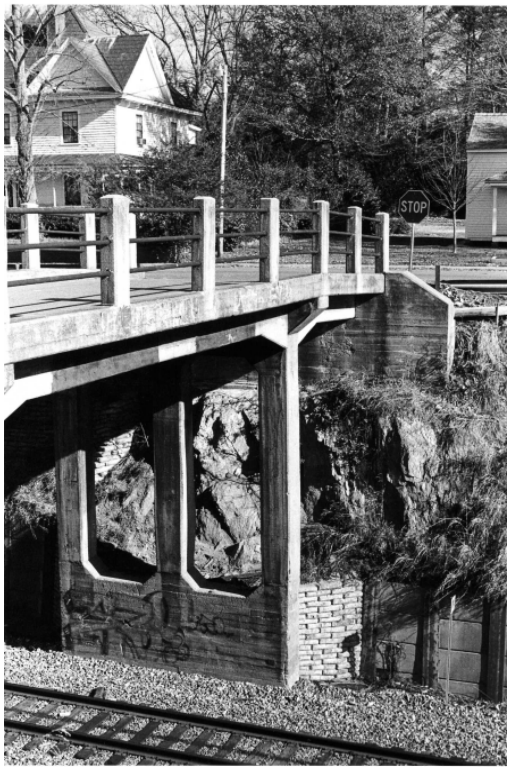
NORTH CAROLINA STATE HISTORIC PRESERVATION OFFICE
Office of Archives and History
Department of Cultural Resources

NATIONAL REGISTER OF HISTORIC PLACES

Southern Railway Company Overhead Bridge

Kings Mountain, Cleveland County, CL0785, Listed 4/19/2007
Nomination by Davyd Foard Hood
Photographs by Davyd Foard Hood, December 2005

General view, looking north



View of structure

NPS Form 10-900
(Rev. 10-90)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES REGISTRATION FORM

This form is for use in nominating or requesting determinations for individual properties and districts. See instructions in How to Complete the National Register of Historic Places Registration Form (National Register Bulletin 16A). Complete each item by marking "x" in the appropriate box or by entering the information requested. If any item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, architectural classification, materials, and areas of significance, enter only categories and subcategories from the instructions. Place additional entries and narrative items on continuation sheets (NPS Form 10-900a). Use a typewriter, word processor, or computer, to complete all items.

1. Name of property

historic name __Southern Railway Company Overhead Bridge_____

other names/site number __North Carolina Bridge #220426_____

2. Location

Spanning the double tracks of the Norfolk Southern Railroad between Battleground and Railroad
street & number _avenues, one-half block north of their junction with King Street (US Bus. 74) not for publication N/A___

city or town ___Kings Mountain_____ vicinity _N/A__

state __North Carolina_____ code _NC_ county _Cleveland_____ code _045_ zip code _28086_____

3. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1986, as amended, I hereby certify that this _X___ nomination ____ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property _X__ meets ____ does not meet the National Register Criteria. I recommend that this property be considered significant ___ nationally _X_ statewide __ locally. (___ See continuation sheet for additional comments.)

_____ _____
Signature of certifying official Date

_North Carolina Department of Cultural Resources_____
State or Federal agency and bureau

In my opinion, the property ____ meets ____ does not meet the National Register criteria. (___ See continuation sheet for additional comments.)

_____ _____
Signature of commenting or other official Date

_____
State or Federal agency and bureau

4. National Park Service Certification

I, hereby certify that this property is: Signature of the Keeper Date of Action

____ entered in the National Register _____
___ See continuation sheet.
____ determined eligible for the _____
National Register
___ See continuation sheet.
____ determined not eligible for the _____
National Register
____ removed from the National Register _____

____ other (explain): _____ _____

_____
_____

5. Classification

Ownership of Property (Check as many boxes as apply)

___ private
_X_ public-local
___ public-State
___ public-Federal

Category of Property (Check only one box)

___ building(s)
___ district
___ site
_X_ structure
___ object

Number of Resources within Property (Do not include previously listed resources in the count)

Contributing	Noncontributing	
0	0	buildings
0	0	sites
1	0	structures
0	0	objects
1	0	Total

Name of related multiple property listing
(Enter "N/A" if property is not part of a multiple property listing.)
N/A

Number of contributing resources previously listed in the National Register
N/A

6. Function or Use

Historic Functions
(Enter categories from instructions)
Cat: TRANSPORTATION/road-related (vehicular)

Current Functions
(Enter categories from instructions)
Cat: TRANSPORTATION/road-related(vehicular)

7. Description

Architectural Classification (Enter categories from instructions)
Other: (T) tee-beam

Materials (Enter categories from instructions)
foundation Concrete
roof N/A
walls Concrete
other Iron
Asphalt

Narrative Description
(Describe the historic and current condition of the property on one or more continuation sheets.)

See Continuation Sheet.

Southern Railway Company Overhead Bridge
Name of Property

Cleveland County, North Carolina
County and State

8. Statement of Significance

Applicable National Register Criteria
(Mark "x" in one or more boxes for the criteria qualifying the property for National Register listing)

__X__ A Property is associated with events that have made a significant contribution to the broad patterns of our history.

____ B Property is associated with the lives of persons significant in our past.

__X__ C Property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction.

____ D Property has yielded, or is likely to yield information important in prehistory or history.

Criteria Considerations
(Mark "X" in all the boxes that apply.)

____ A owned by a religious institution or used for religious purposes.

____ B removed from its original location.

____ C a birthplace or a grave.

____ D a cemetery.

____ E a reconstructed building, object,or structure.

____ F a commemorative property.

____ G less than 50 years of age or achieved significance within the past 50 years.

Areas of Significance
(Enter categories from instructions)
Engineering
Transportation

Period of Significance
1919

Significant Dates
1919

Significant Person
(Complete if Criterion B is marked above)
N/A

Cultural Affiliation
N/A

Architect/Builder Southern Railway, Office of the District Engineer, Charlotte-builder

Narrative Statement of Significance
(Explain the significance of the property on one or more continuation sheets.)

