

A Tale of Two Streamliners

By Thomas J. Jervan and John Nicholson, Illinois Terminal research provided by Dale Jenkins

In speech or literature one seldom encounters the words “streamliner” and “interurban” in the same sentence. By the time the first streamlined trains were capturing the imagination of the public in 1934, the majority of the nation’s once-vast interurban network had already been abandoned. And yet two interurban companies—with operations largely centered in Illinois—managed to design, build, and operate their own unique streamlined trains. This is a tale of two streamliners. Both were conceived in moments of optimism—one guarded and one misplaced. One train set met and exceeded its designers’ expectations while the other never quite made the grade.

Prologue

By the end of the 1930s, the Chicago North Shore and Milwaukee Railroad was in a precarious position. Placed in receivership in 1932, the line suffered a series of staggering losses culminating in a 51-day strike in 1938. At the time serious consideration was being given to the abandonment of the entire railroad. Conventional wisdom among number-crunching financial analysts of the era would have advised this course of action. But the North Shore Line was anything but conventional. The receivers, managers, and employees of the interurban had a sense of optimism that things could be turned around and set right.

▲ The effectiveness of articulation and the short length of the center units plus the sharpness of the curve at Harrison Street Shops, Milwaukee, all demonstrate the success of the design of the Electroliners. —Don MacBean January 1961 photo, Fox River Trolley Museum Collection

▼ On May 31, 1942, this train is gliding through the curve at the Mawman Avenue, Lake Bluff station. —Charles A. Brown photo, Norman Carlson Collection



Beginning in 1939 the railroad embarked upon an ambitious program of modernizing the existing passenger car fleet. The old orange-and-maroon livery gave way to an attractive arrangement of dark green, gray-green, and red. Limited train cars received brighter interiors, new seats, lowered ceilings with bulls-eye reflector lights, along with all-electric heat

and forced ventilation. The fleet was beginning to look more modern and in tune with the times.

In the mid-1930s the North Shore was aware of the success of the new lightweight streamliners such as Burlington’s Zephyrs and Union Pacific’s M-10000. North Shore’s competitors Milwaukee Road and Chicago & North Western upped the ante



◀ This was the only time a Streamliner entered the Peoria Station. On October 30, 1948, a test run of cars 300, 330 and 350 was planned from St. Louis to Peoria and on to Decatur. The train could not handle the abrupt change from the descending grade from the Illinois River bridge to the ascending grade into Walnut Street heading the last few blocks to the Peoria station. 300's nose struck the pavement lifting the car off the rails. The coupling between 300 and 330 separated slightly causing an emergency brake application. Crews had to jack up the two cars to totally separate and rerail them. After putting the train back together it was discovered that the train could not negotiate this curve into the north station track. The following morning, Halloween Day, each car was individually backed over the Illinois River bridge to East Peoria. After reassembling the train, it was backed to Mackinaw Junction and turned on the wye at that loca-

in the Chicago-Milwaukee passenger market with the introduction of their Hiawatha and 400 trains. The North Shore knew it would have to design a similar train to retain (and—they hoped—expand) its share of business in this corridor. Based upon informal inquiries from North Shore's master mechanic Henry Cordell, the Budd Company submitted a plan for a lightweight, articulated streamlined train designed to meet the interurban's unique operating requirements. Constructed of stainless steel with four articulated coach-only units, the train was dubbed the "Electro-Zephyr." Sadly, because of the worsening financial position of the railroad, nothing further was done with the proposed train.

At the time the modernization program was approved in early 1939, the staff decided that the design of a completely new train for Chicago-Milwaukee service was in order. What was to emerge after two years of planning and construction was remarkable.

The financial situation was not quite as dire for the Illinois Terminal in 1943 when ideas for new equipment designs began to emerge. Although passenger service accounted for only 20% of the railroad's overall revenue, management decided this business was worth retaining. In order to do so, however, the existing passenger car fleet would have to be modernized. Also,

the IT was aware that it operated many freight trains of 40 to 60 cars in length through the numerous towns along the route, a number of these involving running down the middle of city streets. Many of these communities would be less tolerant of such inconveniences if passenger service were discontinued. So, the decision to improve passenger service was influenced by the need to maintain good relations with the towns along its lines.

The increase in ridership brought on by World War II was cause for optimism. In the first eleven months of 1940, IT carried 697,953 passengers; for the first eleven months of 1944 this figure had risen to 1,666,418 riders. These figures were cited by IT's president A.P. Titus in a letter to the Office of Defense Transportation seeking approval for construction of new, modern cars to meet the current demand. Titus also believed new passenger equipment was necessary to meet post-war competition.

