



Historic Bridges of Frederick County

Frederick County, Maryland

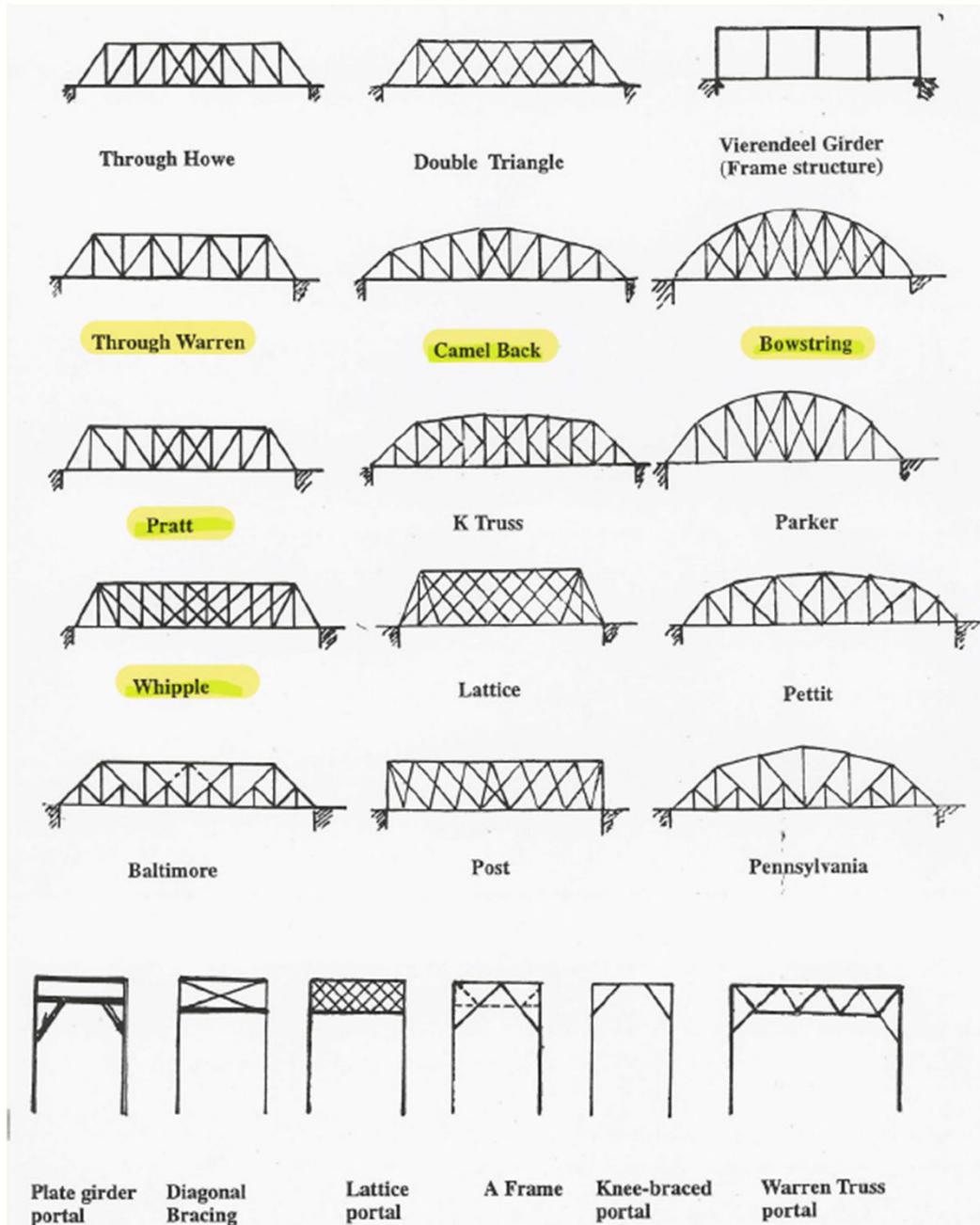
Division of Public Works

Office of Transportation

(301) 600-1129

Frederick County's Bridges

- We have 223 bridges over 20 foot span.
- 25 are historic, with ten on the National Register of Historic Places.
- Three of those on the National Register are our covered bridges at Roddy Road, Loy's Station and Utica.
- One is the stone arch on Legore Road.
- 6 of the 21 historic metal truss bridges are on the national register.

