The East Tennessee

The Critical Link

BY BILL SCHAFER , LOU NORRIS AND MARK BRAINARD

Before the War

In the 1830s, the frontier that was East Tennessee needed improved transportation to reach seaports and commercial centers east of the Appalachians. The first step, in late-1831, was the chartering of the Lynchburg and New River Railroad, designed to link the James River and Kanawha Canal at Lynchburg, Va., with the Tennessee River at Knoxville. The state of Tennessee, new to the realities of pioneer railroading, neglected to provide financial support, and the project died.

Supporters persisted, however, and succeeded by organizing the Hiwassee Railroad in 1836. The goal of the Hiwassee was to connect Knoxville with "the contemplated railroad from Augusta to Memphis" [Memphis & Charleston] somewhere to the southwest. This time, the state was a financial partner, and construction began near Athens (Tenn.) in late 1837.

Then along came the Panic of 1837, money dried up, and, by 1839, work was suspended. At the time, 66 miles of roadbed had been graded and a bridge built over the Hiwassee River at Calhoun. The state sued to annul the Hiwassee's charter, but the Tennessee State Supreme Court ruled in favor of the railroad. Local businessmen rallied enough support to pay down some of the debt, and in 1848, the line was rechartered to authorize more capital and a later completion date.

The name was changed to the East Tennessee & Georgia Railroad (ET&G), and Dalton, Ga., was chosen as the western terminus. Here, connection would be made with the state-owned Western & Atlantic (W&A) Railroad, which completed its route between Chattanooga and Atlanta in 1850. (The W&A was intended to link the Memphis & Charleston (M&C), somewhere around Chattanooga, with the Georgia Railroad in Atlanta.)

In 1851, the ET&G built its line from Dalton northeastward to Athens, fifty-eight miles. By mid-1852, trains were running an additional twenty-seven miles to Blairs Ferry, near Loudon, on the south bank of the Tennessee River. For the next three years, while a bridge across the river was being constructed, the ET&G kept laying track in the direction of Knoxville. Meanwhile, passengers and freight destined for Knoxville transferred from train to riverboat at Blairs Ferry for the 40-mile journey upriver to Knoxville.

Vignette from Hiwassee Railroad scrip, circa 1839. It is doubtful that the Hiwassee owned any rolling stock, but if it did, it would have probably looked something like this. *PRIVATE COLLECTION*

When the bridge across the Tennessee opened in June 1855, all-rail travel was possible from Knoxville to points west via Dalton, such as Atlanta, Augusta, Savannah, Charleston, and Montgomery. It didn't take long for the ET&G to realize, however, that greater commercial opportunities lay in the direction of Chattanooga, where direct connections could be made with the M&C and the Nashville & Chattanooga railroads instead of depending on a connection with the W&A.

This latter consideration, of bypassing the Georgia-owned W&A, was a major incentive in getting the State of Tennessee to invest heavily in what became known as ET&G's "Chattanooga Branch." Construction began west from Cleveland (Tenn.) in 1856, and somehow continued through the Panic of 1857, but the 27 miles to Chattanooga weren't opened until Aug. 3, 1859, largely because construction of the 981-foot tunnel through Missionary Ridge, just east of Chattanooga, took longer and cost more than anticipated. The Branch quickly surpassed the Cleveland–Dalton main line in importance.

The ET&G was the last critical link in a chain of railroads in the central South that, by 1860, connected many of the regional commercial centers with the Commonwealth of Virginia and the industrial North. It was a strategic property, important to the North and South alike during the Civil War.

When hostilities ceased, the ET&G was returned to civilian operation, although the worse for wear. Further, the U. S. government claimed to own all the rolling stock, and insisted that the

Headquarters building of the East Tennessee & Georgia RR at Athens, Tenn., in use until 1855, when the offices were moved to Knoxville. That year, the ET&G was opened over its entire length from Knoxville to Dalton. *PHOTO FROM SOUTHERN RAILWAY TIES MAGAZINE, JUNE 1959.*

& Georgia Railroad

ET&G and its sister property, the East Tennessee & Virginia, buy it back at what appeared to be an extortionate price. The railroads reluctantly complied, getting a little bit of help from the state.

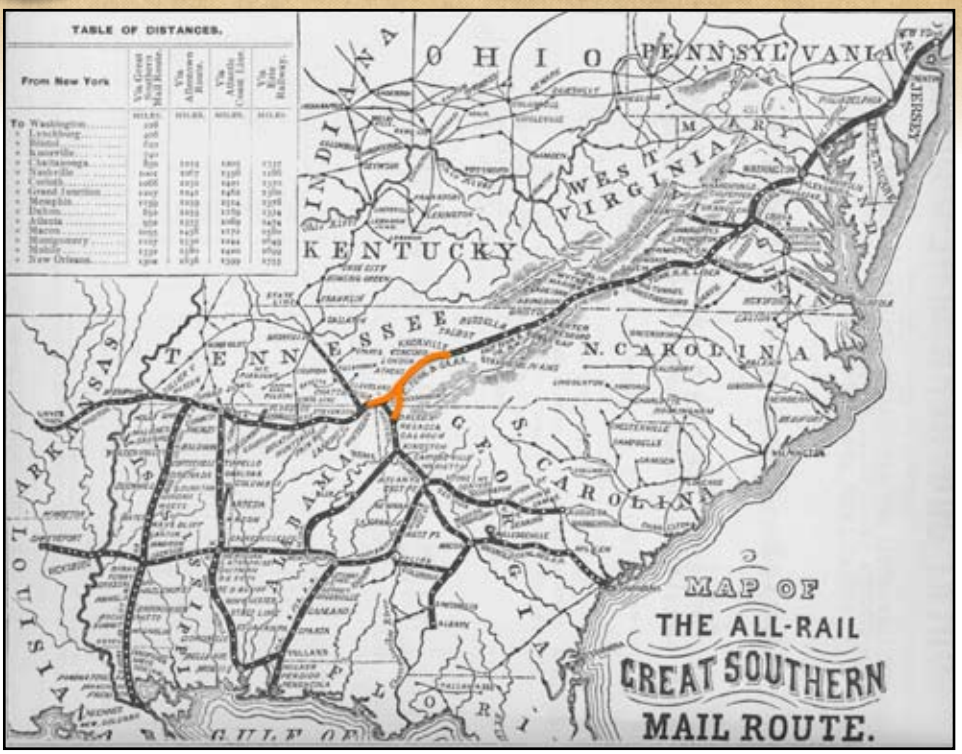
By 1869, operations had returned more or less to normal, the state helped with legislation that removed barriers to consolidation, and before the year was out, the ET&V and the ET&G merged to form the East Tennessee, Virginia & Georgia Railroad. Under the able leadership of Thomas Callaway (who died in 1870) and Richard Wilson, the ETV&G expanded to become one of the largest railroads in the South. In 1894, the ETV&G was folded into the new Southern Railway, along with the Richmond & Danville system. But that's another story for another day.

