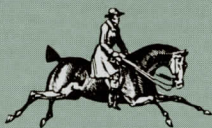
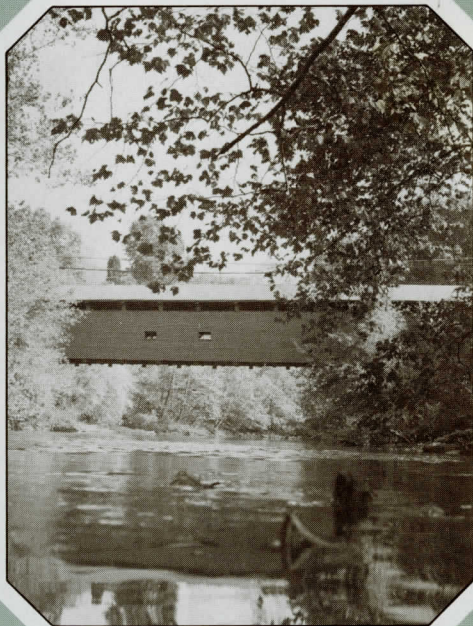


COVERED BRIDGES

in

WEST VIRGINIA





Covered bridges and turnpikes were an essential part of the early transportation system in West Virginia. The covered bridge, now a picturesque reminder of the past, was an essential component of the turnpike system that evolved in western Virginia prior to the Civil War. The network of turnpikes throughout the region influenced both the strategies and tactics of the Union and Confederate armies that occupied western Virginia as troops battled for control of roads and bridges.

The Turnpike System

The turnpike originally developed in England during the seventeenth century. The technology and engineering techniques required to construct turnpikes were transplanted to America in the early nineteenth century. The covered bridge, however, was a central European invention native to the area that is now Germany, Switzerland, and Austria. Gradually, European technology for turnpike and covered bridge construction was adopted in America. Thus, the covered bridge and turnpike are two closely related technological designs, each contributing to the other's success.

By the early nineteenth century, Virginia's increasing population, urbanization, and westward expansion necessitated a statewide transportation system to create new markets and increase western trade. Americans at the time referred to these systems as "internal improvements." In 1816, the Virginia Board of Public Works was formed to oversee and fund various internal improvement projects. Turnpike companies used both public and private funds to construct roads and bridges under this system.

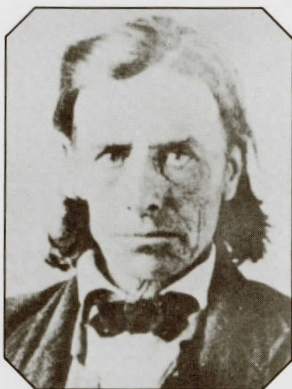
However, in western Virginia, the construction of turnpikes lagged far behind that of the eastern counties. Mountains and deep river valleys formed natural barriers to road construction, and the expense of surmounting these obstacles was often cost prohibitive. Moreover, matching funds were more readily obtained in the more populated eastern areas. In addition, many leading legislators in eastern Virginia were wealthy farmers and merchants who gained economic advantages by concentrating improvements in the east. The limited number of internal improvements in western Virginia contributed to sectional differences between the two regions. The ensuing dispute was one reason for the separation and formation of West Virginia as a new state independent from Virginia.

Bridge Technology

The early covered bridges located along the turnpike system in western Virginia were constructed entirely of wood. Large trees were felled to produce the necessary hand-hewn timbers.

The most important aspect of the covered bridge is the truss system. The truss is a system of rigid triangles composed of small timbers which can be combined to form a strong and stiff structure. Because the members are held together with pins, they carry the loads efficiently in direct tension (stretching) or compression (pushing together). In West Virginia, there were seven basic truss designs utilized: the Long, Howe, Warren, Kingpost, Queenpost, Multiple Kingpost, and Multiple Kingpost with Burr Arch. In many cases, these designs were altered to meet local needs, i.e. on the Philippi covered bridge in Barbour County.

Contracts for the construction of turnpikes and associated covered bridges were based on a competitive bidding system. Bids were let out and contracts awarded to those craftsmen who could provide a sound structure at reasonable expense. One craftsman who gained a regional reputation as a master bridge builder was Lemuel Chenoweth. Chenoweth was born in Beverly, Virginia, in 1811 and, along with his brother Eli, constructed a number of covered bridges for the turnpike system in north-western Virginia. The Philippi covered bridge and the Barrackville covered bridge were constructed by the Chenoweth brothers.



