Sixth International Conference on Construction in the 21st Century (CITC-VI)
"Construction Challenges in the New Decade"
July 5-7 2011, Kuala Lumpur, Malaysia

Public Private Partnership in U.S. Infrastructure Projects: Port of Miami Tunnel Case Study

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Abstract
Public-Private Partnership (PPP) in construction is becoming more popular in the USA. Highway transportation agencies across the United States are facing a fiscal challenge caused by the growing gap between the costs of providing and preserving the highway infrastructure and available highway program funding. The inability of motor fuel taxes to provide adequate funding has prompted transportation policymakers to consider alternative ways to finance and deliver needed transportation infrastructure. Public-Private Partnerships (PPPs) represent a wide variety of project financing and delivery approaches which offer the potential to expedite project delivery, operations, and maintenance in a more cost-effective manner, enabling transportation agencies to effectively "do more with less." This paper focuses on the application of public private partnership used in the Port of Miami Tunnel. Also included, are the lessons learned and challenges faced before the start and during the first phase of construction of the project.

Keywords
Public-Private Partnership (PPP), project financing, infrastructure construction, tunnel, Port of Miami

1. Introduction

Transportation infrastructure is widely recognized as an essential feature of economic vitality and national security. The United States of America, as with many other countries, finds itself with an aging infrastructure and funding that is significantly lagging current maintenance and future growth (Mallet 2008; Transportation for Tomorrow 2007).

Public-Private Partnership, also referred to as PPPs, P3s, 3Ps, PFI (Private Finance Initiative), or PPV (Public-Private Venture), offer a potential mechanism to fund a portion of the on-going transportation infrastructure needs. PPPs have been implemented successfully in the U.S. and in many parts of the world, such as Australia and Ireland (Chan et al 2010; Soliño & Vassallo 2009; National Audit Office 2008; Deloitte 2007; U.S. Department of Transportation 2005; U.S. Department of Transportation 2007b). In the United States, transportation projects such as the interstate highway system have been built based on a Public-Private Partnership between the Federal and State governments. Adding a private partner to this mix can be challenging. There is a need to identify factors that would enable the U.S. to implement PPPs in transportation more effectively.

The National Council for Public-Private Partnerships (NCPPP) defines a public-private partnership as "a contractual agreement between a public agency (federal, state, or local) and a private sector entity. Through this agreement, the skills and assets of each sector (public and private) are shared in delivering a service or facility for the use of the general public. In addition to the sharing of resources, each party shares in the risks and rewards potential in the delivery of the service and/or facility." The range of the PPP projects in terms of public and private activities are defined by NCPPP is shown in Figure 1.

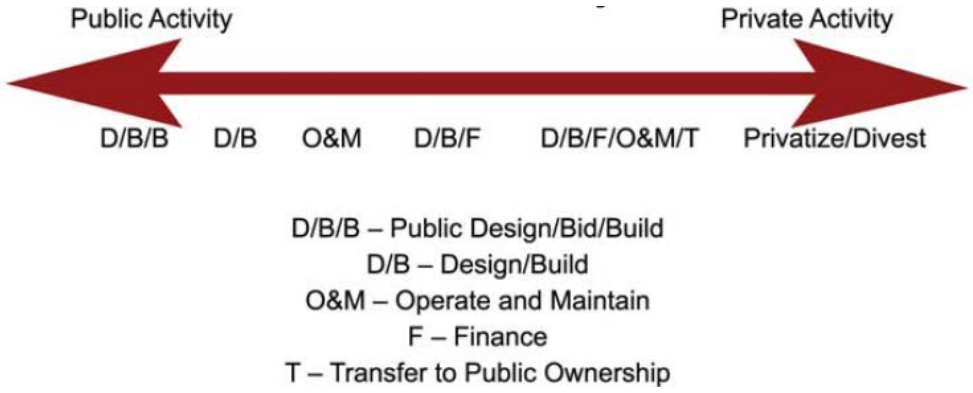

Figure 1: Range of PPP Projects (Source: AGC White Paper on Public-Private Partnerships - The Risks and Opportunities)

The objective of the paper is to present a brief overview of PPP models being used globally and provide an assessment of potentials of PPP projects in the U.S.A. The Miami Port Tunnel project is discussed as a representative case study in this context.

