



Bridges - RESOURCE

Standard Connection:

ELA.RL.PK4.7
ELA.SL.PK4.1a,1b
M.MD.PK4.3
M.G.PK4.5
S.ES.PK4.3
S.ES.PK4.3b
SS.OW.PK4.5
PD.FM.PK4.5
PD.SHS.PK4.5
VA.CR2a.2.PK
VA.CR2a.3.PK



GIRDER BRIDGE

A girder or beam bridge is arguably the most basic bridge. A log across a creek is an example of a girder bridge in its simplest form. Modern steel girder bridges often use I-beams or box girders in their construction.

EXAMPLE: The 2,165 foot Poplar Street Bridge.

SOURCES: Matsuo Bridge Co., Ltd.,
www.riverwebmuseums.org



TRUSS BRIDGE

The truss is a simple skeletal structure. In theory, the individual parts of a simple truss are only subject to tension and compression forces but not bending forces. Trusses are made up of small beams that when put together can support large amounts of weight and also span great distances.

EXAMPLE: The Old Chain of Rocks Bridge is a one-mile-long truss bridge with a dramatic joint in the center.



ARCH BRIDGE

The second oldest bridge type, the arch doesn't require piers in the center. Arches use a curved structure. This provides high resistance to bending forces. Arches can only be used where the ground or foundation is solid and stable.

EXAMPLE: The Eads Bridge has a three-arch span that totals 1,647 feet.



CANTILEVER BRIDGE

A cantilever bridge is a modified form of beam bridge. The support is in the middle of a span, not the end. The advantage to a cantilever bridge is its ability to span wide spaces without the need of extensive and expensive support while under construction.

EXAMPLE: The Greater New Orleans Bridge over the Mississippi River.



CABLE-STAYED BRIDGE

A typical cable-stayed bridge is a continuous girder with one or more towers erected above piers in the middle of the span. Cables stretch down diagonally (usually to both sides) and support the girder from the towers.

EXAMPLE: The Clark Bridge crossing the Mississippi going to Alton.



SUSPENSION BRIDGE

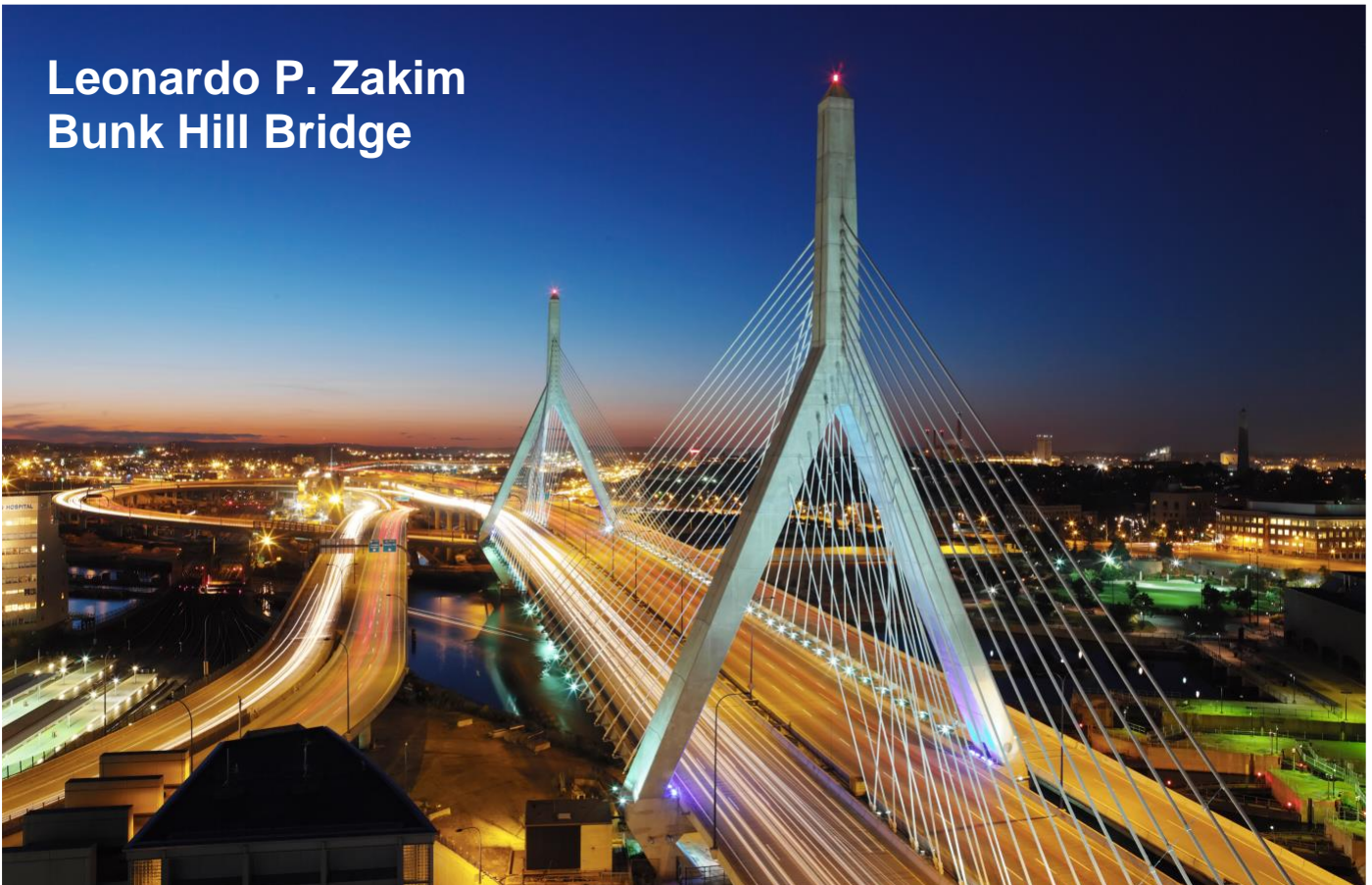
The suspension bridge allows for the longest spans. A typical suspension bridge is a continuous girder with one or more towers erected above piers in the middle of the span.

EXAMPLE: The Golden Gate bridge in San Francisco.

Golden Gate Bridge



Leonardo P. Zakim Bunk Hill Bridge





Longfellow Bridge



Massachusetts Avenue Bridge



Tower Bridge (United Kingdom)



Akashi-Kaikyo Bridge (Japan)



Millau Viaduct (France)



Capilano Suspension Bridge (Canada)

Harbour Bridge (Australia)