Sherman uses the ET&G

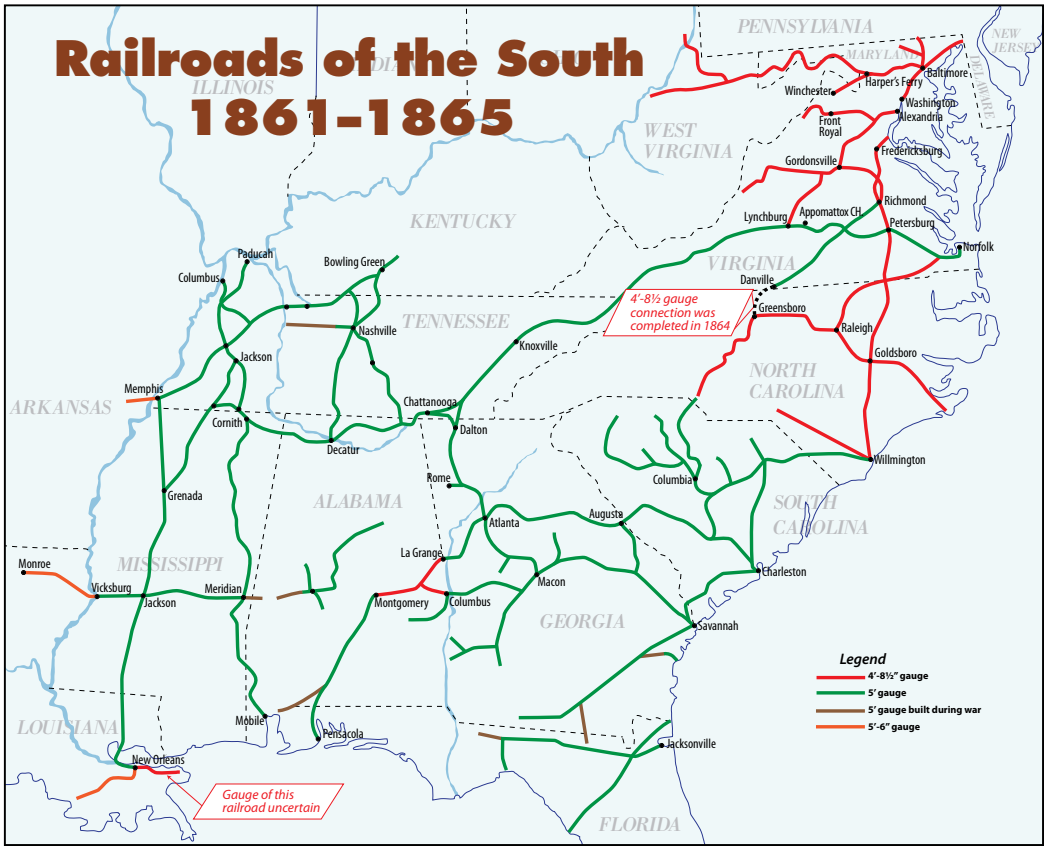
The Civil War was the first major conflict to utilize railroads significantly. When hostilities began in 1861, both the North and the South realized that rail could transport men and supplies much more quickly and efficiently than steamboats or horses and wagons.

The rail mileage in the North was twice that of the South's 8,600 miles in 1861. Nearly all the fighting occurred in the South, so the region's railroads bore the brunt of sabotage and destruction when armies retreated. The effectiveness of a victor's army was often limited by the speed with which the area's railroads could be reconstructed, so developing construction and operating skills in wartime became critical.

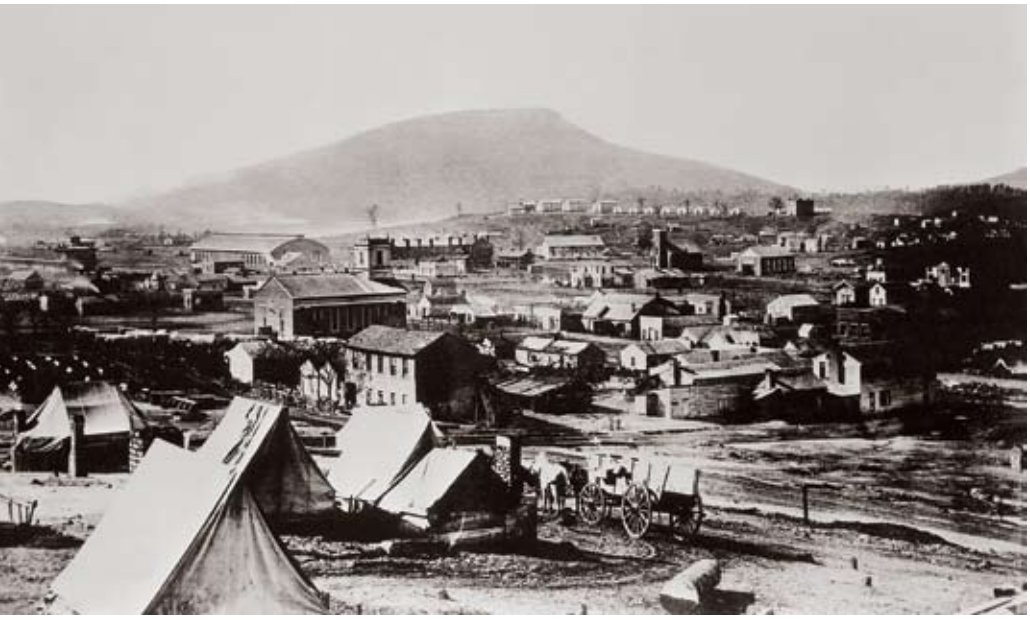
In the wake of Union victories throughout the South, the railroads were taken over and operated by the



ABOVE: ET&G (orange line) shown as integral part of "The All-Rail Great Southern Mail Route", from Traveler's Official Guide of the Railways, 1870. *BILL SCHAFER COLLECTION*



RIGHT: By the outbreak of the Civil War, the middle and deep South were served by a modest network of 5-foot-gauge railroads. Although they served the Confederacy, the railroads continued to be operated by private owners. Once they fell into the hands of the Union, they were likely to be operated by the United States Military Railroad, which, by 1864, became ultra-efficient in helping to bring the War to a close. Compare this map with the Great Southern Mail Route—many of the lines shown here survived to become part of the Mail Route network that linked the Southland with the Northeast after hostilities ceased.



Chattanooga in Time of War, 1864. (Collection of Captain W. C. Margedant. Chief of Topographical Engineers under General Rosencrans, U.S. Army). The original Chattanooga "Train House" (large brick building in distance at left with arched roof) was built under agreement with the Nashville & Chattanooga and the Western & Atlantic railroads. Construction was begun in 1857 and completed in 1859 for about $38,000. In 1859, the East Tennessee & Georgia and the Memphis & Charleston each purchased a quarter interest. The State of Georgia property line ran down the middle of the "House" (because the state owned the W&A). The building evolved to become Chattanooga's Union Depot, at one time one of three stations in downtown Chattanooga. At the time of this photo, the Train House had no head house—one was constructed after the War. The House was built with a tin roof, which the railroads removed and donated to the South's war effort as tin was in short supply. *NATIONAL ARCHIVES & RECORDS ADMINISTRATION IMAGE 530466*

EAST TENNESSEE & GEORGIA ROAD.