The rest of the paper is organized as follows. We begin with the overview of public-private partnership practices and the research that has already been conducted on this subject. We investigated models used globally in various sectors such as transportation, water supply, educational facilities, housing, hospitals etc. Next, we looked into the state of PPP in U.S.A. with respect to financial allocation of budgets for infrastructure projects from the period between 1999 and 2010. In the rest of the paper, we presented the case study of Port of Miami tunnel. This project is currently under construction under a PPP arrangement. This is the first PPP project in Miami (Florida). Included in this section, are the important events, facts and challenges associated with this project beginning from 1981 to 2010. Finally, we conclude the paper with the summary of our observations and key findings from the case study.

2. Overview of Public-Private Partnership Practices

Sagalyn (2007) contended that existing Public–Private (PP) projects have three generations. In the first generation, mistakes easily emerged due to lack of experience by public and private partners and their consultants. In the second generation, large development companies developed specialized PP urban development projects, often by employing planners who managed PP projects for public entities or led PP corporations. As a result of social development, the third generation has emerged, which are PP projects initiated by developers seeking private-sector involvement. The number of PP projects is expanding in the third generation and it is anticipated that they would be used more widely in public service, city reconstruction, and so forth. The idea of allowing private firms to finance projects of public sector infrastructure results in the emergence of PPPs (Li and Akintoye, 2003; The World Bank, 1992). However, due to many forms of PPP projects and situations in different countries, PPP has various definitions. In the UK, the United Nations Development Programme (2005), when planning PPPs for the Urban Environment, stated that the definition of the PPP should be broad such that even the informal dialogues between government officials and local community-based organizations, which are perceived to

be essential to successful PPPs, should be included. In the US, the National Council for Public-Private Partnership defines a PPP as a "contractual arrangement between a public sector agency and a for-profit private sector developer, whereby resources and risks are shared for the purpose of delivery of a public service or development of public infrastructure" (Li and Akintoye, 2003; United Nations Development Programme, 2005). In Canada, the Council for Public-Private Partnerships (2004) defines a PPP as a "cooperative venture between the public and private sectors, built on the expertise of each partner, which best meets clearly defined public needs through the appropriate allocation of resources, risks and rewards". In Hong Kong, Efficiency Unit (EU) has developed another definition. The EU was set up as a unit of the Office of the Chief Secretary for Administration in Hong Kong in 1992. The vision and mission of the Unit are to provide bureaus and departments with high quality management consultancy services and to advance the delivery of world-class public services to the people of Hong Kong (Efficiency Unit, 2005b).

Public-Private Partnerships (PPPs) have been implemented broadly around the world. In the 1980s, the United Kingdom pioneered the development of a particular form of PPPs, creating the Private Finance Initiative (PFI) in 1992 to further promote PPP agreements. As of December 2006, 794 PFI projects had been signed involving around £ 55 billion of capital value (CBI, 2007; HM Treasury, 2006). Other European countries have also invested in PPPs, especially Ireland, Portugal, Greece, the Netherlands, and Spain (PricewaterhouseCoopers, 2005; EIB, 2004) and large PPP projects have been implemented in the U.S. In a review of PPP activity, PricewaterhouseCoopers (2005) reports that 206 PPP contracts were signed worldwide in 2004-5 involving USD 52 billion in investments.

PPP agreements in developing countries have grown steadily since the 1990s. According to the World Bank's Private Participation in Infrastructure database, 2750 infrastructure projects involving private and public investment for capital value of USD 786 billion have been implemented in 1990-2003 (in 2002 constant dollars). Around 1000 projects and 47% of the investment took place in Latin American and the Caribbean (LAC) countries, where Chile and Mexico were pioneers in the use of PPPs (IMF, 2004).

Since the 1980s, and particularly after the United Kingdom developed the PFI program, PPPs have been introduced in many sectors, mainly water and sanitation, transports, energy, and telecommunications. In recent years, countries with a large experience in this kind of private participation in public services provision, such as the United Kingdom, Australia, Canada, Ireland and the Netherlands have introduced PPPs in areas such as education, health, water and waste management (Hammami et al., 2006).