9. Major Bibliographical References

Bibliography
(Cite the books, articles, and other sources used in preparing this form on one or more continuation sheets.)

Previous documentation on file (NPS)
___ preliminary determination of individual listing (36 CFR 67) has been requested.
___ previously listed in the National Register
___ previously determined eligible by the National Register
___ designated a National Historic Landmark
___ recorded by Historic American Buildings Survey # _____
___ recorded by Historic American Engineering Record # _____

Primary Location of Additional Data
_X State Historic Preservation Office
___ Other State agency
___ Federal agency
___ Local government
___ University
___ Other
Name of repository: North Carolina Division of Archives and History

Southern Railway Company Overhead Bridge | Cleveland County, North Carolina
Name of Property | County and State

10. Geographical Data

Acreage of Property _Less than 1.0 acre_

UTM References (Place additional UTM references on a continuation sheet)

	Zone	Easting	Northing
1	17	468640	3899680
2	__	_____	_____
3	__	_____	_____
4	__	_____	_____

___ See continuation sheet.

Verbal Boundary Description
(Describe the boundaries of the property on a continuation sheet.)

Boundary Justification
(Explain why the boundaries were selected on a continuation sheet.)

11. Form Prepared By

name/title Davyd Foard Hood

organization _____ date 13 February 2006

street & number Isinglass, 6907 Old Shelby Road telephone 704/462-1847

city or town Vale state NC zip code 28168

12. Additional Documentation
Submit the following items with the completed form:

Continuation Sheets

Maps
A **USGS map** (7.5 or 15 minute series) indicating the property's location.
A **sketch map** for historic districts and properties having large acreage or numerous resources.

Photographs
Representative black and white photographs of the property.

Additional items (Check with the SHPO or FPO for any additional items)

Property Owner
(Complete this item at the request of the SHPO or FPO.)

name The City of Kings Mountain, Mr. E. O. Murphy, Jr., Mayor

street & number Post Office Box 429 telephone 704/734-0333

city or town Kings Mountain state NC zip code 28086

7. NARRATIVE DESCRIPTION

The Southern Railway Company Overhead Bridge is a reinforced concrete tee-beam vehicular bridge erected in 1919 in Kings Mountain, Cleveland County, North Carolina. The bridge carries two lanes of traffic across a railway cut in which the paired, parallel tracks of the Norfolk Southern Railway's main line between Washington, D. C., and Atlanta, Georgia, carry on a generally north/south axis on a gravel-covered bed. It stands about one-half block north of (and generally parallel to) the King Street Overhead Bridge (NR, 2005) which carries King Street (US Business 74), the city's principal east/west artery, across the railway cut and tracks. The asphalt-paved bridge bed is eighteen feet, seven and one-half inches in width, between the elevated bases of its railings. While the bridge's width allows for two possible lanes of traffic, it is effectively used as a single-lane bridge, with approaching drivers pausing to look for oncoming traffic before crossing on it. The bridge is eighty feet in length between its east juncture with Battleground Avenue (NC 216) and its west junction with Railroad Avenue. These streets carry on the east and west sides of the railroad tracks, generally parallel with the cut, and they continue south through the commercial center of Kings Mountain. Railroad Avenue ends several blocks south at its junction with Hawthorne Road while Battleground Avenue continues south another five miles to beyond Archdale, N.C., where it turns to the southeast and, after about three miles, it then carries through the Kings Mountain National Military Park in South Carolina.

The Southern Railway Company Bridge occupies what appears to be the highest site in central Kings Mountain and it replaces a later-nineteenth century wood trestle bridge that spanned the single track built through the town. This bridge and its companion bridge to the south are highly visible landmarks in the city of Kings Mountain, in part because of their function, in another part because of their simple, remarkable integrity, and because of the prominence of the Norfolk Southern Railway which operates numerous trains through the town each day. These two bridges are the only overhead crossing of the tracks in the city with a population of about 10,550. There are grade level crossings of the railroad to the northeast and southwest of these bridges. Kings Mountain is a small industrial city in the southeast corner of Cleveland County, situated on the county's east border with Gaston County, and located about five and one-half miles above the North Carolina/South Carolina border and about seven miles north of Kings Mountain, from which the town got its name.

The bridge is located about two blocks north of the commercial center of Kings Mountain in a setting of mixed, transitional character. On the east side the bridge adjoins the Central School Historic District (NR, 2000) where Battleground Avenue is a partial boundary of the historic district. Kings Mountain's oldest known residence, a one-story frame house built about 1873 by William Andrew Mauney stands slightly off-axis (to the south) at the east end of the bridge and faces north/northeast onto Battleground Avenue and the bridge. Mr. Mauney's second residence

in King's Mountain, a grand, expansive two-story frame Victorian house, stands on the immediate north side of his earlier dwelling and off the northeast corner of the bridge. On the north side of the bridge, the tracks curve to the northeast, in front of a deciduous woodland, and continue on for a couple of blocks to the former Southern Railway Company passenger station. To the west, on the west side of Railroad Avenue, is a modern publicly-assisted apartment complex with connected one-story brick veneer units. The tapering sides of the railroad cut, are covered with native vegetation, mostly grasses, wildflowers, and vines, which is periodically cut. Along the east side of the cut its base is retained by a low wall of horizontal concrete panels held in place by painted steel uprights. The wall is connected to the elevated base of the bridge's concrete support columns by short lengths of dry-laid concrete bag-blocks. There is further retaining material rising with the cut to the east abutment. The west side slopes at a less acute incline to the roadbed.