C. Wallace, President, R. C. Jackson, Superintendent, } Knoxville, Tenn.

Knoxville to Dalton. — March 1863 — Dalton to Knoxville.

Pass	Ft's	Fare	Mls.	STATIONS	Mls.	Pass	Ft's	Pass
a. m.	p. m.			Leave Arrive			a. m.	a. m.
9 12	4 00			Knoxville	110	6 50	4 12	11 42
10 06		60	7	Ebenezer	103	6 00		10 49
10 27		90	14	Concord	96	5 50		10 28
11 22		1 40	21	Lenoir's	90	5 00		9 46
11 55		1 75	28	Loudon	82	4 75		9 10
12 24		2 10	35	Philadelphia	75	4 25		8 42
1 00		2 50	45	Sweetwater	65	4 00		8 06
1 21		2 75	50	Bengu's	60	3 75		7 47
2 00		3 00		Mouse Creek		3 50		7 25
2 23		3 25	55	Athens	55	3 25		6 45
3 16		3 50	63	Riceville	47	2 75		6 09
3 59		4 20	70	Charleston	40	2 50		5 27
4 17		4 60		Herndon		1 90		5 01
4 54		5 00	80	Cleveland	27	1 65		4 26
				(Chattanooga Branch.)				
4 54				Cleveland	27	1 75		4 26
5 31		5 40		McDonald		1 25		3 44
6 24		5 75		Ooltewah		90		3 12
6 52		6 00		Tyner's		50		2 44
7 40		6 50	110	Chattanooga				2 00
6 10		5 60	93	State Line	15	50		2 36
6 43		6 00	101	Varnell's	9	50		2 10
7 30	1 40	6 50	110	Dalton			4 20	1 20
p. m.	p. m.			Arrive Leave			p. m.	a. m.

Connections.—At Knoxville with East Tennessee & Virginia railroad [p56] for points East. At Cleveland with Chattanooga branch. At Dalton with Western & Atlantic Rail-Road [p61].

* First rate Breakfast and Dinner House. Trains stops 30 minutes.

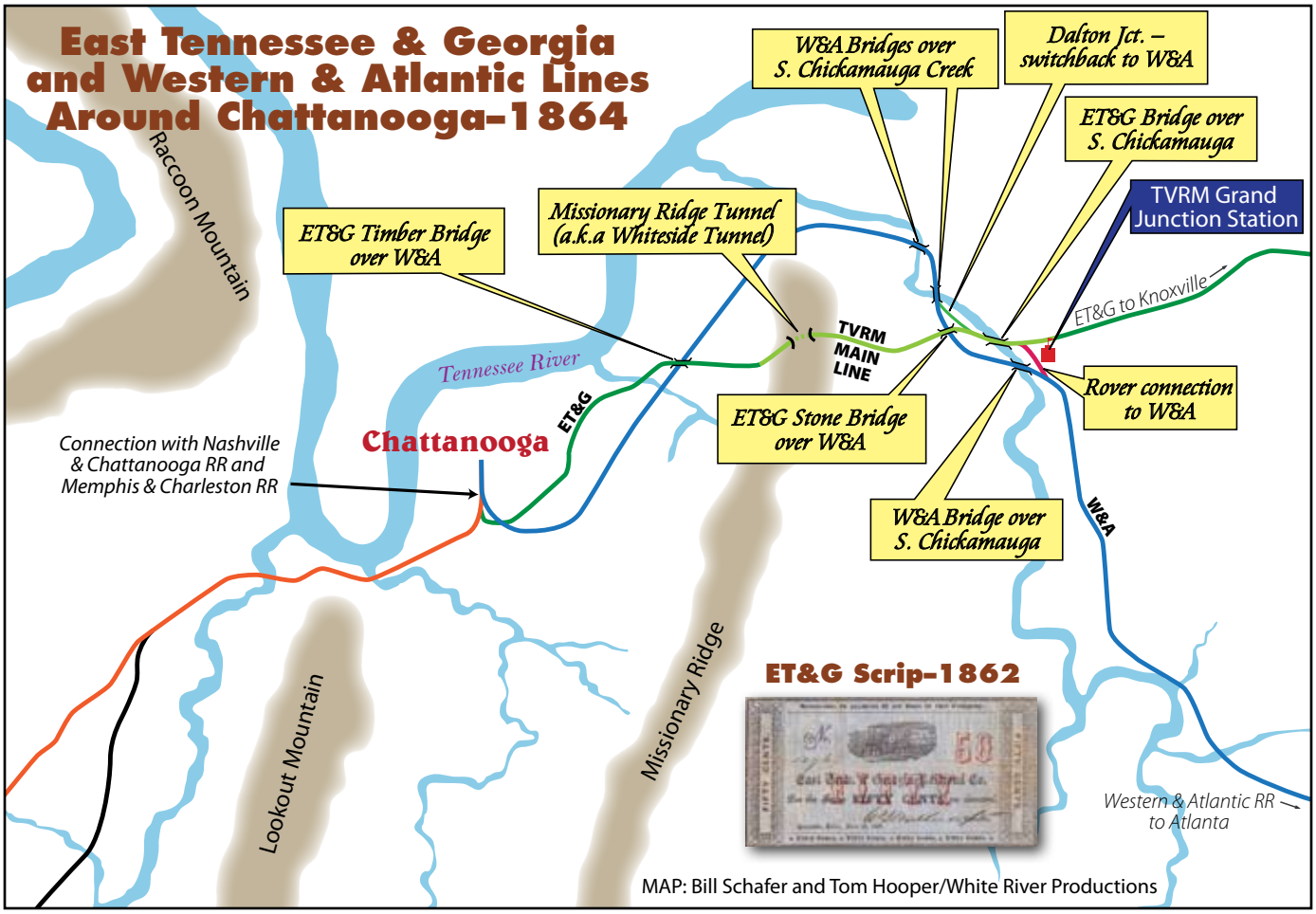
LOUDON Tenn., 28 miles from Knoxville, derives its name from the Earl of Loudon, who commanded the British forces in America in 1756. Cumberland Mountains lie on the West of the town. Pop. 1,500.

ATHENS, capital of McMinn county, Tennessee, fifty-five miles from Knoxville, contains, besides the county buildings, several seminaries. Population about 900.

CLEVELAND, Tenn., is the point of junction of the Chattanooga branch with the main line of the above road. It is also the terminus of a proposed road from Asheville, N. C. Population, 1,000.

DALTON, Ga., is a small town at the junction of the East Tennessee & Georgia Road with the Western & Atlantic, and promises to be a very important Rail-Road town. Population, about 2,000.