In LAC countries, PPPs were implemented mainly through concession contracts in the 1990s, 3 out of 4 PPP agreements were of this type (Fay and Morrison, 2005). Concessions targeted water services and transports, including ports, airports, roads, and railways (Hammami et al., 2006). The private partner was given the right to operate a service for a long period of time, while the public-sector party retained asset ownership and regulatory power. Since the private partners operating in these sectors were often foreign companies, privatizations became a politically sensitive issue and governments opted for concession contracts (Guasch et al., 2003). However, privatizations were the norm in energy and telecommunication sectors (Hammami et al., 2006). For example, Argentina, Bolivia, Brazil, Chile, Colombia, and Peru privatized the great majority of their energy distribution and generation facilities. Transferring public asset ownership to the private partner required deep legal reforms (and even constitutional reforms) to lift institutional constraints on state-owned enterprises divestiture and on land expropriation.

3. Globally used Public-Private Partnership Models

PPP arrangements come in many forms and are still an evolving concept which must be adapted to the individual needs and characteristics of each project and project partners. As a result, there are various types of PPPs, established for different reasons, across a wide range of market segments, reflecting the

different needs of governments for infrastructure services. Although the types vary, two broad categories of PPPs can be identified: firstly, the institutionalized kind that refers to all forms of joint ventures between public and private stakeholders and secondly, contractual PPPs (Gunnigan and Rajput, 2010). The most common PPP models are Design-Build (DB), Design-Build-Maintain (DBM), Design- Build-Operate (DBO) or Build-Transfer-Operate (BTO), Design-Build-Operate-Maintain (DBOM) also known as Build-Operate-Transfer (BOT), Build-Own-Operate-Transfer (BOOT), Build-Own-Operate (BOO) and Build-Own-Operate/Maintain (DBFO, DBFM or DBFO/M). PPPs can also be used for existing services and facilities in addition to new ones. Some of these models are Service Contracts, Management Contracts, Lease, Concession and Divestiture (Deloitte 2006). Table 1 shows the PPP models used in various sectors world wide. Globally, PPPs have played a central role in answering the pressing need for new infrastructure development especially in the transportation sector, i.e. roads, tunnels, bridges, airports, ships, railways, and other forms of transportation. Thus transportation is the largest sector implementing the PPP model in the world. Factors that make most transportation infrastructure ideal for PPPs are firstly, the strong emphasis on the role of cost and efficiency helps to align private and public interests and secondly, the growing public acceptance in many countries of associated user fees for assets such as roads and bridges which makes private financing easier in this sector. The ability to limit participation to paying customers, in the form of train tickets or bridge tolls, ensures a revenue stream that can offset all or some of the cost of provision in many countries, a format readily understood by the private sector. The scale and long-term nature of these projects are well served by PPPs (Gunnigan and Rajput, 2010).

Table 1: PPP models used in various sectors in different countries (Adapted from Deloitte, 2006)

Sector	Country	PPP Models
Transportation	Australia, Canada, France, Greece, Ireland, Italy, New Zealand, Spain, UK, US, India	DBOM, BOOT, Divestiture
Water, Wastewater, and Waste	Australia, France, Ireland, UK, US, Canada, India	DB, DBO, BOOT, Divestiture
Education	Australia, Netherlands, UK, Ireland, India	DB, DBO, DBOM, BOOT, DBFO/M, integrator
Housing/Urban Regeneration	Netherlands, UK, Ireland	DBFM, joint venture
Hospitals	Australia, Canada, Portugal, South Africa, UK	BOO, BOOT, integrator
Defence	Australia, Germany, UK, US	DBOM, BOO, BOOT, alliance, joint venture
Prisons	Australia, France, Germany, UK, US	DB, DBO, BOO, management contract

