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cover

United States Department of the Interior
National Park Service

NATIONAL REGISTER OF HISTORIC PLACES MULTIPLE PROPERTY DOCUMENTATION FORM

This form is used for documenting multiple property groups relating to one or several historic contexts. See instructions in *How to Complete the Multiple Property Documentation form* (National Register Bulletin 16B). Complete each item by entering the requested information. For additional space, use continuation sheets (Form 10-900-a). Use a typewriter, word processor, or computer to complete all items.

__x__ New Submission _____ Amended

A. Name of Multiple Property Listing

Florida's Historic Railroad Resources

B. Associated Historic Contexts

(Name each associated historic context identifying theme, geographical area, and chronological period for each.)

I. Antebellum Growth, 1830-1860
II. Civil War and Reconsstruction, 1861-1880
III. Disston Era Expansion and Consolidation, 1881-1903
IV. Progressive Era and World War I, 1904-1920
V. Florida Land Boom, 1921-1928
VI. Great Depression, 1929-1941
VII. World War II and the End of the Steam Era, 1942-1949

C. Form Prepared by

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organization Bureau of Historic Preservation **date** February 2001

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city or town Tallahassee **state** Florida **zip code** 32399-0250

D. Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this documentation form meets the National Register documentation standards and sets forth requirements for the listing of related properties consistent with the National Register criteria. This submission meets the procedural and professional requirements set forth in **36 CFR Part 60** and the **Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation.** (☐ See continuation sheet for additional comments.

Janet Snyder Matthews — 2/15/2001

Signature and title of certifying official — Date

State Historic Preservation Officer, Division of Historical Resources

State or Federal agency and bureau

I hereby certify that this multiple property documentation form has been approved by the National Register as a basis for evaluating related properties for listing in the National Register.

(for) Sarah D. Pope — 4/5/2001

Signature of the Keeper — Date of Action

Table of Contents for Written Narrative

Provide the following information on continuation sheets. Cite the letter and the title before each section of the narrative. Assign page numbers according to the instructions for continuation sheets in *How to Complete the Multiple Property Documentation Form* (National Register Bulletin 16B). Fill in page numbers for each section in the space below

Historic Contexts, 1830-1949

Introduction

The railroad had a profound influence on the development of Florida, helping to advance the state from a wilderness into one of the leading tourist and agricultural regions of the country. Florida's rail system, like that of many other states in the American South, began to take form in the Antebellum period. Private companies with some state support developed small lines, generally without connections to larger trunk lines. Later, growth accelerated to a feverish pace and large corporations consolidated those holdings, only to relinquish some of their gains in the twentieth century. The long narrow form of the state, with its wetlands and rivers, challenged companies in their effort to construct and update roadbeds and bridges. By 1890 a network of rails funneled settlers deep into the peninsula, and the cities of Jacksonville, Pensacola, and Tampa emerged as important ports. Soon freight cars were bound for northern markets filled with citrus and other agricultural products. Repair shops and division headquarters provided jobs in numerous communities. The railroad in many practical ways created an easier way of life and stimulated the Florida economy.

As railroad historian Gabriel Kolko observed, "From the end of the Civil War until the beginning of the First World War, the railroad was a central, if not the major, element in the political, economic, and social development of the United States." Kolko's periodization aptly defines Florida's golden age of railroading and the impact of the industry on the development of the state. During the interval, railroad companies emerged and matured as America's first big business, a thesis developed by Johns Hopkins University historian Alfred Chandler. Railroad companies, Chandler asserts, "were the first American business to work out the modern ways of finance, management, labor relations, competition, and government regulation...not because they were a particularly intelligent or perceptive breed of entrepreneurs, but because they had to. Their capitalization, their plant and equipment, their running expenses and labor force were much larger than those of any other business of the day." Intensely competitive, these entrepreneurs and managers unceasingly tried to bring about conditions for greater stability within their respective corporations and dominate Florida's transportation industry. The ground they broke extended well beyond balance sheets, labor strife, and rate wars, for those systems opened for settlement many new areas of the Far West and the Deep South, including Florida, parts of which had been relatively isolated for centuries. Prominent businessmen in Florida who contributed to this process include William Dudley Chipley, H. Reiman Duval, Henry Flagler, Henry Plant, and David Levy Yulee. Tangible reminders of their vision and legacy stand in many small rural Florida communities and large cities alike, testifying to the strength of one of the state's most enduring land-based transportation systems.[1]

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[1]Gabriel Kolko, *Railroad and Regulation, 1877-1916* (Princeton: Princeton University Press, 1965), 1, 7; Alfred Chandler, comp., and ed., *The Railroads: The Nation's First Big Business* (New York, Chicago, and Burlingame: Harcourt, Brace & World, Inc., 1965), 9.

Antebellum Growth, 1830-1860

Important developments prior to the American Civil War helped set the stage for construction projects during the late nineteenth century. During the Antebellum period, Florida reflected a larger pattern of railroad development in the southern United States, which altered existing patterns of agriculture, commerce, industry, and settlement. The nation's first great railroad boom surged forward in the 1840s. Early lines had appeared in the 1830s with some 2,818 miles constructed primarily in the Northeast by 1840. Nationwide track mileage increased from 9,021 in 1850 to 30,626 miles a decade later. Florida, which became a state in 1845, was still a virtual wilderness during the period, remained on the fringes of early railroad activity. It possessed no significant trunk line that contributed to a regional network.[2]

Most of Florida's earliest railroad companies were private enterprises, reflecting a larger national mindset of resisting public involvement in the economy and following the general railroad building trends of other southern states. Most southern businessmen built their transportation systems Colonial-style: that is, the networks bound plantation districts to important ports, generally bypassing the upcountry. And although southern states had a higher percentage of state-sponsored railroads than northern states, most states had no general program of internal improvements. Alabama, Georgia, and Texas each had small blocks of representatives who lobbied for state support of rail systems, but preservation of the slavery system by the landed gentry retarded interest in town building and the creation of a transportation network.[3]

Numerous railroad charters were granted in Florida, but only twelve companies constructed tracks, most of those relatively short runs limited to the northern one-third of the state. The Tallahassee Railroad, completed in 1836, linked the state capital and St. Marks. A legislative grant of 500,000 acres was sold by the company and the monies applied to the construction. The Lake Wimico & St. Joseph Canal & Railroad Company completed a nine-mile stretch near the Gulf of Mexico in 1836. By 1850, the state contained twenty-one miles of operational track and only the Tallahassee Railroad was deemed a success. The Florida, Alabama & Georgia Railroad, reorganized in 1851 as the Alabama & Florida, proposed a line between Pensacola and the Alabama-Florida border and eventually operated forty-seven miles of track within the state's borders.[4]

Florida's internal improvement land grant system emerged in the 1840s. The first internal improvement monies for the construction of canals, railroads, and roads became available in the state in September 1841, when the United States government granted the territorial government 500,000 acres of land to be sold and the proceeds

[2]Chandler, *Railroads,* 3, 13.

[3]Gavin Wright, *Old South, New South: Revolutions in the Southern Economy Since the Civil War* (New York: Basic Books, Inc., Publishers, 1986), 22-24.

[4]George W. Pettengill, Jr., "The Story of the Florida Railroads,, 1834-1903," *Railway and Locomotive Historical Society* 86 (July 1952), 12-19, 21, 24-26; John F. Stover, *The Railroads of the South, 1865-1900: A Study in Finance and Control* (Chapel Hill: University of North Carolina Press, 1955), 5.

applied to internal improvements. Nearly a decade later the federal government conveyed most of the remaining wetlands to the state legislature, once again for use in internal improvements. These vast tracts became a source of land and dollars from which the state government could encourage the construction of transportation systems.[5]

In 1854, the Florida Legislature enacted the Internal Improvement Act, which permitted rail companies to defray some of their construction costs by issuing bonds amounting to $10,000 per mile along a proposed route. A board of trustees of the Internal Improvement Fund (IIF), composed of the governor, treasurer, attorney general, and registrar of state lands, was established in 1855. Bonds were issued only after the company had graded and furnished ties for a ten-mile section. Additional securities could be issued for bridges, rolling stock, and trestles. The state's guaranty of the principal and interest of 7 percent also proved attractive. A company had only to construct its roadbed along an alignment set out by the state engineer and conform to a five-foot gauge roadbed with at least sixty-pound rails. Upon completion of the line, the company would pay a 1 percent premium on its bonds into a sinking fund administered by the IIF. Failure to pay the premium resulted in seizure and sale of the rail line by the state government. The subsidy, while significant in setting a precedent for future assistance, represented a small step and Florida's Antebellum state government ranked among the most tight-fisted of all southern states in railroad building assistance.[6]

Still, the internal improvement act promoted the formation of railroad companies and construction. By 1860, some 380 miles of tracks had been built. Chartered in 1851, the Florida, Atlantic & Gulf Central (FA&G) completed a sixty mile road linking Jacksonville and Alligator (later renamed Lake City) in 1860. The following year, the Pensacola and Georgia Railroad (P&G) completed a line from Lake City to Tallahassee, making Lake City one of the state's early rail centers. The St. Johns Railroad Company completed a fifteen-mile route between St. Augustine and Tocoi on the St. Johns River about 1860. For its effort the P&G received over 1,000,000 acres and the FA&G some 200,000 acres from the IIF.[7]

David Levy Yulee, one of Florida's territorial representatives in the federal Congress and a U.S. Senator between 1845 and 1851, played an important role in Florida's early railroad history. He helped steer the IIF legislation through the Florida Legislature. The legislation, in addition to serving his economic interests, accomplished a grand vision of developing a cross-state transportation network. Yulee's line stretched between the port towns of Fernandina and Cedar Key, the only railroad in Florida to accomplish that feat and one of few railroads in the South to connect ports. Organized in 1853, the company enjoyed land grants from the state and federal government of alternating sections astride the roadbed. Eventually, the company received some 790,000

[5]Dudley Johnson, "The Florida Railroad After The Civil War," *Florida Historical Quarterly* 47 (January 1969), 292-293.

[6]Johnson, "Florida Railroad After the Civil War," 293; Pettengill, *Florida Railroads,* 20; Stover, *Railroads of the South,* 32.

[7]Pettengill, "Florida Railroads," 12-19, 21, 24-26; Stover, *Railroads of the South,* 5; Johnson, "Florida Railroad After The Civil War," 292-293.

acres from the IIF. Construction began in 1855 in Fernandina and the 155-mile route was completed in March 1861. Yulee's railroad supported Florida's plantation system and developed a new shipping network between the Atlantic seaboard and Gulf of Mexico. Yulee insisted, against the cries of his critics, that although cargoes hauled by his railroad would be handled additional times at the port towns, shipping companies would experience fewer losses and improved profits by avoiding the journey around the southern tip of Florida, which passed through the treacherous Straits of Florida. More significantly, Yulee's railroad, created along its path new towns, such as Archer, Baldwin, Bronson, Callahan, Gainesville, Waldo, and Yulee. Baldwin soon rivaled Lake City as a rail center, supporting the lines of both the Florida Railroad and the Florida, Atlantic & Gulf Railroad.[8]

Motive power and rolling stock for most of these early railroads was relatively crude. The St. Johns Railroad initially employed strap iron rails laid on wooden stringers with horses and mules pulling open cars. Just prior to the Civil War new iron rails were laid and locomotives, manufactured in Philadelphia, pulled five passenger cars. Most companies used the 4-4-0 American, or 8-wheeler, type steam locomotive with four guide wheels and four drive wheels for motive power. The Florida Railroad supported its system with four such type locomotives and the Pensacola & Georgia Railroad roster inventoried six American type locomotives. Early stations were generally one-story wood frame buildings. Some substantial edifices were built, such as masonry buildings constructed at Tallahassee and Lloyd in Jefferson County in the late 1850s. Although station design was still in its infancy, railroad companies were beginning to refine the craft of architectural standardization, providing waiting rooms, freight storage areas, and an agent's bay as discreet elements within most stations. Rail gauges, or the width between the rails, varied between three and six feet with the standard measuring 4 feet, 8 ½ inches. By 1861, only about 53 percent of the nation's railroads utilized standard gauge. Differing gauges hampered the development of an integrated rail network in Florida. Some developers deliberately chose a gauge different from a neighboring or adjoining line, wanting to stop traffic at their terminus rather than contributing to an integrated system.[9]

Civil War & Reconstruction Growth, 1861-1880

At the onset of the Civil War, Florida's land-based transportation system remained isolated from the rest of the Confederacy. Virginia led the newly-formed Confederate States of America with 1,800 miles of track, followed by Georgia with 1,400. By contrast, in the North, tiny Massachusetts was seamed with 1,314 miles of railroads and 2,809 miles crisscrossed the State of New York. In the decade before the war 22,000 miles had been built nationwide, but only 7,000 supported the South. Northern railroad investment averaged about $50,000 per mile, while southern companies invested significantly less. Louisiana spent $40,000 per mile to develop its system,

[8]Pettengill, "Florida Railroads," 21; Johnson, "Florida Railroad After the Civil War," 292-294.

[9]Pettengill, "Florida Railroads," 21, 26-27; Maury Klein, *Unfinished Business: The Railroad in American Life* (Hanover and London: University Press of New England, 1994), 24-25.

largely because of its vast wetlands. Thrifty North Carolina held its investments to $19,000 per mile. More importantly, northern railroads linked in a fairly linear fashion port cities astride lakes and waterways with ports along the Atlantic seaboard. In the South, with a few exceptions, lines typically extended from port cities into upland areas, servicing plantation regions with little regard for yeoman farmers and town building.[10]

Florida, on the eve of the Civil War, contained the third smallest track mileage of any rebel state, a mere 327 miles of serviceable roadbed. A single stretch of tracks developed by two separate companies connected Jacksonville and Tallahassee, sharing a common terminus in Lake City. The Florida Railroad, the longest and most expensive transportation venture in the state, connected Fernandina and Cedar Key. Although the pride of Florida and Senator Yulee, the Florida Railroad in terms of rolling stock was the poorest road of its size in the Confederacy. An underbuilt and fragmented rail system plagued the Confederate armies. Rail transportation reached a critical point after the fall of Vicksburg in 1863. Early in the war, Robert E. Lee had lamented the lack of a Georgia-Florida connection, which he later observed would have facilitated the movement of beef, foodstuffs, and troops out of Florida.[11]

Overlooked for its strategic value, the Florida-Georgia connection received little assistance from the Confederate government. In the spring of 1861, the Savannah, Albany & Gulf, then connecting Savannah and Thomasville, began building a branch towards the Florida-Georgia border. To the south, the Pensacola and Georgia, which linked Lake City with Quincy, extended a roadbed northward from Live Oak to complete the connection. Construction stalled in late 1862, however, after crews exhausted their supply of rails. The companies, assisted by retreating Confederate forces, resorted to dismantling portions of the Florida Railroad in Jacksonville and Cedar Key. Injunctions by Yulee's company slowed the track demolition. Eventually, after a district court ruled against the Florida Railroad, Yulee was compelled to yield his track to the cause. The link was achieved in March 1865, too late to be useful to defeated Confederate forces.[12]

At the end of the war, Florida's rail network lay in shambles. The Florida Railroad had been reduced to sixty of its original 155-mile length. Iron rails lay decomposing and much of the roadbed, neglected for years, was overgrown. Of the ten southern states, Florida had the fewest and poorest railroads in the decade following the conflict. Reconstruction governments did little to encourage and supervise development. In Florida, parochialism ran amok, hampering railroad companies from building interstate networks. Party rivalries in state government pitted interstate rivals against intrastate interests, a form of political and corporate jealousy that hampered the organization of companies and killed projected construction projects. Although Florida and North Carolina were perceived as attractive states for building tracks, unscrupulous investors early on damaged

[10]Robert C. Black, III, *The Railroads of the Confederacy* (Chapel Hill: University of North Carolina Press, 1952), 2-5.

[11]Black, *Railroads of the Confederacy,* 208-209; Pettengill (p. 27-28) cites some 433 miles of operational track in 1861, including some rather insignificant shortlines not accounted for by Black.

[12]Black, *Railroads of the Confederacy,* 208-213.

the state's ability to make loans or back bonds for railroad companies.[13]

George Swepson and Milton Littlefield, past masters of embezzlement in North Carolina, appeared in Florida in 1869. Although they purchased two bankrupt railroads and obtained some $4,000,000 lobbying the state government for loans, little actual construction resulted from their activity. By 1873, no new tracks had been constructed in the state; mileage increased from 416 miles in 1865 to a paltry 484 miles one decade later. Financial panic struck Wall Street in 1873, after which few railroads could borrow money at any coSt. The state desperately needed a transportation system to help make its public lands available to settlers. Some observers commented that completing an east-west line to connect Jacksonville and Pensacola would also make commerce and government more efficient. A promise from the Florida Legislature to reimburse companies $14,000 for each mile of track built prompted a sleepy response.[14]

Railroad aid became a major issue within and between political parties. Florida's experience was representative of other southern states. As Mark Sumner asserts in his *Railroads, Reconstruction, and the Gospel of Prosperity,* "Railroad aid was one aggravation among many, not big enough to tear the [Republican] party apart, but big enough to demolarize it." Early in Reconstruction, southern Republicans and Democrats had perceived the need for railroads as fundamental for economic growth and support was generally bipartisan. Within less than a decade, however, both parties retreated from their pro-growth stances, which finally turned into a rout. In Florida, constitutional amendments established the State's right to tax corporate property and forbade the use of public credit for the benefit of any individual or corporation. Lack of general corporation legislation required the Florida Legislature to dispense exclusive rights to a company for a particular route, a process fraught with political pitfalls. By 1874, few southern states wanted to be responsible for the expense of railroad construction. In Florida, both political parties sought to demonstrate their fiscal austerity. Before the end of the Reconstruction era, the so-called "Gospel of Prosperity," a popular phrase coined to link economic growth with railroad development, had been dropped from the political litany in Florida and most other southern states.[15]

Disston Era of Expansion and Consolidation, 1881-1903

The last two decades of the nineteenth century witnessed the most dramatic and turbulent period in Florida's railroading history. Between 1880 and 1890, the state's mileage expanded a staggering 380 percent, from 518 to 2,489 miles, placing Florida fifth among southern states in rail miles. In 1885, near the height of the construction boom, *Railway Age* commented that "Florida built more railway track last year than any other state, adding 289 miles." The U.S. Treasury Department noted in 1886 that "In 1865, there were some 420

[13]Johnson, "Florida Railroad After the Civil War," 294; Stover, *Railroads of the South,* 61-62, 94-95; Mark Sumners, *Railroads, Reconstruction, and the Gospel of Prosperity* (Princeton: Princeton University Press, 1984), 93, 243-244, 297.

[14]Stover, *Railroads of the South,* 61, 94-95; Sumners, *Railroads,* 43, 93, 243-244, 297.

[15]Sumner, *Railroads,* 39, 40, 284-286.

miles of railways in operation [in the state] and no material advance was made until 1880. Since then over 1,200 miles have been finished.... The cost of construction and equipment is estimated at $42,000,000." Within a decade of the government finding, Jacksonville, linked with Miami, Pensacola, and Tampa, emerged as a southern rail center. Tracks provided efficient transportation into the peninsula, a wilderness region where settlers previously had relied on crude trails and a circuitous waterway system for transportation. Frenetic growth slowed after the financial Panic of 1893 and the Great Freeze of 1894/1895 compelled bankruptcies and consolidation of many lines. Still, Florida's rail system grew, reaching 3,234 miles in 1900.[16]

Steamboats had dominated Florida's transportation system during the Antebellum period. On the St. Johns River, Jacob Brock operated riverboats between Jacksonville and Enterprise during the 1850s. Competition developed between the Clyde, DeBary-Baya, Hubbard Hart, and other steamboat lines, each of which transported cargoes, settlers, and tourists along the state's inland waterways. A popular form of transportation for decades, steamships were stripped of their dominance in the transportation industry by railroad companies, which eventually only supplemented their overland routes with riverboats and ocean-going vessels.[17]

Nationally, railroads offered a more reliable and safer form of transportation than previously known. A standardized time system was implemented in November 1883. Previously railroads had operated on local, or "sun," time, which varied from city to city. Prior to the conversion, railroad companies observed at least fifty-four times, the differences ranging between a few minutes to several hours. For instance, when it was noon in Chicago, it was 12:09 in St. Louis, 12:31 in Pittsburg, and 12:50 in Washington, D.C. The new schedule divided the country into four time zones, along the 75th, 90th, 105th, and 120th meridians. Congress adopted the system in 1918.[18]

New technology appeared and periodically was refined. Gradually, companies standardized service and physically integrated the nation's rail system. The "T" rail and flanged wheels became universally accepted so that locomotives and cars of different lines and manufacturers could run on rails throughout the country. In 1886, the South's major railroads agreed to convert their tracks to standard, or 4 feet 8 ½ inches, gauge and in a dramatic effort on May 31 and June 1 of that year hundreds of miles of tracks were adjusted to conform. Prior to the 1880s, cars were manually joined by link and pin couplers and halted by hand brakes on the roofs of cars. George Westinghouse's air brake invention shortened braking distances for trains; automatic couplers developed by Eli Janney reduced injuries to workers. Congress enacted legislation in 1893 requiring railroads to adopt the

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[16]Stover, *Railroads of the South,* 193, 255-257; Florida Department of Agriculture, *Florida: An Advancing State: 1907-1917-1927* (Tallahassee: Florida Department of State, 1928), 98-99.

[17]Michael Gannon, ed., *The New History of Florida* (Gainesville: University Press of Florida, 1996), 259-260; DeBary-Baya Steamship Company, *Into Tropical Florida* (Jacksonville: DeBary-Baya Merchant's Line, c. 1883); Jerrell Shofner, *Nor Is It Over Yet: Florida in the Era of Reconstruction, 1863-1877* (Gainesville: University Presses of Florida, 1974), 118-120.

[18]John F. Stover, *The Life and Decline of the American Railroad* (New York: Oxford University Press, 1970), 68-73, 77; Maury Klein, *Unfinished Business: The Railroad in American Life* (Hanover and London: University Press of New England, 1994), 25.

technology. Steel passenger cars improved passenger safety and virtually eliminated the horrible deaths and dismemberments wrought by wood-frame cars telescoping in railroad wrecks. Heavier gauge rails and steel bridges and trestles began to appear, further increasing the margin of travel safety.[19]

Bitter struggles for power and domination of territory occurred between railroad companies throughout the South. Leadership philosophy and tactics changed in the 1880s and although many new railroads were organized and lines constructed, a handful of companies came to dominate southern transportation. A provincial attitude governed the actions of most early southern railroad executives who focused on developing commerce at one terminus. This traditional railroad policy of "one road for one territory" gradually yielded to regional systems that reached beyond sectional limits for traffic and connections. Interior towns gained strength sometimes at the expense of older, established port cities. Local or regional ties became less important to company presidents, some of whom lived far from the center of activity and possessed little practical railroading experience. Listing in the New York Stock Exchange made stock in transportation companies available to more people than ever before. New leaders steeped in the traditions of finance and banking conceived railroads as a mere component of much larger systems spanning an entire section of the country, free from the dependence of any one commercial outlet. For the first time, many nonplantation regions of the interior South were supported by a vital transportation link, a process that created towns, sparked development, and assured quick access to northern markets. Not fearing consolidation, new leadership in rail companies, the likes of whom included William Chipley and Henry Plant, aggressively pursued new regions openly competing with other companies, many of which they absorbed.[20]

Significant events contributing to Florida's late nineteenth century railroad development include the Disston Land Purchase of 1881, the discovery of phosphate, and the state's emergence as a citrus producer. The Disston transaction was tied directly to the IIF land grant system that had been organized in the 1850s. Following the Civil War, the fund had become mired in debt. Because state law stipulated that no land could be conveyed until the debt was cleared, the fund's trustees began searching for investors who would help eliminate the debt. Through the connections of Governor William Bloxham, they found and began negotiations with multi-millionaire Hamilton Disston, a Philadelphia steel magnate who had visited Florida in 1877. A close friend of the governor, Disston agreed to purchase four million acres in central and south Florida for $1,000,000. Known historically as the Disston Purchase, the transaction included vast tracts extending between Lake Tohopekaliga in central Florida to Fort Myers in southwest Florida.[21]

News of the Disston Purchase gripped investors and developers as they became aware that the sale permitted

[19]Stover, *Life and Decline,* 68-73, 77, 152-153; Klein, *Unfinished Business,* 24-25.

