



The Design-Build Institute of America

Design-Build Done Right™

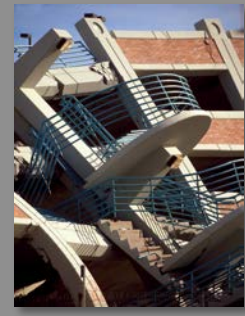
RECOVER

Mission:

DBIA promotes the value of design-build project delivery and teaches the effective integration of design and construction services to ensure success for owners and design and construction practitioners.

Design-Build Delivers

Timely
Cost-Effective
Resilient
Recovery



Design-build has been the heart of rebuilding efforts in states from coast-to-coast, including:

- Hurricanes Katrina (LA), Sandy (NY/NJ), Irene (NY/NJ)
- Minneapolis (MN) I-35 Bridge Collapse
- Post 9/11 Pentagon reconstruction (DC/VA)
...and many more.

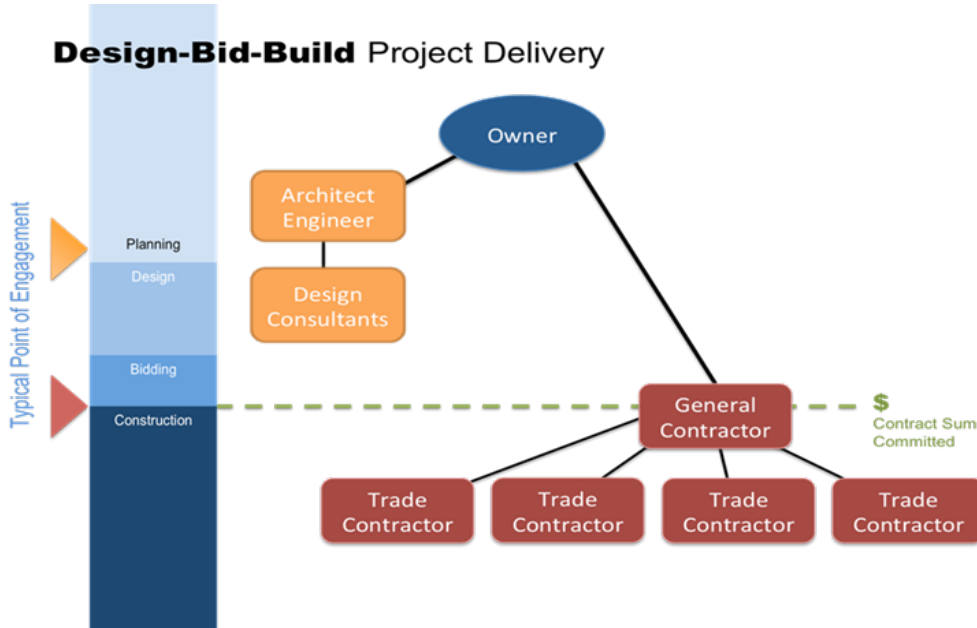
Thousands of bridge, highway, rail, school and building recovery projects have been delivered quickly and cost-effectively thanks to design-build.

About Design-Build

Design-build is an **integrated approach** that delivers design and construction services under **one contract with a single point of responsibility.**

Owners select design-build to achieve **best value** while meeting **schedule, cost and quality goals.**