East Tennessee & Georgia Railroad timetable, from *Hill & Swayze's Confederate States Rail-Road & Steam-Boat Guide* circa 1863. The ET&G remained in private hands under the Confederacy, and in addition to supporting Confederate forces, attempted to maintain a semblance of normal schedule-keeping. After the Battle of Chattanooga, however, the ET&G's operation was entirely up to the USMRR. *SRHA ARCHIVES*



MAP: Bill Schafer and Tom Hooper/White River Productions

U. S. Military Railroad (USMRR). In the early years, authority over the USMRR was uncertain or divided, which resulted in less than ideal organization of reconstruction and operation. By the time Chattanooga fell in late 1863, however, the USMRR was getting its managerial act together (see sidebar on Colonel Daniel C. McCallum). Under Union control, the transportation feeding Chattanooga—five railroads and the steamboats on the Tennessee River—made possible the logistical support that, in 1864, fueled the devastating advance to Atlanta and through Georgia of General W. T. Sherman's army.

When Sherman's advance from Chattanooga began in March 1864, the USMRR's principal role was to keep the Nashville & Chattanooga Railroad fluid, and to reconstruct the ET&G and W&A as fast as Sherman's army advanced. (Sherman would not advance unless he had 60 days' supplies on hand.) The railroad reconstruction followed the army so closely that the construction crew was at one time within sight of the battle. The day after Sherman entered Atlanta late that summer, trains arrived there from Chattanooga.

Material for rebuilding damaged rail lines came from wherever Col. Daniel McCallum and his forces could find it. His preference was for men and supplies to come from the North, although the USMRR became adept at sourcing timber for crossties and trestles locally. Much rail either came from mills in the North or was removed from rail lines not deemed essential to the effort at hand. In fact, late in the war, the Union constructed a large rolling mill at Chattanooga, designed to reroll damaged rail. It was completed on April 1, 1865, too late to help much in the war.

Similarly, the USMRR took over the rolling stock of railroads of the South, supplemented heavily with cars and locomotives from the North that were either built new or commandeered from Northern railroads. One of the chief difficulties in using stock from the North was the five-foot gauge of most Southern railroads. Most Northern roads used standard gauge (56 ½ inches).

Question: how many troop and supply trains did it take to keep Sherman's army on the move?

Answer: lots.

Let's solve for the volume of trains by figuring what the army needed. For the Atlanta Campaign of 1864, General Sherman's army was 100,000 strong. Because no navigable rivers or Interstate highways existed between Chattanooga and Atlanta, and because many of the local resources had already been depleted, Sherman was singularly dependent on the USMRR to supply him with everything.

In 1864, standard boxcars were 25 feet long and carried about 10 tons of freight each; 10–15 loaded cars constituted a train that a typical 4-4-0 steam locomotive could handle over the hill-and-dale profile of most Southern railroads.

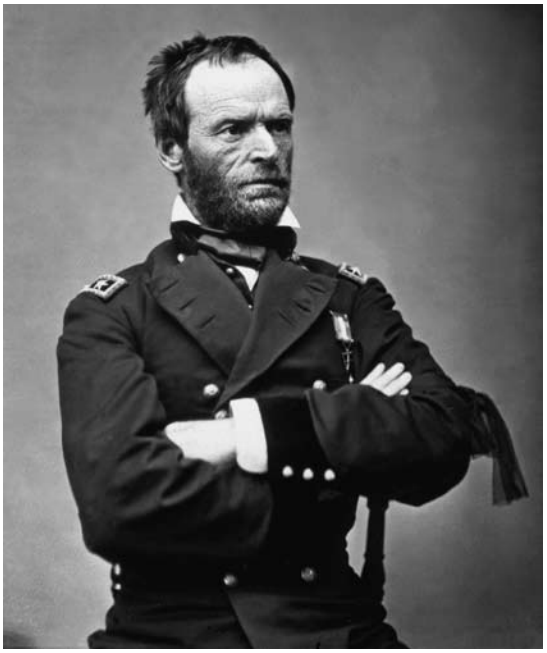
Trains transported the "gasoline" that fueled the war's prevalent muscle power—horses and mules. These beasts pulled wagons and artillery, and were the principal mode of transportation for officers and cavalry at the battlefront. The daily ration per horse was 10 pounds of grain and 14 pounds of "long forage" (hay). Figure that Sherman's 50,000 mules and horses needed 600 tons of feed per day.

Men needed fuel too. A three-pound ration of "raw food" daily for 100,000 men equated to about 150 tons. Add to that the cars needed to transport quartermaster's stores, medicine, ammunition, ordnance, artillery, and other weapons, and the USMRR needed to move, typically, about 16 loaded trains per day from Chattanooga and points north to the front—and a similar number of empty trains via reverse route. All without air brakes, and dispatched via telegraph. Is it any wonder the USMRR abandoned the switchback operation at Dalton Junction in favor of progressive train movements via the ET&G-W&A connection at Rover?

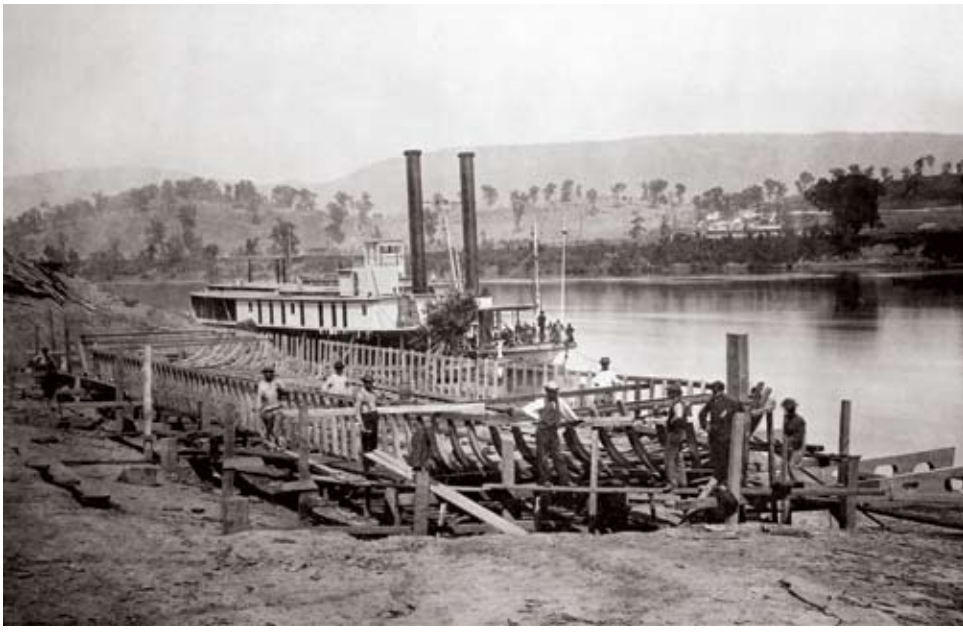
After battles, northbounds also transported the wounded to hospitals. Hospital trains typically were made up of boxcars with hay on the floor.

