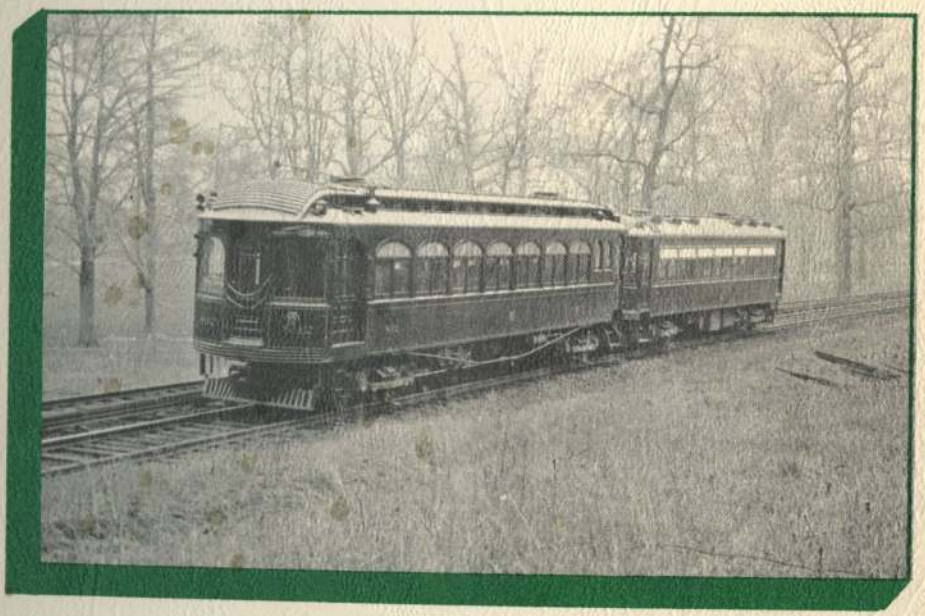
# THE LIBERTY BELL ROUTE'S HEAVY INTERURBAN CARS



History and Rosters

Lehigh Valley Chapter, National Railway Historical Society, Incorporated, dedicates this history to member—

KENNETH L. VON STEUBEN, a modeller of railroad locomotives who possesses an extraordinary talent for accuracy and detail.

Ken has built eighteen excellent models of various type steam locomotives in 17/64 inch scale during the past thirty-three years and has drawn plans for two more. He operates the locomotives on a large layout located in his home.

COVER PHOTOGRAPH — Coach-baggage car No. 802 and chair car No. 710 on Philadelphia and Western Railway Company's third rail system, near Haverford, circa 1927. From the collection of Elwood C. McEllroy.

COVER DESIGNER — William T. Coe

PRINTER — A B C Printing & Photo-Offset, Bethlehem, Pa.

## PREFACE

Heavy constructed wood, steel, and composite passenger interurban cars identified the electric railway industry's "golden era", or the two decades which generally extended from 1910 until 1930. It was a time when mechanical excellence, interior elegance and comfort, and structural strength identified the rolling stock which traversed the interurban right of ways which extended into every section of the country. Lehigh Valley Transit Company of Allentown, Pennsylvania, operated twenty-five heavy interurban cars between Allentown and Philadelphia during this epoch. These cars, identified as 700 and 800 Series cars and No. 812, collectively operated over Liberty Bell Route from 1912 until 1952. The span of life reveals that they outlasted their era. From their introduction until retirement from service the cars successfully lured patronage away from competing steam railroad and autobus services and established an enviable safety record — no passengers suffered fatal injuries while being conveyed in their sturdy bodies.

Despite a difference in structure and most mechanical and electrical installations 700 and 800 Series cars and No. 812 were compatible in multiple unit operation. Between 1916 and 1932 the 700 Series cars supplemented 800 Series car operations in main line service but 800 Series cars never substituted for 700 Series cars on local schedules. Between 1932 and 1939 the 700 Series cars, after revisions, assumed operation of main line limited operations and 800 Series cars served as substitutes. Trains composed of a mixture of 700 and 800 Series cars and No. 812 became a common sight along Liberty Bell Route on weekends and holidays and in charter service. Although patrons and crews regarded 800 Series cars as superior, the presence of 700 Series cars on the roster may have prevented the abandonment of Liberty Bell Route's railway operations as early as 1932.

The majestic pullman-style 800 Series cars served less than one generation in regular main line passenger service for which they had been specially constructed but their sturdy structure permitted the conversion of five to more rugged use — freight service. These five cars served a dozen years after the other seven had been removed from the passenger roster. One of them eventually served another system for fifteen years in utility service before being acquired by an electric railway museum.

Although Lehigh Valley Chapter, National Railway Historical Society, Incorporated, has already published individual histories of the twelve 700 Series and twelve 800 Series cars it now, as its tenth project, blends these booklets into one volume. Accordingly, THE LIBERTY BELL ROUTE'S 700 SERIES INTERURBANS, published in 1955, and THE LIBERTY BELL ROUTE'S 800 SERIES INTERURBANS, published in 1958, reappear with revisions, deletions, and supplements. In addition, the complete history of car No. 812, formerly private interurban car No. 999, has been woven with the other texts; thereby, producing a comprehensive history and roster of Liberty Bell Route's twenty-five heavy interurban passenger cars. Many different photographs have been selected for this publication and line drawings have been included.

Readers should bear in mind that photographs of early operations are available only in limited quantity and quality. Also, approximate dates have been inserted where actual dates have been unavailable. Data generally has been accumulated from feature articles which appeared in trade journals, newspaper accounts, and interviews with employees of Lehigh Valley Transit Company and electric railway historians. All contributors who aided the preparation of this booklet either with Photographs or information have been listed on the title page. Those who submitted photographs are credited once again with the photograph or photographs which they contributed. Without the co-operation of these folks this publication could not have achieved any semblance of completeness or authenticity.

Several sentences borrowed from the first history concerning 800 Series cars, which can fittingly be applied to the 700 Series deluxe-type cars, concludes this introduction. "We who were conveyed within the palatial interurbans' sturdy structure as they sped from the Lehigh Valley's Queen City to the City of Brotherly Love, fifty-five miles away, cannot properly express in words the prevailing atmosphere of confidence, relaxation and grandeur. Streamlining, stainless steel, aluminum, and successively smaller bodies, although packed with power, will not quite equal the glamour of these magnificent interurban cars. May their life story bring to you the pleasure which we, who knew them well, cherish in our memory."

Randolph L. Kulp, Editor
602 St. John Street
Allentown, Pennsylvania, 18103

# THE LIBERTY BELL ROUTE'S HEAVY INTERURBAN CARS

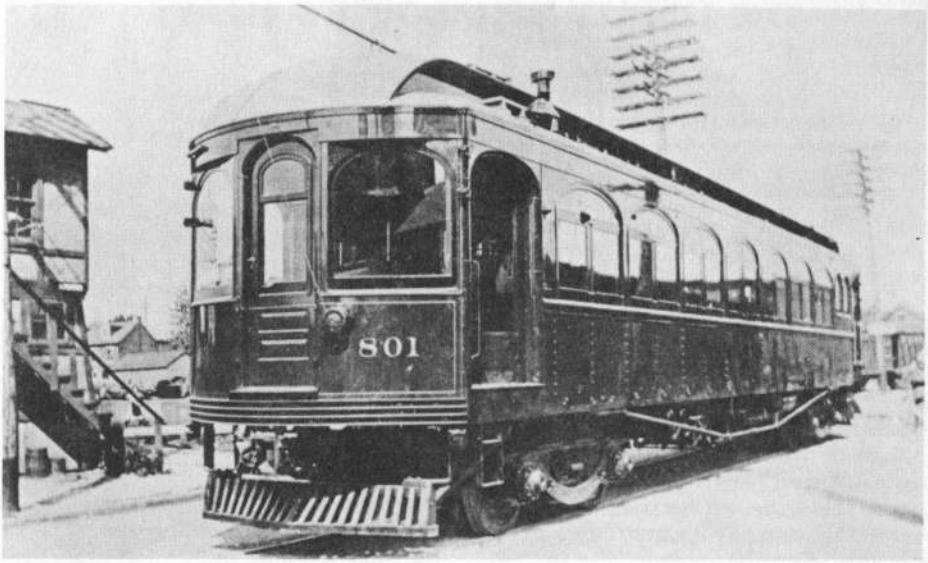
## MODERN LIBERTY BELL ROUTE FORMED

"Father Penn to Father Allen", an ink sketch portrayal showing the two colonial gentlemen joining hands, appeared on page number one of Allentown **Morning Call**, Thursday, December 12, 1912, and heralded the inauguration of Lehigh Valley Transit Company's high speed electric interurban railway service between Allentown and Philadelphia. Simultaneously, the heavy, powerful, steel-wood 800 Series interurban cars made their debut in Liberty Bell Route passenger service.

Two days earlier a local newspaper editor headed his commentary "Al Johnson's Dream Is Realized". In 1901 Albert L. Johnson, Lehigh Valley Traction Company's and Philadelphia and Lehigh Valley Traction Company's president, had planned a vast interurban network which would have connected Allentown, Philadelphia, and New York but he died before realizing his dream. His immediate successors, more practical than adventurous, abandoned Philadelphia-New York plans but struggled to complete the Allentown - Philadelphia (Erdenheim) section in 1903. Mr. Johnson had also predicted the eventual operation of large electric steam coach-type cars between Allentown and Philadelphia — a prophecy fulfilled by the majestic 800 Series interurban cars.

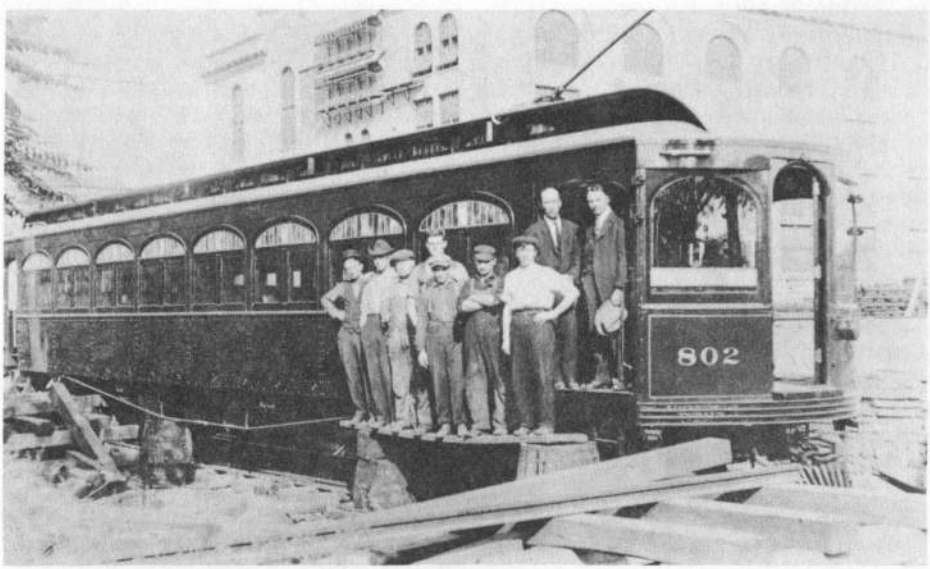
Lehigh Valley Transit Company, a consolidation of Johnson properties by new owners, effective 1905, before introducing heavy interurban car operation, conducted a costly and lengthy rehabilitation program along Philadelphia Division, or Liberty Bell Route. Men of vision, Harry C. Trexler, George H. Frazier, William S. Harrity, R. P. Stevens, and Edward C. Spring, among others, between 1905 and 1912, ably directed the conversion from a long winding roadside route into a modern electric railway mostly built to steam railway standards.

A five million dollar expenditure revised, relocated, and rebuilt practically all trackage between Allentown and Lansdale; constructed a new route between Lansdale and Norristown to a connection with Philadelphia and Western Railway Company's trackage; installed a track circuit block signal system; placed Hoeschen warning signals at dangerous road and highway crossings; replaced small D.C. steam engine generator stations with a new A.C. steam turbine central station in Allentown which supplied nine A.C.-D.C. rotary convertor substations, four of which were located along Liberty Bell Route, through high tension transmission lines; constructed passenger and freight stations in various towns; installed a telephone dispatching system and Egry train order registers in boxes at all sidings enroute; connected station, carbarn, and substation telephones with dispatching system; and erected a heavy plate girder viaduct in South Allentown in place of the spindly deck truss structure built in 1893 across Trout Creek meadow and Philadelphia and Reading Railroad Company's East Penn yard and main line.




**Alma R. Eckert Collection**

Car No. 801 stands on Front Street near Linden Street, Allentown, shortly after its arrival at Riverside Yard from Jewett Car Company, Newark, Ohio, August, 1912.




**Howard P. Sell Collection**

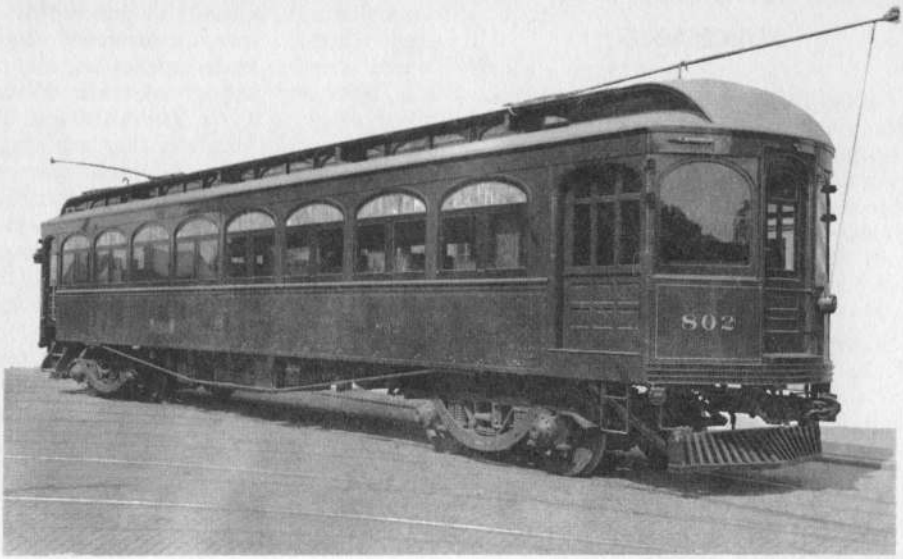
Shop crew and officials pose with car No. 802 after it had been assembled in Riverside Yard, Allentown, August, 1912.

## SIX 800 SERIES CARS PURCHASED

Lehigh Valley Transit Company's officials selected an interurban car, designed for high speed Pullman-style service, at almost the last possible moment. On February 10, 1912, President R. P. Stevens ordered six cars, Nos. 800 to 805, from Jewett Car Company in Newark, Ohio.

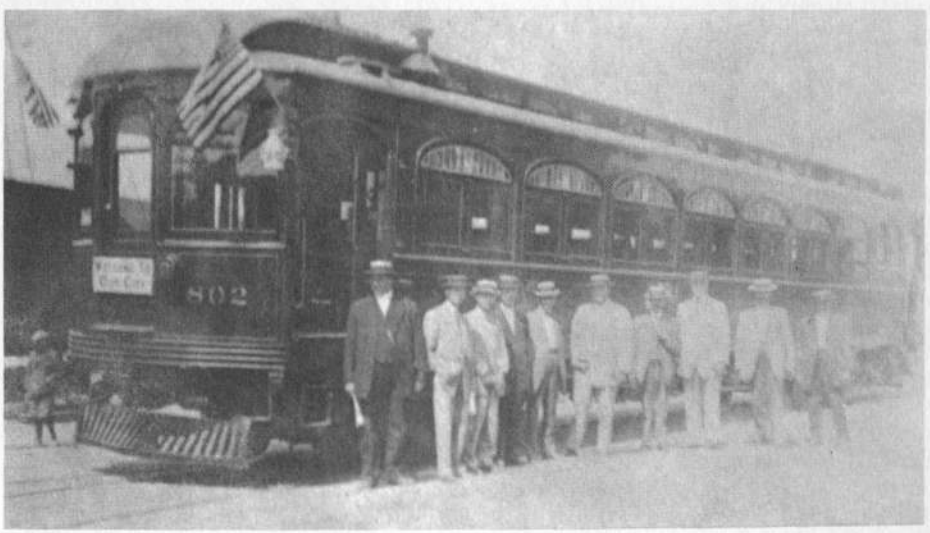
Distinguishing exterior features of the fifty-five foot, ten and one-half inch steel frame and steel-wood composite body, standing on two Baldwin 78-30A equalizer bar trucks with standard roller bearings and thirty-six inch forged steel wheels, included a typical Jewett style wood and canvas railroad roof; sixteen clerestory colored arch windows; eight Automatic ventilators; a chimney; fifteen pairs of cream and green leaded cathedral glass panels, each pair spanning two one-quarter inch polished plate glass windows and forming a pocket between inner and outer leaded glass arches, into which windows could be raised high enough to permit unobstructed view; two small single leaded glass arched lavatory windows; exterior wood sheathing and finish above window sills; storm sashes with one-quarter inch plate glass; two arched train doorways with sectioned arch windows; a large arch window on both sides of each train door; two arched passenger entrances and doors with sectioned arch windows; two arched baggage entrances and sliding doors with small panes of glass forming an arch effect; a stirrup step and a grab handle at each baggage doorway; two three-step passenger entrances with two pairs of grab handles and floor-level trap doors, foot clips on body at left side baggage entrance plus grab handles on roof permitted access to roof equipment; a metal lined hole above each train door through which the conductor's signal cords were connected between cars for train operation; strap iron bars and fittings at train doors for installation of portable headlight; two combination flag and signal lamp brackets on each corner post; two leather covered protective chains across train door entrances; two standard multiple unit wood pilots; Earll trolley retrievers with rope attached to poles; anti-climbers at both ends; ten-inch single tone whistles mounted above right front and left rear windows; and a varnished medium chrome green body color; gold striping, monograms, letters, and medium size numbers; a chrome yellow roof; and black anti-climbers, headlight, and undercarriage. The interior was partitioned into five sections: baggage, smoker, coach, lavatory, and passenger vestibule.

The coach, or main, section contained seventeen double green plush high back walkover seats with arm and head rests and brass check holders; a short single green plush conductor's side seat; insulated double floor to eliminate truck and compressor noises; linoleum floor coving; a five-eighth inch rubber center aisle mat; solid inlaid mahogany woodwork from floor to ceiling; Pantasote silk-lined window curtains; O.M. Edwards bronze window fittings; double-type bronze luggage racks; brass door knobs, locks, and checks; a light blue empire ceiling; twenty 16 c.p. lamps in Holophane glass dome lighting fixtures on ceiling supplied at line voltage; twenty 16 c.p. lamps in cast brass side brackets with Holophane reflectors, spaced over seats at five foot intervals, supplied from Edison A6 storage batteries to maintain even interior lighting regardless of car's acceleration on hills, passing through third rail gaps, or pole's loss of con-




**Howard P. Sell Collection**

Publicity photograph of car No. 802 in August, 1912, reveals features of original design: long trolley pole with wheel; whistle above motorman's window; even appearance of passenger entrance, baggage entrance, and window arches; roller bearings on trucks; and lack of third rail equipment on trucks.




**Howard P. Sell Collection**

Car No. 802 adorned with flags and placards prepares for publicity tour of Allentown, August, 1912.

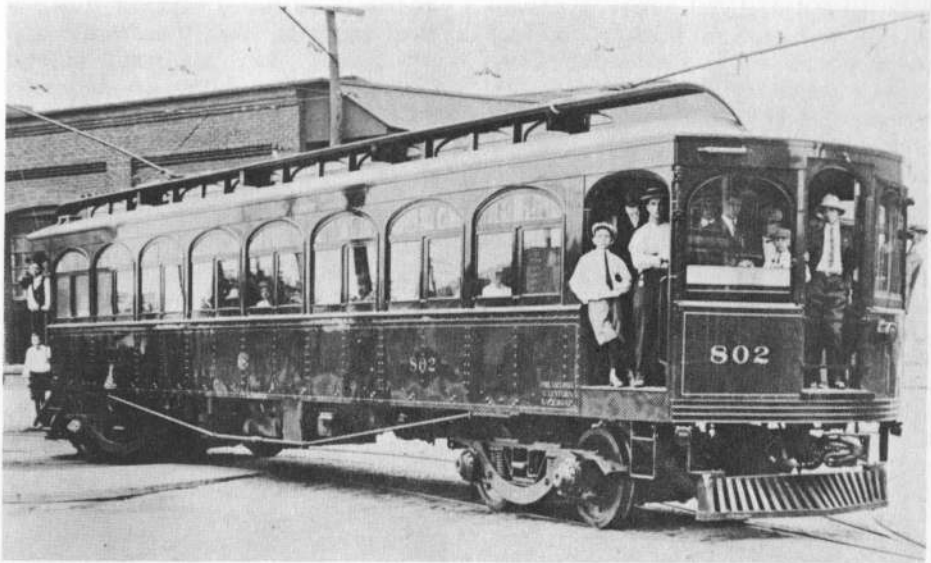
tact with overhead wire; a three-eighth inch round leather conductor's signal cord, suspended from ceiling above center aisle by leather straps, attached to a cab bell at each end; and a conductor's red emergency cord, strung beneath Holophane lights along left side, connected to an emergency air brake valve located in baggage compartment. Tickets and an excess cash fare collection system eliminated the need for a register and there were no advertising card racks. Seating sections were heated by a Smith forced air coal heater system and a duct along left side supplemented by electric heaters along right side.

An all-white, five-foot, Pullman style tile lavatory, located in coach section next to left passenger entrance included a door with check and lock; a monel metal basin; running water supplied from a sixty gallon capacity tank; an Eckert flush type porcelain hopper; liquid soap and paper towel dispensers; light fixtures; plate glass mirrors; and a linoleum floor covering. A faucet, which supplied iced drinking water from a tank, protruded from a recessed section and a free paper cup dispenser hung on exterior lavatory wall along the aisle for passenger's convenience.

Features of the smoking compartment, partitioned from coach section by mahogany panels, two large windows, and a windowed door with check, included eight double black leather walkover seats with arm rests and two without in cars Nos. 800 to 803 and ten single black leather upholstered mahogany club chairs by Karpen in cars Nos. 804 and 805; ten polished brass cuspidors; and eight bronze match striker plates. Other furnishings were identical to those in coach section.

