Summer Field Review of Baltimore and Warren through Trusses in ODOT’s Historic Bridge Inventory

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This bridge is a Baltimore through truss, cantilevered bridge carrying the railroad between Belpre, OH and Parkersburg, WV. The bridge handles rail traffic for the CSX corporation. It was constructed in 1868 by the B & O Railroad and offered the railroad easy access to Ohio in transporting coal and other materials to the east coast. The structure runs parallel to the US 50 Parkersburg-Belpre highway bridge, which is downstream. The steel truss bridge is actually a Warren deck truss on the spans on the Ohio side of the river. The river spans are Baltimore through trusses. In Ohio, the bridge passes above US 50 and SR 32 (Main St.). It also spans the residential streets of Florence, Washington, and Walnut. The bridge has stone piers and some have been recapped and maintained.
Penn Central Railroad over State Route 7 and Ohio River
Bridge # 4100999
JEFFERSON COUNTY
Steubenville, OH
Date Visited: August 9, 2006

This bridge is a Baltimore through truss carrying the railroad over the Ohio River. It was built in 1900 and has concrete and stone piers. The spans on the Ohio side are Warren deck trusses while the river spans are Baltimore thru trusses. The pier next to State Route 7 has an engraved stone with dates and people involved with the bridge’s construction. There is some minor corrosion with the steel and quite a bit of rust from what we saw on the Ohio side of the river. However, the bridge still has integrity.
This is a Baltimore thru truss bridge that was built in 1929. The bridge was closed to traffic in 1997 and is still standing. The bridge displays very poor integrity right now. It is badly corroded and is completely rusted through in some locations. The bridge has lots of rust and is missing some of the rivets in the members. Below the bridge, some smaller steel members have broken and are left hanging toward the river. The bridge is now overgrown with plants and has clearly been left to deteriorate since its closure.
The Marshall Street Bridge, seen on the right, was a Warren polygonal chord through truss. Construction of the bridge was completed in 1940. In 2004 the truss bridge was removed and replaced with a more modern steel beam bridge. The original Warren truss bridge was built by the Bethlehem Steel Company to cross the Erie, Baltimore and Ohio, and Pennsylvania Railroads. A plaque about the original truss bridge is displayed at the eastern approach to the new bridge. The photos below show the plaque and replacement bridge.
County Road 313 (Center Street) over the Mahoning River
Bridge # 5058368
MAHONING COUNTY
Youngstown, OH
Date Visited: August 9, 2006

The location of this bridge was not determined when we visited the Mahoning County bridges. However, we did pass through the location of this Warren through truss bridge and can confirm that it has been removed and replaced with a modern steal beam bridge. No photos were taken.
An attempt to locate this bridge was done on 8/9/06. The bridge was not found. It is a Baltimore truss bridge that was removed and supposedly given to the county to use on a bike path. On 8/5/99 the bridge was field checked and was still standing. The bridge location was not specified then, but was believed to be located on State Route 616 over the Mahoning River. We drove the entire length on SR 616 in Mahoning County and did not find this truss bridge.
Baltimore Truss at Buffalo Creek Retreat (Private)
Bridge # 2204177
MEDINA COUNTY
Seville, OH
Guilford Township
Date Visited: August 9, 2006

This bridge is a Baltimore through truss built in 1927 by the Mt. Vernon Bridge Company. It is a really good example of this type of steel truss bridge because it is symmetrical about its centerline. It was originally built for Erie County and was located on State Route 269. It was removed in 1993 and was available for reuse. It is now located in Medina County on private property. It is visible from Interstate 76 (near Exit 2). The bridge has really good integrity. It has a wooden deck and steel railings. It has concrete piers to help support the structure and it has been recently painted green. There were no visible problem areas with the bridge. It looks like it has been properly maintained at its new location.
Denison Avenue over N. S. Railroad  
Bridge # 1831186  
CUYAHOGA COUNTY  
Cleveland, OH  
Date Visited: August 9, 2006

This bridge is a riveted, Warren through truss. It is a single span built in 1929. The bridge has been removed and replaced with a steel beam bridge. The original bridge is pictured on the right. The new bridge has concrete wall railings with fences and sidewalk barriers to protect pedestrians. Photos of the new bridge are shown below.

