

U.S. Army Corps of Engineers

CMANC FALL 2015 MEETING

Joe Calcara
Senior Executive

17 September 2015



US Army Corps of Engineers
BUILDING STRONG®
and Taking Care Of People!



What We Will Cover ...

- Water Infrastructure & Spending
- Trends, Takeaways & Challenges
- SPD Efficiency Initiatives
- Alternate Funding & P3s
- Closing Thoughts

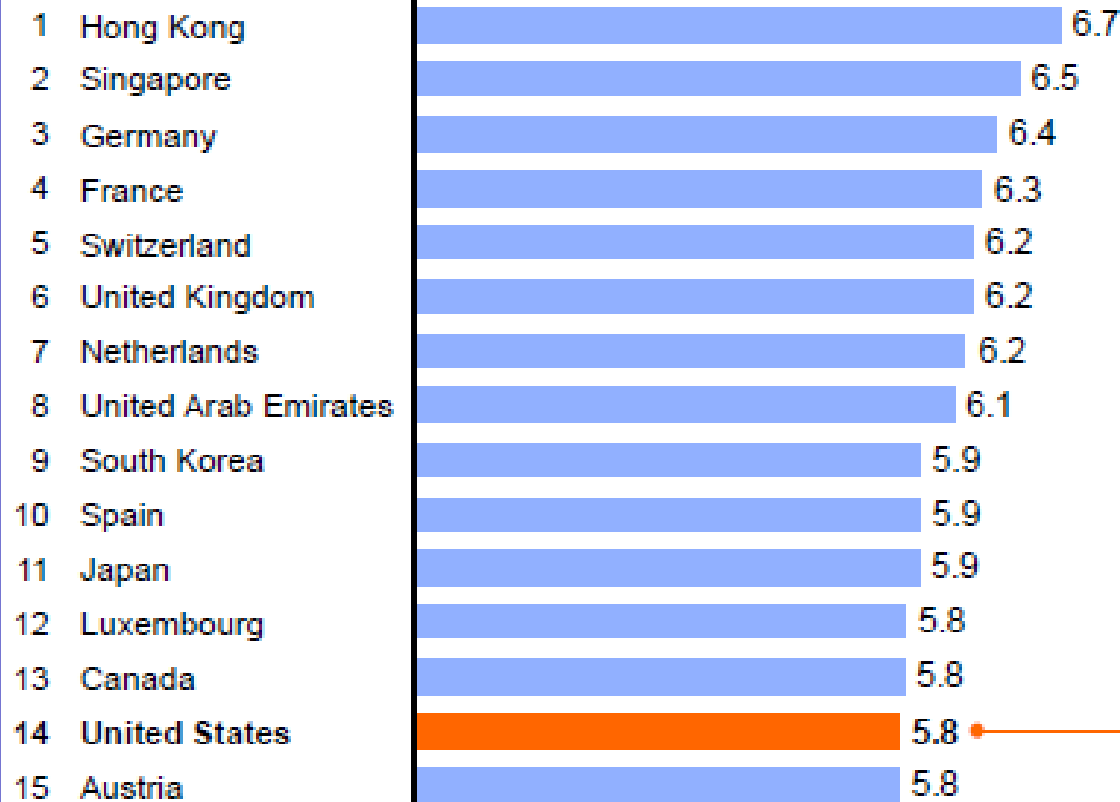
Relative Quality of US Infrastructure

The World Economic Forum ranks US infrastructure behind that of most other comparable advanced nations

Overall infrastructure quality index, 2012–13

Top 15 of 144 countries

Scale: 1 = Extremely underdeveloped; 7 = Extensive and efficient by international standards



