

trails 1, 3, 4, and 5, including retaining walls, lime-stone abutments for a trestle bridge, and a 600-foot-long tunnel. The second tunnel that was excavated during this project was dynamited shut many years ago. The process of quarrying within the steep canyon and the transport of the massive blocks of limestone contributed significantly to the slow progress of building the rail line.

If you would like to see John Brough's proposed route for the railroad, please visit the Nature Center.

Brough's Tunnel

Among the numerous remnants of the railroad throughout the state park, the tunnel on Trail 5 is of particular significance. This section of the trail was excavated through a brittle layer of shale that existed between two layers of limestone. Railroad workers chose to tunnel through this layer because of its relatively soft composition. At the southern entrance to the tunnel, the height of the ceiling is more than 6 feet, and access is relatively easy. As one enters and travels its 600-foot length to the exit, the tunnel's height decreases to roughly 4.5 feet.

The decrease in height at the northern end of the tunnel poses a bit of a puzzle. If in fact a train was to go through this structure as it currently exists, how could it enter and exit with such a drastic difference in height at either end? The answer, of course, is it couldn't. The limestone layers above and below the shale layer presented an obstacle that made it unfeasible to continue building the tunnel. In addition to the project being heavily in debt at that stage—and still requiring significant funding to be completed—the project was abandoned and became known as Brough's Folly.

Entrepreneurship in infrastructure projects during the 19th century's boom in the United States and Indiana could sometimes be troubled by economic problems. Brough's venture was no exception. Under his ownership, the work undertaken was time-consuming, high-risk, and expensive. During its construction, Brough's rail line incurred a cost of roughly \$300,000. This amount translates to more than \$10 million in today's money. The additional

funding needed to complete the rail line through Clifty Canyon could not be raised, and Brough's railroad line was abandoned a mere 15 days from the beginning of laying track. Although Brough's vision was never fully realized the state park is grateful to have within its boundaries this part of Indiana history that visitors can experience firsthand. Despite his "folly", Brough went on to successfully manage other railroads and became governor of Ohio in 1864.

Native Bat Conservation

Over time, Brough's Tunnel has become habitat for bats, pickerel frogs, and cave salamanders. The tunnel provides hibernation habitat for the big brown, tricolored, and other bats. Due to large rocks falling at both entrances of the tunnel, the tunnel is closed for the safety of our guests. This closure will greatly benefit the wildlife that inhabit the tunnel. You can become part of our conservation efforts observing these access restrictions.



The species of bat most commonly found in the railroad tunnel is the big brown bat. Many bat species are in decline due to habitat loss and white nose syndrome.

Cover image courtesy of the Ohio History Connection (Image #3274).

Brough's Folly

1852-1854

The Madison-Indianapolis Railroad



John Brough 1811 - 1865

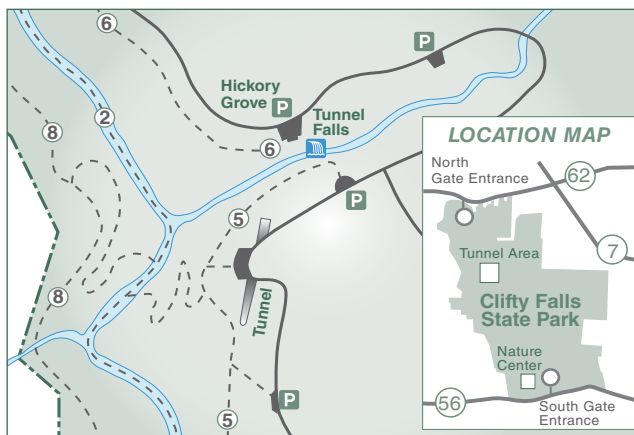
A successful journalist and politician, John Brough became president of the Madison-Indianapolis Railroad in 1848, and in 1852 he purchased the state's share in the line.

The Madison-Indianapolis Railroad

In 1836, the State of Indiana started construction on the state's first railroad, the Madison-Indianapolis Railroad. The rail line was to connect Ohio River traffic with Indianapolis, promoting economic expansion. The first obstacle occurred in Madison. Railroads were in their infancy at the time, and little was known of the ability of early steam locomotives to pull on steep grades. With great optimism, engineers built a straight 7,000-foot incline at a 5.9% grade to make the 400-foot ascent/descent between the upland and downtown Madison; however, the then-famous "Madison Hill" proved too steep, too expensive to maintain, and too hazardous to navigate. It remains the steepest of any line haul railroad in the nation. For eight years, teams of draft horses had to be used to help the locomotives get up the hill. With private railroads expanding into the West, the State of Indiana desired to rid itself of its interests in the Madison-Indianapolis Railroad and sold it to a private entrepreneur, John Brough.

John Brough

Born in Ohio in 1811, John Brough was a man of many talents. When he bought the Madison- Indianapolis Railroad in 1852, conditions of the sale required him to construct a new route out of the Ohio Valley. His ingenuity in planning this route came through with his proposal

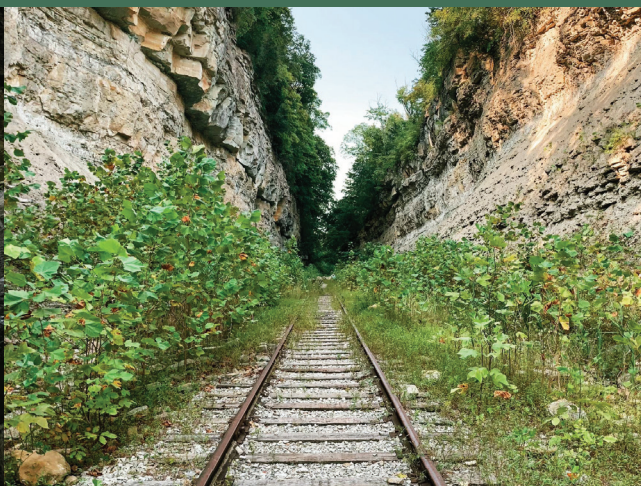


Constructing the Line

The technologies of the time were far different from what we are familiar with today. Dynamite would not be invented until 1866, meaning that quarrying the limestone along Clifty Canyon had to instead be done with the use of gunpowder and hand-driven star drills. With no modern construction equipment, Brough's employees used horses and pulleys to move the limestone. Historic remnants of the structures built to accommodate the ill-fated project can be found throughout Clifty Falls State Park. Some are along



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The famous "Madison Hill" took five years of hard labor to excavate, and workers moved roughly 250,000 tons of rocks and soil. You can walk the incline by hiking the Heritage Trail that starts in downtown Madison, Ind.



Remnants of old railroad structures can be found along trails 1, 3, 4, and 5, including this old retaining wall. On your next hike, look for drill marks in the rocks along the trails and other unique features.