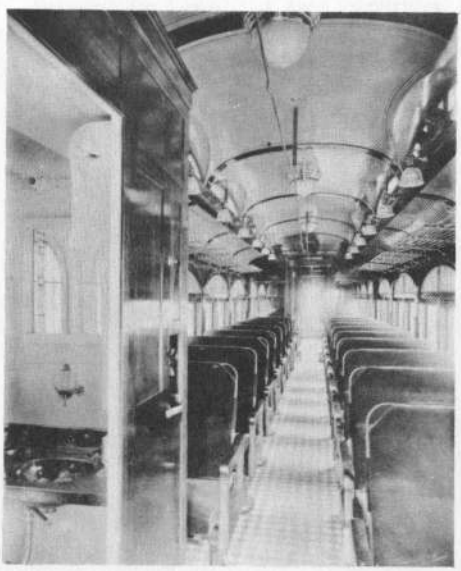
Equipment in the seven-foot baggage compartment, the motorman's position and No. 1 end, included a set of controls, sundry switches, and foot gongs. One perforated metal destination sign hung on brackets in the lower part of right front window before an illuminated box and the other, in storage, below left front window. Only two destinations were used—"Allentown" and "Philadelphia". On the baggage - smoker wall behind the motorman's position was a cabinet which contained various switches and provided storage space for spare lamps, fuses, and switches. A stationary seat was located between baggage doorway and smoker - baggage partition. On the left side were coal heater and coal bin; two white and two green Adlake classification lamps placed in sockets on a head board; and wall hanger for daytime storage of the portable arc headlight. Other equipment, placed for convenience, included a whistle cord, switch iron, conductor's signal bell, third rail paddles, a train line jumper cable, and a tool box. Despite the numerous equipment there was ample space for passengers' luggage. A door with a check and a window with its shade always drawn led to smoker compartment's aisle. Seating was not provided for the motorman — each supplied his own chair. Later, when motormen opened baggage doors for ventilation during summer months, a leather covered chain was strung across doorways for safety reasons. In 1923 an iron bar replaced the chain. Only company personnel were permitted in the baggage compartment during operation.

Right hand controls, brakes, and other equipment identical to that installed in baggage compartment; a stepping board designed to accommodate passengers at Philadelphia and Western Railway Company's platform stations; linoleum floor covering; a windowed sliding door




**Howard P. Sell Collection**

Car No. 802 with guests aboard stands before 14th Street Carbarn, Allentown, prior to departure on a tour for publicity purposes, August, 1912.



**Howard P. Sell Collection**

Interior view of car No. 802 from passenger vestibule toward baggage compartment, August, 1912.

which opened into coach section; conductor's equipment box with two red, white, and green flags; and after daylight, lighted white and red hand lanterns standing on the floor were features of the standard vestibule, or No. 2 end. Later, a tailored leather cover shielded the greasy engineer's valve and a brass cap covered the controller shaft to avoid soiling passengers' clothing.

Electrical and operating equipment were distributed throughout the car. Located in baggage compartment were a Westinghouse AL C36C controller on right side, with a compact removable handle, a deadman prototype, which returned to off position by a spring unless held firmly; a notching relay button for manual acceleration; a Westinghouse M22 engineer's valve for selecting either straight or automatic air; a Peacock hand brake wheel; Duplex gauges; headlight switch; control circuit and reset switches; air whistle and sander valves; a switchboard with third rail and overhead transfer knife switch and lighting, heating, air pressure, and compressor switches and fuses. Four Westinghouse 303A one hundred and fifteen horsepower motors developed a sixty-two miles per hour maximum speed at six hundred volts. Equipment for train operations included a nine wire train line with cable receptacles at each corner below anti-climbers and Westinghouse car and air couplers. A D-2-EG air compressor and reservoirs, switch group, storage batteries, cables, resistors, fuse boxes, re-railer; jack and handle, brake equipment, receptacle for headlight plug, line switch, and reverser were attached to floor's underside. Roof equipment included two long trolley poles with wheels, stands, springs, hooks, cable leading to switchboard, and a spare pole securely fastened in the center. Two red, green, and white flags and Adlake oil lamps for placement in corner post sockets comprised the classification and marker system. The wire and plug of the portable arc headlight, fastened to strap iron bars and brackets across train doors, fitted into a receptacle located underneath the anti-climber to the left of the train door. Sand boxes were located in the baggage compartment along the left side and under the conductor's seat at the No. 2 end.

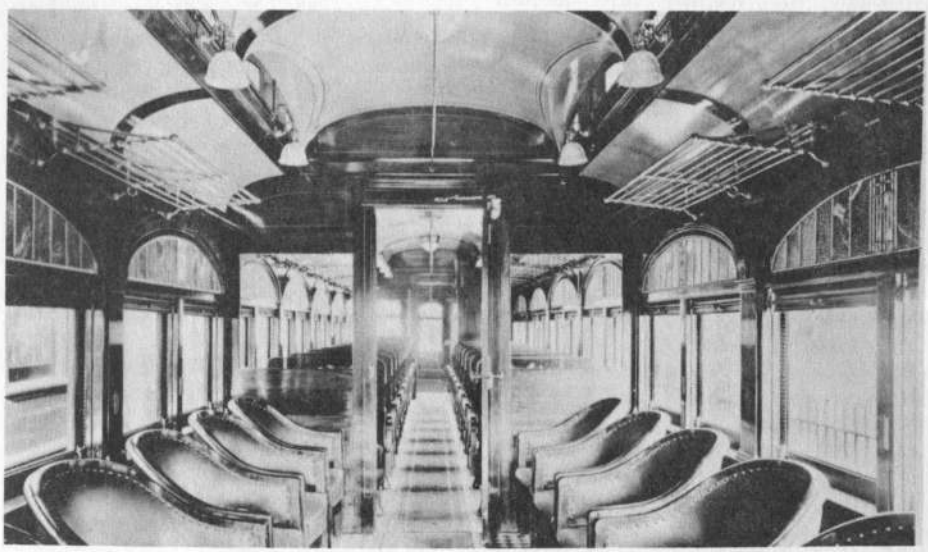
Late in August, 1912, a Lehigh Valley Railroad Company's switching locomotive shunted flat cars which carried the bodies of cars Nos. 800 to 805 over interchange trackage into Riverside Yard. Transit company maintenance employees placed the bodies onto trucks which had been purchased directly from the manufacturer; connected motor leads; and operated the cars under their own power to 14th Street Carbarn for further adjustments and inspection. Car No. 801 was the first car which had been assembled. Between late September and early December shop personnel attached two sets of third rail shoes, brackets, cables, and beams to each truck. H. S. Farquhar of Philadelphia and Western Railway Company's staff had designed the equipment.

Meanwhile, on August 26, 1912, Philadelphia and Western Railway Company inaugurated passenger service between 69th Street Terminal, Upper Darby, and Norristown, but the incomplete Lansdale-Norristown section temporarily delayed introduction of high speed passenger service between Allentown and 69th Street Terminal.

Lehigh Valley Transit Company formally presented their handsome interurban cars to the public on August 31, 1912, by operating car

**Howard P. Sell Collection**

Interior view of car No. 802 from baggage compartment toward passenger entrance, August, 1912. Walkover seats were a standard installation in smoking section of all 800 Series cars except two in 1912 and in all cars after 1913.



**Howard P. Sell Collection**

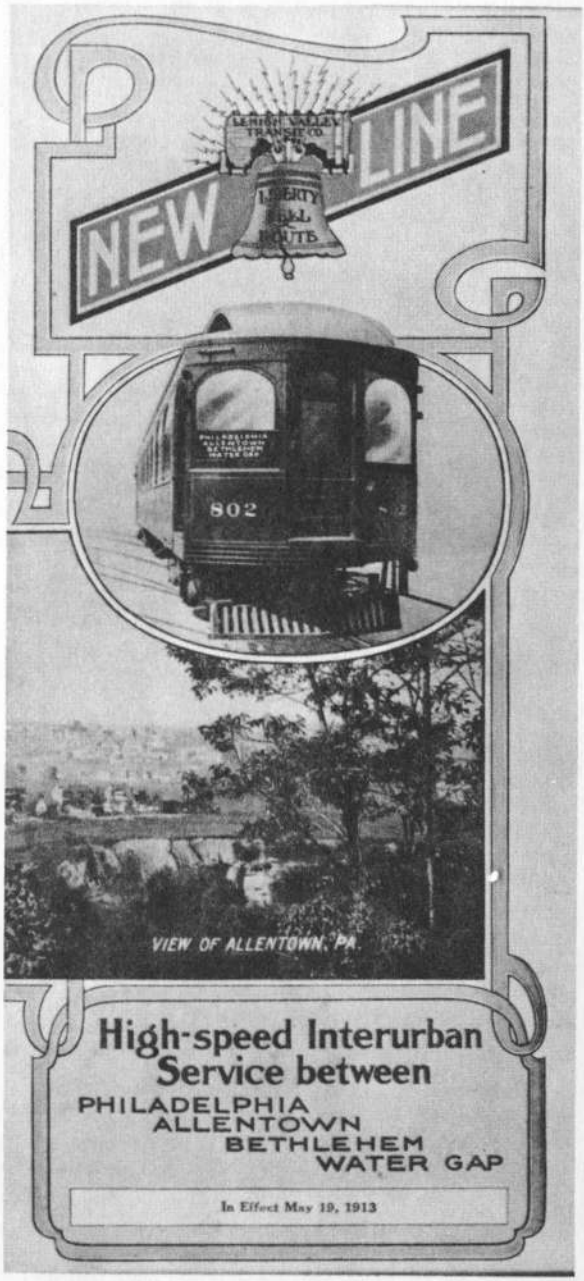
Interior view of car No. 805 from baggage compartment toward passenger vestibule, August, 1912. The smoking sections of cars Nos. 804 and 805 had been equipped with club chairs for only a short duration.

No. 805 along Hamilton Street. The car, bedecked with American Flags and patriotically colored bunting also carried a placard across the operating end inscribed "Welcome To Our City," and another at passenger entrance lettered "I Am Here To Serve You." At the September, 1912, session of Allentown Fair the same car, with a uniformed attendant, stood on exhibition on a short temporary spur track which had been extended from Slatington Division trackage through Chew Street gate at Lafayette Street into the grounds. Visitors entered the car at the passenger entrance and departed via temporary wooden steps erected at baggage compartment doorway. Literature announced the new service's inaugural date as October 25, 1912, or thereabouts. Car No. 802 also traversed city trackage for publicity purposes.

Superintendent Edward S. Spring, relieving the motorman at intervals, initially tested an 800 Series car, either No. 804 or No. 805, on Philadelphia Division trackage as far as Lansdale on September 12, 1912. Construction delays in underpassing Philadelphia and Reading Railway Company's Stony Creek Branch located midway in Broad Siding southward from Lansdale and overpassing Sumneytown Pike southward from Broad Siding prevented a trial trip over the Lansdale-Norristown section. Completion of the bridge over Sumneytown Pike in autumn left the underpassing of Stony Creek Branch as the only uncompleted section of the new route. Shortly after midnight, Wednesday, December 4, 1912, construction crews completed the latter project. The transit company conducted test runs during the following day, timed to proposed schedules, to acclimate all persons concerned with physcial characteristics of both cars and right of way. On Monday, December 9th, two single 800 Series cars completed the first round trips between Allentown and 69th Street Terminal, and on Tuesday local newspapermen enjoyed a similar trip as President Stevens' guests.

Without formal ceremony car No. 800 departed from Allentown terminus located at 6th and Hamilton streets at 7:00 a.m., Thursday, December 12, 1912, with approximately forty passengers on board and inaugurated two hour and fifteen minute limited passenger service between Allentown and Philadelphia's western suburbs, a distance of fifty-five and one-half miles. Twenty-four minutes later the first Allentown-bound car departed from 69th Street Terminal. Lehigh Valley Transit Company's cars, contrary to destination signs, never entered Philadelphia but terminted and commenced schedules in Upper Darby six-tenths of one mile westward from the boundary line. A photograph of car No. 802 appeared on timetables issued in conjunction with the establishment of high speed service.

Philadelphia and Western Railway Company's owners, also Lehigh Valley Transit Company's financial advisors, drafted an arrangement for the latter's limited car entrance into Union, or 69th Street, Terminal via their third rail trackage between Norristown and Upper Darby. Briefly, the former assumed complete responsibility for the latter's car operation over their trackage in return for all revenues collected; in comparison, Lehigh Valley Transit Company, by supplying the car, derived increased increments from patronage especially attracted to high speed service offered to and from Philadelphia and towns enroute between Norristown and Allentown. Norristown Transit Com-




**Randolph L. Kulp Collecton**

Car No. 802's photograph appeared on the public timetable issued for Liberty Bell Route's service effective May 19, 1913.

pany, a separate entity organized by both companies, owned connecting trackage within Norristown Borough between the north end of Philadelphia and Western Railway Company's elevated structure and borough line.

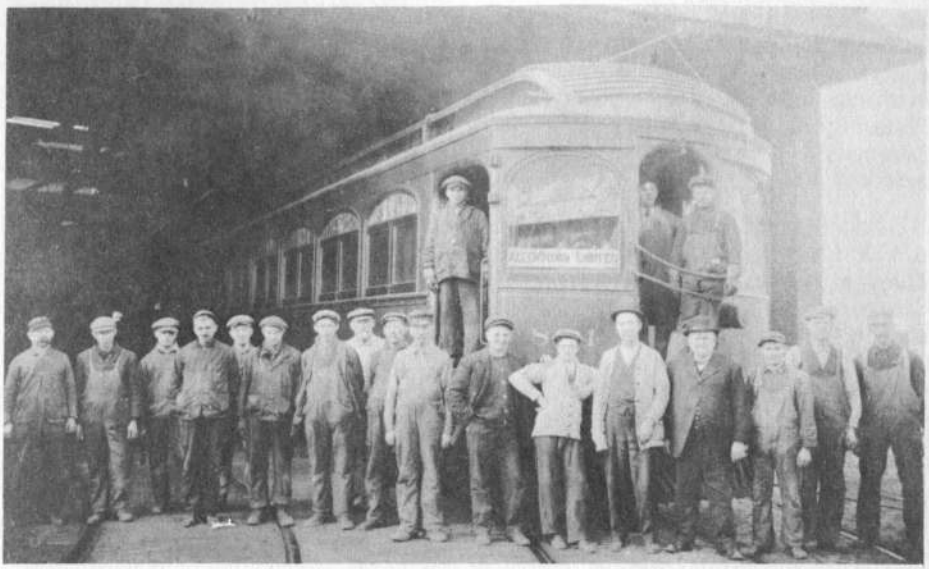
Beginning with initial operations and continuing until summer, 1913, Philadelphia and Western Railway Company moved Lehigh Valley Transit Company's 800 Series cars over third rail trackage in trains with their 20 Series cars. Southbound, the former's car led and northbound the latter's. An ungainly adapter attached to 800 Series cars' No. 2 end coupler and to one of the 20 Series cars' coupler, for car and air coupling, permitted the arrangement. The fifty-one foot, four inch P&W's car's electric and train line equipment included St. Louis 161 trucks, seventy - five horsepower GE73 motors, General Electric magnetic multiple unit controls, Van Dorn couplers, and a seven wire train line; in comparison, LVT's fifty-five foot, ten inch car's installations included Baldwin 78-30A roller bearing trucks, one hundred and fifteen horsepower WH-303A motors, Westinghouse pneumatic multiple unit controls, Westinghouse couplers, and a nine wire train line. Electrical and mechanical difficulties attributed to the difference of equipment caused discontinuation of operating P&W and LVT cars in a train and, accordingly, 800 Series cars commenced operation over third rail trackage on separate schedules.

Commencing with summer, 1913, Philadelphia and Western Railway Company introduced a crew arrangement policy for operation of Liberty Bell Route cars. P&W crews released northbound limited cars to LVT crews at Norristown's street-level station located on Swede Street and waited one-half hour for southbound cars; likewise, LVT crews waited one-half hour for northbound cars.

When Liberty Bell Route's and Philadelphia and Western Railway Company's cars either entered or left the third rail system at the elevated structure which led to the viaduct across Schuylkill River in Norristown, trackside devices automatically raised or lowered all third rail shoes. In single car operation, conductors lowered or raised the trolley pole while the motorman operated a large single pole changeover switch in the switchboard cabinet during a slight pause in a section of track in which overhead wire and third rail overlapped. With the introduction of multiple unit trains at a later date, because each car collected its own power, the conductor operated changeover switches and adjusted poles of the second and third cars. Power remained off until changeover had been completed.

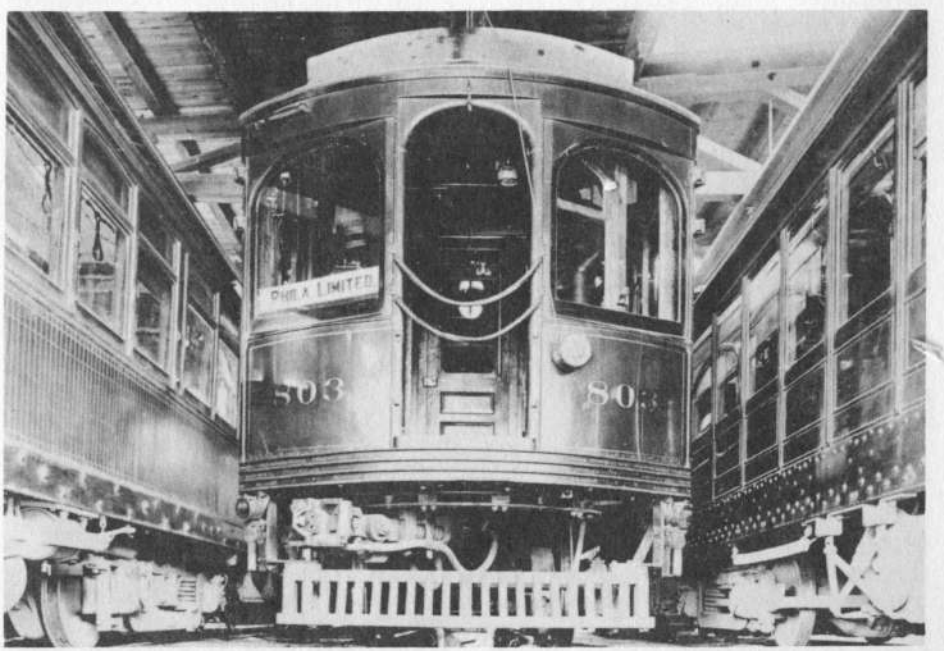
Introduction of service over the new route reclassified original trackage between Wales Junction and Chestnut Hill (Erdenheim) as a local operation. In addition, the advent of 800 Series cars transferred Liberty Bell Route's center of limited car operations from Souderton Carbarn to 14th Street Carbarn in Allentown. Center of local car operations, however, remained at Souderton Carbarn. The 137 Series cars, the original Liberty Bell Route limited cars, remained on Souderton Carbarn's roster to operate various local schedules as well as Allentown-Chestnut Hill service.

Effective with inauguration of service, club-smoker cars Nos. 804 and 805 operated titled trips: southbound, 8:00 a.m., New Jersey Special; 12:00 noon, Philadelphia Special 2:00 p.m., Liberty Bell Special; and 6:00 p.m. Quaker City Special.



**Elwood C. McEllroy Collection**

Shop crew poses with car No. 804 at track No. 9 of 14th Street Carbarn, Allentown, September, 1912.




**Howard P. Sell Collection**

Car No. 803 stands between St. Louis car No. 138 and a 600 Series convertible car on a pit track inside 14th Street Carbarn, Allentown, autumn, 1912.

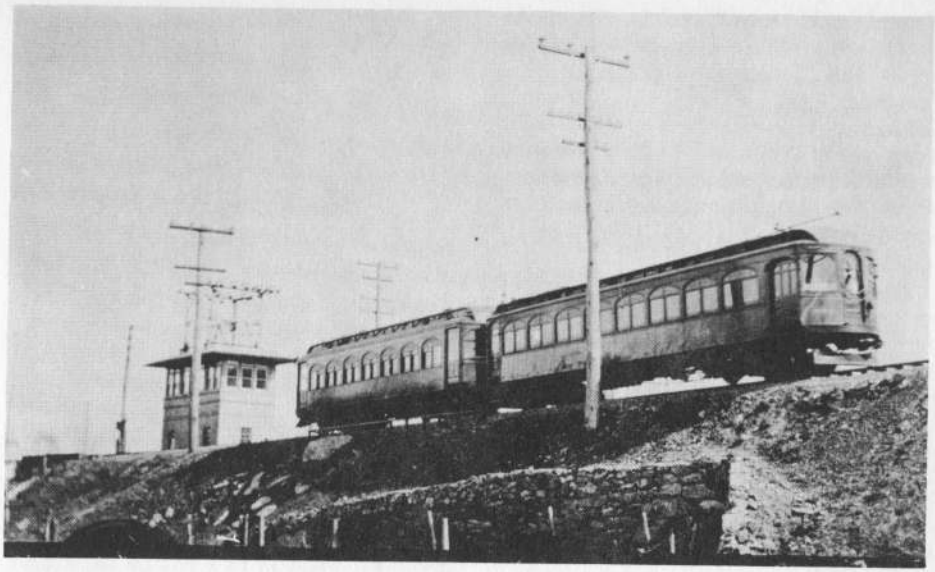
Northbound counterparts were, respectively, Water Gap Special, Liberty Bell Limited, Lehigh Valley Special, and Allentown Special. Within a few months, when walkover seats replaced club chairs to provide more seating accommodations, the transit company discontinued titles.

The standard Jewett passenger entrance of cars Nos. 800 to 805 proved unsuitable for use at Philadephia and Western Railway Company's high level station platforms. Initially, passenger entrance doors could not be opened until trap doors had been lifted, but Lehigh Valley Transit Company's mechanical department reversed the door-trap opening sequence before the cars had entered regular service. After service had commenced, passengers, who failed to stoop when entering or alighting at platforms struck their heads or disarranged their hats at the low arch. Carpenters, at intervals, removed an eight inch section from the letterboard and extended the arch upwards; thereby, marring the even appearance of window and entrance arches.

Maximum speed of 800 Series cars occasionally caused the trolley wheel to leave the overhead wire. In several instances, violent swaying of the long trolley pole, even though drawn below wire height, tore the retriever from its socket. The pole rose again with only the retriever's weight to restrain it. As span wires were encountered, before the motorman could halt the car, the pole and twirling retriever rebounded forcefully against the vestibule roof and inflicted damage. The mechanical staff shortened the pole and increased trolley stand spring pressure thereby creating better wheel contact, less arcing, longer wheel life, and fewer dewirements. Oak wood mats fastened to the roof above both entrances provided additional protection.

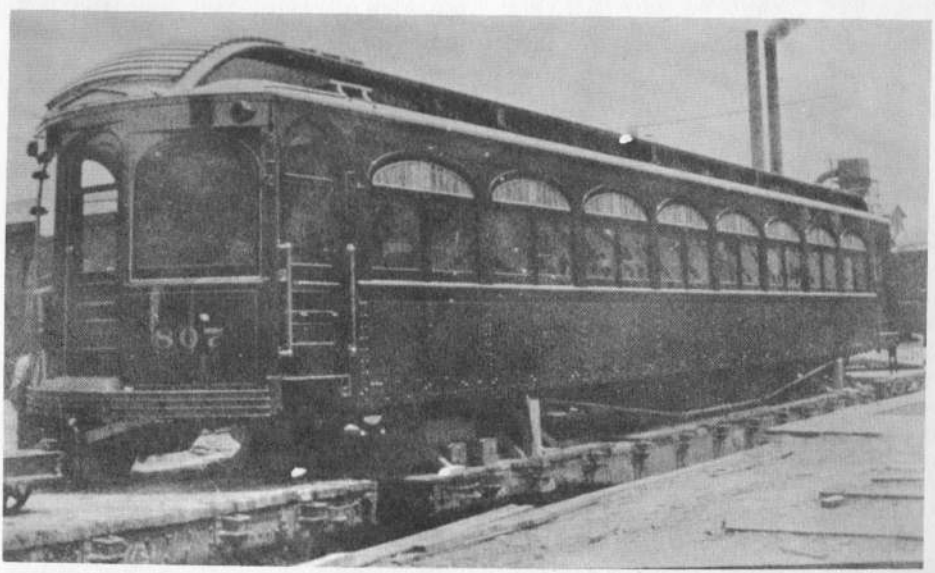
Continuous track circuit automatic block signals, timetables, and train orders,, issued in accordance with standard electric interurban rules, governed all Philadelphia Division operations. Extra movements displayed two white flags or lamps, and all but the last section of scheduled trains displayed two green flags or lamps at the front end. All cars carried two red Adlake oil signal lamps, lighted only at night, in No. 2 end's sockets. Telephones and Egry registers were conveniently placed at all sidings in boxes and in stations southward from Allentown, including Norristown, for conductor's contact with division dispatcher's office at Wales Junction, later Allentown. Conductors, after writing the dispatcher's orders on triplicate Egry register roll forms, verbally verified the content with the dispatcher, cranked original and duplicate from the machine, the triplicate remained inside, handed duplicate to the motorman, and retained original copy. Timetable rules required a report when entering and leaving the division at Emaus Junction (later Emmaus Junction), Norristown, Wales Junction, Souderton carbarn wye, and reversing direction from a midpoint destination.