Sector-specific indexes, 2012–13
Out of all 144 countries

Ports
United States
#19

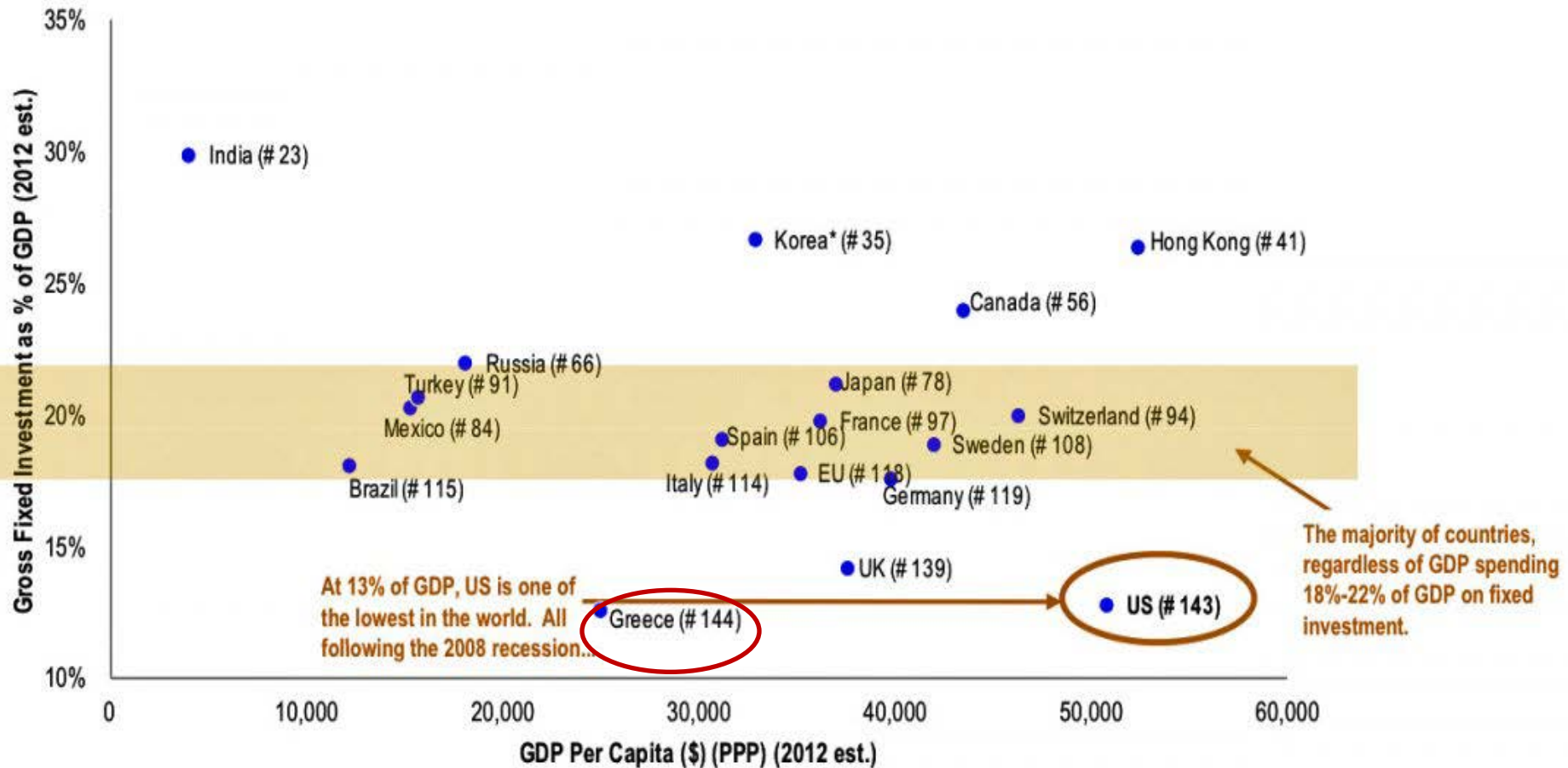
Roads
United States
#20

Power and telephony
United States
#21

SOURCE: World Economic Forum; McKinsey Global Institute analysis

Gross Fixed Investment (Public & Private): United States Relative to Other Nations