4. Public-Private Partnership Projects in the U.S.A.

In ENR August 2010, Herbert Lutkestratkotter CEO of Germany's Hochtief said that increasing national debt loads among major countries, particularly in Europe and the U.S., may stifle some public infrastructure spending, which is another concern. Public-sector cuts will be widespread, but there will be a shift in government spending into public-private partner (PPP) spending. He is bullish about growth prospects of private-sector construction investment in Asia, fuelled by an emerging middle class. Mr. Lutkestratkotter also predicts increasing opportunities in the concerns/PPP markets in a few years. He also said that Germany was a latecomer to PPP procurement, but there is a constant deal flow. The U.S. is behind, Germany, but remains potentially attractive to Hochtief. In the same article, Deputy CEO of France's Bouygues Construction SA, Michel Cote said that PPP financing conditions are improving, but they are still nothing like they were three years (2007) ago. He also said that the lack of long-term debt

continues to hurt. Bouygues has started design of the Miami Tunnel project, procured under PPP. He said that we are not considering new PPPs in the States. We have found it was easier for us to bid in Canada. Since Canadian PPPs are structured like those in the U.K., and are familiar to the French. Johan Karlstrom, CEO of Sweden's Skanska AB said that PPP prospects in the U.K., one of the biggest markets will continue, but we expect to see cuts but the firm recently has closed major deals in Europe and plan to seal a $300 million highway PPP in northern Chile in 2010. He also said that he is looking at several projects in Latin America (Reina and Tulacz, 2010).

The United States is a relatively newcomer to PPPs. There is an old nineteenth-century tradition of privately provided public infrastructure and even of private tolled roads and bridges. The United States still depends almost exclusively on the government for its public transport infrastructure (with the important exception of railroads). The two-decade trend toward PPPs that has revitalized the ways that many countries provide infrastructure has gained only little traction in the United States. Whereas, the United Kingdom financed $50 billion in transportation infrastructure via PPPs between 1990 and 2006, the United States, an economy more than six times as large as that of the United Kingdom, financed only approximately $10 billion in PPP between those years. The use of PPPs in the U.S. infrastructure projects increased fivefold between 1998-2007 and 2008-2010. Figure 2 shows Public-Private Partnership Investment in the U.S. Transportation Sector.

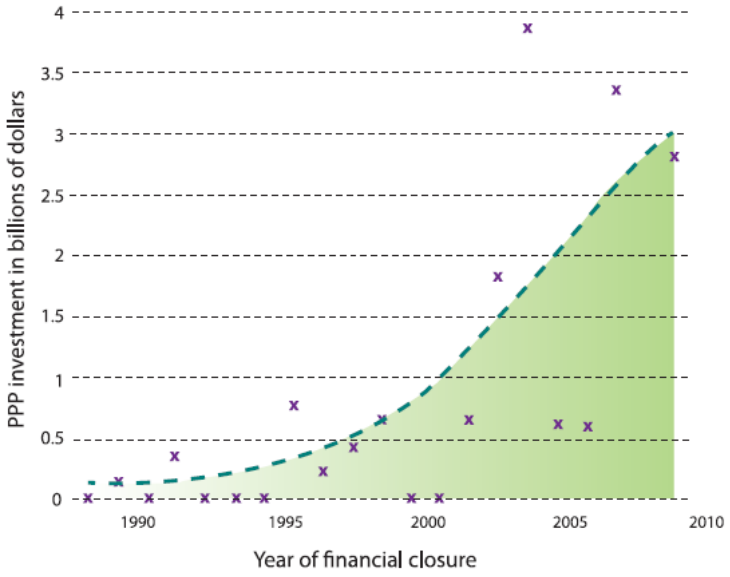

Figure 2: Public-Private Partnership Investment in the U.S. Transport Sector (Source: Fischer Galetovic, 2011)

5. Case of the Port of Miami Tunnel

5.1 Background and Importance

The Port of Miami Tunnel - a project currently under construction is well publicized for its design, engineering and construction challenges. It faced a very difficult ground condition including its location under a ship-busy channel. The reason we selected this case for this paper, is because the project is currently under construction[1] and will affect the lives of a large number of in south Florida. It includes twin tunnels