Lemuel Chenoweth

End of an Era

The advent of the railroad, continuous maintenance expense required for the turnpike system, and limited public funds contributed to the demise of the turnpike system. The expanding network of railroads required structures that could sustain enormous locomotive weights. In addition, the ever-present danger of fire was a hazard that had continually plagued the earlier all-wooden structures.

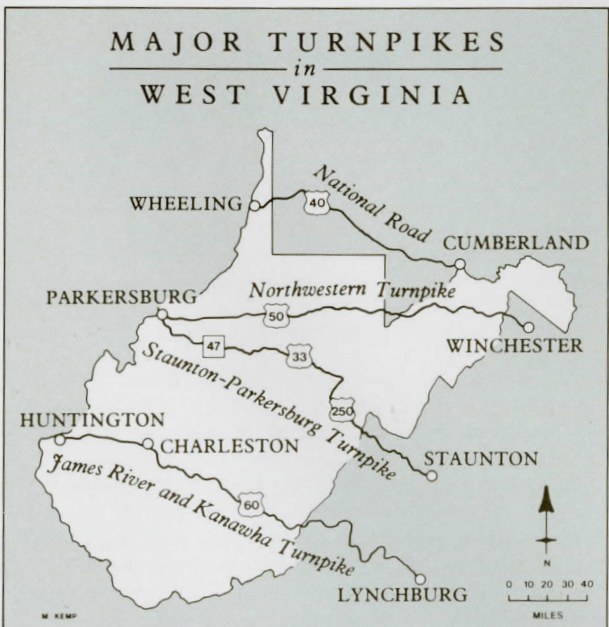
Thus, iron was introduced into the bridge building process. It provided the strength necessary to accommodate the increased weight of trains, and it was non-combustible. Furthermore, since iron was weather resistant, the roof and siding earlier required for the protection of the wooden truss was no longer necessary. Iron permitted the construc-

tion of pre-fabricated bridges that could be ordered quickly and economically, in contrast to handcrafted covered bridges.

With the transition from wood to iron, the master craftsman's role in covered bridge building diminished. Following the Civil War, the engineer attained prominence in bridge construction, and what had earlier been considered an art was transformed into a modern science based on engineering practice. The state gradually abandoned the turnpike system but did not set up a State Department of Public Roads until 1909. Several of the turnpike routes in West Virginia were improved and incorporated into the state's highway system. Most notable are routes U.S. 60, which follows the James River and Kanawha Turnpike; U.S. 50, which follows the Northwestern Turnpike; and U.S. 40, which follows the National Road.

For many small towns in West Virginia, however, the covered bridge remained an inexpensive solution for spanning small creeks and rivers. It was the small, rurally located, covered bridge that gave rise to the popular, romantic ideas people cherish today. A number of these covered bridges in West Virginia remain in use and provide access to remote areas of the state.

West Virginia's covered bridges are a rapidly disappearing symbol of the state's history. In 1947, there were 89 covered bridges still standing within the state. In the 1980s, only 17 covered bridges remain. In a 40-year period, West Virginia lost approximately 72 covered bridges, or 1½ per year. At this rate, by the year 2000, West Virginia's covered bridges will have disappeared. Time and the elements continue to exact their toll on these historic structures. In particular, the floods that devastated much of the state in November 1985 damaged a number of the covered bridges.



Preservation for the Future

One method to maintain West Virginia's significant bridges and other structures is historic preservation. One of the goals of preservationists is the complete and accurate restoration of historic structures, and they have worked to preserve the covered bridges in the state. West Virginia's covered bridges were placed on the National Register of Historic Places, which gives them official recognition by the United States government as worthy of preservation.

But several bridges need more than recognition to save them. Another example of historic preservation was the work done at Staats Mill covered bridge, originally located on the Tug Fork River in Jackson County. In 1982, the bridge was in danger of being lost, partly from its advanced age, but mainly from a flood control project planned for the area. Support from preservationists, and the general public made possible the relocation of the covered bridge to Cedar Lakes where it was restored. The Staats Mill covered bridge is an excellent example of how historic preservation works to prevent the loss of unique structures.

