

LEAD STATES TEAM SYNOPSIS

New Bridge Material Design Options (BMDO)

AMERICAN ASSOCIATION OF
STATE HIGHWAY AND
TRANSPORTATION OFFICIALS

AASHTO
THE VOICE OF TRANSPORTATION



LST Members

Ken Sweeney, Chair,
Maine Department of
Transportation (DOT)

Dave Sherlock,
Maine DOT

Dale Peabody,
Maine DOT

Tad Alberski,
New York DOT

Raja Jildeh,
Michigan DOT

Mike Mohseni,
Colorado DOT

Stacy McMillan,
Missouri DOT

Lou Triandafilou,
Federal Highway Administration

Christine Mizioch,
CDR Maguire

Larry Parent,
University of Maine

Activity Period

2011–2013

Cost of LST Effort

\$30,211.66



This rigidified fiber reinforced polymer arch in Caribou, Maine, which at the time of construction was the largest composite arch bridge in the world, was constructed to allow traffic to pass under a busy highway.

What the LST Did

Two innovative bridge technologies now in use in several States offer transportation agencies significant cost, safety, strength, weight, design and sustainability benefits. They may be particularly useful in accelerated bridge construction since manufacture can take place in as little as 30 days. Even in more complex applications, each new Bridge Material Design Option (BMDO) generally requires lead time no longer than that of conventional materials.

The overall goal for the LST was to nationally increase the adoption of BMDO technologies.

In order to accomplish their goal, LST team members conducted presentations, produced a series of “Fast Facts” tech sheets that summarized projects, and created case studies and summaries of implemented projects throughout the country. Additionally, the LST produced videos that are available on YouTube and provided a model mockup and contractor testimonials. These resources are available on the AASTO website at <http://aia.transportation.org/Pages/NewBridgeMaterialDesignOptions.aspx>.

What the LST Accomplished

Measuring Success: BMDO Progress

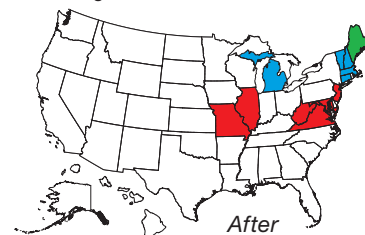
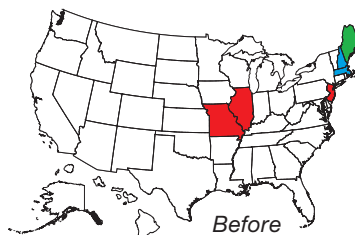
This technology is spreading across the country. In less than three years, over half the states are using BMDO as a way to improve safety.

□ = No reported BMDO activity

■ = Currently using or in the process of implementing Bridge in a Backpack technology

■ = Currently using or in the process of implementing Hybrid Composite Bridge technology

■ = Currently using or in the process of implementing both Bridge in a Backpack and Hybrid Composite Bridge technologies



Proven benefits of BMDO:

- Simplify construction and afford rapid replacement of culverts and short- to medium-span bridges over water,
- Be less expensive and potentially long-lasting in severe exposure settings, such as marine environments,
- Reduce life-cycle and maintenance costs while lowering the structure's carbon footprint through the use of corrosion-resistant materials.