In emergencies Philadelphia Division's dispatcher could halt either some or all movements by directing Sellersville substation's operator to open either the oil switch which controlled the 2,300 volt signal system northward from Sellersville or the one southward, or both, depending upon the location of cars involved. This interruption caused all semaphores to drop by gravity to the horizontal stop position. After the dispatcher had been contacted by conductors of cars involved, he directed the substation operator to



**Howard P. Sell Collection**

A two-car train composed of LVT's car No. 804 and P&W's car No. 34, performing a normal northbound movement over P&W's third rail trackage, passes through Villanova Junction early in 1913.




**Elwood C. McElIroy Collection**

The body of car No. 807 stands on a railroad flat car inside Jewett Car Company's plant in Newark, Ohio, late spring, 1913, prepared for shipment to Lehigh Valley Transit Company.

close the switch or switches so that the signal system could function properly.

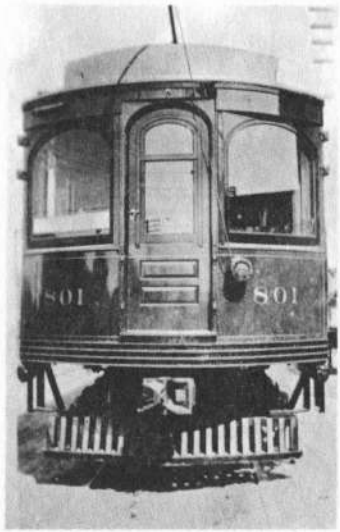
Although 800 Series cars had been generally classified as a single end type, complete controls installed at the passenger end, primarily for shifting and emergency service, permitted normal operation. Cars, having completed a southbound trip in Upper Darby, were operated through a wye located eastward from the main line and opposite Philadelphia and Western Railway Company's shops to reverse motorman's position for the next northbound trip, but in Allentown between 1912 and 1938 various conditions altered reversal practices. Between December, 1912, and November, 1913, cars, having completed a northbound trip at Sixth and Hamilton streets, proceeded, with the motorman stationed at his normal position rhythmically tapping the foot gong, to 14th Street Carbarn via Hamilton, Twelfth, and Gordon streets. Motormen operated southbound scheduled cars from the baggage compartment controls back to the station via Gordon, North Seventeenth, and Hamilton streets. Later, the company reversed the direction through Gordon Street loop. Effective with the opening of Eighth Street Bridge in November, 1913, until completion of Fairview Carbarn in May, 1914, the same routine prevailed between Eighth and Hamilton streets and 14th Street Carbarn.

The baggage compartment of 800 Series cars carried the one hundred and fifty pound free baggage allowance allotted to each passenger; however, most passengers travelled light. Later, hauling of Philadelphia daily and Sunday newspapers and greenhouse products from a firm located in Lansdale, destined for stations enroute, provided additional revenue for the company.

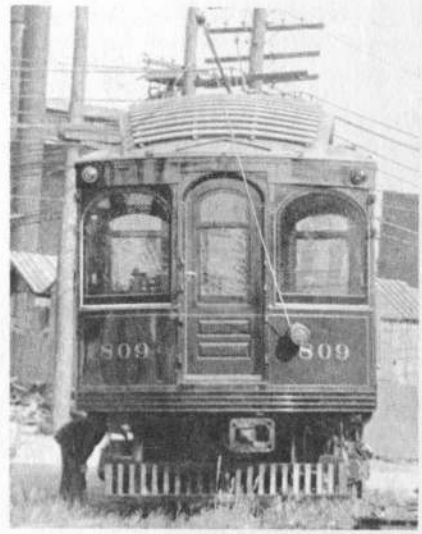
Company policy demanded meticulous grooming of 800 Series cars between trips. Charwomen thoroughly cleaned the interior while shop crews filled the water tank; installed new brake shoes, trolley wheels or shoes; and examined underside equipment from the inspection pit. Eventually, 14th Street Carbarn, built in 1907, by 1913 proved inadequate to accommodate the number of cars required to render proper facilities for Lehigh Valley area's expanding diversified industry. Consequently, after evening inspection and cleaning, shop crews placed 800 Series cars either on one of two outdoor storage tracks which paralleled Gordon Street.

Retention of the popular Liberty Bell Route identification and symbol by the transit company for Philadelphia Division's revised trackage via Norristown had been based on historical facts although track mileage constructed either on or adjacent to Bethlehem Pike, the route of the famous bell, had been reduced. Valley Forge, site of General Washington's winter camp for Continental Army during British occupation of Philadelphia in 1777 lays approximately six miles westward from Philadelphia and Western Railway Company's right of way and Zion Reformed Church tower, below which the bell had been safely hidden from the British Army. virtually shadowed Allentown terminus at Sixth and Hamilton streets and stands only a few hundred feet eastward from South Eighth Street.

"Save A Dollar" newspaper advertisements publicized the $1.86 round trip fare between Allentown and 69th Street Terminal via Liberty Bell Route's daily and Sunday hourly service between 7:00 a.m. and 10:00 p.m. as being one dollar lower and less time consuming than that offered by a competing steam railroad. In addition, the company

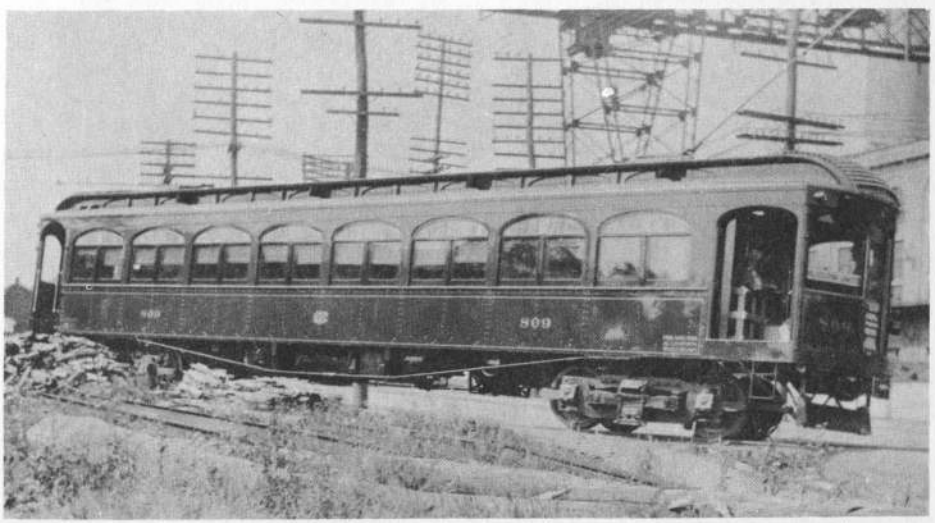



Orville S. Kulp




Howard P. Sell Collection

Comparison of car No. 801, original design, with car No. 809, revised design, July, 1913. Westinghouse couplers, hole above train door for connection of conductor's signal cords, whistle, and lack of roof mats on car No. 801 as compared to Tomlinson couplers, roof mat, water deflectors above train door, and permanent signal light system on car No. 809.




Howard P. Sell Collection

Car No. 809 stands on LVT's interchange trackage with Lehigh Valley Railroad Company along Front Street, Allentown, during the first week of July, 1913. The car had been assembled following its arrival from Jewett Car Company.

strung packs of hand bills on curbside hitching posts and placed, for convenience of the public, attractive colored brochures and timetables at stations and many business establishments along the route.

## SIX ADDITIONAL 800 SERIES CARS PURCHASED

Enthusiastic and favorable public response accorded the new service pleased officials; within one month holiday and weekend traffic had increased fifty-nine percent. President Stevens telegraphed Jewett Car Company on January 3, 1913, and ordered six additional cars, Nos. 806 to 811, two more than originally planned.

As a measure for more convenience to patrons, the transit company introduced a numbered stop system for Philadelphia Division local service effective February 6, 1913. Line crews fastened white painted boards, two feet by one foot in dimension and bearing black letters and numbers six inches in height, to power line poles at appropriate locations. Stops were numbered consecutively from No. 1 Chestnut Hill (Erdenheim), to No. 127, Emaus Junction (Emmaus Junction) and from No. 128, Wales Junction, to No. 141, Norristown Borough line. Passengers who resided in rural areas used local service between numbered stops and stations in order to patronize limited service. Agents located in stations sold tickets to limited and local patrons.

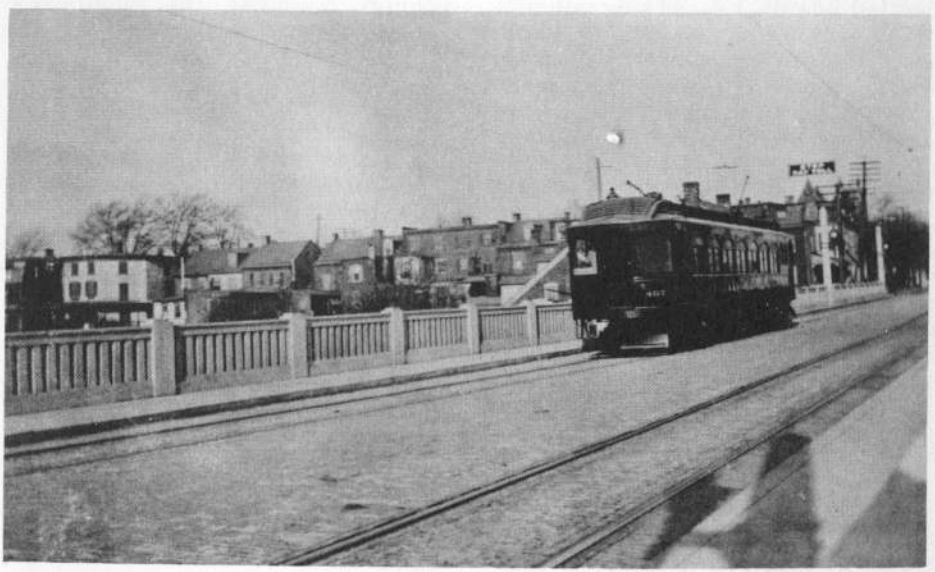
Liberty Bell Route's freight service also received official attention. During March, 1913, three large wooden body Jewett-built freight cars Nos. C5 to C7, six feet shorter in length than 800 Series cars but equipped with identical electrical and mechanical equipment, arrived at Riverside Yard, Allentown, to operate high speed freight service between Allentown and 72nd Street freight terminal located alongside Philadelphia and Western Railway Company's carbarn in Upper Darby. This service, plus auto truck operation to and from shippers and receivers in Philadelphia, replaced the previous arrangement with Philadelphia Rapid Transit Company at Chestnut Hill (Erdenheim).

Official regulations required a standard garb for all Philadelphia Division motormen and conductors effective April 1, 1913. Motormen, until 1932, dressed in white and indigo striped overalls and coats with nickel buttons and dark blue visor caps with silver pipings and conductors wore blue serge uniforms with brass buttons and blue visor caps with gold pipings. An appropriate bar for one year and a star for each five-year period sewn on the left sleeve near the shoulder indicated length of employment. Other furnishings remained the employee's choice.

Car bodies Nos. 806 to 811 arrived in Allentown during the first week of July, 1913, and were immediately placed on brass journal Brill MCB3X trucks already equipped with third rail accessories. The mechanical staff had recommended the change to the stronger, quieter, and smoother riding Brill product. A higher passenger entrance arch; proper passenger and trap door opening sequence; Tomlinson couplers; water deflectors above both train doors; conductor's signal cord strung along the left side of the aisle to operate a switch which controlled magnet valves and standard Westinghouse cab signal whistles at all control locations; oak roof mats; elimination of metal lined holes for conductor's signal cord for train operation because conductor's signal system functioned through train

**Howard P. Sell Collection**

Car No. 800, enroute to 14th Street Carbarn for servicing after completing a northbound schedule, moves westward on Gordon Street near North Twelfth Street, Allentown, summer, 1913.



**Elwood C. McElIroy Collection**

Southbound car No. 807, equipped with a snow shield over pilot, proceeds across Eighth Street Bridge, Allentown, winter, 1913-1914.

line; and a permanent electric marker and classification light system partially imbedded in the curved letterboard above end windows near corner posts represented revisions of original design.

Improved features of cars Nos. 806 to 811 were also incorporated into cars Nos. 800 to 805 to standardize operations and maintenance. Tomlinson couplers replaced the Westinghouse; conductor's signal system functioned through the train line; and plain brass bearings replaced roller bearings on Baldwin trucks as they became worn, but the trucks themselves were retained.

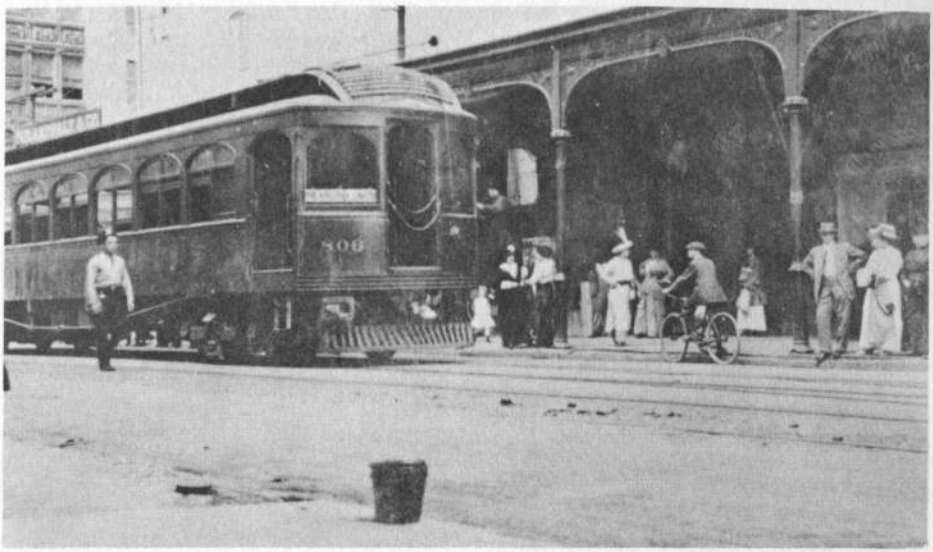
## TWO AND THREE-CAR TRAINS ESTABLISHED

Right of way improvements between Zion Hill and Souderton, the 1910-1912 rehabilitation program's final section, progressed sufficiently to permit initial two-car train operation between 69th Street Terminal and Allentown on Saturday, August 30, 1913, to facilitate voluminous Labor Day weekend traffic movements. However, between Sixth and St. John streets in South Allentown and Sixth and Hamilton streets terminus, one mile apart, cars operated singly. A lightweight bridge across Lehigh Creek, steep Lehigh Street hill, and short radius curves at South Sixth and Union streets and Lehigh and Union streets barred train operation.

The transit company's engineering staff, having adjusted plans for the second set of cars to correct original design errors, unwittingly created another by adding the imbedded marker and classification light system. When two cars of Nos. 806-811 group in a train negotiated short radius curves, the protruding metal frames brushed each other and smashed lenses. Electricians immediately removed the permanent electric signals from each car and carpenters skillfully fastened metal plates over resultant holes. Adlake oil lamps thereafter were placed in sockets which the builder had fastened to corner posts.

Single and two-car trains operated directly between Eighth and Hamilton streets intersection, the new terminus established in Allentown's business district, and 69th Street Terminal after Eighth Street Bridge had been opened from central city area to South Allentown on November 18, 1913. The 1,950 foot compound arch reinforced concrete structure which stood one hundred and thirty-eight feet above Lehigh Creek represented at that time the largest bridge of its type in the world. A subsidiary organization of the transit system built the structure. Lehigh Valley Transit Company surveyed, but never built, a direct route from the bridge's southern approach through Salisbury Township to a junction with Philadelphia Division trackage at the village of Summit Lawn located on Lehigh Mountain's crest.

Completion of roadway rehabilitation and Eighth Street Bridge's opening by early 1914 effected a reduction of time for a one way trip from two hours and fifteen minutes to one hour and fifty-eight minutes. As a result, Allentown's and Philadelphia's business districts, including subway-elevated service to and from 69th Street Terminal, were only two hours and fifteen minutes apart as compared to the four and one-half hour trip established in 1903 via Chestnut Hill (Erdenheim) and Philadelphia Rapid Transit Company's surface car trip. Improvements created the fact that the Liberty Bell Route had become the main public transportation artery between Allentown and Phila-



**Howard P. Sell Collection**

Car No. 806, assigned to a southbound schedule, being prepared for movement from northbound to southbound track before Allentown station located on east side of South Eighth Street near Hamilton Street in Allentown, 1914.

**Elwood C. McElIroy Collection**

Office staff and shop crew pose inside Fairview Carbarn, Allentown, shortly after it had been opened, May, 1914. Cars No. 801 and 803 plus two unidentified 800 Series cars are visible in the background. The 800 Series cars were the first to be transferred to the new facilities.

delphia. A business man referred to it as "The Prosperity Trail".

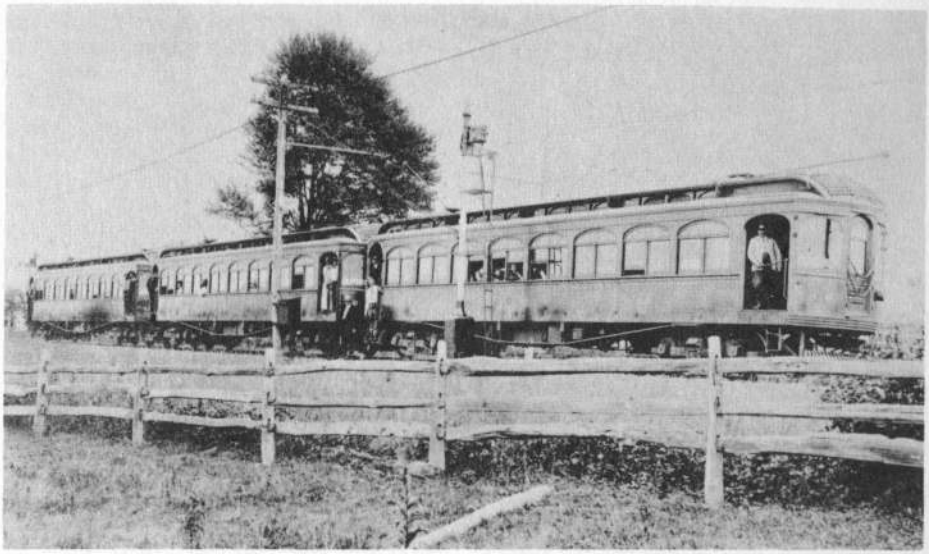
Spacious modern Fairview Carbarn located along Lehigh Street in South Allentown officially accommodated cars effective May 18, 1914, and replaced 14th Street Carbarn as the center of the transit company's operations. The latter became a shop facility after that date. Relocation of operations established another routine for reversing 800 Series car's operating and passenger entrance positions for southbound trips. During two-man operation between 1914 and 1932 cars having completed a northbound trip on the northbound track at Eighth and Hamilton streets intersection, with the motorman operating passenger end controls, returned to the carbarn through the trailing crossover, southbound track on South Eighth Street, and St. John and Lehigh streets trackage. Inside the yard near the entrance, cars negotiated a loop specially designed for reversal of positions and, after the crew rearranged both trolley poles and the motorman had moved to baggage compartment controls, entered the building for inspection and cleaning. This maneuver properly positioned cars for southbound trips. Also, effective with the new carbarn's opening, 800 Series cars usually stood undercover between trips.

Between 1914 and 1923 the southbound trip motorman, at passenger end controls, operated 800 Series cars directly from Fairview Carbarn to Allentown station via the same streets and northbound, instead of southbound, track on South Eighth Street. New trackage construction in 1923 along West Cumberland, South Lumber, St. John, and South Eighth streets as far as Lehigh Street created a new route for cars bound for Allentown's business district. Cars bound for the shops used original trackage. After a paving project caused abandonment of Lehigh Street trackage in 1934 between St. John and West Cumberland streets, all movements operated over West Cumberland and South Lumber streets trackage.

Southbound scheduled cars, between 1914 and 1918, arrived on the northbound track in front of Allentown station, located in the basement on the southeast corner of Eighth and Hamilton streets, moved through the trailing crossover to southbound track and then moved northward on the southbound track to the intersection for passenger loading from the west side of South Eighth Street. After the station had been moved to the west side of South Eighth Street in 1918 to a first floor location seventy-five feet southward from Hamilton Street, the same routine prevailed, except that passengers boarded the car before the station. Crews changed positions for every phase of these maneuvers.

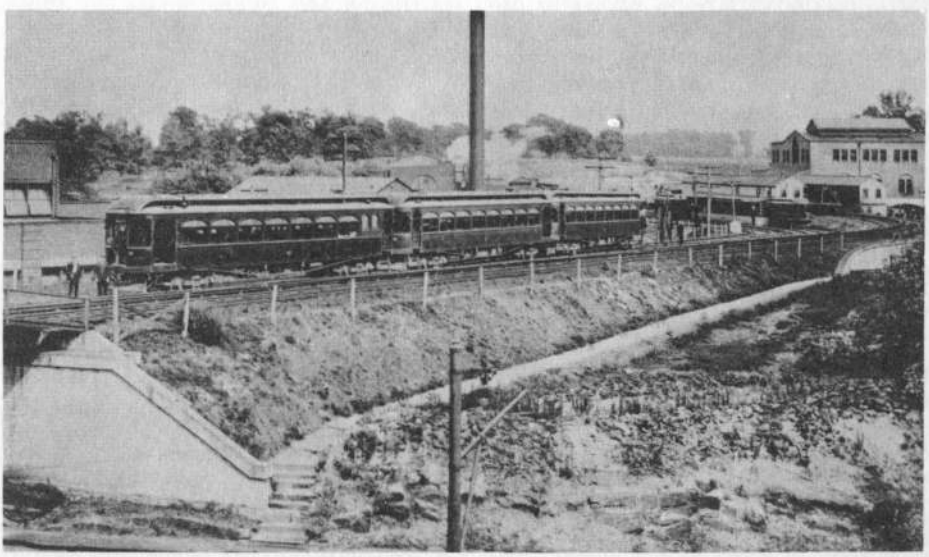
After a thorough study and planning had been completed, cars Nos. 809, 810, and 811 successfully operated a three-car train round trip test run on July 31, 1914, over Liberty Bell Route. Two extra crews accompanied the movement to operate cars if it would have been necessary to separate the train. As a result, additional substations were eventually installed at Summit Lawn, Quakertown, and Souderton, and thereafter three-car passenger trains appeared in weekend, holiday, and special service until 1935.

