challenges posed by the New Starts requirements, including delays and additional costs, may discourage the private sector from assuming enhanced financial responsibility in these alternative approaches.

Despite this apparent impasse, FTA still has the unique opportunity to take advantage of the fundamental characteristic of a pilot program—flexibility—to gain valuable insight on how to streamline the New Starts process to facilitate a greater private sector role in transit projects through the use of alternative approaches. FTA can introduce additional flexibility into its three pilot projects through, among other things, the use of existing, long-standing tools, such as Letters of Intent and Early Systems Work Agreements. Other agencies within DOT have used such tools successfully in the past to provide flexibility to their funding and approval processes and to advance and promulgate alternative project finance and delivery approaches. Moreover, some other countries have used conditional approvals to incorporate more flexibility into their funding processes and help encourage a greater private sector role in transit projects. FTA may want to turn to the experiences of these other modal administrations and governments and use existing, long-standing tools to incorporate more flexibility in the New Starts process to help facilitate transit projects that use alternative approaches.

Without an evaluation plan to assess the results of its pilot program, FTA may also lose some valuable information Congress intended the agency to obtain through the pilot program's establishment, including how the New Starts project approval process can be further streamlined. As more transit projects use alternative approaches, FTA may not be able to readily accommodate these approaches, ultimately disadvantaging transit project sponsors that seek to deliver their projects more quickly and efficiently and at a lesser cost to the public.

In the past, DOT has done much to promote the potential benefits of transportation public-private partnerships. While these benefits are not assured and should be evaluated by weighing them against potential costs and trade-offs, DOT has done comparatively little to equip project sponsors to weigh the potential costs and trade-offs. Recently, DOT has taken a more integrated approach to a greater private sector role in transportation, as evidenced by its newly established Office of Innovative Program Delivery for public-private partnerships. Congress has taken a greater interest in facilitating alternative approaches as well. Quasi-governmental entities established by foreign governments have better equipped project sponsors to implement alternative approaches, including

public-private partnerships, by creating a uniform method to considering the implications of alternative approaches, reducing transaction costs, ensuring consistency in contracts, and serving as a repository of institutional knowledge. FTA could consider these international models and expand its current efforts in transportation public-private partnerships to support a greater private sector role in transit directly to project sponsors. Expanded FTA efforts could facilitate the implementation of transit projects that use alternative approaches and protect the public interest through the use of tools such as standardized contracts, technical assistance, and financial assessments.

Recommendations for Executive Action

To facilitate a better understanding of the potential benefits of alternative approaches in FTA's Public-Private Partnership Pilot Program, if reauthorized, we recommend that the Secretary of Transportation direct the FTA Administrator to take the following actions:

- Incorporate greater flexibility, as warranted, in the Public-Private Partnership Pilot Program than has occurred to date by making greater use of existing tools such as Letters of Intent and Early Systems Work Agreements in order to streamline the New Starts process.
- Develop a sound evaluation plan for the Public-Private Partnership Pilot Program to accurately and reliably assess the pilot programs' results that includes key factors such as: well-defined, clear, and measurable objectives; measures that are directly linked to the program objectives; criteria for determining pilot program performance; a way to isolate the effects of the pilot program; a data analysis plan for the evaluation design; and a detailed plan to ensure that data collection, entry, and storage are reliable and error-free.
- Beyond its pilot program, build upon efforts underway in DOT to better equip transit project sponsors in implementing transit projects that use alternative approaches, including developing guidance, providing technical assistance, and sponsoring greater use of financial assessments to consider the potential costs and trade-offs.

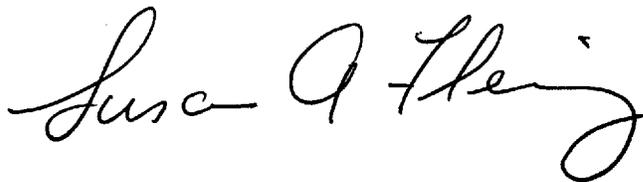
Agency Comments and Our Evaluation

We provided a draft of this report to DOT and FTA for review and comment. DOT has agreed to consider our recommendations and provided comments through e-mail from FTA officials. In their comments, FTA officials stated that the agency has ongoing and planned efforts as part of its Public-Private Partnership Pilot Program that they believe address the intent of our recommendations. For example, FTA officials noted that the agency has, as we reported, made use of tools such as Letters of Intent and

Early Systems Work Agreements in the past in order to streamline the New Starts process, and that it will evaluate the potential for greater use of these existing tools in the future to incorporate greater flexibility into the pilot program. Additionally, FTA officials acknowledged the need for an evaluation plan to assess the pilot program's results and stated they will be working to develop one. Further, FTA officials stated that FTA is working to develop technical assistance for its staff on how to structure and evaluate alternative approaches to transit projects; we revised our draft report to reflect FTA's efforts. Because these efforts are either planned or in their early stages, we are retaining our recommendations. Finally, FTA officials provided technical comments, which we incorporated as appropriate.

