P3 Project Financing

October 22, 2014

P3 Training – Maryland DOT

Introduction: Learning Outcomes

- After completing this session, you should be able to:
  - Recognize key indicators used in P3 financial assessment
  - Appreciate the rationale for project finance and its basic characteristics
  - Recognize the various types of financing and the pros and cons of each
  - Recognize the importance of the project financial model and be able to interpret its outputs

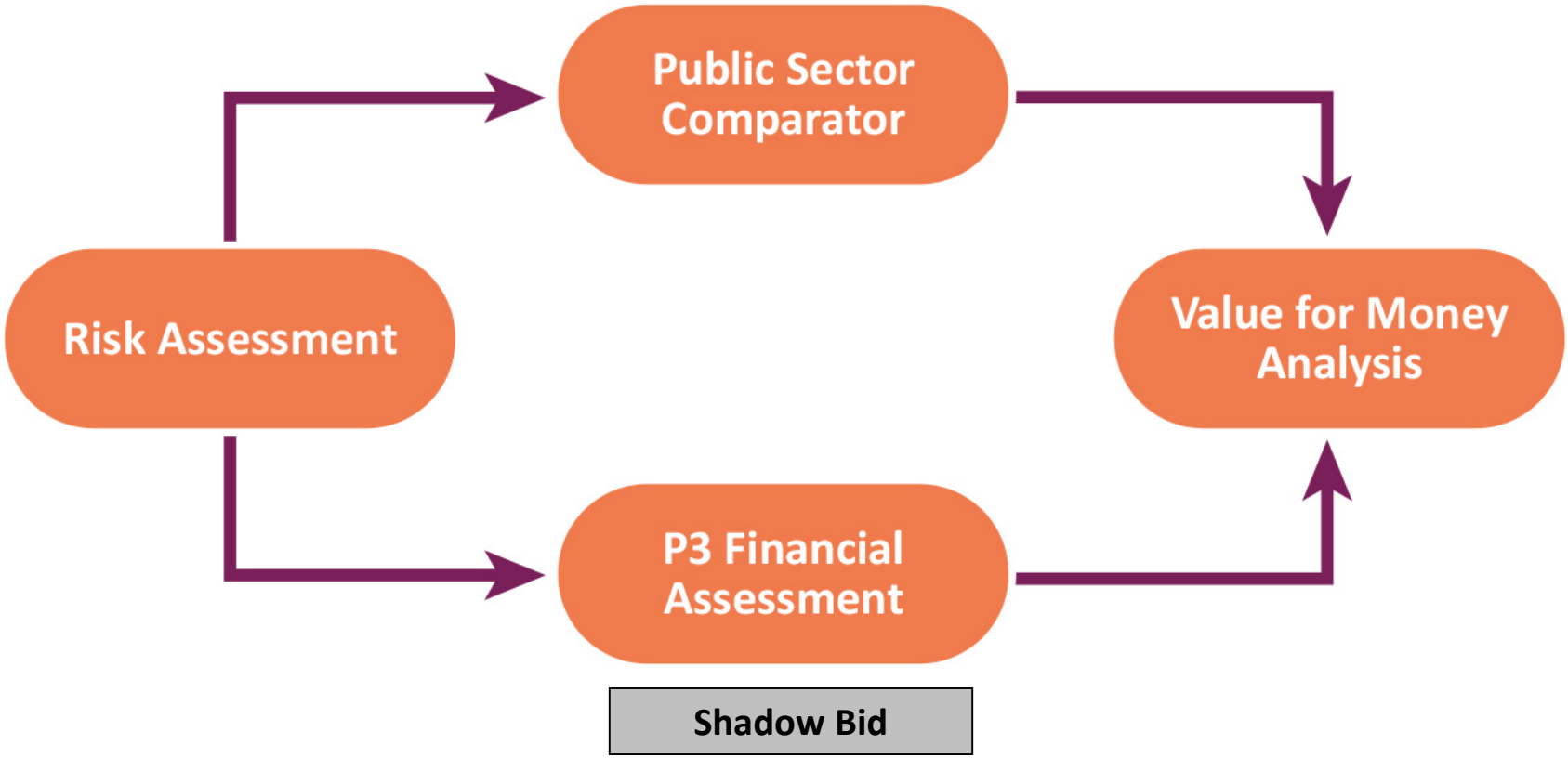
Presentation Outline

- **Part 1**: Overview of P3 Project Financing
- **Part 2**: Senior Debt
- **Part 3**: Subordinate Debt
- **Part 4**: Equity