(Note: The following description is adapted from the "Physical Description of the bridge in the inventory report prepared by Lichtenstein Consulting Engineers, Inc.)

The reinforced concrete tee-beam bridge is a remarkably simple, intact structure that appears to survive virtually unaltered since its construction in 1919. The overall dimensions of the bridge are twenty-one feet, five inches in width, which includes the asphalt bridge bed and the flanking elevated bases of its side railings, and eighty feet in length. Its overall length comprises three span lengths, west to east, of twenty-nine feet, thirty-five feet, and fifteen feet. The thirty-five feet center span carries above the paired railroad tracks. The bridge is supported by concrete abutments at each end, which are set in the top of the cut, and by two interior concrete bents. Each bent comprises a crash wall at its base from which rise three symmetrical columns supporting the beams under the joints of the spans. Each span consists of four parallel lines of beams, visible from below. "The beams have longitudinal reinforcing bars concentrated in the bottom section of the beams, and bars placed in a T-shape forming an integral connection between the beams and the deck slab. The beams are haunched over the piers. This is a shear detail, i.e., extra reinforcing and depth of beam intended to handle forces at the ends of the spans."

The railings on the north and south sides of the bridge are identical in their construction. Each consists of ten concrete posts, with the end posts rising from the abutments, which carry three-rail round pipe railings. The painted pipe is about two and one-half inches in diameter. The lower pipe in each of the nine sections of railing is about fourteen and one-half inches above the elevated concrete base of the railing. It, the middle pipe, and the upper pipe are symmetrically set with about twelve inches between each. The spacing of the concrete posts is generally symmetrical in appearance; however, they are actually asymmetrical in physical placement reflecting the unequal lengths of the bridge's three spans. The posts are rectangular in plan, measuring about fifteen inches in length (running with the length of the bridge), nine inches in

depth, and about fifty-four inches in height. The posts have chamfered corners and hipped caps. This chamfering, the only finish detail visible on the bridge, also appears on elements of its structure. The other, perhaps unintended, surface finish on the bridge is the imprint of the boards used to build the frames for its poured in place reinforced concrete fabric.

8. STATEMENT OF SIGNIFICANCE

Summary

The Southern Railway Company Overhead Bridge, a reinforced concrete tee-beam bridge spanning the paired tracks of the Norfolk Southern Railway and linking Battleground and Railroad Avenues in Kings Mountain, occupies an important place in the early-twentieth-century transportation history of North Carolina. The bridge satisfies National Register Criteria A and C and holds statewide significance in the areas of transportation and engineering.

The bridge was built in 1919, about forty-seven years after a single track was built through Kings Mountain in 1872 by the Atlanta and Richmond Air Line Railway. Despite its success in directly linking important cities of the American South by rail for the first time, the company suffered under-capitalization, saw changes in ownership, and in 1877 it was reorganized as the Atlanta and Charlotte Air Line Railway. In 1881 the company was leased to the Richmond and Danville Railroad, which operated it successfully for a time until falling into receivership itself in 1892. In 1894 these lines and their parent company, the Richmond & West Point Terminal Railway and Warehouse Company, were reorganized as the Southern Railway Company by Drexel, Morgan and Company which installed Samuel Spencer, its railroad advisor, as president.

Samuel Spencer (1847-1906) proved to be one of the legendary figures in American railroad history. While giving a town and the company shops in Rowan County, North Carolina, his name, he built the Southern Railway into one of the longest and most profitable lines in the South. A key event of his presidency of Southern came in 1901, the year he gained direct access for Southern into Washington, D.C., when he initiated a long-range project to second track, regrade, and realign the railroad's trunk line between Washington, D.C. and Atlanta, and to significantly eliminate grade crossings along its path. This project occupied the first three presidents of Southern Railway and was completed under Fairfax Harrison in 1919. Once the line was double-tracked between Charlotte and Spartanburg, South Carolina, through Kings Mountain, the old, later-nineteenth century wood trestle overhead bridge was replaced with this reinforced concrete bridge. With these improvements completed, Southern Railway was poised for significant growth, and so too were the manufacturing concerns and communities that developed and greatly expanded along its route in Virginia, North Carolina, South Carolina, and Georgia. The bridge thus holds important associations with the extraordinary development and expansion of Southern Railway and its encouragement to the industrialization of the South. Today, eighty-seven years after the second tracking was completed and this bridge built, the trunk line of Southern's successor, the Norfolk Southern Railway, continues to carry over the route essentially rebuilt in the first two decades of the twentieth century.

In their effort to second-track Southern's route between Washington and Atlanta, Messrs. Spencer, Finley, and Harrison adopted innovations in engineering and technology at every step in the process. During the first decade of the twentieth century, advances in the understanding of reinforcing bar placement in poured concrete, and the accommodation of tension and shear forces, radically changed bridge construction. Tee-beam construction, utilizing this new knowledge, appeared in bridge construction in the later 1900s and saw increased usage in the second decade of the twentieth century. This bridge is one of the six oldest tee-beam bridges in North Carolina identified in the comprehensive study of North Carolina bridges recently undertaken by Lichtenstein Consulting Engineers, Inc. It is one of four built by Southern Railway, and now one of only two that have survived virtually unaltered since their construction in 1919. A second tee-beam bridge, carrying Mickley Avenue across the Norfolk Southern track in Bessemer City, North Carolina, about five miles to the northeast, was recorded during the Lichtenstein survey but is now scheduled for replacement. This bridge's unique survival, and its role as the predecessor of a bridge building form adopted by the North Carolina State Highway Commission and widely utilized through the 1950s, confirm its role in the history of engineering in North Carolina.