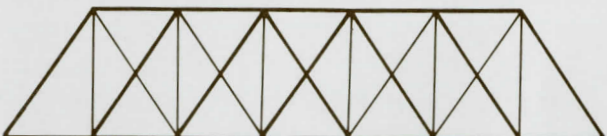
The covered bridge, as a symbol of our past, can become a symbol of our commitment to preserving that past for future generations.



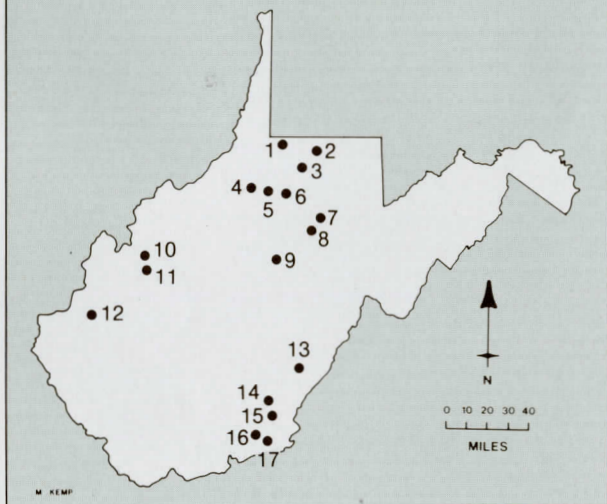
TYPICAL WOODEN TRUSS SYSTEMS

Howe

The Howe truss was introduced into bridge construction in the 1840s. The vertical rods were constructed of metal. The Milton covered bridge located in Cabell County is the only extant example of a Howe truss covered bridge in West Virginia.



COVERED BRIDGES
in
 WEST VIRGINIA
 1987



- | | |
|------------------|------------------------|
| 1. Fish Creek | 10. Staats Mill |
| 2. Dents Run | 11. Sarvis Fork |
| 3. Barrackville | 12. Milton (Mud River) |
| 4. Center Point | 13. Locust Creek |
| 5. Fletcher | 14. Hokes Mill |
| 6. Simpson Creek | 15. Hems Mill |
| 7. Philippi | 16. Laurel Creek |
| 8. Carrollton | 17. Indian Creek |
| 9. Walkersville | |



THE
 Hokes Mill

COVERED BRIDGE

Location: From Ronceverte, take U.S. Route 219 south to Secondary 48. Turn right (south) onto Secondary 48 and travel approximately 3.6 miles to Secondary 62. Proceed south on Secondary 62 to Hokes Mill.

Stream: Second Creek
Truss type: Long
Builder: Unknown
Length: 81 ft., 6 in.
Date: 1897-99

Ownership: State
Width: 12 ft.
Condition: Fair, in use
County: Greenbrier

The Hokes Mill covered bridge provided access to Hokes Mill. The bridge is one of two remaining covered bridges in Greenbrier County.

THE

Herns Mill

COVERED BRIDGE

Location: From Lewisburg, proceed west on U.S. Route 60 approximately 2.6 miles. Turn left onto Secondary 60/11, then left onto Secondary 40 for 2.2 miles.

Stream: Milligans Creek

Ownership: State

Truss type: Queenpost

Width: 10 ft., 6 in.

Builder: Unknown

Condition: Good, in use

Length: 53 ft., 8 in.

County: Greenbrier

Date: 1884

The Herns Mill covered bridge provided access to the S. S. Herns mill and is one of only two covered bridges remaining in Greenbrier County.

THE

Laurel Creek

COVERED BRIDGE

Location: From Indian Creek covered bridge, take Secondary 219 north to Secondary 219/7 (south of Salt Sulphur Springs) and turn left (west) to Lillydale. Then turn right (north) on 219/11 through Lillydale to bridge.

Stream: Laurel Creek

Ownership: State

Truss type: Queenpost

Width: 13 ft., 2½ in.

Builder: Robert Annott

Condition: Fair, in use

Length: 24 ft., 5 in.

County: Monroe

Date: 1911

This is one of two covered bridges in Monroe County and is the smallest covered bridge in West Virginia.