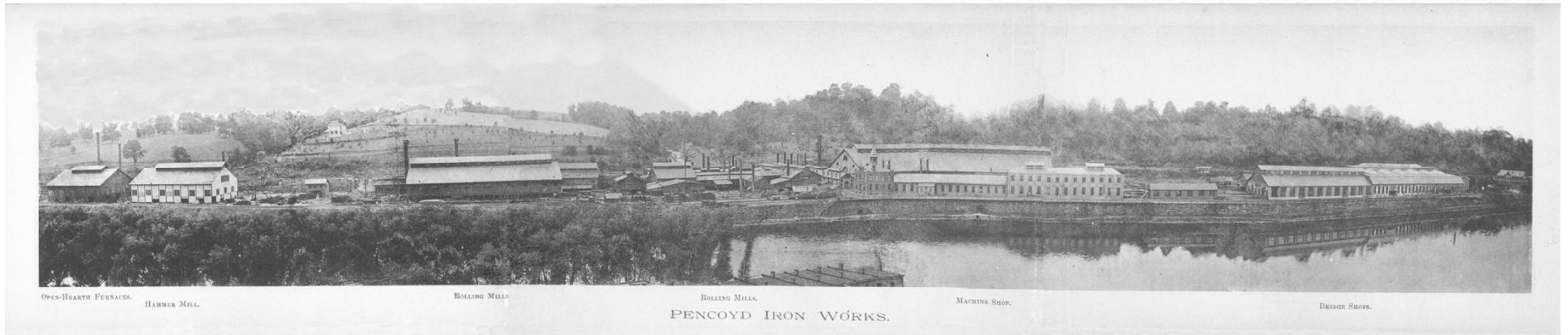


Truss Types

- Pratt 14
- Warren 4
- Bowstring 1
- Camelback 1
- Whipple 1

Total 21

Pencoyd Iron Works - 1888



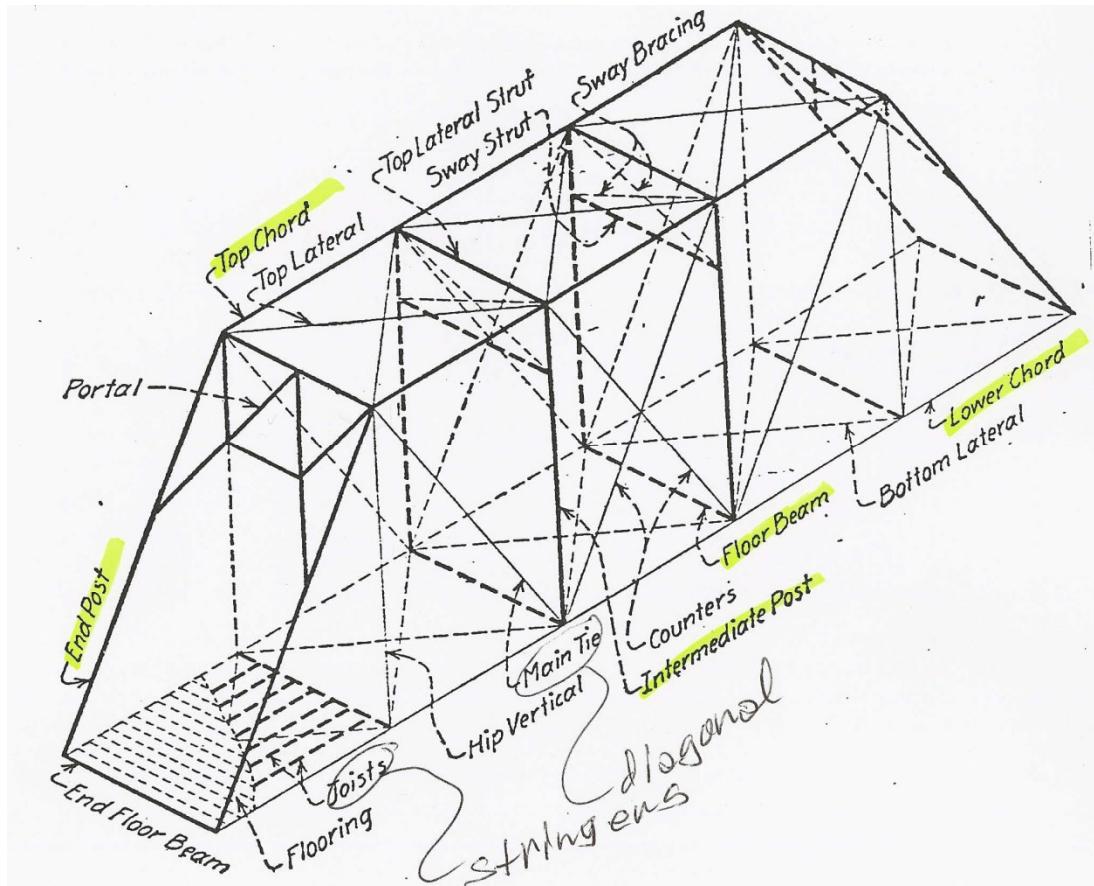
This photo shows open-hearth furnaces at the very left, then the hammer mill, rolling mills, and machine shop. They started making steel in 1887. In 1892 they were making 615 tons of steel per week.

