

May 2016  
STUDY REPORT FOR  
LOCAL HISTORIC DISTRICT DESIGNATION  
**Saugatuck River Swing Bridge, 1884**  
Westport, Connecticut



Robert Lambdin, *Saugatuck in the 19<sup>th</sup> Century*, 1969

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With Special Thanks to Wendy Crowther

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## I. Area of Significance

The subject structure is located near the mouth of the Saugatuck River in Westport, Connecticut (Fig.1) and serves to connect a residential neighborhood comprised largely of well-preserved 19th century dwellings with the village of Saugatuck. The bridge and quality of its setting contribute greatly to one of Westport's most historic viewsheds. Therefore, this report recommends that the boundaries of the proposed Saugatuck River Swing Bridge Historic District include not only the bridge and its east and west approaches, but also the two abutting parcels of open space adjacent to those parcels (See Fig. 22 for proposed site map). Together, these three elements comprise the fabric of an iconic and culturally significant gateway - one that is vital to the understanding of Westport's history and development.

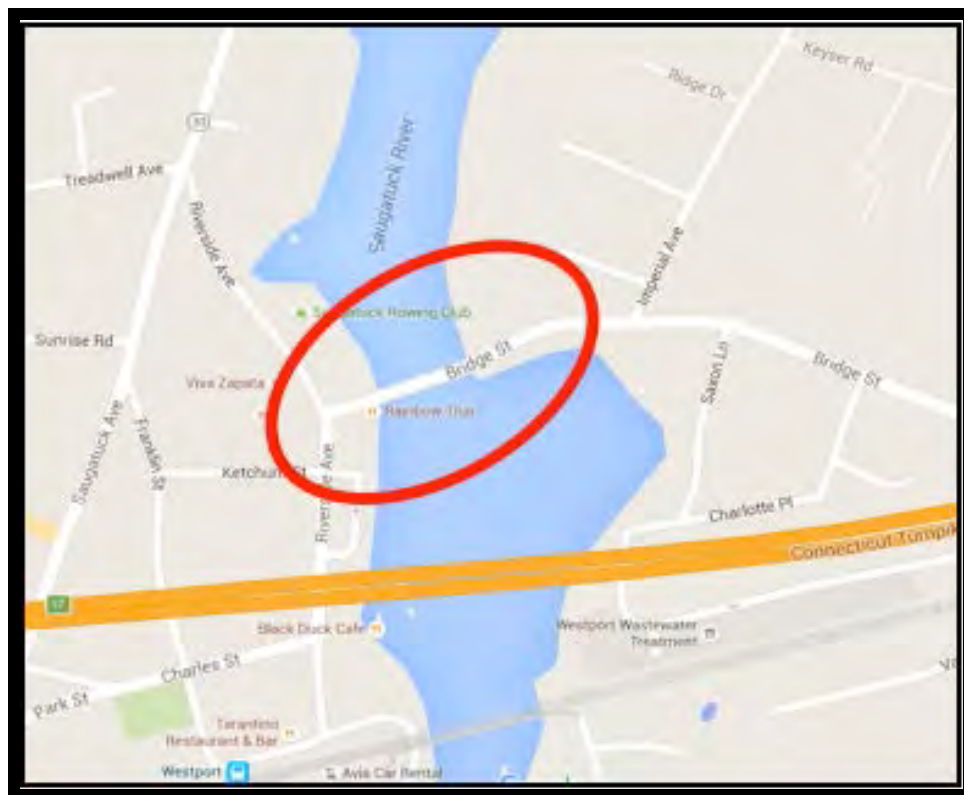


Figure 1. Location of Study area

## II. Statement of Significance

The 1884 Saugatuck River Swing Bridge (Fig. 2), located in Westport, Connecticut, is listed individually on the National Register of Historic Places (1987), remains in its original setting, retains all of its original pin-connected Pratt truss wrought-iron spans and is fully operational. While documented to be the oldest movable highway bridge in the state - as well as being the only hand operated one - the 286 foot long Saugatuck River Swing Bridge appears to be the oldest active pin-connected swing truss highway bridge in the nation. In addition, the bridge is currently thought to be the country's oldest active span of any type known to have been fabricated by the Union Bridge Company of Buffalo, NY and Athens, PA. Union, a pioneer in the design of movable bridges, was also responsible for some of the largest and most technologically significant bridges of the 19th century, including the 1883 Niagara Cantilever Bridge, the 1889 Poughkeepsie - Highland Bridge (now the world's longest footbridge) and Kentucky's 1889 Young's High Bridge. As of the date of this report, the Saugatuck River Swing Bridge, which was intended primarily to accommodate horse drawn carriages, handles, on average, over 13,000 vehicles a day and approximately 13 marine openings per year. Currently the subject of study by the Connecticut Department of Transportation, the bridge is presently threatened by the possibility of replacement.



Figure 2. Opening the Bridge  
(HABS, Library of Congress, 1968)

## A. Brief History, 1869-1965

On a thematic level, the story behind the Saugatuck River Swing Bridge closely reflects the narrative of early Westport, a place with a growing maritime based economy and a river that stood between its increasingly mobile citizens and the places they wished to go.

**Early Crossings:** In today's world, it's easy to forget that crossing rivers was a considerable challenge for early settlers. The Saugatuck River was no exception - to get across, one had to get wet.

In 1673, upon the order of King Charles II, the first official road of the New World was laid out as a postal route between New York and Boston. This road met the Saugatuck River at a site then known as the "the fording place" located where today's Kings Highway bridge now stands.

Until circa 1761 when a bridge was constructed at this site, settlers had limited choices if they wanted to cross the river. They could (a) wait for the tide to recede enough at the above referenced fording place and then splash across, or (b) travel another mile upstream and splash across at a shallower, non-tidal influenced crossing near today's Ford Road, or (c) take one of the three or so private ferries that plied the Saugatuck River at that time.

To cross by ferry, one could use the Cable family's ferry located at the Kings Highway crossing referenced above. The Cable ferry was useful until the bridge usurped it. Slightly downriver from this location, another ferry operated from the base of what is now known as Edge Hill Lane. A third ferry, located much farther downriver near today's railroad bridge, crossed the Saugatuck River at a location once known as "*The Narrows*." This ferry was managed by the Disbrow family starting in 1745.

In 1807, a new private toll road was created that passed through Westport and other adjacent towns. This new road, called the Connecticut Turnpike, crossed over the Saugatuck River south of the previously mentioned Kings Highway route via a freshly constructed bridge erected in what is now downtown Westport (today's US Route 1). An investor in the new toll road was Ebenezer Jesup, a successful shipper and area resident. The fact that the Turnpike happened to



pass directly by Mr. Jesup's complex of wharves and warehouses was no coincidence. Jesup, like many others at the time, had placed a serious bet on the potential profitability of the future flow of commerce along the Turnpike and the Saugatuck River.

**The Railroad Changes Everything:** For the first few decades of the 19th century, the nexus of marine transport and land based traffic rested rather comfortably in the village of Westport. The above cited toll road company prospered while the shippers based on the Saugatuck River continued to offer the most efficient way to move goods to important regional markets. However, a radical shift started to occur by 1840 when railroads began to appear in the area.

The first railroad lines were constructed from Bridgeport to strategic, inland centers of manufacturing such as New Milford and Winsted. The establishment of these rail lines caused concern among those who had bet on the existing network of roads and bridges that led to the center of Westport. Many local merchants and business owners were not pleased about the prospect of losing lucrative commercial traffic to the railroad. Thus, when the New York, New Haven and Hartford Railroad (NYNH&H) petitioned the State of Connecticut in 1846 to establish a route between those cities, Westport specifically instructed its legislative representatives to vote against the railroad's proposed charter. Despite Westport's strong opposition, state lawmakers ultimately approved the charter and, after building a railroad bridge across the Saugatuck River just north of the Disbrow's ferry, the NYNH&H Railroad began regular train service two days after Christmas in 1848.