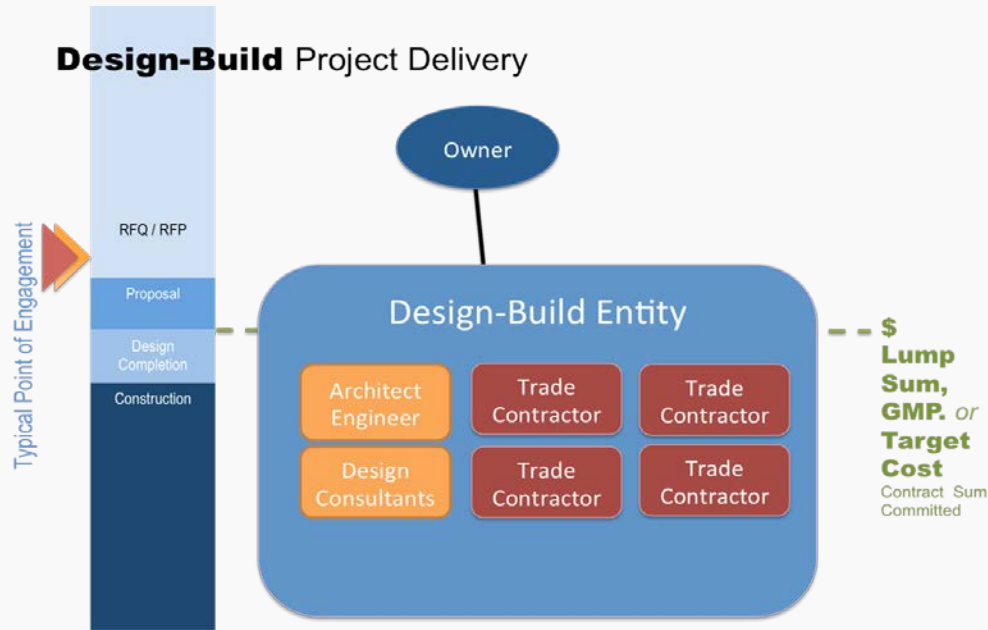
The Problem



Traditional Design-Bid-Build (limits collaboration & innovation)

- Cost competition begins after project planning and design.
- Risk associated with errors and omissions in design is assumed by the owner.
- Competition solely on cost.

The Solution



Design-Build (Harnesses the power of collaboration and innovation)

- Competition begins earlier in the conceptual stages of the project.
- Design-builder assumes risk associated with errors and omissions in design.
- Construction can begin sooner.

Advantages of Design-Build

Design-build meets your requirements

Fully Comprehensive

Research has found higher owner satisfaction on DB projects in part due to its collaborative nature.

Faster delivery

Research has found DB is consistently faster at delivering projects.

Lower Cost

DB projects have fewer change orders, reduced litigation, and greater life cycles than traditionally delivered projects.

Higher Quality

Designed with the owner in mind, DB projects deliver on community needs in a time sensitive and cost-conscious manner.

Design-Build is *FAST*

Design-build consistently out performs DBB in project delivery speed metrics

34%

Faster delivery

*On average, studies have found that design-build delivers projects **33.7%** faster. In real terms, this means saving more than **three years** on a 10 year project.**

11%

Less Schedule Growth

*According to a landmark study conducted by Penn State University and the Construction Industry Institute, design-build projects in the building sector averaged 11.4% less schedule growth than comparable design-bid-build projects.**

93%

Owner reported success

*In a 2014 survey of public owners, McGraw Hill found that 93% of owner-reported design-build projects came in either on schedule or ahead of schedule.***

*See reference 9 on page 31

** See reference 2 on page 31

St. Bernard Parish Pump Stations in New Orleans

Racing the clock before the next hurricane season, this vital \$20 million post-Katrina recovery project was delivered on budget in just 18 months, a full year faster than using traditional design-bid-build delivery.

“ **The design-build approach was critical to the successful rebuilding of three Katrina-damaged pump stations near New Orleans.** ”

Society of American Military Engineers, October 2015



Design-Build is Cost-Effective

Studies have found...

Research Team	Year	% Cheaper	% Cost Growth	Projects
Sanvido & Konchar	1999	6.1%	-	351 (Buildings)
Hale, Shrestha, Gibson, Migliaccio	2009	3.4%	-50%	77 (Buildings)
Florida DOT	2014	10.51%	-	2 (Highway)
Warne and Associates	2005	-	-3% (Range of -1-6%)	21 (Highway)
Shrestha, Migliaccio, O'Connor, Gibson	2007	-	-9.6%	4 (Highway)
AVERAGE		6.7% cheaper	-20% cost growth	455 Projects

Design-Build is Cost-Effective

What about small projects?

A 2016 study found no “cost or schedule performance” advantages to delivering small projects (under \$20 million) with traditional design-bid-build versus design-build. (Alleman, Antoine, Schrilla and Molenaar, 2016)

This is why we are opposed to project thresholds and believe design-build should be available to be used on any size project.

* In addition, see page 16 on the average size of projects in the transportation sector.

“Implementing [best] practices on any type of design-build project increases the probability of a successful project that meets the expectations of all stakeholders.”