It was noted that Peoria-Springfield was the only segment where IT had an advantage over its steam road competition. Many would-be riders opted for the more modern trains of the Chicago & Alton or the Illinois Central between Springfield and St. Louis. Decatur-St. Louis passengers often chose the more direct route of the Wabash. Titus was of the opinion that IT's Peoria-St. Louis service would benefit from faster schedules with modern equipment

tion. A Streamliner never again crossed the Illinois River into Peoria. —*Peoria Journal Star photo used with their permission, William C. Janssen Collection*

and that St. Louis-Chicago travelers would find use of the IT from St. Louis to Peoria with a connection via the Rock Island to Chicago an attractive alternative to the Alton and IC through trains.

So, what form was this new equipment to take? A January 1944 memo called for at least two new streamlined trains of two-to-three units per train. They were to be constructed of lightweight steel and several desired features for the new streamliners were taken into consideration. Among them were:

- A section for mail, baggage, and express
- Smoking compartment
- Coach section with modern reclining seats
- Tavern-lounge section
- Separate washrooms for "ladies and gentlemen"
- Air conditioning
- Electric heat
- Indirect lighting
- Loud speaker system to announce stations.

The interiors were to adopt the best features of those found on the Hiawatha, Denver Zephyr, the Rockets, the Twin Cities 400, and the Daylight trains. The



▲ Electroliner 803-804 is traversing the reverse curve at 6th Street and Clybourn Avenue to enter the Milwaukee Terminal. The photo clearly shows the addition to the pilot to bring it closer to the rails and the framing to protect the underbody equipment. These additions were the result of a collision of this unit with an automobile in June 1941. The train overrode the vehicle causing considerable underbody damage. —Raymond DeGroote photo
▼ In the Summer of 1961 this southbound Electroliner is traversing the “S” curve at the Chicago Avenue station on the North Side elevated. This trackage was shared by Ravenswood, Evanston Express and North Shore Line trains. —Kenneth Spengler photo





▲ The two Electroliners left Highwood for the last time in the summer of 1963. They were interchanged to the Chicago & North Western at Highwood heading to the Red Arrow Lines to operate between Philadelphia's 69th Street Terminal and Norristown, Pennsylvania. Shore Line has published many Electroliner photos so in this article we are going to concentrate on Illinois Terminal photos. —Bill Raia photo, Mike Raia Collection

memo also noted: "We understand that profit from tavern-lounge operations on the North Shore 'Electroliners' pays entire operating costs of these trains."(!)

What management wanted in terms of design was at odds with the recommendations of the mechanical department. In a memo to A.P. Titus in February 1945, the latter compared the benefits of operating a two-car articulated train (capable of multiple unit operation with other such trains) against the non-articulated streamliner favored by management. Each unit in these trains would be 65 feet long, 9 feet 7 inches wide, with 50-foot truck centers, and a vestibule passageway between the cars. The articulated train would use three trucks while the streamliner would have two trucks per unit near the ends of each unit.

The study noted that the articulated train would be able to run over virtually the entire railroad as it was presently configured. This included negotiating the tightest curve on the line which had a 47-foot radius on the St. Louis terminal wye. Sharp changes in grade did not present a problem. No rearrangements of the Peoria terminal facilities were envisioned. About the only change needed was moving the fence back along a curve on an approach to the McKinley Bridge which could be done at a cost of \$3,000.

Operation of two-truck units with rigid drawbars was another matter. The study

claimed that a minimum curve radius of 190 feet was required for safe operation of a two-or three-car train. While the articulated train could take a vertical curve of up to 5.2%, the best the streamliner would be able to manage was 4%. Operation of the streamliners into the Peoria terminal and car barn was not deemed practicable owing to curve and grade restrictions. New facilities would have to be constructed at East Peoria at considerable expense. In fact, to alleviate all physical limitations on the railroad to permit reliable operation of the streamliners, it was estimated an expenditure of \$447,500 was required.

In light of this study, it seems almost incredible that final design and construction of the streamliners was made without taking any of these potential problems into account. These would be the very same problems that plagued the streamliners once they went into operation and would contribute to their premature demise.

Construction, Completion, and Delivery of Trains

Based upon specifications supplied by Henry Cordell, the design of the North Shore trains was placed in the hands of H.A. Otis, a highly-respected design engineer in the employ of the railroad. To enable the new trains to negotiate the 90-foot radius curves of Chicago's "L" and the tight special work outside the Milwaukee terminal, Otis designed a four-unit articu-

lated train. Not only would there be comfortable air-conditioned coach seating, one of the units was to be used for light meal and beverage service to match amenities offered by the competing Milwaukee Road and North Western. High level platform restrictions on the "L" held car width to 8 feet 8 inches at the floor level. The ingenious use of "fishbelly" sides (later used on the CA&E 451-series cars and post-1950 CTA "L" cars) increased the interior width to 9 feet 2 inches at the window sill level. In addition to restricted-speed running on the "L," the new trains would have to operate streetcar fashion over 2.8 miles of Milwaukee streets with significant grades. In between these points the trains had to run at a very high speed to maintain schedules close to what the competition offered.

