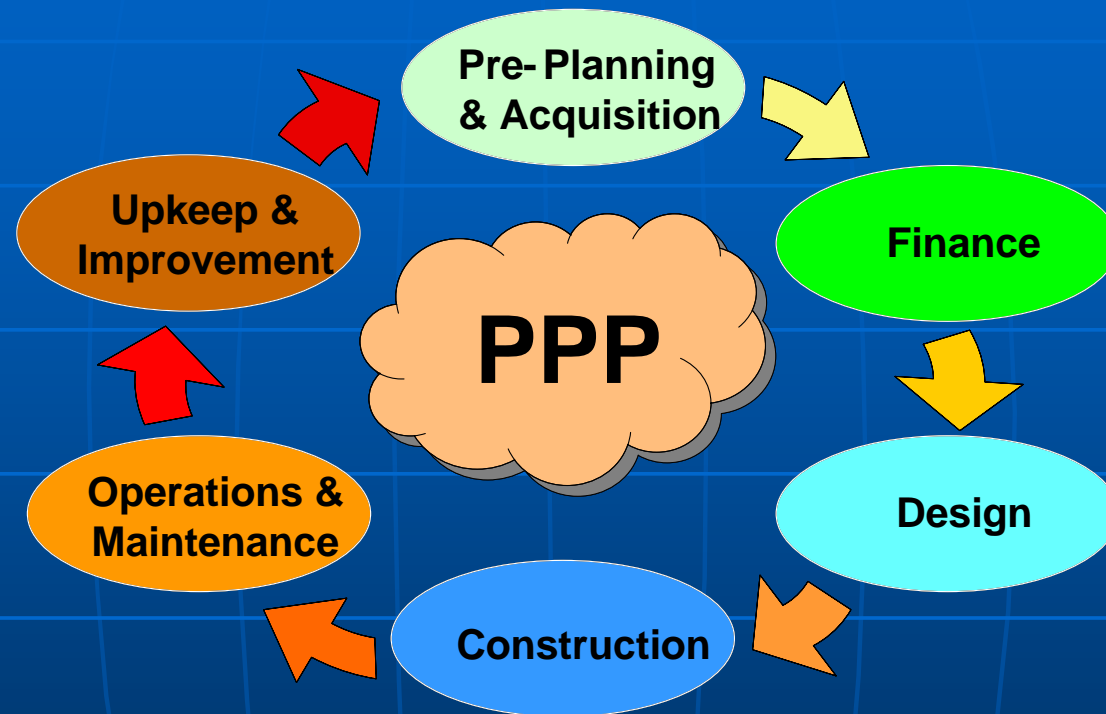


GLOBAL OVERVIEW OF PUBLIC-PRIVATE PARTNERSHIPS

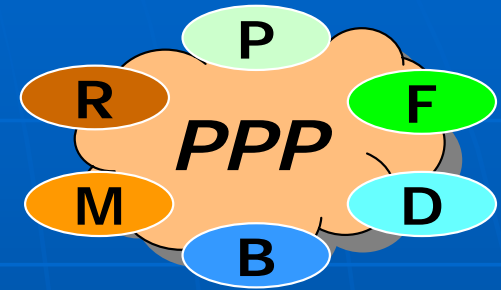


Daniel L. Dornan, P.E.
AECOM Consult, Inc.

TEAMFL Meeting
January 3, 2006
Orlando, Florida

Outline

- PPPs defined
- Types of PPP contracts
- Global versus U.S. use of PPPs
 - Infrastructure
 - Road facilities
 - Contract types
- Characteristics of road project PPPs by facility type
 - Regions
 - Countries
- States with existing and potential concessions
- Conclusions, predictions, implications, and results



Basis of Synthesis

- Database of PPP projects compiled by *Public Works Financing* – William Reinhardt, Editor
 - About 2,100 public works infrastructure projects
 - Timeframe: 1985 – 2004
 - Projects use private financing or delivered through PPP
 - Projects sorted by: type, contract, region, country
 - Types of road projects: non-toll motorway, toll motorway, toll bridge, toll tunnel, toll bridge & tunnel
 - Dimensions: number, cost, duration of project contract
- Research sponsored by USDOT/FHWA – Office of Policy