*Design-Build Done Right™
Universal Best Practices.*

Transportation-Specific Design-Build Studies

Year-Author	Design-Build is FASTER	Design-Build is COST-EFFECTIVE
2014-FDOT	45% Faster	10.5% Cheaper
2012- Shrestha	63% Faster	-
2006- FHWA	52% Faster	3% Larger Contract
Average	53% Faster	3.75% cheaper

In 2014 McGraw Hill surveyed the owners, architects and contractors on preferred delivery methods. They found:

93% of design-build projects reported by owners were finished **either on schedule or ahead of schedule**

89% of owners say they use design-build to **maximize their budget**

Alternative delivery and financing in the transportation sector continue to grow

- Nationally, nearly half of all of the alternative delivery bills are transportation related.
- Over 60% are transportation, P3, and/or local design-build bills.
- Over 100 alternative delivery related bills were introduced in 2016.
- 22 P3 related bills were introduced in 11 states.

Completed Transportation Design-Build Projects

800%

**More Projects
Since 2002**

1,300+

140



as of
2002

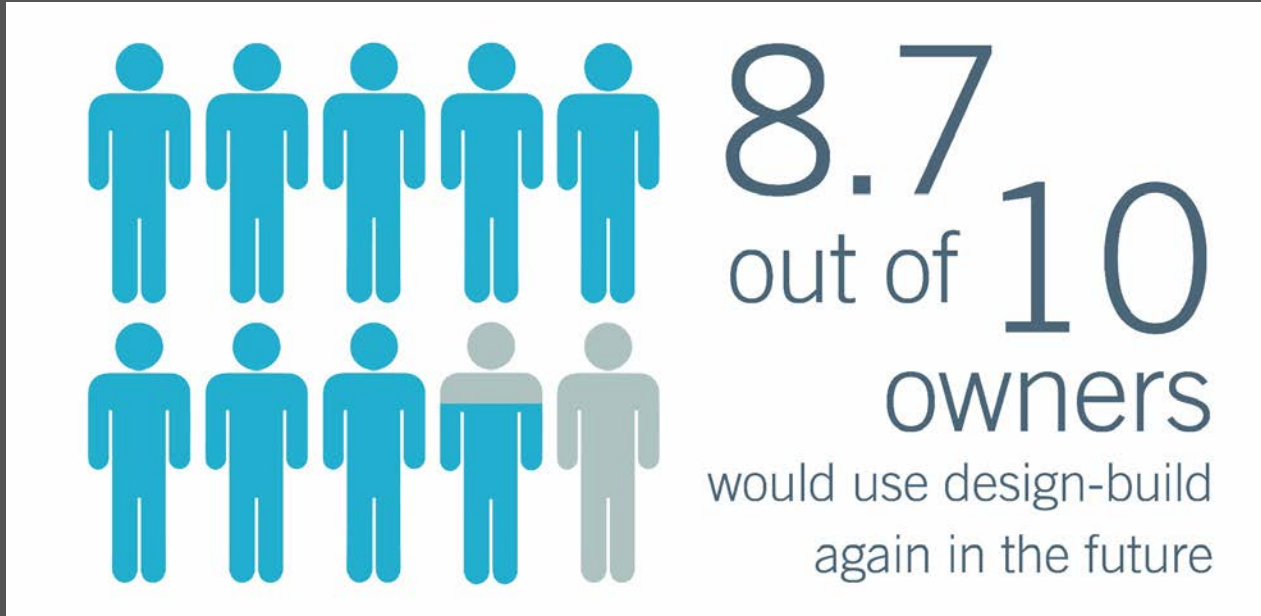


as of
2016

According to DBIA's 2016 survey of state DOT's.

State DOTs like design-build

(Survey Findings Continued)



DBIA's 2016 survey of state DOT's.

Design-Build Project Types

(Survey Findings Continued)