Historical Background and Transportation Context

The construction of the Southern Railway Company Overhead Bridge in Kings Mountain in 1919 by the Southern Railway Company comprises a part of the important double-tracking of its main line between Washington, D.C., and Atlanta, Georgia. This signal event in the early-twentieth century transportation history of North Carolina and the American South, had its origins in another landmark era of Southern railroad history. By spring 1865 the Civil War had devastated many of the fledgling antebellum railroad companies organized and put in operation in the South. These operations dated to 1827 and the chartering of the South Carolina Canal and Railroad Company (also known as the Charleston & Hamburg Railroad), which opened service on the 135-mile line between Charleston and Hamburg, South Carolina in 1833. Other, nearly contemporary initiatives were undertaken elsewhere in the South. In North Carolina, the North Carolina Railroad, which had put in service trains along tracks stretching from Goldsboro in the east to Charlotte in the west in January 1856, also bore the brunt of widespread destruction of its lines and facilities. Other railroad companies in former Confederate states suffered similar wreckage. In the immediate postwar period former officials of these companies, new entrepreneurs, and investors from the North and abroad set about rebuilding the railroads, repairing lines, buying new engines and cars, and repairing and rebuilding stations and depots. These men and others saw the opportunities in consolidating older lines as well as in the creation of new companies that would link cities destined to prosper in the Reconstruction era, the later nineteenth century, and beyond. The greater part of this revitalization of the rail transportation system in the South came in the first ten years or so after 1865 and created unprecedented development of lines and opportunity in the region. One of the new railroad companies of this

era was the one that laid a track through the Piedmont countryside of North Carolina and gave birth to the town of Kings Mountain.

The Atlanta and Richmond Air Line Railway Company had among its principals Jonathan Norcross (1808-1898) and Lemuel Pratt Grant (1817-1893), both natives of Maine, who had migrated to Georgia in the 1830s. Mr. Grant was involved in railroad construction, engineering, and management in Georgia through the antebellum period, working with a series of rail companies including the Georgia Air Line Railroad and the Central of Georgia company. After the war he was superintendent of the Atlanta and West Point Railroad, 1866-81, and president of the Georgia Western Railroad in 1873. Having been one of those who selected the site of Atlanta, and described as a "father of Atlanta," he is remembered there today by Grant Park, which he donated to the city in 1883. Jonathan Norcross had a more varied career as a merchant, politician, and sawmill owner whose mill provided crossties and other timbers for railroad construction. He was (the fourth) mayor of Atlanta, 1851-52, and president of the Georgia Air Line Railroad. He gave his name to Norcross, Georgia, a suburb of Atlanta. Messrs. Grant and Norcross had represented competing interests as railroad men in the antebellum period; however, after the war they joined forces to create the Atlanta and Richmond Air Line Railroad. The new company, formed in 1870, was a consolidation of the Georgia Air Line Railroad Company and the Air Line Railroad Company in South Carolina.[1]

The Atlanta and Richmond Air Line Railway Company proved to be short-lived; however, on 28 September 1873 it put in service the first track to directly link Charlotte and Atlanta. The route and right of way for the railroad through Cleveland County was purchased by the Atlanta and Richmond Air Line Railway Company in eighteen transactions with local landowners in October 1870.[2] After a series of delays caused by financing, the track was completed through Kings Mountain in December 1872. The railroad construction had attracted enterprising men to the place that became Kings Mountain, including Captain Freno Dilling (1839-1924), another sawmill operator who sold crossties and lumber to the railroad company. William Andrew (1841-1929) and Jacob Smiri Mauney (1846-1936), the sons of David and Frances Mauney, left their farms in the Muddy Creek settlement of eastern Cleveland County and western Gaston County, came to Kings Mountain in spring 1873. They acquired acreage on the east side of the railroad track, built houses for their families, and jointly operated a general merchandise store. Others followed in their wake and a village began to take shape here. Kings Mountain was incorporated in 1874. William Andrew Mauney was both Kings Mountain's first postmaster and, in 1876, he was elected its first mayor.[3]

Kings Mountain prospered through the nineteenth century and the first half of the twentieth century; however, the fortunes of the Atlanta and Richmond Air Line Railway quickly diminished. The company failed, not because of the economic capability of the line, but from under-financing which plagued many of the railroad companies organized after the war. They

simply lacked the capital and cash flow necessary for viability in the opening years of operation, until revenue grew to support both debt and operations. In December 1874 the Atlanta and Richmond Air Line Railway was in receivership, and Mr. Grant served as receiver of the Georgia portion of the railroad from March 1875 to March 1876. In December 1876 the entire line from Atlanta to Charlotte was sold for $16,000,000 to a committee of the company's bondholders including Moses Taylor and Hiram W. Sibley. During spring 1877 the Atlanta and Richmond Air Line Railway was reorganized as the Atlanta and Charlotte Air Line Railway.[4]

The new president of the railroad was Hiram W. Sibley (1807-1888) of Rochester, New York. Mr. Sibley came to railroads late in his life, having spent the formative years of his business career in the telegraph industry. His firm, the New York & Mississippi Valley Printing Telegraph Company, had become the cornerstone of the Western Union Company in 1856 and Mr. Sibley served as its president until retiring in 1865. During his leadership of the railroad he replaced its iron rails with steel rails and remade the line to standard gauge. He also reversed its finances, "trebling earnings and almost doubling revenues in three years."[5]

For about a dozen years, beginning in spring 1881, the Atlanta and Charlotte Air Line Railway, with its track through Kings Mountain, was leased to the Richmond and Danville Railroad Company, another of the South's important antebellum railroad companies that had been reorganized after the Civil War. The Richmond and Danville Railroad became one of the South's most important carriers in the late-nineteenth century, but with the national depression of 1891-92, and the disintegration of its parent company, the Richmond & West Point Terminal Railway and Warehouse Company, the Richmond and Danville Railroad went into receivership in 1892. The demise of the Richmond and Danville Company was not a singular incident in American railroad history at that time. Seventy-four American railroads, representing 27,000 miles of line, went into receivership in 1893, a number larger than any other in the nation's history.[6]