THE

Indian Creek

COVERED BRIDGE

Location: U.S. Route 219, 6 miles south of Union, opposite St. John's Church.

Stream: Indian Creek

Ownership: Monroe County

Truss type: Long

Historical Society

Builders: Ray and Oscar Weikel
and E. P. and A. P. Smith

Width: 11 ft., 7½ in.

Length: 49 ft., 3 in.

Condition: Fair, open to
pedestrians

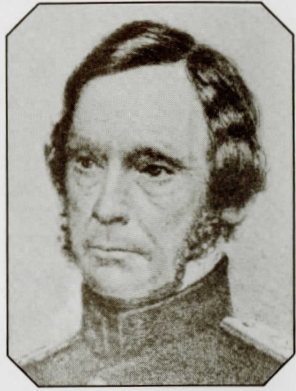
Date: 1903

County: Monroe

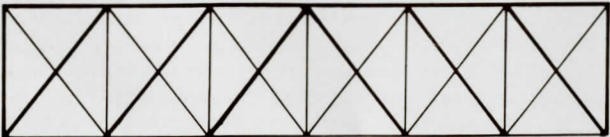
One of two remaining covered bridges in Monroe County, this is one of the most photographed covered bridges in West Virginia.

Long

The Long truss was named after its designer, Stephen Long, who was a graduate of Dartmouth and an Instructor of Engineering at West Point. Long's design was very popular, and several covered bridge builders utilized his system in their designs. The Long truss allowed spans to reach 100 feet in length. In West Virginia, there are six covered bridges that utilize the Long truss or modified Long trusses: the Philippi covered bridge in Barbour County, Hokes Mill covered bridge in Greenbrier County, Sarvis Fork covered bridge and Staats Mill covered bridge in Jackson County, Center Point covered bridge in Doddridge County, and the Indian Creek covered bridge in Monroe County.

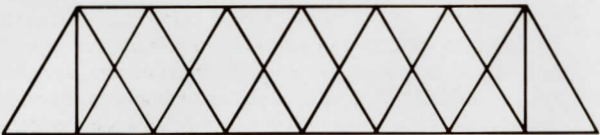


Stephen Long



Warren (Double)

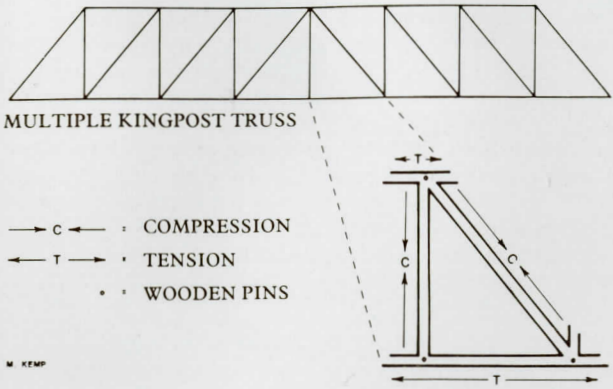
The Warren truss was patented by two Englishmen, James Warren and T. W. Morzani, in 1838. The Locust Creek covered bridge in Pocahontas County is the sole example of one variation, a Warren Double Intersection truss, in West Virginia and is one of the few remaining timber Warren trusses standing today.



Multiple Kingpost

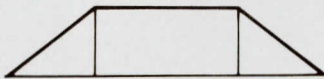
The Multiple Kingpost was a Kingpost truss modified by adding more triangles to the truss design. The design allowed spans to reach 80 feet in length. There are two covered bridges in West Virginia that utilize the Multiple

Kingpost truss: the Fletcher covered bridge and the Simpson Creek covered bridge, both in Harrison County.



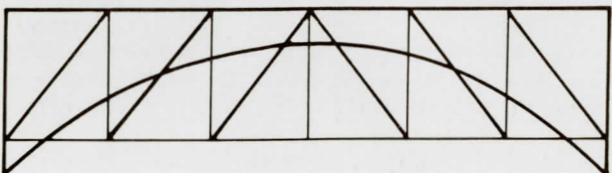
Queenpost

The Queenpost truss, a version of the Kingpost, was modified by the addition of a horizontal cross-supporting member which allowed for spans up to 60 feet in length. Three covered bridges in West Virginia utilize the Queenpost truss: the Walkersville covered bridge in Lewis County, Laurel Creek covered bridge in Monroe County, and the Hearn Mill covered bridge located in Greenbrier County.