The arrival of the railroad in Westport put tremendous financial pressure on the Connecticut Turnpike Company by syphoning away valuable traffic. Within a decade it was out of business. Consequently, in 1857, the town assumed ownership of the defunct toll road company's bridge across the Saugatuck River. Not surprisingly, the railroad's appearance in Westport also gave voice to the need for an additional bridge to cross the Saugatuck River near the village of Saugatuck - one that could handle traffic bound for the new Saugatuck train station and the bustling commercial hub that was rapidly forming around it. The need for such a bridge was felt most by the residents in the Greens Farms and Compo sections of Westport. Unless they used the Disbrow's ferry, they were obligated to travel all the way up to the center of Westport to cross the Saugatuck

River. If those same residents wanted to reach the new train station in Saugatuck, they were then required to drive their teams all the way back down the west side of the river over what today is known as Riverside Avenue.

Competing interests soon developed between two distinct groups: those who didn't want to lose the traffic and business to the railroad, and those who wanted to make use of the railroad and its new hub for business and personal reasons. Prospects for a new bridge near the village of Saugatuck hung in the balance.

**Saugatuck's First Carriage Bridge:** The growing conflict between Westport's established commercial shipping interests – the Uptowners as they were then known - and everyone else, created considerable drama. Without involving detail that is beyond the scope of this report, here is a summary of what happened:

In the spring of 1866, a charter was granted to the Saugatuck Bridge Company, a corporation that appears to have been backed by a group of area investors. The charter, which permitted the construction of a toll bridge across the Saugatuck River in the vicinity of the village of Saugatuck, also included a proposed fee schedule for all manner of traffic that the company imagined might cross its for-profit bridge (see Attachment 1). The fee schedule covered everything from goats, pigs and mules to massive ox sleds and horse-drawn stagecoaches. For those attending church or a funeral, passage was to be free.

What the officers of the Saugatuck Bridge Company did for the next two years is unclear, but for sure it did not seem to include the construction of an actual bridge. Although the company's internal circumstances have been lost to time, records indicate that a public meeting in Westport's town hall was called for June 4, 1868. The stated purpose of the meeting was to encumber town funds in the amount of \$8,000 to either (a) permit the Town of Westport to construct a bridge across the Saugatuck River in the Saugatuck area, or (b) purchase such a bridge from the above mentioned Saugatuck Bridge Company upon its completion. The meeting, which was packed with supporters of the new bridge, succeeded in earmarking the taxpayer money needed to pursue either of the two options outlined above.

However, victory for the bridge supporters was short lived. Less than two weeks later, a new public meeting was called to revisit the June 4th bridge funding

decision. This time the Uptowners, and others concerned about diverting trade from the center of Westport, showed up in greater number. The crowded town hall meeting became so unruly that it was impossible to count the votes for a simple adjournment. Therefore, all attendees were instructed to evacuate the building and gather in the street. Next, in what had to be the most unusual procedure to occur at a town meeting in Westport's history, a long rope was strung up between those for and against adjournment. The motion for adjournment failed and the crowd piled back into town hall where the Uptowners succeeded in reversing the June 4th decision that had set aside public funds to build or buy a new bridge across the Saugatuck River.

Six months later, the controversy resurfaced when the bridge supporters managed, once again, to get the votes to fund the construction or the purchase of a new span across the Saugatuck River (see Attachments 2,3). Undeterred, the Uptowners struck back ten days later with a vote that rolled back the bridge funding. The bridge supporters, sensing that fate was on their side, immediately called for another meeting and somehow turned things back in their favor.

In the middle of all this back and forth voting, the previously mentioned Saugatuck Bridge Company managed to start constructing a wooden bridge across the Saugatuck River at a location just north of the railroad bridge. In order to build the approaches to the bridge, the bridge company acquired a small parcel on the west side of the river from high profile Westporter (and railroad supporter), Horace Staples (Westport Land Records, book 10, page 583, see Attachment 4). To obtain access on the east side, Chloe Allen, whose house still stands at the corner of South Compo and Bridge Street, was convinced to donate a right of way across her land. Her only condition was that a fence be built on both sides of the resulting new street to keep her livestock from harm (Westport Land Records, book 10, page 584, see Attachments 5, 6).

In late 1869, the bridge company finally completed its wooden bridge and proceeded to deed it, together with the above referenced land, to the Town of Westport (Westport Land Records, book 11, page 645, see Attachment 7). The controversial project, while finally over, had been carried out in an atmosphere poisoned by accusations of fraud, vote buying, and the durable impression amongst many Westport residents that the bridge was poorly built. This helps explain why it took the Saugatuck Bridge Company another four years (and a



court order) to get paid by the Town of Westport for the new bridge - the cost of which had ballooned from \$8,000 to an astonishing \$27,532.17.

The dramatic story of the first Saugatuck Carriage Bridge might have ended there but for the arrival in Long Island Sound of a tiny creature known as *Teredo Navalis* or shipworm. Though it is actually a salt-water clam, this mollusk tunnels into and colonizes submerged wood. It seems to have originated in Europe where, since at least the 18th century, it had been destroying anything made of wood in a marine environment. Its victims included ships, wharves, revetments and, most unfortunately, bridges.

It is believed that the shipworm arrived in Long Island Sound via vessels that had sailed through infected areas overseas. The mollusk was first noticed in Westport's tidal waters the very same year that the new Saugatuck Bridge was completed. The timing couldn't have been any worse. In less than ten years the wooden bridge was damaged beyond repair. Those who had always suspected that the bridge was poorly built felt vindicated. However, it's now clear that no wooden bridge could have withstood *Teredo Navalis*. To this day it remains an enemy against which there is no real defense.

**Saugatuck Gets a Modern Span:** Due to the shocking and rapid destruction of the first Saugatuck Bridge, it is not surprising that its successor - the subject of this report - is made of stone and iron. Although the process to replace the mortally wounded wooden span was not as contentious as was the effort to build it in the first place, the planning for the new bridge wasn't without incident or drama. Initially, a five-person town committee was formed and tasked with soliciting bids for the bridge's replacement. This bridge committee included both the First and Second Selectmen. However, at least two other factions also became involved, each with its own idea about what the new bridge should look like - and cost.

In June of 1884, these factions pressed their various plans at a rancorous public meeting. As the Bridgeport Standard remarked at the time, *"This meeting has been trumped up by one or more malcontents for the purpose of ventilating themselves on the subject of something they know nothing about"* (see Attachment 8). The meeting failed to derail the appointed bridge committee's work. Shortly thereafter, the bridge committee issued a request for a proposal that resulted in at least seven responses from different bridge manufacturers.

From those responses, the bridge committee recommended a specific vendor to build the new bridge across the Saugatuck River. However, that particular choice has been lost to history because, in a surprising twist, the bridge committee's minority report, rather than its majority report, was adopted by a vote of 40 to 20 in a special meeting held on July 15, 1884. The minority report stated that the plans submitted by Central Bridge Works of Buffalo, New York best reflected Westport's needs. At the time, Central was in the process of merging with several other bridge firms. Shortly thereafter, it changed its name to the Union Bridge Company.