Two-car trains, either completing a northbound trip or preparing for a southbound trip, presented no unusual problems, but for three-car train accommodations, between 1914 and 1923, it was necessary to move the lead car partially around the westbound curve on South



**Charles W. Houser, Sr. Collection**

Cars No. 810, 809, and 811, performing the first three-car train experimental trip, halt in Brush Siding near Norristown for photograph, July 31, 1914. The train was southbound.



**Elwood C. McEllroy Collection**

Cars No. 811, 809, and 810, having completed a successful southbound three-car train experimental trip, stand on P&W's third rail trackage northward from 69th Street Terminal prepared for northbound movement, July 31, 1914.

Eighth Street onto Hamilton Street for clearance of the trailing crossover. A northbound-southbound facing point crossover installed in 1923 approximately one hundred feet southward from the station eliminated additional movements necessary to place a southbound scheduled car or train before the station. Single cars and two-car trains, having concluded a northbound trip on the northbound track returned to the carbarn via the trailing crossover and southbound track. After 1923 three-car trains, by operating through the facing point crossover, concluded northbound trips on the southbound track before the station; thereby, eliminating a partial movement onto Hamilton Street.

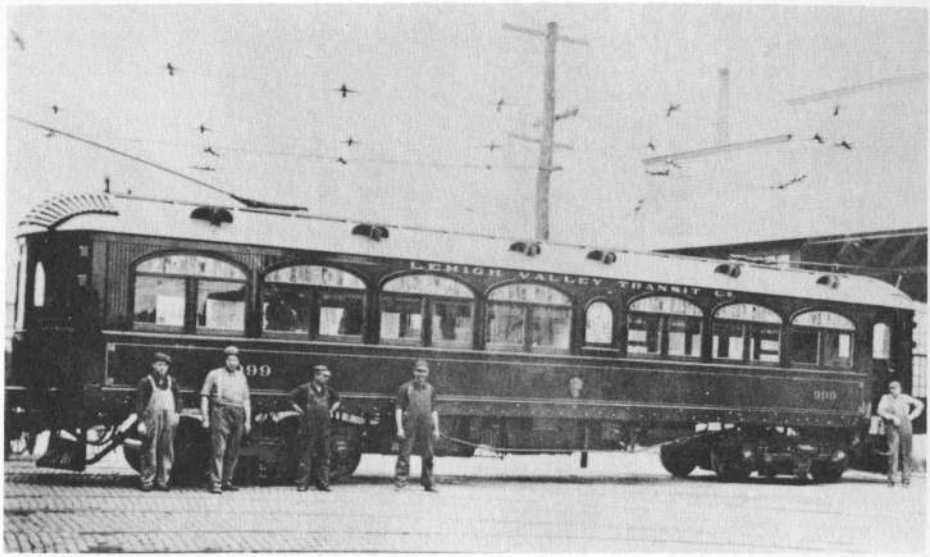
Lehigh Valley Transit Company established a standard train arrangement policy. During two-man operation between 1913 and 1932, two 800 Series cars were coupled at the passenger, or No. 2, end and three-car trains between 1914 and 1935, were arranged by coupling the third car's passenger end to the baggage end of the second car of a standard two-car train. Trains were arranged in 69th Street Terminal for northbound movements and at Fairview Carbarn for southbound movements. Two-car trains which had completed a northbound trip and assigned to the next southbound trip were not required to operate through Fairview Carbarn's reversal loop, but for three-car trains, in similar circumstances, it was necessary to reverse only the train's lead car (actually third car) as it arrived at the carbarn and place it as the lead car (actually third car) returning to the station for the southbound trip. Personnel accomplished similar maneuvers at 69th Street Terminal for northbound operations.

A motorman and one conductor manned two-car and three-car trains except that for three-car train operation a second conductor aided in ticket and fare collection between Allentown and Quakertown. Both road officer and conductor, while southbound passengers boarded either a two-car or a three-car train in Allentown, encouraged those bound for Philadelphia to enter the last car and those for station stops enroute either the first or second car. By having passengers grouped in this manner, the conductor handled all station loadings and unloadings at one entrance. Limited car conductors neither issued nor accepted transfer tickets either for or from connecting city or feeder routes.

In 1914 the transit company offered to local movie theatres for publicity purposes a one thousand foot thirty-five millimeter film entitled "A Honeymoon Trip To Delaware Water Gap". It followed the route of honeymooners from downtown Philadelphia through 69th Street Terminal to Kittatinny Hotel located on Delaware River's right bank approximately ninety miles northward from the city. The newlyweds boarded an 800 Series two-car train in the morning, dined at Hotel Allen in Allentown at noon, and arrived at the hotel's front door late in the afternoon on Stroudsburg, Water Gap and Portland Traction Company's car No. 5. Scenes of the right of ways, Allentown Fairgrounds, and various industries in the Lehigh Valley area provided additional interest.

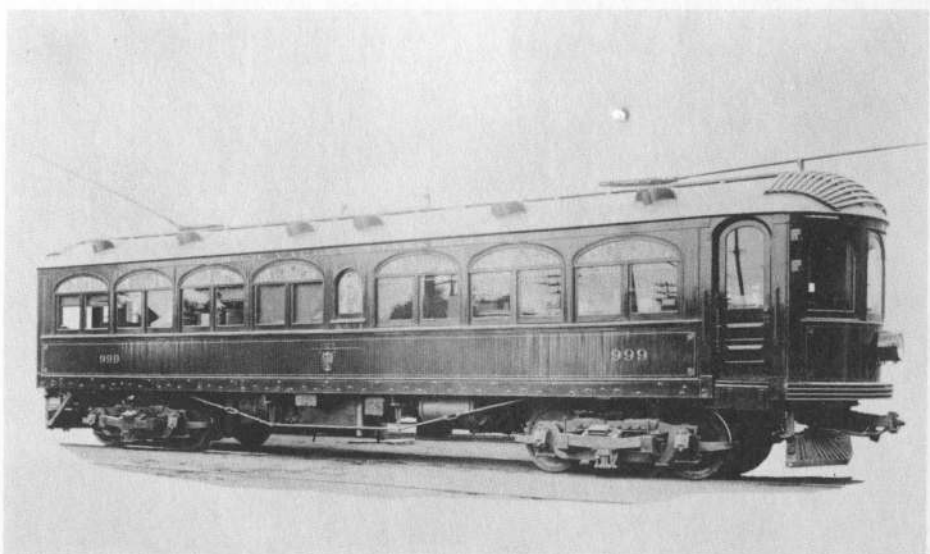
## PRIVATE INTERURBAN CAR NO. 999 BUILT BY LVT SHOPS

Superintendent Harry L. Branson in 1913 designed a fifty-foot wooden constructed private interurban car identified as No. 999.




**Elwood C. McElroy Collection**

Shop crew poses with private interurban car No. 999 on North 14th Street, Allentown, after it had been constructed in 14th Street Carbarn, August, 1914.




**Howard P. Sell Collection**

Lehigh Valley Transit Company's official photograph of car No. 999, September, 1914.

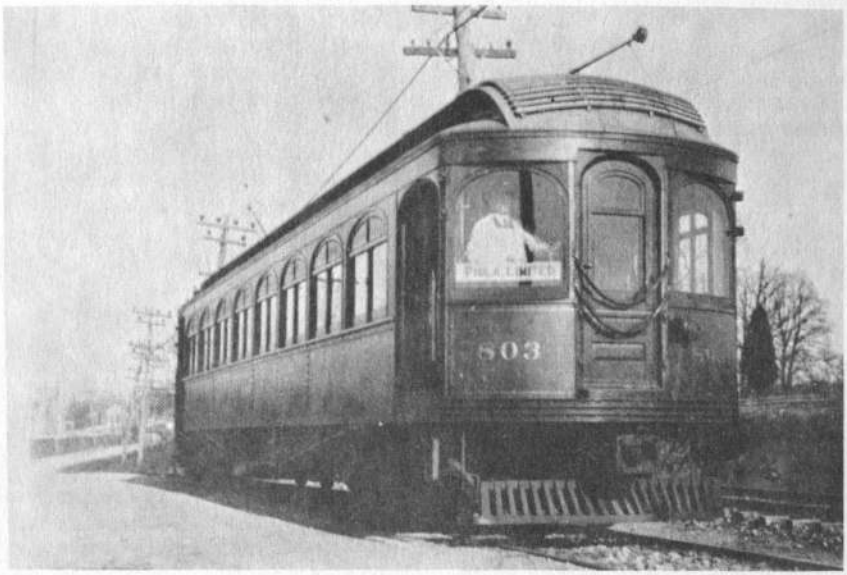
Construction plans utilized the floor of damaged St. Louis car No. 159. Carpenters of 14th Street Carbarn's staff dismantled the St. Louis car's structure until only the floor remained, moved the floor from the trucks onto wooden supports placed between tracks Nos. 7 and 8, and constructed No. 999's distinct features upwards from the base. Its physical characteristics reflected 800 Series cars' window arrangement plus the latest arch roof design and ventilation system adopted by car builders.

Distinguishing exterior features of the car which stood on two Baldwin 78-30A roller bearing trucks included wooden panel body, sashes, and frame with plate steel dashes; a high crown wood and canvas arch roof with twelve ventilators, a full length trolley board, and oak roof mats over each platform area; seven cream and green leaded cathedral panels, extending from front door to rear corner post on each side, spanned two one-quarter inch polished plate glass windows; a small arch leaded glass window at the lavatory, located on the left side from No. 1 end, separated fourth and fifth double windows and an identical window separated third and fourth windows along right, or aisle, side; a narrow letterboard separated windows and roof; three large arch windows provided adequate vision at each end; an arched passenger platform-street entrance at No. 1 end's right and left side's rear corner equipped with a retractible step which lowered simultaneously with raising of trap door; two combination flag and signal lamp brackets fastened to upper portion of each corner post; standard multiple unit type pilots fastened in line with corner posts under both platforms; Earll trolley rope retrievers, with rope fastened to poles, on body ends underneath the post which separated center and left side windows; a trolley retriever board and holder, located beneath center body section, held the retriever when forward pole was reversed for train operation with 800 Series cars; and a ten inch single tone whistle fastened above both motorman windows. The arrangement whereby left side windows extended from left front post to left rear door and right side windows extended from right front door to right rear post placed windows, posts, and cathedral glass windows along one side diagonally opposite those on the other side

Partitions divided the interior into six sections: drawing room, dining room, kitchen, lavatory, and two motorman cabs. General features for dining and drawing rooms included a double hardwood floor; varnished Philippine mahogany wood work from floor to ceiling; a light blue painted ceiling with gold stripes; ornate bronze reflector-type dome lights fastened to center of ceiling; bronze window fittings; brass door knobs, locks, and checks; Pantasote window shades; and electric heating system in ducts along floor; and a roof ventilating system. Thick green textile carpet completely covered dining and drawing room floors and linoleum covered kitchen and lavatory floors.

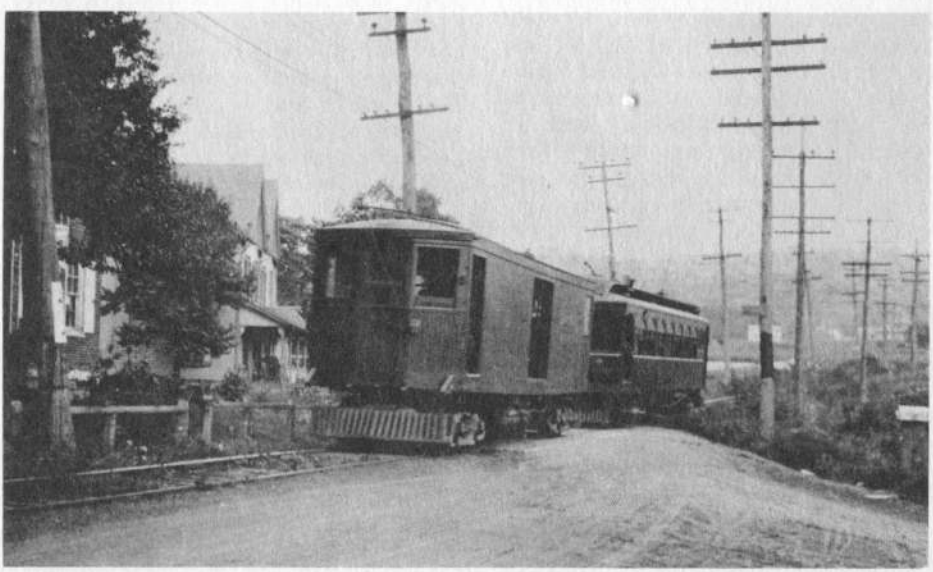
The dining room or forward section, included two small tables with three chairs along right side windows and three larger tables with four chairs along left side windows. A china dinner set fired with the company's Liberty Bell insignia, finest table linens, and sterling silver ware and coffee urns comprised service facilities. A short aisle led from dining room along right side windows to kitchen, lavatory, and drawing room.

Drawing room, or No. 2 end, furnishings included five individual custom genuine leather upholstered




**Howard P. Sell Collection**

Southbound car No. 803 approaches Church Siding from Center Valley along original right of way, circa, 1914.



**Wilbur E. Wyckoff Collection, North Jersey Chapter, N.R.H.S.**

Freight car No. C1, pulling mal-functioning No. 800 back to Fairview Carbarn, crosses Brookdale Avenue near Emaus Junction in the village of Mountainville, circa, 1916.

chairs along right side; two identical chairs and one sofa along left side, all facing the aisle; polished brass cuspidors; cigar humidor; ash trays; match striker plates; and a liquor cabinet standing against lavatory-drawing room partition. A door with handle, lock, window, shade, and check opened into aisle leading to drawing room.

The kitchen, located on left side at fourth pair of windows, contained a two-burner plate electric stove; sink with water faucet; refrigerator; and a china and linen cabinet. A compressed air pump attached underneath the floor forced water from storage tank into kitchen and lavatory facilities.

A white tile lavatory, located along left side at the single colored leaded arch window, separated kitchen and drawing room compartments. Furnishings included an Eckert flush-type hopper, basin, water faucet, light fixtures, plate glass mirror, and liquid soap and paper products dispensers. A solid door with handle, check, and lock opened from aisle into lavatory. Drinking water accommodations included a faucet and paper cup dispenser on lavatory wall facing drawing room.

Panels and door with window, shade, and lock separated compact motorman cabs, located at right front and left rear corners, from dining and drawing room compartments. Both cabs contained identical equipment: a train order clip board; controls; whistle cord; gauges; engineer's valve; and sundry switches. A cabinet attached to No. 1 end cab's wall provided storage space for miscellaneous equipment and contained main switches and overhead-third rail changeover knife switch The motorman sat on a chair, which he himself supplied, over trap door.

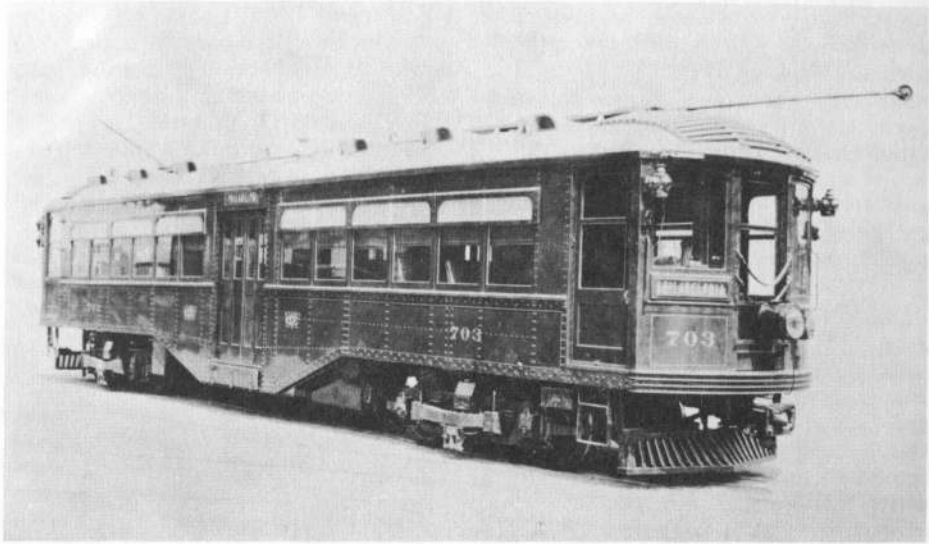
Electrical and operating equipment were basically identical to those installed in 800 Series cars with a few exceptions: bronze hand brake wheels; long poles arranged so that they could be turned rearward when operating in trains with the higher 800 Series cars; and third rail accessories equipped with adjustable beams so that the car could operate over trackage on paved streets without the shoes striking high areas.

Sand boxes were located unobscurely near the front left and right rear corners. The portable headlight hung on a bracket permanently fastened to the dash underneath the middle window at each end.

Painters applied, with a few variations, the company's standard green and gold paint scheme adopted in 1912: gold Liberty Bell insignias rather than monograms, ornate striping, and "Lehigh Valley Transit Co." stencilled on letterboards above side windows.

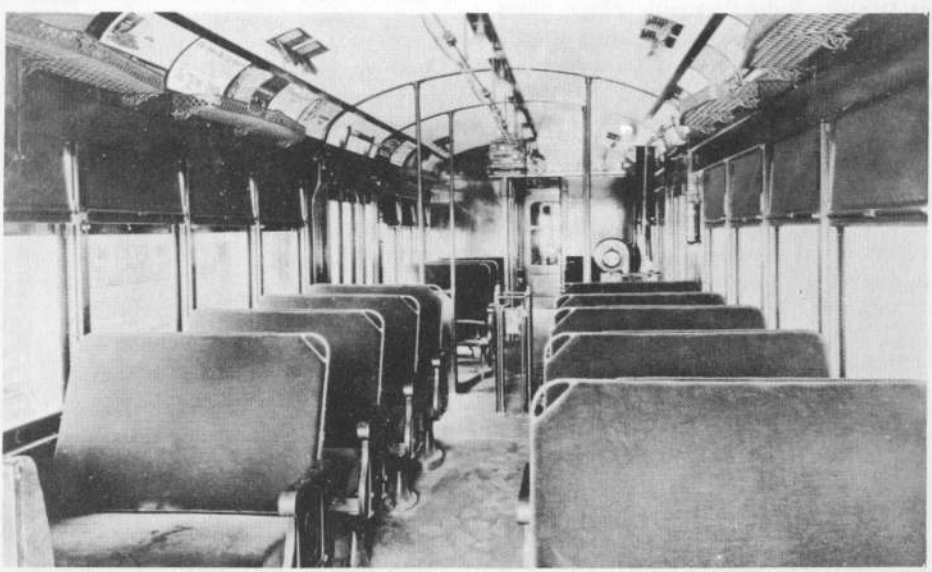
Lehigh Valley Transit Company officially entered No. 999 on the roster on September 3, 1914. Thereafter, although operations had been moved to Fairview Carbarn in spring, the car remained between assignments undercover in the carpenter shop at 14th and Gordon streets alongside the main office. Company rules demanded that the car be rigidly inspected and cleaned immediately after each assignment in preparation for the next trip. Storage of linens, silver ware, china dishes, cigars, and liquor required that the car be locked at all times. Officials entrusted keys to selected personnel.

Simultaneously with car No. 999's entry onto the roster the company established a crew member selection along with regular Philadelphia Division runs available to employees




**Howard P. Sell Collection**

Car No. 703 posed for official photograph at 14th Street Shop, Allentown, summer, 1916. The chimney had been removed and the coal stove had been replaced by a double walkover seat for summer operation.



**Howard P. Sell Collection**

Interior view of car No. 709 from No. 2 end toward No. 1, or smoker, end summer, 1916.

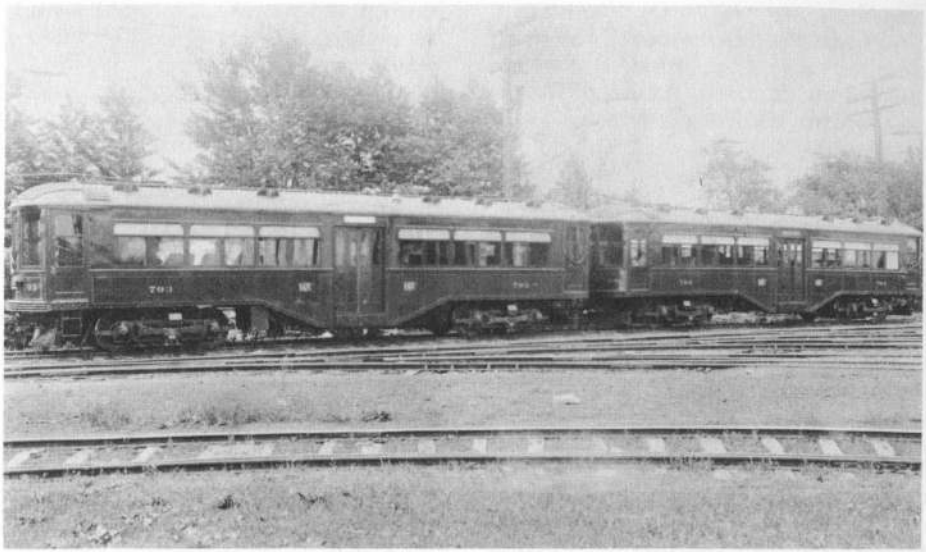
according to seniority standings. When car No. 999 operated, the crew member who had selected the arrangement donned a white pullman-type porter coat and attended passengers' needs. In performing required duties he served as conductor, chef, waiter, guide, and bartender. In Philadelphia Division service the car usually appeared in a train behind an 800 Series car maintaining a regular schedule but in city and suburban service it operated as a single unit. Whenever the car operated singly a motorman, temporarily assigned from Philadelphia Division's list, operated the car. Although car No. 999 appeared mostly on Liberty Bell Route trackage during its service assignments it operated over Slatington Division as far as Schnecksville, to Pen Argyl over Nazareth Division and Slate Belt Electric Railway Company's trackage, and to Easton over Easton Division trackage.

As a charter service medium car No. 999 failed in its purpose but succeeded for non-revenue producing official business and the transit company's participation in civic affairs. Honorable Edwin Brumbaugh, governor of Pennsylvania, and Honorable William Howard Taft, former president of The United States, represented the car's two most distinguished guests. Car No. 999 conveyed the governor northward from Upper Darby on July 1, 1915, during a state-wide observation tour and the former president on December 23, 1915, to deliver the main address at the dedication of Allentown General Hospital Nurses Home. Both gentlemen departed from Allentown via a steam train.