Overall length of the double-ended four-car articulated streamliner was 155 feet 4 inches. The three coach sections could seat 120 while the tavern-lounge unit accommodated up to 26. Sections were designated as Section A (control cab, coach, and smoker), Section B (tavern-lounge); Section C (intermediate coach), and Section A-1 (the same configuration as Section A). There were two lavatories on the train (for use by either sex) located in the smoker section on each "A" unit.

Once the final designs were approved, the receivers were authorized by court order on November 15, 1939, to begin construction. The name chosen for these



The East Peoria Station at 1111 West Washington Street became the northern terminal of the railroad effective January 15, 1950. Until that time, trains with “standard equipment” used the Peoria Station while the Streamliners used the platforms in East Peoria. While the notice of the station’s opening detailed the shuttle train service across the Illinois River to and from Peoria, passengers were advised that they “may avail themselves of taxi-cab or frequent bus service directly from or to station in East Peoria.” The East Peoria station building opened on November 1, 1951. ▲ Car 301 is awaiting departure on May 30, 1955, at 8:00 a.m. as train 83 to St. Louis. ▼ Car 405 is providing the shuttle service over the Illinois River in the summer of 1949. The Peoria Station was closed and the shuttle service terminated on January 14, 1950. The Peoria station building stands in 2018 housing a social service organization following decades as the police headquarters. The East Peoria station lasted long after the tracks were removed until the area was redeveloped in the early 2000s. —Two photos James J. Buckley, Norman Carlson Collection



new streamlined electric trains would be “Electroliner.”

Low bidder on the project was St. Louis Car Company. It was the willingness of the North Shore employees to take a pay cut which enabled the railroad to afford the \$300,000 price tag for the trains. (The final bill would be \$156,954.62 per train.) Assembly of the trains began in St. Louis in July 1940. To ensure its design specifications were followed to the letter, the North Shore stationed an onsite representative (assistant master mechanic Ken Wilkins) at the car builder to monitor every move in the assembly stage.

All work on the Electroliners was concluded by January 18, 1941, and the trains were ready for delivery to the North Shore. The first set, No. 801-802, was delivered by the Milwaukee Road to North Shore’s interchange wye at Racine on January 21, 1941. Contrary to the oft-repeated “interurban legend” that delivery of the trains was made in Wisconsin to avoid paying an Illinois sales tax, the North Shore probably accepted delivery at Racine as this was the closest interchange point to the Harrison Street shops, where

the trains were to be serviced and maintained. The second set, No. 803-804, was accepted by the North Shore at Racine on January 29. On each occasion the trains were towed to Harrison Street by a brace of merchandise dispatch motors. After servicing at the shop, both trains were ready for testing by January 31. Following successful tests—particularly at selected points on the “L,” the trains were deemed ready for service. A new chapter was about to open not only in the North Shore’s storied existence, but also in that of the interurban era itself.

The actual design of the IT streamliners was pretty much in accord with management’s original “shopping list.” Ultimately the IT believed its competitive position against such railroads as the Alton and IC would be enhanced if it operated new streamlined equipment similar to that found on the steam roads which would provide a faster and more comfortable ride than what the interurban presently offered. The IT was aware of the success of the Electroliners and how their well-planned design enabled the trains to compete with the Milwaukee Road and North Western

in spite of the daunting limitations posed by operation over Chicago’s “L” and street running in Milwaukee. The IT designers were faced with a similar challenge in which they would try to construct a train set that had all the appearances and comforts of a regular railroad streamliner while taking into account limitations posed by IT’s interurban character. This included tight curvature at several locations, several sections of street running, and operation over track of varying quality.

Illinois Terminal placed an order with St. Louis Car Company in June 1946 to construct what would be eight new streamlined cars to be operated in three trains. The line was confident that its new streamliners would be as successful as the Electroliners since, after all, assembly of the IT cars was being done by the same builder. St. Louis Car Company soon began construction of the new cars according to specifications submitted by the IT. It is unknown whether IT assigned its own onsite representative to monitor the construction as the North Shore Line had done when the Electroliners were being built in 1940. According to a company



▲ Cars 301 and 350 are descending Caldwell Hill on April 25, 1954, the first day of Central Daylight Time. This is most likely train 90, the 8:30 a.m. departure from St. Louis, scheduled to arrive at East Peoria at 1:15 p.m. At this time railroads published their schedules on Standard Time so riders had to convert the schedules to Daylight Time to be at their station at the appropriate time. The cinder ballast proved troublesome for the Streamliners. Washouts on Caldwell Hill, as evidence by the fresh ballast, added to the IT’s track situation. —James J. Buckley photo, Norman Carlson Collection



▲ ▼ IT's track condition and street running in just about every small town along the way hampered the operation of the Streamliners much in contrast to the track conditions and limited street running on the North Shore's track. Yes, the elevated trackage and sharp curves did restrict speed; however, north of Lawrence Avenue on the embankment the North Shore moved right along. —Two photos John F. Humiston, Richard Humiston Collection