Burr Arch

The Burr Arch was designed by Theodore Burr, of Torrington, Connecticut, and patented in 1817. It has a large wooden arch added to a conventional Multiple Kingpost truss to increase the stiffness of the bridge. The ends were embedded in the abutments on both sides of the bridge and greatly increased the strength of the bridge as well as its stiffness. This system made it possible for covered bridges to span 350 feet in length without intermediate supports. West Virginia contains two examples of the Burr Arch truss: the Barrackville covered bridge in Marion County and the Carrollton covered bridge in Barbour County. The Philippi bridge is similar to the Burr truss, but uses a Long truss instead of a Multiple Kingpost truss.



Kingpost

The Kingpost truss is one of the oldest and simplest truss designs. Its origins can be traced to the Middle Ages, and it was one of the earliest designs employed in covered bridge construction in West Virginia. The Kingpost Truss allows for spans to reach up to 40 feet in length. West Virginia contains two examples of the Kingpost truss: the Dents Run covered bridge located in Monongalia County and the Fish Creek covered bridge located in Wetzel County.



THE

Fish Creek

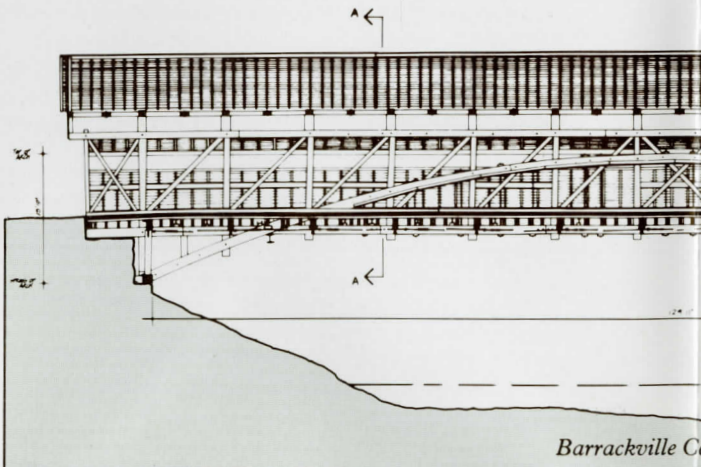
COVERED BRIDGE

Location: From Hundred, proceed east on U.S. Route 250. Turn right onto Secondary 13.

Stream: Fish Creek
Truss type: Kingpost
Builder: Unknown
Length: 36 feet
Date: 1881

Ownership: State
Width: 12 ft., 10 in.
Condition: Fair, in use
County: Wetzel

This is the only remaining covered bridge in Wetzel County.



THE

Dents Run

COVERED BRIDGE

Location: From Westover, take U.S. Route 19 south to the junction of Secondary 43 at state historical marker for bridge. Turn right (north) onto Secondary 43 and proceed approximately .7 miles. Turn left (west) at the junction of Secondary 43/3 and proceed .3 miles to the covered bridge.

Stream: Dents Run

Truss type: Kingpost

Builder: W. A. Loar

Length: 40 ft.

Date: 1889

Ownership: State

Width: 12 ft., 10 in.

Condition: Good, in use

County: Monongalia

This is the only remaining covered bridge in Monongalia County.

THE

Barrackville

COVERED BRIDGE

Location: Secondary 21 at the junction of Secondary 250/32 at Barrackville.

Stream: Buffalo Creek

Truss type: Multiple Kingpost
with Burr Arch

Builders: Lemuel and
Eli Chenoweth

Length: 145 ft., 9¾ in.