After the above mentioned meeting was adjourned, Central's secretary, Cornelius Van Ness Kittredge, proudly displayed an illustration of his company's proposed plans for the Saugatuck Bridge (Fig. 3). The town kept this beautiful document and, amazingly, still has it. That evening, after the bridge committee signed the contract with Central Bridge Works, a reporter from the Bridgeport Standard wrote: *"Mr. Kittredge remarked that he did not seek this bridge for the purpose of making money on it, but that he should submit a structure which would at once be a credit to Westport and himself."*

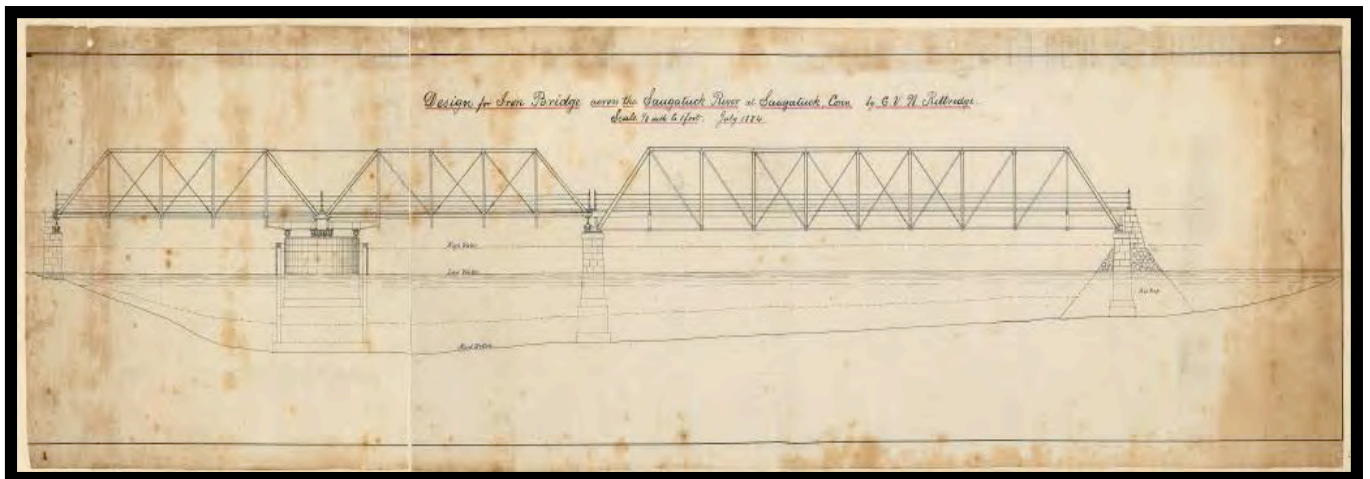


Figure 3. The Drawing of the Saugatuck River Swing Bridge Presented to the Town of Westport on July 15, 1884. (Westport Historical Society Archives)

As for the bridge depicted in Mr. Kittredge's illustration, it was built without incident for \$26,700 and, according to town records, appears to have been operational by November 29, 1884 when the bridge committee voted unanimously to accept the bridge and close out the contract.

**The Automobile Age:** In perhaps what was a foreshadowing of things to come, a decade after the Union Bridge Company finished the Saugatuck River Swing Bridge and returned to Buffalo, the Town of Westport issued the following somewhat cranky petition, dated December 26, 1894, to the Connecticut General Assembly:

*RESOLVED: That the present system requiring towns to build, support and maintain draw bridges over rivers that are national and state highways, bridges which are used more or less by all the people of the state and by whose maintenance all the people of that state are more or less benefitted is absolutely wrong. We declare the same to be unequal and unjust taxation and that these drawbridges should be owned and maintained by the State thus transferring a heavy weight of taxation from the few which would be lightly felt by the many.*

*We therefore respectfully ask of the ensuing legislature that the wrong may be righted by proper legislation and we hereby instruct the representation from this town and also the selectman to use any and all honorable means to accomplish this result.* Source: Westport Meeting Records, vol. 4 (see Attachment 9)

While there is no evidence that this plea found particular sympathy in the state capital, it should be noted that on or about March of 1923, the State of Connecticut acquired the Saugatuck River Swing Bridge as part of its effort to establish numbered routes throughout the state. In this case, it was determined that a scenic shore route, which started in Darien and terminated in Fairfield, was desirable. The road, known initially as Route 335, was re-numbered as Route 136 in 1932. In 1952, the path of Route 136 was slightly altered but continued to run in an east-west direction through Westport. A major change to Route 136 occurred in 1961 when the state redirected the route to head inland after crossing the Saugatuck River Swing Bridge. This new portion of Route 136 abandoned its east-west orientation at the corner of Bridge Street and Compo Road South where it headed northward up Compo to connect with a portion of the former 1831 private toll road known as the Branch Turnpike to end in Easton. Despite the alterations made to the route's name and direction, the Saugatuck River Swing Bridge has always remained an integral and steady component throughout the route's history.

Over 130 years after its construction, the Saugatuck River Swing Bridge's enduring presence has not only become a credit to Mr. Kittredge and the Town of Westport, it has also become a testament to all who have fought for its survival.

## **B. Current Status, 1965 to Present**

The question is often asked: *"How has this bridge managed to survive?"* The answer has a lot to do with Westport's deeply ingrained culture of activism. From United Illuminating's proposed 14 story nuclear power plant just off Compo Beach on nearby Cockenoe Island in 1967, to the early conservation initiatives of the 1970's, Westporters have long been known for the preservation and environmental battles they have waged. The Saugatuck River Swing Bridge's continued existence is, in many ways, a direct consequence of Westport's outspokenness when it comes to the conservation of both its natural and built environments.

In this regard, many in the community came to view certain design limits of the Saugatuck River Swing Bridge as valuable in their own right. In addition to all the functions its engineer, Charles Kellogg, had originally intended, the bridge performed an additional task that no one, including Mr. Kellogg, could have ever anticipated 132 years ago: traffic calming.

As even its detractors will acknowledge, the bridge's relatively narrow width encourages vehicular traffic to reduce speed as it approaches the village of Saugatuck. In addition, given its non-standard height, the bridge acts as a kind of vehicular filter, keeping large trucks from accessing an area of Westport where pedestrian safety is paramount. Although the *"obsolescence as virtue"* idea enjoys strong support today, the bridge's historic value as well as its other qualities, were not immediately recognized by everyone. The following is intended to briefly explain the way in which much of the Westport community came to view the bridge as it does today.

Prior to 1965, the Saugatuck River Swing Bridge's replacement had been considered twice by state highway officials. In 1923, there was discussion of relocating the bridge south to Ferry Lane. In 1958, the pitch was to move it north to Franklin Street and Saugatuck Avenue. Both of these plans met with opposition and were abandoned. However, in 1967, the Bridgeport Post reported that Westport First Selectman John Kemish planned to ask the State Highway

Department to replace the Saugatuck River Swing Bridge *“in order to relieve congestion on the narrow span over the river in Saugatuck which is part of Route 136.”*

In early 1968, press accounts indicate that the town was shown preliminary drawing by the State Highway Department that called for a fixed, *“high-level”* bridge approximately 60 feet in elevation at its apex. As a consequence of the proposed bridge’s height, its approaches needed to be much longer than the present ones. The west approach, as proposed, would bypass Riverside Avenue altogether and go to Saugatuck Avenue instead. The four-lane east approach was described as beginning at the intersection of Bridge Street and Compo Road South.

Archival news reports indicate that the scale of the proposal appears to have troubled local leaders and residents. Although a replacement bridge had been requested by the town, the emergence of the high-level bridge plan seems to have been the approximate moment at which public opinion began to build for retaining the existing bridge.

Selectman Kemish, in response to the public’s concerns that the proposed bridge was oversized, requested a smaller scale alternative. Some Westport residents, including Baron Walter Langer von Langendorff, took the position that the historic bridge should remain. They felt that a wider replacement bridge would usher in commercial development on Bridge Street. Others were concerned about pedestrian safety and increased traffic.

In 1971, opposition to the proposed high-level bridge gained momentum when five Westport Representative Town Meeting (RTM) members went on the record as being against any new bridge. The group claimed that a new span would only attract more vehicular traffic to the Saugatuck area. The State Highway Department continued to press the case for its proposed high-level bridge. However, as an accommodation to concerns about scale, it suggested alternative locations for the new span. Local news reports at the time indicated that one location was just to the north of the present bridge and the other was to the south near Ferry Lane.

In the early winter of 1972, a consultant was hired by the State Highway Department to prepare four new design concepts for a high-level replacement

bridge. News reports during this period noted that all four design concepts included four lanes, two sidewalks and cloverleaf exits.

In advance of a public meeting at which the four new concepts for bridge replacement would be presented, the Westport PTA expressed to Governor Thomas Meskill its opposition to any widening of the bridge. The PTA, as reported by the Bridgeport Post on February 13, 1972, stated that the proposed four lane approaches, the wider bridge, and the highway-style cloverleaf exits would pose safety risks for the many school children who utilized the bridge. The PTA also outlined its belief that a wider bridge would generate additional traffic and higher vehicular speeds.