[1] Almost a year, May 24, 2010 – Florida Department of Transportation (FDOT) issues Notice to Proceed 2, allowing the contractor, Bouygues Civil Works Florida (BCWF), to begin construction

connecting S.R. A1A/MacArthur Causeway and the Port of Miami, as well as Watson Island surface road work, widening the MacArthur Causeway Bridge, and the rebuilding of the bridge and roadways on Dodge Island. The tunnel will provide direct access between the seaport, I-395 and I-95; create another access to the port besides the Port Bridge, now the only connection to the mainland; keep the Port of Miami, which is the county's second largest economic generator after the airport, competitive; improve traffic in downtown Miami by reducing the number of cargo trucks and cruise line buses from congested downtown streets. The importance of the project is such, that it was ranked no. 3 by the *Engineering News Record* magazine in their 2010 article "Top Stars in the Southeast".

Figure 3 shows the various component of this project. The red portion of this figure shows the MacArthur Bridge Work. The work includes addition of one more lane in each direction and reconfiguring of bridge lighting. The blue portion covers Watson Island Construction. In this part of construction, they are moving frontage road south and shifting eastbound and westbound lanes on MacArthur to make room in the median for the tunnel dig-in site. The yellow portion of work includes Eastbound/ Westbound Tunnel Work. This portion comprises of mining using 42ft Tunnel Boring Machine (TBM), construction of structures inside tunnel, build out of emergency exits, and mechanical and electrical installations. Finally, the green portion is for Dodge Island Construction. This portion will include building of Control Center Building, removal of bridge separation inbound cruise traffic from outbound cargo traffic and creating new roadway network.

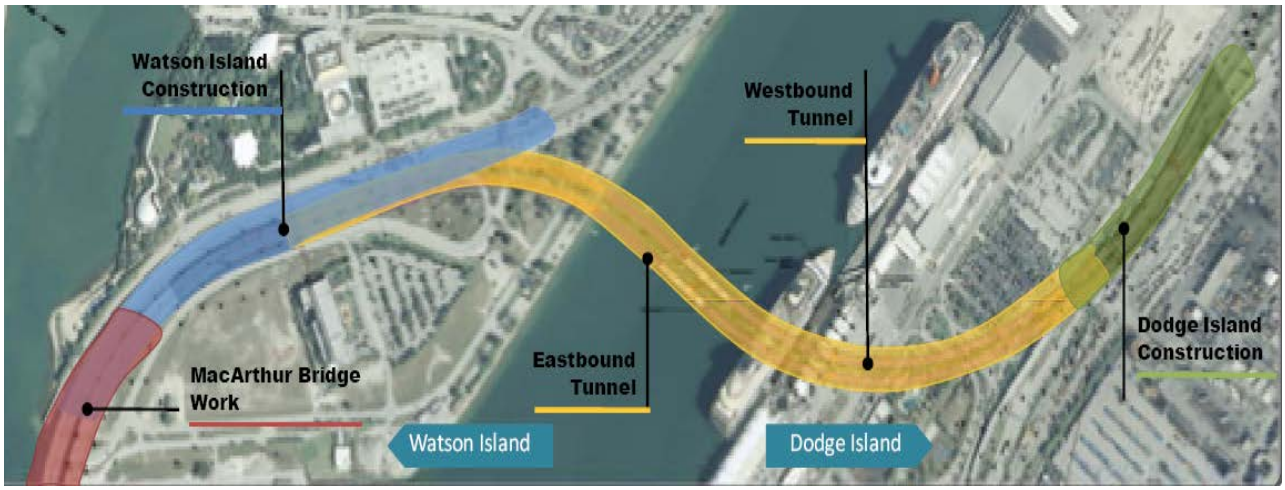

Figure 3: Various Components of Port of Miami Construction Project (Source: http://www.portofmiamitunnel.com/)

As mentioned earlier, the Port is Miami-Dade County's second most powerful economic engine after Miami International Airport, generating $17 billion in revenue, $6.4 billion in wages and directly or indirectly providing 176,000 jobs. This project came under the aegis of District Six and it is being developed through a public-private partnership involving FDOT, Miami-Dade County, the City of Miami and a concessionaire. On February 15, 2008, the FDOT awarded a 35-year contract (concession) to the Miami Access Tunnel team to design, build, finance, operate and maintain the tunnel which will end on October 15, 2044. The state will make availability payments for its use. The available project schedule shows that it should be finished in spring 2014 as shown in Table 2.

