The Fight for Survival: The Cincinnati & Lake Erie and the Great Depression

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The 1930s were grim years, bringing the nation's worst economic depression, and with it, unemployment, hunger, drought, and financial panic. The depression struck the country's business centers like a plague, paralyzing whole industries. And the interurbans of Michigan, Indiana, and Ohio suffered its fury to a greater degree than did most other industries in America. A handful of the large traction companies put up a desperate fight to survive. The Cincinnati & Lake Erie Railroad was one of them.

The Cincinnati & Lake Erie (C&LE) is best known for its Red Devils—the lightweight interurban cars with the quick acceleration, plush seating, and lightning speed. The C&LE introduced the cars to the riding public with a staged airplane race, which the interurban predictably won. The line's management used its new high speeds to provide local and limited service over its Cincinnati, Columbus and Toledo divisions. It even carded daily, 275-mile parlor-car trips between Detroit and Cincinnati for what would become the longest passenger interurban runs in the history of the industry.

Less well known is the fact that the C&LE transformed a slow-moving, badly managed, trolley-freight operation into an efficient, high-speed, regional-freight carrier. With the cooperation of neighboring interurbans, it guaranteed first-morning delivery to major cities throughout Ohio, Indiana, and Michigan. The C&LE's nightly forays between Cincinnati and Cleveland made it the longest, and probably the fastest, regional interurban freight carrier in America.

This essay looks at the high speeds—their design, structure, operation—and the road's freight system, more specifically, its door-to-door, overnight delivery service and will try to assess the effectiveness of both. The C&LE hoped, above all, that its new passenger cars along with its modernized freight system would shield it from the ravages of the Great Depression. First a look at the C&LE's beginnings.

In 1925 the Cincinnati & Dayton Traction Company (C&D), a fifty-four-mile line tucked away in the southwest corner of Ohio, was in receivership and barely able to cover its operating costs. After scrutinizing the books with his accountants, Thomas Conway, Jr., a Wharton School professor, recognized that the region's high population density and its vast manufacturing base made the C&D a potentially valuable property. Conway reasoned that if he modernized the C&D, he could stabilize its existing passenger business, while adding significantly to the company's freight revenues. He was intrigued by the line's freight connections at Cincinnati with steam railroads and riverboats. He was also struck by the possibility of developing interchange freight at Dayton, where C&D connected with five thousand miles of interurban railway that spread like a mass of tangled vines across the landscape of Indiana, Ohio, and Michigan. (Fig. 1 shows a map published by the Central Electric Railway Association [CERA]). Conway and his investors bought the line in 1926 and renamed it the Cincinnati Hamilton & Dayton Railway (CH&D). In order for the line to realize its potential, Conway financed new rolling stock, a revamped power supply, freight handling systems, and the rehabilitation of the line's track and roadbed.

The CH&D started off with a real problem—its Cincinnati terminus was at Cumminsville, a suburb of Cincinnati, about five miles north of the city's business district. Because Cincinnati's streetcars were wide-gauged and the CH&D was standard gauge, the CH&D had no rail access to the downtown area, a situation that somewhat limited its ability to sell its passenger and freight service. Although Conway was unable to enhance passenger receipts, he was able to take measures to increase the CH&D's freight revenues.

Conway opened a freight station and warehouse in downtown Cincinnati, where he trucked his customers' shipments five miles to the railhead in Cumminsville just to get the business. He needed more than just a downtown freight office, however. The carloading and freight-handling facilities at the railhead in Cumminsville were an embarrassment, and the whole complex had to be modernized. The CH&D operated with a single team track served by a narrow open platform. It had no freight house, no yard tracks, and no freight handling equipment.[1] Conway decided to build a new two-track freight house. By the end of 1926 the structure was up and the tracks were in place, and he rebuilt the old team track and platform at Cumminsville and gave it to Universal Carloading and Distributing Company, a freight forwarder owned by the New York Central System (see Fig. 2). Universal made its money by consolidating small freight shipments large enough to fill a single boxcar, taking advantage of the lower tariff rates offered by railroads—both steam and interurban—for mixed carload shipments. And while designed to sell the freight services of the New York Central System, Universal also shipped with qualified interurban freight carriers. Universal booked six to nine carloads of freight per day in and out of Cincinnati. During 1928 and 1929 Universal loaded about forty cars a month to Cleveland alone.[2] With freight revenues increasing, the CH&D ordered new boxcars and began booking interline freight for all of the major cities in the central-states area. The increased billings forced Conway and his associates to expand the Cumminsville facilities once again.

Conway did not limit the CH&D's modernization program to Cincinnati alone. Farther north on the main line the town of Mount Healthy forced the CH&D to move its track into the center of the road. Figure 3 shows the new, much heavier rail, fully blocked and lined, ready for concrete. This is probably 101# T rail. Note the absence of rail joints—the rails are continuously welded using the Thermit welding technique. This was very costly track work but necessary to handle loaded freight trains. The CH&D tackled the problem of steep grades at Symmes Hill, where southbound freight trains of three or more cars needed a boost to make it over the hump. A new cut through the hill early in 1929 reduced the grade and eliminated the need for a helper motor. Conway also rebuilt sections of the main line between Hamilton and Middletown. (Fig. 4 illustrates the work at Elk Creek. Notice the curve with its elevated outside rail—and the high-speed, inside guardrail. This stretch of track was part of the Trenton Bypass, the CH&D's fast, well-constructed main line between Middletown and Hamilton.)

After inspecting the CH&D's obsolete repair shop, constructed in 1910 just south of Dayton at O'Neils siding, Conway decided that the road needed new facilities. He moved the car repair and storage operation to a building two miles south at Moraine City next to the site occupied by the General Motors Delco Frigidaire plant (see Fig. 5). The new complex boasted an eight-track storage yard and a modern erecting shop and repair facility. (Fig. 6 shows the CH&D's interior loading docks at the General Motors Delco

Frigidaire plant at Moraine City.) Conway convinced General Motors to ship by interurban, and General Motors gave the CH&D its own siding and interior loading facility. In February 1927 the CH&D constructed a mile-long branch from the main line near O'Neils to the western end of the Frigidaire building. This arrangement with the CH&D was decidedly unique. General Motors, a truck and auto manufacturer, was no particular friend of the streetcar industry. Nevertheless, it busily shipped refrigeration equipment every day by trolley freight. It is probable, based on the data available, that Frigidaire's shipping department loaded an average of six outbound interurban freight cars every day—billed usually for the big cities in the region. During 1929 the plant dispatched twenty-five to thirty cars a month for Cleveland alone.[3]

Figure 7 depicts a freight train that derailed trying to turn the corner at Fifth and Main Streets in downtown Dayton. This intersection had a tight radius curve, and the switch points and frogs were probably worn. Derailments and collisions with motorists were the pitfalls of dispatching freight trains through city streets. The CH&D ran fifteen to twenty freights a day through this busy intersection. The trains were three to six cars in length.[4] A derailment of this sort caused real problems between the traction company and city officials. Congestion was a serious problem for the CH&D's Dayton freight house, shared with the Indiana Columbus & Eastern Traction Company (see Fig. 8). Because there was no room to expand, Conway installed improved freight-handling procedures inside the warehouse building. But it was a major achievement to keep freight moving through this facility twenty-four hours a day.