▲ On June 12, 1955, all passenger service north and east of Springfield was abandoned. This series of photos was taken when only two round trips between Springfield and St. Louis were operated. Car 301 is entering Gillespie, the first town south of Carlinville. Most likely this is southbound train 83 that departed Springfield at 9:50 a.m. with a scheduled arrival in St. Louis at 12:45 p.m. —James J. Buckley photo, Norman Carlson Collection



▲ The first Streamliner was delivered on October 17, 1948, and the trouble began almost immediately thereafter. There was considerable side thrust, a broken gear drive on car 330, dirt and cinders into the motors that caused deterioration of their insulation, bearings on motor pinion failing and control panels “blowing up.” Test runs included a “dirt test run” round trip between St. Louis and East Peoria on February 11, 1948, following the application of screening. Car 301 is in Staunton on May 30, 1955. —James J. Buckley photo, Norman Carlson Collection



▲ Cars 301, 331 and 350 are south of Worden, near Edwardsville, on September 11, 1955. Bill Janssen noted on a timetable that the Streamliners were out of service from about December 30, 1947, until February 13, 1948. —*John F. Humiston photo, Richard Humiston Collection*

▼ The same trainset is at Branch Street in St. Louis on September 3, 1955. We have completed our photographic journey from Springfield. —*James J. Buckley photo, Norman Carlson Collection*





▲ On the morning of March 4, 1956, the day after abandonment of passenger service a Streamliner is leaving Springfield for the last time. Cars 301,331, and 351 are on the Springfield by-pass at Drain Tile. —John F. Humiston photo, Richard Humiston Collection

journal voucher dated for April 1949, the railroad estimated the costs of the eight cars at \$890,256.75.

IT deviated from North Shore's articulation design by opting for individual two-truck cars with 50-foot centers that could be added or cut to adjust to traffic levels. The new trains were constructed of steel and aluminum alloy. The underframes were of high tensile strength low-alloy steel which were welded. The reduction in weight was deemed important in reducing wear on the track and power consumption.

Three of the cars were motor-baggage cars, 66 feet 10 inches in length which could accommodate 40 passengers in railroad-style reclining seats. Washrooms for both men and women were provided and a seat and desk were included for the conductor. In addition there was a dining booth with a removable table and chairs for four people. There was also a baggage section for mail and express. These cars were numbered 300-302.

Two reclining seat chair cars were designed to run behind the motor-baggage cars. They were 65 feet 4 inches long and could seat 52 passengers. Like the previous cars, separate washrooms for men and women were provided. These cars also had a dining booth with a removable table and chairs and were numbered 330 and 331.

To round out the trains IT ordered three reserved seat coach-dinette cars whose length was 65 feet 4 inches. The reserved seat section accommodated 21 passengers

in comfortable rotating-reclining seats. Three dining car tables allowed for a sitting of up to 12 patrons at a time. A small kitchen was provided for preparation of meals. In addition to numbers, these cars were also named: 350 (*Louis Joliet*); 351 (*Shadrach Bond*); and 352 (*Pierre LaCledé*).

Initially the IT planned to run the new streamliners in three trains: City of Decatur (for St. Louis-Decatur service), Fort Crevecoeur and Mound City (scheduled for a Peoria-Springfield-St. Louis routing). Delivery of the new streamliners had been promised for May or June 1948 but delays set the delivery back to October. The first train set, "City of Decatur" (combine 300, coach 330, and parlor-dinette 350) was received by the IT on October 17, 1948. The train was placed on public exhibition in several prominent cities along the IT. Once the other cars were received, the two mainline trains would consist of a combine, coach, and parlor while the City of Decatur would operate with a combine and parlor.

The first test run was scheduled for the morning of October 20, 1948. Certainly a new and exciting era was dawning on the Illinois Terminal.

Break-in and Operation

Every new train, especially if it's of a new and unique design, will have its teething pains. The Electroliners and the IT streamliners were no exception.

It was a testament to the overall excel-

lence of their design that the Electroliners needed little in the way of adjustments before they were declared roadworthy. During break-in runs instruments recorded how much current was being drawn and temperatures of the roller bearings were checked. Those on board the early runs marveled at the speed of the trains, the smooth quality of the ride, and how quiet they were inside the units. One did not have the illusion of speed owing to the excellence of the ride itself and the sound-proofing.

With both trains ready for service, the North Shore Line pulled out all the stops to publicize the trains' arrival to all the communities along the railroad. Special publicity runs were made on February 6, 1941, where the streamliners, originating in Milwaukee and Chicago, met at the end of a Waukegan streetcar line at Glen Flora Avenue and Sheridan Road. Invited guests were taken to the Glen Flora Country Club for a special luncheon and the usual speeches from dignitaries. Upon return to their respective terminals, the switch group in unit 804 blew up. It was able to complete the trip on half power, but repairs would not be made in time for 803-804 to participate on the first day of Electroliner service on February 9. The honors would go to 801-802; a train of standard coaches and a tavern-lounge car substituted for the disabled "Liner."

