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Project Delivery Options Analysis, Tools, Innovative Structures and Public-Private Partnerships (P3s)
Sponsors of major projects are increasingly considering Project Delivery alternatives

- **What is Project Delivery?** The method of procuring and contracting for the delivery of project facilities and/or services, including design, construction, operations, maintenance and financing.

- **Project Delivery Options Analysis** is the process of choosing the optimal procurement method for infrastructure project development made by a government sponsor that takes into account overall costs, benefits, and risk-reward tradeoffs among various potential alternatives.

- **Public-Private Partnerships (P3s) should be among the options:** P3s include a wide range of contractual structures in which the delivery of traditionally public facilities/services is provided in whole or in part by a private sector entity.

- **International P3 Experience:** The private role is more prevalent overseas
  - “Lifeline” infrastructure such as water and wastewater, toll roads, rail, airports and seaports, and social infrastructure such as schools, prisons, healthcare facilities, public housing, military facilities, etc.
  
  - National programs such as UK’s Private Finance Initiative (PFI) characterized by central management provide standardized processes, methodologies, and guidance.

- **P3 Experience in the United States:** U.S. infrastructure delivery is traditionally dominated by the public sector due to low cost tax-exempt debt, high political risk, and other factors.
The development of any project entails risks

A variety of risks of varying severity will be part of any project

- The degree and severity of risks vary by project as do the opportunity to determine who controls the risks
- Risk factors can impact cost and schedule of project delivery and, ultimately, access to funding
- Project risk categories may include:
  - Planning, permits, and approvals
  - Legislative, regulatory, and policy
  - Funding and financing
  - Environmental
  - Right of way (ROW) acquisition
  - Design and construction
  - Operations and maintenance
  - Demand and revenue
  - Force majeure
There is a trade-off between project risk and control.

The public sponsor’s willingness to transfer risk for the projects is dependent upon project structure and willingness to transfer control.

*Ultimate "ownership" of some risks cannot be fully transferred to a private party. This discussion refers to responsibility for managing risks.
Project delivery model types differ primarily in their degree of direct public involvement versus private participation.

There is no consensus on what level of private risk transfer constitutes a P3.
Project risk and control are allocated along a continuum depending on the chosen delivery method.

Depending upon the delivery method and project procurement structure risk is retained or transferred by the public sector.

<table>
<thead>
<tr>
<th>Delivery Method</th>
<th>Design</th>
<th>Construct</th>
<th>Operate</th>
<th>Maintain</th>
<th>Finance</th>
<th>Demand</th>
<th>Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design-Bid-Build</td>
<td>○</td>
<td>○</td>
<td>○</td>
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<tr>
<td>Design-Build</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Design-Build-Operate-Maintain</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>Design-Build-Finance-Operate (Availability)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<td>○</td>
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<tr>
<td>Design-Build-Finance-Operate (Shadow Tolls)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Design-Build-Finance-Operate (Full Concession)</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
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<td>●</td>
</tr>
</tbody>
</table>

**KEY:**
○ Risk retained by public sponsor
● Risk transferred to private partner/developer
### Traditional Financing Tools