Conway rebuilt the CH&D's plant, equipment, and facilities between 1926 and 1929, hoping to make his new railway an important freight carrier. Did he succeed? Some numbers may provide the answer. Table 1 (Fig. 9) shows freight forwarded and received at Cincinnati. Note that in 1926, the CH&D customers shipped (forwarded) 57,000 tons of freight by interurban from Cincinnati to cities in Ohio, Indiana, and Michigan. By 1929, however, they were shipping about 83,000 tons over the CH&D, an increase of 45 percent. Table 1 also shows the tonnage received at Cincinnati during Conway's management of the road. There is no figure for 1926, but by comparing 1927 with 1929, one finds a 41 percent increase, which means that shippers in Ohio, Michigan, and Indiana were routing more of their freight to Cincinnati by interurban.[5] They were doing so because they could get a guarantee of a two-day delivery instead of the steam railroad's usual three to four days.

Cleveland, Ohio, represented one of the largest markets in the CERA region. The Lake Shore Electric Railway (LSE) served this important Lake Erie industrial center, and data is available that reflects the quantity of freight billed to the LSE during the years 1928 and 1929. The totals for two months in Table 2 (Fig. 10) reveal that the CH&D sent better than two million pounds of freight a month to the LSE in 1928 and increased the amount substantially in 1929. Table 3 (Fig. 11) shows the pounds shipped in the opposite direction, that is, from Cleveland over the LSE and connecting interurbans to Cincinnati and other CH&D towns.[6] These numbers suggest that Cleveland's merchants and manufacturers were shipping large quantities of freight to Cincinnati over Conway's new railway. This "back haul" was essential to a profitable freight operation.

It is evident that Conway succeeded in doing what he set out to do. He expanded the CH&D's freight business—while stemming the decline in passenger traffic between Cincinnati and Dayton. But as early as 1928 Conway began to fear that his two most

important connecting carriers—the Indiana Columbus & Eastern (IC&E) and the Lima-Toledo Railroad (LT)—were on the verge of collapse. The IC&E operated between Dayton, Springfield, and Columbus, Ohio, and between Springfield and Lima, Ohio. The LT operated the direct route between Lima and Toledo. These two roads gave Conway the wherewithal to reach the important business centers in Michigan, northern Ohio, and Indiana (see map of CERA network Fig. 1). If either shut down, Conway would lose his vital freight connections to the important regional markets and the CH&D would die on the vine. Passenger traffic alone could not support the railway. Conway came up with a plan that he believed would save all three companies. He merged the three roads and provided capital for new equipment and the rehabilitation of track and roadbed.

Conway, however, intended to do more than just save the LT and the IC&E as connections. He wanted to initiate direct freight-train service from Dayton and Cincinnati to market centers such as Toledo, Columbus, Detroit, Cleveland, Fort Wayne, and Indianapolis, and he wanted his freight motors to work the point of these interline freight runs. He needed to acquire the IC&E and the LT to make this ambitious scheme work. Conway believed that this plan—to run daily freight trains hundreds of miles between major market centers in the Indiana-Ohio-Michigan region—was the salvation of the central-states interurbans. By 1929 Conway began to operate the IC&E, the LT, and the CH&D as though they were one company, while his lawyers worked out the merger details. LT freight motors were put on the IC&E's regular merchandise runs between Dayton and Columbus. The IC&E and the LT passenger cars operated through trips between Toledo and Springfield, and cars from both companies made routine visits to the CH&D's Moraine City shops. Figure 12 shows LT freight 752 and passenger car 61 laying over in the Moraine yards. Conway finally carried out the formal merger—creating the Cincinnati & Lake Erie Railroad (C&LE)—on 1 January 1930 (see route map of the C&LE—Fig. 13).

The Cincinnati & Lake Erie Railroad

The two new roads that C&LE acquired were endowed with excellent physical plants. Springfield, where the new 137-mile Springfield-Toledo division met the 71-mile Dayton-Columbus division, was C&LE's junction city. The former IC&E terminal building and platforms in Springfield constituted one of the C&LE's best passenger stations (Fig. 14). The Springfield-Columbus right-of-way paralleled U.S. 40, the famous National Road. Figure 15 displays track work through the village of Harmony. The C&LE ran its new high-speed limited parlor cars nonstop through here at speeds of seventy miles per hour. Conway lined, surfaced, and ballasted miles of the Columbus main line needing repair and maintenance. At an occasional small town between Springfield and Columbus the main line made a long curve around the village center. These bypasses were installed during 1902 in order to avoid the paving assessments that towns on the right-of-way threatened to levy against the interurban. The C&LE inherited a first-rate multitrack, off-street passenger and freight station at Columbus, constructed in 1912 by the Ohio Electric. Figure 16 shows high-speed car 129 on a layover in the Columbus terminal in 1934. The freight house is in the background.

The long Springfield-Toledo division boasted mile after mile of razor-straight, level track. Surveyed and constructed between 1906 and 1908 by the Ohio Electric, the stretch of right-of-way from Toledo to Lima and from Lima south to Bellefontaine was a

racetrack on which passenger cars whipped along at ninety miles an hour, and loaded freight trains pushed fifty to sixty miles an hour. In 1929 Conway began to ballast, surface, and line every mile of open track between Springfield and Toledo. The results are evident in Figure 17, illustrating the roadway between Bellefontaine and Russels Point in February 1930. The C&LE gained an excellent three-track passenger station and a first-rate carbarn and shop, the equal of Moraine, in Lima with the LT merger. The poor location and inadequate size of the LT's old Lima freight house, however, caused serious problems for the C&LE's train crews. These circumstances changed in January 1932 when the Western Ohio Railway (WO) abandoned interurban operations and the C&LE acquired the WO's favorably located, five-track Lima freight house (see Fig. 18).

The only restraints imposed on fast schedules between Lima and Toledo were street running in small towns on the main line and an occasional steam railroad grade crossing. Figure 19 shows high-speed car 123 traversing the rails of the Northern Ohio Railroad at Columbus Grove. (Note the angle of the passenger car's trolley pole and the height of overhead wire above the grade crossing, which was dictated by state law.) By and large, however, the C&LE's Toledo division enjoyed long stretches of tangent track, laid with seventy-pound rail, designed to support very fast freight and passenger service. The main line shown in Figure 20 located south of Maumee—newly ballasted and ditched—typifies the condition of the roadway between Toledo and Lima in 1930.