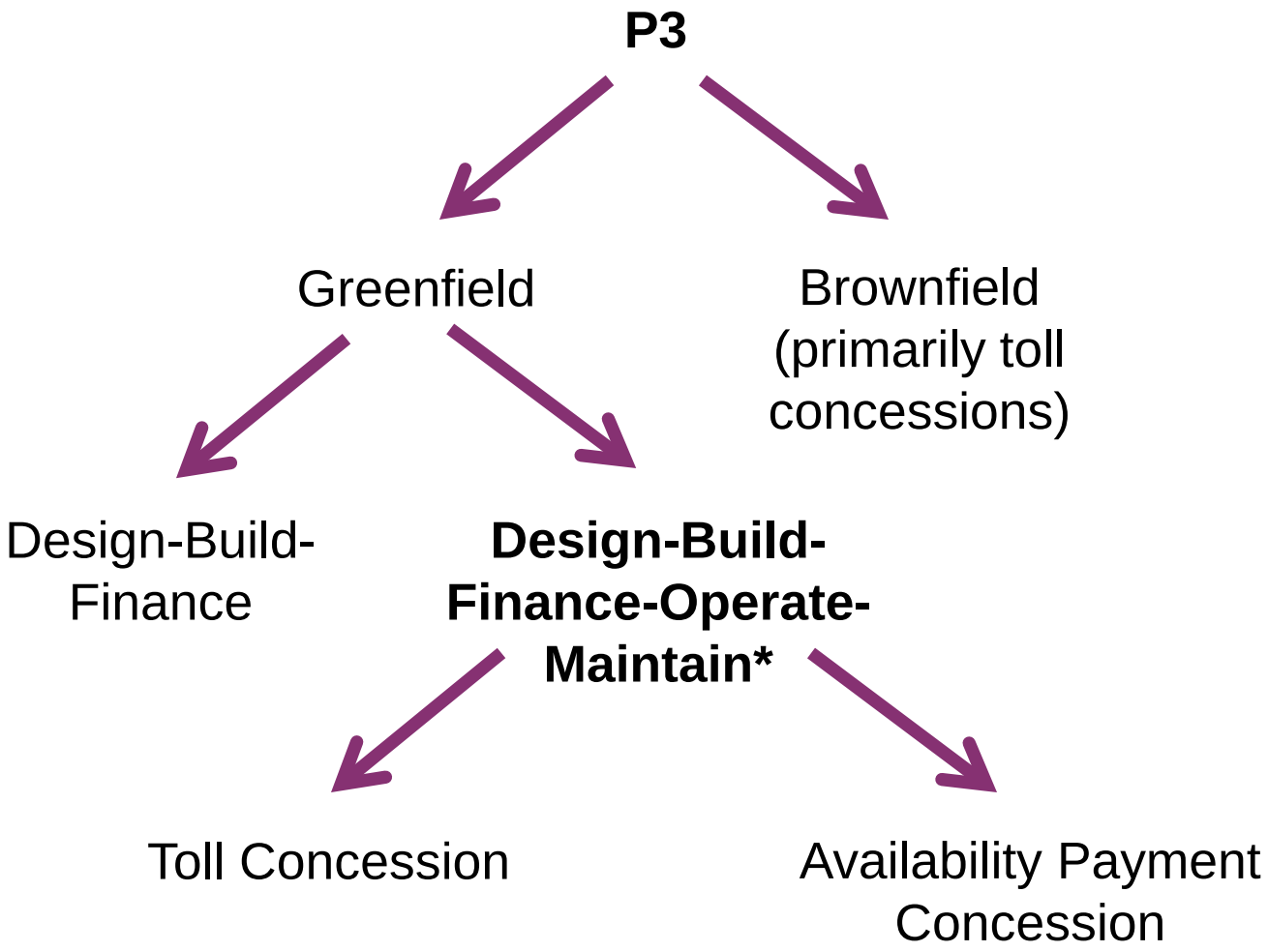
Part 1

Overview of P3 Project Financing

Value for Money Analysis Process



P3s Involving Private Financing



*Focus of FHWA Office of Innovative Program Delivery

Project Finance Characteristics

- Project finance = single activity cash flow basis (as opposed to corporate finance)
- Project finance involves the set-up of a Special Purpose Vehicle (SPV) typically funded by lenders (debt) and shareholders (equity).
- A major proportion of the equity of the SPV is provided by the private sector partners
- The SPV enters into:
  - comprehensive contractual arrangements with various stakeholders; suppliers and users;
  - a high ratio of debt to equity, with lenders having no or only limited recourse.