[20]Klein, *Unfinished Business,* 51, 53-54, 59, 63-65; Wright, *Revolutions in the Southern Economy,* 110-111.

[21]Gannon, *New History of Florida,* 259-260, 268-269; J.E. Dovell, "The Railroad and the Public Lands of Florida, 1879-1905," *Florida Historical Quarterly* 34 (January 1956), 236-258; Rowland Rerick, ed., *Memoirs of Florida,* 2 vols., (Atlanta: Southern Historical Association, 1902), 1: 348-351.

the state government once again to award real estate to companies that constructed railroads within the state. The resulting subsidy of alternating tracts became unprecedented in the state's history. Within two decades, some 564 railroad companies had been chartered by the Florida Legislature, some motivated solely by the free land offered by the state government for track construction. Close ties between railroad developers and politicians assured a subsidy generally at the expense of responsible growth. Only 251 companies actually initiated construction projects during the 1880s and 1890s, and overexpansion, poor management, and bankruptcies reduced those companies to only a handful of major systems and several shortlines at the dawn of the twentieth century. The cost of the railroad network to the state amounted to a subsidy of some 8,725,000 acres. By 1901, following one of largest land grabs in Florida history, relatively little public domain remained to encourage development.[22]

Successful railroad companies generally developed systems in two ways. Most followed a policy of chartering a new company to construct each section of a proposed route, rather than modifying an existing charter. Consequently, although some newly-formed railroads were independent companies, most were offsprings of larger holding companies that were extending their main line and adding to an older system. A second method employed by companies to enlarge their rail network involved the purchase of an existing company. Relatively few Florida railroad companies of the 1880s retained the same name or ownership a decade later. Expansion and consolidation occurred at a dizzying pace with smaller lines absorbed by larger rivals intent upon building vast networks. The process of expansion in Florida began in earnest in the early 1880s and the major consolidations were complete by 1903. By then, nearly 250 railroad companies had been consolidated into five primary systems that served most of the state: the Atlantic Coast Line Railroad, Florida East Coast Railway, Louisville and Nashville Railroad, and Seaboard Air Line Railway; in northeast Florida, the Southern Railway maintained a short, but important stretch of track.[23]

The breadth and scope of Florida's railroad heritage during the late nineteenth century is epitomized by a few businessmen who financed and directed construction and operations. William D. Chipley, H. Reiman Duval, Henry M. Flagler, and Henry B. Plant are historically associated with railroads that continue to provide vital transportation services in Florida. Chipley, Duval, Flagler, and Plant found themselves at the center of railroad development during its high point, merging smaller railroad companies into increasingly larger systems, which for a few brief decades dominated the transportation industry of the state. In contrast to Florida's Antebellum railroad leaders, who were generally provincial in their outlook toward developing railroads, these new leaders were drawn largely out of the world of finance with few local or regional ties, or dependence upon any one commercial center as an outlet. Few in this rising generation made railroading his exclusive business pursuit and most embraced expansion on a grand scale. The reign of these financiers proved relatively short-lived, for they came to develop fortunes through the construction of lines and speculation in securities rather than

[22]Dovell, "Railroads and Public Lands," 244-245, 253.
[23]Johnson, "Florida Railroad After the Civil War," 301.

patiently building profits out of daily operations.[24]

William D. Chipley and the Louisville & Nashville Railroad

William D. Chipley, a prominent Pensacola politician and businessman, played a significant role in the development of a viable railroad in west Florida. A native of Georgia and later a Pensacola resident, Chipley worked his way up through several railroad companies, eventually reaching the position of division superintendent of the Louisville & Nashville Railroad (L&N). He arrived in Pensacola in 1880 and later served on the city commission and as mayor, and was elected president of the board of trade. By the mid-1880s, he had become a powerful west Florida politician and served as a state senator in 1895 and 1897.[25]

Regarded as west Florida's "Mr. Railroad," Chipley was instrumental in developing Pensacola as a rail center and port for the L&N. The company, an offspring of rival commercial interests in the cities of Louisville, Kentucky, and Nashville, Tennessee, had been organized in 1850. Nine years later a 185-mile route was opened between the cities, forming the nucleus of one of the great southern railroads. By 1878, the L&N had built or acquired 966 miles and fifteen years later emerged as the largest railroad in the South. In 1893, the road boasted 4,396 miles, which by then accounted for more track than the entire rail mileage in the State of Florida. The tentacles of the L&N stretched between Augusta, Cincinnati, Memphis, and St. Louis, and also served the port cities of Mobile, New Orleans, and Pensacola.[26]

The L&N helped develop Pensacola into a major port. In 1889, the company increased its fleet to accommodate coal shipments from Alabama, dredged Pensacola harbor and added wharves to better handle coal and fertilizer shipments. By 1895, Milton H. Smith, president of the company, boasted that the L&N wharves at Pensacola were "arranged so as to furnish facilities for interchange of traffic with seagoing vessels in a manner that is superior to any similar structures at any port on the Gulf, Atlantic Coast, or the Great Lakes." A foreign freight department supervised company steamers that plied the Caribbean and later sailed the Atlantic with cargoes bound for various Latin American ports and Liverpool.[27]

The L&N embarked on an important east-west connector in Florida in 1881, when it chartered the Pensacola & Atlantic (P&A). Chipley served as vice president and general manager. The first regular service opened along the 170-mile route between Pensacola and the Chattahoochee River in 1883. As part of the land-for-track

[24]Klein, *Unfinished Business,* 59, 62-65.

[25]*New York Times,* December 2, 1897; Edward Williamson, "William D. Chipley, West Florida's Mr. Railroad," *Florida Historical Quarterly* 25 (April 1947), 333-355; Charles Hildreth, "Railroads Out of Pensacola, 1833-1883," *Florida Historical Quarterly* 37 (April 1959), 412-413.

[26]Maury Klein, *History of the Louisville & Nashville Railroad* (New York: Macmillan Company, 1972), 184, 284-287; Klein, *Unfinished Business,* 65; Williamson, "William D. Chipley," 333-355; Hildreth, "Railroads Out of Pensacola," 412-413.

[27]Klein, *L&N,* 284-287.

arrangement with the IIF, the company received nearly 3 million acres in west Florida. The railroad only ran through two towns--Marianna and Milton, a tactic directed by Chipley to lower construction costs and rights-of-way acquisition, and to harvest naval stores from the region's vast pine forests. Hoping also to attract tourist traffic, Chipley ran the tracks along a ridge of land that he believed offered the best scenery in the area. The company engaged in town building, developing settlements along the route at Bonifay, Caryville, Chipley, Crestview, and DeFuniak Springs. Chipley's interest in the national Chautauqua movement, coupled with the beauty of Lake DeFuniak and the surrounding landscape in Walton County, prompted him to help develop DeFuniak Springs as a regional campmeeting site and eventually the southern headquarters of the Chautauqua movement. Some older west Florida towns located off the right-of-way went into decline. It soon became apparent, however, that the P&A was not profitable due to light passenger traffic and freight loads. To resolve the problem, Chipley engineered a merger of the line with the L&N in 1891.[28]

The company developed small spur lines in northwest Florida. In 1902, the railroad completed a line connecting Georgianna, Alabama, with Graceville, Florida. Another spur connected Crestview, Florida, with Duvall, Alabama. Farther west, the town of Flomaton near the Alabama-Florida border became an important crossing in the L&N system. Although the modest triangle of Florida roads enjoyed less growth and prosperity than the L&N's projects in Alabama, the railroad, under guidance of Smith and Chipley never outran the available business in west Florida. Development there, unlike the peninsula where numerous shortlines crisscrossed the landscape, was a lesson in restraint.[29]

Henry M. Flagler and the Florida East Coast Railway

One of the grandest visions in railroad building in late nineteenth century Florida was implemented by Henry Flagler, a former business partner of John D. Rockefeller. A native of New York, Flagler initially worked as a grain merchant and then in the 1860s developed a business relationship with John D. Rockefeller, forming the company Rockefeller, Andrews & Flagler, which speculated in the oil futures business. Within several years, Flagler became Rockefeller's trusted advisor. Rockefeller identified in Flagler a shrewdness for new opportunities and capitalizing on their potential. He helped organize Standard Oil of New Jersey, and by 1872 was a major power in the company, second only to Rockefeller. In 1882, with the formation of Standard Oil Trust and the death of his first wife, Mary, Flagler reassessed his priorities, taking more time with his family and looking for new investment opportunities. One observer of Flagler commented that it was as if at age 55, he "began life over again with new interests, new activities, new environment."[30]

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[28]Williamson, "William D. Chipley," 336; Klein, *L&N,* 181; Johnson, "The Railroads of Florida," 116-135; Pettengill, "Florida Railroads," 115-116; Dean Debolt, *The Florida Chautauqua: An Overview of Its History and Its Cultural Impact on West Florida,* Pensacola, 1984, 2; *Financial Review of Commerce, Banking, and Investments* (New York: William B. Dana & Company, 1894), 75-76.

[29]Klein, *L&N,* 286-287.

[30]Edward Akin, *Flagler: Rockefeller Partner & Florida Baron* (Kent and London: Kent State University Press, 1988), 26-27, 107-

The oil baron first visited Florida in 1878, when he went to Jacksonville with his first wife, Mary Harkness Flagler, for her health. He later vacationed in St. Augustine. The "Ancient City," long a winter mecca for the infirm, intrigued Flagler who determined to make it a tourist destination, the "Newport of the South." As he developed the Ponce de Leon, a magnificent Gilded Age hotel, Flagler searched for a means to improve the relatively poor transportation network of the region. Years of business experience dominating competitors and searching for new markets prompted him to expand Florida's anemic transportation system. He planned an efficient rail system to bring tourists to Florida, not unlike the network he had used in the Northeast and Midwest to carry oil from fields to refineries. In 1885, he implemented the ambitious plan by purchasing a controlling interest in the Jacksonville, St. Augustine, and Halifax River Railway. The company changed the tracks to standard gauge and, to facilitate the movement of materials and passengers across the St. Johns River, purchased a ferry franchise and brought in the first large steam ferries to operate between Jacksonville and South Jacksonville. Later, after the completion of the hotel, Flagler used the line as a convenient way to transport visitors to St. Augustine. He negotiated tracks rights with other companies and by 1888 Jacksonville was connected by rail to points as far north as Newark, New Jersey. To Flagler's chagrin, the only point where a traveler heading to St. Augustine had to switch trains was at Jacksonville, where they boarded a ferry to cross the river for the final leg of their journey. This prompted him to construct a steel railroad bridge across the St. Johns River, a center pivot swing structure completed in 1890 at a cost of $1,000,000. The bridge brought Flagler's railroad into downtown Jacksonville. Flagler then embraced a vision of extending a railroad the length of the peninsula.[31]

By 1889, Flagler had assembled a mainline between South Jacksonville and Daytona, which he reorganized as the East Coast Lines (ECL). In 1892, to extend his tracks south of Daytona, he incorporated the Florida Coast & Gulf Railway Company to build the line to New Smyrna. Later that year, he organized the Jacksonville, St. Augustine & Indian River Railway to complete a 175-mile extension from New Smyrna to Lake Worth. This latter corporation served as an umbrella holding company for his various Florida railroad investments. An increase in the legislative apportionment of land grants to railroads spurred the construction effort. In 1894, the railroad reached Palm Beach, a resort of Flagler's own creation, and in 1895 he reorganized the railroad companies into the Florida East Coast Railway (FEC). After constructing a bridge across Lake Worth to Palm Beach where he built the fabulous Royal Poinciana and Breakers hotels that overlooked Lake Worth and the Atlantic Ocean, Flagler began his final extension, reaching Miami in early 1896.[32]

Exploiting the terms of Florida's internal improvement fund and opening coastal areas to development, Flagler's railroad played a major role in the development of Florida's east coast. His influence on the development of the

109; *New York Times,* May 21, 1913.

[31]Akin, *Flagler,* 114-115, 134-138; T. Frederick Davis, *History of Jacksonville, Florida and Vicinity* (DeLand: Florida Historical Society, 1925), 349-351; Donald Curl, *Palm Beach County: An Illustrated History* (n.p.: Windsor Publications, Inc., 1986), 35.

[32] Akin, *Flagler,* 141, 144, 162.

region cannot be overstated. Linking Florida's lower east coast to the nation by rail, the FEC became the fashionable "Speedway to Sunshine" for visitors who made seasonal treks to Florida. The railroad also furnished farmers with a route to transport crops more quickly to market than by steamboat. Stretching some 400 miles, the FEC was one of the longest systems built in Florida during the 1890s. The railroad supported numerous existing coastal towns, such as those in Daytona, Fort Pierce, Jensen, Ormond, Stuart, and Vero. Founded in the 1760s, New Smyrna enjoyed a boost in its economy after the FEC installed shops and a turntable in the town. By the 1920s, the FEC was the largest single employer in the town. The Miller shops in St. Augustine and yards in Fort Pierce, Miami, West Palm Beach, and South Jacksonville created numerous jobs. The company also promoted new development and engaged in town building, helping to carve out settlements in Boca Raton, Boynton, Hallandale, Modelo, West Palm Beach, and White City. Flagler developed hotels along his railroad, providing tourists with both transportation and accommodations in various Florida cities, most of which could be reached from New York City in fewer than fifty hours.[33]

In the 1890s, Flagler sprinkled Florida's east coast with magnificent hotels, such as the Biscayne, Ormond, Ponce de Leon, and Royal Palm. He also developed offshore holdings in Havana, Key West, and Nassau and organized the Florida East Coast Steamship Company. He assembled a small fleet of steamships to transport tourists to the island resorts. The *Santa Lucia,* a shallow-draft stern wheeler, was purchased in 1892 to move supplies and laborers across Lake Worth to Palm Beach. In 1896, the *Northumberland* was assigned duty with runs between Palm Beach and Nassau. It was replaced the following year by the *Miami.* The *City of Key West,* commissioned in the 1860s, plied the waters between Miami and the nation's southernmost port beginning in 1896. The *Cocoa* began its life as a Cuban ship steaming between the island nation and Spain. Captured by a federal schooner during the Spanish-American War, the ship appeared in Flagler's fleet in 1898. The *Martinique* and *Prince Edward* were other ships that supported the Florida East Coast Steamship Company. In 1900, Flagler's steamships and those of the rival Plant System were consolidated into the newly-organized Peninsular and Occidental Steamship Company. Henry Plant had initiated steamship service in 1886 between Havana, Key West, Tampa, and later Canada. Other Plant ships sailed under the aegis of the People's Line, plying the waters of the Apalachicola, Chattahoochee, and Flint rivers. The steamships *Mascotte* and *Olivette* served the company some fifteen years before becoming part of the Peninsular and Occidental Company, a corporate enterprise that would last some six decades.[34]

Henry B. Plant and the Savannah, Florida & Western Railroad

The transportation empire envisioned by Henry B. Plant rivaled that of Henry Flagler. A native of Connecticut, Plant initially worked for the New Haven Steamboat Company and then as an express agent for the New York

[33]Pettengill, *Florida Railroads,* 106; Seth Bramson, *Speedway to Sunshine: The Story of the Florida East Coast Railway* (Ontario: Boston Mills Press, 1984), 27-28, 49-50; Edward Akin, "The Sly Foxes: Henry Flagler, George Miles, and Florida's Public Domain," *Florida Historical Quarterly* 58 (July 1979), 31-33.

[34]Edward Mueller, *Steamships of the Two Henrys* (Jacksonville: Edward Mueller, 1996), 49-71.

and New Haven Railroad. In the 1850s, he became superintendent of the southern division of the Adams Express Company in Augusta, Georgia, and during the Civil War served as president of the Southern Express Company. Investments in southern railroads during the conflict increased his wealth significantly. He purchased a large block of the Atlantic and Gulf Railroad of Georgia, which he reorganized into the Savannah, Florida and Western Railroad (SF&W). From a fledgling network of 350 miles in 1878 Plant built the railroad company into the sixth largest in the South, totaling 1,403 miles by 1893 and extending between Charleston, Columbus, Montgomery, and Punta Gorda.[35]

The Plant System, as his transportation network was known, epitomizes the expansion and consolidation of railroads in Florida during the late nineteenth century. No fewer than ten Florida railroad companies were organized or acquired by Plant between 1880 and his death in 1899. Gradually interior peninsular towns were linked to the outside world. In 1884, the SF&W merged into its system the East Florida Railroad, the Waycross & Florida Railroad, the Live Oak and Rowland's Bluff Railroad, and the Live Oak, Tampa, and Charlotte Harbor Railroad. During the 1890s, shortlines absorbed by the emerging giant were the Tampa & Thonotosassa Railroad, Yalaha & Western, and Winston & Bone Valley Railroad. Larger holdings assembled into the company included the Florida Southern Railway, Jacksonville, Tampa and Key West Railway, Orange Belt Railway, and South Florida Railroad.

One of Plant's major Florida acquisitions was the Florida Southern Railway, successor to the Gainesville, Ocala and Charlotte Harbor company that had been chartered in 1879 to build from Lake City to Charlotte Harbor with a branch to Palatka. Completed to the southern port in 1886, the railroad retained its narrow gauge profile until 1894, when Plant acquired the line. Prior to Plant's acquisition of the company and subsequent standardization of the rails, a railroad trip between Jacksonville and Punta Gorda along the route required changing trains five different times, including a delay at Bartow Junction where a three-rail siding permitted laborers to transform the standard gauge trucks under each rail car to narrow gauge for the trip south.[36]

Organized in 1875 as the Lake Monroe and Orlando Railroad, the South Florida Railroad appeared in 1879 with a charter to build from the St. Johns River to Charlotte Harbor. General Ulysses S. Grant, while on his tour of the American South, threw the first spade of dirt for the project in Sanford in 1880. Orlando was reached in October 1880 and Kissimmee in 1882. Plant acquired a controlling interest in the railroad in 1883 and completed it to Tampa. Plant City, temporarily the end of the line, was named in honor of the businessman. In 1893, after operating the South Florida as an independent line, Plant completely merged the railroad into his transportation system. The South Florida became a vital link in connecting the port cities of Jacksonville and Tampa, which was finally accomplished with the completion of the Jacksonville, Tampa and Key West

[35] *New York Times,* June 24, 1899; Klein, *Unfinished Business,* 65.

[36] *New York Times,* June 24, 1899; Pettengill, "Florida Railroads," 63-101; Vernon Peeples, "Charlotte Harbor Division of the Florida Southern Railroad," *Florida Historical Quarterly* 58 (January 1980), 291-302.

(JT&KW) Railway.[37]

Organized in 1881, the JT&KW connected Jacksonville and Sanford, following the course of the St. Johns River along its west bank. Robert H. Coleman, a wealthy Pennsylvania businessman, was the primary stockholder in the company through his holdings in the Florida Construction Company. In addition to its mainline, the JT&KW System consisted of the DeLand & St. Johns River Railroad, Sanford & Lake Eustis Railway, St. Johns & Lake Eustis Railway, and the Jupiter & Lake Worth Railway, the latter a shortline popularly dubbed the "Celestial Railway" for the settlements of Juno, Mars, and Venus it serviced in south Florida. The JT&KW entered bankruptcy in 1893, after which Plant began obtaining track rights and a financial interest in the company. In 1899, several months before Plant's death, the Plant Investment Company completed the merger of the beleaguered JT&KW into its expanding system.[38]

The Orange Belt Railway was chartered in 1885 to link Lake Monroe and Lake Apopka. That year, Peter Demens, a Russian immigrant who had established a successful lumber mill at Longwood, north of Orlando, purchased the railroad, around which he expanded his Orange Belt Investment Company. While the railroad was under construction James Gamble Speer, an early settler of Oakland in west Orange County, offered Demens 200 acres on the shore of Lake Apopka to extend the line to Oakland. In their final agreement, Speer turned over one-half interest in the 180-acre townsite of Oakland, conveyed fifteen acres for a depot and railroad shops, and set aside five acres for a public park in return for the company's promise to move its operations from Longwood to Oakland.[39]

Demens wanted to rename the community St. Petersburg after his Russian birthplace, but protests by residents resulted in the town retaining the name Oakland. The first train entered the settlement in 1886 and the construction of company shops and offices made Oakland a railroad town. After Demens secured additional funding and land grant agreements, construction began on an extension through Hernando, Pasco, and Sumter counties to Pinellas Point. In 1888 the first train entered St. Petersburg. The line furnished the towns of Clearwater, Clermont, San Antonio, and Tarpon Springs with rail service and Trilby in Pasco County became a crossroad of the Orange Belt and South Florida railroads. Many of the stations built by the company displayed a distinctive Russian motif. Company land offices, shops and turntable, hotels, and a wharf were developed in St. Petersburg. In 1893, the Orange Belt Railway was reorganized into the Sanford & St. Petersburg Railway and was leased to the Plant System in 1895 and shortly thereafter was acquired by the larger company.[40]

Plant's railroads played a significant role in the development of the Florida peninsula. Inland regions were

[37]Pettengill, "Florida Railroads," 41-43.
[38]Curl, 31-32; Pettengill, "Florida Railroads," 75-76, 80-83.
[39]Ibid., 87-88.
[40]Ibid., 87-91.

supplied with quick access to port cities. Countless new towns, such as Auburndale, Davenport, Haines City, and Kissimmee, were created along the lines. Many older settlements, such as DeLand, Green Cove Springs, and Palatka, long dependent upon St. Johns River steamboats and wagon trails for transportation, benefitted from the new form of travel. Inland communities located farther south such as Bartow and Orlando found the rail system far superior to the crude trails previously linking them to the outside world. Farmers now supplied with quicker access to markets planted thousands of acres in citrus. Several hotels supported the system, the most notable being the magnificent Tampa Bay Hotel. The Hotel Belleview, Fort Myers Hotel, Ocala House, Seminole in Winter Park, and Tropical Hotel in Kissimmee were other posh hostelries owned and operated by Plant. In 1899, Plant's rail holdings in Florida alone included 1,196 miles of track, then the longest network in the state. His death that year hampered further expansion of the system.[41]

One of Plant's early Florida rivals emerged out of the ashes of the Florida Railroad. The company, reorganized in 1872 as the Atlantic, Gulf and West India Transit Railroad Company, commonly known as the Transit Railroad, completed a spur between Waldo and Ocala in 1879 and then extended it to Silver Springs. By 1880, the company owned thirty-six locomotives, six passenger cars, three baggage cars, and ninety-six freight cars. Several changes in name and ownership and acquisition of smaller lines occurred. In 1884, the company was absorbed by the newly-formed Florida Railway & Navigation Company (FR&N), which had been organized by Edward J. Reed, an English investor. Four years later, the Florida Central & Peninsular (FC&P) absorbed the FR&N. Maintaining some 500 miles of track in 1885, the FC&P has been attributed by railroad historian Richard Prince as Florida's first large railroad system. Notwithstanding its early mileage claim the company was soon overshadowed by competitors Henry Flagler and Henry Plant.[42]

Driving forces behind the organization and expansion of the FC&P included Bayard Cutting, a New York City attorney and president of the St. Louis, Altoona and Terre Haute Railroad, and H. Reiman Duval, a railroad official who had worked for the Baltimore & Ohio and the Erie railroads. Duval was president of the FC&P between 1884 and 1899. Smaller existing railroads absorbed by the company and its predecessors included the Atlantic, Suwannee River & Gulf, East Florida & Atlantic, Fernandina and Jacksonville, Jacksonville Belt, Leesburg and Indian River, Orlando & Winter Park, Osceola & Lake Jessup, and the Tavares, Orlando & Atlantic companies. In 1890, the company operated 576 miles of roadbed that stretched from Fernandina south to Tampa and Oveido and west to River Junction on the Chattahoochee River. Tracks eventually extended north to Savannah, Georgia, and Columbia, South Carolina.[43]

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[41]Mueller, *Steamships,* 39; Plant System, "Plant System Timetable," (Savannah: Plant System, 1899), 44-45.