The plight of railroads in the United States, and particularly the South, at this time was dire, but the crisis offered extraordinary opportunity for capitalists of vision and great means. A plan put forth by John Hamilton Inman, president of the Richmond & West Point Terminal Railway and Warehouse Company was rejected, and the investment banking house of Drexel, Morgan and Company was asked to intervene and reorganize the company and its subsidiaries. Samuel Spencer, who had joined Drexel, Morgan and Company in 1889 as its railroad advisor, served as consultant to the reorganization committee. In February 1894 the committee published its plan creating a new corporation, the Southern Railway Company, with a capitalization of $305 million. The Virginia legislature approved the charter of the Southern Railway Company on 20 February 1894, and in June of that year the reorganization was finalized in Richmond. Samuel Spencer, the personal choice of John Pierpont Morgan (1837-1913), was named president of the new company. Colonel Alexander Boyd Andrews (1841-1915), a man with long experience in North Carolina railroads, who had also supervised Richmond and Danville operations in North

Carolina since 1875, was elected a vice-president. He, like Spencer, and the other officers were deferential to the Morgan interests.[7] Samuel Spencer (1847-1906), whose name was adopted for the Southern Railway company town and its shops in Rowan County, was one of the legendary figures in American railroad history and during his presidency of the Southern company he initiated improvements on the line that eventually came to include the building of this bridge under a successor president.[8]

When Southern Railway began operation on 1 July 1894, it constituted a main line from Alexandria, Virginia, to Charlottesville, Lynchburg, and Danville, Virginia, through Greensboro, Salisbury, Charlotte, and Kings Mountain, North Carolina, Spartanburg and Greenville, South Carolina, and on through Gainesville, Georgia, before reaching Atlanta. Branch lines connected with other cities in Virginia, North Carolina, and Georgia. Mr. Spencer quickly moved to acquire lesser lines to expand and consolidate the reach of Southern Railway, and by January 1895 the company was operating on over 4,500 miles of line in seven southern states. The trunk line from Virginia to Atlanta, passing through Kings Mountain, was the heart of its operation. In a dozen years at the helm of Southern Railway, Samuel Spencer continued to add new lines to the Southern empire, including an interest in 1901 in the Richmond, Fredericksburg & Potomac Railroad, which gave the Southern company access to Washington and a direct link from the capital to and through Richmond to points south. By fall 1906 the Southern Railway Company was operating over more than 7,500 miles of tract and the company had moved its headquarters to Washington, D.C. During this period the revenues of the company had increased from $17 million to more than $53 million while the volume of freight had more than tripled to 27 million tons and passenger service had more than tripled to some 11.5 million passengers in 1906. Samuel Spencer had also made important investments in new locomotive engines and cars that contributed to the company profits. Following Samuel Spencer's death in a train accident on 29 November 1906, he was succeeded by the company's second vice-president, William Wilson Finley (1853-1913), who had joined Southern Railway in 1895.[9]

One of the most far-reaching initiatives begun during Samuel Spencer's presidency of Southern Railway was the double-tracking of the main line between Washington and Atlanta. The project began in 1901 and continued into 1919 by which time a second parallel track had been built through Kings Mountain and this bridge was built. The most comprehensive account of this work is an unsigned article published in *Railway Age Gazette*, an organ of the American railroad industry, on 9 November 1917. Excerpts from that article provide an overview of the work.

> During the last three years the Southern has undertaken the reconstruction of its main line and the construction of second track on 363 miles out of a total distance of 649 miles between Washington, D. C., and Atlanta, involving an expenditure of over $20,000,000. It is the most extensive program of this character undertaken in this country during the last few years and when the work now under contract is

completed the Southern will have a double track road built to modern standards between these two points.

The construction of second track on this line was first undertaken over 15 years ago, but from 1901 to 1914 only small sections were rebuilt each year. In June, 1914, funds were made available for the more rapid prosecution of the work and it has progressed rapidly since that date. Of the 649 miles, a second track has been built parallel to the original track on about 479 miles and a new double track line has been built in place of the old line on 170 miles.

The construction of the second track has been carried on in sections, the most congested portions of the line being improved first and leaving single track districts between. The work has now progressed to the point where the double track line is in operation for the entire distance of 382 miles between Washington, D. C., and Charlotte, N. C., the 53 miles between Spartanburg, S. C., and Central, S. C., and the 78 miles between Cornelia, Ga., and Atlanta. Work was begun on the 61-mile section between Central, S. C., and Cornelia, Ga., in April, 1916, and on the 75 miles between Charlotte, N. C., and Spartanburg in April 1917. With the completion of these two sections the entire main line between Atlanta and Washington will be double track.

At the inception of the project in 1901 the road was handicapped by the lack of funds; and for this and other reasons the double tracking done between 1901 and 1914 was in comparatively short sections, the extent of the yearly work depending on the funds available. During this period of 13 years, 240 miles of the 382 miles between Washington, D. C., and Charlotte, N. C., and 78 miles north of Atlanta, Ga., were improved. In October, 1914, funds were made available for the remaining work which has since progressed rapidly. At that time an agreement between the Southern Railway Company and the Atlanta & Charlotte Air Line Railway Company, now a part of the Southern, was ratified authorizing the Atlanta & Charlotte to issue $20,000,000 of bonds, secured by a first mortgage on all of its railroad property, $5,500,000 of these bonds being issued to retire the bonded debt of the Atlanta & Charlotte and $14,500,000 to provide funds for the double tracking of the railroad. These funds made it possible to undertake the double track construction work south of Charlotte in yearly sections much more extensive than in the earlier work between Charlotte and Washington.