Project Finance vs Corporate Finance

Project finance

- One project, one cash flow
- Non or limited recourse
- Focus on risk mitigation and packaging
- Limited life span / clearly defined exit

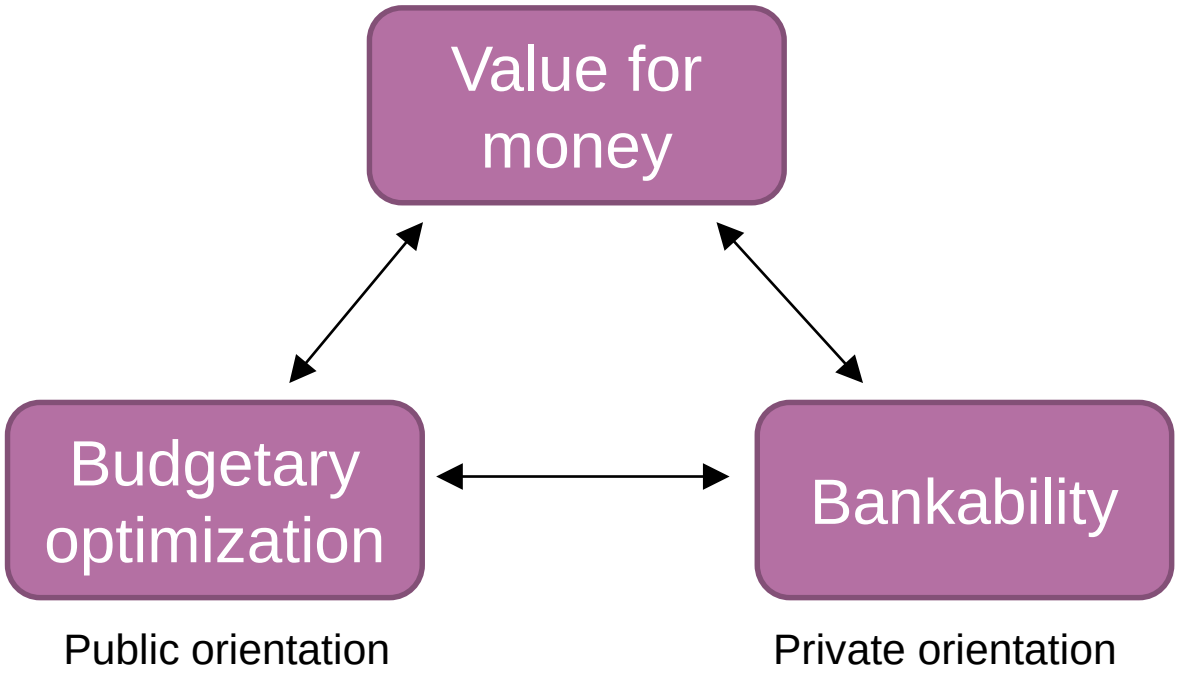
Corporate finance

- Multiple projects
- All company assets at risk
- Balance sheet financing
- Risk is an input
- Exit not clearly defined

It's All About Risk

- Project finance is both about tailor-made financing structures and about tailor-made risk allocations / profiles
- Exact financing structure of a project finance deal depends on risk profile
- Allocation of project risks depends on which parties are best able to manage them, e.g.:
  - Construction risk is assumed by subcontractors
  - Usage risk is assumed by concessionaire
- Financial markets are where project / investment risk is exchanged amongst parties