At present, the Port of Miami provides 176,000 jobs and handles $17 billion annually. The tunnel will create 81,800 new jobs, plus $5 billion in wages, and $12 billion in economic output, and will increase

commerce exponentially, which is especially important, since this state is currently has a 11-12% unemployment rate. In general, the Port of Miami Tunnel will help the local and national economy the following way: to provide direct connection from the Port of Miami (POM) to interstate highways; to maintain the Port of Miami as the County's second leading economic generator; to get rid of congestion from downtown streets, and; to keep the Port of Miami competitive.

Table 2: Construction Schedule of Port of Miami Tunnel (Source: Citizens' Transportation Advisory Committee Maritime Subcommittee Meeting, May 11, 2011)

Date	Major Events
May 24, 2010	Construction began on Watson Island
December 2010	Construction began on Dodge Island
Late June 2011	Arrival of TBM in Miami
Fall 2011	Beginning of eastbound tunnel boring
Spring 2012	Completion of eastbound tunnel
Spring 2013	Completion of westbound tunnel
Spring 2014	Completion of Dodge Island roadway improvements
May 15, 2014	Grand opening of the Port of Miami Tunnel

The Port of Miami Tunnel is one of the largest infrastructure projects ever built in South Florida. This is not another road project; it is a state of the art transportation project. It will reflect the South Dade Community. Once completed, the tunnel will be an important part to prepare the Port of Miami and the region for the future. This is the first major tunnel in the state of Florida history, and it is a win for the Port of Miami, downtown, and economic prosperity for the whole region of South Florida. The tunnel has a lot of positive benefits. It can be included the elimination of port truck traffic on the streets of Miami, which will help to provide also more pedestrian friendly development in downtown. The Port of Miami will have an auspicious future after the tunnel start operations. Other U.S. cities like Savannah, GA, west of California, and cities around the world like east of Shanghai, and south of Latin America, just mentioned some areas, will get profit from port when it opens.

Some of the major events for the Port of Miami tunnel are important to discuss here. In October 1981, Miami Dade Port of Miami Transportation Planning Committee established Port of Miami Access Task Force. This organization adopted plan recommended by Port of Miami Access Task Force, which includes tunnel alternative on March 1982. The Board of County Commissioners approved Port of Miami Transportation Improvement Plan, which became the basis of agreement between City of Miami and County on August 1984. This includes construction of 4 lanes underwater and an underground tunnel to provide direct access from SR 836 /I-395 to the Port. After 6 years, on August 1990, the FDOT received a letter from City of Miami confirming that location of tunnel portal on Watson Island is consistent with development plans for Watson Island. In December 2005, FDOT hosted industry forum to examine the Public Private Partnership opportunities for this project. Four months later, FDOT announced short list of qualified proposers in April 2006. In November of the same year, they issued a Request for Proposals for short listed proposers. They also announced in May 2007 that they intended to select the Best Value Proposer for Miami Access Tunnel. After twenty six years in October 2007, Miami Dade Board of County Commissioners agreed to fund a portion of project ($402,500,000.00) provided that the City of Miami also contributed a portion of the local funding. The same year in December, the City of Miami Commission agreed to fund a portion of project ($55,000,000.00). Miami Dade Board of County Commissioners approved global agreement for the City of Miami megaplans that included the Port of Miami Tunnel, Florida Marlins stadium and other projects. After 2 years and 4 months, FDOT announced plans to continue for procurement process and finally in May 2010, FDOT issued Notice to Proceed 2, allowing the contractor Bouygues Civil Works Florida to begin construction.

The primary objectives for offering the project as a Public-Private Partnership are: to achieve the most efficient possible design, construction and maintenance of the project; to ensure a high level of tunnel quality, safety, security and service, and; to equitably share risks with a capable private partner.