The buildings to the right of the photo are the Bridge Shops, which were producing 7,500 tons of finished material per month by 1901.

Other Bridge and Iron Companies

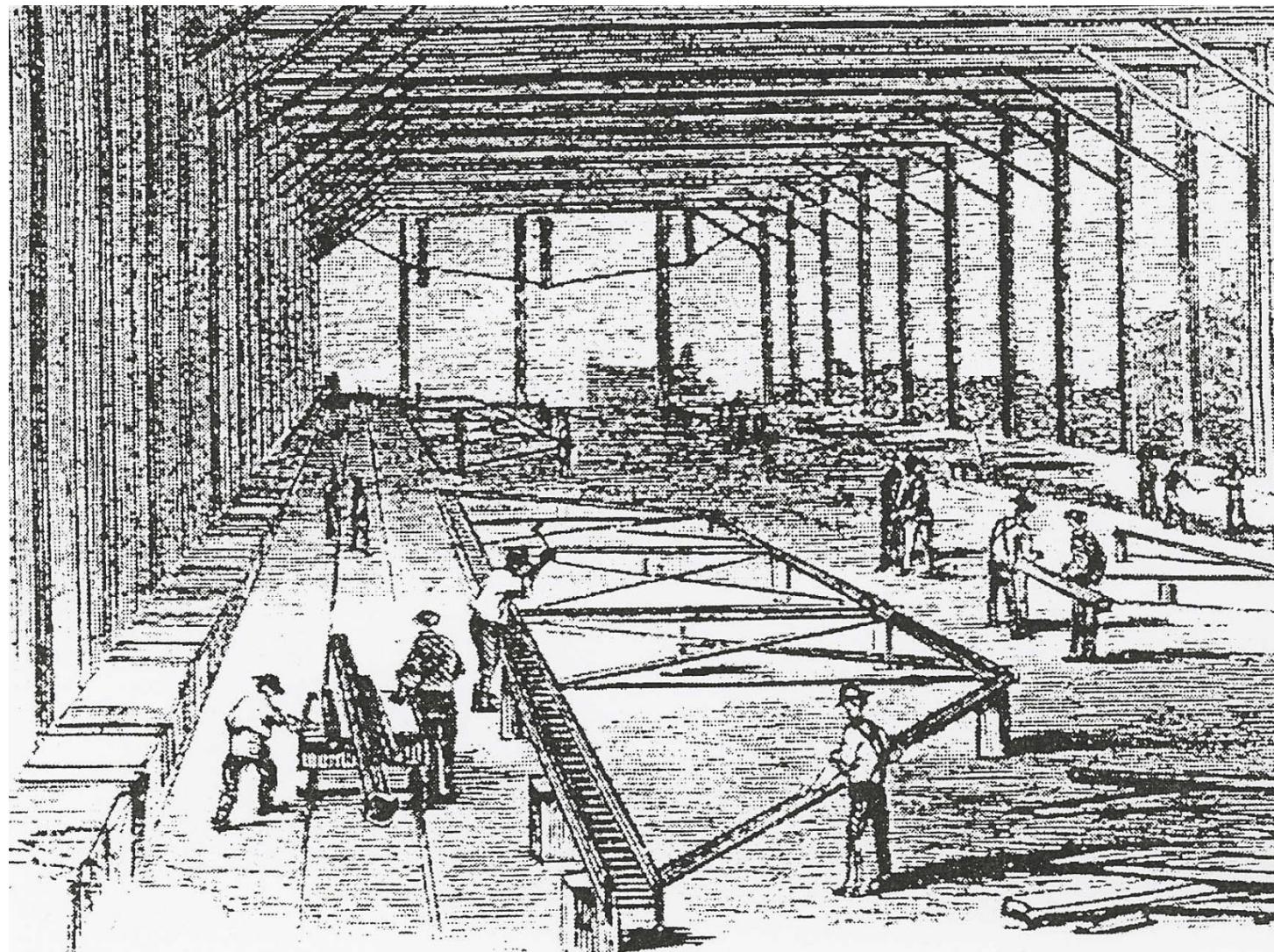
- In the late 1800s there were many companies that patented bridge designs that they fabricated.
- Our historic truss inventory includes bridges manufactured by at least five different companies.