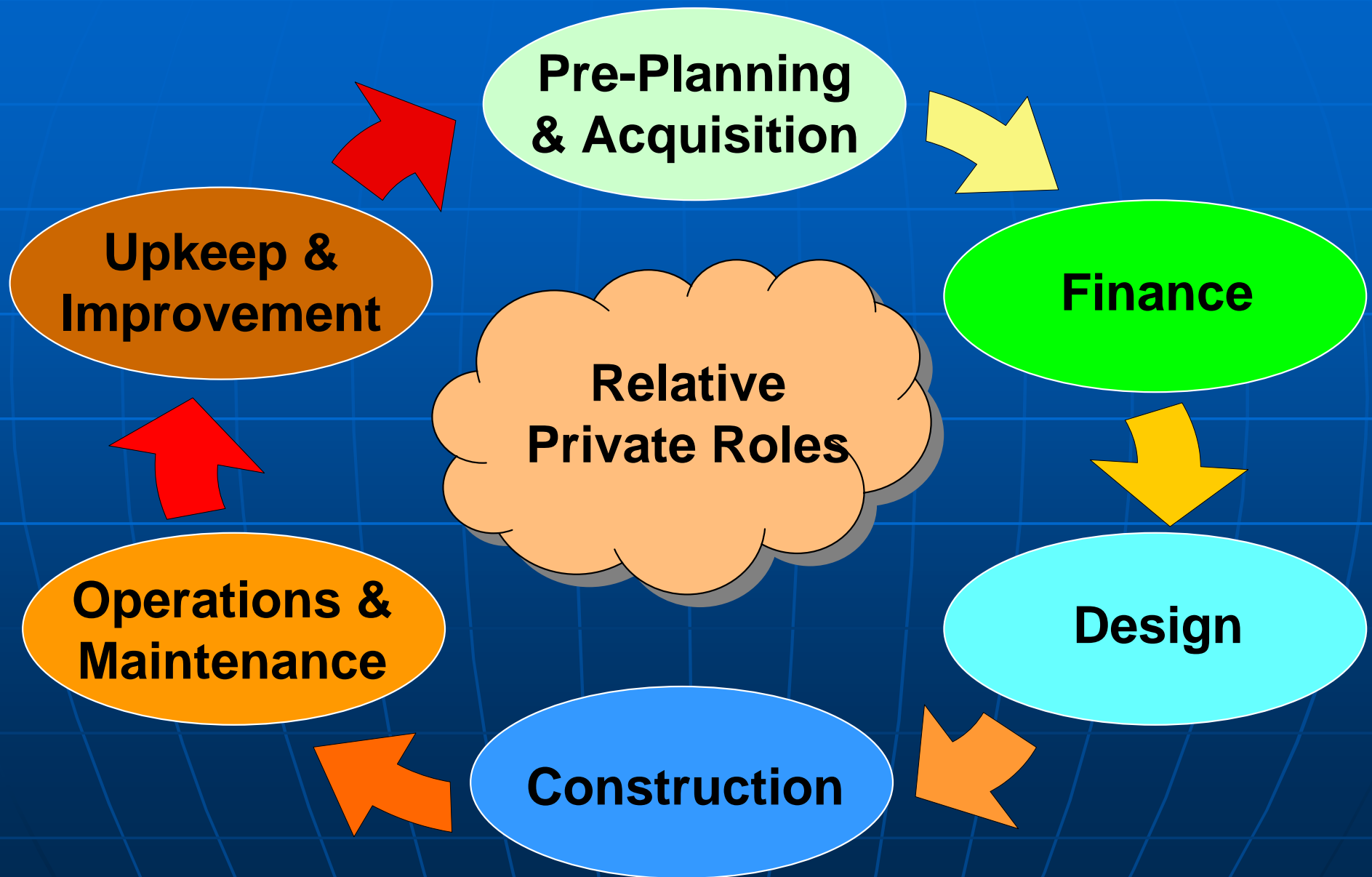
PPPs Defined

- A contractual agreement between public and private sector partners which allows more private sector participation than is traditional:
 - Private sector may design, construct, finance, operate, maintain, renovate and/or manage a facility or system
 - Public sector usually retains ownership of the facility or system
 - Sharing of roles, responsibilities, risks, and rewards

... or finding “new cheese”