In carrying on the earlier construction work the first efforts were directed to the relief of those congested districts where the traffic was most dense. The main line north of Charlotte carried a particularly heavy burden, with the congestion

> becoming greater toward the Washington end. North of Orange, Va., the Southern handles the trains of the Chesapeake & Ohio in addition to its own traffic, and because of this fact the first section to be improved was the 78 miles of line between Orange, Va., and Alexandria. This part of the work was done between 1901 and 1903. During the three following years the work was continued in the congested district between Salisbury, N. C., and Greensboro. In subsequent years the other sections were built in the order of their importance. South of Charlotte the earliest improvements were made north of the Atlanta terminal district, through which the main line handles a large amount of traffic for the Birmingham district, Mobile, New Orleans, and other more distant points.[10]

As noted, the second tracking of the Southern Railway line between Charlotte, North Carolina, and Spartanburg, South Carolina, including the track through Kings Mountain was the last to be undertaken. Work on this final length of the line began in April 1917. It was under the direction of Felder Furlow, the assistant engineer for Southern Railway in Gastonia, who had earlier supervised the double-tracking on the line between Central and Spartanburg, South Carolina.[11] The work was completed by summer 1919.

Surprisingly, the local newspaper, the *Kings Mountain Herald*, appears to have carried no account of the second-tracking through the town in 1919, and it printed but one (located) article concerning the construction of the bridge as an item in its "Locals" column on 24 July 1919.

> A construction force of the Southern Railway, under R. B. Ray, began Monday placing machinery and material for the rebuilding of the overhead bridge at the north end of the bridge here. The old bridge was removed in order to prosecute the work of grading and double tracking. The new bridge will be built at the same place but will be of re-inforced concrete with two concrete piers. The work will require 16 or 17 hands for about two months.

The construction of this reinforced concrete tee-beam overhead bridge in Kings Mountain was prosecuted by Southern Railway during the presidency of Fairfax Harrison (1869-1938), who was elected to succeed Mr. Finley on 1 December 1913 and held that office until his own death in February 1938.[12] The bridge represents three important aspects of Southern Railway's improvement program of the early twentieth century. It responded to the increased demand for rail transportation by the rising tide of industrialization across the American South, and particularly that along its lines which its business practices encouraged; it addressed equally demanding safety issues by eliminating hundreds of grade-level crossings; and it took advantage of the technological advances in bridge construction and engineering. Between 1873 and 1919 Kings Mountain had grown from a rural trading crossroads to a small industrial town with its own string of textile mills standing beside or near the new parallel tracks. While the earlier wood

bridge at this location had provided an overhead crossing of the single original track, the new bridge was a modern structure that accommodated increasing automobile and truck traffic. The Southern Railway Overhead Bridge would remain the city's only safe overhead crossing of the rail line for twenty years, until the completion of the King Street Overhead Bridge (NR, 2005) in 1939.

The bridge represents one of two important railroad-related building projects in Kings Mountain undertaken in a short period. The town's first passenger station and the separate freight depot had been erected trackside in what became the commercial center of Kings Mountain, on the respective west and east side of the track. By the winter of 1918-19, the (then-existing) freight depot had fallen into disrepair. In its "Locals" column of 16 January 1919 the *Kings Mountain Herald* editorialized on the subject.

> The railroad authorities are now wanting to repair the old freight depot. This rattletrap has already been condemned by the city council as a fire hazard and, so far, no permission has been given to make repairs.

Whether repairs were made to the old, now lost building remains to be confirmed; however, in 1925 Southern Railway completed a new brick passenger station about four blocks to the north on Battleground Avenue. It is similar in design and finish to others erected by the company in towns and small cities across the South and is enhanced with richly bracketed eaves.

After Mr. Harrison's death in 1938, the Southern Railway Company continued to grow and prosper, particularly under the presidencies of Harry A. DeButts (1952-62) and W. Graham Claytor, Jr. (1967-76). While growing to become the longest line in the South, outpacing its rival, the Seaboard Air Line Railroad, which merged in 1967 with the Atlantic Coast Line to form the Seaboard Coast Line Railroad, it also continued to be one of the best managed rail companies in the nation. In 1982 it merged with the Norfolk & Western Railroad to form the Norfolk Southern Corporation, creating a 17,000 mile-long system, which continues to operate on the paired tracks carrying under this bridge long after Kings Mountain ceased to be a stop on the line.

The extraordinary effects of the second tracking project initiated by Samuel Spencer in 1901 and completed in 1919 while Fairfax Harrison headed the Southern Railway are succinctly stated in an appraisal of this bridge (#220426 in the inventory) prepared as a part of the North Carolina Historic Bridge Inventory prepared by Lichtenstein Consulting Engineers, Inc., in 2001 (-2004).

> The essential features of the improvement project were designed to increase the capacity and efficiency of the main line. Double tracking allowed unimpeded two-way traffic and removed bottlenecks. Realignment and regarding took out sharp curves and steep grades that slowed trains and limited their length and weight.

> Improvements in grade and alignment also allowed the Southern to use large and faster locomotives, such as Mountain-type 4-8-2s for passenger service and Santa Fe-type 2-10-2s for freight service. These were the first truly "modern " steam locomotives used by the Southern Railway. Another aspect of the project was the elimination of grade crossings, where practicable, to increase safety and remove delays caused by vehicles. Overpasses, such as this bridge, were considered an important component of the project. Over 100 crossings were eliminated. Other physical improvements included the construction or expansion of terminals, depots, and shops. Most of the Southern Railway's main line infrastructure was replaced or improved during the first two decades of the 20th century.
>
> The decision to improve the Southern Railway's main line resulted in immediate growth in freight revenues with the railway reporting more than a doubling of the value of its traffic between 1901 and 1920. At the same time, it reported the construction of more than 680 new factories along its main line and the expansion of more than 320 previously established factories. The project had a significant influence on the region's industrial development, allowing for the more efficient movement of raw materials and finished products. One historian of the railway has called this the first of the "key projects" that set the Southern Railway in a position of leadership in the 20th century, allowing it and its successor, Norfolk Southern, to survive to the present day as one of the dominant carriers in the South.[13]

The survival of the Southern Railway Company Overhead Bridge, the first modern overhead crossing of the railroad tracks in Kings Mountain, owes in large part to the subsequent construction of the King Street Overhead Bridge in 1938-1939 to carry the traffic of US 74 through the city. Likewise, the stress of usage on that second overhead reinforced-concrete bridge has been reduced by the later construction of Interstate 85, south of the city, and the completion of Bypass US 74 on the north side of Kings Mountain by 1985. Most out-of-town traffic uses those routes, while the King Street Overhead Bridge carries mostly local traffic. Today, the Southern Railway Company Bridge remains in good condition.