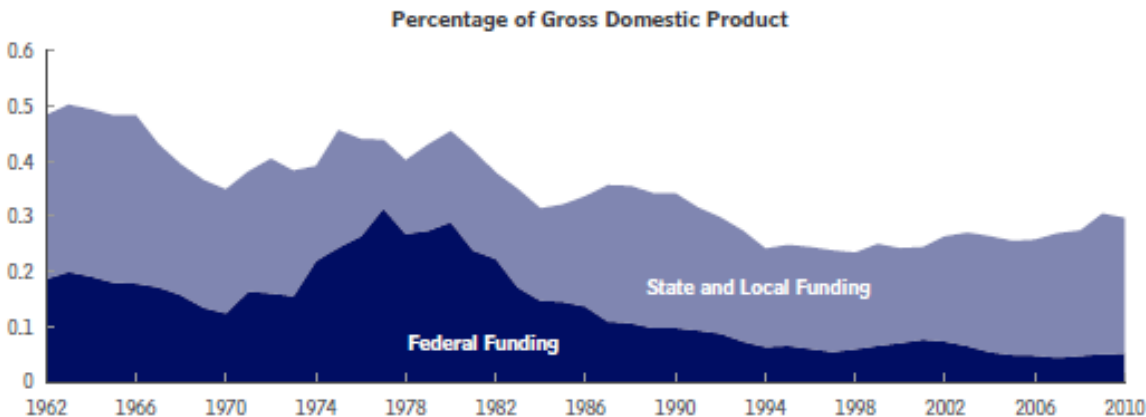
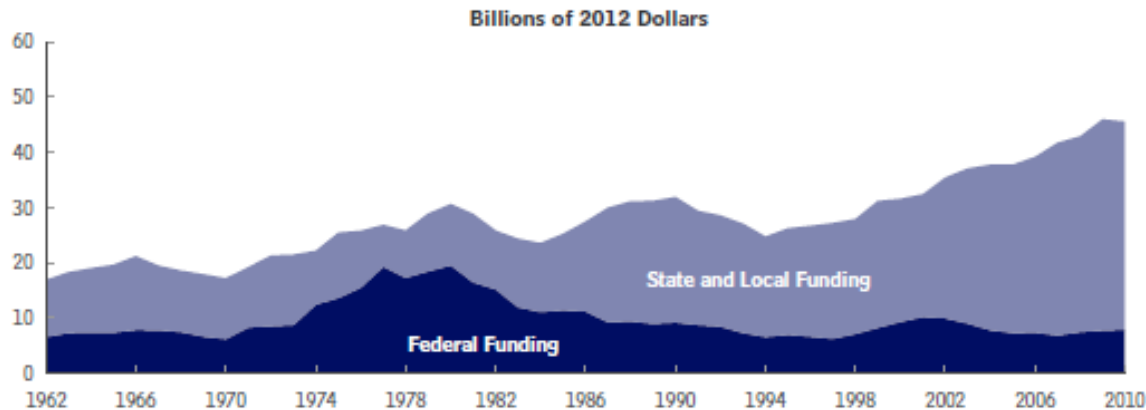
Figure: GDP Per Capita versus Gross Fixed Investment as a % of GDP: Underinvestment in the US
Estimates for 2012 The rank of Gross fixed investment as % of GDP is in the parenthesis.



One Step Ahead of Greece!

Water Infrastructure Spending

Water Infrastructure: Sources of Nondefense Investment, 1962 to 2010



Source: Congressional Budget Office based on data from the Office of Management and Budget, the Census Bureau, and the Bureau of Economic Analysis. For details, see the appendix.

Between 1962 & 2010...

Total funding **increased**
% GDP **decreased**

**Greater burden on state
and local funding
sources as
infrastructure ages**

Navigation Budget by Account

(\$millions)

SPD

Pres Bud Fiscal Yr	GI	CG	O&M	MR&T	Pres Bud Total Nav	Work Plan Total Nav
FY16	\$0.7	\$1.2*	\$76.5	N/A	\$78.4	
FY15	\$0.8	\$6.9	\$79.1	N/A	\$86.7	\$113.7
FY14	\$1.5	\$1.2	\$69.6	N/A	\$72.3	\$106.8
FY13	\$0.1	\$1.0	\$62.7	N/A	\$63.8	\$65.8
FY12	\$0.1	\$3.8	\$53.9	N/A	\$60.9	\$79.6

National

Pres Bud Fiscal Yr	GI	CG	O&M	MR&T	Pres Bud Total Nav	Work Plan Total Nav
FY 16	\$25	\$321	\$1,563	\$38	\$1,947	
FY 15	\$22	\$277	\$1,487	\$39	\$1,825	\$2,325
FY 14	\$23	\$345	\$1,461	\$55	\$1,884	\$2,280
FY 13	\$25	\$352	\$1,326	\$44	\$1,747	\$1,717
FY 12	\$18	\$283	\$1,237	\$37	\$1,575	\$1,883

* FY16 Pres Bud CG Does not include CAP funding

Trends & Takeaways ...

- 99.6% of U.S. overseas trade volume moves through seaports maintained by USACE.
- The U.S. marine transportation industry supports nearly \$2 trillion in commerce and creates employment for more than 13 million people.
- California maritime complex contributes over \$40 billion to GDP.
- California handles 40% of nation's imports.
- International trade accounts for 40% of the state economy.
- Dredging in California supports over \$400B in commerce annually.
- Regional USACE Nav Investment ranges from \$65M to \$105M per year.
- Federal funding has remained flat in nominal terms and declined in real terms.

Navigation Efficiency Initiatives

- West Coast Regional Hopper Contract (Mob/Demob Savings)
- 3 year Oakland Harbor O&M Dredge Contract (Speed)
- 3 year San Francisco Bay O&M Dredge Water Quality Certification and Consistency Determination (Speed)
- Integrated project staffing for Environmental (Effectiveness)
- Analyzing potential for SF Bay Sediment P3 Pilot (Savings)