States use design-build for these project types



91%
highways



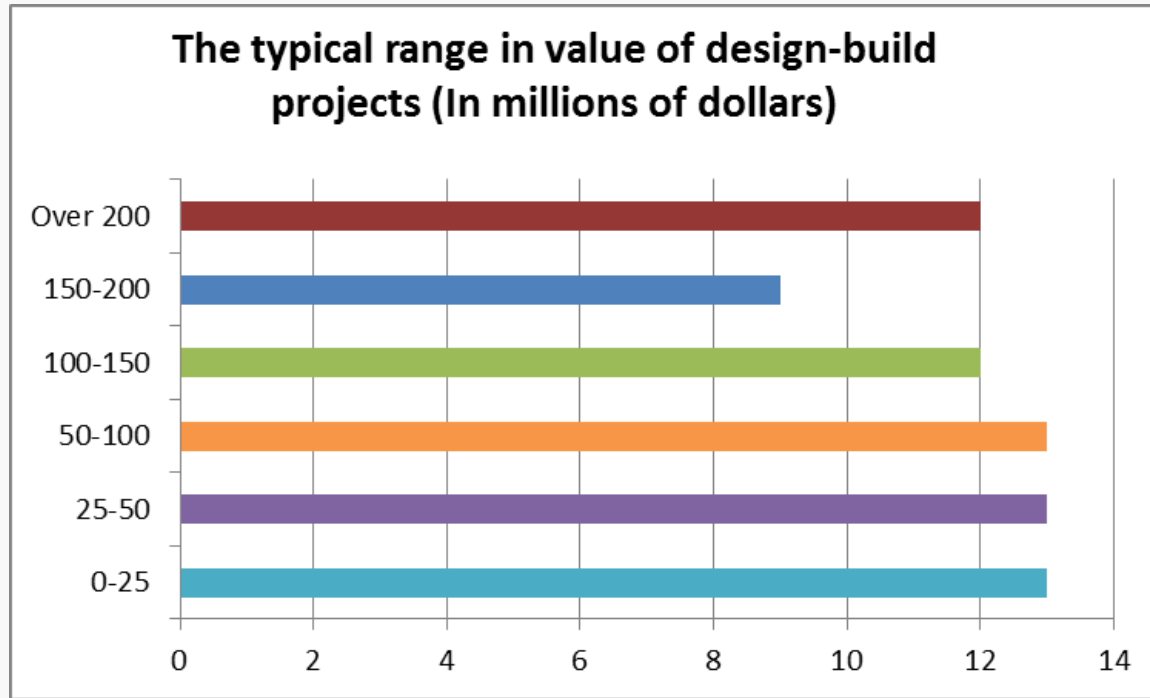
65%
bridges



9%
railroads

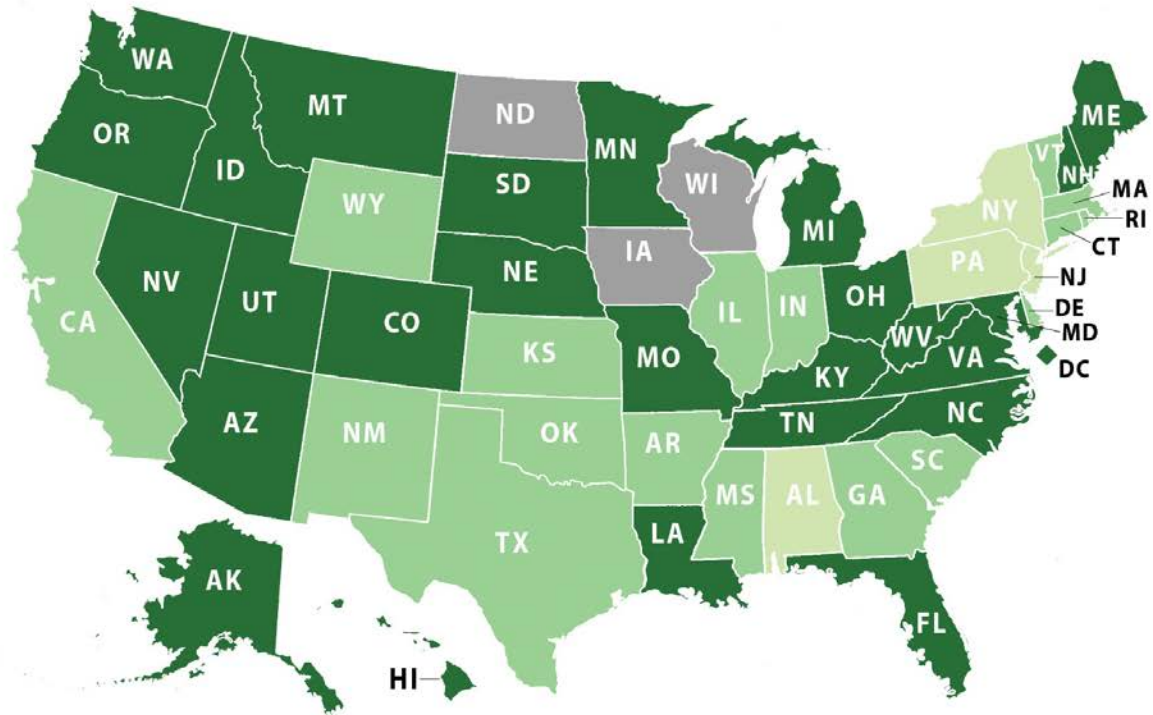
DBIA's 2016 survey of state DOT's

Design-Build Works for Any Project Size (Survey Findings Continued)



DBIA's 2016 survey of state DOT's

2017 Design-Build State Authorization



- Design-build is limited to one political subdivision, agency or project
- Design-build is a limited option

- Design-build is widely permitted
- Design-build is permitted by all agencies for all types of design and construction



Design-Build Delivers



U.S. 90 Bridge

St. Louis Bay, Mississippi

In August 2005, Hurricane Katrina devastated the Gulf Coast of Mississippi causing catastrophic damage to the U.S. 90 Bridge across St. Louis Bay, disconnecting communities and turning a 5-minute trip into a nearly one hour detour. Each day without the bridge caused an estimated \$100,000 in economic loss to the region.