![Overall view of new bridge, facing south.](image1)

![View of concrete abutments and steel beams of new bridge.](image2)

![View of roadway from west approach, facing southeast.](image3)

![View of sidewalk and bridge railing, facing east.](image4)
This bridge is a Warren second order subdivided through truss. It was built in 1908 by the Interstate Building Company. This bridge was incorrectly inventoried as a Baltimore truss probably because of the small diagonal and vertical member subdivisions. It has sidewalks on the outer sides of the trusses and at the time of our visit the bridge and sidewalks were closed. The bridge had concrete abutments with cracks. The steel members were rusted, but the bridge appeared to still have fair integrity.
This bridge is a riveted, Warren through truss with one span. It was built in 1926 and a new deck was installed in 1994. The Huron county engineer was pursuing rehab in 2005, but nothing had been done at the time of our visit. The bridge has a 10 ton weight limit and is painted green. A lot of this paint has chipped off and there were some signs of corrosion on the steel members. There were no railings across the bridge, only guardrails. The bridge has reasonable integrity; it just needs some rehab and painting.
Sandhill Road (CR 40) over Frink Run
Bridge # 3930610
HURON COUNTY
Lyme Township
Date Visited: August 10, 2006

This bridge is a riveted, Warren through truss that was built in 1944. There was new wood decking visible under the asphalt. The bridge inventory says that it was rehabilitated in 1992, but it looks like there has been work done on the bridge more recently. The bridge has been painted gray and has a yellow guardrail. It also has really good integrity. The bridge has concrete abutments and underneath has minor rusting around some beam connections.
This bridge is a welded Warren truss that was built in 1915. It was misidentified as a through truss, and is actually a pony truss. It was built by the Ohio Bridge Corporation. The bridge is rusty and needs a coat of paint. The existing paint is chipping off allowing further corrosion of the steel members. The bridge has guardrails and concrete abutments. There is some deterioration to the bridge so overall it has fair integrity.
County Road 10 over St. Joseph River
Bridge # 8630208
WILLIAMS COUNTY
Superior Township
Date Visited: August 10, 2006

This bridge, a riveted Warren through truss built in 1947, has been removed. It was cleared for replacement in March 2001 and is pictured on the right. The replacement bridge is a modern steel beam bridge with concrete wall railings. The new bridge has an interesting design with an angled eastern side to lessen the turning radius for vehicles from County Road K turning onto County Road 10. Photos of the new bridge are shown below.

Overall view of new bridge, facing northwest. View of roadway from northern approach, facing south.

View of angled bridge section, facing west. View of west side of new bridge, facing south.
This bridge was built in 1923 and has the Baltimore truss configuration. It was rehabilitated in 1989 and appears to have been well maintained since then, although there is a small amount of rust poking through a recent coat of paint. The bridge is pinned connected and has a huge skew to it giving it a crooked appearance. It also has massive portal bracing and extensive sway and diagonal bracing. The bridge crosses eleven railroad tracks and has concrete piers that are beginning to crumble some. Overall, the bridge has good integrity.
This bridge, pictured on the right, was removed in 2003. It was a single span, Warren through truss that was built in 1924. The Oregonia Bridge Co. from Lebanon, Ohio was the designer and builder for the bridge. The new bridge is a steel beam bridge with metal railings. Photos of the new replacement bridge are shown below.
Big Run Road (CR 54) over the Kokosing River
Bridge # 4232828
KNOX COUNTY
College Township
Date Visited:  August 14, 2006