The Toledo entry route was the real prize of the LT acquisition. Rather than thread its way through a maze of local streets to reach the downtown area, the C&LE followed a high-speed route, constructed on private right-of-way, into the center of Toledo. The C&LE connected with the city's streetcar tracks less than a mile from the interurban passenger station. This same link gave Conway's freight trains a connection with the interurbans serving the Detroit and Cleveland areas. Figure 21 illustrates the entry route near the city's center. (The boxcar on the siding was loaded at the C&LE's Toledo freight house and spotted for a southbound evening freight train.)

The Year of the Consolidation

The year 1930 was a somewhat chaotic year for the newly created C&LE. The three separate companies, operating as one, experienced the usual problems that attended a merger. Business activity in the central-states area began to slow as inventories swelled and demand for capital equipment declined. Manufacturers began to lay off employees, and the Great Depression rolled across the nation's economic landscape. Conway, noting the falloff in business activity, hoped that the introduction of twenty new low-level, high-speed passenger cars would stem the decline in ridership that plagued the central-states interurbans. The Cincinnati Car Company (CCCo) delivered the last of the twenty-car order at the end of June 1930. Conway hoped to lure the public back to interurban travel with C&LE's new traction cars, which matched the speed and comfort of the steam railroads' crack passenger trains. But first he had to persuade commuters to "park and ride," that is, drive to the station, leave their auto in a free parking lot provided by the C&LE, and ride the interurban to their destination.

Conway's new cars—called Go Devils when they first appeared and Red Devils in later years—cruised at eighty miles an hour and were clocked running with tapped fields at 101 miles per hour on the company's north end.[7] In order to attract riders for these fast and comfortable cars, Conway put in free parking lots at almost all of the

stations throughout the system. To publicize the cars' introduction, he staged publicity events such as the one captured in Figure 22. (C&LE 128, making ninety-seven miles per hour, crosses the finish line the clear winner. The race, filmed by Pathe News, played in movie houses throughout Ohio.)

The design features of the C&LE's high-speed passenger cars are worth examining for several reasons. One could begin by arguing that they employed the most advanced technology of their period. They were certainly the fastest of their kind in scheduled operation and, given their weight, speed, and size, offered superlative comfort and riding qualities. Over the years the C&LE's high speeds acquired something of a mythical status, and they were endowed with sobriquets such as Go Devil and Red Devil that implied rapid acceleration and velocity and perhaps a touch of mischief. They were clearly something out of the ordinary. If not the archetype for the Indiana Railroad high speeds and the Philadelphia & Western bullet cars, then they were certainly important working models for the engineers who designed those equally famous interurbans. Last of all, the C&LE hoped that its twenty new streamliners would soften the financial impact of an economic depression that had begun to spread, like a black mist, across the nation.

The C&LE Lightweight, Low-level, High-speed Interurban Cars

The CCCo delivered twenty lightweight, low-level, steel and aluminum passenger interurban cars to the C&LE in 1930. The C&LE divided this order into a set of local cars numbered 110 to 119 and a set of deluxe parlor cars numbered 120 to 129. General Electric (GE) made motors and controls for the locals, and Westinghouse (WH) made the motors and controls for the deluxe cars. CCCo designed and fabricated the trucks for all twenty. The shop crews and trainmen referred to the cars as the 110 or the 120 type. Number 110 (see Fig. 23) was the prototype for the twenty-car series, with an overall length of 44′ 9″, extreme width of 8′10″, and weight of 48,000 pounds.[8] The C&LE designed the car for the high platform loading the company expected to find in the proposed Cincinnati subway. Unfortunately, the subway project died early in the depression, and the Moraine shops systematically eliminated the traps and replaced the railroad doors with folding-leaf traction doors during 1931 and 1932.

William Butler, Conway's chief rolling-stock engineer, was the person responsible for much of the cars' design. Conway and Butler laid out the plan for a lightweight car, made of aluminum and steel, that would possess the rigidity necessary to sustain velocity over tangent track at a speed of eighty miles per hour—while maintaining suitable riding characteristics. Conway gave GE and WH the job of marrying a one hundred-horsepower motor to a twenty-eight-inch wheel. He handed CCCo the job of creating a low-level truck that could both withstand the stresses of high-speed operation and provide a comfortable ride. Above all, though, Conway wanted Butler to design cars that fit the topography of the area. Consider C&LE's physical plant—long tangents, minimal grades, and limited street running on the Columbus and Toledo divisions. Conway believed that the C&LE was made for high-speed operation. He wanted a customized passenger car—one built for Ohio's flat farmland and the C&LE's steam-railroad type, cross-country rights-of-way.

Because Conway and Butler also wanted the C&LE interurbans to operate economically, CCCo had to design the cars for one-man operation. Also, since power

consumption varied directly with weight and surface area, Conway and Butler opted for a very light, low-level car. In keeping with this objective, Butler installed full-length side panels of nine-gauge aluminum, and he eliminated the heavy center sills found in more traditional passenger interurban construction (see Fig. 24). The frame was held together at the floor by a fragile looking set of steel channel cross-sills and the car's light body bolsters.[9] Butler secured the bolsters to the horizontal flange of the angle side sills. He should have bolted them to the vertical flange as well. Yet, despite the seemingly insubstantial construction of the underframe, the car retained its necessary rigidity.

The side posts were Armco steel channel and the side sills three-by-five-inch steel angle. There was a six-foot inverted sill section riveted to each side sill to provide reinforcement just over the body bolster. Butler hoped these measures would prevent damage to the posts and other framing members from incessant truck pounding. Unfortunately, the inverted sill section proved inadequate, and the post footings over the bolster fractured from the stress. Car restoration specialist Ed Blossom found this condition on cars 110 and 117.[10] Butler's decision to rivet aluminum plate to a steel frame produced an electrolytic reaction that gave rise to corrosion in the side panels and the front and rear dashers. Just when this phenomenon became apparent to C&LE management is unknown. It is known that during the 1930s the C&LE began replacing the siding on some of its cars with steel. And the shop crews of the Lehigh Valley Transit Company (LVT) detected powdering at the skirt early on as they ran the cars through the wash track. The Lehigh Valley Transit and the Cedar Rapids & Iowa City Railway purchased nineteen of C&LE's original twenty cars in the late 1930s.