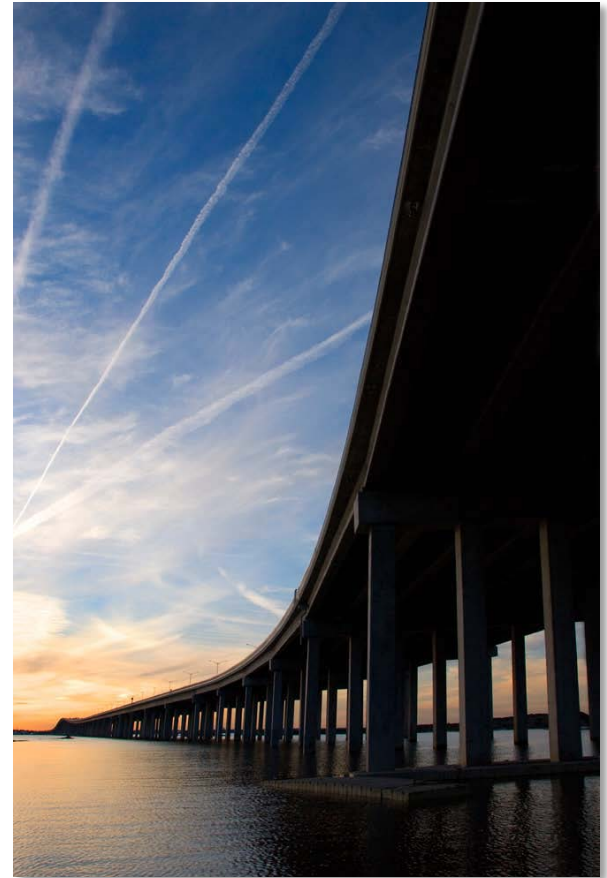
Delivery of a project this size would typically take four to five years. Using design-build, the U.S. 90 bridge construction, including design, was completed in just two years.

Project Timeline:

Jan. 2006 - Feb. 2008

Total project cost:

\$283 million



State Route 42

Greene County, NY

Six miles and two bridges of the roadway had been closed as a result of the severe damage caused by Hurricane Irene and Tropical storm Lee in 2011. The emergency reconstruction of State Route 42 in Greene County was completed ahead of schedule and approximately 10 percent under budget using design-build.

Governor Andrew Cuomo used emergency authority to quickly rebuild after the double storms ravaged the area.