Miller trolley shoes, or slides, standard equipment on all 800 Series cars after successful experiments on Easton Transit Company's 214 Series steel limited cars in 1916, improved current collection, reduced arcing, and eliminated schedule interruptions caused by trolley wheels shattering during maximum speed operation. By January, 1921, all Philadelphia Division local, limited, freight, and utility cars had been similarly equipped. The trolley wire required a special lubrication to prevent excessive wear after slides had been installed on cars. For this unusual service the transit company altered and equipped standard semi-convertible passenger car No. 189 with separate air compressors and grease containers. Copper tubing and hose extended from grease receptacles inside the car through the roof and along both poles to within one inch from the ends of the slides. Both poles, one for lubrication purposes and the other for current collection, with the forward pole being turned backward, were raised for greasing operation. As the car moved slowly over Philadelphia Division once per month a lubricant mixture was discharged on the wire. In 1937 former Easton Transit Company's passenger car No. 211 replaced No. 189 and in 1949 emergency car No. 79 replaced No. 211.

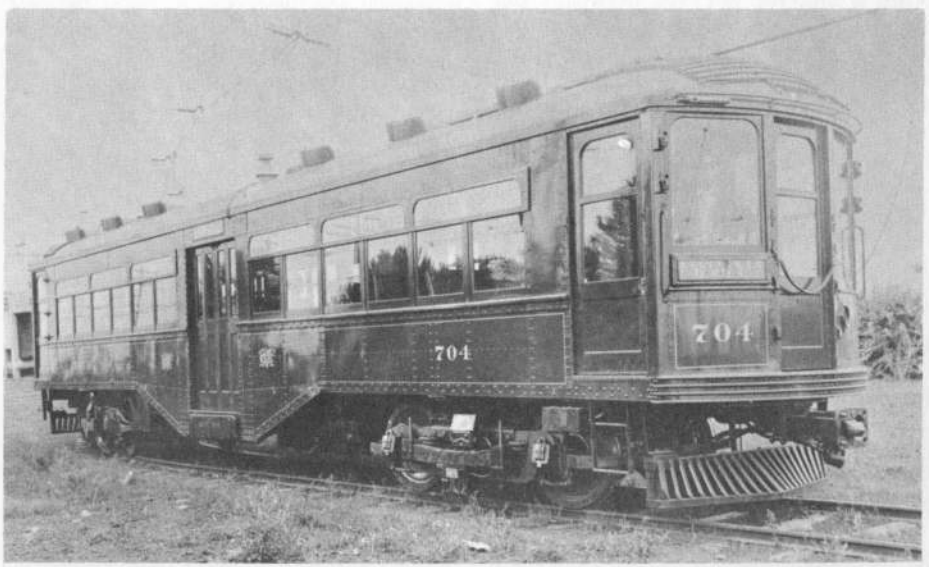
## TWELVE 700 SERIES CARS PURCHASED

Mr. Harrison R. Fehr, Lehigh Valley Transit Company's president, early in 1916 recommended to the board of directors the purchase of new cars for both Philadelphia Division's local and Allentown Division's city-suburban services. Ensuing conferences with the transit company's Allentown, Philadelphia, and Easton Division engineers and Philadelphia and Western Railway Company's officials produced data from which Mr. Fehr and Superintendent Harry Branson designed a double end universal center entrance car adapted to limited interurban, city, and suburban services.



**Howard P. Sell Collection**

Cars Nos. 703 and 704, coupled as a two-car train, stand before Fairview Carbarn, summer, 1916. The 700 Series cars appeared as two-car trains only in main line service.



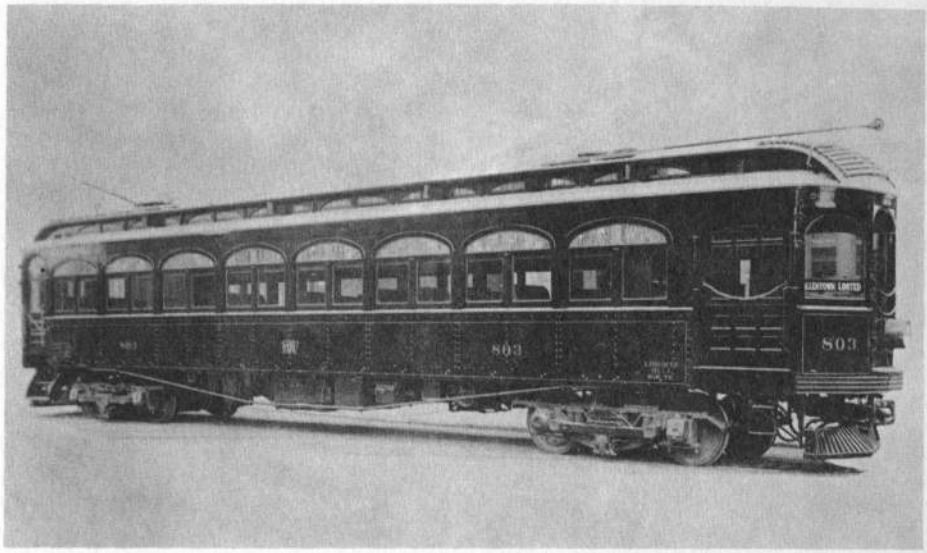

**Howard P. Sell Collection**

Car No. 704 stands on reversal loop trackage at Fairview Carbarn, Allentown, autumn, 1916. Coal stove and chimney have been installed for winter operations.

Mr. R. P. Stevens, Mr. Fehr's predecessor, had reserved the 700 Series classification for Philadelphia Division's high speed local cars in 1912. Overall dimensions of private interurban car No. 999 influenced plans for 700 Series cars. In spring, 1916, the company ordered cars Nos. 700 to 711 inclusive from Southern Car Company, High Point, North Carolina, at a cost of $12,000 per car.

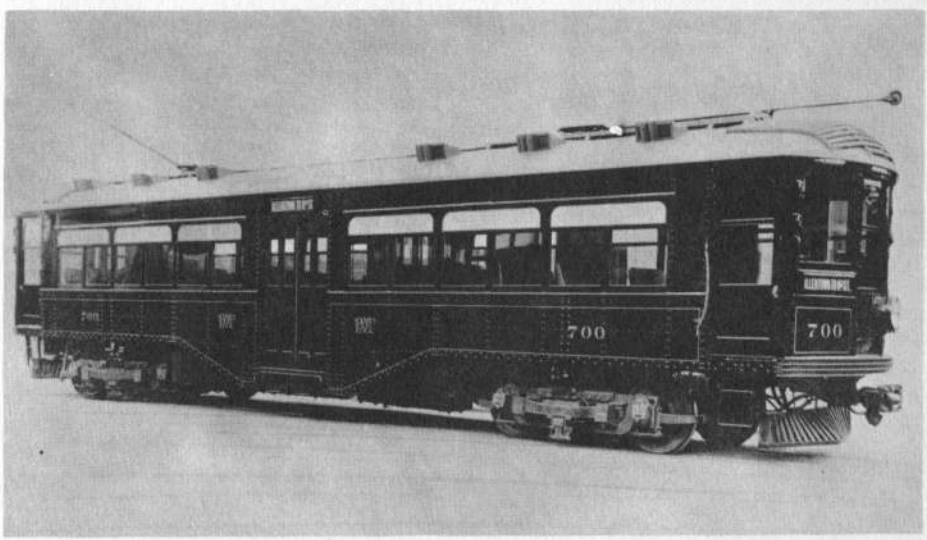
Distinguishing exterior features of the fifty-foot all steel body standing on two Brill MCB2X trucks included steel plate body and frame; a cork insulation and canvas and wood covering over an inner steel arch roof; twelve roof venilators, three on each side of center entrance area on both sides; oak wood mats on roof over platform areas; metal chimney on roof near center entrance on right side toward No. 1 end; train doors with a semi-rounded sectioned window; two leather covered chains and hooks at train doors to allow conductor's safe passage between cars coupled in a train; platform entrance doors with bronze hardware at each corner with rounded sectioned windows; leather covered protective chains at each motorman's door; two large street loading center entrances, one on each side, with double mechanical outward folding leaf doors, one interior step and one step which folded outward; three sets of rectangular semi-rounded rib designed milk white upper sash windows spanning two plate glass windows flanked both center entrances — the lavatory window, the last window on the left side being frosted; windows, when raised, afforded an unobstructed view; a large semi-rounded double plate glass window, the left side being sectioned, flanked both train doors; roller destination signs, illuminated at night, located above each center entrance and in the lower portion of each motorman's window; brackets for flags and Adlake oil signal lamps at each corner post below roof base level; ten-inch whistles above both motorman's window; brackets, braces, and strap iron bars at each train door for portable headlight installation; stirrup steps and grab handles at each platform door; foot clips on body and oak ladder on roof opposite motorman's door permitted access to roof equipment; one stationary Ohio Brass Company trolley retriever with rope fastened to the pole, located under left window at both ends; anti-climbers at both ends and standard multiple unit type pilots attached to body frame underneath each platform. The color scheme complied with LVT's standard style for all cars — a medium chrome green varnished body; gold striping, monograms, and medium size numbers; chrome yellow roof; black anti-climbers, headlight, and undercarriage. Each fully equipped car weighed thirty-five tons.

Partitions divided the interior into lavatory, smoker, coach, and two motorman cab sections. Twelve doors permitted exit-entrance, passage between two cars in a train, and access to compartments: two train, four platform, two street loading, one smoker, one toilet, and two cab. General interior features included right side heating ducts leading from a Cooper B-5 forced air coal stove located at center entrance toward No. 1 end plus a pipe which led to the chimney; Consolidated electric heaters beneath seats along left side; steel interior ceilings; #18 gauge sheet steel floor covered by 7/8 inch maple wood boards, 1 inch cork, and 5/16 inch thick linoleum; advertising card racks above side windows; Pantasote window shades; an individual double bronze tray-type baggage rack above each double window; bronze window fittings; twelve ventilator louvres and covers; mahogany sashes, doors, and




**Howard P. Sell Collection**

Car No. 803 posed in 1918 for equipment record purposes at 14th Street Shop, Allentown. Note trolley wheel attached to pole at No. 1 end and a slide at No. 2 end, whistle on roof, and one roller bearing journal and one plain bearing on forward truck.




**Howard P. Sell Collection**

Car No. 700 posed at 14th Street Shop, Allentown, in 1918 for equipment record purpose. The coal stove had been removed to provide additional seating accommodations during the summer season.

ceiling trim; steel rods with wooden grips, fastened to ceiling above center aisle, extended to a three-dial Ohmer fare register attached to coach side of coach-smoker partition; a conductor's leather signal cord suspended from ceiling above center aisle; signal button for passengers' convenience on window post at each seat; and 16 candlepower lamps in Holophane glass reflectors attached to a car-length narrow board fastened to the ceiling above center aisle.

A white enamel lavatory, located next to No. 2 end motorman's cab, included a door with check and lock; running water supplied by a tank; a light fixture, a flush hopper, basin, mirror, liquid soap dispenser, paper products dispensers, and linoleum floor. A drinking water faucet and paper cup dispenser were located in a recessed area on the exterior wall along the aisle. A small cabinet above the lavatory provided storage facilities for signal-marker lights.

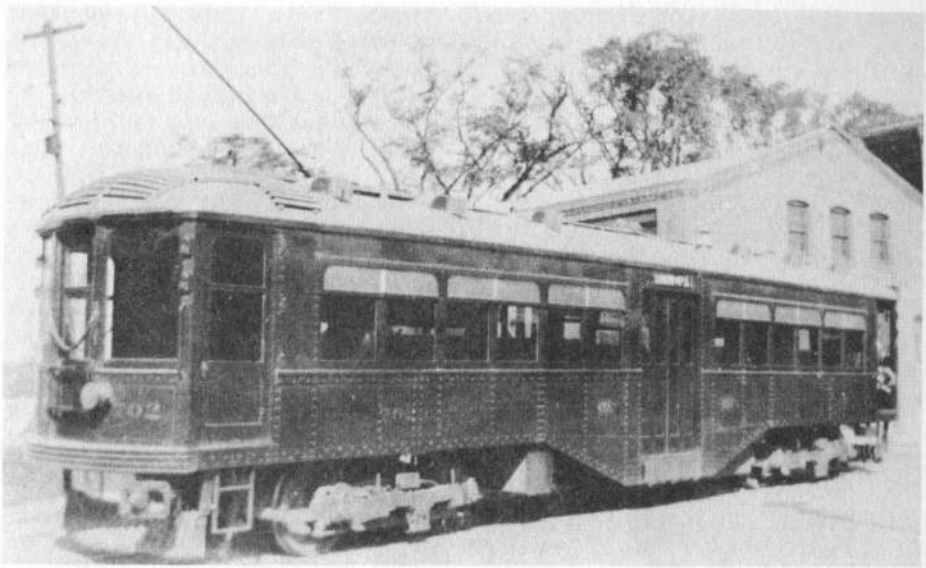
The coach section contained thirteen green plush walkover seats with head and armrests, brass handles and check holders; and three stationary and one side seats; short protective mahogany panels fastened to pipes which extended from floor to ceiling along both sides of stairway at both center entrances plus a double capacity wooden folding seat attached to all four panels; a fire extinguisher which hung in brackets at right side center entrance doorway; and a conductor's steel center post equipped with two door rods and handles which mechanically and individually operated each center entrance door. Removal of coal heater during summer months provided space for another double walkover seat.

Smoking compartment features included four black leather walkover seats with armrests, head rests, and check holders; two stationary seats standing against smoker-coach partition; one side seat; several cuspidors; and match striking plates at window posts. Solid mahogany panels, which extended from floor to ceiling, and a door with window, shade, and check separated smoker and coach sections.

Sand boxes were hidden underneath left front and right rear side seats.

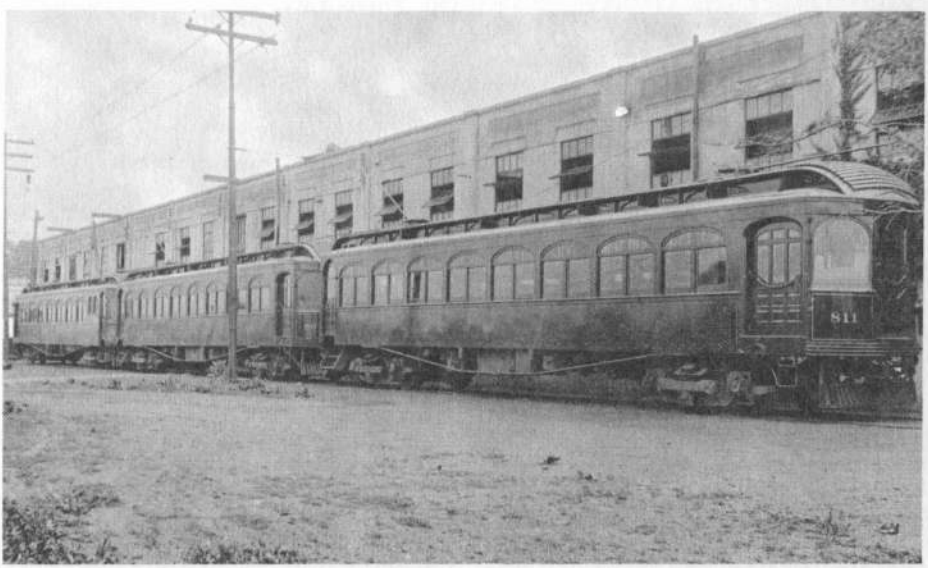
Equipment in each small make-up motorman cab, separated from either smoker or coach section by mahogany panels and a windowed door with handles and locks, included controls and a double wooden folding motorman's seat permanently fastened to posterior wall. A cabinet, recessed in No. 1 end's cab exterior wall, contained main electrical switches. Crews usually stored the portable headlight and train line jumper cables in the seldom-used No. 2 end cab.

Electrical and mechanical equipment were conveniently and appropriately distributed throughout the car's structure. Motorman cab equipment included a Westinghouse C36 AL controller, on right side, with a compact removable handle which returned to off position by a spring unless held firmly; a notching relay button for manual acceleration; a Westinghouse AMM 85-100 pound pressure engineer's valve; valves for selecting straight or automatic air; a Horne hand brake; Duplex air gauges; headlight switch; control circuit and breaker reset switches; conductor's signal whistle; air warning whistle; foot gong; door indication lamp; and sander valve. Recessed in No. 1 end cab's interior wall was a switch panel which contained an overhead-third rail changeover knife switch and lighting, heating, and compressor



**Howard P. Sell Collection**

Car No. 702 stands on trackage at Chestnut Hill station, Erdenheim, circa, 1919.




**Elwood C. McElIroy Collection**

Cars No. 811, 807, and 805 stand on No. 0 track alongside Fairview Carbarn before leaving for Allentown station and an assignment to a southbound schedule, summer, 1919.

switches and fuses. Two Westinghouse 547A motors, which developed eighty horsepower, were installed in each truck equipped with four thirty-six inch wheels, 5½ inch diameter axles, plain bearings, journals, and maple wood adjustable third rail beams, brackets, and shoes. Installations for multiple unit train operations included a nine point control line jumper and receptacles located on the left side of Tomlinson form 16 couplers. Air compressor and reservoirs; switch group container; cables leading from either the third rail shoes or poles to motors; resistors; fuse boxes; rerailer; jack and handle; brake equipment; line switch; and reverser were attached to the floor's underside. Roof equipment included two long trolley poles with wheel, stand, springs, and hook; cables from trolley stand to switch board; and a spare pole securely fastened to the trolley board. Two red, green, and white flags and Adlake oil lamps, with body painted the color of the lens, hanging in corner post sockets comprised the classification and marker light system. The portable arc headlight, fastened to removable strap iron bars across train doorways, drew electricity through wires and a plug which fitted into a receptacle located underneath the anticlimber left of the train door.

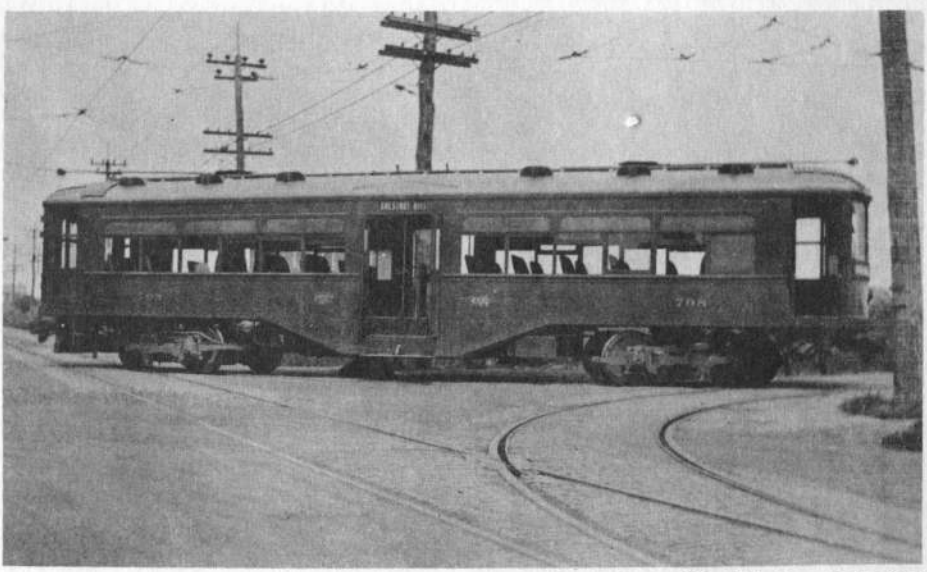
The 700 Series cars arrived at Riverside Yard, Allentown, via Lehigh Valley Railroad Company during late August, 1916. Transit company maintenance employees placed the bodies on trucks, connected motor leads, and operated the cars under their own power to Fairview Carbarn for further inspection and adjustments. By the middle of September the company had assigned eleven cars to Souderton Carbarn, Philadelphia Division's local operation center, at intervals and withdrew 137 Series St. Louis cars which maintained hourly Allentown-Chestnut Hill local schedules. Car No. 706 has been recorded as the first car entered in revenue service. One 700 Series car remained at Fairview Carbarn for spare and emergency assignments. Several St. Louis cars remained on Souderton Carbarn's roster to serve regular half hour Lansdale - Norristown schedules which met 700 Series cars maintaining Allentown-Chestnut Hill schedules at Lansdale and half hour Lansdale - Chestnut Hill schedules which met 800 Series limited cars at Lansdale. The transit company relocated Souderton Carbarn's recessed doors flush with the building line to provide sufficient storage space for two 700 Series cars on each of four tracks.

In pursuing Allentown - Chestnut Hill schedules, 700 Series cars departed on northbound trackage from Allentown's Eighth and Hamilton streets intersection at the same time the southbound limited car departed on southbound trackage from the same intersection for 69th Street Terminal. Local cars, however, used Union Street Loop trackage via Hamilton, South Sixth, and Union streets to gain entrance to Eighth Street Bridge and limited cars proceeded directly southward from the station. When local cars arrived at the bridge's entrance limited cars had already crossed the bridge. Allentown - Chestnut Hill schedules consumed two hours and twenty-five minutes for the forty-seven and seven-tenths mile trip.

Primarily as a safety measure motormen operated single 700 Series cars in local operations from No. 1 end controls because of the proximity to switch cabinet. In Allentown, operation of 700 Series cars over Union Street loop trackage required no reversal procedure, but Chestnut Hill station's dead end trackage demanded several movements

**Howard P. Sell Collection**

Southbound car No. 809 prepares to leave Allentown station on South Eighth Street on a bleak winter day, 1919.



**Reverend Samuel P. Worthington Collection**

Car No. 708 derailed from wye trackage which led from main line along Summit Street to Souderton Carbarn, circa, 1920.

through a wye leading from trackage on Bethlehem Pike to the station. Cars from Allentown entered station trackage through the wye's north leg, unloaded passengers at the station, backed from station trackage onto highway trackage via the south leg, moved forward to the north leg, re-entered station trackage via the north leg, loaded northbound patrons, and departed for Allentown through the north leg. Wye trackage which led from the main line to Souderton Carbarn provided reversal facilities approximately midway between Allentown and Chestnut Hill.

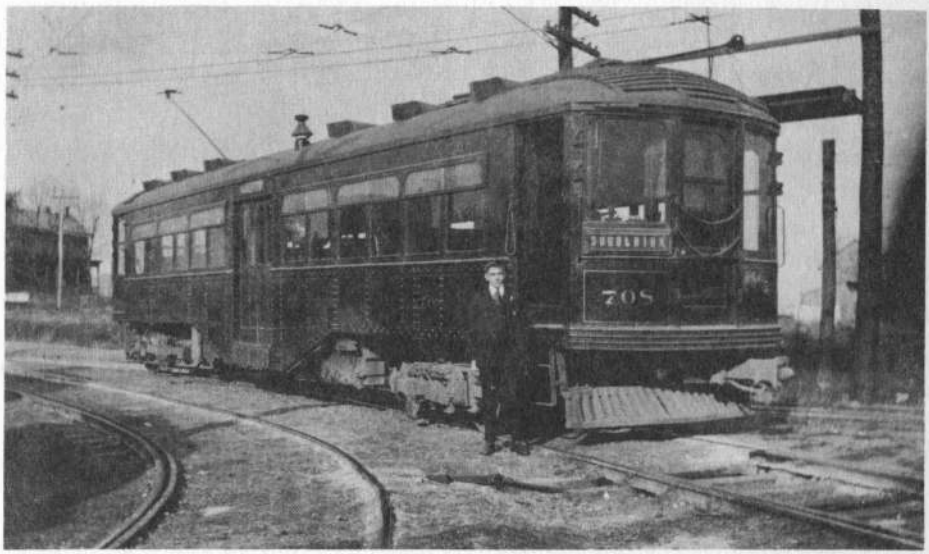
The 700 Series cars' couplers, third rail equipment, and train doors permitted assignments to Liberty Bell Route's limited service on weekends and holidays either as two-car trains or as a third car in a train headed by two 800 Series cars. Although 800 Series cars' WH303A motors and 22:55 gear ratio differed from 700 Series cars' WH547A motors and 25:62 gear ratio, one 700 Series car could, according to the engineering department's decision, operate successfully with two 800 Series cars because of the characteristics of series motors.