Butler incorporated a number of interesting features in the front-end design: a tapered vestibule, frameless windows, and canted window posts. This layout gave excellent visibility and the car a unique look. The rakish design of the pilot became a trademark of the cars (see Figs. 23 and 25). Housed within the front-end dash-light shroud were five incandescent bulbs that illuminated the front end of the car, producing a dramatic effect at night. The cars' classification lights were set in cylindrical housings at the top of the two front corner posts above the window level. The rear end of the high speeds (Fig. 26) shows innovations found commonly in motor bus design of the 1930s, and Butler adapted these features nicely for interurban car use. Of note are the wide canopy over the rear windows and the red stoplight (located below the trolley retriever) that activated when the motorman applied the air brakes. Also found on the back end was a steel anticlimber positioned just above a bus-type, chromium-plated, spring bumper. The rounded windows of the car provided excellent visibility. Under the canopy, opening into the parlor section of the 120s and baggage section of the 110s, were the horizontal louvers of a ventilator installed to provide fresh air to the rear compartment. The C&LE eventually had to close the louvers because at high speeds they sucked in snow and dust.

Figure 27 displays the interior of coach 110 looking forward. The dark green, double-bucket leather seats are number 900-Ds, Hale & Kilburn's best. The same type of seat was used to fit out the coach section on Indiana Railroad's high speeds. The toilet room on the left side was walnut stippled. Blossom advises that these interiors may have been the last of the modern cars to use natural varnish woodwork and artificial wood graining, both cherry and walnut. The CCCo fit out the rear section of the interior of the 120s with couches, lounge chairs, tables, and reading lamps. Seating in the forward

section of the 120s was coach style and employed the same Hale & Kilburn seats found on the 110s. Figure 28 shows the front vestibule interior of a 110. Under the left window is the master controller, a GE C-129. The WH cars had HLF control. H stands for hand (rather than automatic) control. L stands for line, that is, the control system operates on power taken from the line—the overhead trolley wire. F stands for field. The car, at balancing speed, switched to short field operation. Both controllers employed safety features (deadman control). To the right of 110's controller was the WH M-33 self-lapping brake valve, one of the most advanced interurban air-brake systems of its day. The ring below the valve handle, when pressed downward, lowered and activated the car's magnetic track brakes. The motorman had the option of using both the air brake and the magnetic track brake simultaneously during an emergency. Next to the brake was the National Cash Register (NCR) fare register stand. Farther right was the Peacock staffless aluminum hand brake; and overhead, left of the mirror, was the MS-46 control switch, opened by an air-driven piston in emergencies, and to the right of the mirror was the car's control and reset switch.

GE and WH took on the job of developing downsized, compact, air-cooled, 100-horsepower motors (four per car) geared to turn a 28-inch wheel. Small wheels occasioned a low-level car. A low-level design improved the aerodynamics of the interurban, which in turn reduced power utilization costs. But GE and WH had to deal with the problem that compact or small motors had less surface area and therefore gave up thermal capacity, or the ability to dissipate heat. Well-designed armature fans and materials that shed heat readily, for the most part, mitigated this problem. GE and WH produced similar motors: the WH 539A-1 and the GE 706A. Both motors were box-framed and self-ventilating, with a lightweight case containing a set of four field poles and four commutating poles. The companies employed a multiple fan mounted on the armature shaft to provide ventilation. The weight with pinion, gear case, axle collar, and axle gear of the WH motor was 2,677 pounds. The GE motors were heavier at 2,800 pounds, although subsequently GE fabricated a lighter model of the 706. GE wired its motors to operate at 600 volts and employed a gear ratio of 1.79, while WH operated at 300 volts with a gear ratio of 1.4.[11]

GE equipped its cars with PC-12 E-4 automatic motor controllers with field tapping secured to the underframe of the cars. The GE 110s ran as locals, making frequent stops and speed changes. An automatic controller held motor currents relatively constant, avoiding dangerous peak loads that damaged the motor. The PC-12, used on 4-motor equipment, employed an air-driven camshaft designed to open contactors that cut out resistance in the motor circuit. A current limit switch regulated the timed automatic control.[12]

Figure 29 shows CCCo's ABC 74-D railway truck designed specifically for the C&LE. The truck had 28-inch wheels, the journal boxes were of wing-cup design, and the top chord of the arch bar was made of channel steel. The ABC 74-D proved to be an excellent truck, exhibiting good riding qualities and requiring nominal maintenance. The truck carried magnetic track brakes designed to hang just above the rail between the wheels. When activated, they added 30 percent additional braking capacity to the existing straight-air brake system. The magnetic track brakes were meant for emergency use only.[13]

Why not equip the C&LE high speeds for multiple-unit operation? This question comes up frequently. Two multiple-unit cars running in tandem consume less power than two cars operating independently. Why not the C&LE? The 1930 passenger service schedules suggest that the C&LE did not have the traffic density to warrant such a decision. Conway likely believed that it made better economic sense to run a second section, rather than multiple-unit cars, to handle the occasional rush-hour load. Furthermore, it follows that Conway did not want to add the weight of heavy center sills, draft gear (couplers), and the electrical switch boxes, cables, and cable connections, which were the essential components of a multiple-unit system. Perhaps there was a more compelling reason: the C&LE may have lacked sufficient power to run multiple-unit trains at the speeds necessary to hold to its rigorous schedules. Most of the substations throughout its three-division system housed rotary converters rated for 300 kilowatts. Comparing operations of the C&LE and the Philadelphia & Western Railway (P&W), Butler noted that "with greater distances between substations" C&LE's voltages "varied from 450 to 600 V." The P&W, on the other hand, made a practice of running multiple-unit trains "at a stable 660 volts."[14]

The C&LE's high speeds took over most of the scheduled passenger traffic on the company's three divisions, handling limited and local runs. Conway also inaugurated through parlor-car service between Cincinnati and Detroit in late 1930, comprised of two daily round-trips and one night train. The 275-mile junket between Detroit and Cincinnati represented the longest, scheduled passenger run in the history of the industry.[15]

Despite experimentation and advanced design work, the C&LE's high speeds were not quite state of the art, rather they were the culmination of a technology developed throughout the 1920s. The cars' body design, while extremely attractive, was somewhat conventional, and while the motors showed innovation, they were not revolutionary. The controls—PC-12 and HLF with tapped fields—had been around for years. The high speeds' very serviceable, smooth riding, arch-bar trucks represented the last step in a chain of similar designs nurtured by the CCCo. The cars also had a flaw or two. Aluminum riveted to steel did not work very well, and corrosion set in. In addition, the aluminum was soft and dented easily. The bolster side-sill connection was poor, and the stiffening over the bolster itself was inadequate. The railroad doors and the installation of field taps were mistakes. The field switch itself probably weighed seven hundred pounds. Why carry the extra weight when the 80 miles per hour balancing speed of the cars seemed eminently satisfactory? Even with these flaws, everything else worked pretty much as planned, and no one ever forgot the cars' fetching appearance. Although Conway and Butler were aware of advanced motors and drives that cut power costs and produced a more efficient car, they did not use these devices. Why not? Perhaps they had too much at stake to employ a technology that did not yet have widespread acceptance.[16] Conway and Butler did, however, manage to produce twenty attractive, reliably functioning interurban cars that adapted superbly to the fast, tangent roadways of Ohio.