Pratt Truss Highway Bridge

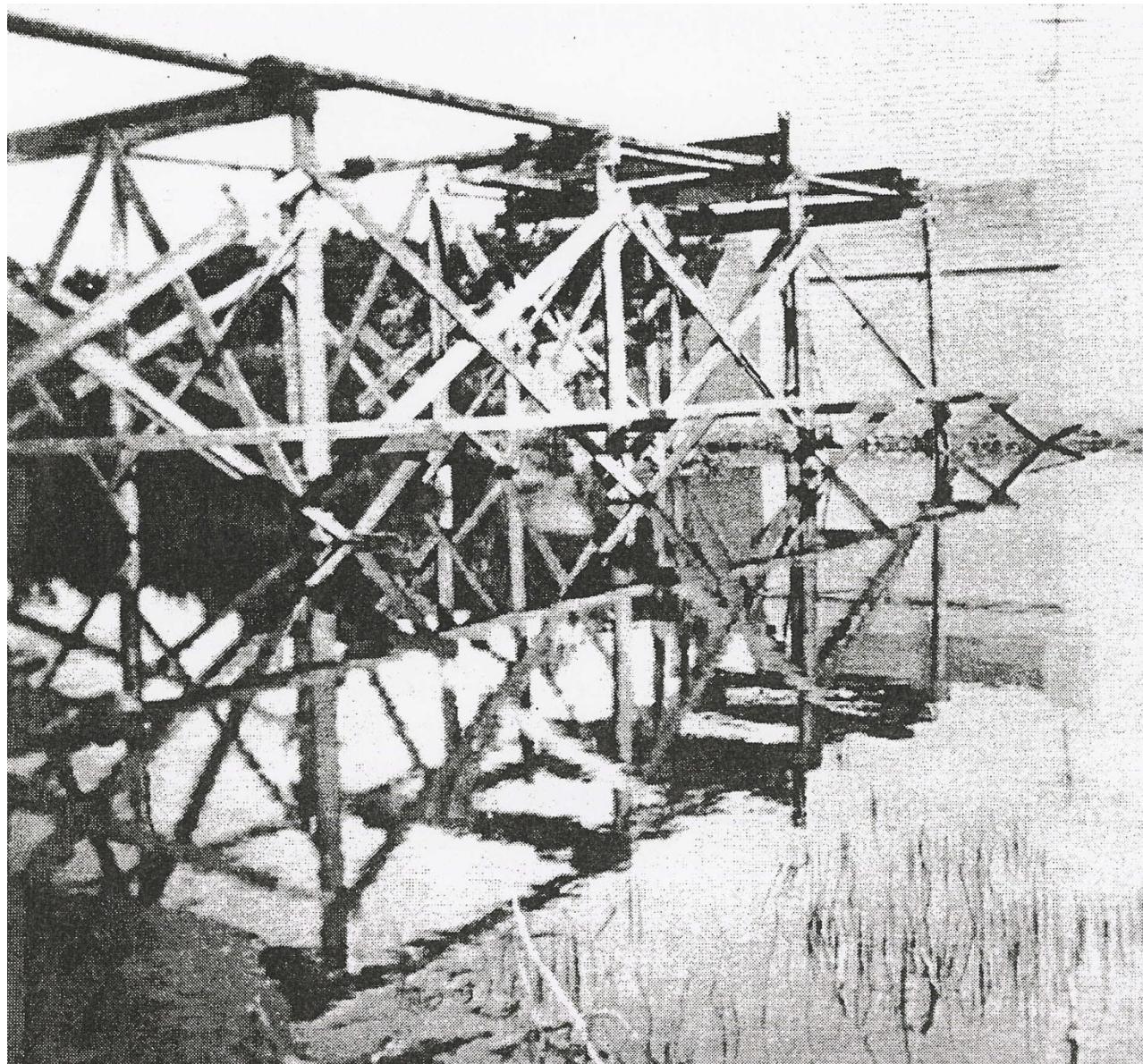


- The primary members are the top chord, bottom chord and the endposts.
- The diagonals and lateral braces transfer loads and brace the primary members.

Trial assembly of a bridge truss in the shop



Sample Falsework for Truss



- This temporary support system was a very important part of the construction process.
- It supported the steel truss members.

Bullfrog Road Through Truss



- This bridge was built in 1908 by the York Bridge Company over the Monocacy River east of Emmitsburg.
- It is listed on the National Register of Historic Places.
- Its span of 183' is the longest historic bridge span in the County.
- The top chord is 30' above the deck.
- It is a rare example of the camelback truss design.
- It was rehabilitated through a CIP project in 1996.

Creamery Road Bridge



- Originally built in the 1928 by the Wrought Iron Bridge Company of Canton Ohio.
- It is a Pratt pony truss.
- It shares many details with the Keysville-Four Points bridge
- It was rehabilitated through a CIP project in 1997.
- It is one of the few remaining wrought iron bridges left in Frederick County.

Keysville – Four Points Bridge



- This bridge was originally built by the Wrought Iron Bridge Company of Canton Ohio in 1876 and is listed on the National Register of Historic Places
- It is one of the few remaining wrought iron bridges left in Frederick County.
- In September of 1996 this bridge was washed off of its abutments by Hurricane Fran.
- After a complete assessment, it was lifted out of the creek by a crane and rehabilitated.
- It was placed back on its abutments and opened to traffic in August 1997.