Conflicting Risk Optimizations



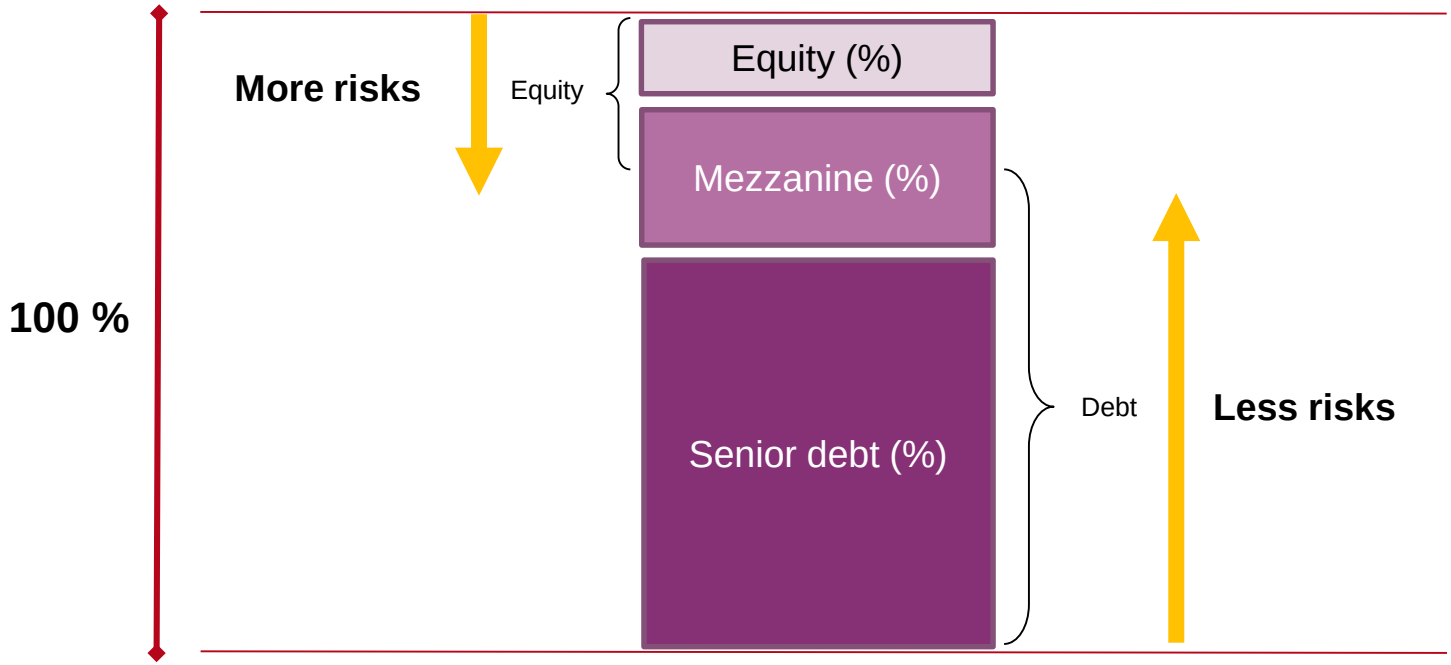
Risk attitude

Allocation of project risks to those parties best able to manage them

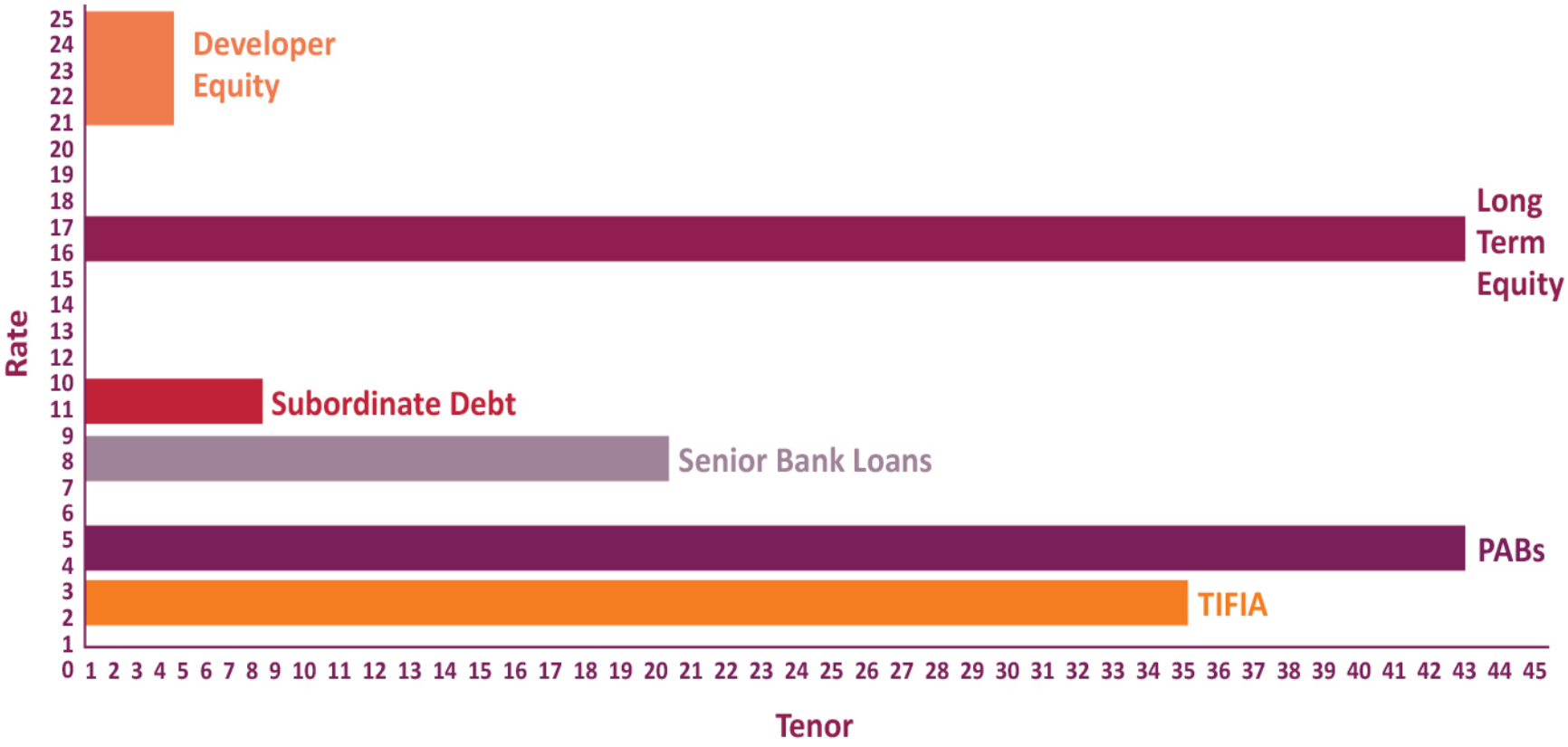
Low risk to private sector, high risk to public sector