This bridge is a Warren polygonal chord truss and was built in 1915. In 1997 the bridge was closed and bypassed, but it remains standing in its original location. Today, the bridge is part of a trail system and a park has been built around it. There are two benches placed along the span for people to sit. The bridge has not been maintained since being closed. It is overgrown with weeds and is very rusty. It has a rusted metal railing and the steel members below the bridge are bent. Some of the steel members have corroded to the point where there are now holes in them. This bridge has poor integrity and should be better preserved if it is going to be used in such a public area like this park.
The bridge built in 1900 at this location was a pinned Pratt through truss. It is pictured on the right. It was misidentified as a riveted Warren through truss. The Pratt truss was removed and replaced with a Warren pony truss with verticals, which is shown below. The new bridge was built on stone abutments, probably original to the location and has guardrails for railings. The new bridge has a lot of rust and is pictured below.
McLean Mill Road (TR 127) over Big Darby Creek
Bridge # 6533167
PICKAWAY COUNTY
Jackson Township
Date Visited: August 15, 2006

This bridge is a riveted Warren through truss built in 1912 by Oregonia Bridge Co. from Lebanon, Ohio. The bridge is known as the Florence Bridge. This name, along with a plaque, is posted above the portals at both ends of the bridge. The bridge has concrete abutments that are beginning to crumble. It is a two span bridge with a concrete pier in the middle that is also crumbling. It is a one lane bridge with a railing and added guardrail. There is rust around the deck and paint is chipping off the steel members. This is a great example of this bridge type. It just needs some maintenance and a fresh coat of paint to help prevent further corrosion.
Dogtown Road (CR 84) over North Fork Paint Creek
Bridge # 7134835
ROSS COUNTY
Deerfield Township
Date Visited: August 15, 2006

The Warren through truss bridge originally built at this location has been removed and replaced. The Warren truss, pictured on the right, was constructed in 1908 and it was the riveted type. In 1989 it was replaced with a steel, Warren pony truss. The new bridge is built on new abutments, has a guardrail for a railing, and is starting to rust. Photos of the new bridge are shown below.
Dixon’s Mill Road (CR 15) over the Little Scioto River
Bridge # 7330464
SCIOTO COUNTY
Harrison Township
Date Visited: August 15, 2006

This Warren through truss bridge, seen on the right, was removed in 2006 and construction is currently underway for a replacement. The Warren through truss was built in 1940 and had two spans with an overall length of 196 feet. The replacement bridge is scheduled for completion in October 2006. Photos of the construction for the new bridge are shown below.
The Baltimore through truss bridge at this location has been removed. It was constructed in 1893 by the Champion Bridge Company in Wilmington, Ohio. The bridge had stone abutments and wingwalls. Records indicate it was rehabbed in 1995 and removed sometime thereafter. The Baltimore truss was replaced with a Warren pony truss bridge from the Ohio Bridge Corporation. This newer bridge was placed on the original stone abutments and wingwalls. The new bridge had guardrails spanning the bridge and had a lot of rust, but was not corroded to any extent. Photos of this new bridge are shown below and a photograph of the original bridge is on the right.
This bridge is listed as a Baltimore through truss built for the Amtrak railroad line. However, the bridge has a truss configuration that I would call a subdivided Warren. The Warren’s distinctive “W” pattern is carried through the entire truss design. The trusses have more than just subdivisions by vertical members and have smaller diagonal members resembling the Baltimore truss configuration. Therefore, it is understandable why this bridge was misidentified and called a Baltimore. This bridge is also different because it has a heavy skew, making the portal bracing about twice as wide as the actual width of the bridge. The bridge is linked by a large approach system of plate girder railroad track spans that cross other railroads and streets. The bridge is a double span with concrete piers that are in decent shape. Overall, the entire structure has good integrity.
This bridge is a riveted Warren thru truss bridge built in 1953 by the Cincinnati Department of Public Works. It has concrete piers and abutments that are in good condition. Concrete parapets with aluminum are used for railings on the bridge approaches and two high steel channel railings are used on the bridge itself. The bridge looks like it was recently rehabbed. It was painted yellow and it looks to be in excellent shape.
This bridge is a Warren through truss that was built in 1915 by Brookville Bridge Co. In 1999 the bridge was closed and removed. No replacement was built for this truss bridge. Instead, a 1992 approved bypass was built utilizing the bridge on Salem Road. The photos below show the former location of the Warren truss. The original bridge is pictured on the right.