We are sending copies of this report to appropriate congressional committees and DOT. The report also is available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at flemings@gao.gov or (202) 512-2834. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. Key contributors to this report are listed in appendix II.

A handwritten signature in black ink that reads "Susan A. Fleming". The signature is written in a cursive, flowing style.

Susan A. Fleming
Director, Physical Infrastructure Issues

Appendix I: Scope and Methodology

Our work was focused on transit projects that involve greater private sector participation than is typical in conventional projects. In particular, we focused on (1) the role of the private sector in the delivering and financing of U.S. transit projects compared with other countries; (2) the benefits and limitations of and the barriers, if any, to greater private sector involvement in transit projects and how these barriers are addressed in the Department of Transportation's (DOT) Public-Private Partnership Pilot Program; and (3) how project sponsors and DOT can protect the public interest in transit projects that use alternative approaches. Our scope was limited to identifying the primary issues associated with using public-private partnerships for transit infrastructure and not in conducting a detailed financial analysis of the specific arrangements.

In order to clearly delineate alternative delivery and financing approaches used in transit, first we identified three categories—traditional, innovative, and alternative—that describe the evolution of such practices. We defined traditional financing to include federal grants (such as New Starts program grants), state and local public grants, taxes, and municipal bonds, and defined conventional project delivery to refer to the design-bid-build approach. We defined innovative financing to include loan or credit assistance such as the Transportation Infrastructure Financing and Innovation Act, Private Activity Bonds, Tax Increment Financing, State Infrastructure Banks, Grant Anticipation Notes, and Revenue Bonds, and innovative project delivery to refer to the design-build approach. Finally, we defined alternative financing to refer to public-private partnerships that involve private equity capital such as concession agreements and defined alternative approaches as ones that transfer greater risk to the private sector including: design-build, design-build-finance, design-build-operate-maintain, build-operate-maintain, design-build-finance-operate, design-build-finance-operate-maintain, build-operate-own, and build-own-operate, among others.

We took several steps and considered various criteria in selecting which domestic transit projects to study as part of our review of alternative financing and project delivery practices. First, we reviewed transit project information from DOT, GAO, the Congressional Research Service, and other reports as well as conducted interviews with DOT officials, project sponsors, industry representatives, and academic experts to identify the potential universe of projects that fit at least one (alternative project delivery or alternative financing) or both of our established definitions. We also selected projects that were either completed or had already carried out substantial planning. The potential universe of projects contained 10 completed projects including: Denver Regional Transportation District

Transportation Expansion Light Rail (design-build), South Florida Commuter Rail Upgrades (design-build), Minnesota Metro Transit Hiawatha Corridor Light Rail Transit (design-build), Bay Area Rapid Transit Extension to San Francisco International Airport (design-build), Washington Metropolitan Area Transit Authority Largo Metrorail Extension (design-build), Hudson-Bergen Light Rail Transit Minimum Operating Segment 1 (design-build-operate-maintain), Hudson-Bergen Light Rail Transit Minimum Operating Segment 2 (design-build-operate-maintain), John F. Kennedy Airtrain (design-build-operate-maintain), Portland MAX Airport Extension (design-build), and Las Vegas Monorail (design-build-finance-operate-maintain). We also included 3 ongoing transit projects as part of the universe: Bay Area Rapid Transit Oakland Airport Connector (design-build-operate-maintain), Denver Regional Transportation District East Corridor and Gold Line pilot projects (design-build-finance-operate-maintain), and Houston Metro North and Southeast Corridor pilot projects (design-build-operate-maintain). Second, we determined that we would focus solely on projects that have or are expected to go through the Federal Transit Administration's (FTA) New Starts process given that this is the largest capital grant program for transit projects and that any such projects would be reviewed to protect the public interest (i.e., projects not entirely funded by the private sector). This eliminated the John F. Kennedy Airtrain, Portland MAX Airport Extension, and Las Vegas Monorail projects. Third, we applied three of four criteria from FTA's Report to Congress¹ to the remaining projects, including (1) project costs were reduced, (2) project duration was shortened, and (3) project quality was maintained or enhanced.² This eliminated the South Florida Commuter Rail Upgrades, Hudson-Bergen Light Rail Transit Minimum Operating Segment 1 and Minimum Operating Segment 2, and the Bay Area Rapid Transit Extension to San Francisco International Airport.