Risks and Leverage

- Equity finance forms a buffer for debt, less risk means less equity required



Sources of Financing



P3 Debt

Project finance models are highly leveraged by design.

- More than half the financing is debt as opposed to equity.
- Level of debt is a direct function of the level of risk.
- A low risk level may be very highly leveraged.
- 70/30 or 60/40 are project debt/equity ratios that reflect a higher perception of risk.

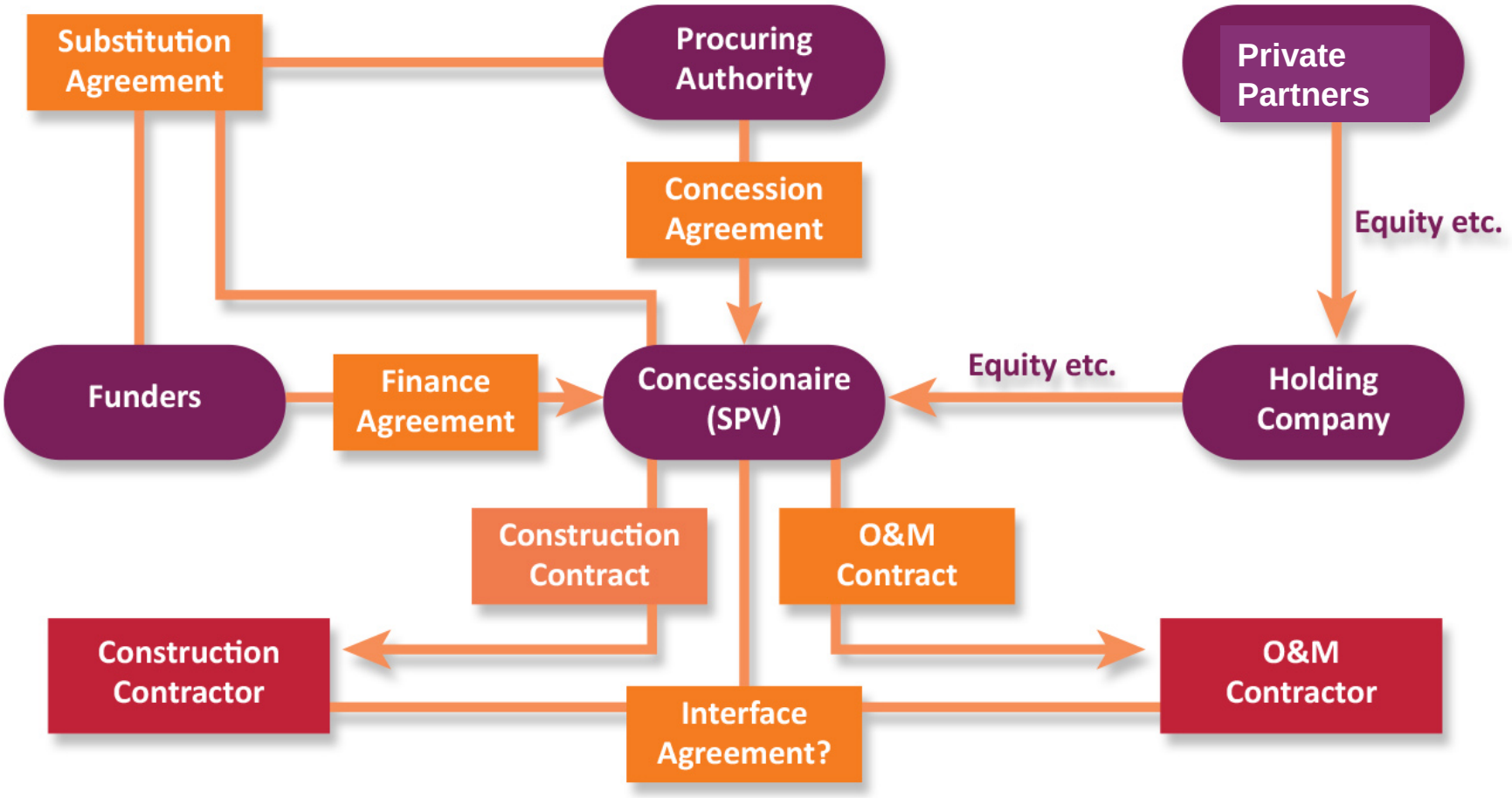
Special Purpose Vehicle (SPV)