P3 Revenue Structures

Type	User	Application	Risk Considerations	Comment
User Charges	Customers	Toll roads, ports, airports, water, electricity, etc.	Demand risk, affordability issues, collection risks, enforceability, cost-recovery	<ul style="list-style-type: none"> • Need for clear economic regulation. • Risks can be mitigated with guarantee structures.
Usage Payments	Public entity	Shadow tolls	Demand risk, performance risk, credit risk of paying agent.	<ul style="list-style-type: none"> • Need for usage, availability, and performance monitoring
Off-take payments	Utility	Utilities (energy, water, etc.)	Availability and performance risks, credit risk of payment agent	<ul style="list-style-type: none"> • Need for detailed off-take contracts • Price regulations
Availability Payments	Public entity	PFI, infrastructure assets	Availability risk, credit risk of paying agent.	<ul style="list-style-type: none"> • Need for detailed availability criteria.
Performance Payments	Public entity	PFI, infrastructure assets, facilities management	Performance risk, credit risk of paying agent	<ul style="list-style-type: none"> • Need for detailed availability criteria
Grants & Guarantees	Public entity	All infrastructure asset	Mechanisms to mitigate risks and enhance affordability	<ul style="list-style-type: none"> • Government capital payments or contributions • Minimum revenue guarantees
Ancillary Revenue	Customers	Commercial activities	Commercial risks	<ul style="list-style-type: none"> • Typically subject to minimal or no regulation

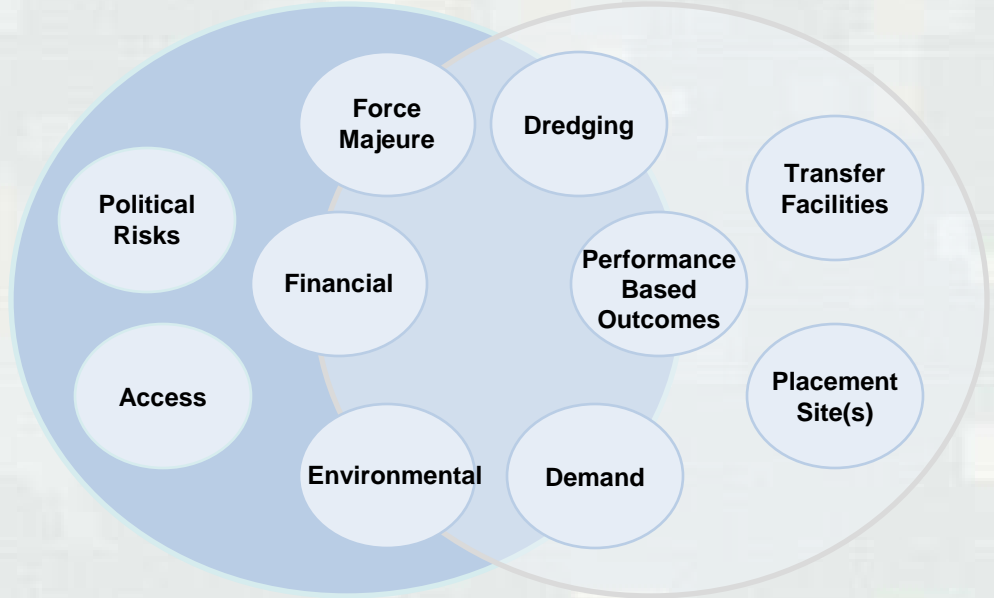
Risk Balance in P3 for Navigation

Risk Distribution in P3

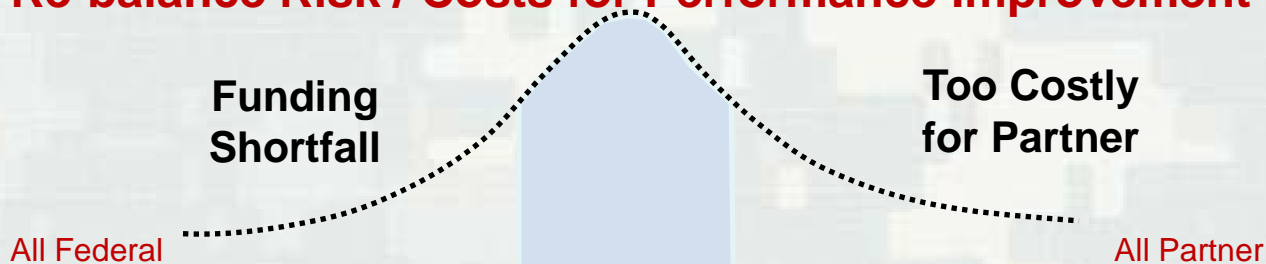
Publicly Delivered Project



Public Private Partnership Project



Re-balance Risk / Costs for Performance Improvement



Risk should be allocated to the party best able to manage it (some risks are also assigned to third parties).

Closing Thoughts

- “CAN-HOW-WHY” Analytics & The 3-E’s.
- Certainty, Efficiency & Implementability
- Speed-Cost-Liability Triangle
- Shorter Terms and Simple Tenets
- Momentum Begins One Project at a Time

The End