Traditionally utilized financing tools for infrastructure financing

<table>
<thead>
<tr>
<th>Financial Tool</th>
<th>Public Subsidy or Support?</th>
<th>Mechanism for funding/financing</th>
<th>Flow of funds to infrastructure</th>
<th>Limitation on Usage?</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Obligation Bonds</td>
<td>Yes</td>
<td>Dedicated source or general obligation pledge of taxing entity (e.g., municipality)</td>
<td>Directly to projects designated via program or referendum</td>
<td>Entity debt capacity</td>
</tr>
<tr>
<td>Revenue bonds</td>
<td>Not directly</td>
<td>Debt secured by specific revenue stream (fares, rents, etc)</td>
<td>Directly to projects designated</td>
<td>Based upon project credit, forecast, etc</td>
</tr>
<tr>
<td>Sales Tax Revenue</td>
<td>Yes</td>
<td>Financing secured by commercial sales within selected entity tax borders</td>
<td>Yes - can be directly to designated project (determined via referendum usually)</td>
<td>Based upon public appetite for tax and state law</td>
</tr>
<tr>
<td>Property Tax Revenue</td>
<td>Yes</td>
<td>Financing secured by property tax levies within selected entity tax borders</td>
<td>Yes - can be directly to designated project (determined via referendum usually)</td>
<td>Based upon public appetite for tax and county law</td>
</tr>
<tr>
<td>Grant Anticipation Notes</td>
<td>Yes</td>
<td>Debt secured by anticipated future federal grants</td>
<td>Directly to projects or program via grant</td>
<td>Limited by the value/parameters of federal grant</td>
</tr>
<tr>
<td>State Infrastructure Bank</td>
<td>Yes</td>
<td>Loan and Credit enhancements to sponsors of particular capital projects</td>
<td>Yes - to sponsors private and public</td>
<td>Limited by project type</td>
</tr>
<tr>
<td>Tax Increment Financing</td>
<td>Not directly</td>
<td>Financing secured by property tax revenues increases within specified area or district</td>
<td>Directly to infrastructure within designated area</td>
<td>Increase in tax base according to ordinance</td>
</tr>
<tr>
<td>State Sources: SDFs and STOAs</td>
<td>Yes</td>
<td>Funding programs designed to provide direct, designated investments from state DoTs to transit projects and programs. Usually outside of metropolitan transit agencies.</td>
<td>Directly to programs and projects</td>
<td>Limited by state-level determination on funding</td>
</tr>
</tbody>
</table>
## Innovative Financing Tools and Structures for Infrastructure Financing

<table>
<thead>
<tr>
<th>Financial Tool/Program</th>
<th>Public Subsidy or Support?</th>
<th>Mechanism for funding/financing</th>
<th>Flow of funds to infrastructure</th>
<th>Limitation on Usage?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private Activity Bonds (PABs)</td>
<td>In some cases</td>
<td>Tax-exempt debt issued by state or agency to provide financing for a private entity</td>
<td>Directly to project/private entity for which bonds are underwritten</td>
<td>State debt capacity for PABs as designated by federal law</td>
</tr>
<tr>
<td>Transportation Infrastructure Finance Innovation Act (TIFIA)</td>
<td>Federal Subsidy</td>
<td>Subordinate loan (up to 49% of project) secured by the federal government</td>
<td>Directly to projects designated</td>
<td>Based upon project credit, forecast, etc</td>
</tr>
<tr>
<td>FRA Railroad Rehabilitation and Improvement Financing (RRIF)</td>
<td>Federal Subsidy</td>
<td>Subordinate loan (up to 100% of project) secured by the federal government. Specifically for rail infrastructure</td>
<td>Directly to project designated</td>
<td>Based upon project credit, forecast, etc</td>
</tr>
<tr>
<td>Value Capture (Includes)</td>
<td>In some cases</td>
<td>Sponsorship or business partnership with private entity based upon perceived value of public asset</td>
<td>Directly to project designated</td>
<td>None</td>
</tr>
</tbody>
</table>
Case Study Examples
Cities/Regions and Their Projects: Degree of Private Participation and Use of Innovative Funding/Financing Structures

Innovative Funding/Financing Peer City Examples

Degree of Private Participation

Innovative Use of Funding/Financing Structure

Seattle East-Link

Washington, DC Purple Line

Miami All Aboard Florida

Denver Eagle Line

LRT Component-focused

Cities/Regions and Their Projects: Degree of Private Participation and Use of Innovative Funding/Financing Structures
Seattle, Washington – East Link Extension: Central Puget Regional Transit Authority (Sound Transit)

Innovative structure to finance 15 mile light rail transit extension and HOV lane expansion connecting population and employment centers.

Regional Information
- 2016 Estimated MSA Population: 3,798,902
- 2010 Census MSA Density: 586 persons/square mile
- METRO (Heavy Rail) – first section opened in 2009; monorail in 1962

Background Information
- The Seattle/Bellevue region featured growing sales and income tax bases that were able to support rail projects, but the overall scale of this project was too large for the debt profile for Sound Transit or the surrounding cities.
- Sound Transit could, however, serve as the counterparty for a TIFIA loan from the federal government and utilizing the region’s tax base. Loan analysis would be up to USDoT.