[42]Richard Prince, *Seaboard Air Line Railway: Steam Boats, Locomotives, and History* (Green River, Wyoming: Richard Prince, 1969), 76; Johnson, "Florida Railroad After The Civil War," 296-297, 303, 309.

[43]Johnson, "Florida Railroad After The Civil War," 296-297, 303, 305, 309.

Railroad construction in Lake, Orange, and Polk counties, the heart of the state's citrus region and one of the most intensely settled areas during the period, illustrates the extensive nature of Florida's late nineteenth century railroad growth and consolidation of lines. In 1890, Orange County alone was serviced by the Florida Midland Railroad, Orange Belt Railway, Orlando & Winter Park Railroad (fondly referred to as the "Dinky Railroad"), South Florida Railroad, Tavares & Gulf Railroad, and the Tavares, Orlando & Atlantic Railway. In 1889, near the height of Florida's golden age of railroad construction, the *Tallahassee Floridian* noted that the alluvial soils surrounding Lake Apopka supported many settlements and intensive citrus and truck crop cultivation. Consolidations swiftly changed the character of the region's railroads. By 1903, with one exception, Orange County's railroads had been merged into two systems.[44]

The Tavares & Gulf Railroad (T&G), incorporated in 1885, was the longest-lived of Lake and Orange county's independents. The company only completed thirty-eight of a proposed 225-mile line to connect Tavares and Clermont. Killarney, established about 1880 by Irish immigrants, became a whistle stop on the Orange Belt Railway and later for the Tavares & Gulf. The companies built a "Y" near Killarney, making it an exchange point for the roads. The T&G was foreclosed in 1890 and in 1899 the reorganized company built an extension east from Oakland to Winter Garden and reached Ocoee in 1913. A brick depot was built in Winter Garden in 1913 and wood frame stations in Astatula in 1914 and Ocoee in 1915. The company was acquired in 1926 by the Seaboard Air Line Railway and operated as a separate business until its abandonment in 1969.[45]

Explosive growth in the 1880s followed by calamities in the early 1890s yielded record numbers of receiverships. The financial Panic of 1893 followed by the Great Freeze of 1894/1895 precipitated reduced passenger traffic and agricultural shipments, pushing many companies already operating on slim profit margins into bankruptcy. Nationally, some 27,000 miles of tracks were foreclosed in 1893 and by 1897 an additional 41,000. Florida's massive construction projects and subsequent bankruptcies captured the attention of several large southern railroad companies. In 1899, the Seaboard Air Line Railway (SAL) began negotiations to acquire the 800-mile FC&P with the final merger arrangement hammered out in 1903. Organized in 1889 in Maryland, the SAL maintained its corporate headquarters in Norfolk, Virginia. John Skelton Williams and John M. Robinson were early officials who directed the growth of the company, which assembled a mainline that stretched between Montgomery, Richmond, and Tampa within two decades of its founding.[46]

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[44]Jerrell Shofner, *History of Apopka and Northwest Orange County, Florida* (Apopka: Apopka Historical Society, 1982), 68-75, 90; William Blackman, *History of Orange County, Florida* (Orlando: William Blackman, 1927), 28, 205-211; Pettengill, "Florida Railroads," 87-88, 128.

[45]Phil Cross, "The Tavares and Gulf Railroad," *National Railway Bulletin* 42 (1977), 28-31, 34-36, 38, 47; Shofner, *Apopka and Northwest Orange County,* 68-75, 90; Blackman, *Orange County,* 28, 205-211; Pettengill, "Florida Railroads," 87-88, 128.

[46]Kolko, *Railroads and Regulation,* 64; Pettengill, "Florida Railroads," 87-88, 128; Shofner, *Apopka,* 90; Blackman, *Orange County,* 28, 205-211; Rowland Rerick, *Memoirs of Florida,* 2 vols. (Atlanta: Southern Historical Association, 1902), 1: 265-69; Burke Davis, *Southern Railway: Road of the Innovators* (Chapel Hill and London: University of North Carolina Press, 1985), 30; John F. Stover, *Life and Decline of the American Railroad* (Oxford: Oxford University Press, 1970), 73.

Another regional giant, the Atlantic Coast Line Railroad (ACL), competed for control of Florida's rail system. Also organized in Baltimore in 1889, the ACL controlled fifteen railroads and totaled 1,337 miles in 1894. H.G. Walters of Baltimore provided the vision and leadership behind the company's expansion. In 1902, the (ACL) added to its holdings the Plant System, which by then was larger than the ACL with fourteen railways and 2,012 miles of track. The acquisition of the Plant System made the ACL one of the largest of the southern railroads and furnished the company with access to ports at Charlotte Harbor, Jacksonville, and Tampa. Headquartered initially in Baltimore, then Wilmington, and finally Jacksonville, the system reached Richmond on the north and Montgomery and Atlanta to the west. In 1895, the ACL commissioned Baldwin Locomotive Works Company with the design and construction of a high-speed locomotive, resulting in a 4-4-2 wheel configuration locomotive. The engine type was named "Atlantic" in honor of the sponsoring ACL. In 1902, the company also acquired a majority holding of the stock of the L&N, furthering cementing its presence and strength as a leading American railroad. Although the ACL and L&N would share the same chairman of the board of directors for several decades, the latter would operate as an independent system with little interference from the former. The two roads shared connections at Montgomery, Alabama, and Chattahoochee, Florida.[47]

Consolidation on a smaller scale in Florida came from Southern Railway, another regional giant organized in 1894 by financier J.P. Morgan. Headquartered in the nation's capital, the company initially made inroads into north Florida through the acquisition of existing roads and then added roadbed. In 1890, the Georgia Southern and Florida (GS&F), a Georgia railroad connecting Macon and Valdosta, reached Palatka via Lake City to take advantage of naval stores in north Florida and commerce on the St. Johns River. The company went bankrupt within several years and Southern Railway acquired the GS&F in 1895. The Atlantic, Valdosta & Western Railway (AV&W), organized in 1897, arrived in Jacksonville in 1899 and was acquired by the Southern in 1902. The AV&W contributed to Jacksonville's emergence as a rail center, relocating its headquarters there from Haylow, Georgia, in 1899 and constructing shops at Grand Crossing. The Southern later developed the St. Johns River Terminal Company, a thirty-mile network of yards centered in Eastside Jacksonville, where in 1910 it developed a roundhouse and shop facility to support its motive power and rolling stock. Southern Railway also joined the ACL, FEC, and SAL in developing the infrastructure of the Jacksonville Terminal Company, which eventually boasted some twenty-seven miles of yards and a union station.[48]

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[47]Kolko, *Railroads and Regulation,* 64; Pettengill, "Florida Railroads," 87-88, 128; Shofner, *Apopka,* 90; Blackman, *Orange County,* 28, 205-211; Rerick, *Florida,* 1: 265-69; Howard Dozier, *A History of the Atlantic Coast Line Railroad* (Boston: Houghton-Mifflin Company, 1920), 147-151; Burke Davis, *Southern Railway: Road of the Innovators* (Chapel Hill and London: University of North Carolina Press, 1985), 30; Stover, *Life and Decline,* 73; Klein, *L&N,* 312-313, 431, 462.

[48]*Jacksonville Florida Times Union,* January 7, 1899, April 15, 1910; Davis, *Southern Railway,* 30, 38, 63, 193; Herbert Doherty, "Jacksonville as a Nineteenth Century Railroad Center," *Florida Historical Quarterly* 58 (April 1980), 379-380; Richard Prince, *Southern Railway System Steam Locomotives and Boats* (Green River: Wyoming: Richard Prince, 1965), 31.

Southern developed several stations in Florida during the nineteenth century, including one at Florahome in 1899. By 1925, the company maintained nearly forty stations along its Florida mainlines. Important crossings and junctions with other railroad companies were established at Hampton, Jasper, Lake Butler, Lake City, and Sampson City. Some of the company's stations and buildings were designed by Frank Milburn, a Washington, D.C. architect. A native of Kentucky trained at the University of Arkansas and Louisville University, Milburn often moved his office upon winning a major commission. Between 1889 and 1903, he prepared the plans for at least twelve courthouses in Georgia, North Carolina, and West Virginia, but critics complained of his use of second-hand and even identical plans from earlier projects. Criticism of a poor design and supervision of the completion of the South Carolina Statehouse resulted in his removal as architect of the project in 1902. Still, Milburn persisted in his craft, preparing the plans for many notable buildings throughout the South. Besides designing a number of railroad stations in Florida, Milburn also prepared the plans for the Columbia County Courthouse and Hotel Blanche in Lake City and the 1902 enlargement of the Florida State Capitol.[49]
About 1902 Milburn landed a position as official architect for the Southern Railway. The following year he formed a partnership with Michael Heister and in 1907 relocated to Washington, D.C. His reliance on the re-use of plans adapted well with the standardization of plans used by most railroad companies for small station design. His typical railroad station design featured a hip roof with flared eaves supported by large brackets, agent's bay, a wood frame covered in novelty siding, paneled wood doors with transoms, and 6/6-light double-hung sash windows. Corbeled brick chimneys and hip dormers often projected from the roof. By 1920, he had crafted individual plans for nineteen large stations, including those in Danville, Lynchburg, and Richmond, Virginia. On larger projects, however, including union stations in Atlanta and Birmingham, the Southern abandoned Milburn and turned to other architects. His design of the ACL's Charleston station was described as an "artistic disaster." Despite his wavering reputation, Milburn apparently retained his post as Southern's principal architect and designed several landmark buildings in the nation's capital, including Southern Railway Company's Office Building, the Department of Commerce Building, Interstate Commerce Commission Building, and the American Federation of Labor Building.[50]

Some independent shortlines appeared and just as quickly fell victim to competition, bankruptcy, and even abandonment. The Green Cove Springs and Melrose Railroad, incorporated in 1881, opened in 1883 a ten-mile stretch between the St. Johns River and Sharon in Clay County. Foreclosure followed two years later and the reorganized Green Cove Springs and Midland Railway reached Melrose in 1890. Insufficient revenues compelled the company to abandon the road in 1899. The St. Cloud and Sugar Belt Railway was organized in 1888 and two years later tracks were completed between Kissimmee and Narcoossee in Osceola County, where company president Jacob Disston opened a sugar mill and hoped to develop real estate. The so-called Sugar

[49] *Jacksonville Florida Times Union,* December 19, 1899; Davis, *Southern Railway,* 139; Reeves, *Florida's Historic Architecture,* 33, 49; A.N. Marquis, comp. *Who's Who in America* (Chicago: A.N. Marquis Company, 1916), 1696; John Wells and Robert Dalton, *The Virginia Architects, 1835-1955* (Richmond: New South Architectural Press, 1997), 294-297.

[50] Lawrence Wodehouse, "Frank Pierce Milburn: A Major Southern Architect," *North Carolina Historical Review* 50 (July 1973), 289-291; Wells et al., *Virginia Architects,* 294-297; Davis, *Southern Railway,* 139; Marquis, *1916 Who's Who in America,* 1696.

Belt line operated until 1893, when it was acquired by Plant. The road was eventually abandoned. Another Plant subsidiary later abandoned was the Florida Midland, which extended from Longwood through Apopka to Kissimmee. Organized in 1883, the company completed the project in 1890, but collapsed the following year. Plant acquired the company in 1896 and began the long slow process of abandoning unprofitable segments of the line.[51]

Some of the initials of companies stenciled on locomotives and rolling stock lent themselves to rewording by southern humorists, either as jocular nicknames or derisive acronyms parodying a company's perceived quality of service. Florida railroads with droll monikers include the Tampa & Jacksonville Railway, a short line extending between Sampson City, Bradford County, and Emathla in Marion County, which on occasion was referred to as the "Tug and Jerk." Early on, the Georgia Southern & Florida earned the title "Go Slow and Flag." "Lean Over, Push & Grunt" was often applied to the Live Oak, Perry & Gulf and the Georgia & Florida was also known as "God & Forgotten." The Gainesville and Gulf easily lent itself to the popular southern dish "Grits and Gravy" and "Gophers, Frogs & Alligators" aptly described the wetlands supporting the route of the Georgia, Florida & Alabama.[52]

The passenger departments of many companies published maps, timetables, and guidebooks, the latter extolling the salubrious Florida climate and the advantages of rail travel. The FEC published elaborate pamphlets with photographs of landmark hotels and scenic views of lagoons and rivers. Many companies distributed maps that depicted settlements, routes, and, most importantly from their perspective, lands available for purchase from the company. Towns and settlements were described in detail, complete with hyperbole about growth that would surely come. Articles in foreign newspapers encouraged Europeans to immigrate to Florida and build towns. Timetables were updated and revised as more powerful locomotives reduced travel times. Still, many trains ran slower than their published times and once a train fell twenty-four hours behind some companies engaged in the practice of posting it "on-time."[53]

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[51]Pettengill, "Florida Railroads," 85, 87, 126.

[52]Davis, *Southern Railway,* 17; Caroline Watkins, "Some Early Railroads in Alachua County," *Florida Historical Quarterly* 53 (April 1975), 458.

[53]Plant System, *Gate City Route: South Florida Railroad* (New York: South Publishing Company, 1887); John Varnum, *Florida! Its Climate, Productions and Characteristics* (New York: South Publishing Company, 1885); Mrs. H.K. Ingram, *Florida: Beauties of the East Coast* (Buffalo: Matthews-Northrup Company, 1893); Florida Southern Railway Company, *New Sectional Map of the Eastern and Southern Portion of the State of Florida* (Buffalo and New York: Matthews, Northrup & Company, 1890); G.W. & C.B. Colton, *Colton's New Sectional Map of the Eastern Map of Florida* (New York: G.W. & C.B. Colton Company, 1885); Jacksonville, Tampa & Key West System, *Correct Map of Florida Showing the Jacksonville, Tampa and Key West System* (Buffalo: Matthews, Northrup & Company, 1890).

Late Nineteenth Century Railroad Station Architecture

Stations appeared in most settlements serviced by rail. Railroad companies were pioneers of architectural standardization. The vast majority of stations built during the nineteenth century were small wood frame buildings with gable or hip roofs and broad eaves supported by large braces. Most were planned by a railroad's engineering department and built under their supervision by company carpenters, or in some cases a local contractor. The FEC employed several standard plans with board-and-batten exterior walls and 2/2-light double-hung sash windows, such as the station in Port Orange completed in 1894 and in Vero in 1903. Some were more elaborate with towers and turrets. The L&N used a standard plan for most of its stations in west Florida towns and the Plant System also used stock plans for many of its depots. Even some of the nation's largest systems, such as the Illinois Central Railroad, relied on staff architects and engineers to develop its stations.

Yet, a surprising amount of unusual railroad architecture contrasted with the standard forms. The FEC's Ormond Beach station displayed variegated wood shingles and novelty siding, gable-end bargeboard, and a projecting tower, and the JT&KW's Seville station displayed leaded glass windows and was reminiscent of a log house, built with pine or palm logs. The Plant System's Orlando station, completed in 1889, was an impressive eclectic Victorian masonry building rising two-and-one-half-stories with a three-story corner tower and open porch. The L&N's wood-frame two-story station in Pensacola was equally impressive. Unfortunately, relatively few of these simple wood frame and more elaborate nineteenth century stations remain standing.[54]

The confluence of railroads into Jacksonville helped make it a major southern port and rail center in the 1890s. A union station was completed west of the downtown on Bay Street in 1897. W.B.W. Howe was the architect and S.S. Leonard the builder. Since the 1870s, union stations or terminals had gained popularity with railroad executives as a means for uniting passenger services between various railroads. By the 1890s, railroads had studied the union station concept in detail and had nearly perfected the technique. Henry Flagler initiated the idea in Jacksonville in 1890, following the completion of the St. Johns River bridge. He cooperated with Plant of the SF&W and Duval of the FC&P in planning its location, financing its construction, and sharing in its operation. The railroads initially planned to build the station in the Brooklyn area west of town, but relented to the political will of the city's leaders and built closer to town in LaVilla. The location of the terminal and the proper alignment of tracks to enter the station required altering the course of McCoy's Creek. Both the SF&W and FC&P entered the area from the west and Flagler's FEC from the south. Soon the mainline of Southern Railway and local interurban services would share the terminal.[55]

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[54]Edwin Alexander, *Down At The Depot: American Railroad Stations From 1831 to 1920* (New York: Bramhall House, 1970), 10; Morton Winsberg, comp., *Florida's History Through Its Places* (Tallahassee: Florida Institute of Government, 1988), 59.

[55]Herbert Doherty, "Jacksonville As A Nineteenth-Century Railroad Center," *Florida Historical Quarterly* 58 (April 1980), 373-386; Wayne Wood, *Jacksonville's Architectural Heritage* (Gainesville: University Press of Florida, 1989), 95; Akin, *Flagler*, 192-193;

Progressive Era and World War I, 1904-1920

During the first two decades of the twentieth century, the so-called "Progressive era," Florida experienced a period of development spurred by economic and social forces different from those of earlier decades. Characterized by reform movements in business, education, government, and labor, the era wrought substantial changes on Florida's landscape. The most tangible legacies of the era include highway construction, land reclamation, and a building boom that transformed the physical landscape of many Florida towns and cities.

Railroads participated in the growth. Regional giants having consolidated their gains expanded into new areas of the state. Seeking to develop fertile mucklands in the Kissimmee River valley, the FEC opened a branch line to Lake Okeechobee. Both the ACL and SAL pushed deep into the peninsula, where new towns were created and older towns celebrated the arrival of the railroad. Georgia and Alabama railroad companies developed extensions to Gulf ports in west Florida. The ACL's selection of Jacksonville in 1906 as its third division headquarters supplemented the company's other divisions at Savannah, Georgia, and Rocky Mount, North Carolina, and secured the city's status as a major rail center. The state's railroad mileage climbed from 4,239 in 1907 to 5,930 a decade later.[56]

Financial panics in 1893 and 1907 and the deaths of railroad barons ushered in a new generation of twentieth-century leaders. Between 1897 and 1916 national and regional railroad leaders William Chipley, Henry Flagler, Edward Harriman, James J. Hill, Collis Huntington, J.P. Morgan, and Henry Plant died, creating a vacuum filled with men of practical railroading experience. Most of their successors worked their way up in the railroading business. The likes of Henry Fink, James T. Harahan, Fairfax Harrison, Milton H. Smith, and Samuel Spencer achieved renowned as leaders in the field, regrouping and then expanding their respective systems. Each installed an efficient administration for charting out daily operations and responsible growth. Harahan, Harrison, and Smith each influenced Florida railroads in their control of the SAL, Southern Railway, and Louisville & Nashville Railroad, respectively. Legh Powell, Jr., president of the SAL (1927-1946), and John R. Kenly, president of the ACL (1913-1928), also fit the mold of working their way up through the ranks of a company to positions of corporate leadership. Powell began as a clerk and Kenly as a crew surveyor. At forty-three years old, Powell was the youngest president of any railroad in the country when he assumed the reins of the SAL. George E. Elliott succeeded Kenly directing the ACL in 1928 after beginning his career in the legal department following graduation from Harvard's law school in 1896. William J. Harahan, SAL president between 1912 and 1918, was born into a railroading family. Harahan's father had started as a switchman and was elected president of the Illinois Central in 1901. By the 1920s most railroad executives advanced through a

William Wilson, *The City Beautiful Movement* (Baltimore and London: The Johns Hopkins Press, 1989), 267; Alexander, *Down At The Depot,* 224.

[56]Florida Department of Agriculture, *Florida: An Advancing State,* 104; *Jacksonville Florida Times Union,* March 2, 1906.

long series of promotions to reach the top seat, rather than attaining a position of power through family or financial influence.[57]

Fledgling legislation in the late nineteenth century had limited practical impact on the means used by executives to run their railroad companies, or on a public often enraged by alleged abuses. As early as 1887, the federal Interstate Commerce Commission Act had outlawed pooling and price-fixing agreements. The Sherman Antitrust Act of 1890 regulated the consolidation of industries into monopolies and was used against railroads for the first time in 1904 to prevent the merger of the Great Northern and Northern Pacific railroads in the Northern Securities case. Reform politics played an important role in stabilizing the railroad industry and improving its public face. In a ten year period between 1903 and 1913, federal legislation included the Elkins, Hepburn, Mann-Elkins, and Railroad Valuation acts to end rebates, set maximum and minimum rates, increase the authority of the federal Interstate Commerce Commission, and more fairly assess the worth of railroad companies. Much of the legislation sought to solve economic and market problems with political solutions.[58]

Federal regulation rather than state legislation was preferred by most railroad executives. By 1886, nearly twenty-five states had created commerce commissions or agencies to regulate rail traffic. Florida's commission movement became symbolic of political strife in the state, the perceived excesses of big business, and the increasing wealth of corporate America. Florida initially legislated railroad regulation piecemeal, enacting laws between the 1860s and 1880s that set passenger rates and prohibited rate discrimination. In 1887, the legislature established an Interstate Commerce Commission, which, although little more than a political tool with a stormy early history, secured relief for hundreds of farmers and businessmen seeking fair rates. The commission was abolished in 1891 and then re-established in 1897. The re-enactment of commission legislation established the principle in Florida of the regulation of businesses as essential to the public welfare.[59]

The public outcry against railroads in Florida and much of the nation revolved around the four following principles: (1) interstate railroads used high rates within a state to compensate for low charges on regulated interstate traffic; (2) rates charged were not based on a service rendered, but on the changing value of produce and products shipped; (3) competitive routes had lower rates than non-competitive routes; and (4) growers had no opportunity for appeal against a railroad that failed to provide needed services. Henry Flagler's response in 1899 to calls from farmers for lower rates was "nothing competes with Fla. oranges but Fla. oranges,--that an

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[57]Klein, *Unfinished Business,* 66-67; Stover, *Life and Decline,* 99; John Stover, *History of the Illinois Central Railroad* (New York: Macmillan Publishing Company, 1975), 241-244.

[58]Stover, *Life and Decline,* 113; Michael Conant, *Railroad Mergers and Abandonments* (Berkeley and Los Angeles: University of California Press, 1964), 31, 42-44.