- Limits exposure of parent companies in the case of bankruptcy
- Finances only project activities
- Repayment sources are project revenues

P3 Contracts

- Codify risk sharing arrangements through development, procurement, and negotiation processes
- Include back-to-back contracts
  - SPV transfers risk to subcontractors
- Provide the basis for financing
- Assign the right to collect project revenues

SPV Arrangements



Part 2

Senior Debt

P3 Senior Debt

- Takes least risk
- High in repayment hierarchy
- Higher Debt Service Coverage Ratio(DSCR)
  - DSCR = Cash Available for Debt Service (CADS) divided by debt service (principal + interest)

$$DSCR = \frac{CADS}{DS}$$

Cash Flow Tail Requirements

- A cash flow “tail” is the amount of time remaining in a concession term (tenor) after the repayment of debt.
- Ensures time to recover debt provider funds
- Lenders often require a longer tail for revenue risk (toll road projects) than for availability payment deals
- Used by debt providers in addition to DSCR requirements

Tax-exempt Debt ("Muni Bonds")

- Issued by state and local governments to finance infrastructure projects in the US
- Carries a lower interest rate than a taxable debt

This bond market is unique to the US.

General Obligation vs. Revenue Bonds

- Approximately 2/3 of all tax-exempt debt issued as revenue bonds, most backed by taxes.
- The other 1/3 are General Obligation (GO) bonds.

Private Activity Bonds (PAB)

- Provides access to tax-exempt rates
- Reserved for public uses
- 5% eligibility cap for private uses
- The 2005 SAFETEA-LU transportation legislation allows $15 billion in PABs for surface transportation projects
  - As of April 2014, approximately $10 billion allocated and $4.6 billion issued

PAB Allocation & Issuance

	Project	PAB Amounts (in $ thousands)	Totals (in $ thousands)
Bonds Issued	Capital Beltway HOT Lanes, VA	589,000	**4,586,597**
	North Tarrant Expressway, TX	400,000	
	IH 635 (LBJ Freeway), TX	615,000	
	Denver RTD Eagle Project (East Corridor & Gold Line), CO	397,835	
	CenterPoint Intermodal Center (Joliet, IL)	150,000 75,000	
	Downtown Tunnel/Midtown Tunnel, Norfolk, VA	675,004	
	I-95 HOT/HOV Project, VA	252,648	
	East End Crossing, Ohio River Bridges, KY and IN	676,805	
	North Tarrant Expressway 3A & 3B, TX	274,030	
	Goethals Bridge, NY	460,915	
	U.S. 36 Managed Lanes/BRT Phase 2, CO	20,360	
Bonds Allocated	Knik Arm Crossing, AK	600,000	**5,260,000**
	I-77 Managed Lanes, NC	350,000	
	I-4 Ultimate Project, FL	2,000,000	
	CenterPoint Intermodal Center, Joliet, IL	700,000	
	I-69 Section 5	400,000	
	Portsmouth Bypass, OH	610,000	
	SH-288, TX	600,000	
Grand Total			**9,846,597**

Source: http://www.fhwa.dot.gov/ipd/finance/tools_programs/federal_debt_financing/private_activity_bonds/#tifia.