Grimes Road Through Truss



- This bridge was built by the York Bridge Company in 1914 over Tom's Creek
- It was rehabilitated through a CIP contract in the Spring of 1995.
- The concrete abutments were repaired and riprap placed.
- Many members were repaired or replaced.
- A steel grid deck was installed.

Sixes Road Bridge



- This bridge was built in 1915 by the York Bridge Company of York, Pennsylvania.
- Rehabilitation was completed in the Spring of 1995.
- At 245 feet long it is the longest historic truss bridge in Frederick County.
- It is the only two-span historic bridge remaining on the Monocacy River owned by Frederick County.
- Many of the lower chord members and diagonals were repaired or replaced in 1995.

Apples Church Pony Truss



- This bridge was built by the York Bridge Company in 1917.
- It is a gusset plate truss which was prefabricated using rivets in a factory, delivered to the site, and assembled.
- The trusses came in two halves that were then bolted together at the site.
- The floor system was then installed.
- Frederick County bridge crew rehabilitated this bridge in 1997.

Hoovers Mill Pony Truss



- This bridge was built in 1887 by an unknown company.
- This is similar to two other bridges in the County that were built by the Wrought Iron Bridge Company in the same time period.
- This bridge was rehabilitated in 1996 by the County bridge crew.

Stevens Road Bridge



- This thru truss bridge was built in 1912 by an unknown company.
- It is very similar to Simpson's Mill Road bridge.
- It was rehabilitated by a contractor in 1990.
- This was the first historic bridge to be rehabilitated and has a open metal grate deck.

Simpson's Mill Road Bridge



- This bridge was built about 1890 by an unknown company.
- It is very similar to the Stevens Road bridge.
- It was rehabilitated by a contractor in the winter of 1997-1998.

Blacks Mill Road Bridge



- This bridge was built by the York Bridge Company in 1914.
- It was rehabilitated by the County bridge crew in 1995.
- In January 2002 it was heavily damaged by a vehicle collision.
- The County bridge crew and area crew repaired and reopened it within one week.

Crow Rock Pony Truss



- This bridge was originally built in 1897 by the Groton Bridge Company.
- It is a pony truss on stone abutments, one of which is mostly made of a large rock outcrop.
- It was rehabilitated by a contractor in 1997.
- It has original cast iron plaques on the top chord of each truss.

East Church Hill Road Bridge



- This is a Pony truss bridge
- It was designed and built by the York Bridge Company in 1908.
- It was rehabilitated by the County bridge crew in 1994.

Station Road Bridge



- This bridge was built by the York Bridge Company in the early 1900s.
- It was rehabilitated by the County bridge crew in 1996.
- It is a good example of a pin connected pony truss.

Old Mill Road Bridge



- This bridge was built in 1882 by the Pittsburgh Bridge Company.
- It is listed on the National Register of Historic Places.
- It is very light weight which is typical of early metal trusses.
- This bridge is unique because its bottom chord runs through its floorbeams and it has lattice instead of solid plate on top of the endposts and top chord.
- It was rehabilitated by a contractor in 2009.

Bennies Hill Road Bridge



- This bridge was built in 1879 by the King Iron Bridge Company.
- It is a very rare Bow String Pony Truss.
- It is listed on the National Register of Historic Places.
- It was rehabilitated by a contractor in 2009.

Sumantown Road Bridge



- This bridge was built by the Pencoyd Iron Works of Pennsylvania in 1899.
- It is a pin connected thru truss.
- It was rehabilitated by the County bridge crew in 1999.



Sumantown Road Bridge

New expansion bearing at the southwest truss endpost.



New fixed bearing at the southeast truss endpost.

Poffenberger Road Through Truss



- This bridge was built by the Wrought Iron Bridge Company in 1878.
- This bridge is listed on the National Register of Historic Places.
- It is a very rare double intersection Pratt (Whipple) thru truss.
- Both original stone abutments are still in good condition.
- It was rehabilitated by a contractor in 2006.

Saint Marks Road Bridge



- This bridge was built in the early 1900s by an unknown company.
- It is very similar to bridges built by the York Bridge Company at this time.
- It is an example of a Pratt pony truss with pin connections.
- It was rehabilitated by the County bridge crew in 2009.

Dixon Road Pony Truss



- This bridge was built by the York Bridge Company in 1904.
- It is a good example of a gusset plate pony truss.
- It was rehabilitated by the County bridge crew in 1995 and in 2017.