At the January public meeting held at Westport's Bedford Junior High to hear the consultant's presentation on the four proposed concepts for a replacement bridge, the Bridgeport Post reported that 500 Westport residents spoke out in opposition to those proposals. During a press interview around the time of the public hearing, State Senator Alan Nevas was quoted as follows:

*The enormity of that proposal and its tremendous impact on the Saugatuck area with its indirect consequences for the rest of the community is one that must be given the most serious consideration. The impact of the Turnpike on the Saugatuck area has been severe, and another massive structure such as a high bridge now being proposed would all but sound the death knell for this area of Westport. Many of these people were uprooted by the construction of the Turnpike and now to impose another massive structure upon them is unfair and inequitable. It seems to me that the construction of the bridge, as proposed, is analogous to the use of a canon to kill a mosquito.*

The 1972 Bedford Junior High public meeting put an end to the possibility of a new bridge in Saugatuck for a while. However, on January 31, 1975, the Bridgeport Post reported that Department of Transportation (DOT) officials had approached Westport First Selectwoman Jackie Heneage with scaled down plans for replacing the Saugatuck Bridge. The paper observed that the revised plans involved a lower draw type bridge but still included the four lane approaches. Selectwoman Heneage, it was reported, told the visiting DOT officials that she thought the bridge replacement issue had ended years ago owing to public opposition. She suggested that if a new bridge was really needed, it was to be no more than two lanes in width so as to avoid establishing an alternate truck



route. DOT officials responded that the bridge's replacement plan had been reactivated due to *"safety and traffic flow"* concerns. Selectwoman Heneage stated that such safety and traffic flow concerns would need to be substantiated. She encouraged the agency to consider widening the Post Road Bridge in Westport to four lanes instead and she said, *"the Saugatuck community has already almost been destroyed by one monstrous highway and we cannot accept any bridge that would again create such monstrous approaches and desecration of homes."*

No further mention of the Saugatuck River Swing Bridge's replacement appears to have been made until 1986. At this time the bridge was approaching a point in its maintenance cycle where substantial work was indicated. For what would be the fifth time since 1923, State DOT officials expressed interest in replacing the bridge. In response, Westport restated its position that the bridge should be conserved. DOT officials explained that state statute did not allow the agency to simply repair the bridge because, upon completion, it would not meet current state or federal design standards. The agency would therefor only agree to repair the bridge if the town also agreed to assume its ownership.

Although Westport's RTM quickly appointed a committee to evaluate the DOT's proposal, prospects for the bridge's survival seemed to dim when the committee issued a report critical of the terms of transfer together with a long list of engineering concerns. After reviewing the report, the RTM voted against approving the terms of the bridge's transfer agreement.



Figure 4

Following the vote, Westport's newly elected First Selectwoman, Marty Hauhuth (Fig.4) (whose campaign had focused on the importance of preserving the historic bridge) stated that she wouldn't sign the transfer agreement until DOT had addressed all of the engineering concerns raised by the RTM's Bridge Committee. At the same time, she personally impressed upon Governor O'Neil the need to retain the bridge. Meanwhile, in traditional Westport fashion, a grassroots effort to save the bridge sprang to life, complete with protesters wearing custom tee shirts (Figs. 5, 6).



Figure 5. Bridge Protesters' Tee Shirt

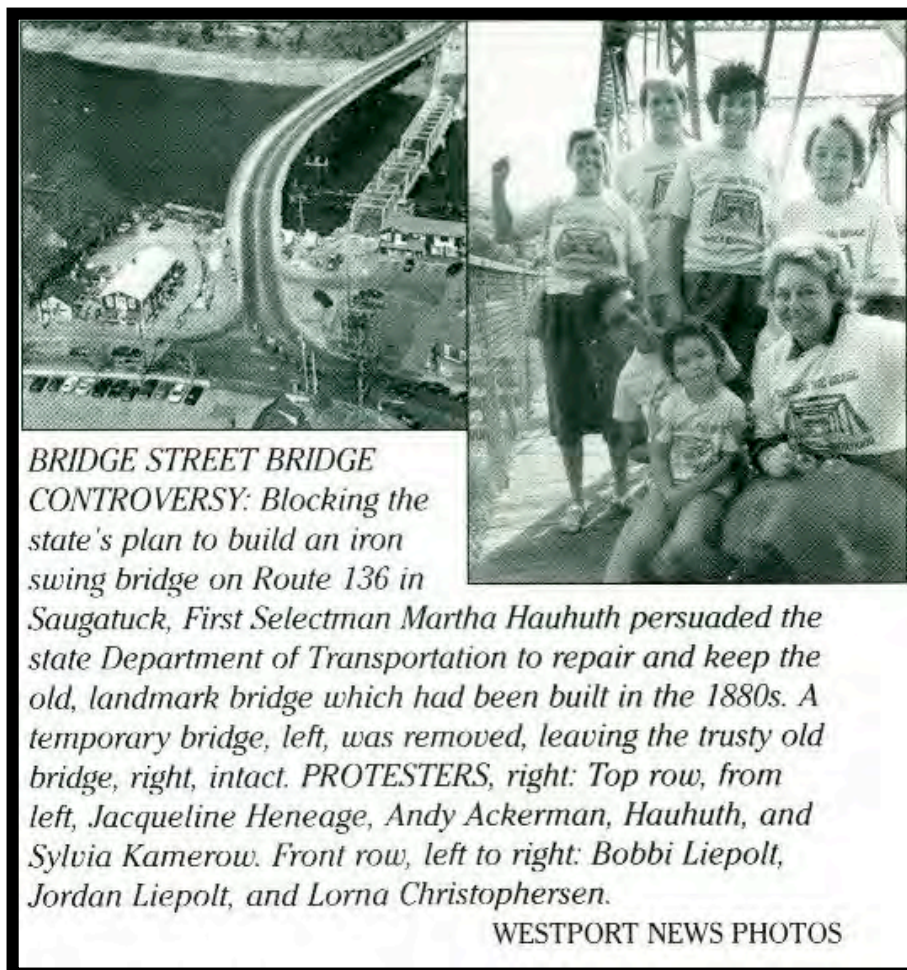


Figure 6. Bridge Protesters

Though the bridge appeared to be doomed, a welcome surprise came in November of 1987. The newly installed DOT Commissioner announced that his agency had reevaluated its position on the bridge; it was possible to restore the historic span without running afoul of current state or federal safety requirements. While it's not clear what might have led to this development, one factor may have been that the bridge was added to the National Register of Historic Places earlier in the year (Fig.7, see Attachment 10). This listing afforded the bridge certain protections and considerations that may have permitted the DOT to reassess its options.

## SAUGATUCK RIVER BRIDGE: NATIONAL SIGNIFICANCE

- A rare, surviving example of a first-generation moveable iron bridge.
- The oldest swing bridge in the State of Connecticut.
- Built by Union Co. in Buffalo, New York, a pioneer in the field of movable bridges and a fabricator of some of the largest and most technologically significant bridges of the 19th century.
- The changes to the bridge have not compromised its visual or functional integrity and it remains in its original setting.
- As a tangible link to maritime commerce, the Saugatuck River Swing Bridge is critical to the understanding of the history and development of Westport during the 10th century.

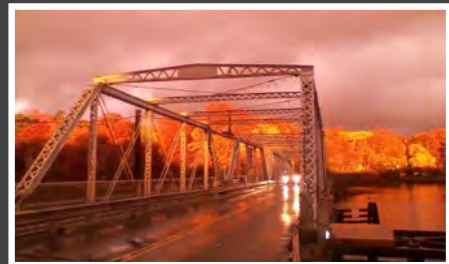


Figure 7. Summary of Significance, National Register of Historic Places Inventory Form, 1987



Over the course of the next few years, the Saugatuck River Swing Bridge underwent a major restoration that also involved the fabrication of a new underlying support system - one that essentially relieved the original truss system of its load carrying responsibility but preserved its historic appearance. Similarly, the hand-operated mechanism, which permitted the bridge to swing open, was conserved but was discreetly automated. In the end, the bridge, like many other landmark spans in the state, was functionally and structurally updated in a way that was not visible to the casual observer.