Date: 1853

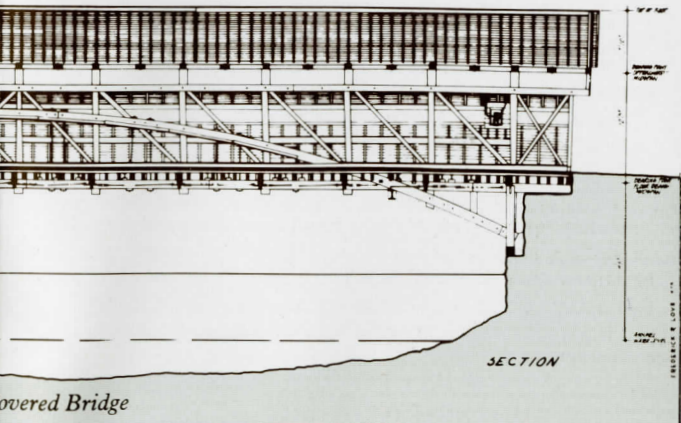
Ownership: State

Width: 20 ft.

Condition: Fair, in use

County: Marion

The Barrackville covered bridge was a link in the Fairmont and Wheeling Turnpike and is the second oldest extant covered bridge in West Virginia.



THE

Center Point

COVERED BRIDGE

Location: 12 miles north of U.S. Route 50 on State Route 23, at Center Point.

Stream: Pike Fork of

McElroy Creek

Truss type: Long

Builders: John Ash and

S. H. Smith

Length: 42 ft., 1 in.

Date: 1888

Ownership: State

Width: 12 ft., 6 in.

Condition: Good, in use

County: Doddridge

This is the only remaining covered bridge in Doddridge County.

THE

Fletcher

COVERED BRIDGE

Location: From Wolf Summit, proceed west on U.S. Route 50. Turn right (north) onto Secondary 5 and proceed to Secondary 5/29. Travel north on Secondary 5/29, .6 miles to the Fletcher covered bridge.

Stream: Righthand fork of

Ten Mile Creek

Truss type: Multiple Kingpost

Builder: Solomon Swiger

Length: 58 ft., 4 in.

Date: 1891

Ownership: State

Width: 12 ft., 4 in.

Condition: Good, in use

County: Harrison

This is one of two covered bridges remaining in Harrison County; the bridge has not been significantly altered.

THE

Simpson Creek

COVERED BRIDGE

Location: From Interstate 79 south at Exit 121, take Secondary 24 (north) approximately .2 miles. The covered bridge is located on the left on Secondary 24/2.

Stream: Simpson Creek

Truss type: Multiple Kingpost

Builder: Asa S. Hugill

Length: 75 ft., 2 in.

Date: 1881

Ownership: State

Width: 14 ft., 3 in.

Condition: Good, in use

County: Harrison

This is one of two remaining covered bridges in Harrison County. The bridge was washed out in 1889 and was relocated .5 miles to its present site.



Philippi Covered Bridge

THE

Philippi

COVERED BRIDGE

<i>Location:</i> On U.S. Route 250 at Philippi.	<i>Length:</i> 285 ft., 10 in.
<i>Stream:</i> Tygart River	<i>Date:</i> 1852
<i>Truss type:</i> Long	<i>Ownership:</i> State
<i>Builders:</i> Lemuel and Eli Chenoweth	<i>Width:</i> 26 ft.
	<i>Condition:</i> Good, in use
	<i>County:</i> Barbour

The construction of the Philippi covered bridge increased the flow of traffic on the Staunton-Parkersburg Turnpike, an important link with Richmond and Norfolk, Virginia. On June 2 and 3, 1861, the Philippi covered bridge was the site of the first land skirmish of the Civil War. Troops under the command of Confederate Colonel George Porterfield were occupying the site when Union soldiers from the 7th Indiana Volunteers captured the bridge.

In addition, the Philippi covered bridge is the oldest and longest covered bridge extant in West Virginia. It is one of two remaining covered bridges in Barbour County.

THE

Carrollton

COVERED BRIDGE

Location: Take U.S. Route 119 south from Philippi to Secondary 36. Turn left (east) on 36, and go .8 miles to Carrollton.

<i>Stream:</i> Buckhannon River	<i>Date:</i> 1855-56
<i>Truss type:</i> Multiple Kingpost with Burr Arch	<i>Ownership:</i> State
<i>Builders:</i> Emmett J. and Daniel O'Brien	<i>Width:</i> 16 ft.
<i>Length:</i> 140 ft., 9 in.	<i>Condition:</i> Good, in use
	<i>County:</i> Barbour

This is the second longest covered bridge extant in West Virginia, one of two remaining covered bridges in Barbour County, and the third oldest covered bridge extant in West Virginia. Upon completion of the bridge in 1856, it served traffic on the Middle Fork Turnpike.