Engineering Significance

The Southern Railway Overhead Bridge in Kings Mountain is one of seven bridges in Cleveland County and one of two in the city of Kings Mountain that were included in the North Carolina Historic Bridge Inventory conducted by Lichtenstein Consulting Engineers, Inc., in 2001 (-2004) and identified as potentially eligible for listing in the National Register of Historic Places. The King Street Overhead Bridge, the other historic bridge in the city of Kings Mountain, was listed in the National Register of Historic Places in 2005; the nomination was prepared by this author.

The historic bridge inventory was conducted under contract to the North Carolina Department of Transportation. The consultant's phase one report, "Criteria for Determining Significance and Thresholds of Integrity, Historic Context for Transportation Networks, Historic Context for Bridge Technology," provides a scholarly overview of bridge construction in North Carolina and includes individual reports on each of the bridges recommended for listing in the National Register of Historic Places. The report for the Southern Railway Company Overhead Bridge in Kings Mountain forms the basis of this broadened, more comprehensive examination of the bridge, its history, and its significance. The report for this bridge includes the following paragraphs in its "Summary of Significance."

Summary of Significance

The bridge built in 1919 by the Southern Railway is technologically significant as one of the six earliest surviving examples of the tee beam bridge type in North Carolina. Furthermore, it is associated with an important improvement project in the history of the Southern Railway--the realignment, regarding, double-tracking, and grade crossing improvements of the main line between Washington, D.C. and Atlanta from 1901 to 1919. This project resulted in significant efficiencies for the railroad and established the alignment and grade that for the most part remains in use by Norfolk Southern today.

During the first decade of the 20th century, advancement in the understanding of reinforcing bar placement to accommodate tension and shear forces resulted in the development of tee beam bridges. The tee beam bridge technology is based on the integral connection of the longitudinal beam and the deck section. The primary reinforcing steel is placed longitudinally in the bottom of the beam stem. Nationally, tee beams began appearing between 1905 and 1910 and spread rapidly in the 1910s. The six oldest identified surviving tee beam bridges in North Carolina date from 1916 to 1919. Four of the six were built by the Southern Railway (having North Carolina Department of Transportation identification numbers 120266, 220426, 330316, 350165), and the remaining two (#s 330387, 490356) by local governments. The tee beam type proved ideally suited to the preparation of standard plans that could be used in a variety of conditions. Standard tee beam plans, promoted in engineering textbooks and publications, were used by state highway departments throughout the nation to build thousands of nearly identical examples. In late 1919 and early 1920, among the North Carolina State Highway Commission's first standard plans were tee beam bridges developed specifically to address the rapid development of the state highway system. The tee beam remained one of the commission's workhorse bridge types through the 1950s. State engineers periodically updated the standard plans to

> reflect changing conditions, such as the need to accommodate wider roadways or heavier live loads, but the technology remained essentially unchanged. More than 700 pre-1961 tee beam bridges have been identified with the vast majority dating to the state-sponsored road and bridge improvement campaigns of the 1920s to 1950s.
>
> The Kings Mountain overhead bridge, as one of the state's oldest tee beam bridges, thus represents a bridge type that went on to be one of the dominant highway bridge technologies of the mid 20th century. It has all of the characteristics of the tee beam type, including the placement pattern of reinforcing bars in the beams. It also has haunches over the piers, which are a shear detail sometimes found with earlier examples of tee beams, but rarely used with later examples. Improved understanding of the structural behavior and strength of reinforced concrete eventually determined that such shear details were unnecessary.
>
> The Kings Mountain overhead bridge is historically significant as one of the oldest, complete, surviving examples of the tee beam bridge type in North Carolina (Criterion C). . . .
>
> Of the other Southern Railway-built tee beam bridges identified, only 350165 (Gaston County, built in 1919), which is nearly identical to 220426, is unaltered. The other two examples (120266, Cabarrus County, built in 1917, and 330316, Forsyth County, built in 1916) have been altered by widening. No. 330316 has been determined not eligible by a SHPO Finding (1994).

The individual significance of the Southern Railway Company Overhead Bridge in Kings Mountain as one of only two intact such bridges in North Carolina has grown since the phase one report was issued in 2001. The second Southern Railway-built tee-beam bridge (#350165) identified in the report is located in Bessemer City, North Carolina, about five miles northeast of this bridge, where it carries Mickley Avenue across a deep railway cut. While described as "nearly identical" to the King's Mountain bridge in the Lichtenstein report, its appearance, distinct from its engineering, is different. The Bessemer City bridge is supported on four bents plus two abutments and its railing is blind, paneled concrete rather than open like its King's Mountain counterpart. The cut in Bessemer City was graded for two parallel tracks, which were built; however, one track was removed by 1979, and today the bridge carries one lane of traffic across the single track. In recent years the North Carolina Department of Transportation has developed plans for a highway improvement project incorporating Mickley Avenue that would necessitate the replacement of the single-lane bridge. In October 2005 the North Carolina State Historic Preservation Office and the Federal Highway Administration signed a memorandum of

agreement for the recordation of the bridge prior to the initiation of project construction and its eventual destruction.[14] When that occurs, this bridge in Kings Mountain will survive as the oldest, single, and intact Southern Railway-built tee-beam bridge in North Carolina.