Financing & Funding Approach
- Total Project Size: $4.03bn
- Private Investment: None
- TIFIA loans: $1.33bn
- Sound Transit Tax Revenues: $1.086bn
- Bond Proceeds: $1.06bn
- Cash Contribution: $281mm
- Grant Revenue: $89mm
- City of Bellevue: $184mm

Stakeholders Participating
- Project Sponsors: Sound Transit; USDOT; City of Bellevue
- Lenders: US Department of Transportation; Sound Transit
Washington DC/Maryland – Purple Line Project - Maryland Transit Authority (MTA)

**P3 with Federal Funding:** Contracted agreement to design, build, operate, finance and maintain 16-mile light rail system connecting counties

### Regional Information
- **2016 Estimated MSA Population:** 6,131,977
- **2010 Census MSA Density:** 1,084 persons/square mile
- **METRO (Heavy Rail)** – first section opened in 1976; continuously expanded

### Background Information
- Montgomery and Prince George’s Counties for decades were designated for a single light rail line connecting the two and providing a transit link between the two.
- Prohibitive costs for a potential project, combined with limited bonding capacity for MTA and the state of Maryland made this potential project difficult via traditional finance.

### Financing & Funding Approach
- **Total Project Size:** $5.6bn
- **Private Investment:** $138mm
- **TIFIA loans:** $875mm
- **Private Activity Bonds:** $313mm
- Note that Silver Line extension of WMATA included the development of a special tax district for counties within the lines path.

### Stakeholders Participating
- **Project Sponsors:** Maryland Dept. of Transportation, Maryland Transit Agency
- **State lender:** US Department of Transportation
- **SPV:** Purple Line Transit Partners, LLC
Background Information

- 2016 Estimated MSA Population: 2,812,732
- 2010 Census MSA Density: 305 persons/square mile
- RTA Lines C D E F H R W (light rail; regional/metro service) – first section opened 1994
- RTA Lines A B (light rail; regional/commuter service) – first section opened 2016

Background

- Denver RTD realized the need to finance a rail line from the airport to its downtown. As the region entered into a P3 to finance the downtown train station, a P3 was also being considered for the rail.
- The cost of the rail line was prohibitive for RTD to do alone, a combination of private and federal support would need to be utilized.

Financing & Funding Approach

- Total Project Size: $1.64bn
- Public Sources of Funding:
  - TIFIA Loan
  - Regional Sales Tax (two .4% increases)
  - $44mm from Denver RTD
  - Includes TIF District for Union Station Metropolitan District based on .4% sales tax increase
- Private Sources of Funding:
  - $54mm in equity from private investor

Stakeholders Participating

- Project Sponsors: Denver Regional Transit Department
- Private Investors: Fluor-led consortium
- Regional towns and the City of Denver; Denver International Airport
Miami, Florida: All Aboard Florida

Entirely privately financed light-rail project connecting Orlando to Florida

**Background Information**
- 2016 Estimated MSA Population: 6,066,387
- 2010 Census MSA Density: 1096 persons/square mile
- METRO (Heavy Rail): Metrorail (heavy rail; metro service) – first section opened 1984; Metro-mover (automated transit; district service) – downtown, first opened 1986

**Financing & Funding Approach**
- Total Project Size: $2.5bn
- Private Investment: Over $1billion in cash equity including ROW land purchases; $345 in cash equity in project
- All Aboard will be participating in all passenger revenues
- Project includes Miami Central Station, a private real estate project including 11 acres and 3 million sq/ft of retail and office space above and beneath the rail tracks.

**Stakeholders Participating**
- All Aboard Florida (A private entity consisting of investors and developers including Fortress Fund); US Department of Transportation; FDOT; Cities along rail route including Miami and Orlando

**Background Information**
- FDOT has long identified an opportunity in connecting the populous cities along the Atlantic Coast/I-95/Florida Turnpike of Florida by light rail.
- The costs for an innovative and effective rolling stock and rail project were prohibitive, along with the complexity of procurement via traditional methods.

**Intercity Passenger Rail Service**
- 16-19 Round-trip Trains per Day

**Tourists and Regional Travelers**
- Miami to Orlando

**240 miles (One Phase)**

**3 Stations in Tri-County area**
- Privately funded
Thoughts, Questions
Contact

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