We decided to select all three of the ongoing pilot projects—Bay Area Rapid Transit Oakland Airport Connector, Denver Regional Transportation District East Corridor and Gold Line, and Houston Metro North and

¹Department of Transportation, *Report to Congress on the Costs, Benefits, and Efficiencies of Public-Private Partnerships for Fixed Guideway Capital Projects* (December 2007).

²FTA did not have sufficient information for most projects related to the fourth criterion—procuring agencies funding sources were leveraged or enhanced. Therefore, we omitted this criterion.

Southeast Corridors—given that FTA views these projects as currently having the most private sector potential and thus designated them as their three Public-Private Partnership Pilot Program projects. We also decided, given our limited resources, to select two of the remaining three completed projects—Minnesota Metro Transit Hiawatha Corridor and Denver Regional Transportation District Transportation Expansion—as DOT’s Report to Congress identified these two projects as having successful collaborations with their respective departments of transportation, including their highway counterparts, which have greater experience than transit in using alternative project delivery and alternative financing. This eliminated the Washington Metropolitan Area Transit Authority Largo Metrorail Extension. These projects were selected because they are recent examples of ongoing and completed transit projects in the United States that incorporated greater private sector involvement through the use of alternative project delivery or financing approaches or both.

To select which international countries we would include as part of our review of alternative financing and project delivery practices, we conducted a literature review of international transit public-private partnerships as well as conducted interviews with DOT officials, project sponsors, industry representatives, and academic experts to identify the potential universe of countries with significant experience in transit public-private partnerships, including projects that fit at least one (alternative project delivery or alternative financing) or both of our established definitions. Second, we determined that we would collect the most valuable and relevant information from countries that share a similar political and cultural structure to the United States. Third, given our limited resources, we decided to select only two of the three remaining countries. Thus, we ultimately identified Canada and the United Kingdom for our international site visits. Issues discussed in the report related to the interpretation of foreign law, including the character of public-private partnership agreements, and their limitations, were evaluated as questions of fact based upon interviews and other supporting documentation.

To determine how transit projects that use alternative approaches have been used in the United States, we collected and reviewed descriptions of the projects, copies of the concession or development agreements, planning documents, and documentation related to the financial structure of the projects in addition to academic, corporate, and government reports. We conducted, summarized, and analyzed in-depth interviews with project sponsors and private sector participants about their experiences with alternative financing and procurement in transit projects.

We also reviewed pertinent federal legislation and regulations, including: Federal Register Notices and guidance for FTA's Public-Private Partnership Pilot Program and the New Starts Program; DOT's Report to Congress on the Costs, Benefits, and Efficiencies of Public-Private Partnerships for Fixed Guideway Capital Projects; and other DOT reports.

To identify the potential benefits and potential limitations of transit projects that use alternative approaches, and what barriers project sponsors face in the United States, we conducted, summarized, and analyzed in-depth interviews with domestic project sponsors and private sector participants including private investors, financial and legal advisors, project managers, and contractors. In addition to these domestic experts, we conducted extensive interviews with various international stakeholders, experts, and private sector officials from Canada and the United Kingdom that were knowledgeable in greater private sector participation in the financing and procurement of transit projects. We also conducted a literature review; summarized and analyzed key benefits, limitations, and barriers to greater private sector participation; and interviewed FTA and other federal and local officials associated with the projects we selected as well as private sector officials involved with United States transit public-private partnership arrangements.

To determine how project sponsors and DOT can protect the public interest in transit projects that use alternative approaches, we conducted site visits of selected transit public-private partnerships and visited the United Kingdom and Canada, which both had more experience conducting transit public-private partnerships. We conducted, summarized, and analyzed in-depth interviews with project sponsors, private sector participants, international stakeholders, and experts regarding the competitive procurement process, robust concession agreements, and Value for Money analyses, among other topics. We also examined international mechanisms that were implemented for projects including Croydon Tramlink, Docklands Light Railway, London Underground, Manchester Metrolink, and Nottingham Express Transit in the United Kingdom and the Canada Line in Vancouver, Canada, to provide insight on how project sponsors and DOT can protect the public interest in transit projects that use alternative approaches. We also held in-depth interviews with FTA on its steps to protect the public interest in federally funded transit projects with greater private sector participation including programs like FTA's Public-Private Partnership Pilot Program and the New Starts Program.

We conducted this performance audit from October 2008 through October 2009 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Appendix II: GAO Contact and Staff Acknowledgments

GAO Contact

Susan Fleming, (202) 512-2834 or FlemingS@gao.gov

Staff Acknowledgments

In addition to the individual named above, Steve Cohen, Assistant Director; Jay Cherlow; Patrick Dudley; Carol Henn; Bert Japikse; Joanie Lofgren; Maureen Luna-Long; Amanda K. Miller; Tina Paek; Amy Rosewarne; Tina Won Sherman; and Jim Wozny made key contributions to this report.

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