Private Roles in Project Life Cycle



Nature of Private Sector Involvement

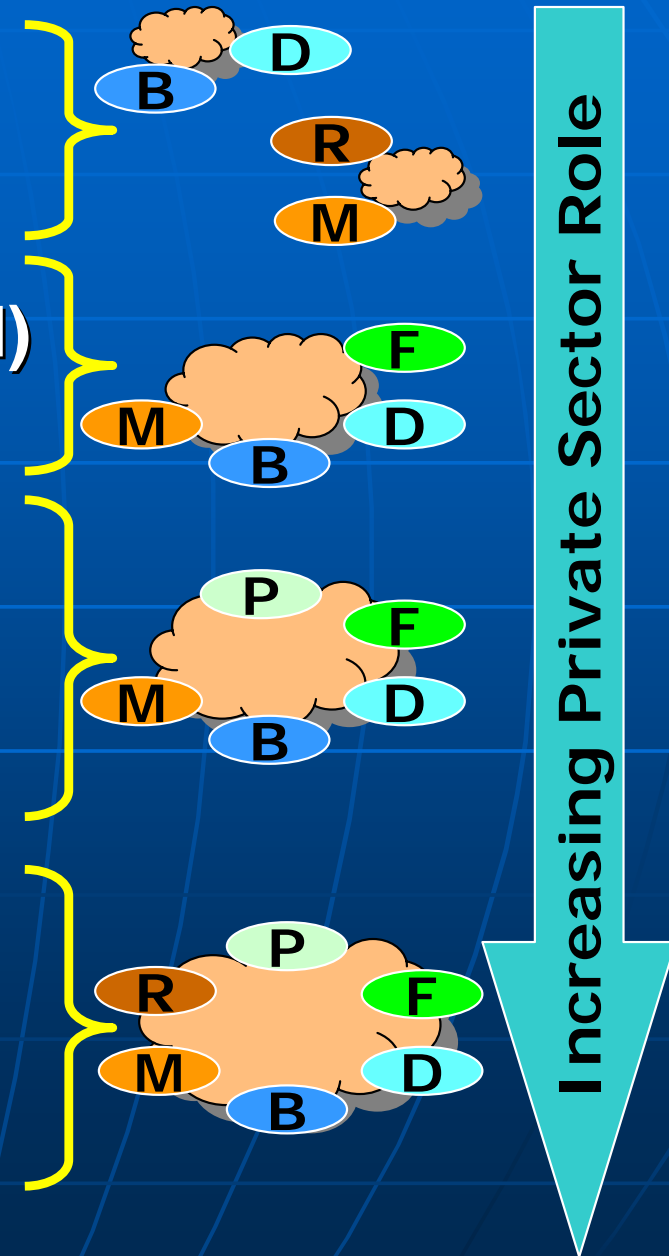
- Roles – functional areas
- Responsibilities – specific duties
- Risks – financial, design, product, other
- Rewards – financial, service, other

Roles
Responsibilities
Risks



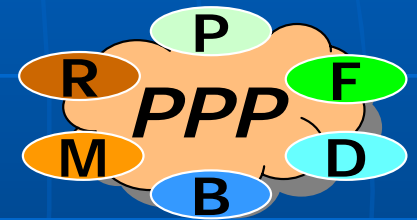
Types of PPP Contracts

- Design-Build (DB)
- Management Contract
- Design-Build-Operate-Maintain (DBOM)
- Design-Build-Finance-Operate (DBFO)
- Build-Operate-Transfer/ (BOT)
- Build-Transfer-Operate (BTO)
- Build-Own-Operate (BOO)
- Joint Development Agreement (JDA)
- Concession
- Asset Sale



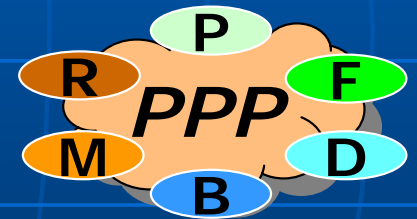
Global Use of PPPs – Since 1985

- PPPs expedite infrastructure development
 - \$887 billion in projects planned or built
 - About 2,100 projects
- PPP road projects are the largest category
 - \$325 billion - 36%
 - 656 projects
 - Mostly toll highways – 66% of PPP road projects
- Most PPP road projects in Europe and Asia
 - Europe – 43%
 - Asia - 26%
- Most PPP road projects by concession or BOT/BTO
 - Concession – 39%
 - BOT/BTO – 26%



Use of PPPs in the U.S. - Since 1985

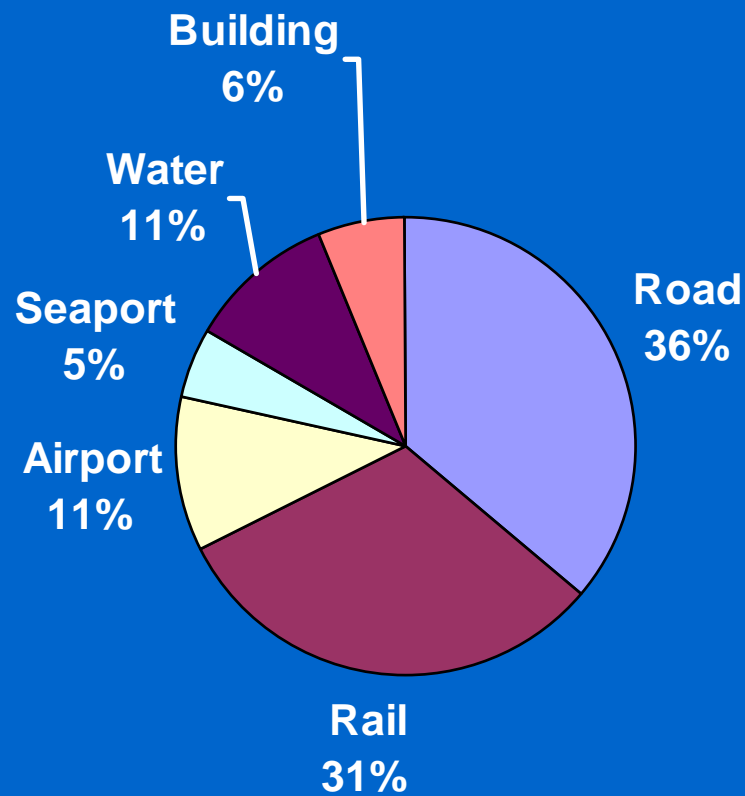
- PPPs increasingly used to expedite infrastructure development:
 - \$104 billion in projects planned or built
 - 364 projects
- PPP road projects are the largest category
 - \$42 billion - 40%
 - 73 projects
 - Mostly toll highways – 62% of PPP road projects
- Most PPP road projects done by DBOM or DB
 - DBOM – 37%
 - DB – 24%