In the fall of 1864, Sherman outfitted his army in Atlanta for the notorious march to the sea. This kept the ET&G-W&A humming until Nov. 12, 1864, when Sherman's army left Atlanta. Because the supply lines shifted, the W&A was no longer needed by the USMRR, and was removed most of the way to Dalton (so the Confederates couldn't use it or sabotage it), with the rail and other track material transported to Nashville. In July 1865, after Lee's sur-

Text continued on page 17



General William Tecumseh Sherman, ca. 1864–65. Mathew Brady photographer, Mathew Brady Collection. (Army) Exact date of photograph unknown. ***NATIONAL ARCHIVES & RECORDS ADMINISTRATION FILE 111-B-1769, WAR & CONFLICT BOOK NO. 125***



Men of the (Union) Quartermaster's Department at Chattanooga building what could be a barge for transport of goods on the Tennessee River, 1864. The Tennessee River was used heavily to supply, depending on the year, Union or Confederate forces at Chattanooga, and supplemented the rail mode. The combination of river and rail transportation made Chattanooga an early transportation center. ***NATIONAL ARCHIVES & RECORDS ADMINISTRATION IMAGE 533135.***

Chronology of Civil War Events 1861-1865

Vicinity of South Chickamauga Creek at ET&G and W&A Bridges

Compiled by Mark Brainard

Date	Event	Description	Location
2/9/1861	ET&G train derailed by washout	On February 9, 1861, an eastbound ET&G passenger train was derailed after the earthen fill at the west end of the 150-foot, three arch stone bridge over South Chickamauga Creek was washed out. A short wooden trestle approach was constructed to replace the fill.	ET&G South Chickamauga Creek Bridge
11/8/1861	Bridge sabotage	Union saboteurs (Union sympathizers from East Tennessee) burned five bridges between Knoxville and Chattanooga, including two of W&A's trestles across South Chickamauga Creek. To keep W&A wartime traffic moving for the two months while the bridges were rebuilt, the W&A constructed a mile-long connection east of the creek that joined the ET&G about where TVRM's Grand Junction parking lot/picnic area is today. After the bridges were reopened, the line was removed.	W&A South Chickamauga Creek Bridges (2) North of ET&G Bridge; "Rover" connection to W&A
September 1863	ET&G bridge adapted to wagon traffic	In late September 1863, when the Confederate army moved atop Missionary Ridge to lay siege to the Federal army in Chattanooga, the ET&G bridge over Chickamauga Creek was used by horse-drawn supply wagons to move food from the Confederates' supply base four miles distant to the troops on the Ridge.	ET&G South Chickamauga Creek Bridge
11/23/1863	Four-gun Confederate battery located at South Chickamauga Creek	With the Battle of Missionary Ridge looming, Confederate Division General Patrick Cleburne ordered Polk's brigade of infantry and Goldthwaite's four-gun battery to the east bank of South Chickamauga Creek to guard the ET&G and W&A bridges against Union Army advances.	East Bank, South Chickamauga Creek between ET&G and W&A Bridges
11/25/1863	ET&G bridge part of Confederate escape route	On the night of November 25, 1863, following defeat of the Confederates at the Battle of Missionary Ridge, the ET&G and W&A bridges across South Chickamauga Creek served as an escape route for the Confederate army, after which the W&A wooden bridge and the wooden approach to the ET&G bridge were burned to delay Federal pursuit. Four Confederate infantry divisions and numerous artillery batteries crossed the bridges to avoid capture.	ET&G and W&A South Chickamauga Creek Bridges
11/26/1863	Confederates fight delaying action	In full retreat after its defeat a day earlier on Missionary Ridge, the Confederate cavalry fought a delaying skirmish with about 9,000 Union infantry troops pressing toward Georgia. The Confederate line was anchored on the east bank of South Chickamauga Creek at the ET&G and W&A bridges on the morning of November 26, and fighting extended through what is now TVRM's picnic area, parking lot, and depot grounds.	East Bank, South Chickamauga Creek near ET&G and W&A Bridges
11/26/1863	ET&G trestlework patched for Grant's passage	Later in the afternoon of November 26, U. S. Major General Ulysses S. Grant, his general staff, and an armed escort rode their horses from Chattanooga toward the fighting then in northwest Georgia. After finding Chickamauga Creek too deep to ford, they moved to the ET&G bridge, where the timber approach, burned by retreating Confederate forces, was repaired sufficiently for Grant's horses to cross.	ET&G South Chickamauga Creek Bridge
January-March 1864	USMRR restores ET&G to Knoxville; builds blockhouse at South Chickamauga Creek	Beginning January 1864, the ET&G was repaired by the U. S. Military Railroad. By April, USMRR supply and troop trains were running between Chattanooga and Knoxville. One blockhouse (fort) was constructed at this time by the 1st Michigan Miners and Engineers Regiment on the east bluff of South Chickamauga Creek to guard the ET&G bridge.	East Bank, South Chickamauga Creek between ET&G and W&A Bridges
March 1864	USMRR builds switchback connection between ET&G and W&A	Shortly after March 1, 1864, the Construction Corps of the USMRR built a connection track, beginning 500 feet west of ET&G's South Chickamauga Creek bridge, to reach the W&A railroad. This location was designated "Dalton Junction". The track was constructed on wood trestlework about 1,500 feet long and 40-50 feet tall in places. After completion, the trestle was filled in to make a solid and fireproof roadbed. At this time, the USMRR began routing all W&A trains from Chattanooga to Dalton Junction via ET&G. When the trains reached the Junction, they backed down the connecting track to the W&A main line and resumed their journies to Georgia.	"Dalton Junction connection". See map of South Chickamauga Creek area circa 1864
1864	Blockhouse built to protect the Dalton Junction connection	According to a Federal report, two blockhouses protected the Dalton Junction connection. One would have been the blockhouse mentioned earlier, which was already protecting the South Chickamauga Creek bridge of the ET&G. The second was built farther south on the same hill to protect the W&A bridge. These are the two blockhouses pictured on page 18.	Near point where Dalton Junction connection joined W&A main line
1864	USMRR reconstructs ET&G-W&A connection via "Rover"	During USMRR operation of ET&G, a direct connection was built between the ET&G and W&A, probably on the same alignment as W&A's temporary track of 1861. Where the connection joined the ET&G was designated "Rover" by the USMRR (which is probably part of TVRM's parking lot or picnic area today). After the Rover connection was opened, the cumbersome switchback movements required at Dalton Junction were lessened or eliminated. Trains supplying Sherman's army of 100,000+ Union troops could then make progressive movements (i.e., without having to make a back-up move en route) from Chattanooga to Georgia points via ET&G-Rover-W&A.	From Rover to W&A