[59]Durwood Long, "Florida's First Railroad Commission, 1887-1891 (Part 1)," *Florida Historical Quarterly* 42 (October 1963), 103-124; Durwood Long, "Florida's First Railroad Commission, 1887-1891 (Part 2)," *Florida Historical Quarterly* 42 (January 1964), 248-257; Tracy Danese, "Railroads, Farmers and Senatorial Politics: The Florida Railroad Commission in the 1890s," *Florida Historical Quarterly* 75 (Fall 1996), 146-166.

advance in rates always comes out of the pocket of the consumer." The Florida Railroad Commission helped resolve some conflicts, often interceding between railroads, shippers, and citizens to determine the size and location of stations, shipping rates, placement of mainline and spur routes, and a host of other concerns. Some resulted in court injunctions and litigation. Conflict occasionally erupted between railroads, too, often to the delight or benefit of the public. Although Flagler offered use of the Jacksonville Terminal facility to newly-formed railroads, he often quarreled with the other owners about access rights and fees. An era of cooperation between Duval, Flagler, and Plant ended with the death of Plant in 1899, and an alliance between Flagler and Henry Walters, president of the ACL, strained relations with other roads using the facility. Southern Railway, using the authority of the railroad commission, gained access into the terminal in 1902 only after a court fight.[60]

Farsighted railroad executives welcomed the opportunity for federal regulation to help stabilize an industry increasingly regulated by contradictory laws legislated by the various states. In 1913 alone, some 230 laws enacted by forty-two states affected railroads in the areas of labor, grade crossing, signal blocks, and electric headlights. Some states ignored federal rulings; Alabama enacted a law that any railroad appealing its procedures to a federal court would forfeit its license to operate in the state. Railroad companies became leading advocates of federal regulation on their own terms. By 1916, they had gained an upper hand in the fight against state regulation and in 1918 the Federal Railroad Control Act granted rate-making power to the new federal Railroad Administration with review by the Interstate Commerce Commission. The Transportation Act of 1920 ended some forty years of agitation for comprehensive federal railroad regulation. The act adopted a plan for the consolidation of railroads into a limited number of systems and assured companies a return of 6 percent on their investments.[61]

Against this backdrop of regulation and politics, Florida's railroads continued their expansion into the peninsula. Between 1900 and 1910 only six states, one of those Florida, built more than 1,100 miles of tracks. During the following decade an additional 500 miles were built in the state. By World War I, the nation's railroads had achieved most of their physical growth, reaching a peak of 254,037 miles in 1916. Signs of impending change and financial stress in the railroad transportation industry were evident. Some companies had overextended their systems and many operated with financial losses. In 1916, one-sixth of the nation's railroads were bankrupted, operated by trustees or receivers.[62]

In Florida, the expansion primarily benefited people residing in the peninsula. The ACL stretched south from Punta Gorda to reach Fort Myers in 1904. Farther inland the company extended rails south of Haines City down Polk County's Highlands Ridge into Sebring in 1912 and Moore Haven on the south shore of Lake Okeechobee in 1918. The extension opened new areas to citrus development and resulted in the revitalization

[60]Akin, *Flagler,* 192-196.
[61]Kolko, *Railroads and Regulation,* 217-218, 229.
[62]Stover, *Life and Decline,* 101, 112; John Stover, *History of the Illinois Central* (New York and London: Macmillan, 1975), 266.

and formation of numerous communities, including Avon Park, Dundee, Frostproof, Lake Wales, and Sebring. Established in the 1880s, Haines City also prospered from the development, becoming a distribution center for the railroad.[63]

The SAL also capitalized on Florida's developing phosphate and citrus belts. Several subsidiary companies later absorbed by the larger railroad were responsible for the building. Organized in 1906, the Tampa Northern Railroad built northward to Brooksville, which was reached in 1908. The Tampa and Gulf Coast Railroad, established in 1909, operated a logging road north of Tampa at Lutz west to Tarpon Springs. The SAL acquired the line in 1915 and opened passenger service into St. Petersburg. The SAL also pushed eastward from Tampa, building tracks to Bartow and into Lake Wales in 1915. In the same year another subsidiary, the East and West Coast Railway, completed a line between Manatee and Arcadia. Tampa's emergence as a rail center resulted in the construction of a union station in 1912. The Charlotte Harbor & Northern, developed by phosphate interests, stretched from Mulberry in Polk County to Boca Grande in Charlotte Harbor. It was acquired by the SAL in 1928.[64]

Henry Flagler executed the boldest project of the period. Construction of rails between Miami and Key West, a stretch of tracks known variously as Flagler's Folly, the Key West Extension, and the Overseas Extension, began in 1905. Besieged by hurricanes and facing a lack of potable water in the miles of wetlands and unforgiving ocean, Flagler's men fashioned one of the largest series of bridges and viaducts in the country, spanning the 155 miles between Miami and Key West. Long Key Viaduct measured 2.68 miles and its construction required 286,000 barrels of cement, 177,00 cubic yards of rock, 106,000 cubic yards of sand, 612,000 feet of pilings, 5,700 tons of reinforcing rods, and 2,600,000 feet of timber. In all, some eighteen miles of bridges and viaducts were constructed. The financier died eighteen months after the rails reached Key West. The company utilized the roadbed for nearly four decades ferrying passengers to Key West, ending service there after portions of it were destroyed in the 1935 Labor Day hurricane.[65]

In 1911, the FEC, seeking to tap the fertile lands of the Kissimmee River valley and the eastern shore of Lake Okeechobee, began construction of its Okeechobee branch. From Maytown in southeast Volusia County, the line ran south through eastern sections of Okeechobee, Orange, Osceola, and Seminole counties and western portions of Indian River, Martin, and Palm Beach counties. The railroad engaged in town building, creating settlements along its route. Within several years, villages appeared along the route at Bithlo, Holopaw, Pocataw, and Wewahotee. Company town planning attempts at Chuluota and Kenansville, however, met with

[63]Vernon Peeples, "Florida Southern Railroad," 302; Harry Cutler, *History of Florida* 3 vols, (Chicago and New York: Lewis Publishing Company, 1923), 1: 463; M.F. Hetherington, *History of Polk County, Florida* (Lakeland: M.F. Hetherington, 1928), 148; Junius Dovell, *Florida: Historic, Dramatic, Contemporary* 4 vols., (New York: Lewis Historical Publishing Company, 1952), 2: 749.

[64]Prince, *SAL,* 92-96; Seaboard Air Line Railway, *Shippers Guide* (New York: Wynkoop Hallenbeck Crawford Company, 1914), 59-61.

[65]Bramson, *FEC,* 67-75.

little success. By 1915, the FEC had reached Okeechobee, a settlement on north shore of Lake Okeechobee, building 122 miles of track through the relatively uninhabited interior of Florida.[66]

In west Florida, growth was more moderate with companies completing mainlines or extending shortlines to port towns. The Georgia, Florida and Alabama Railway (acquired by the SAL in the 1920s) pushed south from Bainbridge, reaching Tallahassee in 1901. It reached the Gulf of Mexico by acquiring the Carrabelle, Tallahassee, and Georgia Railroad in 1906. The same year the company built a 11-mile branch to Quincy. Several shortlines were built to establish north-south links with the L&N, profit from naval stores production, and offer inland communities a rail link with the Gulf of Mexico. Most struggled to endure. The Apalachicola Northern (A&N) connected Port St. Joe with the L&N and the SAL at River Junction on the Apalachicola River. The 102-mile road entered receivership in 1907. Farther west the Atlanta and St. Andrews Bay, popularly known as "the Bay Line," was organized by lumberman A.B. Steele but never achieved its northern destination. The company's rails stretched eighty-two miles from the Gulf of Mexico north to Cottondale, a crossroad on the L&N, and ended at Dothan, Alabama. The Bay Line entered Panama City in 1908. Its rival, the Birmingham, Columbus & St. Andrews Bay (BC&StAB), reached its terminus at Southport on St. Andrews Bay about 1905, but poor ridership and revenue shortfalls forced the company into receivership in 1908. Various Alabama railroads terminated at west Florida's major port, but most failed to reach their northern destinations. The Pensacola & Perdido and Pensacola, Alabama & Tennessee experienced financial ruin and were reorganized into the Pensacola, Mobile & New Orleans Railway in 1913. The expectations of the new owners also went unfulfilled and the company serviced small coastal Alabama settlements until the 1920s, when the St. Louis-San Francisco Railroad united them into its regional system. By then, Pensacola anchored the eastern and southern ends of several important railroads that extended to Chicago and St. Louis.[67]

African-Americans

Some of the labor to build Florida's railroad lines came from African-American communities. Much of the state's antebellum system had been developed by slave labor, although several companies including the Florida Railroad and the Pensacola and Georgia Railroad, had been built by contractors. In the late nineteenth century, black labor played an increasing role in the construction of tracks, yards, and servicing of equipment. In LaVilla, one of Jacksonville's largest African American communities, the census bureau counted only one railroad laborer in 1870. By 1887, however, 114 people, or nearly fourteen percent of LaVilla's male residents, labored in the railroad industry. Nationally, African Americans represented about 10 percent of the railroad labor force. Some worked as baggagemen, brakemen, clerks, engineers, firemen, foremen, and ticket agents,

[66]Ibid., 93.

[67]Wayne Cline, *Alabama Railroads* (Tuscaloosa and London: University of Alabama Press, 1997), 180-182, 236-238; *Panama City Pilot,* June 27, 1908; Prince, *SAL,* 97; Interstate Commerce Commission, *Thirty-Fourth Annual Report of the Statistics of Railways of the United States, 1920* (Washington, D.C.: GPO, 1922), 425-426.

but the vast majority labored as porters, section hands, and waiters.[68]

In 1910, the Fellsmere Farms Company employed about ten black laborers to help construct the company's railroad tracks and cook for the survey party that laid out the Town of Fellsmere in Indian River County. After the tracks were completed some African American laborers remained, establishing homes and working in citrus groves and vegetable fields. In the late 1920s, Port Orange's Freemanville community included several FEC hands who lived in railroad section houses. The most prominent African American Floridian to advocate for black rights in the industry was A. Phillip Randolph. Born in Crescent City and educated in Jacksonville, Randolph helped organize Pullman porters into the Brotherhood of Sleeping Car Porters in 1925, which gained full bargaining powers in 1937.[69]

Jacksonville and other large cities offered more opportunity for employment in the railroad industry than smaller towns, but entrenched racism kept most blacks from advancing through the ranks. Pullman sleeping car porters appeared to hold enviable jobs with good pay and working conditions. But union spies and company inspectors were hired to catch porters breaking any of innumerable rules, often resulting in hefty fines and many dismissals. Prior to the formation of the railroad brotherhoods in the 1870s and 1880s, blacks had held many high-paying jobs. The brotherhoods drew color lines and refused membership to blacks and even called for strikes against companies that retained blacks as conductors, engineers, firemen, and trainmen. Campaigns by the brotherhoods in the 1890s triggered an unprecedented outburst of racist polemics in trade journals and at work. In 1893, Eugene V. Debs formed the American Railway Union (ARU), intending to unite all railway workers into a single union. The existing brotherhoods refused to cooperate with Debs and the new ARU restricted blacks from membership. Later, Debs made clear his belief that the destruction of the union by the Pullman Company in 1894 was in part because whites had denied blacks participation. In 1909, after the Georgia Railroad fired ten white firemen and replaced them with blacks, the firemen's union called for a strike that eventually led to the elimination of all black firemen on southern railroads. As late as 1920, some 15,000 black brakemen, switchmen, flagmen, and yardmen worked for the nation's railroads, but there was virtually no hiring of black replacements as men retired or died. The Association of Colored Railway Trainmen and Locomotive Firemen, organized in 1913, enrolled 3,000 workers who gained more protection when the brotherhood was merged into the larger AFL-CIO. Still, the brotherhoods were largely successful in restricting most blacks from any job classifications other than waiter and porter.[70]

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[68]Bureau of the Census, *Negro Population, 1790-1915* (Washington, D.C.: GPO, 1918), 547; David Colburn and Jane Landers, *The African American Heritage of Florida* (Gainesville: University Press of Florida, 1995), 193-194; Pettengill, "Florida Railroads," 22.

[69]Bureau of the Census, 1910, Population Schedules, St. Lucie County, p. 3B, 4A; Bureau of the Census, 1920, Population Schedules, St. Lucie County, p. 267a, 268; "Subdivision of Farm Lots Nos. 1439 and 1440 by J.G. Carter, R.L. James, and Murray E. Hall," January 1912, "Plat of the Subdivision by J.G. Carter, R.L. James, and M.E. Hall of Tract 1354," July 1914, Indian River County Courthouse; Jack Salzman, David Smith, and Cornel West, *Encyclopedia of African-American Culture and History,* 5 vols. (New York: Simon & Schuster Macmillan, 1980), 4: 2261-2263.

[70]Philip Foner and Ronald Lewis, *The Black Worker: A Documentary History From Colonial Times To The Present,* 8 vols.

Early Twentieth Century Railroad Station Architecture

Railroad station design varied from small vernacular buildings crafted by a company's engineering department to fashionable designs executed from the plans of a professionally trained architect. Prepared in 1902 and periodically updated, the SAL's Standard Depot No. 2 was derived from its earlier No. 1 plan prepared by the company's chief engineer office in the 1890s. Engineering offices were located in Birmingham, Jacksonville, Portsmouth, and Savannah with the main office located in Norfolk. William D. Faucette supervised most of the SAL's in-house design services. Hired by the company in 1901, he enjoyed a long career developing railroad architecture. He rose to the position of chief engineer in 1913, a post he held until his retirement in 1944. The SAL's No. 2 design measured 25' x 56' and displayed a gable roof covered with metal shingles and a small cross gable protecting the station agent's bay. Novelty wood siding covered the exterior walls and 6/6-light double-hung sash windows. Colored and white waiting rooms were separated from each other and from the freight area by the station agent's office. A platform serviced a sliding door that protected the freight area. Standard Depot No. 3, introduced about 1912, displayed the same features as its predecessor, but occupied a smaller footprint. Early buildings developed by the company included passenger stations at Fernandina, Quincy, and Tallahassee, a union station at Live Oak, and a coaling depot at Tallahassee.[71]

Early on the L&N made available stock plans to communities and investors who wished to build a station at their own expense on company lands. Eventually, the company provided all but the smallest settlements with a station. The L&N employed a standard combination freight and passenger design for its wood frame stations at DeFuniak Springs and Milton, constructed in 1909. The L&N's Mission and Italianate influenced passenger station in Pensacola, completed in 1913, was designed by company engineers to complement the existing nineteenth-century station. Also built during the period were a SAL depot and a union station in Bartow, the FEC's Lake Helen station, and Plant City's union depot, all modest vernacular buildings executed in brick. Wood frame SAL stations in Yulee and Apopka, constructed in 1917 and 1918, respectively, were derived from the company's Standard No. 3 plan.[72]

In 1910, after DeLand's nineteenth-century station was consumed by fire, citizens objected to the construction of a new station at the same location or anywhere adjacent to the downtown. Following a heated series of debates and a court injunction, the ACL built a new station in 1911 along its spur line west of town in an industrial area. Deemed unsuited to adequately handle passenger service, the building was relegated to freight

(Philadelphia: Temple University Press, 1978-1984), 4: 72.

[71] *Jacksonville Florida Times-Union,* May 28, July 25, 1899; *New York Times,* May 20, 1947.

[72] Jerrell Shofner, *History of Apopka and Northwest Orange County* (Apopka: Apopka Historical Society, 1982), 71-74; Seaboard Air Line Railway Company, *Shippers Guide,* 10; Kincaid Herr, *Louisville and Nashville Railroad, 1850-1959* (Louisville: L&N Magazine, 1943), 218; Louisville & Nashville Passenger Station and Express Building, National Register nomination; M.F. Hetherington, *History of Polk County, Florida* (Lakeland: M.F. Hetherington, 1928), 59-60.

duty after 1918, when a large combination station was constructed five miles west, at the junction of the mainline and the spur track. The new station and a recently-completed building at Green Cove Springs displayed similar designs with brick and shell coquina-dash stucco finishes. The stations were planned by the ACL's architects and approved by the Florida Railroad Commission. The railroad solicited a review of its plans for the DeLand station by the local chamber of commerce, which purchased additional property adjacent to the site to develop a park. During the period, the ACL employed architect G.M. Poley to prepare the plans for its stations and buildings; M.E. Nelson supervised bridge designs.[73]

Professionally trained architects were generally called upon for larger projects and union depots, where the placement of interior spaces for competing interests often required an objective design approach. Their professional oversight helped coordinate the site within the overall city plan and untangle the maze of yards and tracks into a coherent passenger-loading system. Architects often negotiated with municipal governments to adjust physical features, such as creeks or roadways. Architect J.F. Leitner of Wilmington, North Carolina, where the ACL maintained its headquarters, designed the Plant City union station in 1908. Live Oak's 1909 union depot displayed Romanesque Revival detailing and the Charlotte Harbor and Northern Railway's station at Boca Grande, a two-story building with an arcaded loggia and Mediterranean Revival elements, was completed in 1913. Wilmington's J.F. Leitner was called upon again by the ACL and SAL in 1911 to design the Tampa Union Station, a Italian Renaissance Revival building opened in 1912. Completed in 1919, the expansive Classical Revival terminal in Jacksonville was the largest passenger station ever built in the state and among the largest in the South. It could handle 142 trains and 20,000 passengers daily. Renowned New York City architect Kenneth Murchison who had previously prepared the plans for union stations in Baltimore, Buffalo, Havana, and Hoboken, designed the building.[74]

Grand terminals were celebrated symbols of civic pride and technological refinement, proof of the success of the industrial revolution. Gateways into cities, those buildings reflected the nation's culture, vision, and politics, demonstrating the ability of Americans to enclose vast spaces. Monumental railroad stations conveyed power and personified America's corporate strength. They were symbols of a country that had achieved continental expansion and conquered the frontier. One railroad executive remarked in 1916 that "Magnificent stations do not earn one cent more of revenue, their cost is great, and they are costly to maintain, but if the mighty edifices will please the public, they must be built." Foreign observers expressed dismay at the excesses. Charles Evans, chief commissioner of the state railways of Queensland, Australia, in speaking of American railroads, observed that "The railways of the United States have gone mad on the subject of providing enormous marble passenger stations, with immense amounts of waste[d] space in them, observation cars, buffet, smoking cars, valets, maids, barbers and barber-shops, and stenographers, unnecessarily duplicated passenger train service, and

[73]Atlantic Coast Line Railroad, *Shippers Guide* (Wilmington: Atlantic Coast Line Railroad, 1915), 11; *DeLand Daily News,* February 18, 25, March 18, August 5, 1910, March 21, August 15, 1917, February 8, March 1, 6, 1918.

[74]Winsberg, *Florida,* 39, 44; Wood, *Jacksonville's Architectural Heritage,* 94.

scores of other luxuries, which cost money and which are unknown on the railways of any other country.... The gilded stairs and marble halls business is being carried too far all over the country."[75]

Larger cities, especially, struggled with the growth brought by railroads, lauding the resplendent architecture of the grand terminals and picturesque depots while denouncing the nearby noisome storerooms and warehouses. Typically, the construction of railroad docks, warehouses, wharves, and yards heralded by newspapers and chambers of commerce often became objects of scorn within a decade of their development. Railroad warehouses proliferated along the riverbanks of port cities. In Jacksonville, the SAL developed a major complex of shops adjacent to the union terminal beginning in 1902 and, along with the ACL and FEC, built warehouses west of the downtown between Bay Street and the river. The Southern's machine shops and warehouses stretched along the water's edge farther eaSt. In 1901 alone, the company installed nearly five miles of track along Bay Street between Catherine and Hogan streets. By 1910 the railroad companies had accumulated vast stretches of the riverfront and the *Florida Times Union* lamented that the once attractive view of the city had been transformed into an industrial center owned by shipping companies and railroads. In some cases, developers and businesses brought suit to prevent the extension of rails through prime commercial real estate. In Pensacola, the L&N invested over $1,000,000 in terminals and warehouses on Pensacola Bay in 1901, and railroads serving Jacksonville spent $2,000,000 building freight terminals and wharves between 1904 and 1909. With business-like efficiency railroad companies staked claims along the riverbanks of Florida's major ports and developed miles of tracks and large warehouses in close proximity to expanding commercial districts.[76]

The tradition of railroads supervising station construction gradually gave ground to the bid process about 1915 as companies began to deviate from standard plans and used outside architectural services even for modest depots. E.W. Parker of Tampa constructed various types of railroad infrastructure, including railroad bridges, stations, warehouses, and wharves. By 1914, W.T. Hadlow of Jacksonville had constructed the SAL's shops in Jacksonville, three company warehouses and several docks, and the station in Cordele, Georgia, in addition to numerous commercial and public buildings in Florida. Later, in the 1920s, Hadlow constructed the ACL station in Orlando and the FEC's Daytona Beach station. Bass Construction Company of Kissimmee was awarded the contract to build the DeLand Junction and Green Cove Springs stations. Railroads often awarded contracts to large out-of-state firms, some of which had completed stations in other sections of the country. The Elliott Building Company of Hickory, North Carolina, enjoyed a good business relationship with the ACL, SAL, and Southern Railway. In Florida, the company built depots at Bartow, Bee Ridge, Clearwater, Leesburg, Palmetto, and Terra Ceia. The firm also constructed the shops of the Tampa Northern Railroad, the SAL's Baldwin and Wildwood yards, expanded the shops in Jacksonville, and built 33 percent of Southern Railway's stations during

[75]Alexander, *Down At The Depot,* 205; Reginald Gordon, "Gilded Stairs and Marble Halls," *Engineering Magazine* 50 (February 1916), 708.

[76]*Florida Times-Union,* June 9, 14, 16, 1899, July 22, September 25, 1901, November 18, 1902, June 7, August 26, October 8, 1908, May 26, 1909, April 15, 1910.

the 1920s. The Elliott Company sublet some of its contracts, such as the SAL's Winter Haven station, which was completed by the local Seymour-Craig Company in 1926.[77]

Bankruptcy and court-appointed receivership fell on the heels of some mergers and many new construction projects. The SAL, after absorbing numerous smaller lines and expanding its system, became bankrupt in 1908. S. Davis Warfield, a Baltimore financier, emerged as a majority stockholder and became chairman of the receivers of the road, successfully leading the company into the black several years later. Harahan served as president of the revitalized company. The BC&StAB, bankrupted since 1908, remained in the hands of receivers for over one decade and the Georgia and Florida, a link between Madison and Valdosta, went bankrupt in 1915. The Madison Southern Railway, a six-mile route between Madison and Waco, was organized about 1905 and abandoned in the early 1920s. Another victim of poor planning and insufficient revenues was the Ocklawaha Valley Railroad, a 54-mile route stretching between Ocala and Palatka that entered receivership in 1918. The Gulf, Florida & Alabama linked Pensacola with Kimbrough, Alabama, before falling bankrupt in 1917. The Pensacola, Mobile & New Orleans ran west, but became bankrupt before completing the link to Mobile in 1915. In 1919, it was reorganized into the Gulf Ports Terminal Railway, which extended thirty-five miles from the port city into Baldwin County, Alabama. Some of these roads fought their way back to profitability, only to return to bankruptcy or purchase by a larger company several years later. Others, such as the Ocklawaha Valley, were simply abandoned.[78]

Some relatively small companies endured after building tracks to connect regions not supported by larger railroads. The ninety-one mile Live Oak, Perry & Gulf, organized in 1894, completed an extension to Perry about 1904 and eventually reached the Aucilla River. Later Southern Railway acquired the company. North from Perry the South Georgia Railroad ran eighty-one miles to Adel, Georgia. The diminutive Brooksville & Hudson, incorporated in 1902, opened a branch line between Brooksville and Tooke Lake, and later arrived at Hudson on the Gulf of Mexico. Completed in 1911, the Fellsmere Farms Railroad extended west sixteen miles from the Atlantic coast at Sebastian station on the FEC tracks. Operating with one locomotive and several cars, the railroad brought in construction material and dredges and transported out farmer's produce and crops to market. The Alabama, Florida & Gulf Railroad, organized in 1910, ran northward some thirty miles from Greenwood, Florida, to Ardilla, Alabama, where it connected with the ACL.[79]

Timber companies cut logging roads deep into the state's forests, where they harvested thousands of acres of trees for lumber and naval stores. Logging companies typically installed temporary narrow-gauge tracks and used Shay type locomotives, a geared engine well-suited to travel on crudely built roadbeds with steep grades

[77]Seaboard Air Line Railway, *Shippers Guide,* 442-443; Wayne Wood, *Jacksonville's Architectural Heritage* (Jacksonville, 1989), 60, 151, 355; *Daytona Daily News,* May 28, 1924; *Winter Haven Daily Chief,* October 20, 1924, January 21, May 20, 21, 1925.

[78]Prince, *SAL,* 92; Interstate Commerce Commission, *1920 Report of the Statistics of Railways,* xiv, 427; James McGovern, *The Emergence of a City in the Modern South: Pensacola, 1900-1945* (Pensacola: James McGovern, 1976), 21.