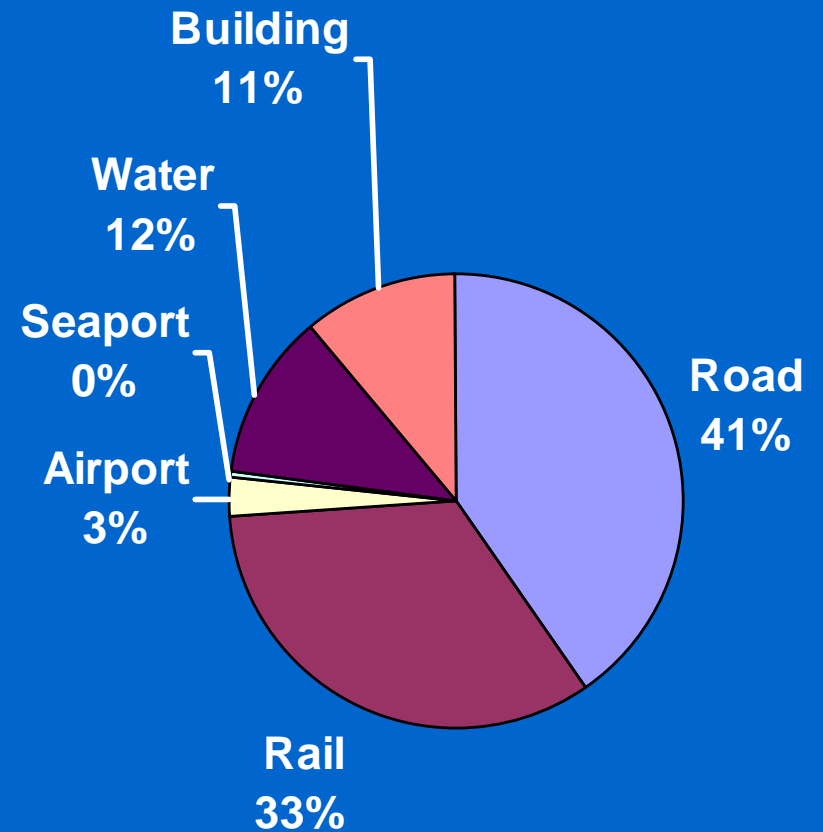
PPP Projects by Infrastructure Type

U.S. Compared to Rest of World

Global Excluding U.S. - \$783B