Daniel C. McCallum

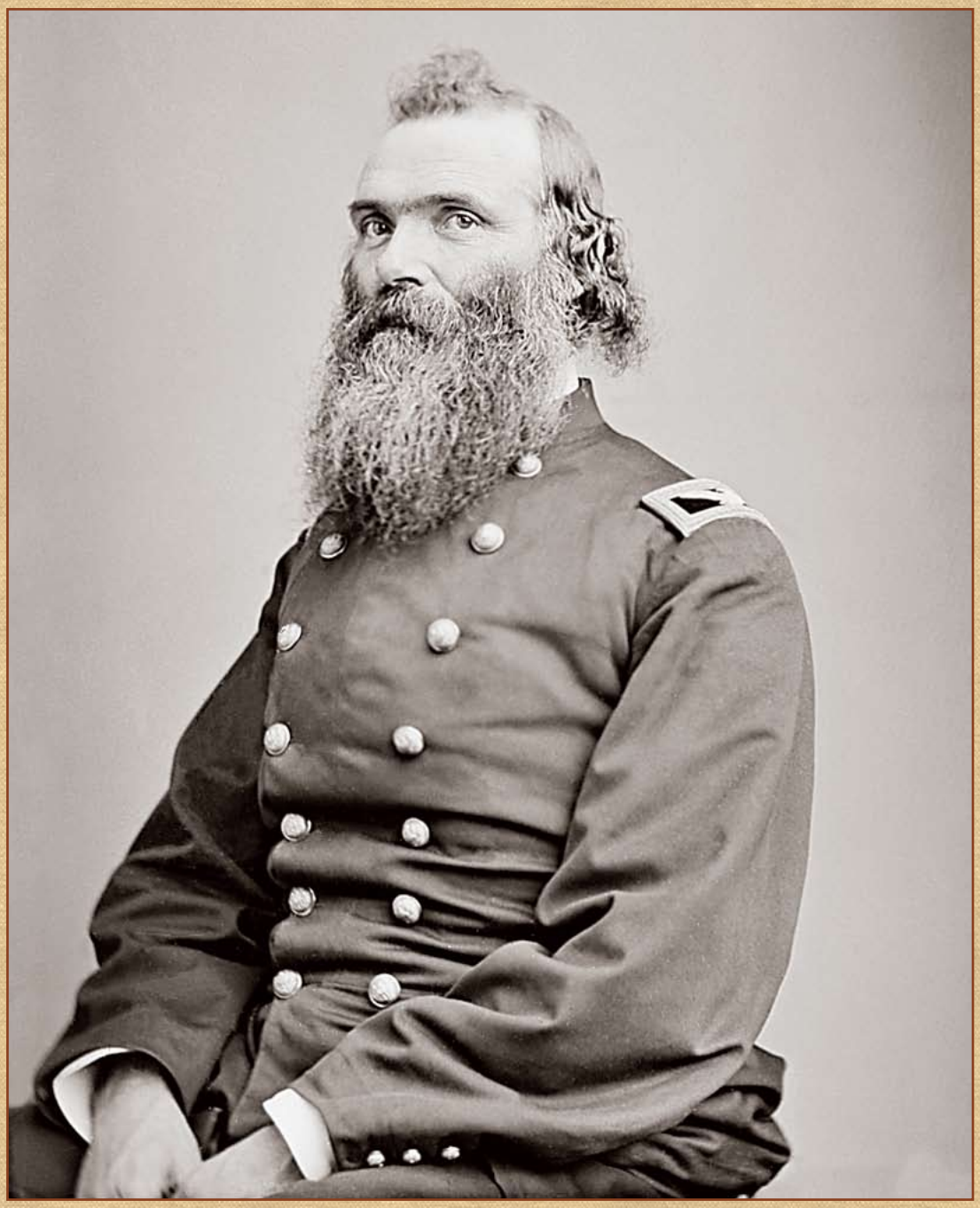
Of the many notable individuals who have contributed to the modern railroad organization, General Daniel C. McCallum's name doesn't come up very often. More's the pity, because General McCallum (1815–1878) is credited with shaping the United States Military Railroad (USMRR) into an effective component of the North's relentless humiliation of the South in the final 14 months of the Civil War.

Daniel Craig McCallum was born in 1815 in Scotland, and when he was seven years old, his family emigrated to upstate New York. Instead of becoming a tailor like his father, he left school to become an accomplished carpenter and an unschooled, but successful, architect. In 1855 he became General Superintendent of the Erie Railroad, and in 1858, he founded the McCallum Bridge Company.

His organization and effectiveness resulted in Secretary of War Edwin Stanton appointing McCallum to Director and Superintendent of the Union's railroads in 1862, although McCallum was unable to consolidate his command of the USMRR until the beginning of 1864.

McCallum, an early proponent of the organization chart as a managerial tool, structured the USMRR to correlate with each major military region. The heads of each railroad region were a general superintendent of transportation and a general superintendent of construction, each reporting directly to McCallum. Under the superintendent of transportation were the division superintendents, and under these came the superintendents of each segment of railroad and so on, down to the lowest subordinate.

The general superintendent of construction's department was similarly organized. Under him were the division engineers. Each division engineer supervised about 800 men, who were so equipped that each division was a complete unit, able to undertake any form of construction work, from laying track to building stations to reconstructing bridges. Divisions were further subdivided into seven specialized sections, each section having its own equipment and commander.



Daniel Craig McCallum U. S. National Archives series: Mathew Brady Photographs of Civil War-Era Personalities and Scenes, compiled 1921 - 1940, documenting the period 1860 - 1865. *NATIONAL ARCHIVES AND RECORDS ADMINISTRATION IMAGE 530149.TIF*

Prior to McCallum's leadership, authority of the USMRR was divided, and often the effort spent rebuilding a war-ravaged rail line was sloppy and less-than-effective. Further, USMRR operations were often hampered by generals in the field giving conflicting orders.