Covell Road Bridge



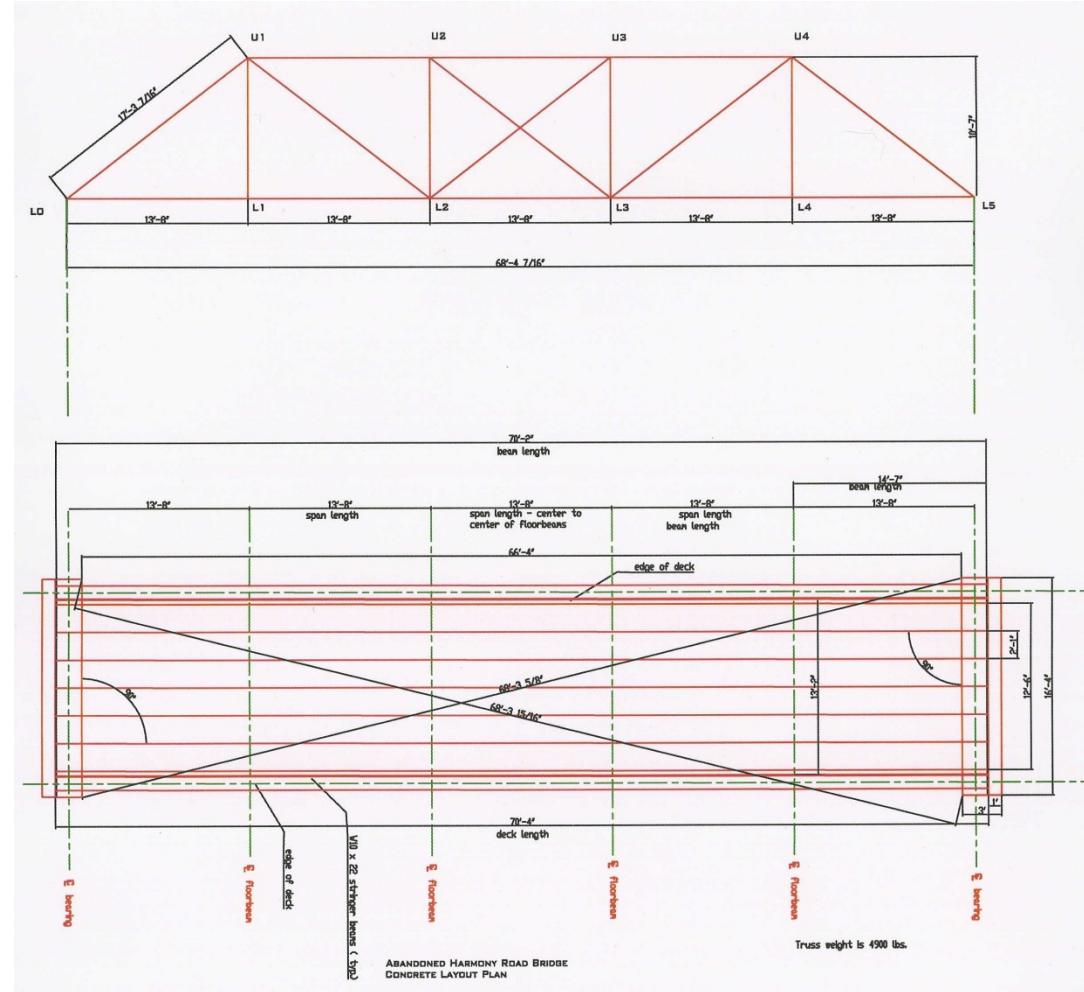
- The Stauffer Road bridge was rehabilitated and placed on new abutments at Covell Road bridge by a contractor in 2006.