[79]Pettengill, "Florida Railroads," 124, 127; Interstate Commerce Commission, *1920 Statistics of Railways,* 427.

and tight radius curves. In 1904, the E.W. Bond Company, incorporated in 1904 in Volusia County, maintained three such locomotives, miscellaneous rolling stock, several miles of railroad track, and a company town at Bond's Spur. The company's railroad was linked to the outside world by a connection with the FEC. Established in 1920 on the L&N tracks west of DeFuniak Springs, the W.B. Harbeson Lumber Company constructed a lumber mill supported by a logging road. The railroad extended some ten miles into the forests north of the town. The Alger-Sullivan Lumber Company of Pensacola operated the 197-mile Escambia Railway. Stretching through the piney woods of west Florida and south Alabama, the company operated one of the longest sawmill roads in the state and among the largest fleets of locomotives in the SoutheaSt. The Bagdad Land & Lumber Company tapped the pine forests of west Florida and south Alabama with the forty-three mile Florida & Alabama Railroad. The Escambia Land and Manufacturing Company's railroad was acquired by the Escambia Mill Company in 1917.[80]

Worker and passenger safety increased significantly. Metal passenger cars had been experimented with since the 1840s, but wood frame coaches persisted as the common carrier until the first decade of the twentieth century. The first standardized all-metal passenger car was built by the Pullman Company, which developed many of the FEC's first metal cars. By 1910 metal passenger cars were in general use. Each car was assigned a number, but some also displayed regional names, such as the Orlando, Ponce De Leon, or Royal Poinciana. Heavier passenger cars and improvements in air brakes, automatic couplers, automatic train control devices, and stronger track and roadbeds, produced smoother rides and safer work and traveling conditions for passengers and crew members. Semaphores were used almost exclusively until 1913, when color boards appeared and provided an improved visual signal. The Union Pacific's installation of an alternating current signaling system in 1906 marked the beginning of automatic block signalization. Block signalization, the separation of trains by a "block of distance" using electric circuits to control switches and signals, was perfected in the 1920s. Improved infrastructure for interlocking track systems, such as the Beaver Street Railway Tower in West Jacksonville, contributed to quicker and safer train travel. Built in 1919 by the Jacksonville Terminal Company, the building was situated where twenty-four sets of tracks were merged into four mainlines. The SAL interlocking signal tower at Baldwin was installed several years later.[81]

Expansion of the state's rail network slowed with the onset of World War I. The nation's rail mileage peaked at 254,037 miles in 1916 and then the industry began a long slow decline of abandonments, bankruptcies, and

[80]Cline, *Alabama Railroads,* 228, 230; Interstate Commerce Commission, *1920 Statistics of Railways,* 427; Ianthe Bond Hebel, "Florida's Bonds: Men Who Made Lumber History," *Southern Lumber Journal* (March 1951), 24-25; Jacksonville *Florida Times-Union,* August 2, 8, 1899; "The E.W. Bond Company Mill," *Logging* (September 1917), 274, 279, 291; Donald Bragaw, "Status of Negroes in a Southern Port City in the Progressive Era: Pensacola, 1896-1920," *Florida Historical Quarterly* 51 (January 1973), 296-297; Cutler, *Florida,* 1: 388-389.

[81]Stover, *Life and Decline,* 77, 159; August Mencken, *The Railroad Passenger Car* (Baltimore: Johns Hopkins Press, 1957), 34-41; Wood, *Jacksonville's Architectural Heritage,* 357; Robert Mann, *Rails 'Neath The Palms* (Burbank: Darwin Publications, 1983), 108; Bramson, *FEC,* 276.

consolidations that formed ever larger railroad companies. By 1925, national mileage had fallen to 249,398 and declined to 233,670 by 1940. In the same way that wagons, steamboats, and canals had yielded to the iron horse in the nineteenth century, railroads gradually gave way in the twentieth century to highway transportation and then air travel. After building some 15,580 miles in hundreds of cities and towns throughout the nation, interurban and trolley lines also went into decline. By 1917, eight trolley companies operated some 183 miles of interurban service in Florida's largest cities; within two decades all would disappear.[82]

During World War I, the federal government acted to centralize the nation's railroad network. The Spanish-American War, although a brief conflict, had demonstrated the relatively uncooperative nature of companies to adjust timetables and work with other railroads or the federal government, often with little regard for troop movements or other military necessities. In 1916, the American Railroad Association, comprised of various railroad company presidents, were charged with developing a national system. Hampered by Sherman Antitrust regulations, the Association could not develop a continental system and eventually failed to provide efficient service because of insufficient rolling stock and engines. The Association also met resistance from other railroad executives seeking to gain a geographical or strategic advantage from the war conditions. Ultimately, railroad companies were ill-equipped to handle increased shipments. Under the leadership of President Wilson, the National Railroad Administration Board, also known as the United States Railroad Administration (USRA), was organized in April 1917 and maintained control of the nation's railroads for twenty-six months. William McAdoo became the director general of the nation's railroads and supervised the industry as part of the mobilization effort.[83]

One of the lasting effects of the USRA was its expansion of the motive power and rolling stock of America's railroads. Early in its existence, the administration hired top designers from locomotive building concerns and railroad companies to develop a standard line of steam locomotives to augment the nation's motive power. Twelve standard locomotive plans were adopted and some 1,850 steam engines built, including those used to switch and pull passenger and freight trains. The ACL invested in seventy USRA engines, most of those of the 4-6-2 Pacific type for passenger service and the SAL purchased forty 2-10-0 Decapod types for freight service. Although the number of available rolling stock and passenger cars remained inadequate to handle increased shipments, many new cars were built and most railroads emerged from the war with a modern fleet. Private control of the railroads was returned to the respective companies in March 1920.[84]

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[82]Stover, *Life and Decline,* 93, 128, 155; Bureau of the Census, *Census of Electrical Industries: Electric Railways, 1917* (Washington, D.C.: GPO, 1920), 138.

[83]Stover, *Life and Decline,* 158-162.

[84]Linn Wescott, *Steam Locomotives* (Milwaukee: Kalmbach Publishing Company, 1960), 34, 60, 142; Stover, *Life and Decline,* 184.

Florida Land Boom, 1921-1928

In the 1920s, the nation entered a period of enthusiastic economic expansion. In Florida, a land boom began early in the decade. It is difficult to exaggerate the speculative proportions of the era. Miami and Palm Beach are generally regarded as the scenes of most anxious activity, but few communities in the state failed to experience a fever for real estate. In early 1925 some twenty-five passenger trains, filled with visitors, were arriving daily at Jacksonville, whose chamber of commerce also reported that 150,000 automobiles from out-of-state passed through the city that season. Twenty thousand people were thought to be arriving daily in the state in December 1924. That fall, the Florida Legislature issued an open invitation to wealthy investors with approval of a constitutional amendment prohibiting income and inheritance taxes. The resulting capital influx accelerated an already well developed surge of land purchases.[85]

Florida, in contrast to the rest of the nation, was one of few state to experience railroad expansion after the war. By 1926, the state claimed more rail mileage than any other southern state. Some 650,000 people arrived in the state by trains during 1925, and the FEC regularly operated about forty trains between Jacksonville and Miami in a twenty-four hour period. In 1928, mileage reached 8,220, up from 5,930 a decade earlier. The ACL, FEC, and SAL were responsible for most of the construction. The FEC installed double tracks along the east coast, and inland the company's Okeechobee branch reached Pahokee by 1925 and joined the ACL at Lake Harbor in 1929. The SAL and ACL extended lines deep into southwest Florida, reaching Naples days apart. The ACL stretched to the Gulf ports of Marco and Everglades and completed its Perry-to-Monticello link in 1927.[86]

Despite expansionary pressures in Florida, reorganizations and bankruptcies continued to characterize the national industry. In 1922, only 318 miles were constructed and 1,188 miles abandoned throughout the nation. In 1928, the peak year of construction for the decade, 946 miles were built, much of that in Florida, and 710 miles abandoned. The unstable nature of the industry reached into the Sunshine state, where the enterprising Muscle Shoals, Birmingham and Pensacola Railway was incorporated in 1925 to absorb the bankrupted Gulf Ports Terminal Railway and the Gulf, Florida & Alabama in 1927. The company maintained 143 miles of track, four locomotives, and four freight cars. Within a year the St. Louis & San Francisco Railway, commonly known as the Frisco, had merged the MSB&P into its Chicago-to-Gulf-of-Mexico system. The Tampa & Jacksonville Railway, organized in 1906 out of the earlier Gainesville & Gulf Railroad, became part of the Jacksonville, Gainesville & Gulf in 1927. Eventually the roadbed was abandoned. The ACL and SAL periodically acquired, built, or abandoned small stretches of track to increase efficiency and profits. Overall, the excesses of 1920s growth in the Florida rail system translated into bankruptcies and receiverships for many companies in the 1930s.[87]

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[85]Charlton Tebeau, *A History of Florida* (Coral Gables: University of Miami Press, 1971), 378-92.

[86]Bramson, *FEC,* 93; *Commercial and Financial Chronicle,* April 23, 1927; Tebeau, *Florida,* 378.

[87]*Commercial and Financial Chronicle,* June 11, November 5, 1927, August 4, 1928; Interstate Commerce Commission, *1935 Statistics of Railways,* S-9.

Among the most ambitious undertakings of the period was the SAL's Florida Western & Northern division, which constructed a 200-mile extension from its mainline at Coleman in central Florida, through Winter Haven and Sebring, across the north shore of Lake Okeechobee to West Palm Beach and south to Hialeah. In 1926, the SAL opened the line, offering parallel service with the FEC into south Florida. By then, the company operated 1,713 miles of track in Florida and was the only railroad to service both coasts of the state.[88]

The vision of cross-state service came largely from S. Davies Warfield, president of the SAL between 1918 and 1927. A financier and railroad executive, Warfield envisaged the conversion of south Florida's rich wetlands into farmlands a boon for his company. The railroad serviced many existing communities, such as Lake Wales, Sebring, and Winter Haven, and experimented with town building at Sherman in Okeechobee County and Indiantown in Martin County.[89]

The SAL turned to the prominent Palm Beach architectural firm of Harvey & Clarke to design stations along its new line. The designs produced by the firm epitomize the state's picturesque 1920s railroad architecture. Both Henry Harvey and L. Phillips Clarke held degrees in architecture from the University of Pennsylvania in Philadelphia. They formed a firm in Philadelphia, and in 1921 opened a branch in West Palm Beach. Clarke's family had been pioneers in the Palm Beach area. Harvey and Clarke's partnership thrived intits first four years, completing some $7,000,000 worth of projects, but went bankrupt in 1926 or 1927 after the collapse of the Florida Land Boom. Clarke remained an architect in West Palm Beach and Harvey became a hardware merchant, specializing in architectural hardware.[90]

The firm's projects included several landmarks in Palm Beach, most displaying a Mediterranean Revival flair. For the SAL the firm developed standard station plans labeled types A through F, each displaying Mediterranean influences with stepped parapets, loggias and arched window piercings, and a small tower. Distinctive stations taken from the series include those in Auburndale, Avon Park, Delray Beach, Indiantown, Okeechobee, Sebring, Sumpterville, and Winter Haven. The West Palm Beach and Miami stations were also Harvey & Clarke designs, separate contracts from the standard plans. Several stations in southwest Florida, including one in Naples, were also designed by the firm. The SAL used the company's services to develop plans for an array of standard infrastructure, including section master's houses, section houses, tool houses, and even outhouses. The design of an automobile shed supporting Miami's passenger station was completed by the firm in 1926. The collapse of the land boom and flagging revenues compelled the SAL to end its reliance upon the design skills of the firm. The Venice station was one of few SAL buildings developed in Florida during the

[88]Prince, *SAL,* 100-101; *Lake Worth Herald,* May 5, July 21, August 11, November 17, 1926, January 5, 12, 1927; *Commercial and Financial Chronicle,* October 16, 1926.

[89]Prince, *SAL,* 101; *Stuart News,* February 4, 1926.

[90]Curl, 87; Florida Editors Association, *Book of Florida* (Tallahassee: James O. Jones Company, 1925), 326, 584; Cutler, *Florida,* 2: 209-210.

mid-1920s by a firm other than Harvey & Clarke. The plans for that building were prepared by the New York City firm of Walker & Gillette, which received the Gold Medal Award of the Architectural League in 1922 and designed the master plans for the City of Venice and the City of Lake Charles, Louisiana.[91]

The FEC also adopted the Mediterranean Revival genre to build new stations. A new passenger station was built in Daytona Beach in 1924 and a freight terminal in 1927. The company generally turned to St. Augustine architects for building design. Chester Henninger, staff architect for the company, prepared the plans for the Boca Raton station. Fred Hendrick designed the FEC Hospital Building and Francis A. Hollingsworth designed the monumental FEC office building in St. Augustine, completed at a cost of $562,573 between 1922 and 1926. The ACL replaced some of its aging stations. Many of the depots, including those in Bradenton, Haines City, Lake Wales, Orlando, Punta Gorda, and Sarasota, were crafted in the Mission style. The plans for the Haines City and Orlando stations, completed in March 1923 and January 1927, respectively, were developed by A.M. Griffin, an architect in the company's office of the chief engineer in Wilmington.[92]

Railroad stations continued to be symbols of prosperity and stability. Studies in architectural journals highlighted the design, materials, and operations of railroad buildings. The American Railway Engineering Association published specification, data, and criteria charts on stations of various sizes to help architects gauge the size of a building required to support a community based on its population and the number of railroads servicing the locale. Stations from throughout the United States and Europe were compared. Florida's railroad architecture gained national exposure through some journals. *Architectural Forum* carried articles featuring the work of Harvey & Clarke at West Palm Beach and Winter Haven. Even industrial service railroad buildings, such as the ACL's shops at Uceta, Florida, were pictured for their excellence in technical design. The challenges of developing terminals in large cities, compared to developing contemporary landmarks, such as the Chrysler Building, were underscored in articles on stations designed by Carrere and Hastings; R.G. & W.M. Cory; Eames & Young; Fellheimer & Wagner; Gilbert Stanley Underwood & Co.; McKim, Mead & White; Price & McLanahan; and other architects of note. The Pennsylvania Railroad's American Railway Express Terminal on Long Island, designed by W.H. Cookman was one of the largest railroad facilities built in the United States during the 1920s.[93]

Railroads historically turned to professionals outside the company to design and fabricate large specialized

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[91]Florida Editors Association, *Florida,* 584; Cutler, *Florida,* 2:210; Blair Reeves, *Guide to Florida's Architectural Heritage,* (Gainesville: University of Florida Press, 1989), 109, 117, 121, 137; *New York Times,* May 3, 1945.

[92]Florida Editors Association, *Florida,* 584; Cutler, *Florida,* 2:210; Blair Reeves, *Guide to Florida's Architectural Heritage,* (Gainesville: University of Florida Press, 1989), 109, 117, 121, 137; *Haines City Herald,* July 23, 1923; *Sarasota Times,* October 4, 1925; *St. Augustine Record,* February 20, 1917, August 9, 1922, November 9, 1923, May 12, 1926.

[93]W.W. Beach, "Railway Stations of Moderate Size," *Architectural Forum* 44 (April 1926), 257-258, 265-266; Alfred Fellheimer, "Modern Railway Passenger Terminals, " *Architectural Forum* 53 (December 1930), 655-691; A.T. North, "Railroad Buildings for Operation, Service and Commerce," *Architectural Forum* (December 1930), 759-768.

buildings and structures. In 1902, the SAL had selected the Virginia Bridge and Iron Company of Roanoke, Virginia, for its Jacksonville shops. Most of the buildings and equipment were prefabricated by the SAL at the company's Burlington, North Carolina plant and then assembled on site by the Hadlow Construction Company. Hildreth & Company of North Carolina designed the ACL's Broad Street Viaduct in Jacksonville in 1902. The ACL's mid-1920s Uceta Shops were designed and fabricated by the New York engineering company of Dwight P. Robinson, engineers and constructors. Robinson, a graduate of Harvard and MIT, worked as an engineer in several firms and later headed the American International Shipbuilding Corporation. In 1919, he organized his own company, which he merged with three other engineering firms in 1928. Although outside architects were often hired to design stations, generally a company's engineering department typically prepared plans for express buildings, roundhouses, tool houses, watchman's shanties, yard towers, and other functional buildings to help the business run smoothly. By the late-1920s the ACL had retired its staff architect position. Instead, the company's architect operated in the department of engineer of buildings within the office of the chief engineer. During the period the position was filled by B.E. Widder. George Thomas served as engineer of bridges.[94]

Improved bridge design and more trains prompted the replacement of older structures. The FEC upgraded its St. Johns River bridge in Jacksonville. Begun in 1923 and completed in 1925 at a cost of $2,275,000, the bridge was double-tracked with a single-pivot bascule replacing the older center-pivot swing span. The 216-foot bascule span with a 1,500-ton counterweight made the bridge the heaviest of its type in Florida during the 1920s. The Jacksonville Terminal Company improved its Myrtle Avenue Subway Underpass. Completed in 1909, the steel-frame railroad bridge spanned Myrtle Avenue to permit automobiles, carriages, and a trolley to pass underneath. Constructed at the behest of the city council, the structure displayed three bays or tunnels with the central bay servicing the Myrtle Avenue trolley line. The bridge supported eleven sets of rails of the ACL, SAL, and Southern Railway on their route into the Jacksonville Terminal. About 1928, to help prevent ashes and cinders from falling onto passing cars, improve drainage, and enhance the appearance of the aging structure, the approach to the bridge was regraded and the steel frame encased in concrete.[95]

Typical of small fixed bridges or overpasses built in the state was the bow-shape bridge on Lily Avenue in Haines City. Built in a cooperative venture between the ACL and the local government, the reinforced concrete structure was developed in 1927 to ease congestion and eliminate a grade crossing on the heavily used mainline east of the downtown. Movable railroad bridges spanned the Okeechobee Waterway in Martin County. The FEC built a vertical lift bridge at Port Mayaca on its Okeechobee branch and the SAL used a center pivot structure on its mainline farther east at Indiantown. The FEC replaced several braced-timber spans with reinforced concrete, and I-beam spans along the mainline north of Daytona Beach were replaced with through girder bridges.[96]

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[94] *Jacksonville Florida Times Union,* November 18, 1902; Atlantic Coast Line Railroad, *Official Industrial and Shippers Directory* (Wilmington: Atlantic Coast Line Railroad Company, 1928), xvii; *New York Times,* March 22, 1918, March 18, 1955.

[95] Wood, *Jacksonville,* 84-85; *Jacksonville Florida Times Union,* May 26, 1909.

[96] *Haines City Herald,* April 6, 1927; Minute Book 4, p. 233, 249-50, 288; *Stuart News,* June 11, 1948; Prince, *SAL,* 100-101.

Railroad companies replaced aging equipment with newer technology to accommodate increasing passenger and freight loads. In 1924 the FEC added twenty new locomotives, 200 box, 250 rock, and 100 ballast cars, and twenty cabooses to its equipment roster. Between 1924 and 1926 alone, the FEC acquired 139 new steam engines. In 1926, the ACL purchased five Santa Fe and thirty Pacific type locomotives, sixty-six passenger cars, and 1,300 of various kinds freight rolling stock. The L&N and SAL also modernized their motive power and rolling stock. Older American, Atlantic, and Ten-Wheeler type engines yielded to more powerful locomotives of the Pacific, Mikado, Mountain, and Santa Fe type or classification. Most companies took advantage of the technological improvements and either scrapped or sold older engines. Steel coaches supplemented passenger fleets and replaced outdated cars. Some smaller companies, such as the Live Oak, Perry & Gulf and the South Georgia, used rail motorcars affectionately called "Doodlebugs," to haul passengers along its line.[97]

Stemming from a long tradition, locomotive types were assigned a distinctive name depending on a combination of factors. Nippon Railway ordered the first 2-8-2 wheeled engine from Baldwin Locomotive Works in 1897. Named for the title of reigning Japanese emperors, the Mikado 2-8-2 type was built in far larger numbers than any other steam locomotive type. World War II brought pressures to adopt the name "MacArthur," but most railroaders preferred the diminutive "Mike." Arguably the most famous locomotive type, the Pacific classification (4-6-2) was built by Baldwin in 1901 for the New Zealand Government Railways. Only thirteen were shipped across the Pacific Ocean to the island nation; thousands more were purchased by American railroad companies. The Santa Fe type (2-10-2) appeared in 1903 on the Santa Fe Railway, which used the locomotives to pull heavy freights. In 1923, American Locomotive Company (ALCO) developed the Mountain type (4-8-2) for Southern Pacific Railroad to help pull trains over the Sierra Nevada Mountains. Three years later ALCO built the Northern type (4-8-4) to scale the northern rockies. Other than the 1890s Atlantic type developed for the ACL, few engine types were developed specifically for railroads servicing Florida.

Railroads aggressively marketed passenger trains in the 1920s as they fought the effects of the automobile and the lure of the highway. The Coolidge era of prosperity with "two cars in every garage" significantly eroded passenger train traffic. Intercity automobile passenger miles surpassed rail traffic with cars carrying six times more traffic than trains in 1930. Samuel Dunn, editor of *Railway Age,* observed in 1928 that "developments in the industry since 1920 have been unprecedented.... The average number of cars per freight train increased from thirty-seven to forty-seven and the average speed of trains was up over 20 percent in less than one decade." Dunn pointed out that growth in the freight business offset some of the losses resulting from declining passenger revenues but wondered how much longer railways could afford to offer passenger service, regardless

[97]Prince, *ACL,* 113, 117, 120; Bramson, *FEC,* 214-221, 273-275; *Commercial and Financial Chronicle,* April 24, 1926; Russell Tedder, "Doodlebugs on the LOP&G and South Georgia," *Southern Rails* 30 (Fall 1990), 4-14.

of ICC mandates. Some larger railroads established bus service to provide more flexible routes. Trucks cut into the available dollars earned by hauling freight. In 1904, only 700 trucks were sold nationwide. Nearly 500,000 were in use by 1918 and some 3,000,000 in 1930. Small truck companies organized in the 1920s and 1930s in Duval and Polk County eventually grew into nationwide transportation companies, such as Commercial Carrier Corporation and Ploof Lines.[98]

Distinctive names assigned to passenger trains were designed to encourage ridership and develop customer loyalty. In November 1925, the SAL adopted the term "Orange Blossom Special" for its New York City-to-Florida route. The "Florida Limited" and "All-Florida Special" were also inaugurated in the 1920s. The ACL, having adopted the slogan "The Standard Railroad of the South," advertised service to the state with its "Dixie Flyer," "Florida Special," "Havana Special," "Palmetto Limited," "Southland," and "Tamiami." The FEC associated the names of its passenger trains with specific routes and connections made with other railroads delivering patrons into Jacksonville. The *Ponce DeLeon* originated in Chicago and traveled over the rails of the Michigan Central and Southern railways before reaching Jacksonville. The *Seminole* offered continuous passenger service carried along the lines of the ACL, Central of Georgia, and Illinois Central The *Kansas City-Florida Special* was handled by the Frisco between Kansas City and Birmingham where the Southern Railway assumed delivery into Jacksonville. The L&N's *Florida Arrow* powered passenger trains between Louisville and Montgomery. The same company's *New Orleans Florida Limited* was nationally renowned as the only train carrying a first class coast-to-coast transcontinental sleeping car in America, running over the SAL, L&N, and Southern Pacific lines.[99]

Specific insignia and colors identified each railroad. Southern Railway used a green, silver, and yellow scheme on its express passenger engines and cars. Many companies employed a combination of black and silver paint for steam engines, with the primary color of the company used as a trim. Early on the ACL employed purple as the company color. Its logo or emblem, a circle trimmed in red, black, and white, displayed the company name in the middle surrounded by the states it serviced. For its logo the SAL employed a similar color scheme adopted by the ACL with a red heart displaying the words "Through the Heart of the South" and the company name wrapped around it. The FEC went through various emblem changes, the most distinctive including the famous Key West Extension viaduct, which was later replaced by a rising sun and palm trees.