Bank Loans

- Made by commercial banks
- Held on bank Balance Sheets

**Large loans may be syndicated to spread the risk over several banks in “club deals”

Pros and Cons of Bank Financing

Advantages

- Monthly draws
- Easier to negotiate modifications
- More flexible repayment sculpting to match project revenues
- Potential expertise of lenders in similar projects
- Monitoring and project oversight

Disadvantages

- Maximum tenors of 7-9 years have been more common (up to 20 for availability payment deals) vs. up to 40-year tenors for bond financing
- Not tax-exempt = higher interest rates

Result

- Bank Financing: Short-term/construction financing in US P3 deals feature large milestone payments
- Bond Financing: Long-term P3 financing

Part 3

Subordinate Debt

Subordinate Debt

- Accepts lower DSCRs in return for higher interest rates compared to senior debt
- Accepts a lower level of priority in the cash flow waterfall
- May be provided by specialized funds or by project shareholders

TIFIA provides a form of subordinate debt.

TIFIA Financing

The Transportation Infrastructure Finance and Innovation Act (TIFIA)

- Types of financial assistance:
  - **Secured (direct) loan**—Maximum term of 35 years
  - **Loan guarantee**—Guarantees repayments to non-Federal lender
  - **Standby line of credit**—Contingent loan available

- Involved in almost all major US greenfield P3s

TIFIA Program Features

- Generally up to 33 percent of eligible cost financed
- Provides capital, supplemental and subordinate, to projects
- Flexible repayment terms & interest rates

TIFA project costs must total at least $50 million or more (lower for rural and ITS projects).

TIFIA P3 Loans

Project	Amount	Rate (%)	Term (years)
I-95 HOT Lanes	$300.0	2.76	35.0
Presidio Parkway Tranche A	$90.0	0.46	3.5
Presidio Parkway Tranche B	$60.0	2.71	28.0
Midtown Tunnel	$422.0	3.17	44.0
LBJ-635 Corridor	$850.0	4.22	40.5
North Tarrant Express	$650.0	4.51	35.0
Port of Miami Tunnel	$341.0	4.31	35.0
I-595	$603.0	3.63	35.0
SH-130 Segment V-VI	$430.0	4.45	35.0
I-495 HOT Lanes	$589.0	4.40	40.0

TIFIA has been involved in almost all major US greenfield P3s & approximately a third of the projects in the TIFIA portfolio are P3s.

Part 4

Equity

Equity vs. Debt

Equity Financing

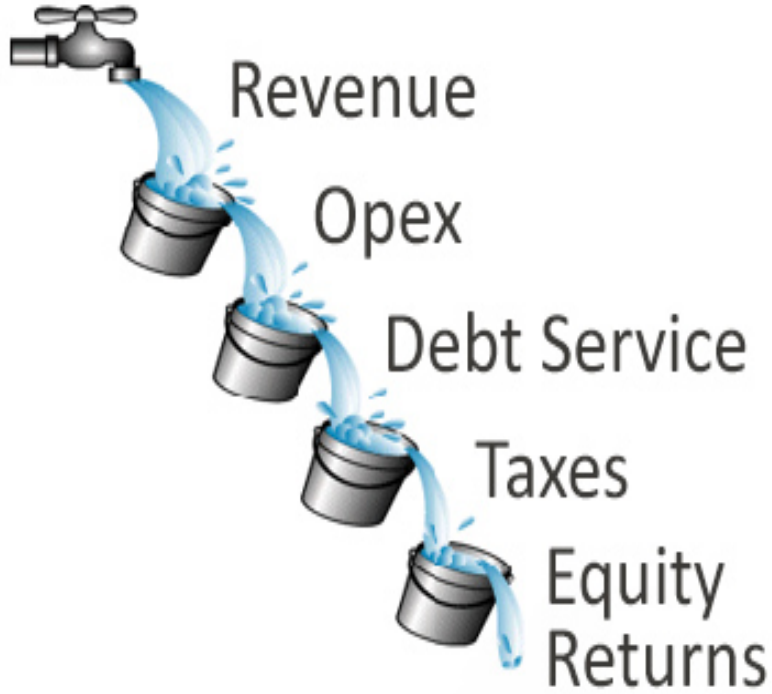
- Investors maximize returns and minimize risks
- Governments can align with equity investor interests through terms and Project Agreement conditions

Equity Financing and Leverage

- Equity investors maximize returns by maximizing leverage (debt financing).