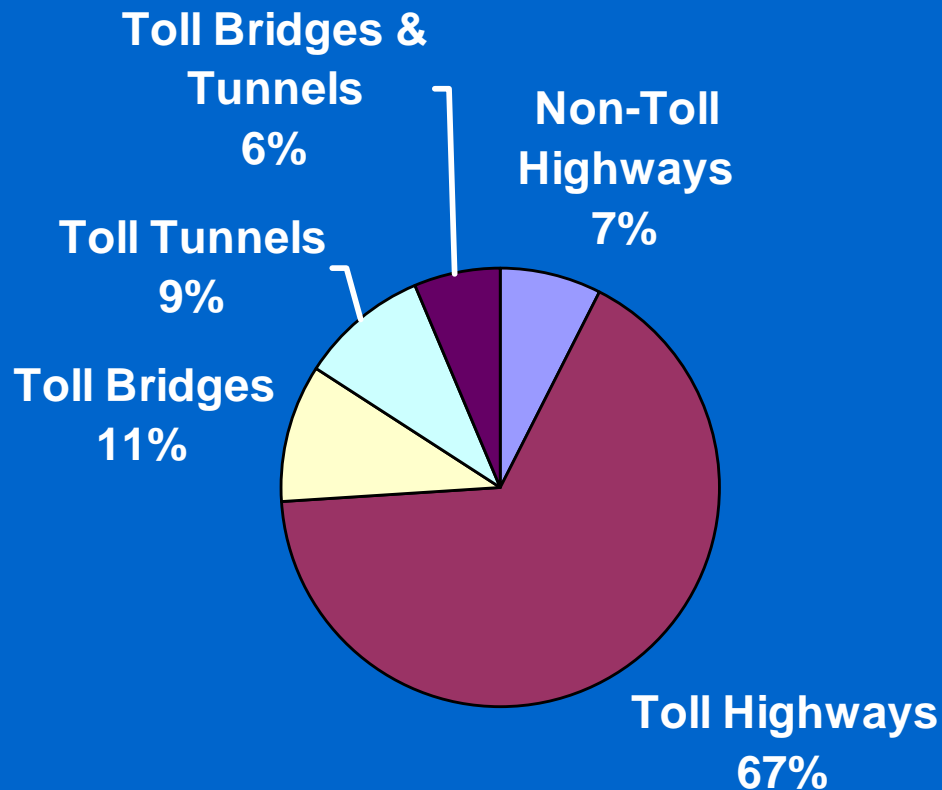
U.S. Only - \$104B



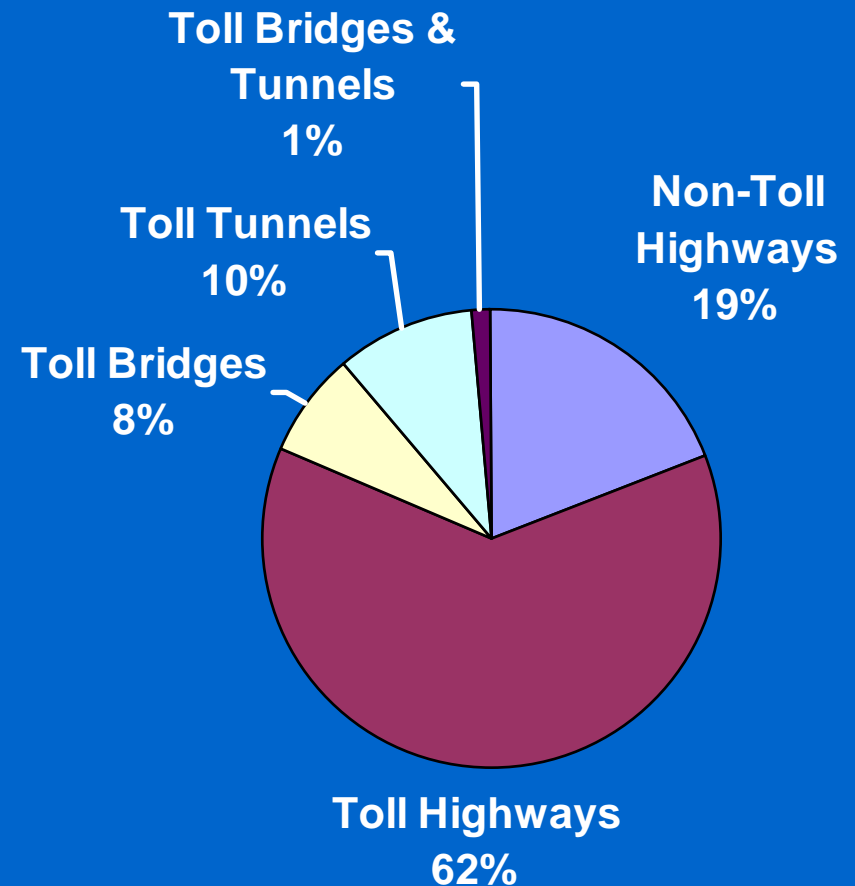
PPP Road Projects by Facility Type

U.S. Compared to Rest of World