5.2 Contractual and Delivery Method

The PPP, in this case, is a contractual agreement between Florida Department of Transportation (FDOT), and a private sector organization with the qualifications to carry out the specific duties. Miami Access Tunnel (MAT) Concessionaire, LLC (MAT) hired Bouygues Civil Works Florida (BCWF) to design and build the project. MAT is under contract with the FDOT for a 35 year enterprise. Bouygues Civil Works Florida is the design-build contractor and VMS/Transfield is the Operations and Maintenance operator. The concession agreement is the contract entered into by FDOT and the organization selected in a competitive bidding process to design, build, finance, operate, and maintain the POMT project over the defined term. The PPP includes the design, build, finance, operation and maintenance of the POMT. As stated above, it is a 35-year concession agreement, which includes 55 months for design and construction. Figure 4 shows the organization of PPP for this project. This contractual structure transfers most risk for the construction cost overruns, schedule delays and the long-term cost of operations and maintenance to the private sector. This way it will ensure that the private organization builds a quality product and operates and maintains it properly.

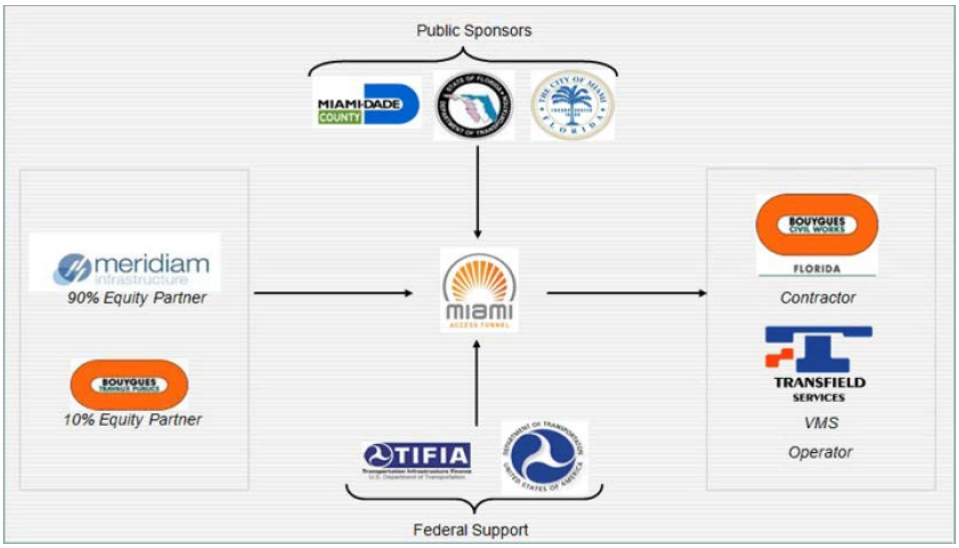

Figure 4: Organization of PPP (Source: http://www.portofmiamitunnel.com/)

The Port of Miami Tunnel is a very intricate project. The PPP structure transfers most risk for construction cost overruns, schedule delays and the long-term cost of operations and maintenance to the private sector organization. It also assures FDOT a fixed long term price structure. Additionally, if the selected organization under performs, FDOT will be able to reduce the payments. That financial incentive will guarantee that the organization builds a quality product and operates and maintains it in a first class condition. This approach (PPP) is also ideal when the public agency does not have complete monies in place to construct the project. The PPP permits a private financing of a percentage of the project costs to deliver the project earlier. The winning proposer formed that company only for the purpose of entering into this agreement with FDOT.

The two finance investors in the company are Meridiam Infrastructure Finance, made up of nine banks, and with 90 percent equity, and Bouygues Travaux Publics with 10 percent equity. The company hired top of the line subcontractors for the design, construction, and operations of the project. The 35-year term,

including both the construction and operating period, began on October 15, 2009, and will end on October 15, 2044.

One of FDOT's major goals in procuring the Port of Miami Tunnel as a PPP is the transference of significant portions of the construction and operating risk to the private sector concessionaire. In general, all risks, which were not expressly assumed in whole or in part by FDOT, were assumed by the concessionaire. In particular, the concessionaire bears substantially all of the risk associated with design, construction, operating, maintenance, and financing. Table 3 summarizes the allocation of project risk between FDOT and the concessionaire.