Endnotes

1. The history of the Atlanta and Richmond Air Line Railway and its successor, the Atlanta and Charlotte Air Line Railway, remains to be written; however, a short account appears in *The Southern Railway: Road of the Innovators* (1985), 191. It should be noted that the usefulness of *The Southern Railway* as a reference and authority by scholars is limited by the omission of endnotes, footnotes, and a bibliography to document its statements of fact and interpretation. The best resource on the complex history of railroads in the American South and the history of the Southern Railway Company is Fairfax Harrison's *A History of the Legal Development of the Railroad System of Southern Railway Company* published by the company in 1901. For Lemuel Pratt Grant see *The National Cyclopaedia of American Biography*, Volume IV (1891), 195. For Jonathan Norcross see *The National Cyclopaedia of American Biography*, Volume II (1891), 357-58.

2. Cleveland County Deeds, Book M, 303-46. All of the deeds were recorded on 28 January 1878. One of the eighteen who executed deeds to the railway company was David Mauney whose sons would later number among the founders of Kings Mountain.

3. For a fuller account of the early history of Kings Mountain see the National Register nomination for the King Street Overhead Bridge (NR, 2005), prepared by this author in 2004.

4. The construction and operation of the railroad by the Atlanta and Richmond Air Line Railway Company, the company's bankruptcy, foreclosure, and receivership, and its reorganization as the Atlanta and Charlotte Air Line Railway Company is addressed by Fairfax Harrison on pages 195-207 of *A History of the Legal Development of the Railroad System of Southern Railway Company.*

5. Mr. Sibley's role in the railroad is addressed in a single paragraph in *The Southern Railway*, 191. For Mr. Sibley see *American National Biography*, Volume 19, 915-17.

6. *The Southern Railway*, 26.

7. Ibid, 26-28. See also Jean Strouse, *Morgan: American Financier* (New York: Random House, 1999), 320-22. For Alexander Boyd Andrews see Bennett L. Steelman,

"Alexander Boyd Andrews," in *Dictionary of North Carolina Biography*, Volume I, 34-36.

8. Born into the privilege of the planter class in antebellum Columbus, Georgia, Samuel Spencer received a degree in civil engineering from the University of Virginia in 1869 and went to work that year as a rodman on the Alabama-based Savannah and Memphis Railroad. His rise in railroad engineering and management paralleled his work for the Alabama line, the New Jersey Southern Railroad, the Baltimore and Ohio Railroad, 1872-1877, the Virginia Midland Railroad, and the Long Island Railroad where his work had gained the notice of Mr. Morgan. In 1879 he returned to the Baltimore and Ohio Company as assistant to John Work Garrett (1820-1884). Mr. Spencer became first vice-president of the company in 1884 when Robert Garrett succeeded his father as president of the Baltimore and Ohio Railroad. In December 1887 Samuel Spencer succeeded Robert Garrett as president; however, his tenure was to last only a year when his cost-saving measures ran afoul of the interests of company directors. Four months later, in March 1889, he joined the house of Drexel, Morgan and Company as its railroad advisor, and it was in that position that he became a receiver in 1893 for the Richmond and Danville Railroad. Samuel Spencer's seminal role in the history of the Southern Railway Company is a recurrent theme in *The Southern Railway* where it is discussed at its fullest in chapters three and four, 19-44. This endnote is based on biographical accounts of Mr. Spencer that appear both in *The National Cyclopedia of American Biography*, Volume XIV (1910), 420, and in *American National Biography*, Volume 20, 459-60.

9. *The Southern Railway*, 29, 38, 42-43. For William Wilson Finley see *Who Was Who in America*, I, 398.

10. "Second Track Construction on Southern Railway," *Railway Age Gazette* 63, no. 19 (9 November 1917): 841-48.

11. Ibid., 848.

12. *The Southern Railway*, 52-70.

13. This report resides at the North Carolina Department of Transportation. A photocopy was made available to this author.

14. A photocopy of this memorandum of agreement was made available to this author by Sarah McBride of the State Historic Preservation Office.

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10. GEOGRAPHICAL DATA

Verbal Boundary Description: The boundary includes the area covered by and limited to the substructure and superstructure of the bridge. It is contained within the rectangle drawn in pencil on the Cleveland County Tax Map "Kings Mountain, N.C., Map 2," at the 1"=100' scale accompanying the nomination.

Boundary Justification: The boundary is drawn to include only the bridge exclusive of its setting.

PHOTOGRAPHY

Photography Schedule (the following information applies to all photographs)

1. Name of property: Southern Railway Company Overhead Bridge.

2. Location of property: Cleveland County, North Carolina.

3. Name of photographer: Davyd Foard Hood.

4. Date of photographs: 12 December 2005

5. Location of original negatives: North Carolina Division of Archives and History, Raleigh, NC

A. Southern Railway Company Overhead Bridge, overall view, looking north.

B. .Southern Railway Company Overhead Bridge, landscape view with the second William Andrew Mauney House on right, looking north from the King Street Overhead Bridge (NR 2005).

C. Southern Railway Company Overhead Bridge, looking east across the bridge bed from Railroad Avenue, with the first William Andrew Mauney House in the center background.

D. Southern Railway Company Overhead Bridge, view of the east section of the bridge showing the east supporting bent and abutment, looking northeast with the Mauney houses in the background.

E. Southern Railway Company Overhead Bridge, view of the bridge bed and railing, looking west/northwest.

F. Southern Railway Company Overhead Bridge, view of the west bent and underside of the bridge, looking west.