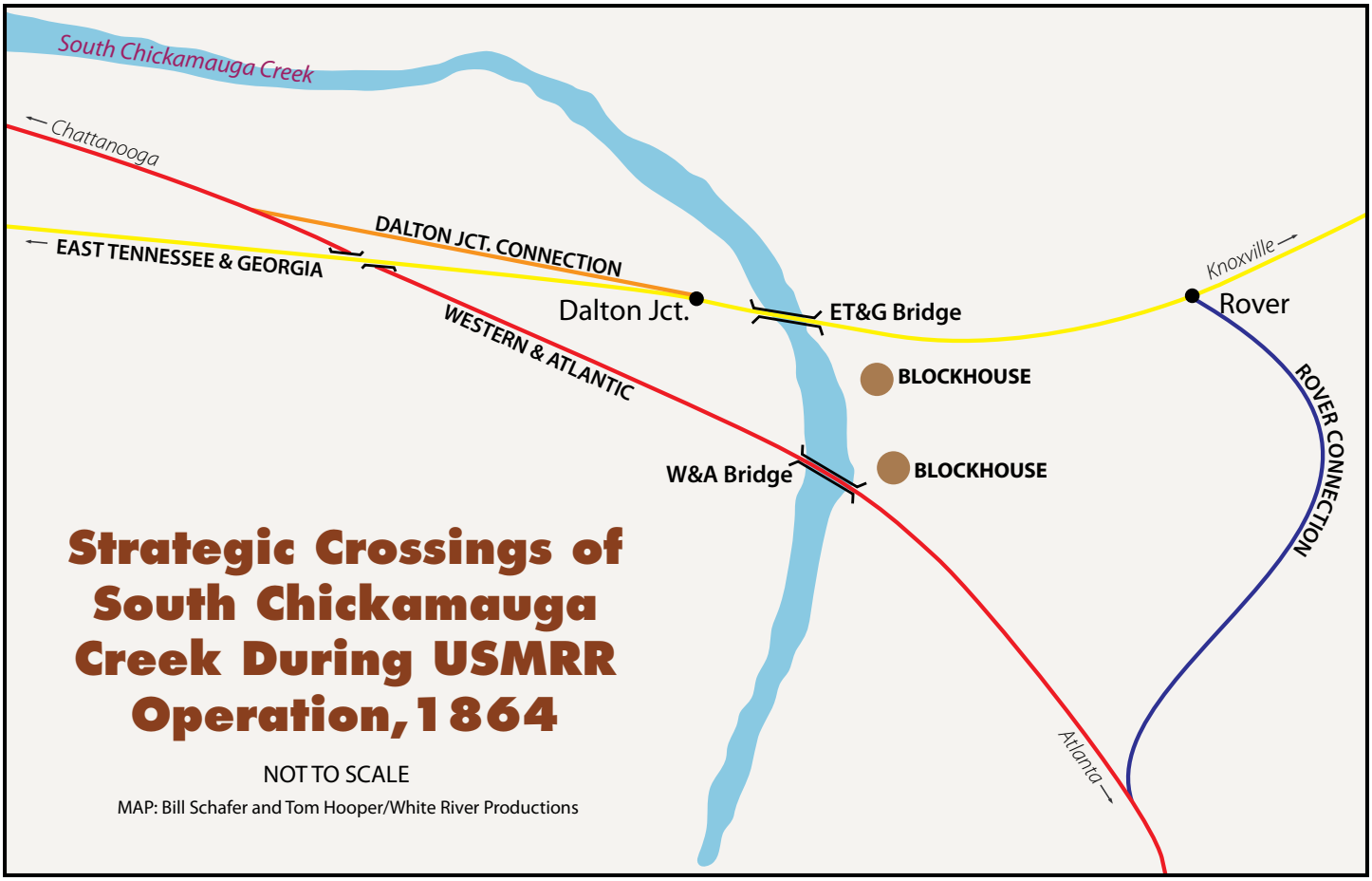
McCallum's reorganization created a management template that served the North well and, 150 years later, continues to inform the operations of contemporary U. S. railroads.

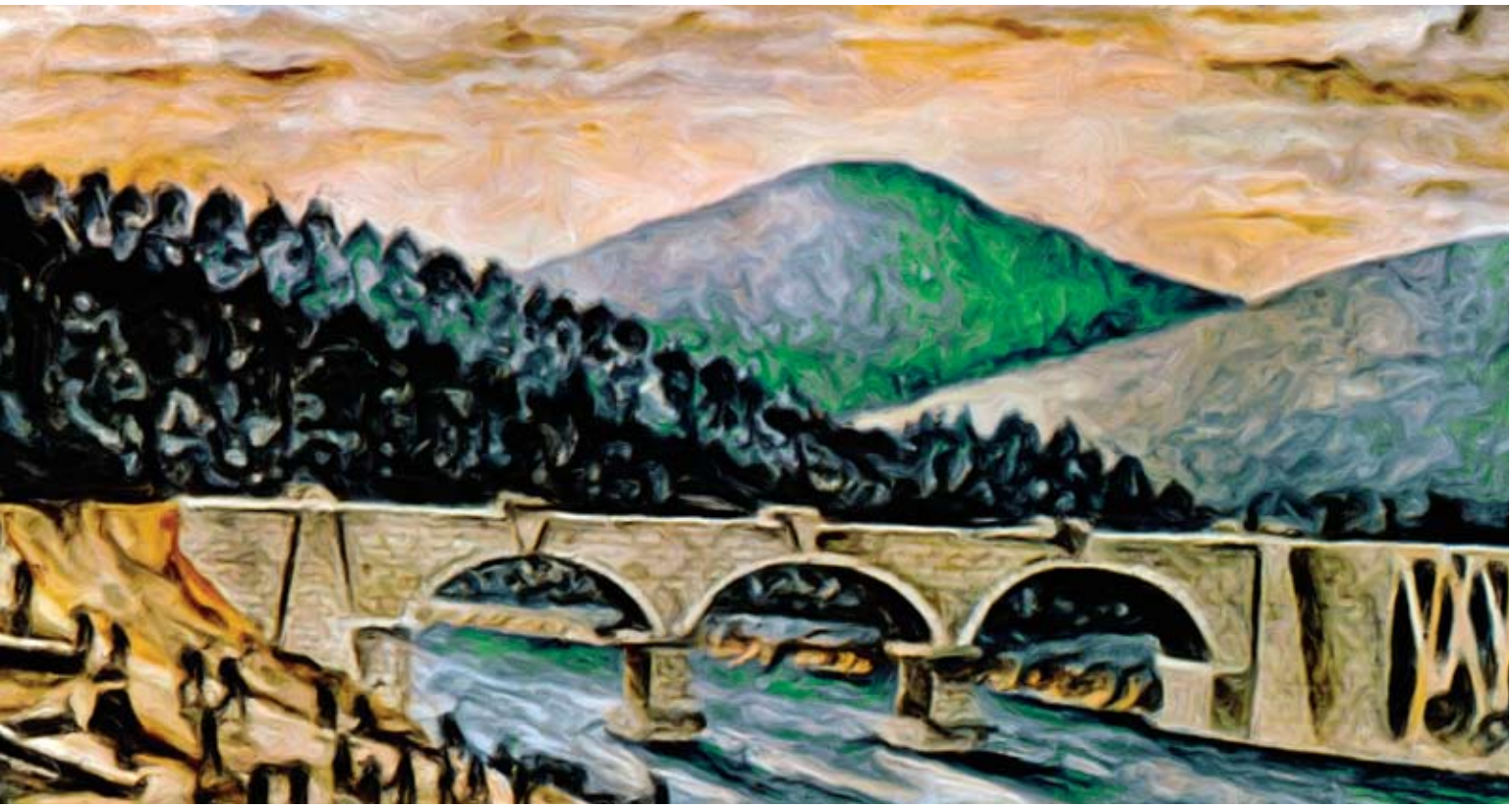
Source:

"Federal Operation of Southern Railroads during the Civil War", by R. E. Riegel, University of Wisconsin-Madison. *Mississippi Valley Historical Review*, Vol. 9, No. 2 (September 1922), pp. 126–138.

