

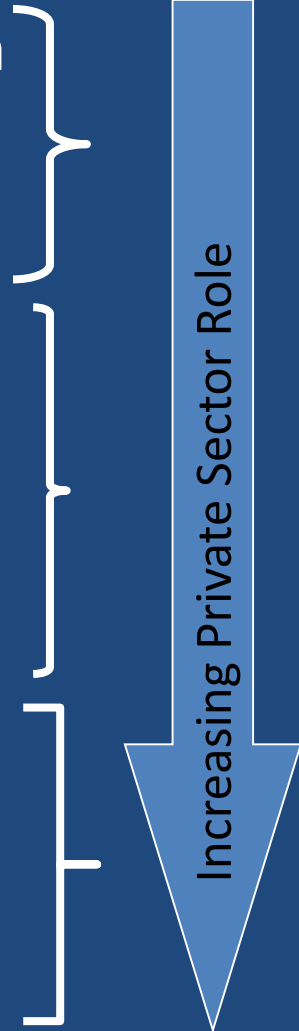
Overview of Project Delivery Options

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Project Delivery Approaches

- Design-Bid-Build (DBB), In-House Operate/Maintain
- Design-Build (DB), In-House Operate/Maintain
- Design-Build-Finance, In-House Operate/Maintain
- Design-Build-Operate-Maintain (DBOM), In-House Finance-Tolls
- Design-Build-Finance-Operate-Maintain (DBFOM), Availability Payment – In-House Tolls
- Concession (Design-Build-Finance-Operate-Maintain-Tolls)
- Long-Term Asset Lease/Sale



Traditional Project Delivery

- **Design-Bid-Build – In-House Operate/Maintain**
 - Owner design to 100%, then bids and contractor builds bridge, Owner operates/maintains/sets tolls
 - Generally slowest delivery
 - Any changes in construction beyond 100% plans must be paid by Owner – increases bid cost
 - Warranty on bridge work is generally short (no more than 3 to 5 years)
 - Owner responsible for finance

Traditional Project Delivery

- **Design-Build – In-House Operate/Maintain**
 - Owner design bridge to 10% to 40%, then best value proposal selected to design-build bridge, Owner operates/maintains/sets tolls
 - Speeds up delivery of design-build
 - Can be “fixed price proposal” with contractor responsible for changes not requested by Owner
 - Warranty on bridge work is generally short (no more than 3 to 5 years)
 - Can add “Finance” component by contractor

P3 Project Delivery

- **Design-Build-Finance-Operate-Maintain**
 - Owner design bridge to 10% to 40%, then best value proposal selected to design-build-finance-operate-maintain bridge, Owner manages tolls
 - Speeds up project delivery
 - Can be “fixed price proposal” with developer responsible for changes not requested by Owner
 - Warranty on bridge work is for the term of the Project Agreement
 - Availability Payment to developer for use of bridge

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P3 Project Delivery

- Concession (Design-Build-Finance-Operate-Maintain-Tolls)
 - Owner design bridge to 10% to 40%, then best value proposal selected to design-build-finance-bridge-operates-maintains-manage tolls for bridge
 - Speeds up project delivery and max risk shift
 - Can be “fixed price proposal” developer responsible for changes not requested by Owner
 - Warranty on bridge work and developer takes risk of toll revenues for the term of the Concession

D-B-B – Example

- Most bridge projects are Design-Bid-Build
- Three Cities (jointly) on Texas Border own Anzalduas International Bridge
 - New Bridge Built – Shorter less complex bridge over Rio Grande River to Mexico
 - Design-Bid-Build approach – approximately \$40 million – opened in 2009
 - Contractor responsible for construction, paid from public cash and bonds supported by bridge toll revenues

Design-Build Example

- Design-Build next most used delivery method for bridges
- Ohio River Bridges – Kentucky approach
 - Downtown Bridge – Louisville metro area across Ohio River into Southern Indiana
 - Design-Build method – approximately \$1.27 billion major bridge – opened in 2016
 - Contractor responsible for DB, paid from public cash and bonds/TIFIA Loan supported by bridge toll revenues

P3 – Availability Payment (AP) – Example

- P3 AP Method use growing, but limited
- Port Authority of New York/New Jersey
 - Goethels Bridge – Northern New Jersey to Staten Island, New York
 - P3 – AP method – approximately \$1.5 billion major bridge – opens in 2017 and 2018
 - P3 Concessionaire (35 years) responsible for Design-Build-Finance-Operate-Maintain to be paid by Port Authority based on fixed AP schedule (Port Authority sets and collects tolls)

P3 – AP – Example

- Ohio River Bridges – Indiana approach
 - East End Crossing – Louisville metro area across Ohio River into Southern Indiana
 - P3 – AP method – approximately \$1.05 billion major bridge – opened in 2016
 - P3 Concessionaire responsible (35 years) for Design-Build-Finance-Operate-Maintain to be by Indiana Finance Authority based on fixed AP schedule (Tolls set by and collected by public agency)

P3 – Revenue Risk – Example

- P3 Revenue Risk – Not used on any recent new bridges in U.S.
- Mid-Town Tunnel Example – Connects sections of Hampton Roads area, Virginia
 - P3 – Revenue Risk method – approximately \$2 billion major tunnel – opened in 2016
 - P3 Concessionaire responsible (58 years) for Design-Build-Finance-Operate-Maintain to paid from public cash and tolls on the Midtown Tunnel set by private entity under requirements of P3 Agreement

Private Model - Example

- **Weslaco - Progreso International Bridge** owned by private company
 - Bridge connects Texas to Mexico across the Rio Grande River
 - Major bridge expansion/renovation – opened in 2003
 - Design-Build-Finance-Operate-Maintain bridge by private entity to be paid from toll revenues set by private entity