Although the bridge's fortunes seemed to fluctuate, there was one aspect of its existence that, for a very long time, remained constant. Westporters remember Officer William F. Cribari (Fig. 8) as somewhat of a landmark himself. For many



Figure 8

years Officer Cribari was the traffic cop who presided over the busy intersection at Riverside Avenue and Bridge Street. As a longtime resident of Saugatuck with a Westport Police Department career that spanned 30 years, Officer Cribari was living proof that no automated traffic control system can best the instincts of a human being. When William passed away in 2007 at the age of 88, the Town of Westport named the Saugatuck span the William F. Cribari Memorial Bridge (Fig. 9).



Figure 9. Westport News, Cribari Family at Bridge Dedication

In May of 2015, twenty years after its restoration, DOT notified Westport of its interest in making some repairs to the bridge's piers and trusses, as well as preforming some "*spot painting*". The agency characterized the bridge as being in "*fair*" condition but "*functionally obsolete*" - meaning that the span was structurally sound but no longer considered to be functionally adequate for current vehicular traffic. Soon thereafter, local preservationists requested that it be studied by the Westport Historic District Commission for possible designation as a Local Historic Property. The request was approved by the commission on September 8th and was unanimously supported by the Westport RTM on October 6th.

At a public information meeting held in Westport the following month, DOT engineers discussed five alternatives that the agency was considering with respect to the bridge: No Action, Minor Repairs, One Way Travel, Major Rehabilitation and lastly, Replacement of the Existing Bridge. Many residents and local leaders spoke at the meeting and urged DOT to retain the bridge. None expressed support for its replacement. The agency's full evaluation of the bridge is due to be completed by May of 2016.

### **C. Architectural Description**

Readers seeking a more in-depth technical description of the bridge's construction are directed to the National Register Inventory Form as well as the Historic American Engineering Record report located in Section III of this Study Report.

Built in the summer of 1884 by the Union Bridge Company of Buffalo, New York, the current wrought iron structure was a replacement for a failing 1869 wooden drawbridge on the same location. This new bridge originally weighed an estimated 220,000 pounds and cost \$26,700 (plus \$362 to demolish the old wood bridge). It consists of two spans: a 144 foot Pratt through truss fixed section located at the east end, and a movable section at the west end comprised of two 71 foot Pratt through truss sections yoked together via special solid die-forged eye bars (a patented device developed by one of the bridge's engineers, Charles H. Kellogg). The movable section rests atop a so-called pivot pier which permits it to swing open for maritime traffic. Originally the bridge was fitted with a wood

plank deck. In 1925 the wood deck was traded for an open steel grate-style assembly.

The bridge's trusses are roughly 16 feet from top to bottom. However, because of the variable stresses placed upon the movable portion of the bridge when it opens, some of these structural members depart from the standard Pratt design. For instance, to accommodate the increased compressive force generated when the two ends of the swing portion of the bridge are left hanging in midair (i.e. when it has been swung open to allow for the passage of maritime traffic), the normally non-load bearing hip verticals have been traded for more robust lattice girders. The latter, like the previously mentioned solid die-forged eye bars, was a patented, groundbreaking innovation developed by one of this bridge's engineers, Charles H. Kellogg.

The previously mentioned pivot pier, together with the accompanying abutments and fixed piers, is constructed of stone drawn from the quarry at Stony Creek, Connecticut. The pivot pier was modified in 1953 by the addition of "H" piles, steel beams and a metal shell into which was pumped concrete. The bridge's hand-operated opening mechanism, though now motorized, was geared in such a way as to allow minimal effort on the part of the operator. A pinion gear shaft, which rests in a recessed portion of the pivot pier, allows the bridge to be opened by way of a T shaped socket wrench which engages a pinion gear. The gear mates up with a large, fixed ring gear which is fastened to the undercarriage of the deck. The bridge can still be opened this way today.

Cantilevered off the north side of the bridge is a wood-planked, four foot wide, pedestrian walkway which is supported by structural steel members. Archival images, as well as early town records, indicate that at some point the bridge also accommodated trolley service via the addition of a catenary system affixed to insulating wood blocks which were, in turn, bolted to the overhead members.

It should be noted that the distinctive shallow arches of the portal struts at either end of the bridge appear to have been modified at an indeterminate time in the past. While their fields are now filled with unadorned steel plate, these two areas would likely have been the location of large, cast builder's plates like those often seen on other works by the Union Bridge Company. These builder's plates typically contained the name of the bridge company and the build date.



Starting in 1988, the bridge was removed from service for several years in order to complete a major restoration (Figs.10, 11). To accomplish this without disrupting traffic flow, a temporary fixed span was constructed on land (owned by the State of Connecticut) located immediately adjacent to the original bridge. The original bridge was then transported to the nearby Sherwood Island Connector for rehabilitation. Modifications included a new steel deck with bituminous surface, and automation of the bridge-opening mechanism. The principal effect of the restoration and reconstruction effort was to retain the original Pratt truss superstructure, which is the distinguishing feature that the public typically associates with “*the bridge*,” and yet completely relieve it of its load carrying responsibility. While the previously described opening mechanism was slightly modified at the time of the restoration by the addition of a motor, the bridge retains much of its original gearing and is still capable of being opened by hand. It remains the only highway bridge in the State of Connecticut which may be operated manually.



Figure 10. Norwalk Hour, Image of Temporary Span, 1990



Br.iges
WESTPORT NEWS, Wednesday, July 11, 1990
21-11-1990

## SOUTHWEST CONSTRUCTION ADVISORY CORRIDOR

### THE BRIDGE STREET BRIDGE... ROUTE 136 OVER THE SAUGATUCK RIVER, WESTPORT

Work has begun on the \$6 million restoration and substructure replacement of the Bridge Street Bridge, which carries Route 136 over the Saugatuck River in Westport. The original bridge was built in 1884. The project is expected to be completed in June, 1992.

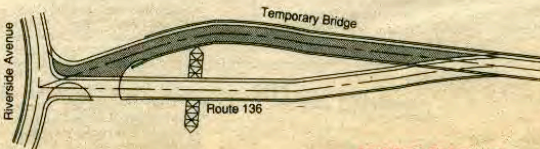
Workers have demolished the gas station and removed the underground fuel tanks at the corner of Route 136 and Riverside Avenue. This area will serve as the west crossover for the temporary bridge, which will carry two lanes of Route 136 traffic while the swing bridge is being restored. Work is now underway on the approaches for the temporary bridge.

The temporary bridge will be wider than the existing bridge - 28 feet wide, versus 19.5 feet wide - and will have an 18 foot clearance at high tide to maintain boat access. A 5 foot wide sidewalk will be provided for pedestrians.

Since all Route 136 traffic will be detoured over the temporary bridge, minimal impact on traffic is anticipated during the construction project. Some disruption may occur in late November when the temporary crossing is tied into the existing Route 136. Two lanes of traffic, one in each direction, will be maintained during the morning and evening rush periods throughout the project.


Once the temporary bridge is completed, Route 136 traffic will be relocated to the temporary bridge and rehabilitation of the existing bridge will begin. The substructure of the bridge will be replaced, and additional piles will be driven to support the bridge. The existing steel truss and deck will be completely restored. The finished bridge will be opened both electrically and manually.

Work on this project was originally planned to begin in early spring. The project was delayed while ConnDOT and the contractor, Frank Mercede, Jr. Construction Group awaited approval on a Coast Guard permit and made minor design revisions to the temporary bridge.




MUNICIPAL REFERENCE


Stage One




Stage Two



Stage Three



Stage Four



### THE POST ROAD BRIDGE... U.S. 1 OVER THE SAUGATUCK RIVER, WESTPORT

On September 15, 1990, work will begin on the \$9.4 million replacement of the Post Road (US 1) Bridge over the Saugatuck River. The current 73 year old, 12 span bridge has a concrete deck supported on stone masonry and concrete piers mounted on timber piles. The new four span bridge will have a steel beam and concrete deck with concrete abutments and piers mounted on steel piles. It will also be a wider bridge, with four lanes, two in each direction, and two 5 foot sidewalks. Signalization on each end of the bridge will be updated to accommodate the new lane. Three hundred feet of approach roadway will also be reconstructed and resurfaced as part of the replacement project.