Fairview Carbarn shop crews substituted 137 Series St. Louis cars for 700 Series cars which maintained northbound local schedules at 8th and St. John streets in Allentown during most Friday evenings and holiday eves between 1916 and 1932. Night shift charwomen and maintenance crews groomed center entrance cars for train service scheduled for the following day or weekend. On Monday morning or the day following a holiday shop crews substituted 700 Series cars which had remained overnight at Fairview Carbarn for St. Louis cars which maintained northbound schedules. Occasionally, dispatchers ordered 700 Series cars to be returned to Souderton Carbarn from either Allentown or 69th Street Terminal in trains either with regular 800 Series cars or with freight movements. Whenever necessary a 700 Series car replaced a mal-functioning 800 Series car in regular limited service in the Souderton area.

The transit company established standard train arrangements for two-car trains composed of two 700 Series cars and three-car trains with two 800 Series cars and one 700 Series car. When two 700 Series cars appeared in a train, shop crews coupled the second car's No. 1 end to the first car's No. 1 end. As the third car with a standard two-car train of 800 Series cars the 700 Series car's No. 1 end was coupled to the second 800 Series car's No. 2 end. In train service a 700 Series car's seating capacity could be increased from forty-eight, normal consist, to sixty by utilizing both double seats in motorman cabs and the four folding seats attached to side protective panels at both center entrance steps. In the latter arrangement, rarely used, shop crews placed boards over both stairways at floor level.

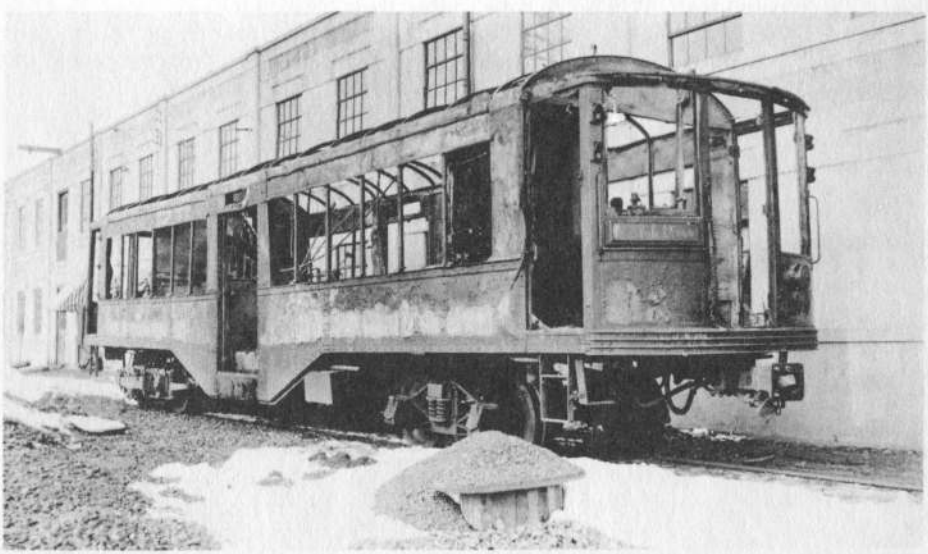
Long trolley poles presented a problem when the lower 700 Series cars appeared in trains with the higher 800 Series cars. As with car No. 999 the pole of a 700 Series car could be turned rearward and secured by a hook fastened near the roof's center. Under these conditions the trolley rope, snubbed around the retriever, dangled loosely across left side windows. Later, a board with a holder was fastened at the side beneath floor level on each side of center entrance so that the retriever could be moved from its normal mounting to the temporary arrangement.

Constant use in Philadelphia Division weekend and holiday limited




**Reverend Samuel P. Worthington Collection**

Car No. 708 stands before Souderton Carbarn after concluding a local schedule assignment, circa, 1920.



**Howard P. Sell Collection**

Car No. 707, reduced to a shell by fire after striking fallen overhead wire during a sleet storm, stands on No. O track alongside Fairview Carbarn, Allentown, March, 1920. Eventually, the mechanical department restored it to original structure.

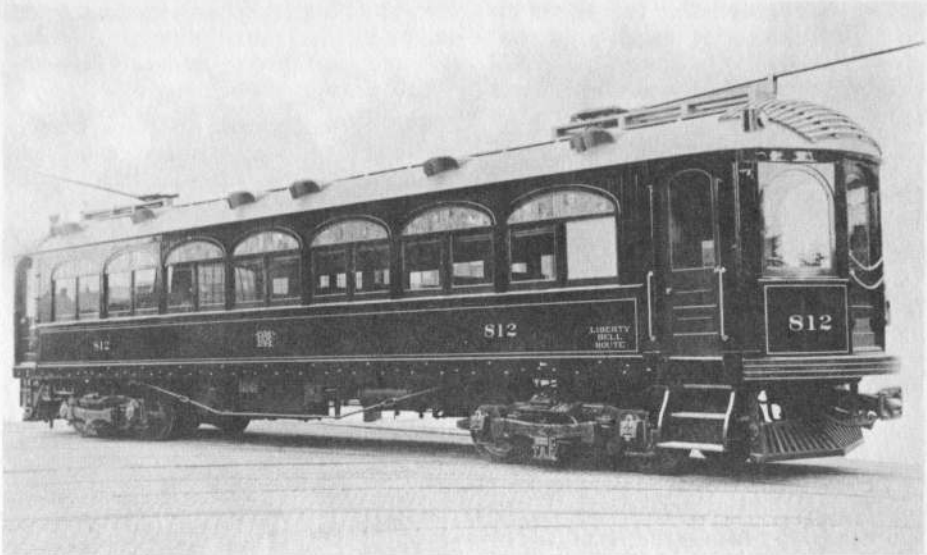
service eliminated the full development of 700 Series cars' universal phase. Slow automatic motor acceleration, inability to negotiate short radius curves, and narrow bridge clearances also limited their city service appearances mostly to extra service during Allentown's Saturday night shopping hours, Allentown playgrounds' annual Romper Day exercises, Central Park's summer theatre programs, picnic specials, and week-long Allentown Fair. Later, a 700 Series car assigned to regular Allentown-Coopersburg rush hour service operated over Gordon Street loop via North Twelfth, North Seventeenth, and Hamilton streets for several years and another car occasionally operated evening rush hour service between Allentown and Gauff's Hill in Salisbury Township along Allentown-South Bethlehem route.

Lehigh Power Securities Corporation, a National Power and Light Company subsidiary, acquired control of Lehigh Valley Transit Company on July 19, 1917, and procured Electric Bond and Share Company's managerial service. During autumn, 1917, the new managers changed the standard chrome green, gold, and chrome yellow paint scheme to bright red, gold, and tan. The 700 Series cars, having just been built, were the last cars to be painted red; however, 800 Series cars received the new paint scheme during 1918. For a brief time, as a convenience for Philadelphia Division's dispatcher located in Wales Junction tower, numbers appeared on roofs of all 700 Series cars and two St. Louis cars. As a result of change in ownership, financiers in New York replaced investors in Philadelphia as directors of Lehigh Valley Transit Company's policies, and car No. 999's official assignments over Liberty Bell Route came to an end. For several months the car stood in its customary storage location at 14th Street Shop. When management changed the transit company's color scheme, the program excluded car No. 999.

Between 1913 and 1918 the transit company applied only minor adjustments to 800 Series cars. In addition to replacement of trolley wheels with slides, Ohio Brass Company retrievers replaced Earll; a motorman's train order clip board installed near No. 1 end controls; forward whistle moved from above motorman's window to a lengthwise position across roof mat over baggage compartment; golden glow incandescent lamps replaced arcs in headlights; and train line sockets moved from body corners to coupler body. Car No. 999's only notable alteration was the replacement of Baldwin 78-30A trucks with Brill MCB2X in 1916.

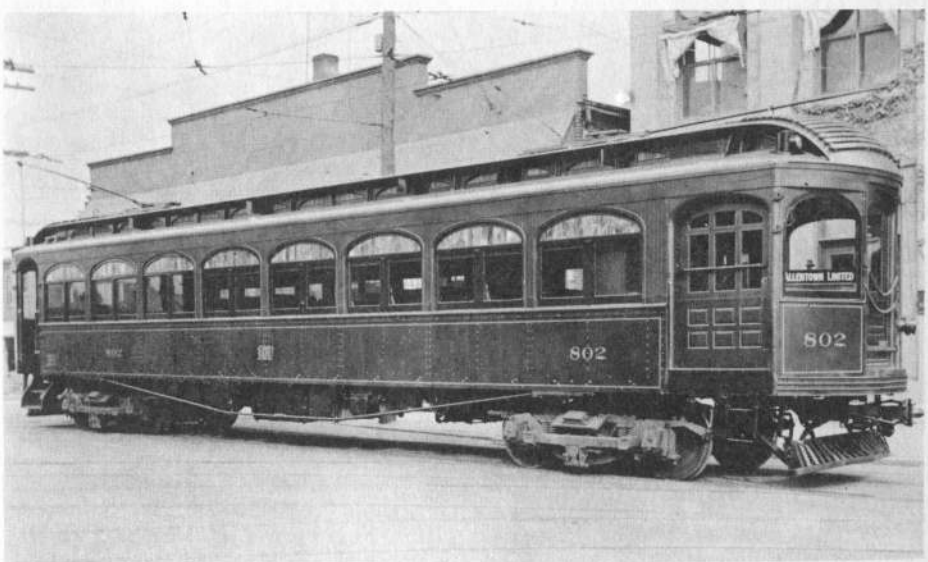
## FIRES DAMAGE 700 SERIES CARS

Fires which started in the roof virtually consumed two 700 Series cars. Car No. 700 on April 11, 1918, at Oakland located between Souderton and Gehman's Bridge and No. 707 on March 5, 1920, at Rock Hill located between Cope's Siding and Biehn's Bridge in the Telford-Sellersville area, struck charged fallen overhead wire during sleet storms. The wet canvas and wood covered outer roof and water soaked cork insulation conducted direct current to the inner steel roof and started a conflagration. In both instances crews could not prevent the cars' reduction to twisted steel masses. The 14th Street Shop in Allentown completely rebuilt Nos. 700 and 707 from the remains, hollow shells, and stenciled "Rebuilt by LVT" above numbers painted on interior bulkheads. Thereafter official rosters listed the transit company as builder of both cars. Car No. 700 returned to service on May 6, 1919, and No. 707 on February 8, 1921.




**Howard P. Sell Collection**

Car No. 812, after having been rebuilt from private interurban car No. 999, stands before 14th Street Shop, Allentown, summer, 1921.




**Howard P. Sell Collection**

Car No. 802 stands before 14th Street Shop, Allentown, for equipment record photograph, 1923.

Minor fires, most of them attributed to the narrow space between trolley stand bolts and inner steel roof, also damaged several 700 Series cars. Car No. 710 suffered a minor roof fire during a sleet storm on April 11, 1918; a grounded trolley stand burned a hole in the roof of car No. 702 on December 11, 1918; a grounded trolley stand burned a hole in the roof of car No. 707 on April 24, 1919; and the switchboard burned in car No. 711 on September 17, 1920. As the result of these numerous fires 14th Street Shop removed the inner steel roof from all 700 series cars and installed a wood and Agasote sheet type.

Cars Nos. 702 and 706 successfully completed a Lansdale-Chestnut Hill two-car train trip on February 18, 1919, after Souderton Carbarn's shop crew had moved the couplers of both cars two inches forward. Previously, short radius curves in towns enroute prevented train operation of 700 Series cars southward from Wales Junction, but, despite adjusted couplers, two-car trains of 700 Series cars rarely operated over Wales Junction-Chestnut Hill trackage. Also, three 700 Series cars in a train never operated in regular main line revenue service between Allentown and 69th Street Terminal. A chartered rail ramble conducted by Lehigh Valley Chapter, National Railway Historical Society, Incorporated, on April 15, 1951, between Allentown and Norristown with cars Nos. 702, 704, and 710 recorded the only known 700 Series three-car train arrangement.

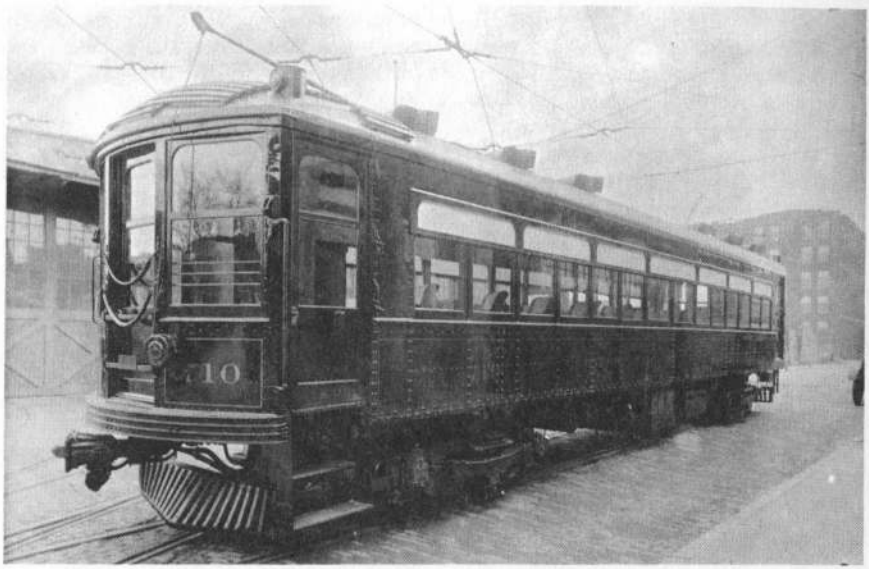
A Philadelphia and Western Railway Company's car operated over Norristown Transit Company's and Lehigh Valley Transit Company's trackage as far as Brush Siding for the only known occasion on September 18, 1919, when car No. 801, lacking air pressure, could not maintain the southbound schedule. Dispatchers of both companies arranged a two-car train movement of both cars to 69th Street Terminal by means of a draw bar.

General improvements to 700 and 800 Series cars during the transit company's extensive modernization program in 1920-1923 were of a minor nature. Adjustments to 700 Series cars included replacement of third rail shoe adjustment features with a stationary type; imbedding Ohio Brass Company's electric signal-marker lights into the roof at all four corners; and removing temporary retriever mountings and boards beneath floor level. Revisions to 800 Series cars included the attachment of small nose plows to several cars during winter months to roll back drifting snow along rural right of way plus installation of permanent electric signal-marker lights on the roof at all four corners.

## PRIVATE CAR NO. 999 CONVERTED INTO PASSENGER CAR NO. 812

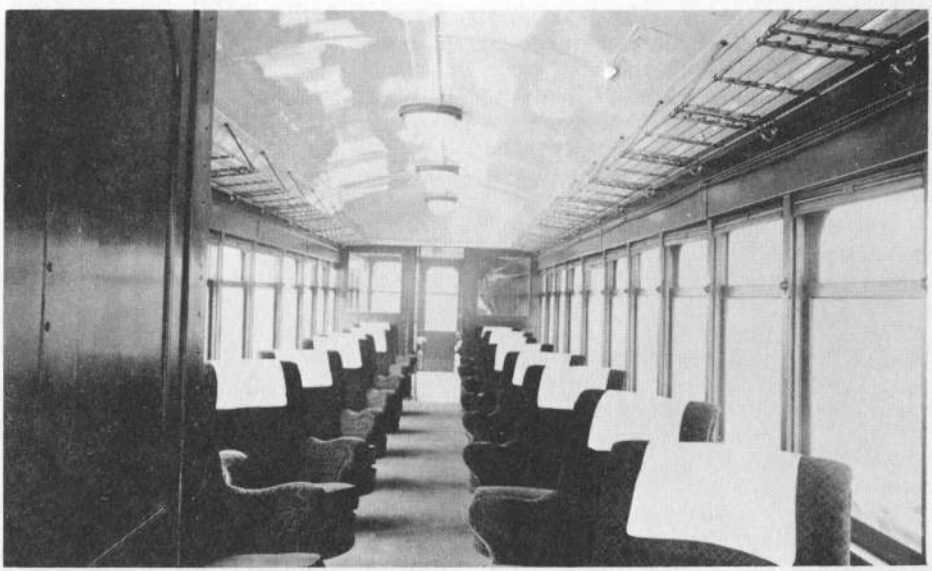
Discontinuance of official assignments, lack of charter applications, and increase in Liberty Bell Route's weekend patronage resulted in private car No. 999's conversion into passenger car No. 812. The staff at 14th Street Shop commenced the chore early in 1921 and on July 4, 1921, car No. 812 appeared in revenue service for the first time. Thereafter, it was assigned to Fairview Carbarn.

Alterations included removal of dining room, drawing room, lavatory, and kitchen partitions and equipment; replacement of carpet with linoleum floor covering; removing centrally located cathedral leaded glass window from the body on both sides; moving toward passenger doorway fourth, fifth, sixth, and seventh pairs of windows along




**Howard P. Sell Collection**

Chair car No. 710, photographed for equipment record purposes, stands before 14th Street Shop, Allentown, January, 1923.



**Howard P. Sell Collection**

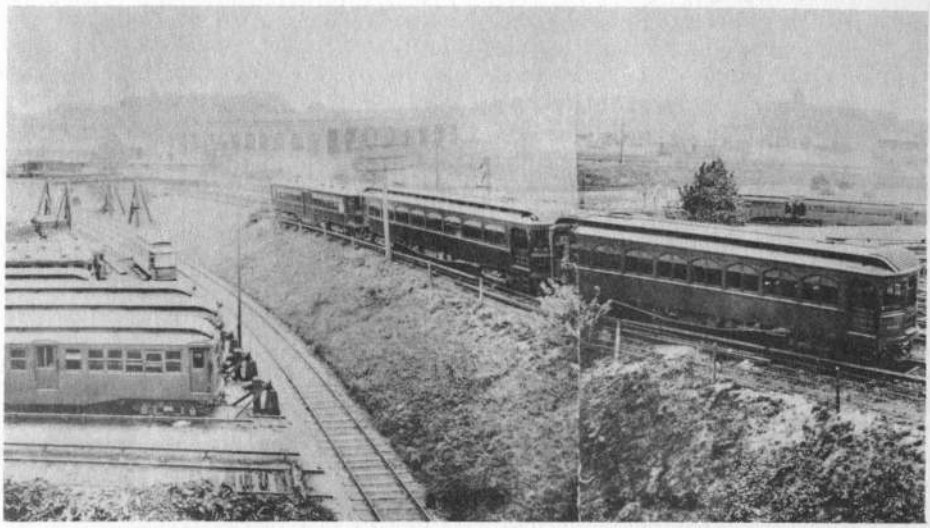
Interior view of chair car No. 710 looking from No. 2 end to No. 1, or observation-smoker, end, January, 1923.

right side and first, second, and third pairs along left side to use void left by removal of cathedral pane; creating a passenger loading doorway at left front and right rear corners; removing retractible steps from right front and left rear doorway; adding trap doors and stationary street loading steps to both doorways at No. 2 end and creating platforms at both No. 1 end doorways; removing middle window and body plates at both ends and installing an arched train door entrance and door with arched window; creating front and rear platforms by installing partitions with a door and window opposite motorman cabs; moving lavatory to fourteenth left side window from No. 1 end; installing a frosted pane at lavatory window; creating a smoker-coach partition with windows and door between second and third double window panels; intalling a Smith forced air coal heater and chimney on left side of No. 1 platform with ducts along left side at floor level and installing electric seat heaters along right side; installing eight double black leather walkover seats with arm and head rests in smoking compartment and eighteen identical green plush seats in coach compartment plus a conductor's side seat opposite toilet; adding an eighteen inch platform to trolley board at each end on which pole was placed to permit operation in a train with higher 800 Series cars without having to turn pole rearward; Ohio Brass Co. trolley rope retrievers replaced Earll; eliminating adjustable features of third rail beam; strap iron bars placed across train doorway to hold portable headlight; leather covered chains attached to each train doorway to permit conductor's safe passage between cars in multiple unit operations; parcel racks placed above windows throughout seating sections; illuminated sign box with perforated metal signs placed in lower window area at both control positions; Ohio Brass Company signal-marker lights installed in the roof near all four corners; installation of a conductor's signal cord, suspended from ceiling above aisle by leather straps, attached to a bell on each platform; intallation of a conductor's red emergency cord along left side above windows to an emergency air brake valve; and installing a hanger for portable headlight storage on No. 1 end's platform. Car No. 812's color scheme represented the arrangement introduced in 1917.

Between 1921 and 1929 car No. 812 occasionally operated lightly patronized Sunday afternoon trips emanating from Allentown as a single unit, but its assignments as either the second or third car in a train were numerous. Lack of a baggage compartment, spacious comfortable seating arrangement, and smooth riding qualities rendered the car undesirable for steady assignments to regular schedules.

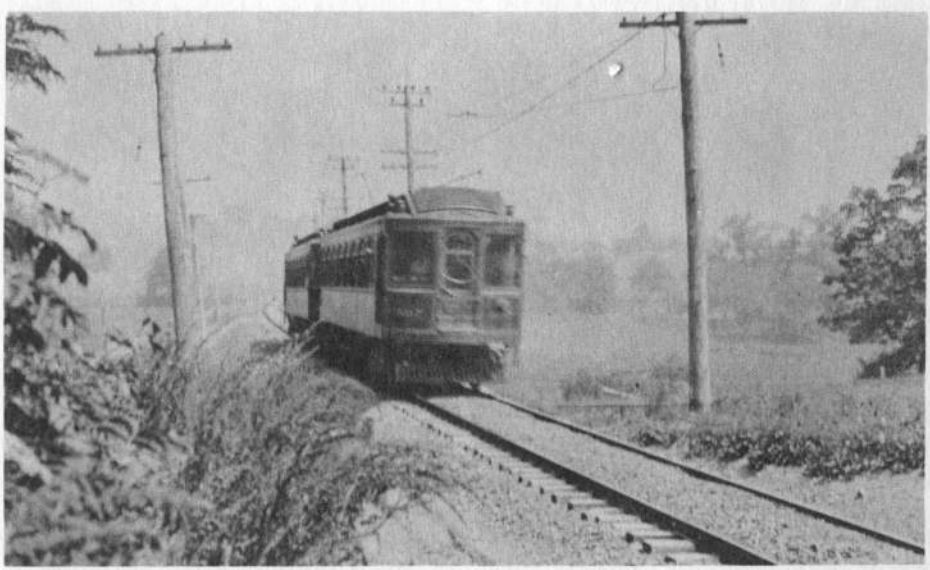
## CHAIR CAR SERVICE INTRODUCED

Lehigh Valley Transit Company, persistently seeking improved comforts for Liberty Bell Route patrons, inaugurated chair car service with revised 700 Series cars on February 7, 1923, for an additional fifty cents, later reduced to twenty-five cents, above regular fee. The company followed no standard procedure in selecting cars for chair car conversion. Three cars sent to 14th Street Shop for major repairs by Souderton Carbarn eventually became chair cars. Car No. 706, damaged in an upset accident during a snow storm in Ambler at the curve at the intersection of Banickburn Avenue and Bethlehem Pike on January 11, 1922, appeared as a chair car in January, 1923; car No. 710, out of service effective July 24,



**Andrew W. Maginnis Collection**

Matched photographs show the 69th Street Terminal complex in Upper Darby, September 5, 1923; LVT cars Nos. 806 and 803 plus an unidentified 700 Series car on the storage track in the foreground, a Philadelphia & West Chester freight car in the right background, and a Philadelphia and Western 30 Series car in left background.