THE

Walkersville

COVERED BRIDGE

Location: From Walkersville take U.S. Route 19 south approximately 1 mile. The Walkersville covered bridge is located on the right on U.S. Route 19.

Stream: Right fork of
West Fork River

Date: 1903

Ownership: State

Truss type: Queenpost

Width: 12 ft., 1½ in.

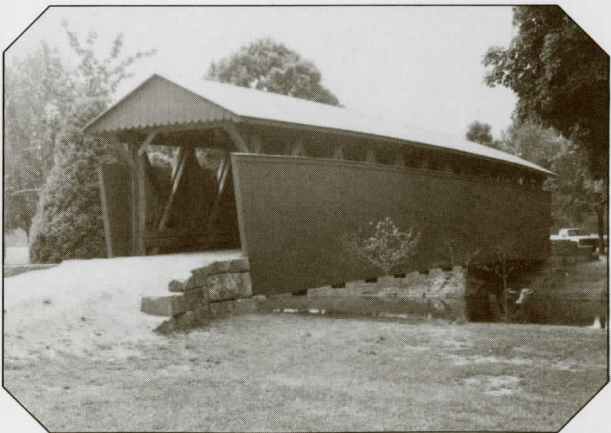
Builder: John G. Sprigg

Condition: Good, in use

Length: 39 ft., 4 in.

County: Lewis

This is the only remaining covered bridge in Lewis County.



Staats Mill Covered Bridge

THE

Staats Mill

COVERED BRIDGE

Location: FFA-FHA State Camp, southeast of Ripley.

Stream: Pond

Ownership: State

Truss type: Long

Width: 11 ft., 4 in.

Builder: Henry F. Hartley

Condition: Excellent,
open to pedestrians

Length: 97 ft.

Date: 1888

County: Jackson

One of two remaining covered bridges in Jackson County, the bridge was relocated to Cedar Lakes in 1982 where it was restored.

THE

Sarvis Fork

COVERED BRIDGE

Location: From Sandyville take Secondary 21 north 1.2 miles. Turn right onto Secondary 21/15.

<i>Stream:</i> Left fork of Sandy Creek	<i>Date:</i> 1889
<i>Truss type:</i> Long	<i>Ownership:</i> State
<i>Builder:</i> R. B. Cunningham	<i>Width:</i> 11 ft., 8 in.
<i>Length:</i> 101 ft., 3½ in.	<i>Condition:</i> Fair, in use
	<i>County:</i> Jackson

One of two remaining covered bridges in Jackson County, the bridge was dismantled in 1924 and relocated to its present site.

THE

Milton (Mud River)

COVERED BRIDGE

Location: Secondary 25 at the junction of U.S. Route 60, at Milton.

<i>Stream:</i> Mud River	<i>Ownership:</i> State
<i>Truss type:</i> Howe	<i>Width:</i> 14 ft., 1 in.
<i>Builder:</i> R. H. Baker	<i>Condition:</i> Fair
<i>Length:</i> 108 ft., 5 in.	<i>County:</i> Cabell
<i>Date:</i> 1876	

This is the only covered bridge remaining in Cabell County and is the only example of a Howe truss in West Virginia. An earlier covered bridge located near the present site was the scene of a military operation during the Civil War.

THE

Locust Creek

COVERED BRIDGE

Location: Take Secondary 31 south approximately 6.3 miles out of Hillsboro.

<i>Stream:</i> Locust Creek	<i>Date:</i> 1870s
<i>Truss type:</i> Warren Double Intersection	<i>Ownership:</i> State
<i>Builder:</i> Unknown	<i>Width:</i> 13 ft., 6 in.
<i>Length:</i> 113 ft., 9 in.	<i>Condition:</i> Good, in use
	<i>County:</i> Pocahontas

This is the only remaining covered bridge in Pocahontas County. In addition, the bridge has a Warren Double Intersection truss which is now rare in North America.



C R E D I T S



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Zacher, Susan M. *The Covered Bridges of Pennsylvania: A Guide*. Harrisburg, PA: Pennsylvania Historical and Museum Commission, 1982.

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