That first day of service on February 9 was marred by an early morning derail-

ment of a C&NW freight train at Ryan Tower. North Shore's mainline was blocked until mid-afternoon. Then a coil in the overhead-to-third-rail changeover switch burned out on 801-802. When the line was re-opened north of Ryan, the Liner was run directly to Harrison Shops where a replacement coil was removed from 803-804. The train was then dispatched to the Milwaukee terminal where it was able to leave on time as the sched-

uled 5 p.m. departure. This one incident spoke volumes about the North Shore, its dedication to service and the overall reliability of the Electroliners.

North Shore Line's management and shop personnel were aware that a train does not make money for the railroad by spending most of its time laid up for repairs. The Electroliners gave 22 years of fast, reliable service regularly completing five round trips a day between Chicago and

Milwaukee. Harrison Shops foreman Orin Schmidt commented on how the Electroliners needed to be "babied" to keep them performing reliably in daily service. Unlike the standard equipment, these trains could not be abused. Normal weekly inspection of the trains was performed at Harrison Shops. In later years when this work was done in daylight hours, a train of Silverliner coaches and tavern-lounge 415 was pressed into service to cover that particular train's schedule for the day.

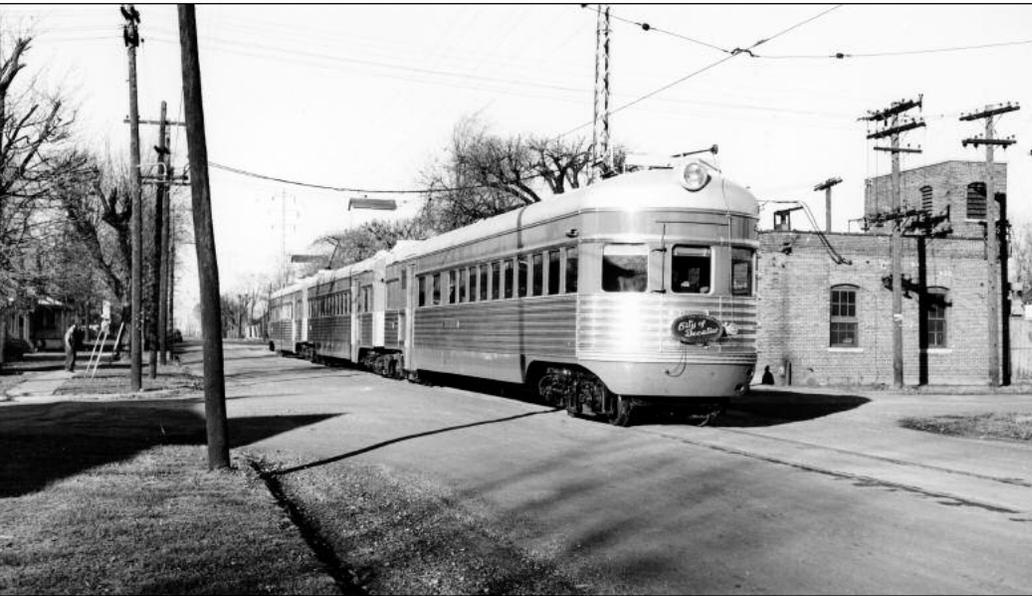
One major structural change was made to the trains soon after they entered service. Electroliner 803-804 collided with an auto in June 1941. The train rode over the auto which was lodged under the motor-man's cab. All five trucks left the rails and there was major damage to the underbody equipment. The pilots were rebuilt and brought closer to the rail head while angle iron framing was installed under each car to protect the underbody equipment. There was another "interurban legend" that the framing was for the eventual installation of skirting, but this was never contemplated.

Because of the careful maintenance schedule, the trains regularly held down five daily round trips between Chicago and Milwaukee for 22 years. The trains were designed for a specific service and built to fit the railroad. With their day-in day-out record for reliability, the Electroliners were probably the most successful interurban trains—streamlined or not—ever built.

The story of the Illinois Terminal streamliners is not as happy. Whereas the meticulous design of the Electroliners ensured success in their service career over a line with several operating challenges, the design of the streamliners seemed flawed in that they never really fit the railroad for which they were built. And then there was the problem of service reliability.

Before regular service could begin, a test run was scheduled on October 20, 1948. To many IT enthusiasts, it was a day that would "live in infamy" as events conspired to foredoom the streamliners before regular service even began. The test train consisting of combine 300, coach 330, and parlor 350 departed from St. Louis at 9 a.m. to check speed and performance of the train as well as clearances on the route from St. Louis to Peoria. Aboard were officials from both the Illinois Terminal and the St. Louis Car Company.