ABOVE: "The *General* at Big Shanty," from original 1933 watercolor by Wilbur G. Kurtz. The *General* was typical of locomotives used in the South during the Civil War, as are the freight and passenger cars. The artist, Wilbur Kurtz, shortly after the turn of the 20th Century, interviewed then-living participants of the "Great Locomotive Chase" to create a series of paintings depicting events of the Chase. This painting shows the northbound W&A passenger, express, and freight train stopped at Big Shanty, Ga., for the 20-minute breakfast stop at the Lacy Hotel on April 12, 1862. Seconds later, Union spies (a.k.a. Andrews's Raiders) seized the locomotive and the first three cars and sped off in the direction of Chattanooga in their efforts to burn vital bridges that could be used by Confederate forces to oppose a Federal invasion. *USED WITH PERMISSION OF SOUTHERN MUSEUM OF CIVIL WAR AND LOCOMOTIVE HISTORY, KENNESAW (FORMERLY BIG SHANTY), GA.*

RIGHT: Tunnel Hill, Ga., on Western & Atlantic. The community was first known as Doe Run, incorporated on March 4, 1848, as Tunnelsville, and changed its name in 1856 to Tunnel Hill. Both names refer to the nearby railroad tunnel, 1,497 feet long, through Chetoogeta Mountain, officially dedicated on Oct. 31, 1849. If the tunnel looks a lot like TVRM's Whiteside Tunnel, it should—both were constructed by the same contractor, John D. Gray. The W&A tunnel was the first completed south of the Mason-Dixon Line. "The Great Locomotive Chase" of 1862 passed over this line as well as the trains supplying General Sherman's army as it progressed toward Atlanta. In 1928, the Nashville, Chattanooga & St Louis Railroad (W&A's successor) constructed a more modern tunnel in the same vicinity, which continues to be used by CSXT today. The 1849 tunnel is now paved for tourists to walk through. *MATHEW BRADY PHOTO, NATIONAL ARCHIVES & RECORDS ADMINISTRATION IMAGE 530443.*





An impressionistic rendition from a painting of ET&G's stone arch bridge spanning South Chickamauga Creek, viewed from the north. The original painting was created by a soldier in the 105th Ohio Infantry, whose regiment marched from Harrison, Tenn., to Chattanooga in January 1864. They stopped for one hour at the ET&G bridge crossing South Chickamauga Creek. Note timber approach at right, built when fill embankment was washed away in a flood in 1861. *FROM MARK BRAINARD*

This remarkable photograph, which is the left half of a steroscopic photo, shows the two blockhouses built by the Union Army on the east bank of South Chickamauga Creek to protect the Western & Atlantic Railroad and East Tennessee & Georgia Railroad bridges following the fall of Chattanooga in November 1863. The photographer's vantage point is the W&A main line; the distant blockhouse at far left overlooks the ET&G (TVRM) main. This view, made in warm weather (probably summer 1864), shows what looks like a former cedar tree converted into a telegraph pole in the foreground, with at least three insulators. The little "shebang" with the chimney at the far right is probably the kitchen, as it is set away from the tents behind it because kitchens could catch fire. They also attracted flies, which were not desirable companions in the soldiers' living quarters. The tents are probably the sleeping and living quarters for the 10–20 men assigned to each blockhouse. The purpose of the blockhouses was to provide defensive shelter, with rifle slots between the short uprights, in case Confederate troops attacked the two bridges and Dalton Junction. The excavated area in the foreground is a "borrow pit" for some fill needed elsewhere. To construct a blockhouse, the engineer troops would dig a square trench, stand logs upright in it, then lay an outer shell of logs horizontally to make it more bullet proof. After the roof was placed, engineers moved on and the garrison troops would be expected to complete the installation by putting dirt on the roof to make it fire proof (there was little air circulation in a typical blockhouse). The distant blockhouse protecting the ET&G was probably identical to the one in the foreground. *PHOTO FROM LIBRARY OF CONGRESS, PRINTS & PHOTOGRAPHS DIVISION (REPRODUCTION NUMBER, E.G., LC-B8184-3287). TWO PLATES FORM LEFT (LC-B811-2669A) AND RIGHT (LC-B811-2669B) HALVES OF A STEREOGRAPH PAIR*

Whiteside Tunnel

The most daunting challenge in constructing the East Tennessee & Georgia's Chattanooga Branch (1856–1859) was digging 981-foot Whiteside Tunnel through Missionary Ridge, four miles east of downtown Chattanooga. It was named for Colonel Charles Whiteside, a well-known Chattanoogan and major stockholder of the ET&G. The construction contractor was John D. Gray, the same company that completed the 1,497-foot tunnel through nearby Chetogeeta Mountain on the Western & Atlantic at Tunnel Hill, Georgia, ten years earlier (see photo p.16).

A Union assessment of the tunnel during the Civil War described it thus: "The height of the opening is 18 feet above the roadway. It is 14 feet 4 inches wide. The arch forming the roof is a semicircle with a diameter of 16 feet. 583 feet of length is in earth, counter arched and walled with stone and arched with brick. 175 feet of length is in rock of unsafe character, walled with stone and arched with brick. 223 feet of length is in solid limestone. The track is laid on broken stone, with the drainage under the center of the track in the earth portion and at the end of the ties in the rock portion." The "unsafe character" comment was made for a reason: the tunnel had caved in once in 1859, shortly after it was opened, and again in the 1880s, requiring more robust underpinnings. During the Civil War, train crews were instructed to travel through the bore in "no less than four minutes."

One of the last troop trains operated by the Confederates before the Battle of Missionary Ridge, in November 1863, ran from Cleveland, Tenn., to the eastern portal of the tunnel, where the troops detrained. While no fighting or troop movements occurred in the tunnel during the battle, fighting did take place on the ridge above. In these contemporary views of Missionary Ridge (a.k.a. Whiteside) Tunnel, Southern/TVRM locomotive 630 emerges westbound in the spring of 2011, not long after a lengthy overhaul at Soule Shops, a mile farther west. Although the stone above the tunnel reads "1858," contemporary accounts indicate that it was not completed until 1859.

ABOVE: SR 630 enters east portal of Missionary Ridge tunnel in spring of 2011. The vertical curve in the track, where ET&G, Southern, and TVRM crest Missionary Ridge, is clearly visible in tunnel. As can be seen in the photo at right, it's a tight fit even for vintage locomotives and rolling stock. *CASEY THOMASON PHOTOS*

render, the W&A was rebuilt and returned to its civilian operator.

Sources:

The East Tennessee and Georgia Railroad, 1836–1860 by James W. Holland, from East Tennessee Historical Society's Publications, January 1931.

A History of the Legal Development of the Railroad System of the Southern Railway Company by Fairfax Harrison, Southern Railway, Washington, D.C., 1901. (a.k.a. The Legal History of Southern Railway), Part IV.

May-June 1990 SRHA *Green Light*, Vol. 4 No. 3—"East Tennessee Trunk Line, Part One", by Lou Norris

"Federal Operation of Southern Railroads during the Civil War", by R. E. Riegel, University of Wisconsin/Madison. *Mississippi Valley Historical Review*, Vol. 9, No. 2 (September 1922), pp. 126–138.