



PUBLIC-PRIVATE PARTNERSHIPS
FOR WATER SYSTEMS AND WATER TREATMENT

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THE LANDSCAPE

- ↑ Financial deficits at all levels of government.
- ↑ Higher and differing demands on existing infrastructure.
- ↑ Need for new infrastructure and/or increasing costs to maintain existing infrastructure.
- ↑ Government challenges in increasing revenues and/or acquiring capital.

WATER SYSTEMS AND WATER TREATMENT - BACKGROUND

Primary water challenges Colorado faces

- ▶ Growing water supply gap
- ▶ Growing funding gap
- ▶ Sustained and systemic drought
- ▶ Destructive wildfire
- ▶ Record flooding
- ▶ Population Growth
- ▶ Meeting agricultural needs

COLORADO'S WATER PLAN

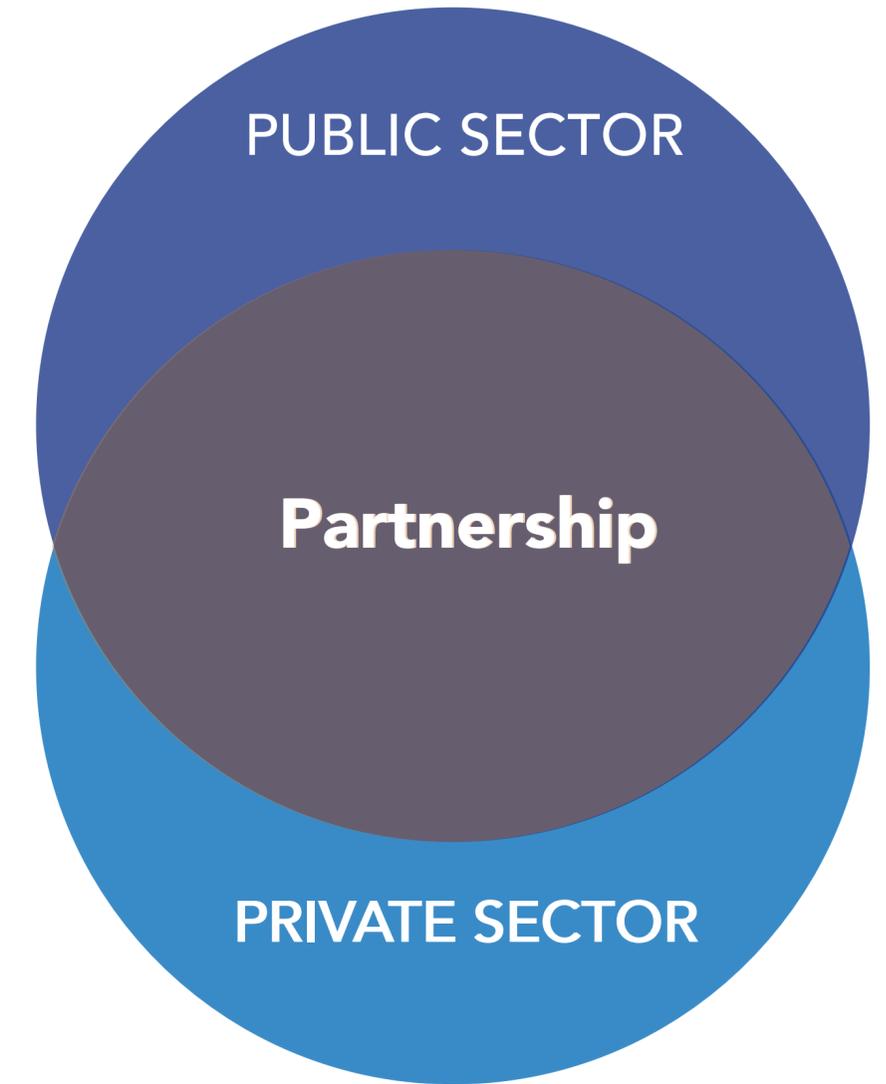
Framework to guide future decision-making and to address water challenges with a collaborative, balanced, and solutions-oriented approach.

- ▶ GOAL: Improve the regulatory processes, and explore financial incentives
- ▶ THREE PRIMARY VALUES:
 - A productive economy that supports vibrant and sustainable cities, viable and productive agriculture, and a robust skiing, recreation and tourism industry.
 - Efficient and effective water infrastructure.
 - A healthy environment that includes healthy watersheds, rivers, streams, and wildlife.
- ▶ In achieving these values, Colorado must confront these issues quicker than others as it is one of the fastest growing states in the country.
 - Population growth
 - Environmental stress

WHAT IS A P3?

