OHIO DEPARTMENT OF TRANSPORTATION

HISTORIC BRIDGE SURVEY REPORT

1/21/2011

SFN #: 07XXXX2 **County:** BELMONT **Municipality:** BRIDGEPORT

NR Rec: **Eligible** **Previous Inventory/Date:** **Status:**

ODOT District: **Owner:** WV STATE **Lat/Long:** 40.08034 / 80.73746

Location: WV BORDER **UTM:**

Feature On: GEORGIA STREET

Feature Intersected: OHIO RIVER (BACK CHANNEL)

Type: THRU TRUSS **Design:** PENNSYLVANIA (PINNED)

Material: STEEL

Railing Type: WELDED ANGLE RAILINGS

 # Spans: 4 **Overall Length:** ft. **Out to Out Width:** ft. **Roadway Width:** ft.

Year Built: 1900CA **Alteration (Date):** **Source:** Style

Designer/Builder

Setting/Context:

The bridge, which is closed to traffic but not pedestrians, carries a 2 lane street over the Ohio River's back channel at the WV-OH border. The west end of the bridge is in Bridgeport, Ohio, and the east end of the bridge is in Wheeling Island W.Va. At the southeast quadrant is a park and small boat launch. Beyond the east end of the bridge is a residential setting of houses dating ca. 1880-1920. At the west (Ohio) end of the bridge is SR 7, which parallels the river. Georgia Street crosses SR 7 on a modern (post-1960) bridge.

Physical Description:

The 4-span, pin-connected Pennsylvania thru truss is supported on ashlar piers. The bridge is composed of eyebars for the tension members and built-up sections for the compression members. The lower chords and diagonals are eyebars. The upper chords and end posts are composed of built-up, box-shaped members of plates, angles, channels, and bars. The verticals are an uncommon built-up configuration of four Z-bars joined at the flanges to form an I-shaped section. The bridge has lattice portals with "sunburst" decorative brackets and wrought-iron crestline. A sidewalk is cantilevered from the bridge's north elevation. It is supported on built-up lattice brackets. The welded angle railings are not original. The bridge has open-grid steel deck, supported on built-up floorbeams and rolled stringers.

Integrity:

The flooring system (deck/stringers) has been replaced (ca. 1960). The railings have been replaced (ca. 1960). Some eyebar diagonals have been strengthened with the addition of steel cables. Welded upper lateral bracing has been added.

Summary of Significance:

The ca. 1900 pin-connected Pennsylvania thru truss is in WV jurisdiction and is considered eligible, according to WVDOT's historic bridge inventory. The bridge retains integrity of design and materials, although there have been some minor changes to the deck, railings, and upper lateral bracing. The bridge is 1 of 4 pin-connected Pennsylvania thru truss bridges dating from 1888 to 1914 in the ODOT survey. It is a technologically significant example of its type/design.

The Pennsylvania truss type/design, also sometimes referred to as a Pettit truss, is a subdivided Pratt truss with polygonal upper chord that was developed in the 1870s for use as a long-span bridge with heavy locomotives. The Pennsylvania Railroad popularized the form (hence the name), and Henry Pettit, an engineer in the employ of the

railroad, became associated with it. It was not, however, used exclusively by the Pennsylvania RR being a very popular railroad and later highway truss design. Lighter pin-connected Pennsylvania truss highway bridges were built from the 1880s to 1910s, and the design also made the transition to heavier, rivet-connected designs of the mid 20th century. The truss's main advantages are an economical use of material provided by the sloped upper chord and the added stiffness provided by the substruts and ties in longer spans. Span lengths of up to 300 ft. are not uncommon. Ohio has eight identified examples dating from 1888 to 1939 (Phase 1A, 2008). Post-1900 examples are less significant than earlier examples, but they may illustrate important refinements, such as the use of riveted connections or rolled section members.

Reviewed By/ Date: JPH (6/09)

Notes:

For Eligible Bridge:

Level of Significance: Moderate

Justification:

The pin connected thru truss bridge is one of 13 extant examples of bridges with polygonal upper chords and/or subdivided panels in the state that date from 1888 until 1923. It is of moderate significance given that the numbers in the population.

In Management Plan (2009)? No