The bridge is not scheduled to be closed at any time during the project. To keep traffic impact to a minimum, the project will be done in four stages. Two lanes of traffic, one in each direction, will be maintained on the bridge over a temporary realignment of traffic around the work areas, as indicated at left.

On occasion, particularly during stage changes, one-way alternating traffic will occur between 8:00 p.m. and 6:00 a.m. Advance notice will be given of any lane closures. Construction will continue over the winter months. The project is expected to be completed in December, 1992.

### ADDRESSING YOUR CONCERNS...


Both of these bridge projects have been carefully planned to have a minimum impact on traffic and businesses in downtown Westport. The work is being done on both projects simultaneously because these highway projects are ready to move forward and funding is available now under Governor William A. O'Neill's Transportation Infrastructure Renewal Program. Under this program, every state bridge rated less than "good" will be restored, repaired, or replaced - 1,639 bridges are included under this program.


Additional concerns have been raised about proposed safety improvements to Interchanges 41 and 42 on the Merritt Parkway. This work will likely begin before the two downtown bridges are completed. These interchanges have been the site of numerous accidents in the past - accidents caused, in part, by inadequate acceleration and deceleration lanes. Therefore, it is important that these improvements be made as soon as possible. The interchanges will remain open at all times during the project, and two lanes of traffic will be open in both directions during the morning and evening rush periods.

The I-95 Westport/Fairfield Resurfacing Project includes one bridge in Westport (east of Exit 18) and twenty bridges further east on I-95 in Fairfield. Lane closures on the I-95 Westport/Fairfield Resurfacing Project are restricted to the overnight hours, between 8:00 p.m. and 6:00 a.m. to reduce traffic problems on the highway that could result in spill off onto local streets.

The Connecticut Department of Transportation and Metropool, Inc. will work to keep the town of Westport - its residents, officials, and businesses - informed and address specific concerns throughout the construction projects. As part of their Southwest Corridor Construction Communication Program, ConnDOT and Metropool offer daily updates on major construction projects, available by dialing 1-800-U.S. BRIDGE. Lane closings and other important information on the two local Westport projects will be included in this message.

A 40 percent increase in traffic is expected on Southwestern Connecticut's highways by 2010. Now is the time to explore the various commuting options available to Westport residents - carpool, vanpool, MetroNorth trains or Westport Transit. Metropool can help you fit these alternatives into your busy lifestyle. Call Metropool today at 1-800-FIND-RIDE.





MUNICIPAL REFERENCE




Figure 11. DOT Announces Construction of Temporary Bridge





Figure 12. Detail of Special Screw Jack Assembly

In order to address the substantial weight of the new load bearing deck - which tends to deflect slightly when not fully supported - a pair of large and very powerful electric screw jacks were bolted to the undercarriage of the movable span (Fig. 12). Once that span has returned to its berth, these jacks, which are retracted when the

bridge opens, are activated by the bridge-tending crew. The screws slowly lower themselves onto steel reinforced pads and cause the ends of the bridge to rise about an inch, thereby allowing it to regain its proper trim. After the screw jacks have done their work, the massive steel deck is secure and the bridge can be reopened for vehicular and pedestrian traffic. The operation of these screw jack mechanisms can be viewed from the rear deck of the adjoining Bridge Square property.

### The Union Bridge Company, in brief:

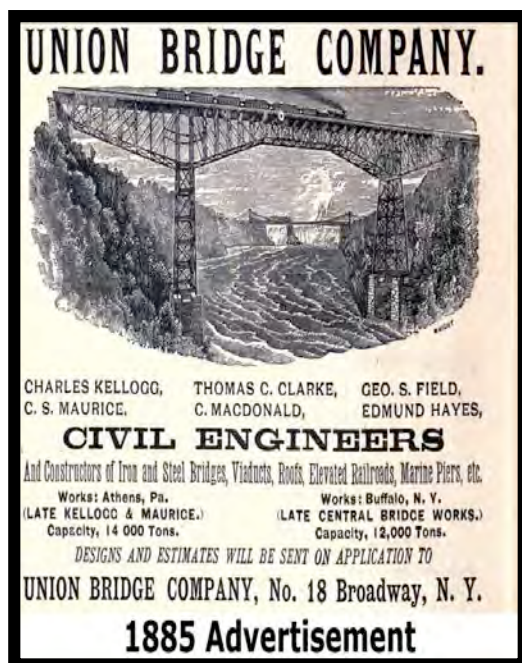


Figure 13. Advertisement for Union Bridge Company

At the time of the Saugatuck River Swing Bridge's construction, the era of "modern" iron bridges was just beginning and Union (Fig. 13) was on its way to becoming one of the biggest players in the business.

The origins of the company may be traced as follows:

In 1870, an engineer by the name of Charles Kellogg formed the Kellogg Bridge Company of Buffalo, New York which was likely connected with the bridge building company Kellogg & Maurice of Athens, Pennsylvania. Mr. Kellogg's son, Charles H., joined the firm as an engineer. Five years later the firm took on

Cornelius Van Ness Kittredge, formerly of Kittridge & Smith, Bridge Builders, who shortly thereafter became its Secretary and Treasurer.

In 1876, Kellogg, which specialized in the challenging field of movable bridges, observed that their company's 444-foot swing bridge across the Mississippi River at Louisiana, Missouri was the world's longest movable span.

An October 17th, 1878 ad in *Railway Age* magazine touts the company's ability to manufacture "*all kinds of Wrought Iron Railway and Highway Bridges, Viaducts, Trestle Work, Turn Tables, Roofs and other iron structure(s).*" Interestingly, the ad also contains a depiction of the company's patented "*Solid Die Forged Eye Bar,*" an important innovation which eliminated the internal stresses normally caused by welding (Fig. 14). This important structural advance, which helped to pave the way for public acceptance of iron spans, may easily be viewed on the Saugatuck River Swing Bridge (Fig. 15).

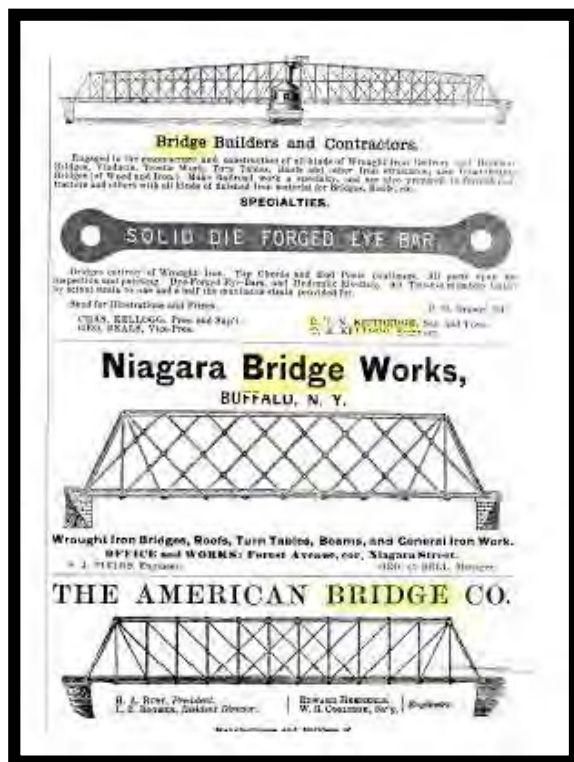


Figure14. Railway Age Advertisement



Figure 15. Eye Bar Detail (HABS, 1968)

In 1881, the Kellogg Bridge Company was acquired by George S. Field, Edmund Hayes and the aforementioned Cornelius Van Ness Kittridge, and the firm's name was changed to Central Bridge Works. Central kept the operation in Kellogg's old shop and continued to utilize the innovative Kellogg technology. One of Central's most notable commissions during its three years of operation was the enormous 1883 Cantilever Bridge built for the Michigan Central Railroad across the Niagara River (Fig. 16).