The C&LE cars, modeled for long-haul, cross-country, high-speed operation, were not suited to the physical plant and the operating demands of one of their subsequent owners—LVT. The undulating terrain, short runs, and frequent stops put enormous stress on the WH motors. The GE cars, equipped with automatic control, fared

better. LVT, however, aggravated the cooling problem for both models, covering the pilots with stainless steel sheathing and cutting off the air flow to the motors. The operating conditions at Cedar Rapids & Iowa were not much better, although the cars did not have the hills to contend with. The cars on this line may have confronted something equally thorny—poorly maintained track and parallel rail joints. Yet the C&LE's high speeds acquitted themselves very well on both roads, particularly during the war years.

The Red Devils were undeniably fast; one was clocked at 101 miles per hour on the Columbus Grove test track. Toledo Division motormen, running late, frequently hit speeds of 90 miles per hour or better, having switched to short-field operation. (The author rode one of the deluxe cars in summer 1937 that did 75 to 80 miles per hour consistently on the Cincinnati division's mostly roadside trackage.) The speed and comfort of the C&LE's high speeds did little, however, to stem the ominous decline in ridership that followed on the heels of the depression and in the wake of the rising popularity of the automobile. As passenger revenues slumped, Conway and his executives looked more and more to freight for survival, pushing ahead with a plan to make the C&LE one of the leading interurban freight carriers in the central-states area.

The Makings of a High-speed Freight System

In February 1930 the C&LE took delivery of fifteen new steel freight motors (see Fig. 30). The CCCo fabricated the car bodies and equipped them with trucks, motors, and controls removed from older passenger cars. Most of these freights carried four 100-horsepower motors, giving Conway enough motorized equipment to develop a full-blown, high-speed, regional, interline freight system. The new motor cars were sleek, powerful, and fast, and they proved to be excellent marketing tools. They supplemented a fleet of wooden, main-line freight motors, fitted out with 100- and 125-horsepower motors and a cache of older cars suitable for short-haul, local-freight, or switching work. The C&LE now owned more than fifty serviceable motor freight cars. The merger with the IC&E and the LT gave the C&LE one hundred or more reasonably new, well-maintained interurban boxcars. The merger also endowed the new company with more-than-adequate freight facilities throughout the system and a north-south main line built largely to steam-railroad standards. Most important, the C&LE had acquired the interurban connections necessary to reach the major business centers in the Indiana-Michigan-Ohio region.

Just a few comments about interurban freight. The steel freight motors shown in Figures 30 and 31 resemble an interurban passenger car in size and weight. Townspeople in Ohio who did not like the idea of having freight trains in their streets were willing to accept a freight car that looked like a trolley. Freight motors and box trailers were also designed to maneuver through the tight curves and to climb the steep grades found on typical streetcar and interurban lines. As traction lines expanded their freight business, the communities they served forced them to run more and more of their trains at night and imposed daytime restrictions on freight-train lengths. Most of the freight handled by the central-states interurbans was less-than-carload, known as LCL. In earlier days the big railroads carried just about all of this freight. By the 1920s, however, the steam roads were concentrating on carload freight, and many began to neglect their LCL business. The central-states interurbans took over a share of the LCL business almost by default.

Following the receipt of its new steel motor cars in February, the C&LE issued its shippers an advisory outlining freight train schedules for the recently merged corporation. The freight department carded daily trains between Dayton and Toledo and between Cincinnati and Toledo that departed their respective terminals in the evening and arrived at their destinations the following morning. The C&LE also ran through trains daily between Columbus and Toledo and between Columbus and Cincinnati. These runs, too, were evening departures and next morning arrivals. The C&LE promised a fast and reliable delivery schedule. The "through train" arrangement saved much of the effort that the CH&D, the IC&E, and the LT had previously expended turning over cars at junction points.

The C&LE's freights running north picked up cars at Lima billed to Detroit, dropped off by the Fort Wayne-Lima Railroad (FWL) each night sometime after midnight. The LT and the FWL made a joint interline run daily between Toledo and Fort Wayne via Lima, using pooled motor equipment and, sometimes, the connecting Indiana Service Corporation. This pooled run began after the breakup of the Ohio Electric and continued throughout the 1920s. It is doubtful that the C&LE opted to continue the Fort Wayne-Toledo interline runs. Fort Wayne, however, was a very important market. Shippers generated heavy freight traffic between Fort Wayne and Detroit, and the C&LE's Lima-Toledo division was the connecting carrier of choice for companies moving goods between these two cities.

The Detroit Freight Service

Conway lost no time working out agreements to launch interline freight service with two of the C&LE's other connecting carriers—the Lake Shore Electric (LSE) and the Eastern-Michigan Toledo Railroad (EMT). Both roads linked with the C&LE at Toledo. The EMT served the Detroit market, and the LSE extended to Cleveland and points in northern Ohio. During 1930 the C&LE began to run through trains between Detroit and Dayton. These were evening departures and morning arrivals, or in tariff parlance, "first morning deliveries." It is likely that Moraine City's Delco-Frigidaire plant loaded one or more trailers daily for the northbound Dayton-Detroit run. The FWL dropped off Detroit cars for the C&LE every evening at Lima. Factories in the "Motor City" shipped goods on the southbound leg for delivery to businesses in Lima, Fort Wayne, Columbus, and Dayton.

The C&LE also initiated Cincinnati-Detroit freight runs in late 1930. The trains covered 275 miles. Conway probably added this run to maintain a competitive hold on business developed in Kentucky and West Virginia, which landed in Cincinnati by steam railroad for transshipment to northern points. Conway guaranteed southern shippers—who forwarded goods from Cincinnati via C&LE rail—next morning delivery in Detroit.[17] The C&LE powered the Detroit runs with its new steel freight motors. Pooling or sharing motor cars with the EMT was difficult. The Michigan interurban was too weak to throw its front-end power into the daily pool, but once in a while it managed to assign one of its motorcars to the interline run. According to one C&LE freight conductor's report, EMT number 1987 handled the point on a three-car train to Cincinnati on 30 March and again on 13 April 1931.[18]