Construction Timeline: Total project cost:
Sept. 2011 – Feb. 2012 \$14.1 million



Long Island Railroad & Metro North MTA

New York

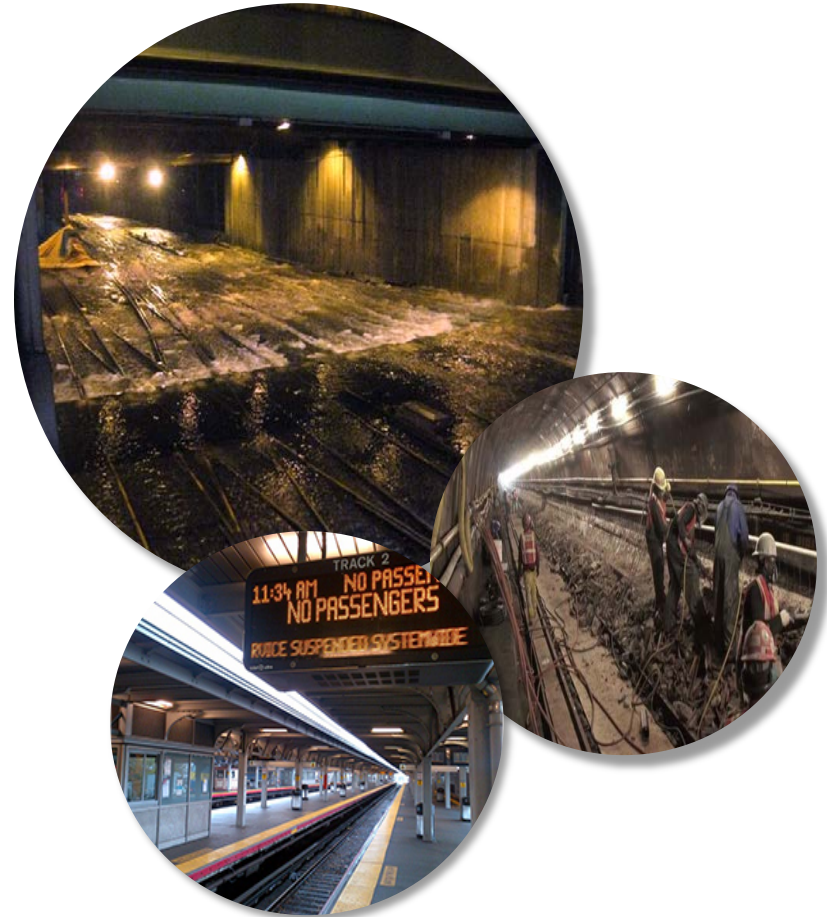
Hurricane Sandy left \$634 million in damage to the Long Island Railroad and Metro North rail in 2012. Not only was design-build vital to MTA's immediate repairs it's now being used to deliver resiliency projects to better protect the system in the future. Resiliency projects include drainage improvements and the construction of deployable and permanent walls to defend against flood surges.

Construction Timeline:

October 2012 – today

Total project cost:

\$634 million



Chevron Headquarters

Covington, LA

After Katrina's devastation in 2005, Chevron made a business decision to relocate their regional headquarters from New Orleans to Covington, on the north side of Lake Pontchartrain.

Chevron was determined to build resiliency into this \$80 million project, still located in a hurricane zone. In spite of post-Katrina labor shortages, 60 days lost to weather and a fast-tracked deadline, the project's first phase was delivered one month early and the entire project on schedule.



Construction Duration:

14 months

Total project cost:

\$79.8 million

I-35W (St. Anthony Falls) Bridge

Minneapolis, MN

On Aug. 1, 2007, the I-35W bridge over the Mississippi River collapsed. MnDOT **expedited an emergency design-build contract** to replace the collapsed structure by the end of 2008.

The project included reconstruction of I-35W from Washington Ave. to 4th Street, approximately 3/4 of a mile in length. The river crossing included a 10-lane freeway (five lanes in each direction) with accommodations for future Light Rail Transit.