Global Excluding U.S. - \$281B



U.S. Only - \$42B

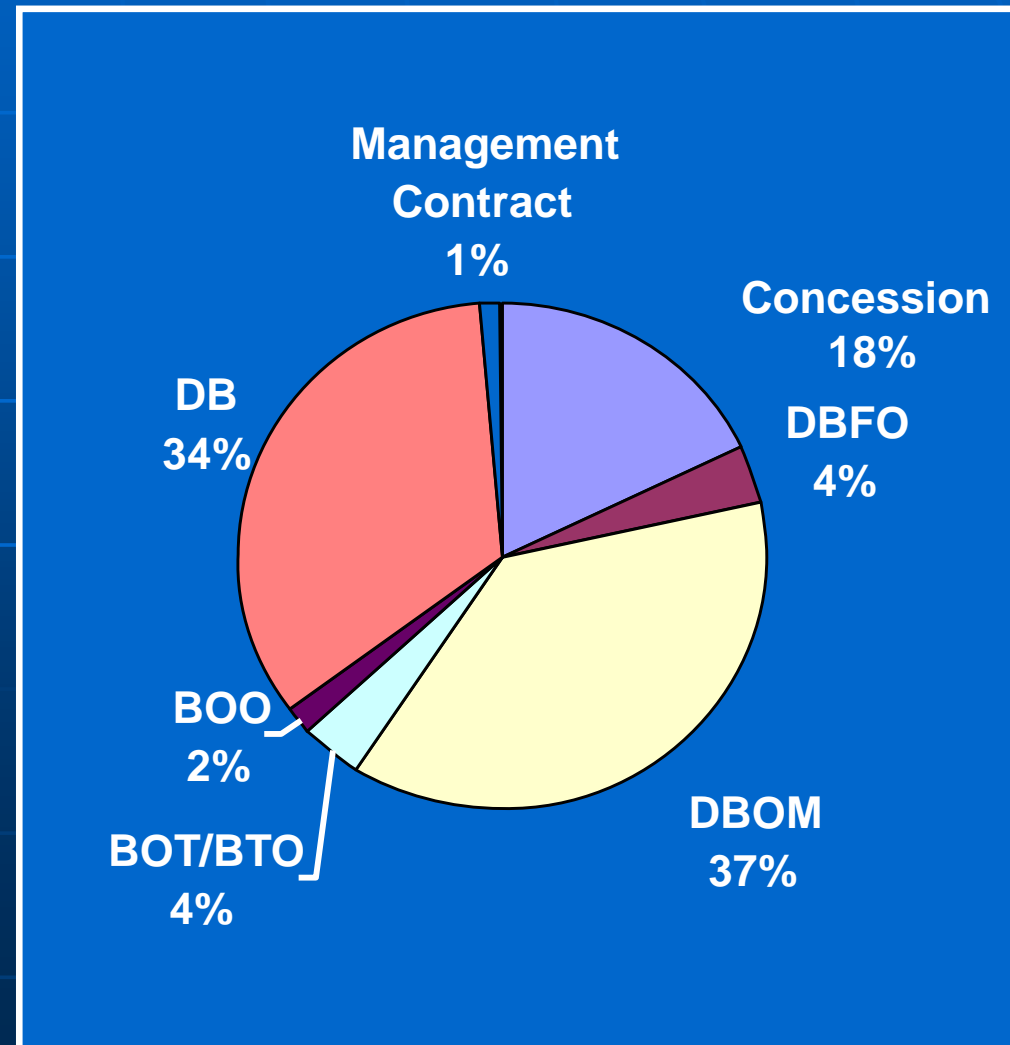
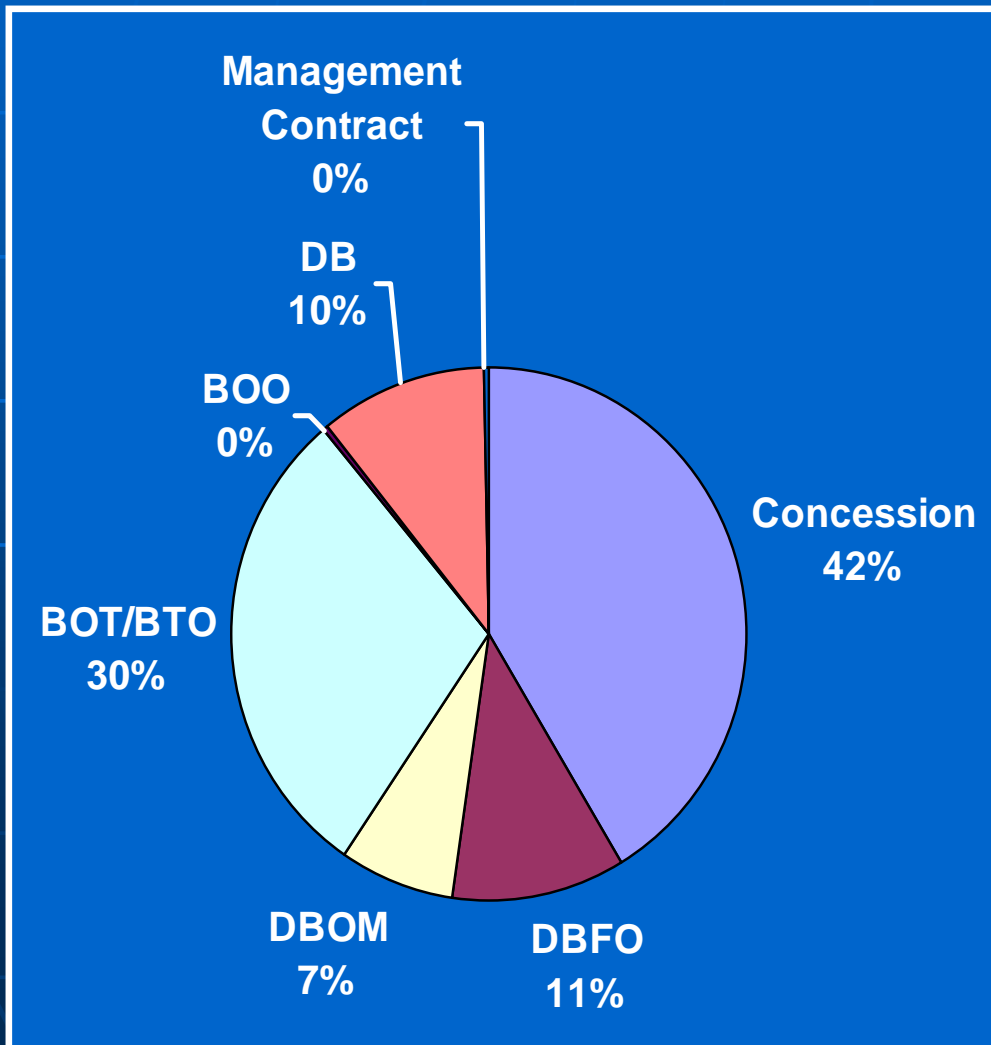