The Cleveland Trains

Conway took a more ambitious step in 1930. The C&LE operated a joint interline venture with the LSE that gave the C&LE's freight department the opportunity to run trains to and from Cleveland. The two traction companies pooled freight equipment—each company providing a share of the motive power used for the interline service. The LSE and the C&LE commenced freight service between Dayton and Cleveland via Toledo during fall 1930. It was part of a strategy to capture merchandise that the C&LE's competitor, the Lima Route lines, had carried for years between the two cities. Then in late 1930 the LSE and the C&LE began freight runs between Cincinnati and Cleveland. The Cincinnati-Cleveland freights covered 335 track miles; they represented the longest interurban freight run in history. Judging from the entries in the freight conductor's car reports, the Cincinnati-Cleveland train left Cincinnati between 4:00 and 5:00 P.M., changed to an LSE crew at Toledo after midnight, and rolled into Cleveland before 8:00 A.M. The southbound trip—Cleveland to Cincinnati—ran a similar schedule. The C&LE assigned its very fast wooden-sheathed freight motors to the Cleveland runs, and the LSE put on its equally powerful steel and wooden motor cars. For example, the C&LE dispatched the Cincinnati-Cleveland run on the evening of 11 December 1930, with LSE number 40 providing the motive power for the train. On 6 and 13 January 1931 it scheduled LSE 39 and LSE 37, respectively, for Cleveland. The trains departed from Cincinnati's Cumminsville freight house with one or more trailers in tow. LSE numbers 37, 39, and 40 each carried four 140-horsepower motors.[19] Figure 32 shows C&LE 776 parked at LSE's Eagle Avenue freight house in downtown Cleveland. Number 776 was equipped with WH 125-horsepower motors and frequently handled the daily runs to and from Cleveland.

The C&LE's business with the LSE was good, but might be better. Conway chafed at the fact that shippers still continued to move large quantities of freight between Cleveland and Dayton using a competitive interurban route, one that paralleled the C&LE's Springfield-Toledo division. The competitor was the Lima Route line, and its principle partners were the Dayton & Troy Electric and the Western Ohio Railway. Connecting with the LSE at Fremont, the Lima Route operated nightly joint freight service with the LSE north and south, carrying business that Conway dearly wanted (see map at Fig. 1). The Lima Route's joint venture transported an average of four million pounds a month between Cleveland and Dayton.[20] Conway and F. W. Coen, president of the LSE, wanted to reroute all of that freight through Toledo, and Coen wanted to break his long-standing alliance with the Lima Route companies. The two men canceled tariffs with the Western Ohio, hoping to put the Lima Route companies out of business. The Ohio Public Utilities Commission, however, made the companies reinstate the tariffs. Shippers began to switch to the C&LE-LSE partnership, however, suspecting that the Lima Route companies were too weak to survive. They were right. On 16 January 1932 the Western Ohio, the linchpin of the organization, collapsed.

Meanwhile the Dayton & Western (D&W), the forty-mile line that operated between Dayton and Richmond, suffered a major decline in freight bookings and passenger revenues in 1931. Conway knew that if the D&W foundered, the C&LE would lose its Richmond connection with the Indiana Railroad (IRR), and, consequently, Indianapolis. He arranged to take over the management of the D&W, giving his

executives control over the line's freight-train movements. Close supervision ensured that the D&W delivered loaded trailers to Richmond in time to make the departure of the Indiana Railroad's nightly westbound Indianapolis train.

The C&LE's revenue and earnings also nose-dived in 1931, forcing Conway to reduce wages and convert two-man passenger cars to one-man cars. The C&LE failed to make the interest payments on its bonded debt and lapsed into receivership—a sort of Chapter 11 bankruptcy for railroads—on 28 January 1932. Conway, however, saw the country's business problems as a temporary phenomenon. Based on his understanding of economic history, he concluded that the present business downturn would be short-lived. He knew that the country's worst recession, the panic of 1893, lasted four years, and judging by past history, Conway reasoned that the slump that began in 1929 soon would run out of steam. This depression, however, did not play by the old rules. Banks failed, manufacturing continued its downward spiral, and the nation's unemployment rate hit new highs.

The depression wiped out most of the Michigan interurban network with the exception of the Toledo-Detroit line. And there was more bad news for Conway's interurban. In 1931 the New York Central system's freight forwarding company, Universal Carloading and Distributing, terminated its shipping arrangements with the C&LE. Conway stated in 1933 that Universal "has been a large shipper over our lines. That business has been lost to our rails and it was [now] moving by other means."[21] Then on 30 June 1932 the Fort Wayne-Lima terminated rail service and broke off C&LE's connection to northern Indiana. This was a sad loss because the C&LE exchanged eight to ten cars a day at Lima with the Fort Wayne road.[22] It was also a blow to the IRR's freight business—severing its direct route to the Cleveland and Detroit markets. Also on 30 June a C&LE train was involved in a brutal head-on collision north of Trenton on the Cincinnati division. Just before 7:00 A.M. the southbound Cleveland-Cincinnati freight, powered by LSE 34, collided with a northbound C&LE passenger car on the curve at Elk Creek, killing nine people. The passenger-car motorman ignored the dispatcher's order to meet and pass the Cincinnati-bound freight at the Trenton siding[23] (see Fig. 33). The C&LE did not employ block signals on its single-track interurban system, operating under timetable and train-order rights only. Block signals—had they been installed on blind curves at least—might have prevented the accident. The train orders issued on the morning of the wreck clearly indicate Conway's priorities. The dispatcher directed the passenger car to take siding for a loaded Cleveland-Cincinnati freight train due at Cumminsville at 8:00 A.M., giving the freight train a clear track. A loaded freight made money. A half-empty passenger car did not.

Hard Times

The depression delivered yet another blow to the C&LE's fight for survival. The Eastern-Michigan Toledo Railroad, paralyzed with debt, finally abandoned its fifty-six-mile right-of-way between Toledo and Detroit on 4 October 1932, forcing the C&LE to give up its Cincinnati-Detroit passenger service. The real tragedy, though, was the loss of its daily freight runs between Cincinnati and Detroit. With the Detroit connection gone, the C&LE prayed that its two remaining partners—the IRR and the LSE—could ride out the storm. The year 1932 had been a grim one for Conway. This depression was

unlike anything experienced in America before or since, and by March 1933, 25 percent of the nation's workforce was unemployed. In the highly industrialized regions of Michigan, Ohio, and Indiana, the rate stood at 50 percent or higher.[24] Without unemployment insurance, public assistance programs, and works projects, which would come later, families doubled up and shared, and the long soup lines of the 1930s became the signature of the times. Franklin D. Roosevelt called for a bank holiday, shutting down all the banks for a four-day period, stemming the growing panic among depositors.

The competition among freight carriers was savage, with small truck companies springing like weeds from cracks in the asphalt. These unregulated contract haulers made deals with shippers that undercut the tariff rates of the steam railroads, interurbans, and the regulated truckers. Conway summed up the problem during a special master's hearing in 1933: "The truck rates fluctuate from day to day and week to week, depending upon the amount and virulence of the truck competition."[25] He characterized the cut-rate truckers as "phenomena of the depression."[26] One of Conway's singular strengths, though, was his ability to change strategies rapidly. He correctly perceived that the C&LE had to match the truckers' ability to move goods door-to-door and that its interurban freight trains had to equal or beat the truckers' speed on the road. C&LE's forwarding company, Stordor, began to pick up and deliver all customer shipments, at no charge to its shippers. In order to increase freight-train speed, Conway's schedulers cut many of its trains in half, adding second sections where necessary.