**Frederick E. Barber**

Southbound car No. 807 and mate operate at maximum speed over the new Center Valley-Brick Tavern revision westward from Zion Hill, September, 1925.

1922, when a fire damaged the reverser, re-entered service as a chair car in January, 1923; and car No. 703, sent to 14th Street Shop after an overheated stove caused a fire which destroyed surrounding floor area on January 30, 1923, entered chair car service late in 1923.

Renovations to car No. 706 for chair car accommodations included removal of center entrances, door rods, door wells, and side destination signs; enclosement of center entrance areas with floor, wide double lift sash window, and steel sheets to form a straight side; enclosement of side destination sign space with a steel sheet; replacing coal stove with electric heaters along right side; removing chimney and stove pipe and covering corresponding space; installing hand operated trap doors and steps at platform entrances opposite motorman cabs, the steps being built around the pilot; replacing walkover seats with twenty-three stationary wicker chairs, eighteen in main section and five in smoker compartment, adorned with white LVT monogrammed head cloths and facing the aisle at a forty-five degree angle; installing a light gray linoleum floor and thin textile-type center aisle mat; removing register rods and straps from ceiling board and removing register from smoker-coach wall; and installing a window in upper half of left side smoker-coach partition and a mirror, facing the coach section, on the right side. The smoking compartment, or observation section, and lavatory remained in original positions. Adjustments reduced the car's total weight from thirty-five to thirty-three tons. Painters added "Chair Car" to roll destination signs, and during chair car operations, the conductor displayed the appropriate sign.

Revisions to and equipment installed in chair cars Nos. 703 and 710 differed slightly from car No. 706: revolving green plush chairs instead of wicker chairs; car length rod type baggage racks instead of the original individual double type; dome lights instead of Holophane reflectors; and relocation of conductor's signal cord from center ceiling location to a position above right side windows. Later, revolving plush chairs replaced the wicker type in car No. 706.

Chair cars appeared in trains with 800 Series cars on 8:00 a.m. and 4:00 p.m. "The Philadelphian" trips which left Allentown at 8:57 a.m. and 3:57 p.m. and "The Allentonian" trips which departed from 69th Street Terminal. A three-foot high sign board lettered "The Philadelphian" in gold on a red background, standing on South Eighth Street near Hamilton Street directly behind the chair car, indicated southbound chair car trips. Effective 1926 "The Midnighter" schedules which left 69th Street Terminal on Wednesday and Saturday at 12:15 a.m., scheduled only during winter months to accommodate theatre patronage, also offered chair car service. The traffic department issued pamphlets which advertised the availability of chair cars for charter service over Liberty Bell Route. Whenever feasible, chartered chair cars operated in trains with regularly scheduled 800 Series cars.

Chair car passengers boarded the leading 800 Series car's rear platform, turned left, departed via the train door, and entered the chair car through its train door. The stepping board designed for Philadelphia and Western Railway Company's platform stations bridged anti-climbers of both cars. Standard chair car arrangement always coupled the chair car's No. 2 end to the 800 Series car's No. 2 end; thereby, placing the chair car's smoker, or observation compartment, at the rear of the train.

## "THE ALLENTONIAN" "THE PHILADELPHIAN" "THE MIDNIGHTER"

THE Lehigh Valley Transit Company has established, for the convenience and comfort of its patrons, three special trains on its Liberty Bell Route between Philadelphia and Allentown. These trains are known as "THE ALLENTONIAN," "THE PHILADELPHIAN" and "THE MIDNIGHTER."

To satisfy the more exacting patrons, De Luxe parlor cars have been attached to these trains at an additional charge of fifty cents (50c) for chair reservation. These Parlor Cars embody the utmost in comfort and luxury.

"THE ALLENTONIAN" leaves Philadelphia, 69th and Market Streets, for Allentown daily, except Sunday, at 8.57 A. M. and 3.57 P. M. "THE PHILADELPHIAN" leaves Allentown for Philadelphia daily, except Sunday, at 8.05 A. M. and 4.05 P. M. "THE MIDNIGHTER" leaves Philadelphia for Allentown at 12.15 A. M. on Wednesdays and Saturdays only.

## PRIVATE CHAIR CAR AND SUPPLEMENTARY BUS SERVICE

Private parties may charter chair cars between Allentown and Philadelphia, and have them attached to any train on the guarantee of twenty round-trip fares plus the cost of chair reservation.

Supplemental bus service will be provided at reasonable rates in Allentown and Philadelphia, rendering a service to and from your home in Allentown, and, in like manner, to and from your place of special attraction in Philadelphia.

**SOUTH BOUND**

| | A.M. | | P.M. |
|---|---|---|---|
| Allentown | 6.05 | | 10.05 |
| Coopersburg | 6.27 | | 10.27 |
| Quakertown | 6.37 | | 10.37 |
| Perkasie | 6.50 | | 10.50 |
| Sellersville | 6.54 | | 10.54 |
| Telford | 6.59 | | 10.59 |
| Souderton | 7.03 | | 11.03 |
| Hatfield | 7.08 | | 11.08 |
| Lansdale | 7.15 | | 11.15 |
| Norristown | 7.37 | | 11.37 |
| Philadelphia | 8.00 | | 12.00 |

And every hr. until 10.05 P. M. except 7.05 & 9.05 P. M. runs 7.05 P. M. Sun. only.

Use Elevated-Subway Service between 69th & Market Sts., Phila.; and downtown section. Allow 25 minutes from City Hall, Phila., to 69th & Market Sts.

*"Interior view chair car"*

**NORTH BOUND**

| | A.M. | | P.M. |
|---|---|---|---|
| Philadelphia | 6.57 | | 10.57 |
| Norristown | 7.21 | | 11.21 |
| Lansdale | 7.43 | | 11.43 |
| Hatfield | 7.50 | | 11.50 |
| Souderton | 7.56 | | 11.56 |
| Telford | 8.01 | | 12.01 |
| Sellersville | 8.06 | | 12.06 |
| Perkasie | 8.09 | | 12.09 |
| Quakertown | 8.22 | | 12.22 |
| Coopersburg | 8.31 | | 12.31 |
| Allentown | 8.56 | | 12.56 |

And every hr. until 10.57 P. M. except 7.57 & 9.57 P. M. runs 7.57 P. M. Sun. only.

Use Elevated-Subway Service between 69th & Market Sts., Phila.; and downtown section. Allow 25 minutes from City Hall, Phila., to 69th & Market Sts.

**Randolph L. Kulp Collecton**

Interior view of chair car No. 710 appeared in the public timetable issued in 1926 to publicize chair car services.

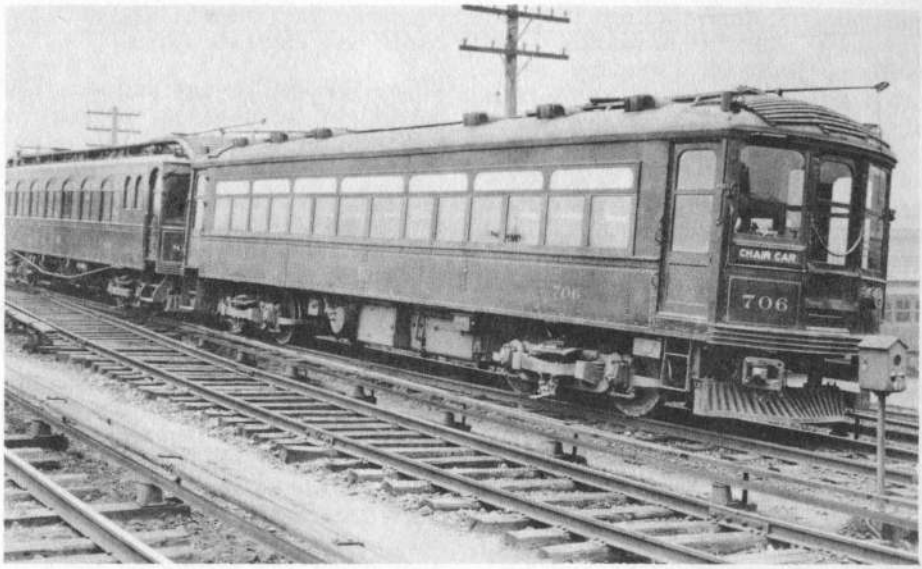
Neither Lehigh Valley Transit Company nor Philadelphia and Western Railway Company separated a chair car train unless one of the cars required repairs. After operating through the reversal wye located northward from 69th Street Terminal the train stood in a storage spur until the next northbound chair car trip. Chair car trains having completed a northbound schedule at 8th and Hamilton streets, Allentown, returned to Fairview Carbarn in a standard maneuver with the motorman operating the chair car's No. 1, or observation, end controls. Inside carbarn confines the crew operated the train intact through the reversal loop before entering a pit track for servicing. These maneuvers properly set the train for the next southbound trip. The southbound chair car train motorman, stationed at the chair car's No. 1 end controls, operated the train to the station.

Chair car classification transferred cars Nos. 703, 706, and 710 from local interurban to limited interurban status and from Souderton Carbarn's to Fairview Carbarn's roster. Three 137 Series St. Louis cars replaced the three 700 Series cars at Souderton Carbarn. The successful rebuilding of 700 Series cars from a center entrance type to a straight side end entrance type by 14th Street Shop is attributed to the outstanding ability and enthusiasm characteristic of the superintendent of equipment and his staff. Because steel side plates formed a girder web with the center door frame held in compression the center entrance removal required the retention of the door frame's function. Neither floor nor frame of converted cars ever sagged. Chair car conversion represented the first of several revisions which involved some but not all 700 Series cars. During the next two decades the mechanical department converted a total of eight cars into three major and four minor end entrance types.

One 700 Series car and one 800 Series car coupled as a train, a combination considered impractical prior to chair car service, actually created no serious mechanical or electrical problems. The 700 Series cars, lacking 800 Series cars' free wheeling qualities, tended to drag a train ascending a hill and slow it descending. However, after chair car trains proved satisfactory, center entrance 700 Series cars appeared regularly behind 800 Series cars in two-unit limited trains. After 1923 Philadelphia Division's dispatcher ordered the coupling of center entrance 700 Series car to an 800 Series limited car at Souderton wye when the conductor reported heavy traffic southward from Allentown, and after 1926, 700 Series cars appeared as spares for the first time in 69th Street Terminal's storage track.

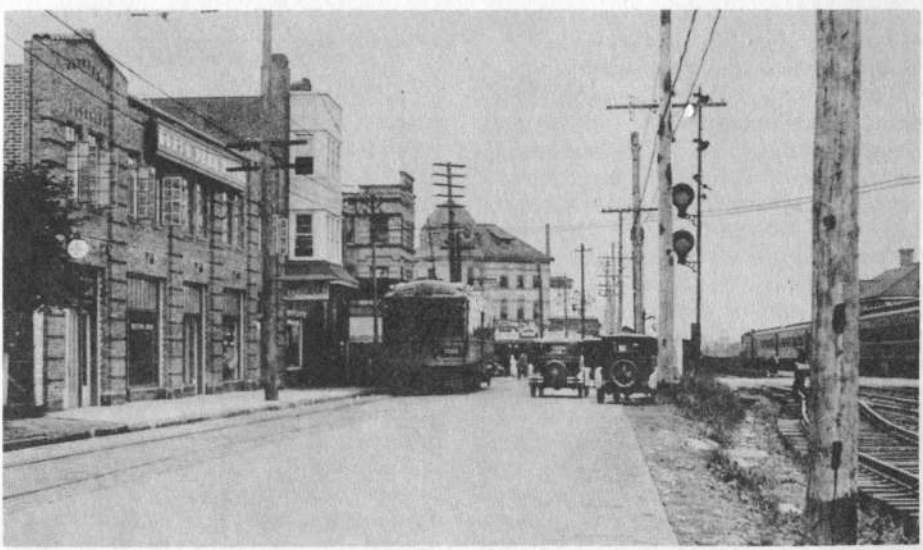
## OPERATIONAL AND TRACKAGE ADJUSTMENTS

Lehigh Valley Transit Company executed major adjustments to Liberty Bell Route's trackage during the 1920's. On September 2, 1925, the company commenced usage of Philadelphia Division's last major revision, the Brick Tavern-Center Valley track relocation which had been moved westward from and along the highway to private right of way. As a result, the company reduced limited schedules three minutes to one hour and fifty-five minutes, the fastest schedule ever maintained by 800 Series cars between Allentown and 69th Street Terminal. Change of schedules required the issuance of new timetables. A photograph of car No. 806 standing on third rail trackage replaced the view of car No. 802 which had been adopted in 1912. Schedules




**Elwood C. McEllroy Collection**

Chair car train composed of cars Nos. 806 and 706 stands in storage spur between assignments at 69th Street Terminal, circa, 1926. The 800 Series and 700 Series cars appeared in trains for the first time in 1923 with inauguration of chair car service.



**Frederick E. Barber**

Car No. 705, operating a northbound Norristown-Allentown local schedule, accommodates passengers at Lansdale station, 1926.

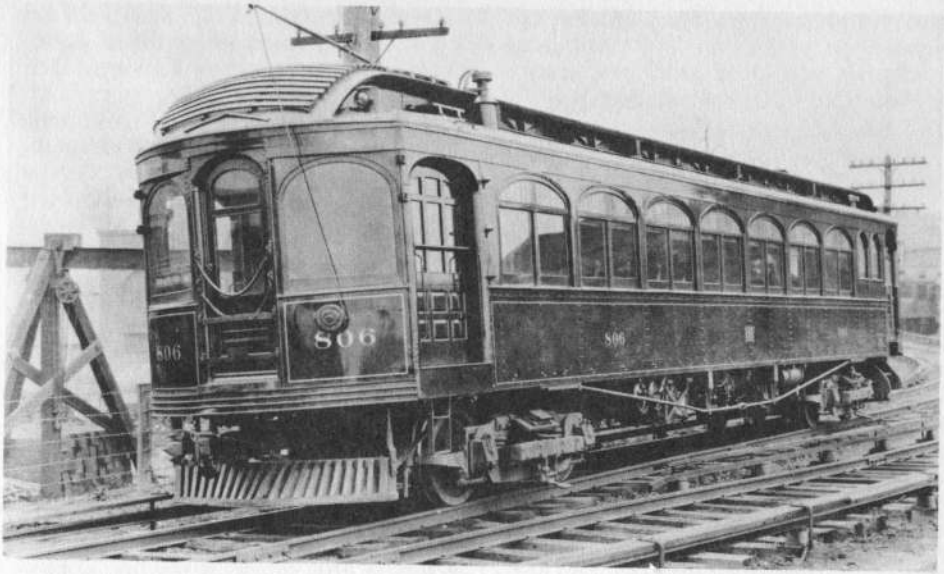
and the view of car No. 806 also appeared in color on standard size postcards and on a small wallet-size celluloid form.

A street paving controversy which involved Lehigh Valley Transit Company and Borough of North Wales ended abruptly when the transit company abandoned Wales Junction - Chestnut Hill (Erdenheim) trackage effective August 1, 1926, and substituted autobus operations. Shortly before negotiations the transit company had rehabilitated and relocated trackage on and along Bethlehem Pike between Springhouse and Erdenheim. Abandonment of trackage transferred the nine remaining center entrance 700 Series cars to a newly created direct Allentown-Norristown local schedule which connected with Philadelphia and Western Railway Company's service. This adjustment reduced the number of 137 Series St. Louis cars assigned to Souderton Carbarn. Inasmuch as there were no facilities in Norristown to reverse 700 Series cars so that the motorman could assume his customary position at No. 1 end controls, the motorman operated every other round trip from the No. 2 end cab. Coincidental with trackage abandonment the transit company dismantled Wales Junction tower and moved Philadelphia Division dispatcher's office to Fairview Carbarn in Allentown.

Two other alterations further reduced mileage of Philadelphia Division's trackage. The transit company erected a station along the main line near Telford's southeastern outskirt and abandoned a branch from Telford Junction, near Souderton, to Telford effective February 27, 1925, and substituted autobus service for electric railway operations between Quakertown and Richlandtown effective June 15, 1929.

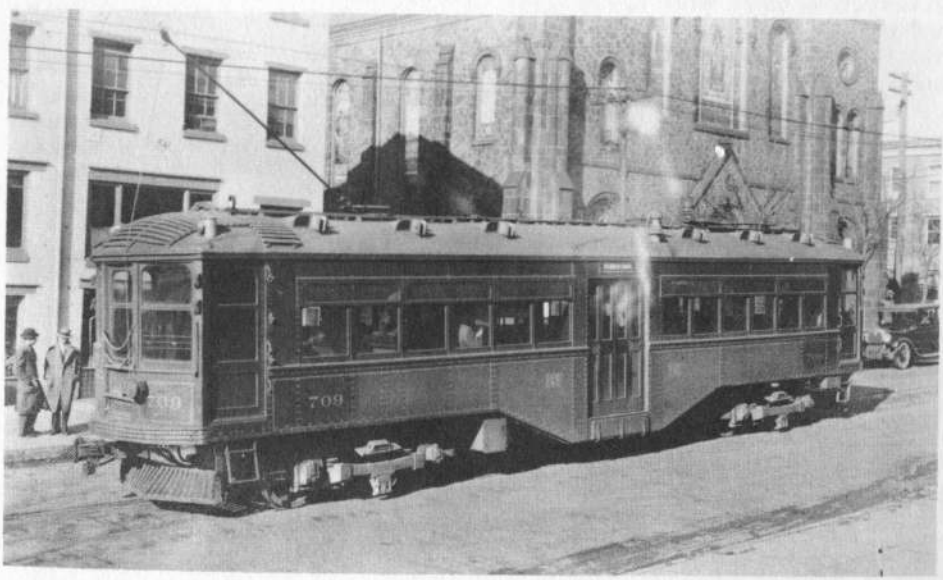
Beginning in 1912, standard whistle signals were required at all grade crossings along Liberty Bell Route. Oil from the ten inch whistle's air line coated the area above motorman's window and collected unsightly dirt on 800 Series cars. This condition was eliminated in 1914 by placing the forward end whistle, by means of short pieces of pipe and elbows, lengthwise across roof mat. In 1918, after considerable experiments with various whistles, including a very large bodied locomotive chime surrounded by a large metal horn on car No. 803, a ten inch whistle, a five inch chime, and a reflection shield were placed on the clerestory wall between upper and lower roof of all 800 Series cars. Thus pocketed, the dirt and much of the sound were not apparent. By the middle 1920's mile-a-minute operation, improved public roads, and increasing number of closed automobiles combined to cause serious crossing accidents, many fatal to the automobile's occupants, between Allentown and Norristown. Following the trial of a single air horn, the mechanical department replaced the discordant two - whistle warning combination on 800 Series cars, No. 812, and freight cars with loud blaring twin Strombos air horns, the first being attached to car No. 807 on November 2, 1927. However, the far carrying distinctive warning, signs, flashing lights, ringing bells, and swinging arms failed to halt the rash of crossing accidents.

Delaware Bay excursions over Easton, Allentown and Philadelphia divisions proved to be popular and profitable ventures during the late 1920's. Either a single 800 Series car or a two-car train, having deadheaded to Easton at 4:00 a.m., departed from the square at 5:00 a.m. to become the regular 6:00 a.m. trip scheduled from Allentown. The company arranged trains according




**Randolph L. Kulp Collection**

Car No. 806 stands in storage spur at 69th Street Terminal, Upper Darby, circa, 1926.




**Trolley Valhalla Museum Collection**

Car No. 709, maintaining the short Norristown-Washington Square local schedule, leaves Norristown station on Swede Street, circa, 1927.

to patronage. Three three-car trains, including combinations of 700 and 800 Series cars and an 800 Series two-car train conveyed the largest group which ever attended a special excursion. Park benches placed in baggage compartments of the second and third 800 Series cars in a train provided additional seating capacity. Market Street subway-elevated cars transported the group from 69th Street Terminal to 2nd and Market Streets in Philadelphia close to the wharf from which the steamboat, usually **S. S. Cadwalader,** sailed for a non-stop cruise in Delaware River and bay. Subsequent cruises docked at Riverview Beach, New Jersey, where excursionists enjoyed picnic and amusement facilities. Special trains, not necessarily arranged the same as in the morning, conveyed weary participants back to the Lehigh River valley. These excursion assignments to Easton via Bethlehem represented the few instances in which 800 Series cars, except for street operations in Allentown, left Philadelphia Division trackage. Their bulkiness and overall length prevented use on trackage designed for smaller cars. Charter service patrons destined for points beyond Allentown were transferred to city and suburban cars.

Circa, 1928, the transit company revised its paint scheme for all rolling stock. Carpenters removed the ribbed milk white upper sash glass and installed a frosted type in the 700 Series cars which retained the center entrance and painters applied a lighter red varnished body; silver roof, poles, headlights, anti-climbers, striping, monograms, and medium size numbers; and black undercarriage paint scheme in place of the bright red, gold, tan, and black combination adopted in 1917. As events later proved this was the last paint applied to cars Nos. 705, 707, 708, and 709. Also, hand operated window wipers appeared for the first time at motorman's window. Car No. 812's paint scheme closely resembled the 700 Series cars' arrangement.

All 800 Series cars were painted in the same scheme as 700 Series cars; however, "Allentown, Liberty Bell Route, Philadelphia", painted in large silver letters cluttered letterboards above side windows. This was the last refurbishing of cars Nos. 801, 802, 804, 808, 810, and 811. Previously, from 1912 until 1918, the words "Philadelphia, Allentown, and Water Gap" appeared in small letters on the body's lower portion at baggage entrance and "Liberty Bell Route" at passenger entrance; from 1918 until 1923 "Liberty Bell Route" at baggage entrance and "Philadelphia, Norristown, Allentown, Bethlehem, Easton" at passenger entrance; and from 1923 until 1928 only "Liberty Bell Route" at passenger entrance.

Movement of freight cars from Allentown to Upper Darby freight terminal in trains with 800 Series cars which operated regular passenger schedules, a convenience plan introduced in autumn, 1927, became standard practice in 1928 for economic reasons and continued throughout 700 Series car operation until acquisition of the 1000 Series single unit cars in 1939. Freight cars, either single units or trains, usually returned to Allentown before 6:00 a.m. the following morning.

As an experiment which either could have influenced future limited operations or established better loading facilities, the transit company added steps and trap doors to the right front and left rear platform entrances, or motorman cabs, of chair car No. 710 in 1929. Accordingly, the car became the only 700 Series car ever to have four street loading entrances. During the same

**Elwood C. McElroy Collection**

Publicity photograph of chair car train, composed of cars Nos. 802 and 710, taken along Philadelphia and Western Railway Company's third rail system near Haverford, 1927.