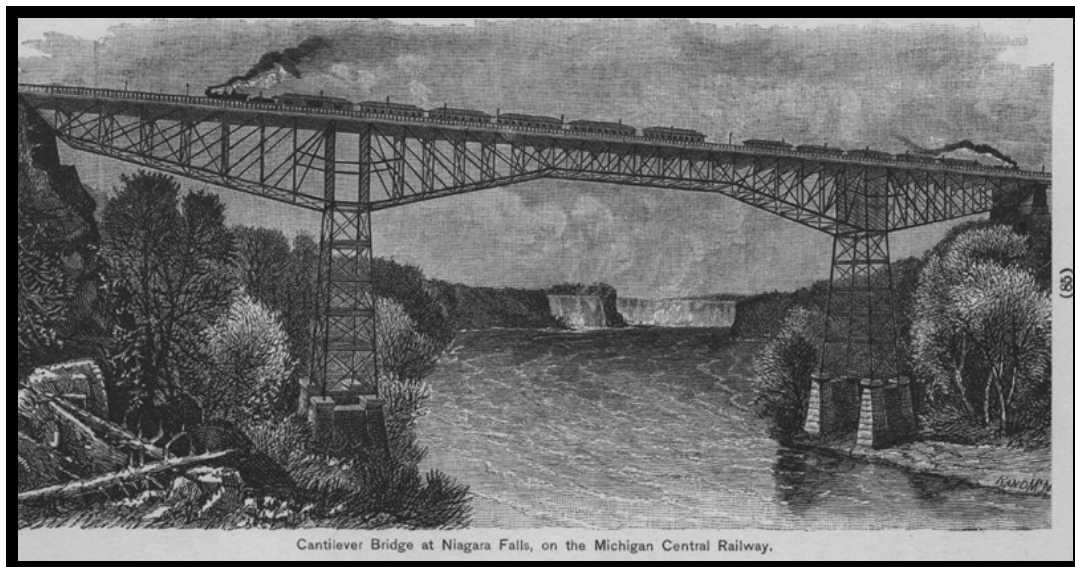


Figure 16. Cantilever Bridge, 1883

At some point in 1884, the very same year that Mr. Kittridge was finalizing the contract to construct the Saugatuck River Swing Bridge in Westport, Central was merged with three other bridge building firms: Kellogg & Maurice, Delaware Bridge Co., and Clark, Reeves & Co. The new firm, known as Union Bridge Company, would operate as such for another eleven years.

The formation of Union ushered in what might be considered the company's heyday. Among its notable and technically challenging projects: the pioneering 1887 Hawkesbury River Bridge in Australia, with seven spans and record shattering 176 foot deep footings (Fig. 17); the 1887 Illinois Central Railroad Bridge over the Ohio River at Cairo, Illinois, then the worlds longest bridge (Fig. 18); the towering 1889 Poughkeepsie-Highland Bridge over the Hudson River (the oldest cantilever truss bridge in the nation and now restored as the world's longest footbridge (Fig. 19); and the 1889 Young's High Bridge in Kentucky, the



largest cantilever truss bridge in the nation when completed (Fig.20). According to a credible published source, the Union Bridge Company was itself merged in 1895 with a number of other bridge-building firms and became known as the American Bridge Company.



Figure 17. Hawkesbury River Bridge, Australia, 1887

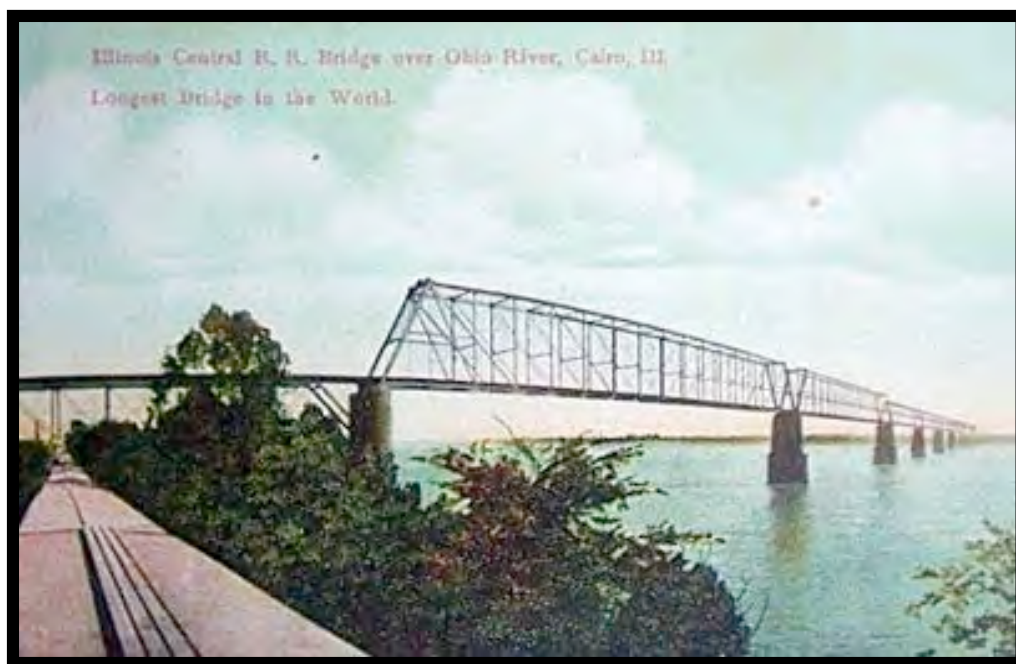


Figure 18. Illinois Central Railroad Bridge, Cairo, Illinois, 1887





Figure 19. Poughkeepsie-Highland Bridge, Poughkeepsie, New York, 1889



Figure 20. Young's High Bridge, Kentucky, 1889

## D. Conclusion

While documented to be the oldest movable highway bridge in the State of Connecticut, as well as its only hand operated one, the Saugatuck River Swing Bridge in Westport (Fig. 21) is now believed to be the oldest, active, pin-connected swing truss highway bridge in the nation. In addition, it is thought to be the country's oldest active span of *any* type known to have been designed and fabricated by the Union Bridge Company - a pioneering American firm responsible for some of the most technologically significant bridges of the 19th century. Not least, this bridge remains in its original setting, retains all of its original wrought iron Pratt truss spans and is fully operational. For all these reasons it was recently characterized as "*best in class*" by noted bridge historian Nathan Holth.

The bridge's historic significance to both the State of Connecticut and nation notwithstanding, this span, now approaching its 132nd year of service, arguably means the most to the residents of Westport. As a tangible and accessible link to our maritime history, the bridge connects us with a unique heritage - one that is critical to the understanding of our community's origins. Perhaps as important, in the present time, the Saugatuck River Swing Bridge, which has withstood no less than five attempts to replace it, has become the very symbol of the publicly spirited activism for which Westport is well known and justly proud.



Figure 21. Lit for the Holidays

### **III. Appendix**

#### **A. Attachment Index**

1. 1866 charter of incorporation for the Saugatuck Bridge Company, including proposed toll rates.
2. Town Meeting Minutes, 1869, related to Saugatuck Bridge, Resolution on 6<sup>th</sup> page.
3. Town Meeting Minutes, 1884, related to formation of Bridge Committee.
4. Copy of 1869 deed from Horace Staples to Saugatuck Bridge Company.
5. Copy of 1869 deed from Chloe Allen to the Saugatuck Bridge Company.
6. Notice signed by Chloe Allen permitting construction of a road (Bridge Street) across her land, provided a fence is also built.
7. Copy of 1869 deed from the Saugatuck Bridge Company to the Town of Westport.
8. Bridgeport Standard press accounts, 1884, deliberation and approval of new Saugatuck Swing Bridge.
9. Town Meeting Minutes, 1894, petition urging state to take over maintenance of certain bridges.
10. National Register of Historic Places Inventory Nomination Form, Saugatuck Swing Bridge, 1987.
11. Historic American Engineering Record, (HAER), survey of Saugatuck River Swing Bridge, (1991).