In 1932 Conway and the LSE management tried to decrease the running time on the fourteen-to-fifteen-hour freight haul between Cincinnati and Cleveland. Conway wanted to cover the 335 miles in twelve to thirteen hours by holding train departures until 6:00 P.M. or later. With the tighter schedule, Stordor picked up freight on the shipper's dock up to 5:00 P.M. on the day before and then delivered it by truck to the consignee's loading dock between 8:00 and 8:30 A.M. the next morning. The C&LE made first-morning delivery a way of life—a daily habit—practiced by its trainmen, freight handlers, and dispatchers throughout the system. The C&LE managed to stem its revenue decline by the end of 1933 and over the next three years showed a small increase in the company's gross receipts. First-morning delivery was the glue that held the company together, and the C&LE generated enough revenue to pay its operating costs, state and local income taxes, and at least some portion of the mortgage on the high speeds. The bondholders and general creditors, however, remained unpaid.

In early 1936 the C&LE added a northbound and a southbound train between Cincinnati and Cleveland. At the same time the freight department discontinued the runs between Dayton and Cleveland. This scheduling change reflected the importance of accommodating southern shippers who moved goods through Cincinnati billed to Lima, Toledo, and Cleveland and demanded first-morning delivery.[27] Figure 34 shows C&LE 632, circa 1936, pulling a four-car train through Beach Park, Ohio, on the Cleveland run.

On 30 June 1936 the C&LE officially gave up the supervision of the Dayton & Western (D&W). Then the IRR agreed to lease D&W's track and power lines and substitute its own rolling stock. As a result, the big orange passenger cars of the IRR cued up behind the C&LE's high speeds at the Dayton interurban terminal, and the IRR's freight motors made the daily 109-mile grind between Indianapolis and Dayton. Figures 35 and 36 show two of the IRR's main-line freight motors laying over at the Dayton station.

More Bad News

The year 1937, however, brought another slump in the economy—dubbed a recession within the depression by the Roosevelt administration—spelling a disaster for the C&LE. On 8 May the IRR, suffering a decline in revenue and labor problems in Anderson, shut down its Dayton-Indianapolis division, breaking off the last interurban connection between Ohio and Indiana. Seven days later, on 15 May 1937, an estimated one hundred LSE freight handlers and clerks walked off the job, demanding higher wages. Coen, the company's receiver, without hesitation shut down the LSE's freight operations.[28] There had been no advance warning, and Coen's decision had C&LE's management scrambling to find another carrier to handle the freight between Toledo and Cleveland. It was a last-ditch effort to save the Cleveland business and to save the interurban railway.

Conway stated that prior to 15 May 1937 the C&LE "interchanged . . . 10 million pounds of freight per month at Toledo."[29] And now it had to find a substitute carrier to replace the LSE or lose the battle for survival. The C&LE made a deal with Norwalk Trucking Company to handle all of its freight between Cleveland and its railhead at Toledo. This arrangement—to truck the freight between Cleveland and Toledo—created a major problem because the shipments "rarely, if ever, arrived until late on the next succeeding day."[30] The C&LE staked its reputation on early morning delivery. Late afternoon delivery would not cut it.

After struggling four long months to recover the Cleveland business, the C&LE gave up and petitioned the court for the right to abandon the 137-mile Springfield-Toledo division. The court noted that the lost connections with Cleveland and Indianapolis had produced an immediate decline in revenue of $30,000 a month.[31] That's $360,000 annualized. It also represented about 30 percent of the railroad's annual revenues. The C&LE shut down the Springfield-Toledo division in November 1937. The Columbus division disappeared one year later, and the C&LE made its last interurban run between Hamilton and Dayton in May 1939.

Final Observations

Despite the initial surge in ridership that came with the introduction of the Red Devils, passenger revenues went into a decline in 1931 and never recovered. Freight, too, declined, but to a lesser extent. For all of its difficulties, the C&LE, during its short history, probably offered one of the best regional electric-railway freight services in the central-states area. Consider what it managed to do. The company's freight department lined up a set of freight trains that ran 126 miles nightly between Cincinnati and Columbus, 217 miles between Cincinnati and Toledo, 275 miles between Cincinnati and Detroit, and 335 miles between Cincinnati and Cleveland. In addition, Conway's road exchanged freight cars with lines serving Fort Wayne, Indianapolis, and the greater Indiana market. C&LE's overnight trains pulled into their destinations early the next morning, the last one in by 8:00 A.M. The company ran this service—day in and day out—with precision and regularity.

The author compared the FedEx® "First Over-night" service with the C&LE "First Morning" delivery. For example, if you want to send a piece of freight from zip code 45215 in Cincinnati to the center of Cleveland, FedEx® will pick up until 6:30 P.M. and deliver at 8:00 A.M. the next day. In the old days the C&LE would have picked up that same piece of freight by 5:00 P.M. and dropped it off at the customer's door the following day between 8:00 and 8:30 A.M. It would appear that FedEx's top-of-the-line service is just minimally better than C&LE's routine first-morning delivery and a whole lot more expensive.

It is impressive that the C&LE, a bankrupt, depression-era trolley-freight business, just about matched the regional delivery speed of the present-day worldwide FedEx®. Unfortunately it was not enough. **C&LE failed to survive the depression because one by one its most important freight connections simply evaporated.** It is interesting, though, to look at this line's freight operations in light of the reemergence of the short-line and regional freight railroad in America today. The C&LE and today's successful carriers have many things in common: the willingness to innovate and the ability to react quickly to competition, to solve customer problems, and to forge strong interchange agreements.

Tom Hoback, president of today's IRR, a premier, regional freight carrier, sums it up in his shipper's guide: "In the end it comes down to this: Indiana Rail Road delivers freight on time. No exceptions. No excuses." The old gang at the C&LE would surely drink to that.

Notes

1. "Growing Freight Business in Cincinnati," *Fairdealing* (11 Nov. 1930): 6–7, author's collection. *Fairdealing* was Cincinnati & Lake Erie's monthly employee magazine. Typical issues contained photos, articles, maps, and brief items on employees. See also Jack Keenan, *Cincinnati & Lake Erie Railroad, Ohio's Great Interurban System* (San Marino, Calif.: Golden West Books, 1974) for freight and passenger service of the Cincinnati Hamilton & Dayton and Cincinnati & Lake Erie Railroads during the 1920s and the 1930s.