- ▶ A Public-Private Partnership is a contractual agreement between a public agency (federal, state or local) and a private sector entity.
- ▶ Through this agreement, the skills and assets of each sector are shared in delivering a service or facility for the use of the general public.
- ▶ In addition to the sharing of the resources, each party shares in the potential risks and rewards in the delivery of the service and/or facility.

Source: www.ncpppp.org



POTENTIAL BENEFITS AND RISKS

BENEFITS

- The use of private finance enables the public to have access to improved services sooner.
- Introducing private sector technology and improved operational efficiency.
- Incentivizing the private sector to deliver projects on time and within budget.
- Developing local private sector capabilities (e.g., transportation, energy, urban development).
- Improving the quality/quantity of basic infrastructure.
- Diversification in the economy.
- Supplementing limited public sector capacities to meet the growing demand for infrastructure development.
- When structured correctly, P3 projects can deliver better/ long-term Value for Money.
- Shifting the risk of financing.

RISKS

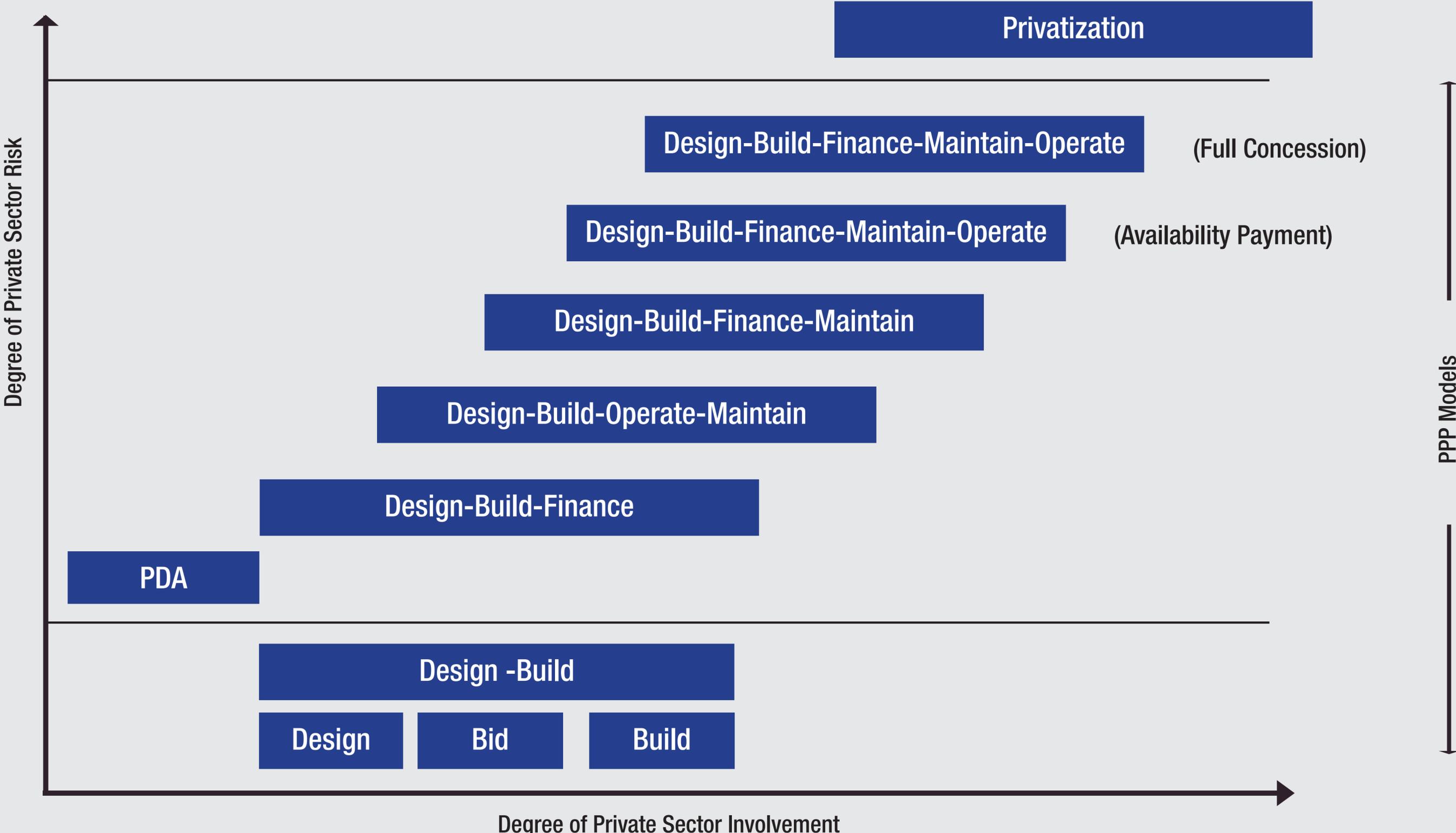
- Difficult to analyze the Value for Money
- Some projects may be politically /socially challenging to introduce due to concerns about privatization.
- Private sector will only do what it is being paid to do.
- A clear legal and regulatory framework is crucial.
- Difficult to identify all possible contingencies.