All went well until the train reached



The initial runs of the Streamliners were on November 7, 1948, as trains 91 and 94, the City of Decatur. Train 91 was scheduled to depart Decatur at 8:00 a.m., Springfield at 8:50 a.m. with an 11:15 a.m. arrival in St. Louis. The return trip left St. Louis at 7:00 p.m. and Springfield at 9:28 p.m. with arrival in Decatur at 10:15 p.m. At this time, in addition to the City of Decatur, there were six round trips between St. Louis and Peoria (two of which were limited trains), six round trips between Danville and Springfield and six round trips between Peoria and Decatur via Bloomington. ▲ The first run of train 91 is stopped at Illiopolis, the only scheduled stop between Decatur and Springfield. ▼ The same train is at Lick Creek, south of Springfield at Lake Springfield. —Two photos William C. Janssen, Norman Carlson Collection



Peoria where the descending grade off the Illinois River bridge met a sharp ascending grade at the base causing the pilot of the combine to scrape the pavement, buckle, and lift the car off the rails. This then caused a slight separation of the lead car from the second car. Both cars had to be jacked up to separate them allowing the cars to individually limp into the Peoria terminal. The train had extreme difficulty negotiating the tight curve in the terminal itself. Ultimately, the cars returned individually to the East Peoria yard where they were recoupled. The streamliners never again operated into Peoria. It was later found the train could not negotiate the wye at Springfield and cars had to be turned individually at the St. Louis terminal wye owing to its tight curves.

Eventually the IT decided to construct a new terminal in what had been the Farm Creek yard in East Peoria. One deciding factor was that the move freed the railroad of the expensive maintenance of the Illinois River bridge and the downtown Peoria terminal. Showing a seeming inability to learn from its mistakes, the new turning loop at the terminal was so tight that once again the streamliners could only be turned individually. This move alone foredoomed the new service.

Other problems came to plague the new streamliners: motor pinion bearings were overheating; there was a pronounced side thrust that affected ride quality; floor-level wall heaters were overheating; a broken gear drive on a car; a short in a panel controlling air compressors, lights, and heating put a car out of service. An inspection of all the cars in June 1949 revealed a design flaw as the bolster springs in most of the cars were found to be weak and new ones had to be designed by the builder.

Another serious operating problem was caused by the physical nature of the IT itself. Unlike the North Shore whose Electroliners ran over a roadbed deeply ballasted with crushed rock, little of this was found on IT track which was largely ballasted with cinders and gravel. There was also dust from street running in several locations. The basic problem was that IT was a "dirty" railroad and from the beginning shopmen reported large amounts of cinders and dirt accumulating in the traction motors which contributed to motor failure. Some shop reports indicated GE was made aware of the problem and fabricated new screen covers to fit over the tops



▲ The crew and an official are posed at East Peoria on February 28, 1949. The labor cost on these trains was significant. —Paul H. Stringham photo from William C. Janssen

of the motors. While this alleviated the problem to a degree, the accumulation of cinders and dirt in the streamliner traction motors would be an ongoing problem for the life of the trains.

The combined forces of IT, GE, and St. Louis Car Company gradually made enough adjustments and repairs to put the trains into regular service. After a long delay, the City of Decatur made its debut on February 8, 1949. The physical limitations of the railroad dictated the terminus as the streamliners could not operate beyond Decatur due to a sharp mainline curve in Monticello. The first of the St. Louis-Peoria trains, the Creve Coeur, went into service on February 27 with the second train, the Mound City, entering service on April 10.

The expected upturn in passenger business never happened. The closure of the downtown Peoria terminal and cutback to what amounted to "East Nowhere" in East Peoria, caused ridership out of the "Tractor City" to quickly decline. Retrenchment became the operative word on the IT. All parlor and food service were gone by 1951 and the trains eventually lost their names and limited status. At the end, many of the few remaining runs were covered by a single combine. The IT streamliners proved to be too much train for the traffic.

A Comparison of Components

The Electroliners and IT streamliners were surprisingly similar in areas and it was

difficult to decide which components on which trains were superior.

The Electroliners had eight Westinghouse 1443 B-1 traction motors (actually trolley bus motors) at 125 HP each in four of the trucks (the center truck was unpowered) for a total of 1000 HP. The motors were suspended parallel to the axles and connected to the drive by a Westinghouse-Nuttall coupling. The Electroliners were only marginally powered. Westinghouse representative G.R. Purifoy likened the trains to "Limousine bodies with whipped cream mixer motors." Motormen were aware if the train had a load exceeding seating capacity as the extra weight slowed the trains. The top speed of the Electroliner was 78 MPH when operating at full capacity, somewhat faster with lighter loads.

The IT streamliner combine and parlor cars were powered with four GE-1240A2 600-volt motors at 140 HP each (the coaches had two motors), A 600-volt bus line extended through the train with all current collected from the trolley pole on the front car. The bus line also fed the 600-volt auxiliaries such as air conditioning, overhead and floor heating, air compressors, and motor generator sets.

For control, the Electroliners were equipped with XMA-type control modified at North Shore's request. The XMA controller used on the trains was similar to that found on the South Shore interurbans, but the North Shore's was shorter



Interior photos of ◀ coach 330, ▲ parlor seating and dining area of car 350 and ▼ parlor and observation area of parlor car 350. —Herbert Georg Studio photos for the railroad via William C. Janssen

and wider. The Electroliner control was manual and provided smooth acceleration for the trains with 18 points.

