



Walk the Tracks Across the Sky

Hidden ... deep within the forest of northwestern Pennsylvania ... an engineering masterpiece, the **Kinzua Viaduct** once soared 301 feet high and 2,053 feet across, and was the highest and longest railroad bridge in the world.

In 1882, **General Thomas Kane**, a Philadelphia lawyer, decorated American Civil War veteran, and president of the New York, Lake Erie and Western Railroad and Coal Company, had rich coal deposits south of the Kinzua Gorge. But since his customers were to the north, Kane needed to cross the valley. Kane needed a bridge.

Paris-born Octave Chanute, chief engineer for the Erie-Railroad, rose to the challenge. The man who would later help the Wright brothers fly had a bold solution—a bridge unlike any the world had seen.

Once billed as the **“Eighth Wonder of the World,”** the Kinzua Bridge was an instant sensation. Not only was it successful in transporting Kane’s coal across the valley, but it became a popular tourist attraction. Excursion trains provided the thrill of riding the “Tracks Across the Sky.”

The Kinzua Viaduct spanned the Kinzua Gorge for more than a century before it partially collapsed under the powerful winds of a tornado in 2003. In 2011, the Viaduct was reinvented as a spectacular pedestrian walkway – The Kinzua Sky Walk.

History of the Bridge

Chief Engineer Octave Chanute contracted the Pennsylvania firm of Clarke, Reeves & Company to design and fabricate the bridge. Adolphus Bonzano designed a wrought iron bridge using his “Phoenix Column,” an engineering breakthrough that enabled tall structures to resist vibration and buckling.

The bridge was pre-fabricated in Phoenixville, near Philadelphia, and transported to the site for erection. Once the sandstone foundation piers were in place, 125 men, working 10-hour days, completed the construction in just 94 days.

Three and one-half million pounds of iron and \$275,000 later, the first steam-powered train rolled across delivering General Kane’s coal to market. Standing 301 feet tall (24 feet higher than the Brooklyn Bridge), the Viaduct quickly became a tourist destination. Walking out on the bridge was the next best thing to flying.

But by 1900, the locomotives and railroad cars hauling coal and timber across the Viaduct had become larger and heavier. A stronger steel bridge was required. Using 6.7 million pounds of steel held together by 895,000 rivets, workers erected a new bridge to replace the original. Two timber travelers worked toward the center, demolishing the Phoenix Columns one at a time as the new steel towers were hoisted into place. The construction to replace the iron column towers with colossal steel towers was completed in just four months.

For generations, freight trains loaded with coal, lumber and oil roared across the Kinzua Viaduct. Later, excursion trains brought sightseers and visiting engineers from around the globe to visit the majestic bridge.

Since 1963, the bridge has served as the centerpiece of the Kinzua Bridge State Park. The Kinzua Viaduct was placed on the National Register of Historic Places in 1977, and the National Register of Historic Civil Engineering Landmarks in 1982.



The Power of Nature *Tornado Strikes July 21, 2003*

Bridge designer C.R. Grimm predicted his creation would last 100 years. And he was right. Grimm’s design used roller expansion bearings where the tower legs were anchored to the masonry foundation piers. This design allowed lateral expansion of the tower legs under temperature loading. But his failure to replace the original 1882 anchor bolts would have catastrophic consequences.

In July 2003, engineers and skilled bridge builders were hard at work on a \$12 million repair project to reinforce the aging structure. The workers decided to call it a day when the sky went black and the winds rushed in. A tornado tore through the forest heading straight for the Viaduct. Hundreds of trees were ripped from their roots and 11 of the bridge’s 20 towers were lifted, twisted and thrown onto the valley floor. Six towers remained standing on the south end; only three towers remained upright on the north end.

Engineers later confirmed that winds attacked from three directions. The original 1882 anchor bolts and collar coupling assemblies, which mated the old bolts to the later 1900 construction, had failed.

Within 30 seconds, nature had brought the mighty span to its knees.

The Kinzua Sky Walk

Towering over the Kinzua Gorge the partial glass floor overlook at the end of the pedestrian walkway, built on six of the original steel towers of the Kinzua Viaduct offers stunning views of both the power of man and the power of nature. Opened to the public September 2011, the **Kinzua Sky Walk** offers a unique glimpse into the bridge’s history revealing the ingenuity, dedication and determination of its designers and builders.



Kinzua Sky Walk



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Eldred Eldred World War II Museum, Old Schoolhouse Village Shoppes



Mt. Jewett Mt. Jewett Heritage Mural, Mt. Nebo Chapel



Kane Longhouse National Scenic Byway, Flickerwood Wine Cellars, ArtWorks at the Depot, Kane Memorial Chapel



Lantz Corners Snowmobile Trail Access



Ludlow Olmsted Manor, Wildcat Park, Tionesta National Scenic Area



Port Allegany Allegheny River



Smethport Smethport Mansion District, Hamlin Lake, McKean County Old Jail Museum, Hike/Bike/Equestrian Trails



Westline Hike/Bike/Snowmobile/Cross-country Ski Trails



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