## **B. Proposed Ordinance, Boundary Description and Site Map**

### **Code of the Town of Westport**

### **Chapter 38**

### **Historic Preservation**

## **ARTICLE II. SPECIFIC HISTORIC DISTRICTS AND LANDMARKS**

### **Sec. 38-29. Saugatuck River Swing Bridge Local Historic District**

(a) *Purpose; established.* In order to promote the educational, cultural, economic and general welfare of the Town and the public in general through the preservation of buildings and places of historic interest, the Saugatuck River Swing Bridge Historic District is hereby established and shall exist in accordance with the provisions of C.G.S. § 7-147a through 7-147k inclusive, as the same may be amended from time to time.

(b) *Boundaries.* The district shall include the following:

(1) The Saugatuck River Swing Bridge (State Bridge No. 01349) also known as the William F. Cribari Memorial Bridge which carries Route 136 over the Saugatuck River; and

(2) The premises situated in the Town of Westport, County of Fairfield, State of Connecticut, shown as Lot # \_\_\_\_\_\* and Lot# \_\_\_\_\_\* on a map entitled Saugatuck River Swing Bridge Historic District, prepared for Westport Historic District Commission, Town Hall, Westport, Connecticut, scale of \_\_\_\_' \_\_\_\_", \_\_\_\_\_\*, 2016, prepared by \_\_\_\_\_\* on file in the Westport Town Clerk's office as Map No. \_\_\_\_\_\*.

\*Information pending





Figure 22. Proposed Site Map Saugatuck River Swing Bridge Historic District

### Legend

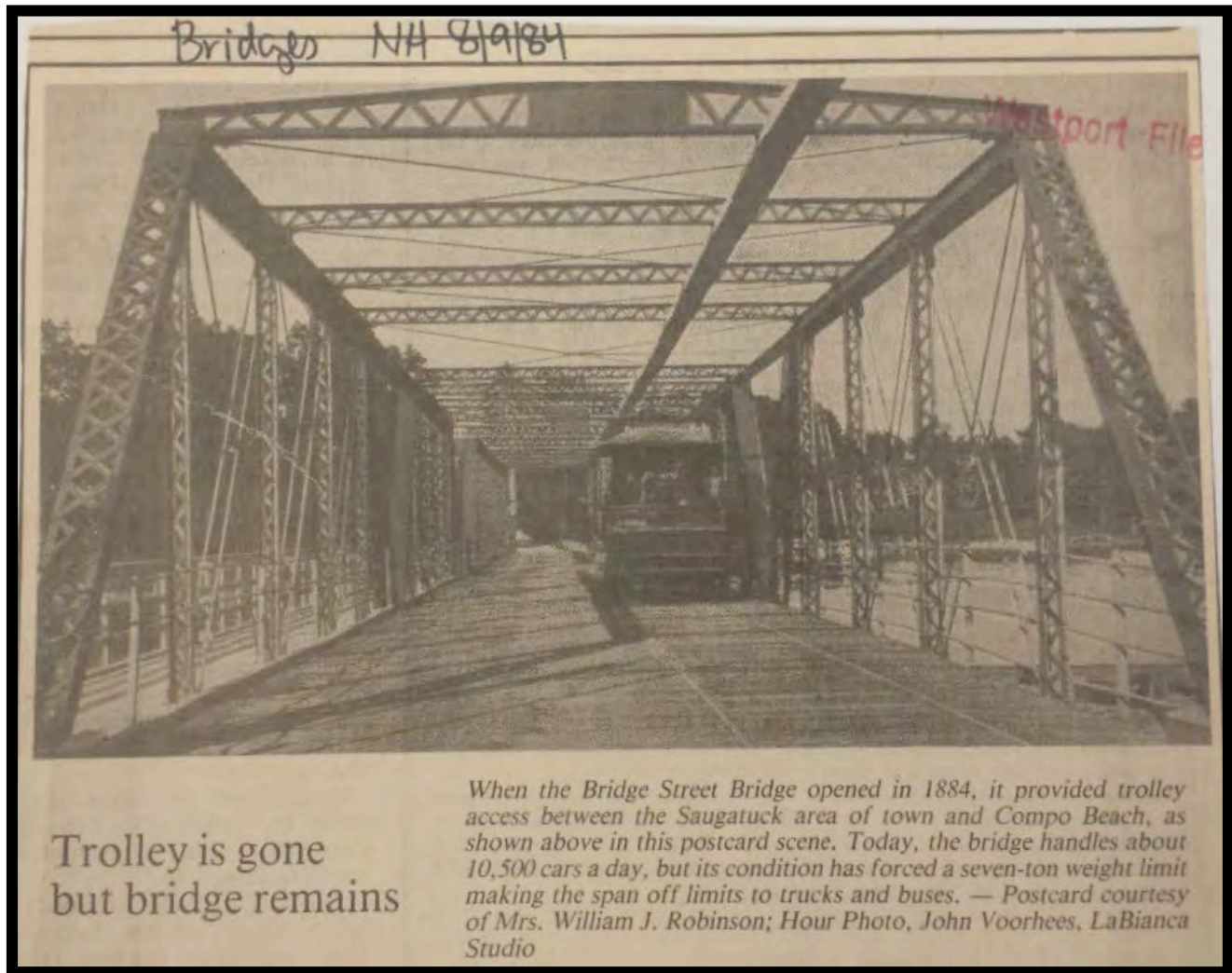


Proposed Boundary of Saugatuck River Swing Bridge Historic District



State Owned Property

#### IV. Contextual Images, Saugatuck River Swing Bridge

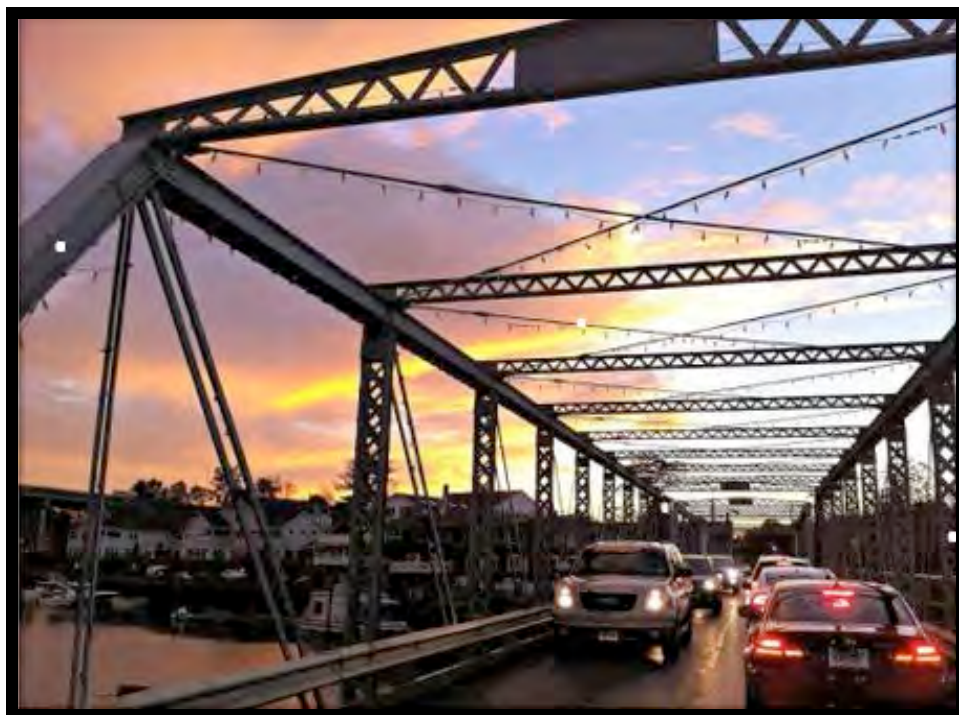


Reprint of undated historic image (Westport News) showing bridge configured to accept electric trolley service.





Present Southeasterly View



Present Southwesterly View



Present Westerly View



Easterly View, Recent Bridge Opening





Northerly View, Bridge Opening (HABS, 1968)



Screen Shot, The Man In the Grey Flannel Suit, 1956