Friends Creek Bridge



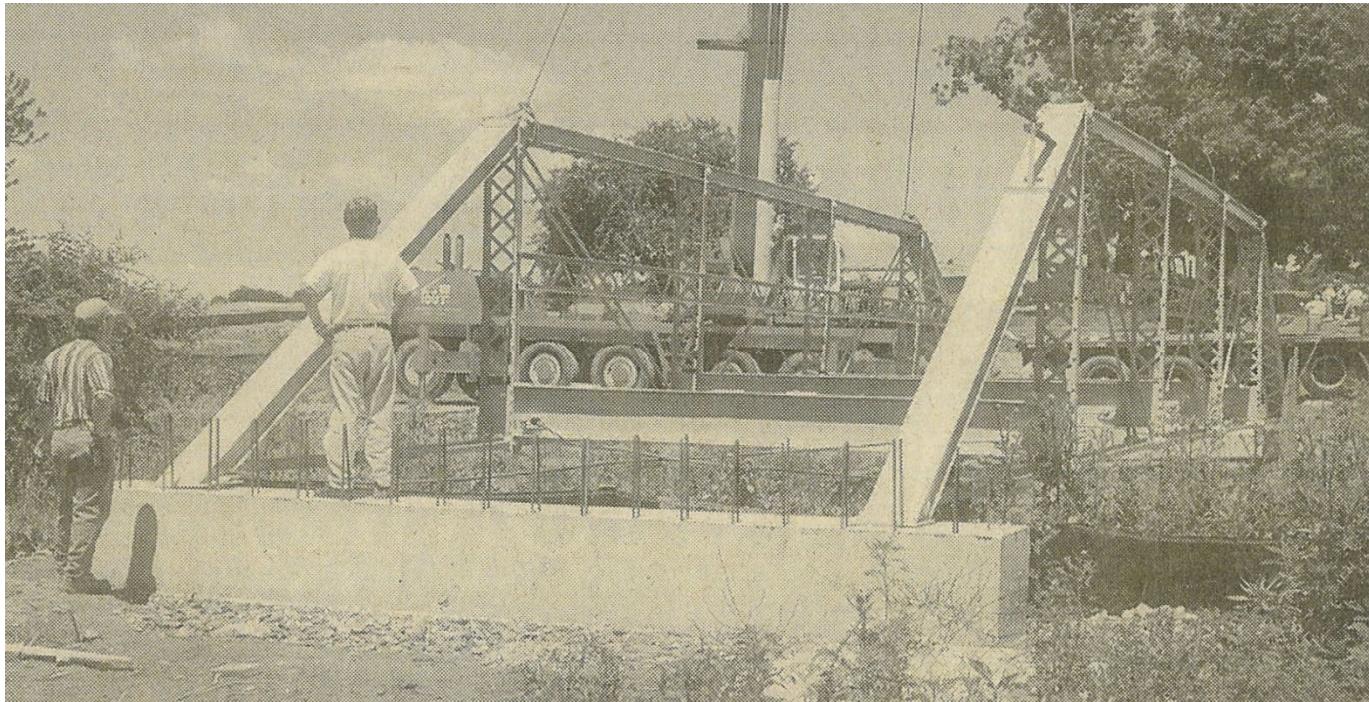
- The Harmony road bridge was rehabilitated by the County bridge crew in 2002.
- It was then installed on Friends Creek Road over Friends Creek.

Abandoned Harmony Road Bridge



- This is an example of a typical truss drawing.

Old Hagerstown / Glenbrook



- This bridge was built in 1920 by an unknown company.
- It was replaced in 1994.
- It has been rehabilitated and placed in the Golf Course at Glenbrook in July 2001.

Old Hagerstown / Glenbrook



- This is the bridge at its current location in the golf course now called Richland Golf Club on Glenbrook Drive.

Crum / Ballenger



- This bridge is a very rare bowstring arch pony truss.
- It was originally built by the King Iron Bridge Company in 1880.
- It is on the National Register of Historic Places.
- It has been rehabilitated and placed in the Ballenger Creek Park.

Ben's Branch



- The Old Harmony Road bridge is now installed on a bike path over Ben's Creek in Linganore.
- It was installed by the local community.

Former Reichs Ford Road Pony Truss



- This bridge was built in 1905 by the York Bridge Company.
- It is a good example of a gusset plate pony truss.
- It was rehabilitated by the County bridge crew in 1994.
- This bridge was closed to traffic in September 2019. It was removed and replaced with an Acrow bridge in February 2020.

Challenges of Metal Truss Bridges

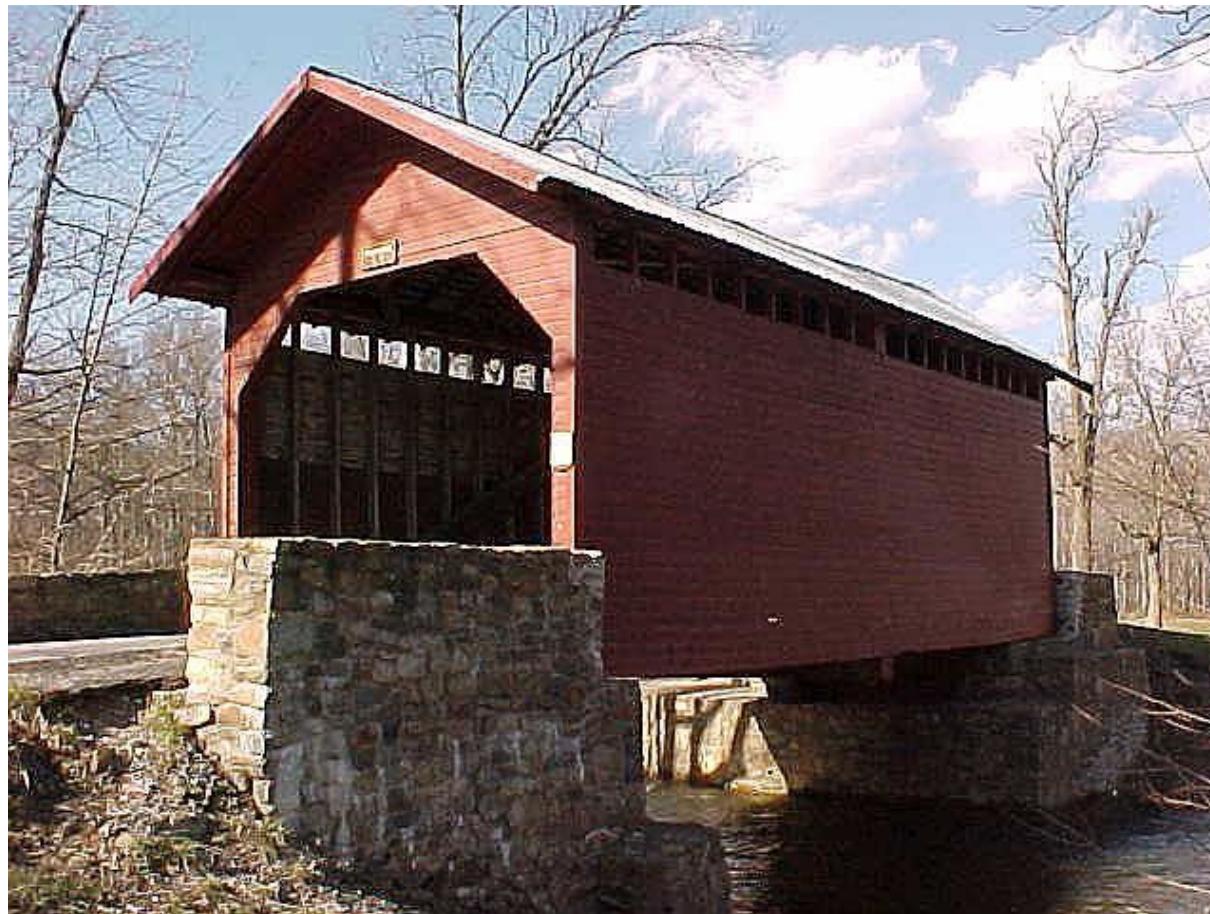
- Comprised of Fracture Critical Members
- Vehicular impact
- Maintenance
- Posting
- Increased inspection frequency