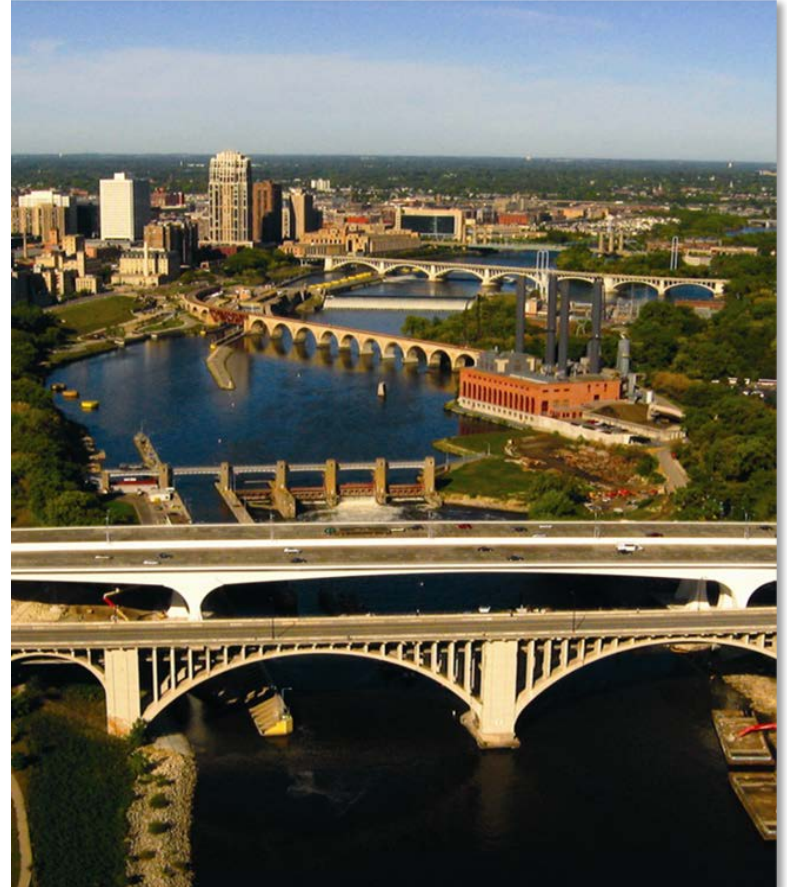
And, in spite of a treacherous Minnesota winter, the project still came in two months ahead of schedule!

Construction Timeline:

Total project cost:

Oct. 2007- Sept. 2008

\$265 million



Pentagon Reconstruction

Arlington, VA

The project team was formed the very day of the 9/11 attack and an ultra-fast track schedule was created to complete the project within one year. Many didn't think it was possible; however, design-build enabled design and construction to operate together under a single contract, saving time and reducing potential conflicts. Motivation was high and additional financial incentives enabled the project to be completed nearly a month ahead of schedule.

**Delivered 28 days ahead of schedule and
\$194 million under budget.**

Construction Timeline:

Oct. 2001- Sept. 2002

Total project cost:

\$501 million

September 11, 2001



September 11, 2002



Design-Build Delivers
Every Day



Carlsbad Desalination Plant

Carlsbad, CA

The \$922-million Carlsbad Desalination Plant is the largest desalination facility in the Western Hemisphere, with average production of 50 MGD of fresh, high-quality drinking water. Design-build helped deliver an innovative, drought-proof, reliable water source to drought-stricken Southern California in the shortest possible timeframe.

Construction Duration:

36 months

Total project cost:

\$583 million



Denver Union Station

Denver, CO

The Denver Union Station Transit Improvements project transformed 20 acres of blighted former rail yard into the vibrant centerpiece of a bustling downtown Denver, anchoring the region's transit system with all modes of public transit.

Design-build delivered two years earlier than projected under traditional delivery. The project team then shaved an additional three months from the delivery date.

Construction Duration: 49 months Total Project Cost: \$374.8 million

UC Irvine

Irvine, CA

Design-build's lower cost of design, lower overall cost of construction, and single-source responsibility offered great value for UCI's Mesa Towers student housing expansion. Innovation and collaboration created one of the most sustainable student living projects in the country.

Design-build delivered a fast track, multiple package project with a short interval production schedule while also maintaining campus operations during construction.

The team also provided over 80 specific value items in the design that went beyond the specified RFP.

Construction Duration:	Total project cost:
24 months	\$96.7 million





US 60 Rogersville Project Freeway

Rogersville, MO

The design-build method allowed the owner to incorporate right-of-way purchasing efficiency into selection criteria. A maximum set aside was prescribed in the project budget, and any savings that resulted from negotiations were set aside as part of an optional improvement fund to further enhance the project. Combined with utility savings this saved **\$3.8 million**, which were used to fund additional scope including pedestrian facilities, side road alignments and aesthetic enhancements.

Estimated Cost: \$32.8 million

Actual Cost: \$32.2 million

Savings: \$200 K | Added Value: \$3.8 million



Design-Build...

saves local governments time and money.

delivers high quality projects.

provides more collaborative and innovative solutions.

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