PPP Road Projects by Contract Type

U.S. Compared to Rest of World

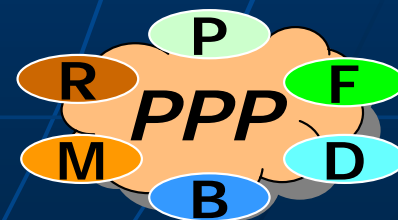
Global Excluding U.S. - \$281B

U.S. Only - \$42B



Characteristics of PPP Road Projects

- PPP projects are generally large-scale projects (\$300M - \$700M, average \$500M) – projects involving tunnels are significantly larger.
- Concession and BOT/BTO contracts predominate globally, while U.S. primarily use DBOM and D-B.
- Most Concession and BOT/BTO projects have 25-30 year contract terms.
- Concessions in Canada (ETR 407) and California (SR 91) have encountered public opposition and/or termination.
- Asset Sales predominate in Mexico where numerous prior concessions failed.
- JDAs being used more frequently in China.



Primary Regions for Major PPP Road Projects by Facility Type

■ Non-Toll Roads

- Europe
- North America

■ Toll Roads

- Europe
- Asia
- North America
- Latin America



■ Toll Bridges

- Europe
- Asia

■ Toll Tunnels

- Europe

■ Toll Bridges & Tunnels

- Asia

Active Countries by Region Using PPPs for Road Projects

■ Europe

- Spain
- Germany
- Greece
- Ireland
- Italy
- Portugal
- France
- UK
- Denmark/Sweden