Railroad shops supported many local economies. By the mid-1920s the ACL maintained shops at Fort Myers, High Springs, Jacksonville, Lakeland, Ocala, Palatka, St. Petersburg, Sanford, and Tampa. The location and size of the shops changed in response to economic conditions. Lakeland's role as an important rail center seemed assured when the ACL invested $400,000 in a foundry, machine shop, and yards in 1914. Six years

[98]Stover, *Life and Decline,* 140; Samuel Dunn, "Railroads, Politics, and Prosperity," *Scribner's Magazine* 84 (October 1928), 406-414.

[99]Prince, *ACL,* 181-187; *Commercial and Financial Chronicle,* October 16, 1926; Cline, *Alabama Railroads,* 261.

later the company's monthly payroll to its Lakeland employees amounted to nearly $100,000. In 1926, the ACL developed a large shop at Uceta east of Tampa and reduced its facility at Waycross, Georgia. The following year, in a move to cut overhead expenses, the company removed the bulk of its shops from Lakeland, which dealt the city a severe economic blow. In 1928, the railroad built a new roundhouse and modernized its shops at High Springs.[100]

Shops at Arcadia, Jacksonville, Tampa, and Wildwood supported the SAL's system. FEC service centers were located at Fort Pierce, Hialeah, Jacksonville, Key West, and New Smyrna Beach. New machinery was installed in the New Smyrna Beach shop in 1925 at the cost of $1,000,000. The company's monthly payroll at that facility along amounted to $150,000. Development of the Bowden Yard in Jacksonville and Miller Shops in St. Augustine began that year. An extensive repair facility serviced the rolling stock and motive power of the L&N in Pensacola. Most shops consisted of an assortment of buildings, turntables, roundhouses, switch towers, yards, and other infrastructure. In 1928, some 4,900 employees paid $7,846,318 annually labored in Florida's railroad shops.[101]

The state's rail system peaked in the mid 1920s. Parallel lines in some cases duplicated service and offered farmers and passengers a choice of location and prices. Duval and Polk counties led the state in mileage in 1928, supporting 511 and 454 miles, respectively. In the heart of Polk County's citrus and phosphate region Auburndale, Bartow, Lake Wales, Mulberry, Pembroke, and Winter Haven were serviced by both the ACL and SAL. The SAL line out of Waldo and the ACL line from Gainesville ran through central Alachua and Marion counties and met in Ocala. Both railroads also converged to the southwest at Dunnellon. In Lake County ACL tracks circled Lake Eustis and Lake Harris to provide services to several small towns. Some of the other towns in which two railroad companies competed for business include Alachua, Arcadia, Archer, Callahan, Dade City, Live Oak, Ocala, Orlando, and Sebring. Baldwin supported converging east/west and north/south SAL lines and ACL tracks passed several miles to the north at the town of Tulane.[102]

The air began to seep out of Florida's speculative land bubble in 1925. Florida bank deposits, which rose from $180 million to $875 million between 1922 and 1925, began to decline in late 1925. In August, the FEC announced an embargo on freight shipments to south Florida, where ports and rail terminals had become clogged with unused building supplies. Numerous examples of freight congestion were reported. In the City of Lake Worth in October 1925 fourteen rail cars of building materials arrived at the FEC depot and although supplies were consistently unloaded and distributed to warehouses, the railroad complained that its combination passenger/freight depot was overwhelmed with unclaimed freight. To help rectify its warehousing problems,

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[100]Cutler, *Florida,* 1: 459; Hetherington, *Polk County,* 116-17, 120-21; Works Progress Administration, *Florida,* 516; *Commercial and Financial Chronicle,* April 23, 1927.

[101]Florida Department of Agriculture, *Florida,* 103; *Jacksonville Florida Times-Union,* May 25, May 30, June 4, July 14, 1925.

[102]Florida Department of Agriculture, *Florida,* 104.

the FEC constructed large freight depots in Lake Worth and other south Florida cities in 1926. The buildings, designed for warehousing purposes, displayed Mediterranean Revival features with a rectangular plan and a flat roof adorned by parapets and barrel tile cresting. The walls were finished in textured stucco and pilasters created a series of bays with delivery doors along each elevation. A canopy extended over the bays and stylized rectangular panels embellished the walls. An office was typically placed at one end of the building. Most of the FEC's mid 1920s freight depots measured some 200 feet in length with the longest elevation running parallel to a siding.[103]

The boom continued to slacken as bankers and businessmen throughout the nation complained about transfers of money to Florida. In 1926, forty Florida banks collapsed and investors began to lose faith in the state's economic future. Newspapers suggested fraud in land sales. Real estate assessments declined by $182 million between 1926 and 1928. Hurricanes in 1926 and 1928 were harbingers of the difficult economic times ahead. The storms hit the lower east coast in September, the first devastating the region from Dania to Miami, destroying several stations including the recently-completed building at Hollywood. The *New York Times* reported the deaths of hundreds of people and the destruction of thousands of buildings. The Southern Railway and several other railroad companies provided free service to relief workers. Trains were dispatched from various cities loaded with doctors, nurses, Red Cross volunteers, and supplies. The eye of the 1928 hurricane struck farther north at Lake Worth and Palm Beach. Many buildings were swept from their foundations and others completely destroyed. The railroads reported damage to their infrastructure, including several stations, a few small trestles, and downed telegraph lines. Considerable debris covered the tracks and rights-of-way, but regular service was restored shortly after the storms struck. The human cost was much higher. High winds and drownings were responsible for many deaths, amounting to thousands of people in south Florida and the Lake Okeechobee region, where many bodies were carried far into the sawgrass and skeletons were discovered years later by workmen clearing land. The hurricanes provided a tragic closing chapter to an era of wild speculation.[104]

Great Depression, 1929-1941

Florida entered the Great Depression still reeling from the collapse of the land boom and devastation wrought by the hurricanes. The stock market crash of October 1929 and accompanying financial panic fell like a shroud upon the country in the early 1930s. Investments and annual per capita income plummeted. Approximately one in four Floridians received some form of public assistance by 1933. Citrus continued to buoy the Florida economy, although occasional fruitfly infestations reduced yields and shipping volumes. Most municipal governments took advantage of New Deal relief programs implemented during the administration of President

[103] *Lake Worth Herald,* August 29, 1923, March 5, 1924, February 18, October 21, 1925, January 13, April 7, May 5, 1926.

[104] *New York Times,* September 19, 20, 1926, September 19, 1928; *Lake Worth Herald,* February 2, 1927; Tebeau, *Florida,* 385-87; W.T. Cash, *The Story of Florida,* 4 vols., (New York: Lewis Publishing Company, 1938), 2: 648.

Franklin D. Roosevelt. To provide jobs for the unemployed, a series of "Alphabet Programs," so-called for the acronyms assigned to them, were created, including the Civilian Conservation Corps (CCC), Civil Works Administration (CWA), Public Works Administration (PWA), and Works Progress Administration (WPA). Federal funds helped municipalities develop and improve a host of infrastructure, including armories, parks, sidewalks, swimming pools, and waterworks.[105]

Revenues from the state and federal governments helped finance the construction of roads and bridges. An improved highway, river, and harbor system subsidized by the government encouraged travel but reduced railroad earnings. The Greyhound Bus Company was organized in 1929. To help boost sagging revenues Pennsylvania Railroad invested some $300,000 in the new company. An emerging air travel industry also cut into profits. During the decade, air passenger service increased more than a dozenfold to over a billion passenger miles in 1940. In 1936, more than one million airline tickets were sold and air-freight traffic tripled in volume. The DC-3, introduced in 1936, offered economy, safety, and speed in a durable aircraft and a fashionable means of traveling. Airmail service, introduced in 1918, further reduced the public's reliance on rail express mail, and pipelines began to crisscross the country, carrying oil supplies which until then had been carried by rail. Railroad passenger growth slowed in 1920 and the first passenger train deficits occurred in 1930. Between 1929 and 1940, private automobile travel increased from five times to twelve times the amount of passengers carried by train. These changes in the transportation industry and a flagging economy forced many railroads into bankruptcy. By 1935, forty-eight railroad companies throughout the nation and several servicing Florida were operating 15,920 miles of track in receivership.[106]

The Georgia and Florida Railroad, a shortline between Madison and Valdosta, became bankrupt in 1929 and the court-appointed Dothan National Bank assumed responsibility for the operation of the Alabama, Florida & Gulf Railroad the following year. The death of S. Davis Warfield in 1927, overexpansion, and the collapse of the land boom, in part, pushed the SAL into bankruptcy and receivership in 1930. Abandonment of lines into Fort Myers, Naples, and the Manatee-Arcadia branch had minimal effect on the company's bottom line. Foreclosure in 1936 on 70,000 acres of company-owned property in Martin County only signaled a deepening spiral of debt and financial distress. The SAL would not achieve sound financial footing until 1946. Other Florida roads collapsing under the pressures of debt included the Apalachicola Northern and the FEC. The state's railroads abandoned several thousand miles of tracks during the decade, operating 5,218 miles in 1940 compared with 8,220 in 1927.[107]

Placed in receivership in 1931, the FEC implemented several cost cutting measures. In 1932, train service was

[105]William Leuchtenburg, *The Perils of Prosperity* (Chicago: University of Chicago Press, 1958), 241-273; William Leuchtenburg, *Franklin D. Roosevelt and the New Deal* (New York: Harper & Row, 1963), 11, 53, 120-130, 174.

[106]Stover, *Life and Decline,* 137-149, 181-182, 202; Interstate Commerce Commission, *1935 Statistics of Railways,* S-11.

[107]Interstate Commerce Commission, *1935 Statistics of Railways,* S-11; *Stuart Daily News,* July 9, 1930, April 20, 1936; Prince, *SAL,* 101.

discontinued between New Smyrna Beach and Orange City. The line, completed in 1886 as the Blue Spring, Orange City & Atlantic Railroad, was abandoned by the FEC in 1934. Since the 1880s, the branch had served citrus growers and farmers in Lake Helen and other towns in south Volusia County, who now were compelled to rely on truck service to deliver products to market, or other neighboring rail stops. The Mayport and Ormond branches of the FEC were abandoned in 1932 and the Palm Beach branch in 1935. The company also reduced mainline service, ending passenger service into Port Orange in 1932. Earlier, in 1924, the company had combined its relatively small passenger and freight stations in Port Orange into a single building. After the cessation of passenger service into Port Orange the building was modified again with the removal of its windows and pedestrian doors to solely accommodate freight. The company also retired some of its older locomotives and rolling stock. The Labor Day Hurricane of 1935 swept a FEC train off the tracks at Islamorada and stripped rails off some bridges, wiping out miles of roadbed and ending forever train service into Key WeSt. In 1936, the company's emblem of a train traveling along a viaduct of the Key West Extension was replaced by a rising sun and palm trees. Later in the decade the federal government began converting the roadbed for vehicular use and integration into the nation's federal highway system.[108]

To help develop additional freight business railroad companies made use of a rebate system by designing and constructing buildings, and then permitting an association or individual to use the facility free of charge, provided it shipped all of its products by rail. In 1928 and 1929 alone, the SAL designed and constructed citrus packing houses for growers and associations in Deerfield, Hallandale, Homestead, Kendall, Ocoee, Plant City, Winter Garden, and Winter Haven. Later packing houses were built in Avon Park for Snively Groves, Inc. and Ben Hill Griffin. The SAL's chief engineer's office prepared the plans for most of the buildings and construction was either handled by company carpenters or awarded on a bid basis. To speed transfers between rail cars and ships at South Boca Grande the SAL installed a new powerhouse and ten-ton diesel crane in 1930.

Austerity programs called for the modification of existing buildings and the use of standard plans for stations, often a spartan building devoid of detailing and constructed or remodeled by company carpenters. Still, many companies adopted a new look and a new technology while grappling with service cutbacks and roadbed abandonments. Railroads applied new faces to their express passenger trains using the features of the popular Art Moderne and Streamline movement of the 1930s. The Union Pacific Railroad introduced the nation to streamlined trains with the "City of Salina" in February 1934. Later that year the Burlington Railroad inaugurated the "Zephyr," which touted a top speed of 112 miles per hour. Manufacturing companies and railroad shops developed creative streamlined shrouds to adorn steam engines, obscuring the endless systems of gauges and pipes mounted along locomotive boilers and frames. The New York Central's "Twentieth Century Limited" Hudson type locomotives, designed by Henry Dreyfuss, displayed a distinctive cowling and decorative wheel covers. It was considered by some as the best proportioned steam engine ever designed.[109]

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[108]Bramson, *FEC,* 19, 107, 117-118, 126-127.

[109]Don Ball, Jr., *Portrait of the Rails: From Steam to Diesel* (New York: Galahad Books, 1972), 72-75; Mencken, *Railroad*

Diesel locomotives with smooth clean lines appeared in greater numbers. As early as 1903 an advertisement in the *Wall Street Journal* heralded the diesel as the "Death Knell of the Steam Engine." Power plants and ships had been equipped with the new engine type before World War I and in 1924 the technology was refined for locomotive use by a team of technicians from the American Locomotive Company, General Electric, and Ingersoll-Rand companies. Conservative by nature and slow to embrace new technology, railroad companies did not use the engines with any frequency until the late 1930s. After railroad executives realized the new engines consumed 50 percent less in operating costs than steam engines, the diesel locomotive quickly gained popularity. The SAL's first diesels, detailed in maroon and grey, pulled the "Orange Blossom Special" in December 1938. Several months later the company debuted its "Silver Meteor," a crack streamline diesel that first carried the Miami-New York passenger train. The ACL launched its "Champion" diesel streamliner and the FEC its "Henry M. Flagler" in December 1939. The ACL retained its purple-and-white motif and the FEC introduced a new design with red and yellow trimmed in black and silver.[110]

Revenue shortfalls and difficult economic conditions forestalled wholesale replacement of motive power and rolling stock. The FEC purchased fourteen cars and two engines, enough for only two daily runs of the new streamliner. These were among the only company purchases during the decade. The largest ACL motive power purchase of the 1930s consisted of twelve 4-8-4 Northern type locomotives, which were built by Baldwin Locomotive Works and capable of pulling twenty Pullman cars at ninety miles per hour. Its drive wheels measured 80" in diameter. With a capacity of 27 tons of coal and 24,000 gallons of water, the tenders were the first to employ a sixteen-wheel "centipede" design, among the largest ever used in Florida. Although several diesel locomotives were acquired by the ACL during the Great Depression, steam power continued to handle most of the company's heavy passenger service, including the "Florida Special," "Miamian," "Tamiami," and "Vacationer." The ACL remained solvent during the period. The company upgraded its lines through Dunnellon, Lake Alfred, Punta Gorda, Wauchula, and the Fort Myers terminal. Improvements were made to stations at Lakeland, Palatka, Tampa, and Winston. An interlocking plant for better train routing and an overhead highway bridge were installed at Uceta.[111]

Advances in roadbed technology were introduced. In 1938, the FEC laid the first continuous welded, or seamless, rail. The invention eventually eliminated the familiar clickety-clack of rail transportation. The rail was installed on a new 1,100-foot all-welded steel bridge spanning the St. Lucie River near Stuart. A similar bridge was also constructed farther south across the Loxahatchee River. The idea came from T.H. Gardner, an engineer with the company who helped fabricate the trestle, bascule span, and rails in the company shops. A

Passenger Car, 87; Stover, *Life and Decline,* 206-207; Bramson, *FEC,* 122.

[110]Klein, *Unfinished Business,* 145; Mencken, *Railroad Passenger Car,* 87; Stover, *Life and Decline,* 206-207; Bramson, *FEC,* 122.

[111]Prince, *ACL,* 156-157; *Haines City Herald,* April 7, 1938.

novelty in the 1930s, continuous rails became more common after the 1950s, when the Southern Railway began replacing its roadbed and designed and patented much of the equipment used in the installation of the rail.[112]

The FEC was one of few railroads to emerge from receivership during the 1930s. The slow return to solvency was engineered by Edward Ball, a prominent businessman and brother-in-law of Alfred I. duPont. In the 1920s, duPont had moved to Jacksonville, acquired thousands of acres in west Florida, and established the St. Joe Paper Company. In 1935, after duPont's death, Ball became the dominant trustee of the estate, which through the St. Joe Paper Company began acquiring the bonds of the FEC. In 1941 the company was reorganized under a trusteeship with Henry Flagler's heirs relinquishing the helm of the business to the duPont estate trustees. By 1945, with a rebounding market spurred by World War II, the company enjoyed several years of profits.[113]

World War II and the Late-1940s, 1942-1949

World War II lifted the American economy out of the depression and the flood of wartime traffic brought a brief era of prosperity to the nation's railroads. Determined to avoid federal direction and intervention, railroad companies cooperated with the government. Ralph Budd, president of the Burlington Railroad and friend of President Franklin D. Roosevelt, urged the president to leave the railroads in private hands. Roosevelt complied with his wishes and appointed Budd to the newly-created position of Commissioner of Transportation, which oversaw the coordination of air, bus, pipeline, train, and truck shipping. Joseph B. Eastman, a former member of the Interstate Commerce Commission, succeeded Budd. To facilitate train movement, companies installed updated central traffic control systems, thereby reducing congestion and ensuring more timely movement of personnel and material.[114]

The development of military installations caught the attention of railroad executives. The Southern Railway responded to the development of a training base at Camp Blanding in north Florida. The company already supported the nation's defense effort as a major carrier of construction materials for aviation schools, camps, posts, and shipbuilding yards in the SoutheaSt. Its Georgia Southern & Florida subsidiary, which ran south of Starke to Palatka, had been a poor revenue earner for decades and the line was slated for abandonment. An agreement reached between the U.S. Army and Southern Railway resulted in the construction of a ten-mile spur and upgrading the existing roadbed. By early 1941, some 50,000 troops and 7,000 laborers were located at

[112]Davis, *Southern Railway,* 206-207; *Stuart News,* September 8, 1938.

[113]Alexander Stoesen, "Road From Receivership: Claude Pepper, the DuPont Trust, and the Florida East Coast Railway," *Florida Historical Quarterly* 52 (October 1973), 132-156; Burton Altman, "'In the Public Interest?': Ed Ball and the FEC Railway War," *Florida Historical Quarterly* 64 (July 1985), 32-47; Joseph Frazier, *Alfred I. duPont: The Man and His Family* (New York: Oxford University Press, 1990).

[114]Stover, *Life and Decline,* 181, 189; Interstate Commerce Commission, *1940 Statistics of Railways,* 147; Interstate Commerce Commission, *1950 Statistics of Railways,* 153.

the camp, making it one of the largest training bases in the country and the fourth largest community in Florida. Similar track agreements were arranged at other large Florida bases, such as NAS Jacksonville.[115]

Companies adjusted to the wartime conditions. Few large projects were undertaken. In 1944, the ACL built a wood frame combination station at Copeland and improved its stations at Clewiston, Cross City, Lake Butler, and St. Petersburg. Repair shop improvements were made at facilities in High Springs, Jacksonville, Lakeland, and Tampa. The same year the company abandoned part of its Fort Myers Southern branch, dismantling the tracks and removing a 140-foot girder drawbridge over Big Marco Pass and a 60-foot through-girder bridge over Henderson Creek.[116]

Following the war, railroads returned to their struggle to retain passenger service and policy of abandoning unprofitable lines. Between 1940 and 1950, the nation lost some 10,000 miles of roadbed to abandonment and Florida's rail mileage fell from 5,218 to 4,793. Although railroads hauled thousands of troops during the war, fast sleek automobiles and an expanding highway system lured people away from rail travel. In 1949, to renew emphasis on train travel, railway companies showcased new stainless steel streamlined cars at Chicago's Railroad Fair. That year rail passenger transportation amounted to 80 percent of the combined air-rail travel in the country. The percentage of rail travelers fell each year thereafter with the airline industry capturing 61 percent of the transportation market in 1960. High labor costs and government subsidies in the construction of airports and highways compounded the challenge of railroad companies to offer passenger service.[117]

The conversion from steam to diesel accelerated. In 1930, 59,406 steam locomotives and 77 diesel engines served the nation's railroads. Ten years later nearly 1,000 diesel and 42,410 steam engines pulled America's trains. The Santa Fe Railway was the first to use diesel power to pull freight trains in 1941. The Great Northern, Milwaukee, and Southern companies soon embraced the new technology. By 1952, more diesel engines pulled rolling stock than steam locomotives. That year the ACL scrapped its final 4-8-4 Northern type steam engine, the pride of the company fourteen years earlier. In 1953, Southern Railway retired its last steam engine and by the late 1950s steam engines were seldom seen on any mainline or switchyard. The diesel transformed the physical landscape and the social fabric of America's railroads. Some 26,000 water towers and an equal number of coaling bins that serviced steam engines in the early 1950s had nearly disappeared a decade later. The roundhouse gave way to the pass-through facility, and support services for ash handling and boiler washing were replaced by fuel pumps. Shops became more technical and less cluttered, requiring fewer personnel and pieces of equipment. Older facilities were dismantled, gutted, and demolished to make way for new buildings. Facilities in several small Florida towns closed permanently, after providing decades of

[115]Davis, *Southern Railway,* 79-80.

[116]Atlantic Coast Line Railroad Company, *111th Annual Report* (Wilmington: Atlantic Coast Line Railroad Company, 1944), 38-39.

[117]Stover, *Life and Decline,* 218, 226; Interstate Commerce Commission, *1940 Statistics of Railways,* 7; Interstate Commerce Commission, *1950 Statistics of Railways,* 5.

employment for generations of families. Remaining rank and file employees were offered an opportunity to learn the new technology or find other work.[118]

Merger and consolidation continued to characterize the industry. The ACL moved its corporate headquarters from Wilmington to Jacksonville in 1959, and completed the present CSX Transportation Building astride the St. Johns River in 1960. The ACL and SAL merged in 1967 to form the Seaboard Coast Line (SCL) Railroad with the SAL moving its offices from Richmond to Jacksonville. In 1972, the SCL acquired the L&N to solidify its position as one of the largest railroads in the South. Later, in 1980, the SCL merged with the Chessie System (itself a merger of the Baltimore & Ohio, Chesapeake & Ohio, and Western Maryland) to form the CSX Corporation, the initials signifying Chessie Seaboard Exchange.[119]

To strengthen its position, Southern Railway acquired the Central of Georgia, Georgia & Florida, and Norfolk Southern railroad companies in the 1960s. Southern Railway's merger with Norfolk & Western Railway in 1982 gave the new Norfolk Southern Corporation a 17,642-mile network, compared to some 24,000 miles maintained by CSX. Burlington Northern secured valuable properties in Pensacola in 1980 when it acquired the Frisco line.[120]

The railroad mergers precipitated abandonments of parallel and unprofitable branches. Between 1976 and 1984 Florida's rail mileage fell from 6,818 to 6,125. Abandonments and track removal accelerated at an unprecedented rate in the following decade. By 1994 Florida's rail mileage stood at 2,988, nearly the same number of miles servicing the state in 1890. Since the late 1920s, when mileage peaked at 8,200, nearly 5,000 miles have been abandoned and dismantled in Florida. Although most of those roadbeds lie unused, some have been converted into a rails-to-trail pedestrian system, such as in west Orange County, Pinellas County, and elsewhere. Presently, twelve railroad companies operate in Florida. CSX, FEC, and Norfolk Southern own 80 percent of the state's roadbeds. The fourth longest system is a 119-mile stretch maintained by the Seminole Gulf Railroad. Other railroads and their mileage include the Apalachicola Northern (96), Atlanta & St. Andrews Bay (72), Burlington Northern (44), Florida Central (66), Florida Midland (40), Florida West Coast (29), Florida Northern (27), South Central Florida (101). Some companies, such as the Apalachicola Northern and Atlanta & St. Andrews Bay, have an early twentieth century history. Many of the others are more modern organizations that operate on abandoned roadbeds of a CSX predecessor.[121]

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[118]Klein, *Unfinished Business,* 149-150; Interstate Commerce Commission, *1940 Statistics of Railways,* 16; Stover, *Life and Decline,* 251-252; Davis, *Southern Railway,* 3-4.