Legore Stone Arch Bridge



- This bridge was built in 1903 by James Legore, the owner of Legore Quarry so he could transport stone products across the river.
- It is listed on the National Register of Historic Places.
- It is a beautiful example of this type of structure.
- This is one of the earliest types of bridge to be built in this country.
- It was rehabilitated by a contractor in 2009.

Roddy Road Covered Bridge



Roddy Upstream Truss - Kingpost



Roddy Road Covered Bridge

History

- This bridge was built by the Roddy family about 1856.
- It was listed on the National Historic Register in August 1977
- The Stone abutments were rehabilitated in the late 1970's.
- Volunteers repaired truck damage in November 1992.
- This bridge was rehabilitated in 1995 by two contractors.
- This bridge was significantly damaged by a truck in 2016 and rehabilitated in 2017. Over-height warning portals were added at the approaches.

Roddy Rehabilitation - 1979



Roddy Closed Due to Over-Height Truck Damage



- The knee braces and portal beam were torn out of the bridge.
- Volunteers did repairs in November 1992.
- Frederick County's bridge crew did repairs in 2002.

Kingpost Connection Damage



- All the portal and middle cross ties and knee braces were broken in 1992.
- The upper kingpost to cross tie beam damage in 2002.

Loy's Station Bridge



Multiple King Post Truss



Loy's Station Covered Bridge



- This bridge was originally built at its current location around 1860.
- Old Frederick Road is shown on an 1853 map as the route to Emmitsburg from Frederick.
- It was reinforced with steel beams and a center pier in the 1930s.
- It was rehabilitated in 1976 as part of the National Bicentennial.
- It was rebuilt after a fire and rededicated in June of 1994.
- The wood shingles are signed by many people who helped pay for them.

Utica Covered Bridge



Utica Covered Bridge History

- This bridge was originally built over the Monocacy River in the early 1800s. It was washed out in June of 1889 by the same storm that caused the Johnstown Flood.
- The people of Utica salvaged the bridge and moved it to its current location.
- It was reinforced in the 1930s with steel beams.
- It was rehabilitated in 1979.
- Major restoration work completed spring of 1997.

Utica Rehabilitation - 1979



Utica Rehabilitated 1994 –1995 by
Arnold Graton Association and
DCF Engineering



Arch Bearing Repair at Utica Bridge



Preventing Fire Damage

- We decided to try to prevent future fires as a result of the fire at Loy's Station.
- We applied Crestline NFP Fire Preventer to all three bridges.
- We installed lights and an alarm system.
- We installed “dry hydrants” close to each bridge.

Dry Hydrant at Utica Bridge



Frederick County Bridge Program

- In-house bridge crew for maintenance, repair and rehab of County bridges.
- Low traffic volume and low speed roads provide more opportunities to keep historic bridges in service.
- Federal Funds used for inspection and rehabilitation of existing bridges.
- County practice is to maintain/rehab existing structures as long as they can meet the needs of the traveling public.