BASIC FRAMEWORK

- ▶ There is an infrastructure need.
 - A public participant agency which is responsible for providing a service to the community.
 - A private sector participant interested in receiving that service, interested in providing that service, or interested in constructing the means in which that service is provided.

RANGE OF DELIVERY MODELS

The scale of Public-Private Partnerships:
Risk Transfer & Private Sector Involvement

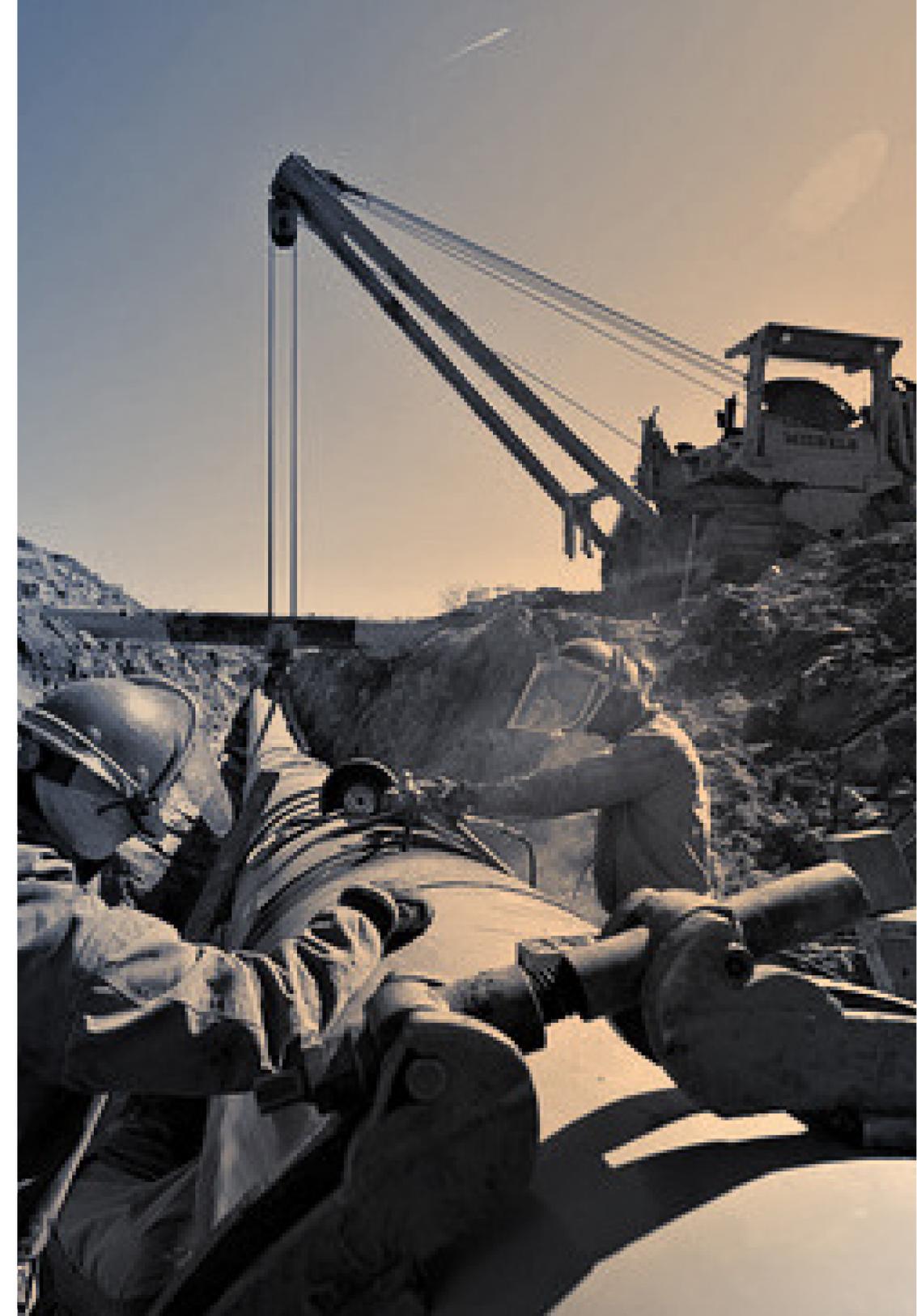


ELEMENTS CRITICAL TO SUCCESS OF P3s

- ▶ P3-authorizing legislation to protect against roadblocks and provide assurances of a process on both the public and private side.
- ▶ P3s should not be used as a stopgap measure. Instead, governments should utilize them in such a way as to reallocate resources and risks to meet community needs.
- ▶ P3s do not provide funding, they are a different financing and procurement mechanism.
- ▶ If the community is not included in the development of a P3, they are likely to oppose them. It is important to convey the role of the private sector in the process.

DESIGN-BUILD/DESIGN-BUILD-FINANCE - EXAMPLE

- ▶ Capacity to deliver 20 million gallons of water daily.
58-mile pipeline.
 - \$165 Million capital cost
 - Value for Money Drivers
 - Accelerated delivery
 - Construction savings
 - Enhanced technologies





DESIGN-BUILD-OPERATE/DESIGN-BUILD-OPERATE-MAINTAIN - EXAMPLE

- ▶ Process 80 million gallons per day (mgd). First phase of a long-term master plan to provide a robust facility that has an ultimate capacity of 320 mgd.
 - \$215 Million capital cost
 - Value for Money Drivers
 - Project acceleration (2-year savings in planning, design and construction phases)
 - Construction cost savings in amount of \$30 Million

DESIGN-BUILD-FINANCE OPERATE- MAINTAIN - EXAMPLE

- ▶ Water Recycling Facility - The combined treatment capacity of phase 1 and phase 2 is 4.2MGD ADWF, serving a maximum population of 52,500
 - \$62 Million capital cost