The IT streamliners utilized a General Electric electropneumatic PCM control with automatic acceleration. The controller in the cabs of the combines had four points and was similar to that of CA&E's 451-series. The coach and parlor cars did not have full control cabs. Each of these was fitted with a single hostler cab so cars could be switched individually. The hostling controls had two points on the controller. Also, whereas the combine's trolley pole was fitted with a shoe, trolley wheels were used on the coaches and parlors for ease in switching.

Either control was suitable as each served the needs of that particular road.

The Electroliner and IT streamliner trucks were virtually identical. Both trains used the General Steel Casting's Commonwealth truck with a 7 foot 2 inch wheelbase, 33-inch rolled-steel wheels, and roller bearings. For the North Shore Line these trucks had advantages in riding quality and maintenance over the Baldwin trucks originally contemplated for use.

The IT streamliners also had excellent riding qualities on good track. Unfortunately, there was not enough of this on the IT.

The brake systems of the two trains were almost identical. The Electroliners used HSC electropneumatic brakes that had a deceleration rate of up to 3 MPH per second—better than that of the North Shore standard cars.



The IT brake system was similar to the North Shore's. The IT control cars were equipped with an M38 self-lapping brake valve. Air from the brake valve operated an electropneumatic controller which in turn operated the brake valves. An advantage of electropneumatic braking was that all brakes on the train were set at the same time, not sequentially.

One major difference between the trains was the air conditioning systems even though both were built by GE. Air conditioning on the Electroliners was effected by a GE condenser and compressor located under the intermediate cars. The AC ventilation equipment was located above the vestibules of the end cars. There were two

complete air conditioning systems on the Electroliners with each of these serving two cars.

On the IT streamliners the GE-built air conditioning equipment was located inside a train cabinet, not under the cars. Each IT passenger car was a completely self-contained unit.

Both roads used diaphragms for passenger access between cars. The diaphragms on the Electroliners were hinged at the bottom but had to be manually opened. Diaphragm curtains were absent. The diaphragms on the IT streamline cars were a definite improvement. Diaphragms were located on the rear of the combines, on both ends of the coaches, and on the front



These two photos document the 6 percent descending grade from the Illinois River Bridge and the 4.4% ascending grade into the Peoria station at Washington and Walnut Streets. This is the location where the one and only inbound Streamliner that ran over the Illinois River came to grief. ▲ On July 14, 1946, this train is being backed up the grade to the bridge in the process of a wye movement to turn the train for its outbound trip. On the back of the photo Bill noted the following: "to spot this train he came out of the barn at the right, went up Walnut Street (to the left in the photo), then backed up on bridge, then turned right on Washington Street, then backed around into Walnut Street and into the station." —William C. Janssen photo, Norman Carlson Collection ▼ Looking the other direction (north), train 95, the Mound City, has left the Peoria station at 5:00 p.m. on July 26, 1947. It is on Walnut Street crossing Washington and starting its ascent to the Illinois River bridge. —W. B. Cox photo, Karambles-Peterson Archive



end of the parlor cars. These diaphragms were also hinged at the bottom but were equipped with an air mechanism at the top which kept the diaphragms closed when air pressure was applied. A valve could be thrown to remove air pressure and a spring retracted the diaphragm giving trainmen access to the trolley rope and retriever. Many a North Shore trainman wished they had a similar arrangement on the Electroliners as they struggled with the manual diaphragms in the dead of winter.

Interiors

Originally each Electroliner car had a décor of a different color such as coral, blue and silver, scarlet and gray, and apricot and turquoise. In addition each car featured a different decorative mural above the windows. The seats were made by Coach & Car Equipment Company and were the first pedal-operated turn-around seats used on the railroad. The upholstery colors were also varied in each of the cars. After the first overhaul, interior colors were repainted in a standard gray with maroon striping and the seats were reupholstered in a uniform color. At the time of their introduction in 1941, the Electroliners were the epitome of modern passenger comfort.

As inviting as the interiors of the Electroliners were, the IT streamliners were a cut above the North Shore's trains in terms of passenger comfort. Each car was 10 feet wide and equipped with reclining seats. With their indirect fluorescent lighting, bright pastel colors, air conditioning, and spacious appearance, it was hard to tell these interiors apart from those of a standard railroad streamliner. The parlor cars offered the discerning traveler individual rotating reclining seats and meal service.

Food and Beverage Service

The James F. Eppenstein and Associates-designed Electroliner tavern-lounge car provided an attractive setting for passengers to enjoy a meal or beverage. Clever use of space allowed 26 patrons to be accommodated at any one time. The basic interior color scheme was tan and the curved bar featured walnut and cork on its front. Above the windows was an animal motif that remained in place long after the murals in the other cars were painted over. Originally the tavern-lounge had a staff of three—a barman/cook and

two waiters. In later years the tavern-lounge had a “one-man band” who performed all the tasks.