[119]Richard Saunders, *The Railroad Mergers and the Coming of Conrail* (Westport and London: Greenwood Press, 1978), 201-209; Freeman Hubbard, *Encyclopedia of North American Railroading* (New York: McGraw-Hill Book Company, 1981), 65, 82, 285.

[120]Davis, *Southern Railway,* 293.

[121]Allen Morris, *Florida Handbook, 1985-1986* (Tallahassee: Peninsular Publishing Company, 1985), 572; Allen Morris, *Florida Handbook, 1997-1998* (Tallahassee: Peninsular Publishing Company, 1997), 604.

In the late 1960s the ICC reluctantly permitted railroad companies to reduce passenger service and after 1971, when Congress organized AMTRAK, the National Railroad Passenger Corporation, only a limited number of routes were available. Consisting of a board of directors appointed by the president and representative stockholders, AMTRAK was created with a $40,000,000 federal grant and $100,000,000 in federal loans. Railroad companies willingly relinquished the flagging service. After AMTRAK began its runs, the Illinois Central Railroad alone canceled more than a dozen passenger schedules and operated only four north-south routes, which later were discontinued. Some companies retained passenger service to the bitter end. In 1979, Southern Railway lost $7,000,000 operating its famous "Crescent Limited" passenger train. That year the company paid AMTRAK $6,700,000 to assume responsibility for the service. Although some of the aging passenger cars were repainted in AMTRAK colors, most were scrapped.[122]

The assumption of railroad passenger service by the federal government foretold the demise of hundreds of the nation's railroad stations, one of the last tangible reminders of our country's passenger railroad transportation heritage. Station closings and demolitions had began innocently enough in the 1950s as passenger service declined. After AMTRAK initiated service, the trend accelerated to a frightening pace. Passenger trains made relatively few stops and companies dismantled rural stations to reduce liability and maintenance expenses. The destruction of Pennsylvania Station and subsequent preservation of Grand Central Terminal broadly outlined the challenges for the American public, railroad companies, and federal government in the use and re-use of old stations. Long a focal point and social center of a community, stations in the mid twentieth century often occupied sites adjacent to economically depressed downtowns, themselves a victim of urban flight and decay. By 1980 only a small percentage of the approximately 80,000 stations built in America since the early nineteenth century remained standing.

Florida's historic railroad resources fairly well reflect the condition of railroad resources throughout the country. Approximately ninety stations have been inventoried in the state. Thirty have been listed in the National Register of Historic Places and approximately fifteen are located in historic districts. Although additional stations remain undocumented, countless others have been demolished.

Relatively few steam or early diesel locomotives, passenger cars, and rolling stock built before 1950 remain in service, or even as museum pieces. Recognized examples include the ACL's Locomotive #1504, the FEC's Locomotive #153 (NR), U.S. Car #1 (NR), and I&E Greenwald Steam Engine #1058. A few museum pieces, such as the Cummer Lumber Company Engine # 7 at Pablo Historical Park in Jacksonville, stand as mute testimony of the state's transportation heritage. The Gold Coast Railway in Dade County operates historic motive power and rolling stock along its system. Few of the hotels developed by the Flagler and Plant systems, such as the historic Hotel Belleview-Biltmore and Tampa Bay Hotel, remain standing and the Overseas Highway and Railroad Bridges is the only historic railroad bridge recognized in the state. Virtually all the

[122]Stover, *Illinois Central,* 497, 499; Davis, *Southern Railway,* 286.

steamships operated by the Flagler and Plant companies were later sold to foreign countries, sank while in service, or were scrapped. Thousands of miles of roadbed have been abandoned and dismantled.

Section houses supported railroad workers throughout the state. Typically located near mainlines, those dwellings were developed from standard plans and built by company carpenters. The bulk of railroad section houses in many larger cities, such as Jacksonville, Miami, Orlando, and Tampa, disappeared decades ago. Few remain even in smaller towns and rural regions, such as Bartow, Lake Worth, Marcy, and Port Orange. Still, a few stand, such as the section foreman's house at Pablo Historical Park in Jacksonville. Others are now privately owned and used as residences, including a cluster of dwellings at Maytown in Volusia County and Port Salerno in Martin County.

Hundreds of stations, the most visible part of the state's railroad heritage, have been demolished. For instance, none of the three stations that serviced Bartow in 1915 remains. In 1925, nearly twenty-five stations dotted the mainlines of Orange County of which only six remain. About thirty-five stations supported Volusia County towns during the mid 1920s. Only three of those remain. In 1931, the FEC maintained nearly 130 stations along its main and branch lines. It has been estimated that fewer than twenty remain, most of those serving some other use than that for which they were intended. Throughout the state picturesque stations have fallen victim to demolition, and many that remain standing are little more than an empty shell vacant and decaying. Enterprising businesses and historical organizations have found new uses for old stations and a surprising number continue to support passenger service. The grandest of them, Jacksonville Terminal, after suffering decades of neglect, was rehabilitated and now houses the Prime Osborne Convention Center. Museums and historical societies operate out of stations at Avon Park, DeFuniak Springs, High Springs, Lake Wales, McIntosh, Mount Dora, Naples, and Vero Beach. Buildings in Apopka, Haines City, Hallandale, Hobe Sound, Lake Worth, Ocoee, Port Orange, Sarasota, Sebastian, and Winter Beach have been sold to private investors who use them for various purposes, including antique shops, offices, storage, and even residences. Some communities have more than one historic railroad station, including Fort Meade, Gainesville, Inverness, Lake Wales, McIntosh, Orlando, Pensacola, Sarasota, Sebring, Tallahassee, Tampa, West Palm Beach, and Winter Garden. Relatively few historic stations, such as those in DeLand, Kissimmee, Palatka, Plant City, Tallahassee, and Tampa, support AMTRAK passenger service. The railroad resources that were once an element of virtually every small town in Florida have become scarce, fragile reminders of the pivotal role of the industry in the development of the state. Inherently valuable and worthy of preservation, the historic railroad resources of Florida represent an increasingly endangered resource, a vanishing image of the state's transportation heritage.

PROPERTY TYPE: F.1

1. Name of Property Type: Railroad Stations and Office Buildings

2. Description: The historic railroad stations and office buildings of Florida represent a relatively small but meaningful property type. According to data compiled from the Florida Site File and the National Register of Historic Places, some ninety properties serving the above-mentioned purposes have been inventoried or recognized in Florida.

Building Types

Depots, Stations, and Terminals

In 1893, near the height of railroad construction in America, Alter Berg categorized railroad resources in his *Buildings and Structures of American Railroads.* His purpose was to provide a reference book for railroad architects, engineers, managers, mechanics, and superintendents at a time when companies were expanding their physical plants with a host of functionally specific structures. Berg's treatise has become a classic for architectural historians because it provides a rational approach to classifying railroad building types by function rather than by association with a particular time period or historical theme.

Berg categorized various building types, including the terminal or union, combination, passenger, and freight stations. The terms depot, station, and terminal are not properly synonyms and typically apply to the function or location of a railroad resource. The following definitions are generally accepted in the field. A depot is a storehouse or warehouse. A station is a stopping place along a route where passengers may board trains. A terminal, or union station, lies either at the end of a line, or at a juncture of several lines.

Notwithstanding generations of use of the terms in the industry and Berg's classifications, confusion exists in the use of the terms, both historically and currently. In the early days of railroading a station's waiting rooms and freight depot were usually in the same building and, as a result, the names were confused. Station gradually became a more common term and eventually was applied to depots and terminals. Railroad companies often used the terms depot and station interchangeably with little regard or distinction between the two. A review of the terms in the Oxford, Random House, and Webster dictionaries offers little help in resolving the contrasting and conflicting nature and definitions of the terms.

In any event, the railroad station building type originated in the 1830s, coinciding with the early development of steam locomotive transportation. By the 1840s, stations of architectural merit began to appear, one of the earliest being at New Haven, Connecticut (1847). Although stylistic influences and sizes changed over time, the essential internal components remained relatively constant. These included passenger waiting rooms,

freight rooms for storing baggage, an express room for mail, and an agent's bay, the latter a feature unique to railroad stations. Few architectural forms better epitomize the maxim "form follows function." Projecting from the main body of the building, the bay permitted the agent to readily view the movement of trains and passengers. One draftsman educated in station design during the mid-twentieth century described his training experience this way: "I was taught by an old railroad engineer to design a station beginning with the station agent's ticket drawer and from there design the counter and then the rest of the room. The proportions of the station fell into place once those elements were complete."

Stations by the very nature of their materials, plan, and structure, clearly expressed an intimate relationship between building, site, and purpose. A platform shed, an early development in the building type, became a hallmark and prominent feature that distinguishes the railroad station from other buildings. A wide overhanging roof supported by brackets, an unmistakable architectural element, protected waiting passengers and railroad workers from the weather. More expansive sheds were developed in railroad stations with multiple tracks and loading platforms. Dormers, monitors, and towers often adorned stations in larger cities. Semaphores, a device operated by a station agent to indicate the approach of a train, were another important feature of railroad stations.

In Florida, most stations prior to the 1870s were simple wood frame buildings with few architectural details. Railroad companies began developing more notable buildings during the late nineteenth century. In larger cities stations rising two stories were often built, while one story frame buildings generally supported small towns and rural settlements. Various types of stations were developed, including freight, passenger, combination buildings that linked the two services, and union stations or terminals.

Architectural influences vary, although the vast majority exhibit Frame or Masonry Vernacular construction. Some large union stations and a few smaller models display the influences of formal styles, such as Classical Revival, Italian Renaissance, or Prairie. During the third decade of the twentieth century, the popular Mediterranean Revival and Mission styles caught the attention of railroad companies serving those regions of the country with a Spanish heritage.

Regardless of the size or style, footprints typically are rectangular with a gable, hip, or flat roof. Brick, stucco, or wood serve as exterior wall fabrics. Fenestration is typically asymmetrical, reflecting the interior functions, but is regular with double-hung sash or sometimes casement windows with multiple glazed lights. Foundations vary from poured continuous to pier types and materials consist of brick or concrete.

Many early stations were adapted or derived from standardized plans created by a railroad company's engineering department. In some cases, a company contracted with an architectural firm to plan a large project or develop a series of plans with all the designs possessing similar stylistic influences. Sufficient changes in plan and detailing distinguished each station. Union stations, often referred to as terminals, were the largest

form of passenger stations constructed by railroad companies. Most were designed by professionally trained architects. These buildings often were among the most elaborate and striking landmarks in a city. Civic pride rather than economics generally provided the impetus for their construction. Terminals united the passenger rail services of various companies within one large building. In some cases, stations had been separated from one another by long distances, compelling passengers to ride hacks or streetcars, or walk between stations. Union stations facilitated the exchange of passengers between trains of different railroad companies. Typically the land and the buildings associated with union stations were jointly owned by the railroads it serviced.

One of the earliest buildings in the country to combine the passenger services of various companies was the La Salle Street Station in Chicago served the Chicago, Rock Island & Pacific and Michigan Southern railroads, completed in 1872. By the 1890s, railroads had studied the union station concept in detail and had nearly perfected the technique. The largest of those in Florida, completed in Jacksonville, was a joint venture of the Atlantic Coast Line Railroad, Florida East Coast Railway, Seaboard Air Line Railway, and Southern Railway companies. Pensacola's Marine Terminal Building, completed in 1903, combined the Louisville & Nashville Railroad's shipping and rail transportation services within one building. Most union stations in Florida, such as those in Bartow, Live Oak, Plant City, and Tampa, were relatively small buildings. Brick typically served as the exterior wall fabric and fenestration was regular with double-hung sash windows.

Office Buildings

Because most rail companies historically maintained headquarters outside of Florida, relatively few historic railroad office buildings are located in the state. Division offices were often housed in buildings constructed in downtown commercial centers. The ACL and SAL each constructed office buildings in Jacksonville that were part of larger warehouses and storerooms. A common storefront, or in some cases an ornate facade, along the street obscured the abutting tracks and warehouses from the public view. The most distinctive historic railroad office building in Florida, the 1920s-era four-story Florida East Coast Railway General Office Building, stands in St. Augustine. The CSXT Building in Jacksonville, the largest of the railroad office buildings in the state, was constructed for the ACL in 1960.

Architectural Styles

Classical Revival

The Classical Revival style evolved from an interest in the architecture of ancient Greece and Italy. The first period of interest in Classical models in the United States dates from the colonial and national periods, which extended between the 1770s and 1850s. A subsequent revival was spurred by the Chicago World's Columbian Exposition in 1893. Many of the best known architects of the day designed buildings for the Exposition based on classical precedents. Examples varied from monumental copies of Greek temples to smaller models that

drew heavily from designs of Adam, Georgian, and early Classical Revival residences of the early nineteenth century. The Exposition drew large crowds and publicity, which helped make the style fashionable again. In Florida, Classical Revival became a popular design for commercial and government buildings and relatively large residences. The best example of the style applied to a railroad building is the 1919 Jacksonville Terminal.

Some of the characteristics of Classical Revival architecture include a symmetrical facade dominated by a full height portico displaying classical columns. Gable or hip roofs with boxed eaves are frequently adorned with dentils or modillions and a wide frieze band surrounding the building. Doorways often feature decorative pediments and casings. Double-hung sash windows usually display six or nine panes per sash.

Frame Vernacular

Frame Vernacular, the prevalent style of architecture in Florida, refers to the common wood-frame construction technique employed by lay or self-taught builders. Before the Civil War, residents relied upon local materials and their own methods and designs to construct buildings. The Industrial Revolution permitted standardization of building materials and parts and exerted a pervasive influence over vernacular house design. Popular magazines helped to make architectural trends universal throughout the country. The railroad provided cheap and efficient transportation for manufactured building materials. Ultimately, individual builders had access to a myriad of finished architectural products from which to create their own designs.

Frame Vernacular buildings associated with Florida's historic railroad architecture display a variety of shapes and sizes. Many late-nineteenth century depots were two story buildings with elaborate detailing, which included steeply-pitched roofs pierced by large corbeled brick chimneys and dormers, trusses or bargeboard in the gable ends, cross-gable extensions, and large carved brackets under the eaves. Decorative wood shingles covered exterior walls. Depots that date from the early twentieth century, especially those in small rural communities, often rise only one story and display little ornamentation. Plans are usually rectangular, although a station agent's bay generally extends from the elevation closest to the tracks. Horizontal drop siding, wood shingles, and weatherboard are common exterior wall surface materials, and brackets often support wide overhanging eaves. Freight and loading platforms with platform sheds typically extend the length of the building and regular fenestration consists of double-hung sash windows with multi-pane glazing.

Italian Renaissance

The Italian Renaissance style, popular in the United States between 1890 and 1935, is based on authentic Italian models. Its predecessor, the Italianate style, persisted between 1840 and 1885, and was loosely based on early Italian designs. In the 1880s, the firm of McKim, Mead, and White gave impetus to the Italian Renaissance style with the Villard Houses in New York. In the 1890s, fashionable architects employed the style, which provided contrast with Gothic-inspired Shingle and Queen Anne styles. After World War I, the perfection of

simulated masonry exterior veneering fabrics made possible the accurate representations even in modest examples of the style. Although the style made significant advances nationally in residential architecture by 1910, most of Florida's Italian Renaissance style buildings were erected during the land boom of the 1920s. An early example of the style used on a railroad building is Tampa's Union station. Generally reserved for use on landmark residences in large cities, the style was eclipsed by the ubiquitous Bungalow and revival designs from Colonial and Mediterranean traditions. After 1935, the Italian Renaissance style faded from fashion.

Identifying features of the style include low-pitched hip roofs, usually covered with ceramic tiles; wide boxed eaves that commonly contain large decorative brackets; symmetrical facade, although asymmetrical models with projecting wings and porte cocheres are not uncommon; masonry construction with brick or stucco veneers; large brick chimneys; a variety of window treatments, with second story windows typically smaller and less elaborate than those located in the first story; and a recessed central entrance, usually with an arched opening accentuated by classical columns or pilasters.

Mediterranean Revival

The Mediterranean Revival style, largely found in those states with a Spanish colonial heritage, embraces a broad category of subtypes of Spanish revival architecture in America. The style gained popularity in the American Southwest and Florida during the early twentieth century. The influence of Latin American architecture found expression through a study made by Bertram Goodhue at the Panama-California Exposition in San Diego in 1915. The exhibition featured the rich Spanish architectural variety of South and Central America. Encouraged by the publicity afforded the exposition, architects began to look to the Mediterranean basin where they found more building traditions, and often used regional historical precedents to design buildings within a local context.

In Florida, the popularity of the style soared in the 1920s and maintained a pervasive influence on building design until World War II. The style came to symbolize Florida architecture during the 1920s and was adapted for a variety of building types ranging from churches, country clubs, townhouses, commercial and government buildings, hotels, mansions, railroad depots, theaters, and small residences, the latter often referred to as "Spanish bungalows." Journals, such as *Architectural Record,* featured articles on the style. In June 1925, *House Beautiful* characterized the style as "a new composite style...producing a type of small villa distinctly for and of Florida." Even small models were often picturesque, displaying an "architectural blend that make it essentially appropriate for adaptation in Florida. Informal in its essence as well as in its execution, this Mediterranean style accords well with the informal life of the great winter resort to which yearly thousands repair to escape all that reminds them of the North." For a brief period during the 1920s, the style gained popularity throughout the country. The Florida East Coast Railway and Seaboard Air Line Railway made extensive use of the style with stations built in central and south Florida during the 1920s. In the 1930s, even as its popularity waned, the style was applied to large public facilities built using New Deal assistance monies in

the American Southwest.

Identifying features of the style include complex roof plans, often a combination of flat, gable, and hip roofs with ceramic tile surfacing or cresting along parapets or pent eaves. Arcaded wings embellish large models. Textured stucco exteriors often originally displayed pigments mixed with the cement to form a rich intensity or a light tint. Medallions, sconces, and ceramic tiles adorn walls and chimneys exhibit arched vents and caps with barrel tile cresting. Platform sheds often display arched openings and fenestration consists of multi-light casement and double-hung sash windows, often deeply set in the walls or arched openings. Wrought-iron

balconets typically protect small balconies with French doors, and pergolas, fountains, and trellises or patios often appear in the surrounding landscape.

Masonry Vernacular

The term "Masonry Vernacular" applies to buildings that display no formal style of architecture and is defined as the common masonry construction techniques of lay or self taught builders. Initially transmitted by word of mouth or by demonstration and relying heavily upon native building materials, vernacular styles were later popularized by magazines featuring standardized manufactured building components, which helped to make building trends universal across the country. The railroad also aided the process. Engineering departments developed standardized plans for various building types. Railroad companies also provided cheap and efficient transportation for manufactured building materials.

Masonry Vernacular is more commonly associated with commercial building types than with railroad-related architecture. In Florida, most railroad resources developed before the twentieth century were wood frame, but some older examples featured brick or rough-faced cast block popularized by Henry Hobson Richardson in his Romanesque buildings of the late nineteenth century. The Masonry Vernacular designs of the early twentieth century were often influenced by popular Art Deco, Classical Revival, Mediterranean Revival, Mission, and Prairie designs of the period. Popular masonry building materials of the period included hollow tile and brick. Broad overhanging eaves, a common feature of railroad-related buildings, shaded extensive bands of windows.

Mission

The Spanish Mission style is found almost solely in those states that have a Spanish colonial heritage. It originated in California during the 1890s and was given impetus when the Southern Pacific railways adopted it as the style for the depots and resort hotels it constructed throughout the Far West. Early domestic examples were faithful copies of their colonial ancestors, but during the first two decades of the twentieth century other influences--most notably those of the Prairie and Bungalow styles--were added to produce new prototypes.

In Florida, the Spanish Mission style gained widespread popularity during the decade before the collapse of the Florida land boom. It was adapted for a variety of building types ranging from grandiose tourist hotels to two room residences. The Atlantic Coast Line Railroad adapted the style to several of its stations built in peninsular towns during the 1920s. Identifying features of the style include flat roofs, always with a curvilinear parapet or dormer either on the main or porch roof; ceramic tile roof surfacing; stuccoed facades; flat roof entrance porches, commonly with arched openings supported by square columns; casement and double-hung sash windows; and ceramic tile decorations.

Prairie

The Prairie style, one of few indigenous American architectural forms, was developed by a creative association of Chicago architects. The style was mastered by Frank Lloyd Wright. The heaviest concentrations of Prairie style buildings are located in the Midwest. Although pattern books helped to distribute vernacular forms of the style throughout the country, the Prairie style was a short-lived architectural form with its popularity rising and falling from favor between 1895 and World War I.

In Florida, the Prairie style never gained wide acceptance. The style was eclipsed by revival styles of the American colonial period and from Europe and the Mediterranean basin, which gained popularity and flourished during the land boom of the 1920s, one of Florida's most significant periods of development. Perhaps the largest collection of buildings designed in the style in Florida are located in Jacksonville, where architects widely applied the style to buildings constructed there following a devastating fire in 1901.

Distinctive features of the Prairie style include a two-story design, often with a bold interplay of horizontal planes against a vertical block and secondary vertical details. Low-pitched gable, flat, or hip roofs with boxed eaves often contrast with dormers, massive chimneys, and horizontal ribbons of windows, often treated with leaded glass. Cantilevered overhangs, one-story porches, porte cocheres, or extensions with massive column supports are secondary features. Brick, stucco, tile, or rough face cast stone exterior wall fabrics often appear in combination with wood. Classical, Mission, or Italian Renaissance influences, such as tiled roofs or cornice line brackets, are prominent in some models.

3. Significance: The historic railroad stations of Florida are significant at the local level under National Register criteria A and C in the areas of architecture and transportation. Some stations may possess additional significance in the areas of community planning and exploration/development. These resources represent a distinctive building type developed by railroad companies, one of the pioneers in architectural standardization. Consequently, there are more similarities than differences between stations regardless of the persons responsible for their design and construction, their period of construction, or the rail line the building served. Stations are the primary buildings that the public associates with railroads. An evocative symbol of our state's transportation heritage, the railroad station historically was often a community's social center.

In some cases, stations represent a particular stylistic influence or formal style, but always contribute to a larger trend in architectural building types. Because many of Florida's historic railroads supported large regional systems that relied heavily upon architectural standardization, the resulting railroad architecture found in Florida is consistent with railroad architecture located throughout the United States.

Historic railroad office buildings typically possess significance in the areas of architecture, commerce, and community planning.

4. Registration Requirements: For buildings to be eligible for nomination under this property type they must serve a historic railroad station or railroad office function, have been constructed during one of the historic periods outlined in Section E, and lie within the State of Florida. Eligibility for individual nominations is restricted to (1) exceptional examples of a style of architecture; (2) buildings adapted or derived from standardized plans; or (3) buildings associated with important local historical events.

The very nature of railroad maintenance dictated routine or periodic improvements or changes to stations. Most stations were subject to modification and the functional needs housed with any particular building outweighed considerations of aesthetics. Nevertheless, buildings nominated under this area of significance must retain their original appearance to a high degree. A building that has been significantly altered by additions, the application of materials inconsistent with the historic period in which they were constructed, or the removal of significant architectural details is excluded from eligibility.

In accordance with criterion consideration B, buildings that have been moved should retain enough historic features to convey their architectural presence and retain integrity of design, materials, workmanship, feeling, and association to a high degree. Given the realities of preserving railroad stations and the dismantling of the nation's rail system over the past decades, integrity of location and setting should not always depend on whether the building is located on its original or historic site. A new site, however, should be railroad-related and the building should be appropriately oriented to railroad tracks.

PROPERTY TYPE: F.2

1. Name of Property Type: Railroad Worker Housing

2. Description: The historic residential buildings associated with Florida's railroads represent a once prolific but now scarce collection of historic resources. Called "section houses," these dwellings were typically developed from stock plans developed by engineering departments of railroad companies. Consequently, section houses built by a company will share many similar characteristics regardless of the location, but may differ slightly from those developed by another railroad. Section houses were often closely grouped forming a small neighborhood. Some of the section houses developed by the SAL along its Florida Western & Northern line in the 1920s were designed as duplexes by Harvey & Clarke with a Mediterranean Revival flare. Small groups or individual examples have been documented at Jensen, Maytown, Pablo Beach, and Port Salerno. Other clusters, documented from land title research or Sanborn maps but no longer extant, stood in countless communities.