2. "With Its House in Order, C., H. & D. Goes after Business," reprinted from the *Electric Railway Journal* 69 (24 Sept. 1927): 16, by Thomas Conway, Jr., president of the Cincinnati Hamilton & Dayton Railway; Electric Railways Freight Company, " Gross Revenue of Freight Handled Lake Shore Electric Railway Company," December 1929, Ohio Historical Society, Manuscript Collections (hereafter cited as ERF Report).

3. ERF Report, December 1929

4. C. Porter, superintendent, Cincinnati Hamilton & Dayton Railway Company, letter to E. O. Eichelberger, city manager, Dayton, Ohio, 11 July 1929, with attached record of "freight train operations over the streets of Dayton during the month of June 1929," Wright State University, Dayton City Manager Collection: Archives and Special Collections.

5. *Fairdealing* (11 Nov. 1930): 7.

6. ERF Report, November, December 1928; June, July 1929.

7. J. L. Nuber, Jr., general superintendent, Cincinnati & Lake Erie Railroad, interview with author, Dayton, Ohio, 26 May 1971.

8. Cincinnati Car Company "Specifications," shop orders 3050 and 3055, ten limited and ten local passenger cars for the Cincinnati Hamilton & Dayton Railway company, 5 Nov. 1929, p. 1, author's collection. See also William D. Middleton, *Extra Fast and Extra Fare,* vol. 2 of *Traction Classics: The Interurbans* (San Marino: Golden West Books, 1985), 298–305.

9. "Specifications," 7–8.

10. Ed Blossom, a highly regarded street-railway restoration specialist, is president of the Dushore Car Company. He has examined the car bodies of 110 and 117 in detail.

11. E. E. Kearns, "Modern Light-weight High-speed Interurban Cars," *General Electric Review* (July 1932): 374–75.

12. "Requisition for railway control apparatus . . .," General Electric Company, filed on behalf of the Cincinnati Hamilton & Dayton Railway, 10 Oct. 1929, copy in the author's collection. The requisition list includes ten PC-12-E automatic controllers with accelerating relays set to drop out at 280 amps. In 1932 Cincinnati & Lake Erie raised the setting to 320 amps in an effort to increase the cars' rate of acceleration. Also included in the requisition are ten ME-67-E-2 field control switches, with relays set to drop out at 180 amps.

13. Kearns, "Modern Light-weight High-speed Interurban Cars," 375.

14. William L. Butler, letter to Mr. Crawford, 1 Sept. 1961, copy in author's collection.

15. Cincinnati & Lake Erie Railroad, time table effective 19 December 1930. This is C&LE's first consolidated time table, showing the Cincinnati–Detroit parlor-car service.

16. Russell E. Jackson, letter to Ed Blossom, 4 Oct. 1986, in author's collection. Jackson suggests that Conway's master mechanics, engineers, etc. were probably not skilled in the mechanical and electrical aspects of the new technology, making its adoption somewhat of a gamble. (Jackson is today a noted transit consultant.)

17. William Eastep, "Freight Conductor's Car Record" (sometimes called the "Wheel Report"), 11 Nov. 1930, author's collection. Eastep's record helps confirm that the Cincinnati & Lake Erie billed freight motors from Cincinnati to Detroit and return. See also *Fairdealing* (11 Aug. 1931): 3.

18. Loiry, "Car Record," 30 Mar., 13 Apr. 1931, author's collection. Loiry's first name is unknown.

19. Eastep, "Car Record," 11 Dec. 1930; 6, 13, Jan. 1931. The entries confirm that the Cincinnati & Lake Erie and Lake Shore Electric began joint service between Cincinnati and Cleveland in late 1930. See also Ed Williams, "Cincinnati & Lake Erie Railroad Company," *Headlights and Markers*, bulletin number 98 (1948): 3. *Headlights and Markers* was a publication of the Cincinnati Railroad Club. Williams describes freight train movement to and from Cincinnati's Cumminsville depot during the early 1930s. He states, "The last of the night trains to arrive was the celebrated Cleveland freight at 8 A.M. This was the longest interurban freight run in the country."

20. ERF Report, November, December 1930; April, May 1931. These reports show freight carried during the stated months between Cleveland and Dayton via Fremont by the Lake Shore Electric-Lima Route joint interline service.

21. In the District Court of the United States, Southern District of Ohio, Western Division, Pennsylvania Company, etc., Plaintiff, v. Cincinnati and Lake Erie Railroad Company, Defendant, No. 323, In Equity (At Dayton), "Transcript of Record of Proceedings Had before Sidney G. Kusworm, Special master, at Dayton, Ohio, on October 24, 25 and 26 1933," p. 40 (hereafter cited as "Transcript 1933"). Cincinnati & Lake Erie and its unions argued their positions before the special master regarding the propriety of a wage increase.

22. Fred. Hoffman, interview with author, Lima, Ohio, 23 May 1971.

23. "Report of the Director of the Bureau of Safety Concerning an Accident which Occurred on the C&LE R. R. at Elk Creek Siding on June 30 1932," ICC 1770.

24. David A. Shannon, *Twentieth Century America: The United States since the 1890s* (Chicago: Rand McNally and Co., 1963), 302; Richard N. Current, et al., *American History: A Survey,* vol. 2, *Since 1865,* 7th ed. (New York: Alfred A. Knopf, 1987), 708.

25. "Transcript 1933," p. 48.

26. Ibid.

27. "New Assignment of Runs in Accordance with Time Table No. 16, effective Sunday, March 8th , 1936," p. 2, signed by J. S. Duncan, superintendent, Cincinnati & Lake Erie Railroad Company: Toledo division, Railroad Collections, Allen County Historical Society, Lima, Ohio. Commonly called a bid sheet, the division posted a document each schedule change to permit C&LE trainmen to designate their preferred runs. The division awarded runs on the basis of seniority. The 8 March schedule cites four daily Cleveland trains: the "1st and 2nd Cleveland-Cincinnati trains" and the "1st and 2nd Cincinnati-Cleveland trains."

28. Herbert H. Harwood, Jr., and Robert S. Korach, *The Lake Shore Electric Railway Story* (Bloomington: Indiana University Press, 2000), 129. Harwood provides an excellent summary of Lake Shore Electric's freight operation throughout the 1920s and 1930s on pages 217–30.

29. "Hearing before the Honorable Robert R. Nevin, District Judge, at Dayton, Ohio, on application of the Receivers [of the Cincinnati & Lake Erie Railroad] for an Order of Abandonment of Portion of Rail Line," 29 Oct. 1937, p. 24. These are the proceedings of the hearing in which C&LE petitioned the court for the right to abandon its Toledo Division (rail line from Springfield to Toledo).

30. Ibid., 27.

31. Ibid., 42.