 - Value for Money Drivers
 - \$18 Million in design and construction cost savings
 - O&M cost savings of \$1.8 Million per year
 - Delivery 7 months ahead of schedule
 - Reduced facility footprint by 70%
 - 30% energy consumption savings



FIRE MOUNTAIN CANAL AND RESERVOIR COMPANY

Number of shares:	220,155.30
Number of shareholders:	488
Number of shares needed to = 1 acre foot in a 24-hr period	725

PAONIA RESERVOIR SEDIMENT REMOVAL AND OUTLET MODIFICATION PROJECT

Capacity Reclamation in acre feet	3000
Project Budget	\$8,000,000.00

SCENARIO 1

- ▶ Project financed by grant
- ▶ Expenses in up front engineering
- ▶ Proposal preparation can take up to 6 months
- ▶ No guarantee grant will be accepted
- ▶ Some grant opportunities only open up every 3 years

SCENARIO 2

- ▶ Project financed by the state on schedule in 2025
- ▶ \$8,000,000 in projects costs today
- ▶ \$10,438,185 in costs in 2025 *
- ▶ Opportunity costs

*calculated based on a 3% inflation factor

SCENARIO 3

- ▶ Financed by P3
- ▶ Design and build becomes the contractor's responsibility
- ▶ Project is financed, designed and completed within 30 months

10 YEAR TERM @ 3%

\$9,269,831 in total load costs*

Savings realized \$1,213,354

Costs Per Share per year	\$ 4.21
Costs Per shareholder per year	\$ 1,899.56
Cost Per Acre Foot	\$ 308.99
Costs can be divided up between user fees and shares	

*not including origination fee

20 YEAR TERM @ 3%

\$10,648,274 in total load costs*

Savings realized \$210,089

Costs Per Share per year	\$ 2.53
Costs Per shareholder per year	\$ 1,140.90
Cost Per Acre Foot	\$ 185.59
Costs can be divided up between user fees and shares	
Opportunity Costs	

*not including origination fee

CONCLUSIONS

- ▶ Any P3 requires a genuine partnership and open communications between all stakeholders.
- ▶ P3s have a role in addressing the growing need in water systems and water treatment.
- ▶ A key component to this is a clear enabling act authorizing P3s for this sort of project.