Role of Equity in P3

- Equity investors:
  - At the bottom of the cash flow waterfall in first-loss position
  - No guarantee of returns or recourse.
  - Try to insulate from losses by seeking to transfer risks to subcontractors
  - Accept highest level of risk and require a higher level of return.



Types of Equity Investors

Investor	Strategy/Objective	Project Transaction Example
Subcontractors engaging in Design Build and Operations & Maintenance	Broadening participation and potential financial returns over the project term	*Midtown Tunnel:* Skanska is a 50% equity investor in the SPV and member of the DB contractor team
Financial institutions	Provide development capital and typically exit once the project is up and running.	*Denver Fastracks Eagle P3:* Macquarie sold its stake after the project reached financial close.
Pension funds and insurance companies	Seek long-term return; they prefer a larger share of the concession's cash flows	*Florida I-595:* TIAA-CREF acquired a 50% stake when the project neared substantial completion

Equity Investors in US Transportation P3s

Project/Investor	Amount ($mlns)
East End Crossing	
Walsh Investors	$26.00
VINCI Concessions SAS	$26.00
Bilfinger Berger	$26.00
I-95 HOT Lanes	
Fluor	$24.20
DRIVe USA	$217.80
Presidio Parkway	
Hochtief	$23.00
Meridiam	$23.00
Midtown Tunnel	
Skanska	$99.45
Macquarie	$121.55
LBJ-635 Corridor	
Cintra	$364.00
Meridiam	$266.00
Dallas Police / Fire Pension Fund	$70.00

Project/Investor	Amount ($mlns)
North Tarrant Express	
Cintra	$241.50
Meridiam	$141.90
Dallas Police / Fire Pension Fund	$42.60
Port of Miami Tunnel	
Bouygues	$8.00
Meridiam	$72.30
I-595	
ACS Iridium	$207.70
SH-130 Segment V-VI	
Cintra	$136.40
Zachry	$73.40
I-495 HOT Lanes	
Flour	$35.00
Transurban	$315.00

Equity Internal Rate of Return (IRR)

- Typically higher than the Project IRR
- Target equity IRR determined with the Capital Asset Pricing Model

- IRR is the discount rate that results in an NPV = 0

$$\sum \frac{(\boldsymbol{D_i} - \boldsymbol{I_i})}{(\mathbf{1} + \boldsymbol{r})_i} = 0$$

D*i* is the dividend at year *i*.

I*i* is the amount invested by the shareholders at year *i*.

r = IRR

Equity Returns for Different Project Phases

- Equity return targets decrease as the risks reduce over time.
- Differentials exist even though investors pass most risks onto subcontractors.

Phase	Risk-free Rate	Project Risk	Phase Risk	Equity Return
Construction	6%	2-4%	4%	12-14%
Ramp up	6%	2-4%`	2%	10-12%
Long-term operation	6%	2-4%	-	8-10%

Source: Adapted from Yescombe, E.R. (2007) Public-Private Partnerships: Principles of Policy and Finance. Oxford UK: Elsevier Ltd.

- "Risk-free" rate in the table is the WACC of the partners investing equity in the project

Factors Affecting Expected Returns

- Recent secondary market prices
- Revenue stream stability
  - Traffic risks
- Economic factors

US Secondary Equity Market

- US secondary market for equity stakes in P3 projects is just beginning to develop.

Transaction Example

- I-595

- Note: Equity stakes in Dulles Greenway and South Bay Expressway were also sold after their bankruptcies

Equity Returns on US Transportation P3s

- Projects with revenue risks will typically require higher percentages of equity and higher equity returns

Project	Project Type	Equity as % of Financing	Equity as % of Cost
I-95 HOT Lanes	HOT	35%	32%
LBJ-635 Corridor	HOT	31%	25%
North Tarrant Express	HOT	29%	21%
I-495 HOT Lanes	HOT	23%	18%
Midtown Tunnel	Toll	17%	11%
SH-130 Segment V-VI	HOT	16%	16%
I-595	AP	13%	11%
Presidio Parkway	AP	12%	12%
Port of Miami Tunnel	AP	11%	7%
East End Crossing	AP	10%	10%