6. Concluding Remarks

The Port of Miami Tunnel is one of the transportation megaprojects underway in south Florida. It is also the largest and most innovative PPP in the history of Florida and the FDOT. After years of political battles, and funding fits and starts, Miami's tunnel is taking shape. The Public-Private Partnerships, and Build Operate and Transfer contractual approaches in this project are excellent. This project is also the first application of availability payments for reimbursing concessionaires over the contract terms, following project completion. The Florida Department of Transportation entered into a Concession Agreement with a concessionaire to Design, Construct, Finance, and Operate and Maintain the Facility over a specific period of time. Once completed, the project is expected to significantly reduce traffic congestion, air pollution, and fuel consumption in downtown Miami while increasing the safety of vehicles travelling to and from Port facilities via the tunnel which will be linked directly to the regional interstate system.

Table 3 - Overall Risk Allocation (Source: U.S. Department of Transportation, Federal Highway Administration, Case Studies of Transportation Public-Private Partnerships in the United States)

Risk Category	Description	Risk Allocation		
		FDOT	Concessionaire	Shared
Political	Intergovernmental Agreements needed for award of concession	X		
Financial	Appropriation risk for Const. Milestone Payments and Avail. Payments		X	
	Equity and debt funding (financial close, interest rate and currency risk)		X	
Right-of-Way	Areas within Preliminary Right of Way Plan	X		
	Areas outside Preliminary Right of Way Plan		X	
Permits	Obtaining Federal, State and Local Permits		X	
Utilities	Agreements, schedules and relocations			X
Procurement	Legislative and regulatory authorities for award of concession	X		
Construction	Unforeseen conditions			X
	Impacts on vehicle traffic and POM operations beyond agreed levels		X	
	Impact to adjacent communities during construction above agreed levels		X	
	Unforeseen increases in material costs and labor		X	
Operations & Maintenance	Meeting availability and O&M criteria		X	
	Inflation during the Operating Period			X
	Traffic exceeding specified levels			X
Hand-Back	Return O&M Segments in specified condition when concession ends		X	
Force Majeure	Specified events not covered by insurance or performance specifications			X

7. Summary

In the United States, the trend towards PPPs in the provision and maintenance of highway infrastructure has been gradual due to the strength of the funding and institutional arrangements that supported the nation's traditional roadway development program. This included a dedicated transportation trust fund supported by motor fuel taxes, federal transportation agencies to provide administrative oversight of the program,state transportation agencies which delivered the program through project planning, financing, development, and maintenance activities. However, as the U.S. highway system matured, the needs for repairing and expanding the nation's network of roads, bridges, and tunnels have escalated beyond the fiscal capabilities of traditional funding sources to pay for them at both the federal and state levels of government. PPPs can provide access to private capital, reduce costs borne by transportation agencies, accelerate project delivery, shift project risk, spur innovation, and provide for more efficient management. One key benefit of long-term concessions can be improved asset management-the same party that constructs the project is responsible for long term operation. This creates incentives to build a higher quality facility that is easier to maintain. Although PPPs present contractors with new opportunities, they also present significant new risks. Many of the risks that are typically held by the public entity are transferred to the private consortium in a PPP. By being involved early in the process, contractors can ensure that the risks are most efficiently allocated and that contractors do not take on too much risk. Not all risks in a PPP should be shifted to the private sector, some risks are better held by the public entity.

The Port of Miami Tunnel was a particularly challenging public-private partnership (PPP) project. The global economic crisis temporarily cancelled this project in 2008 because of financial difficulties and in 2010, the project finally started. FDOT completed the deal because they remained flexible during a fragile investment market. After the original equity partners pulled out, FDOT accommodated Meridiam Infrastructure as the lead contractor's choice for an equity partner. When the Monoline insurance market vanished and the private activity bond market weakened, FDOT turned to the Transportation Infrastructure Finance and Innovation Act (TIFIA) federal loan program for funding. The project would not have been completed without this federal support.

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