The tavern-lounge car was equipped to provide light meals and beverages. The food portion of the menu was basically an assortment of sandwiches although hot food was provided in the form of the Electroburger and hot breakfasts. (How many actually ordered the tongue sandwich?) The North Shore Line continued to provide food and beverage service right up to the last day of operation.

The Illinois Terminal parlor cars featured a dining area with three tables that could seat 12. A small compact kitchen was arranged so food could be quickly prepared. The parlor car was staffed by a porter who prepared and served the food. The IT’s dining car operation was unusual in that the porter bought all food and beverages and made arrangements for delivery of supplies to the train. Although an IT employee, the porter was allowed to keep all profits from the dining service. Unlike the North Shore Line, the service was unable to pay its way and dining service disappeared from the IT in 1951.

Conclusions

In writing “A Tale of Two Streamliners” it would be tempting to say “It was the best of trains, it was the worst of trains.” But this would be unfair to the Illinois Terminal streamliners. The many problems of these trains have been written of extensively, yet they were modern, well-built trains offering amenities unknown on any other interurban.

Much forethought went into the design of the Electroliners while some of the design elements of the streamliners appear



▲ Having been designed by the engineering department of the Chicago Rapid Transit Company, the Electroliners could easily navigate the curves around street corners in Chicago’s Loop. In 1941, this southbound Electroliner is at Tower 12 turning from eastbound over Van Buren Street to southbound over Wabash Avenue. —Charles E. Keevil photo, Walter R. Keevil Archive



◀ In contrast to downtown Chicago, this curve around a corner in Monticello, was too tight for the Streamliners, thus they could not operate east of Decatur. Monticello is between Decatur and Champaign on the Danville-Springfield line. On May 29, 1955, motor 274 is hauling trailer 531 on an Illini Railroad Club excursion that operated between DeLong (the cut back point between Danville and Urbana) and Springfield with a side trip on the Mechanicsburg branch. In 2018, the Monticello Railroad Museum uses both Illinois Terminal and Illinois Central trackage for their very nice museum operation. —James J. Buckley photo, Norman Carlson Collection

to not have been completely thought through. The Electroliners operated reliably for 22 years on a line that presented operational challenges, yet all of these were surmounted. The designers of the IT streamliners never seem to have taken the mechanical department's warnings about operating a train of that design over the IT. Its inability to negotiate the sharp curves on the line led to the cutback to East Peoria which ultimately led to the demise of passenger service.

The use of articulation enabled the Electroliners to overcome problems with

curvature. Yet the articulation design presented a few problems. If a motor was blown on one truck, the entire train would be underpowered. The fixed consist did not allow for flexibility in meeting varying traffic demands. Many times the trains had to carry standing loads of passengers which taxed the motors on the train and affected timekeeping. It is interesting to note that North Shore's designs for its never-built postwar streamliners included individual cars with trucks mounted at the ends similar to what the IT had done with its streamlined trains.

Had the IT streamliners operated over an interurban of the quality of the North Shore or South Shore, their excellent riding qualities and speed would have come to the fore. However, the trains never truly achieved their potential. There were too many service failures owing to traction motors becoming clogged from cinders and dirt along the IT's track, too much street running, curves that were too tight for reliable operation and so on. The Illinois Terminal streamliners were in fact very fine electric luxury trains. Their fatal flaw was that they operated on the Illinois Terminal.



▲ At St. Louis the Streamliner could also not be turned as a trainset. In January 1955, Alco S-2 number 710 is switching the underground freight house. After being wyeed separately, this two-car consist is backing into a station track in preparation for its 5:00 p.m. departure to East Peoria as train 94. —William D. Middleton photo, Norman Carlson Collection

▶ Car 122 was typically used in the suburban service between St. Louis and Alton; however, it is loading shuttle passengers at the Peoria station on May 19, 1949.



▶ On April 1, 1949, we see the transfer at East Peoria. — Two photos William C. Janssen, Norman Carlson Collection

▼ Shuttles were only needed for the Streamliners and the trains consisting of the standard heavyweight cars continued to cross the Illinois River until the Peoria Station was closed. This photo is taken on January 14, 1950, the last day of operations at the Peoria station. —Thomas H. Desnoyers photo, Krambles-Peterson Archive





On January 12, 1950, cars ▲ 350 and ▼ 331 are being turned individually at East Peoria. There was so little room in the Farm Creek Yard that a curve with sufficient radius could not be constructed. —Two photos Thomas H. Desnoyers, Krambles-Peterson Archive



◀ On April 10, 1949 car 302 is leading a train by the “P&PU long siding” as it approaches the Washington Street crossing in East Peoria. This siding was part of the freight interchange track with the Peoria & Pekin Union Railway. This location is about one mile from the East Peoria station. It was difficult to get IT fans like Bill to say nice things about the Streamliners. There was great preference for the “standard cars.” They were REAL interurbans. —William C. Janssen photo, Norman Carlson Collection