Section houses were generally constructed by the railroad companies using traditional building techniques and contemporary stylistic preferences for inspiration. The vast majority display no formal style of architecture. Instead, they typically were derived from double-pile or cube vernacular construction forms with square or rectangular plans. The primary consideration was given to providing functional living spaces for the owners. Decorative features were sparse, and generally included knee braces, exposed rafter ends, or purlins along the eaves line.

Most conform to a relatively small scale and simple design and are located on small lots with a moderate setback. Although some rise two stories, most are one or one-and-one-half stories in height. Hip, gable, or pyramidal roofs are often pierced by corbeled brick chimneys and small dormers. Entrance porches with turned posts and brackets extend across the facade. Original roof surfaces included either wood or metal shingles or 3-V crimp sheets, but composition shingle has replaced the initial surfacing on many dwellings. Wood balloon frame structural systems predominate, and clapboard, drop siding, and wood shingles serve as common exterior wall fabrics. Fenestration varies depending on the materials available during construction. Casement and double-hung sash with multiple panes, generally 2/2-light or 6/6-light, are common window types. Brick or concrete piers support the dwellings.

The standard plans developed by Harvey & Clarke called for a rectangular dwelling measuring roughly 25 feet by 35 feet with a hip roof, stucco surfacing on wood frame walls, 6/6-light double-hung sash windows, and small entrance porches with arched openings.

3. Significance: The historic railroad-related dwellings in Florida are significant at the local level under National Register criteria A and C. The residences are part of a larger statewide or regional pattern of

development by railroad companies to develop homes for company foremen and laborers. The dwellings possess further significance as examples of stylistic trends consistent with vernacular railroad architecture of a specific company during the early twentieth century.

4. Registration Requirements: For buildings to be eligible for nomination under the F.2 property type they must serve a historic residential function associated with one of the state's railroad companies, have been constructed during one of the historic periods outlined in Section E, and lie within the State of Florida. Eligibility for individual buildings is restricted to (1) exceptional examples of a style or type of architecture; or (2) buildings associated with important local historical events. Individual buildings must retain their original appearance to a high degree.

The Secretary of the Interior's *Guidelines for Rehabilitating Historic Buildings* shall serve as a guide for gauging the eligibility of dwellings. Alterations sensitive to the original design and appearance of the dwelling will not preclude eligibility. Such additions generally appear on the rear of dwellings. The addition of small bays or oriels, porte cocheres, and dormers that contribute to the character of a dwelling and do not disrupt the original rhythm and styling are acceptable. Asbestos shingles installed over the original exterior siding of dwellings during the historic period does not preclude a property from eligibility. Enclosing porches in a manner that results in a diminution or loss of historic character such as using solid materials like wood, stucco, or masonry will exclude a building from eligibility. Replacement windows should display original sash, casement, or hopper glazing appearance. Dwellings that display materials inconsistent with the historic period in which they were constructed, or the removal of significant architectural details are excluded from eligibility.

PROPERTY TYPE: F.3

1. Name of Property Type: Railroad Structures

2. Description: A variety of historic structures support Florida's railroads, including bridges, locomotives, roadbeds, rolling stock, roundhouses, shops, towers, turntables, warehouses, and water tanks and towers.

Bridges

Constructed to span roadways, railroads, rivers, ravines, and other man-made and natural features, bridges connect two points at a height above the intervening ground, allowing passage beneath. The primary forms of railroad bridges include fixed bridges supported by trestles; girder bridges, which rest on supports at either end; and truss bridges that are supported by a series of trusses. Girder and truss types may be constructed as either fixed or movable spans, and trestle types are often interrupted by a movable span. Historically, truss bridges have appeared in many forms, such as camelback, lattice, parabolic, sawtooth, and scissors. Movable bridges were typically built using either girder or truss designs with bascule, swing, or vertical lift spans. Other bridge forms less commonly used on railroads include suspension bridges with a framework hung from high masts; cantilever bridges; and aqueducts or viaducts, terms derived from Latin indicative of a long bridge with a constant grade over a river or valley supported by a series of arches or vaults. Construction materials commonly used to build railroad bridges included concrete, iron, steel, and timber.
The earliest surviving bridge of any length, the Martorell Bridge in Spain, dates to 220 B.C. The use of cast iron in bridge construction dates to the seventeenth century. The development of the railroad in America during the nineteenth century led to greater sophistication in bridge design and fabrication. Patented truss bridge designs emerged in the mid nineteenth century with the Howe (1840) and Pratt types (1844). Among the earliest remaining bridges in America, the Brooklyn Bridge, designed and built by John and Washington Roebling, was completed in 1886. The advent of the automobile in the early twentieth century spurred further refinements in bridge design and construction.

Although bridge building in Florida dates to the Colonial period, relatively few historic bridges remain. During the 1920s, an extensive road building program led to the development of hundreds of highway bridges throughout Florida. Many of those early bridges have been replaced by modern structures. Generally, those older highway bridges that remain are on secondary thoroughfares, or, like the Bridge of Lions in St. Augustine, possess special architectural and historical merit.

Nationally, some 275,000 bridges were estimated to support the nation's railroads in 1981. The oldest surviving railroad bridge in the world, built in 1829, spans the Patapsco River in Maryland. Most early bridges and trestles were built with timber and replaced ferry services. The first iron railroad bridge was designed by Richard Osborne of the Philadelphia & Reading Railroad in 1854. St. Louis' Union Station was serviced from

the east by a steel railroad bridge, the first of its type to span the Mississippi River (1891-1894). Gustav Lindenthall's Hell Gate Bridge, developed for the Pennsylvania and New Haven railroads, connected Long Island with the mainland and was completed in 1917 at a cost of $27,000,000. By 1958, the L&N Railroad maintained 4,507 bridges and trestles amounting to 107 miles of infrastructure. Of those 1,254 were steel bridges and the remainder timber trestles. The company's Henderson Bridge spanned the Ohio River in 1885, built at a cost of $2,000,000 and the largest trestle span in the world when completed. It was replaced in 1932. Fixed trestle bridges constituted approximately 50 percent of all railroad bridges well into the twentieth century.

Substantial permanent railroad bridges appeared in Florida in the 1880s, when railroad companies extended lines throughout the state. The Florida East Coast Railway was a leading innovator in the use of modern bridges along its mainline. One of the state's largest and earliest movable steel bridges was completed in Jacksonville in 1890, a pivot-center swing bridge. Measuring one-half mile in length and spanning the St. Johns River near downtown Jacksonville, the bridge was replaced in 1925 with a larger, single-leaf bascule bridge that supports two sets of tracks.

Historically, bascules had several advantages over swing bridges. First, the type provided a single wide channel rather than two narrow ones and possessed no center pier to divert water toward river banks and cause erosion. Bascules opened quicker than swing bridges and could be partially opened for small boats. Lastly, they easily accommodated future expansions. In contrast, swing bridges were relatively inexpensive to construct, maintain, and operate. Swing types reached their height of development in the 1890s and became increasingly rare on larger railroads after 1900. By 1895, steel had eclipsed wrought iron in bridges and steel riveted construction characterized turn-of-the-century railroad bridges. Bridge decks were of two types: open with the ties attached directly to the bridge framework, and solid composed of a bed of continuous reinforced concrete ballasted with crushed rock.

The most extensive collection of historic railroad bridges and viaducts in the state is the Key West Extension, or Overseas Extension, of the Florida East Coast Railway. Completed in 1912, the route extended 155 miles between Miami and Key West. In all, some eighteen miles of bridges contributed to the route. Seven Mile Bridge, supported by concrete piers, was among the longest in the country. Bahia Honda Bridge measured 5,055 feet in length and displayed steel lattice trusses resting on reinforced concrete piers. The Labor Day Hurricane of 1935 destroyed several miles of the track and the roadbed was abandoned by the railroad and later converted for use as a federal highway.

More typical of the relatively small steel movable bridges constructed by railroad companies in the historic period are a center-pivot swing bridge and a lift bridge, both of which span the Okeechobee Waterway in west Martin County. The FEC completed a steel trestle-and-bascule bridge in Stuart in 1938. Measuring some 1,100 feet to span the St. Lucie River, the structure featured seamless, or welded, rails and replaced a fixed wooden bridge that had been used for decades. A local newspaper reported the steel-piling, welded-rail, welded-steel

bridge, constructed without the use of rivets or concrete, was the first of its kind in the world. More common are the relatively small fixed wood braced or reinforced concrete trestles and bridges used to span small creeks or wetlands.

A relatively small unusual bridge spans Myrtle Avenue west of downtown Jacksonville. Called the Myrtle Avenue Subway Underpass, the steel and concrete bridge was completed by the Jacksonville Terminal Company in 1909 to separate vehicular and rail traffic. The bridge displays three tunnels, or spans,. The central tunnel originally was reserved for a subway, or trolley, that ran along Myrtle Avenue. Brick paved roadbeds for cars and wagons bracketed the central tunnel. The top side of the overpass supports numerous sets of railroad tracks. In 1930 the original steel structure was encased in reinforced concrete.

Locomotives

For nearly 125 years, steam locomotives provided the motive power for railroad companies. Developed in the early nineteenth century, the engines are comprised of a steel frame supporting a horizontal tube steam boiler generating apparatus and a cab. Early models were fired with wood and later coal or oil. A throttle controls the quantity of steam admitted into cylinders through valves. From the cylinders extend rods that connect to drive wheels, which move the locomotive.

Steam locomotives are classified by the axle or wheel arrangement. The system was devised by F.H. Whyte with the digits representing the number of wheels, beginning in the front of the engine, in the following categories: (1) wheels in the leading truck; (2) drive wheels; and (3) trailing truck wheels. Most steam locomotive designs were also attributed by name. The Mogul, or 2-6-0 type, was so named because of its relatively great size when built by the Rogers Locomotive and Machine Works in the 1860s. The 4-4-2 arrangement of the 1890s was named the Atlantic type, developed for the Atlantic Coast Line Railroad by Baldwin Locomotive Works. The 2-10-2 Santa Fe type was built for the Santa Fe Railway and the 4-8-4 Northern type initially served the Great Northern Railroad in the Rocky Mountains. American Locomotive Company (ALCO), Baldwin Locomotive Works, Lima Locomotive Works, Rogers, and Schenectady were some of the largest manufacturers of steam locomotives in the United States. Lima Locomotive Works was the last American company to manufacture steam locomotives, ending production in 1949. By the early 1950s, most mainline railroad companies had scrapped or sold their remaining steam locomotives, replacing them with diesel engines.

Named for the German scientist Rudolf Diesel, the diesel electric locomotive first appeared in 1893, but did not make significant inroads into the railroad industry until the 1930s. General-Electric and Ingersoll-Rand companies, in a cooperative venture, built a demonstrator model in 1924 and then teamed with ALCO to develop the first standardized diesel trains. The streamline movement of the 1930s and the promise of lower operating costs encouraged the new technology. The Burlington Railroad's "Zephyr" was showcased at the

1933 World's Fair and other glamour streamlined trains soon appeared on the lines of the Illinois Central, New York Central, Rock Island, Seaboard Air Line, and Union Pacific. Firms such as Baldwin, Copper-Bessemer, Electro-Motive Corporation, General Electric, and Ingersoll-Rand participated in the growth industry, constructing streamlined motive power and passenger cars. The introduction in 1939 of the "FT" unit, a locomotive set consisting of four units each with a 1,350 horsepower engine, set into motion the end of the steam era. The merger of Electro-Motive and Winton Engine companies into General Motors Corporation, forming Electro-Motive Division in 1943, revolutionized the diesel engine construction business. By the late 1940s, some larger diesel locomotives developed 2,500 horsepower.

Relatively few steam locomotives and early generation diesel electric locomotives remain in service. Most companies retired the last of their steam fleets in the 1950s, either scrapping them or selling them to smaller companies or foreign countries. A scant few became museum pieces.

Roadbed

A railroad roadbed consists of ballast, crossties, rails, and tie plates. The modern rail traces its roots to Robert L. Stevens, president of the Camden & Amboy Railroad. Not satisfied with the strap-iron rails commonly used in the 1830s, Stevens persuaded a Welsh foundry to roll heavy iron into a "T" shape and ship them to America. Stevens devised a hook-headed spike to secure the rails to timber crossties. In the 1850s, engineers with the Pennsylvania Railroad refined the design and Henry Bessemer, an English chemist, developed the steel-making process, thereby revolutionizing the manufacturing of rails and providing a safer more secure surface for the operation of trains. Bessemer's first steel rails were delivered in 1863 and in 1912 new stronger alloys improved their strength. Although standardization in the shape of the rail came in the 1880s, more than seventy different types of "T" rails have been created since the 1840s for use by America's railroads to meet the needs of crossovers, mainlines, switches, and yards.

Rails are secured to timber or concrete crossties with tie plates, a flanged plate that ensures a uniform firm foundation. Ballast, generally crushed rock or gravel, forms the roadbed foundation and also serves to check vegetation growth and drain water away from the rails. After the crossties and rails are set on the ballast foundation additional ballast is poured between the crossties to help hold them in place. Hook-headed spikes secure the crossties, tie plates, and rails to one another. Date nails with numbers embossed on the heads are driven into the crossties. The number cast in the nail signifies the date of installation of a crosstie and furnishes maintenance crews with a tool for estimating the date of the crosstie. Besides their use on roadbeds, date nails were employed on bridges, pilings, switches, and utility poles. Collectors estimate than some 2,200 types of date nails have been used by American railroad companies. The use of date nails ended in the 1960s.

Rolling Stock

Rolling stock is divided into the categories of freight and passenger cars, each of which is further divided by weight and car type. Cars in both categories gradually developed into specialized forms as railroads sought to increase passenger comfort, develop new resources for hauling various types of freight, and transport cargo more efficiently.

In the mid-nineteenth century, railroads relied initially upon box, flat, and stock cars to transport freight for customers. Demands for shipping perishables spurred the development of refrigerated cars, which appeared in 1867. Products were kept fresh by loading blocks of ice into bins from the top sides of cars. The discovery and refining of crude oil drove the development of cylindrical tank cars, which replaced flat cars with wooden tubs mounted on them. Soon gondola cars with short sides and open tops were fabricated. Hopper cars capable of carrying bulk commodities loaded from the top and dispensed out of hoppers at the bottom appeared by the 1890s. Steel frames and bodies appeared in the 1890s and most wooden models were retired from service in the 1920s. By the middle of the twentieth century, most railroad companies maintained a fleet of seven or eight different types of freight cars. A caboose connected to the rear of freight trains carried personnel who helped to perform the tasks of switching and monitoring train movements. On some branch lines, cabooses were part of mixed trains, carrying crew members, passengers, mail, and baggage.

Passenger cars underwent a transformation similar to freight cars, growing in size and type. Although metal cars were fabricated before the Civil War, wood frame cars predominated until the early twentieth century. The Pennsylvania Railroad built its first steel passenger coach in 1905 and gradually replaced its aging wooden fleet. The first standardized all-metal passenger car was built by the Pullman Company in 1907, and by 1910 metal passenger cars appeared on most railroads. Their use helped eliminate the horrible deaths and dismemberments wrought on passengers riding in cars that telescoped through one another in railroad wrecks. Open platforms between cars were engineered into vestibules by the Pullman Company, effectively creating one long enclosed car.

The early "heavyweight" passenger cars with ornate stenciling, sharp lines, and clerestories along the roofs were gradually replaced by streamlined "lightweights" in the 1930s and 1940s. Displaying smooth tapered lines, many trains of the 1930s and 1940s were streamlined from end-to-end. Passenger trains pulled a variety of cars, each serving a particular function, including baggage, coach, dining, lounge, express, and sleeping cars. Railway Post Office (RPO) and Railway Express Agency (REA) cars were an integral part of passenger trains before World War II. Various combination cars also supported passenger trains. Some of the combinations consisted of baggage/dormitory, baggage/express, baggage/passenger, bar/diner/lounge, coach/baggage, coach/lounge, railway post office/baggage, and tavern/observation. Observation cars became a familiar sight at the ends of most passenger trains. Open platforms ornately adorned later yielded to sleek cars with tapered and rounded ends, enclosed with glass for safety, convenience, and viewing.

An assortment of unusual service equipment supported railroads. These specialized forms of rolling stock carried executives and work crews and assisted in accidents, derailments, and servicing stranded trains. They included business cars, crew cars, instruction cars, locomotive cranes, tie cars, water cars, wheel cars, and wrecking cranes.

Roundhouses, Shops, Warehouses, Water Tanks and Towers, and Yard Towers

Railroad roundhouses, shops, towers, and warehouses represent specialized architectural forms for the maintenance, repair, routing, and storage of engines and rolling stock. These resources were often set within yards or along sidings away from the public right-of-way. Built to serve a specific task, their appearance is often most derived from vernacular influences. A few may display the influences of the Classical Revival, Mediterranean Revival, or Prairie styles.

By definition, roundhouses display a circular, semi-circular, or polygonal shape with a conical or polygonal roof pierced by a central roof monitor for ventilation and arched bays that provide access into the interior. Utilitarian in design, most are constructed with brick and display few windows. Most were unadorned and unusual simply because of their unique shape and function. Historic roundhouses generally are only found in those towns and cities that served as a divisional headquarters or contained the repair shops of a railroad company. The structures are generally supported by a turntable that directs engines into designated bays for servicing and storage.

Shops and warehouses are typically one- or two-story structures with a flat or gable roof and brick, stucco, or corrugated metal exterior wall fabric, depending on the application. Distinctive broad eaves with large brackets often distinguish these buildings as a railroad-related resource. Fenestration often consists of either ribbons of double-hung sash or industrial wire glass pivot windows. Most shops were industrial steel buildings of simple design and devoid of adornment. During the 1920s nearly twenty cities and towns in Florida contained railroad shops and roundhouses, but most of those facilities were dismantled following World War II and the dieselization of the nation's railroads.

Numerous warehouses were constructed by railroad companies. Those buildings supported stations along sidings in smaller towns or yards, wharves, and docking facilities in larger cities. In the early twentieth century numerous railroad warehouses lined the St. Johns River in Jacksonville, and harbors at Key West, Miami, Pensacola, Tampa, and other Florida port cities. Many smaller coastal and river towns had docks and warehouses servicing railroads along their waterfronts.

Yard towers generally only were built at rail junctions and large distribution yards. They typically rose two stories with a rectangular plan and a brick or wood frame structure. Most were distinguished by a band of

continuous windows to permit personnel to look over a rail yard at a glance. The Jacksonville Terminal Company's Beaver Street Railway Tower is situated at a point where four mainlines fan out into two dozen separate tracks. Built in 1919, it is the only historic switching tower manned by railroad personnel in the State of Florida.

Turntables

Turntables are a specialized structure, generally used in association with a roundhouse, repair shop, or in areas of heavy rail traffic where quick turn around times are required. Three types of turntables were used by railroads: the cantilever, or center balance; the articulated, or center-hinged; and the continuous girder, which is supported at three points. Most of the largest turntables were the latter type, often measuring 135 feet in length. The Mundt type of turntable, developed by the Dutch State Railways, combined the features of the articulated and continuous girder types for better distribution of loads, thereby reducing tipping of the structure while it was in motion. The sizes of engines to be turned and the frequency of movement dictated the type of turntable built by a company. Turntables historically were operated by electricity, compressed air, or small gasoline engines, although some small early versions were hand operated.

Water Tanks and Towers

Water tanks and towers are specialized vertical structures generally associated with a municipal water works system. Although the earliest water systems in Florida date to the Colonial era, little evidence remains from the period. Technological advances in the manufacture of steel in the mid nineteenth century resulted in the construction of above-ground water towers and tanks throughout many Florida cities by World War I. Hand-dug and natural artesian wells were replaced by water tanks that rose some 100 feet above the landscape. Those tanks stored large quantities of water that supplied sufficient pressure to move water through an underground pipe network to spigots in private homes, emergency sprinkler systems in commercial buildings, and standpipes and fire hydrants on streets. Most water tanks built at the turn-of-the-century display a steel structural frame upon which rests a large cylinder with a conical roof. Metal plates fastened with large bolts or rivets comprise the cylinder. Following World War II, most water towers featured seamless construction.

These structures were a critical part of all railroad networks until the transition to diesel locomotives. A classic feature of many yards and stations, water towers ranged in capacity from 35,000 to 500,000 gallons. Early steam engines made frequent stops to replenish their supply of water and either coal or wood. Some of the largest engines could contain 24,000 gallons and make extended runs without stopping for water. The construction of large tenders in the 1930s and 1940s, followed by the advent of diesel locomotives, reduced the need for water towers. By 1951, some 26,000 water towers stood along the tracks of the nation's railroads. Many were dismantled in the following decade and few remain today.

3. Significance: The historic structures associated with Florida's railroads are significant at the local level under National Register Criteria A and C in the areas of architecture, engineering, and transportation. Stylistic trends in architecture and engineering are consistent with railroad structures found throughout Florida and the nation during the early twentieth century. Most structures were developed and fabricated either by a railroad's engineering department, bridge company, steel fabricating firm, or by a locomotive and car building firm. Those designs are derived from vernacular influences and are not typically categorized by architectural style.

They possess significance for their association with the development of Florida's railroad heritage and as examples of trends in engineering during the period in which they were constructed.

4. Registration Requirements: For structures to be eligible for nomination under the F.3 property type they must serve a historic railroad transportation function, have been constructed during one of the historic periods outlined in Section E, and lie within the State of Florida. Eligibility for individual structures is restricted to (1) exceptional examples of a type of architecture or engineering; or (2) be associated with important local historical events. Historic rolling stock should be representative of a type of car or motive power used in the state, but does not need to have been owned by or served on one of Florida's historic railroads. Individual structures must retain their original appearance to a high degree. A structure that has been altered by significant additions, the application of materials inconsistent with the historic period in which they were constructed, or the removal of significant details is excluded from eligibility.

Geographical Data

The geographical limits are the state line and coastal limits of the State of Florida.

Summary of Identification and Evaluation Methods

In 1997, Historic DeLand, Inc., a non-profit historic preservation organization, was awarded a grant by the Florida Department of State, Division of Historical Resources to prepare a Multiple Property Submission (MPS) nomination covering historic railroad resources in Florida. The methodology used to prepare the MPS largely consisted of a literature search to determine the founding, development, activities, and personalities significant to the development of Florida's railroads.

Research was conducted at the Architecture & Fine Arts Library, Marston Science Library, and P.K. Yonge Library of Florida History at the University of Florida in Gainesville, St. Augustine Historical Society Library, and the Florida State Archives and State Library of Florida in Tallahassee. Site visits and telephone conversations with staff at CSX Transportation, Florida East Coast Railway, and Norfolk Southern Corporation elicited useful information. Archivists and internet sites of the Atlanta History Center, Gold Coast Railroad Museum, Henry M. Flagler Museum, Henry B. Plant Museum, Pennsylvania State Archives, and Virginia Technical Institute confirmed that their collections include important materials on Florida railroads. Various historical societies maintain Florida railroadiana collections, including the Central Florida Chapter of the National Railway Historical Society in Winter Garden, Atlantic Coast Line and Seaboard Air Line Railroads Historical Society in Valrico, and the Southern Railway Historical Association in Spencer, North Carolina. The National Register of Historic Places and Florida Site File maintain listings of documented historic railroad-related properties. MPS documents prepared for railroad resources in other states were consulted and provided models for organizing the Florida document.

The research furnished sufficient information to prepare the narratives appearing in sections E and F of the MPS. The development of historical and architectural contexts for evaluating historic railroad-related resources in Florida constituted a major portion of the project.

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