■ North America

- Mexico
- U.S.
- Canada

■ Latin America & Caribbean

- Brazil
- Chile
- Peru
- Argentina
- Columbia

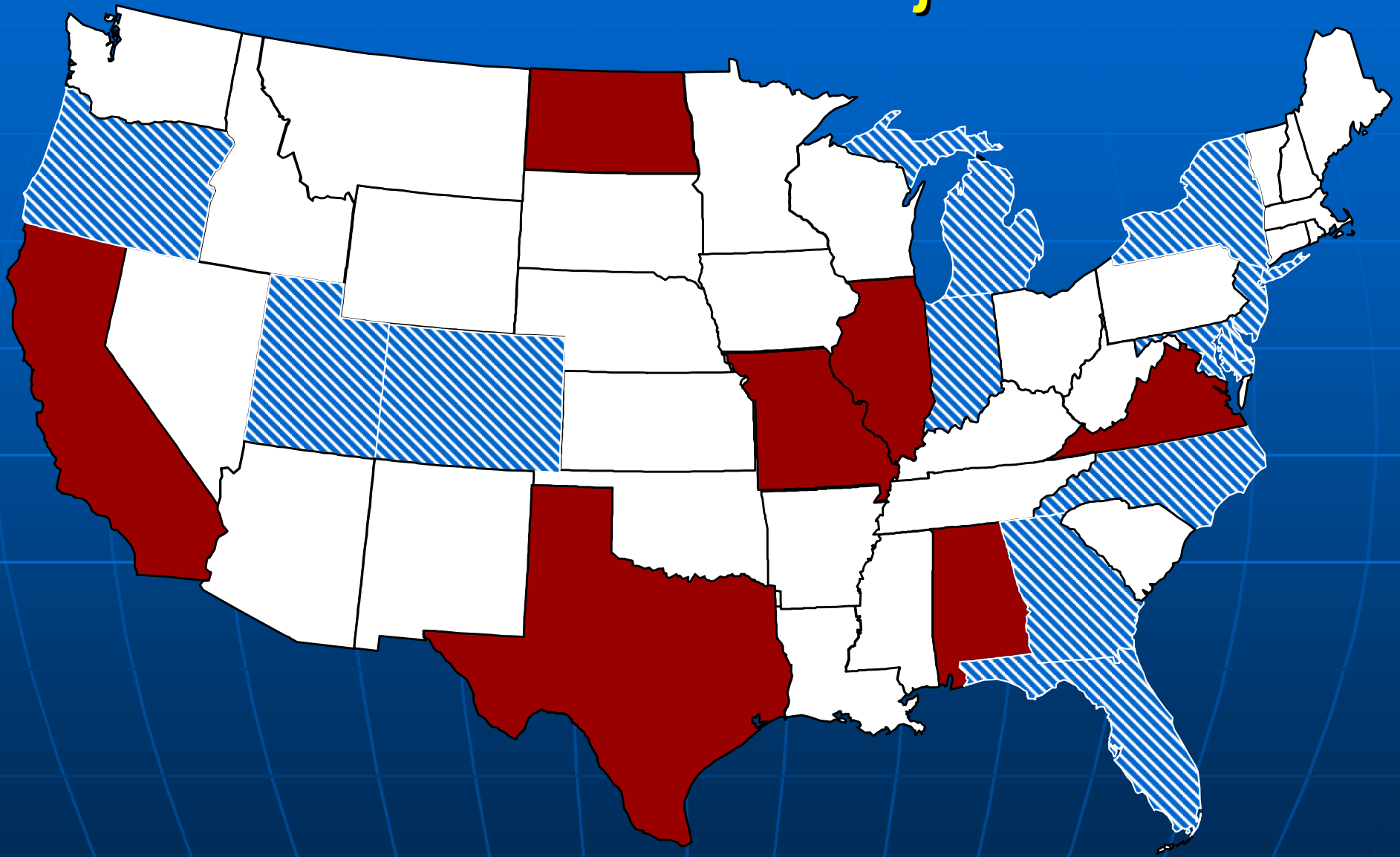
■ Africa & Middle East



- South Africa
- Israel
- Egypt

■ Asia

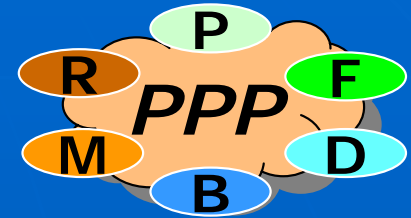
- China
- Malaysia
- South Korea
- Australia
- Indonesia
- India
- Japan

States with Existing and Potential Concession Projects



-  States with potential concession-type projects
-  States with existing concession-type projects

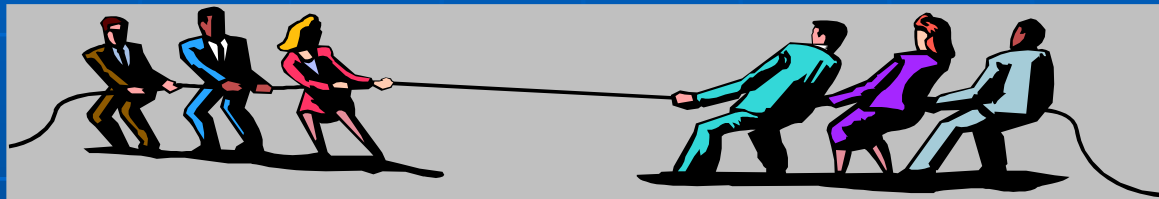
Conclusions



- PPPs are a large and growing way to deliver infrastructure projects both globally and in U.S.
- Europe and Asia lead the world in using PPPs for road projects – with private partners bearing more responsibilities, risks, and rewards.
- U.S. has primarily used DBOM and DB contract approaches for PPPs – mostly for toll highways.
- Experience in Europe and Asia suggests concession-type contract arrangements for PPPs will become more prevalent in the U.S.

Conclusions - continued

- European and Asian PPP partners hold distinct advantages competing for concession contracts.



- U.S. road sponsors need to better understand new financing and contracting approaches associated with PPPs to remain competitive.
- Concessions face institutional and public hurdles in the U.S. and may not be appropriate where public support for the risk-reward tradeoff is uncertain.

Predictions

- Long term concessions and joint development agreements are inevitable due to their ability to:
 - Expedite project development
 - Lower project life-cycle costs
 - Increase revenue generation
 - Improved highway stewardship
- Concessions and asset sales will occur on a highly selective basis:
 - Major limited-access facilities
 - Cash flow justifies investment risks
 - Strong public support.



Implications

- Joint Development Agreements and Asset Sales will be used for different reasons and results:
 - JDAs balance responsibilities, risks, and rewards between public and private partners to ensure longer-term commitment, coordination, and benefits.
 - Asset Sales transfer asset and cash flow to highest bidder for quick cash to public sponsor.
- In near term, experienced European and Asian partners will have a significant advantage in competitive auctions for asset sales and concessions over U.S. counterparts.



Results

- U.S. road sponsors and providers will team with experienced counterparts from Europe and Asia to introduce and apply more innovative finance and contracting approaches.
- U.S. financial institutions will establish private infrastructure banks to support U.S. road financing.
- Securitization of highway assets will:
 - Reduce costs through asset management, competition, and congestion management
 - Increase funding through pricing and investment
 - Promote mobility and economic activity