**Elwood C. McElroy Collection**

Cars Nos. 710 and 802, photographed as a northbound chair car train for publicity purposes, pass Conshohocken Road along Philadelphia and Western Railway Company's third rail system, 1927.

period the mechanical department increased the seating capacity of chair car No. 706 to thirty-eight by revising the seating arrangement. In the coach section three plush revolving type chairs were placed tightly against each other in rows from right to left facing No. 2 end. The aisle was established along right side windows. In the smoking, or observation, compartment the same type chairs were placed arm to arm with backs against the windows. Doorway facilities remained unaltered.

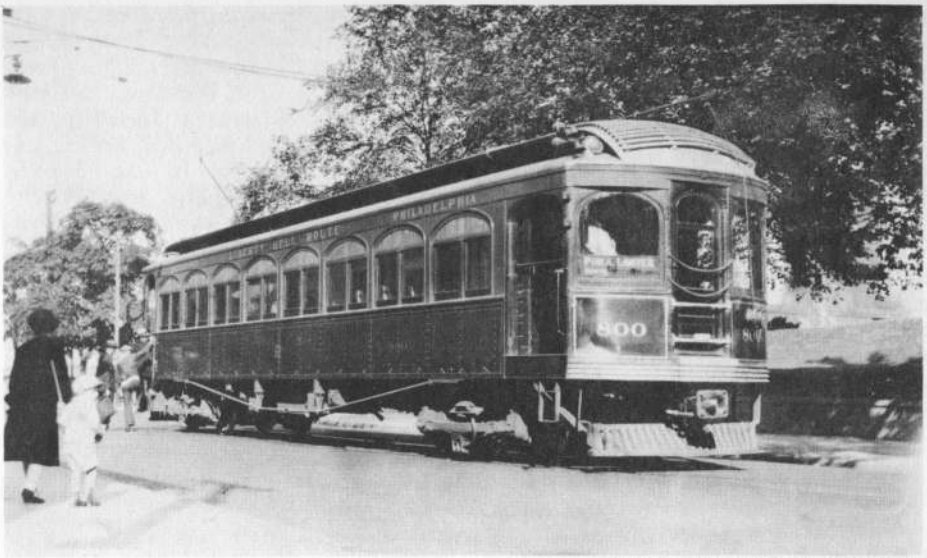
## CHAIR CAR SERVICE DISCONTINUED

Chair car patronage declined commencing 1929. Often a train completed an entire round trip without a single chair car patron. Quietly the company cancelled the service late in 1930; however, the increased seating capacity of car No. 706 brought frequent assignments to weekend and holiday main line limited service either as a single car or as a second car in a train with 800 Series cars. As a single unit car No. 706 operated lightly patronized Sunday afternoon southbound trips leaving Allentown but northbound it appeared in trains with 800 Series cars. During single unit operation the conductor worked at both ends of the car. Passengers leaving or entering at right side stations used the right rear door and those departing or leaving at left side stations used the left front door. Meanwhile, chair cars Nos. 703 and 710 had been sidetracked and car No. 812 had been transferred to Souderton Carbarn for spare assignments. However, on October 16, 1929, Souderton Carbarn sent car No. 812 to Fairview Carbarn with resistance malfunction. Because of repair costs the company assigned No. 812 to the inactive list and outdoor storage in Fairview Carbarn's yard.

A short circuit in third rail equipment set ablaze and destroyed car No. 811 on September 1, 1929, near Philadelphia and Western Railway Company's Villanova Junction and thereby reduced the 800 Series car roster from twelve to eleven cars. The transit company stored the scorched roofless skeleton in Fairview Carbarn's yard.

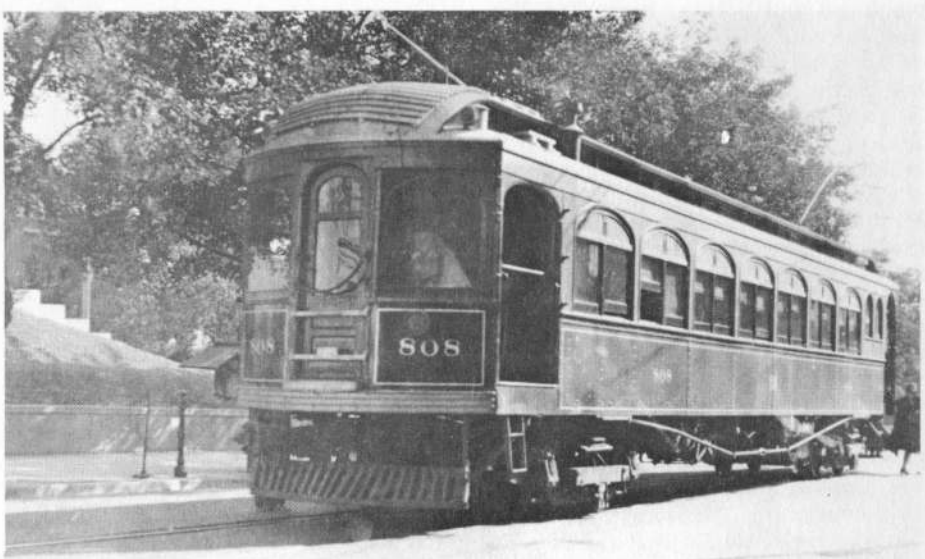
Lehigh Valley Transit Company and most other electric interurban systems throughout United States, suffering financial setbacks in the late 1920's and early 1930's, passed from the "golden years" into a declining era. Widespread unemployment of industrial workers and competition from privately owned automobiles diminished revenues. Although financially weakened, the more fortunate systems continued operations but reduced operating costs by replacing heavy power consuming interurban cars with light weight rapid accelerating types designed for one man operations. Cincinnati and Lake Erie Railroad Company and Indiana Railroad Company, for example, purchased these newer type cars in 1930 and 1931 respectively.

During summer, 1930, Cincinnati and Lake Erie Railroad Company shipped car No. 127, an aluminum-wood single-end type, to Philadelphia and Western Railway Company for experimental purposes inasmuch as the latter organization planned to replace older slower cars with new high speed equipment for the 69th Street Terminal - Norristown route. The J. G. Brill Company, Philadelphia, Pennsylvania, supplied special trucks equipped with third rail accessories for the tests. On September 30, 1930, Philadelphia and Western Railway Company operated car No. 127 over the entire Liberty Bell Route between 69th Street Terminal and Allentown. These demonstrations influenced




**Harold D. Forsyth Collection**

Southbound car No. 800 accommodates passengers at Norristown's street-level station on Swede Street, circa, 1930. Note identifications on letterboard.




**Harold D. Forsyth Collection**

Northbound car No. 808 stands before Norristown station while Lehigh Valley Transit Company's crew assumes operation of the car, circa, 1930.

Philadelphia and Western Railway Company's design for ten double end multiple unit 200 Series "bullet" cars which The J. G. Brill Company completed in 1931. In 1938-1939 car No. 127 was acquired by Lehigh Valley Transit Company along with twelve others of the same type. The company identified it as No. 1004.

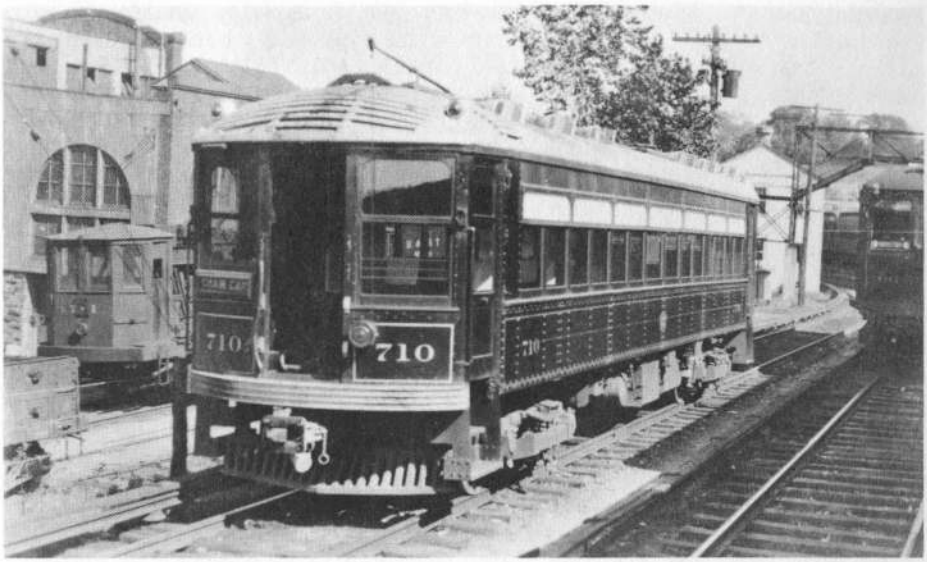
Adoption of one man operations for all but two local extra schedules of Philadelphia Division effective January 25, 1931, rendered 700 Series cars useless in their original center entrance form; therefore, the company transferred several double end street loading St. Louis cars from Allentown Division's roster to Philadelphia Division and stored inactive cars Nos. 700, 701, 702, 704, 707, 708, 709 and 711 at Fairview Carbarn. Car No. 705 remained at Souderton Carbarn to operate spare two man local and main line assignments. The 700 Series cars assigned to Fairview Carbarn occasionally appeared in trains with 800 Series cars; substituted for No. 705 at Souderton Carbarn; performed tow car assignments; and replaced disabled 800 Series limited cars. Meanwhile, Liberty Bell Route's limited schedules continued as two man operations. Short trips from Allentown to nearby communites, Norristown area service, and morning and evening rush hour service between Allentown and Souderton and Souderton and Norristown replaced Allentown-Norristown hourly local service. Limited cars accommodated all other local stops not served by curtailed local service.

## THE DELUXE LIMITED

Economic conditions plus the high cost of operating the heavy 800 Series cars influenced Lehigh Valley Transit Company to embark upon a modernization program. Although financially unable to purchase new equipment, the company decided to replace all 800 Series cars with modernized 700 Series cars. The program began with the rebuilding of two 700 Series chair cars and two center entrance cars into high speed straight side luxurious "Deluxe Limiteds" basically designed for one man operation.

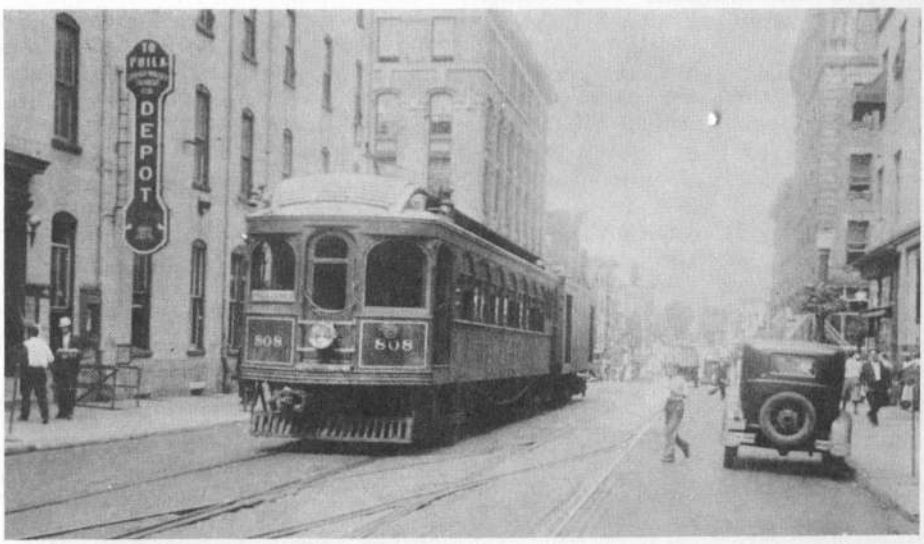
The transit company designated straight side chair cars Nos. 703 and 710 for conversion to the deluxe type and selected center entrance cars Nos. 702 and 704 as haphazardly as they had originally selected cars for chair car revisions. Car No. 704, sidetracked on October 16, 1930, by motor malfunctions and No. 702, having had one end smashed in an accident at Germantown Pike crossing near Norristown on January 12, 1931, became the first and only cars directly converted from center entrance structure to deluxe form.

Alterations to center entrance cars Nos. 702 and 704 included moving No. 1 end right hand controls to left side; completely removing cab and smoker - coach partitions and doors; placing switches in cabinets above and below left front window at No. 1 end; removing emergency cord; enclosing No. 2 end platform entrances with a single window and steel sheet; installing a motorman's bar protection at left front doorway; installing a curved rod and a draw-type curtain at motorman's position to eliminate interior glare on windows during night operations; installing dark brown boards in upper sash windows in place of the frosted ribbed glass which spanned double windows; removing center entrance doors, steps, rods, posts, and side destination sign boxes; installing floor, double windows, and steel sheets in center doorway areas; enclosing side destination sign space with a steel




**Harold D. Forsyth Collection**

Chair car No. 710, to which two additional street loading steps had been added, stands at 69th Street Terminal, Upper Darby, circa, 1930.




**Frederick E. Barber**

Car No. 808 and freight car No. C11, a southbound scheduled passenger-freight movement, stand before Allentown station on South Eighth Street, circa, 1930. Combination of a passenger car and a freight car in a train represented an economy practice introduced in 1928.

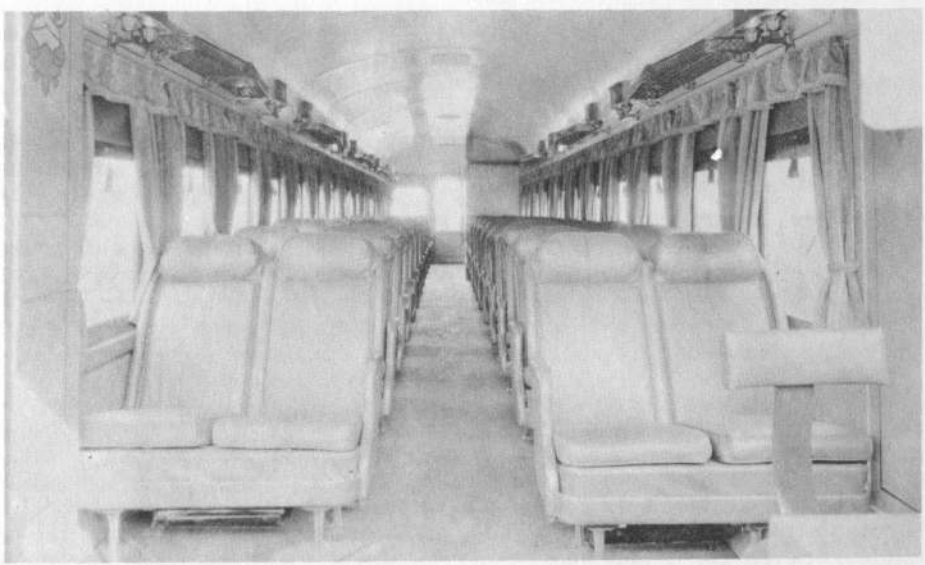
sheet; adding different designed passenger entrance steps, as compared to the chair car type, and air operated traps and doors, the first of their kind on LVT equipment at both No. 1 end passenger entrances; relocating both pilots from underneath platform to outer end of truck frame; removing No. 2 end destination sign box; reducing the size of windows which flanked train doors; imbedding a headlight in roof above both train doors and providing protection from pole contact with a curved steel bar; imbedding signal marker lights in a newly created letterboard above front and rear windows; removing roof mats; eliminating air whistle above motorman's windows and installing air horns underneath left front platform; moving roof ventilators toward center; moving lavatory position two windows forward toward No. 1 end; arranging a lounge section at No. 2 end complete with individual leather seats, sofa, card table with inlaid checker board, ash trays, wall cabinet, table, table lights, mirror, and two double leather walkover seats; retaining but enclosing in a cabinet the No. 2 end right hand controls; removing center line light fixtures, signal cord, and register rods and installing shaded wall light fixtures; retaining separate double tray-type baggage racks; installing double forward facing immovable leather bucket seats in coach section; hanging drapes at side windows and adding a tassle to the shade; removing coal heating system and installing electric heaters beneath seats; installing a rear drum light; painting green and gold circular Liberty Bell Route heralds on No. 1 end train door and on the body between No. 1 end doors and first windows and between last and second last windows; and wiring motors with field taps to increase maximum speed. A leather upholstered movable chair provided seating accommodations for the motorman. Renovations, as in chair car adjustments, reduced total weight from thirty-five to thirty-three tons. The paint scheme for deluxe cars varied slightly from the arrangement adopted in 1928: a dark red color replaced the light red and small size numbers replaced the medium type. Car No. 704 rolled from 14th Street Shop as a deluxe car on April 17, 1931, and car No. 702 on August 8, 1931.

Chair car No. 710, to which two additional street entrances had been added in 1929, structurally required removal and enclosement of both No. 2 end street entrances and installation of new type steps at No. 1 end. Chair car No. 703 required removal and enclosement of right rear street loading entrance; enclosement of left rear platform entrance; and installation of new type steps and trap at right front entrance and new type steps at original chair car entrance. Other structural innovations and revisions, interior furnishings, and operational equipment conformed to those installed in cars Nos. 702 and 704. The shop released car No. 703 on March 31, 1931 as the first completed Deluxe Limited car and car No. 710 by September, 1931. Meanwhile, car No. 707 had been sent to 14th Street Shop for conversion to deluxe type.

The transit company placed Deluxe Limited car No. 704 on public exhibition on April 24-25, 1931, prior to inauguration of service, at Allentown and Reading Traction Company's terminus at the southern perimeter of Center Square, or Seventh and Hamilton streets, in Allentown's business district. Before midnight, April 23, shop crews derailed the car from Lehigh Valley Transit Company's tracks on South Eighth Street, rerailed it on Allentown and Reading Traction Com-


**Randolph L. Kulp Collection**

View of observation section of Deluxe car No. 703, April, 1931. The transit company posed the newly revised ex-chair car at North Seventeenth and Chew streets before the fairground for publicity photographs.



**Elwood C. McEllroy Collection**

Interior view of Deluxe car No. 703 from No. 1 end toward observation compartment, April, 1931.

pany's tracks on Walnut Street, and operated it eastward on Walnut Street and northward on South Seventh Street to the terminus. For two days the public inspected the handsome car. Before midnight April 25, shop crews moved the car back to Lehigh Valley Transit Company's tracks by a similar derailing and rerailing process.

Deluxe Limited cars Nos. 703 and 704 introduced a one hour and forty minute Allentown - Philadelphia schedule on Sunday, April 26, 1931. Cars left both termini at 8:00 a.m., 10:00 a.m., 2:00 p.m., and 4:00 p.m. Deluxe schedules served only seven station stops but passengers unfamiliar with arrangements caused the car to halt at unscheduled stops. Philadelphia and Western Railway Company, avoiding schedule conflicts, permitted Lehigh Valley Transit Company's crews to operate southbound deluxe schedules over Schuylkill River viaduct from Norristown to Bridgeport for crew transfer between a southbound deluxe car and a northbound 800 Series car. Crews of non-deluxe schedules followed the transfer routine established in 1913. Although 800 Series cars maintained all other schedules between 6:00 a.m. and 10:00 p.m. the company's publicity extolled "Deluxe Flyer" performances. A photograph of car No. 703 immediately replaced the familiar view of car No. 806 on the public timetable cover for Philadelphia Division. Throughout deluxe car operations the last southbound deluxe car remained at 69th Street Terminal until the next day's first deluxe trip.

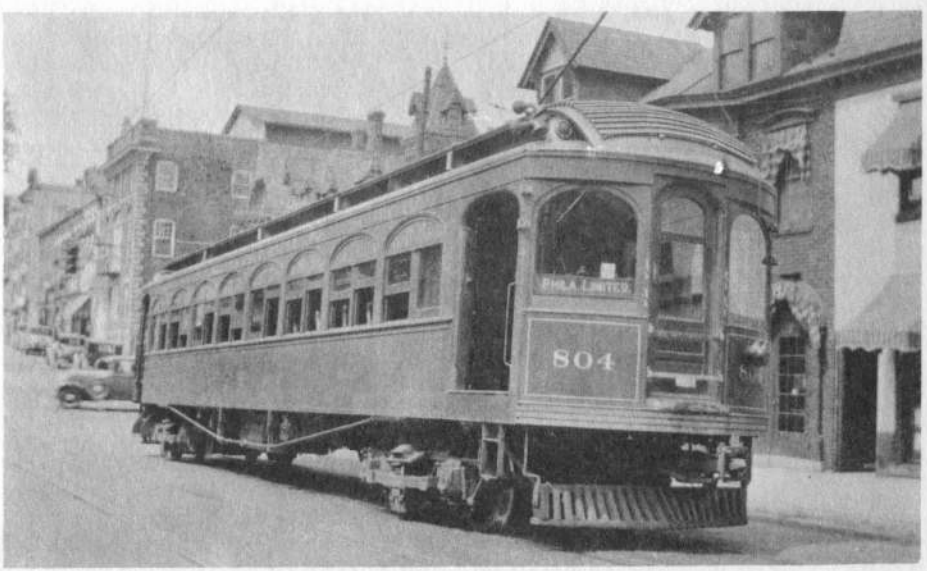
Fare collections were awkward and unusual for the deluxe car conductor. At station stops he assumed a position on No. 1 end platform. When passengers boarded from the right side no complications resulted, but at left side stations the motorman left his control position, moved his chair, and stood on right side trap door until the conductor had completed his task. Between station stops the conductor either assumed a seated or standing position near the lounge section. In these arrangements he could socialize with passengers. All of these actions contrasted sharply with his duties at No. 2 end, or passenger entrance, of an 800 Series car. The vestibule was his personal charge where he quickly performed his chores without hindrances.

The transit company never converted chair car No. 706 to deluxe type; instead, 14th Street Shop hastily revised the interior and structure for its role as a deluxe substitute. Revisions included installing air operated trap door and new type steps at No. 1 end's right front entrance; installing air valves and new type steps at left front entrance; removing air whistle and placing air horns beneath No. 1 end platform; restoring platform entrance to No. 2 end's right rear corner; relocating No. 1 end's pilot underneath platform to truck frame; replacing holophane reflectors with dome lights; replacing parlor chairs with walkover type throughout the car; replacing double baggage racks with a continuous multiple bar type; moving conductor's signal cord from ceiling over center aisle to a position above right side windows; removing motorman's cab at No. 1 end and adding rods and curtain for nighttime operation; and removing door from No. 2 end cab. The right hand control location; toilet; smoker - coach partition; coach - cab partition where switches had been installed; and milk-white upper sash glass remained unaltered. Car No. 706 entered deluxe service on May 8, 1931.

The deluxe car program included planned variations. City - suburban

**Randolph L. Kulp Collection**

View of car No. 703's observation compartment, April, 1931.




**Daniel P. Grimes**

Car No. 804, enroute to Allentown station for a southbound schedule assignment, halts for traffic signal at the intersection of South Eighth and Walnut streets, summer, 1931.

car No. 940's successful four motor split axle double truck experiment and car No. 911's two motor split axle free wheeling double truck experiment dictated the decision to convert car No. 708 to deluxe type with two motor split axle trucks on August 8, 1931.

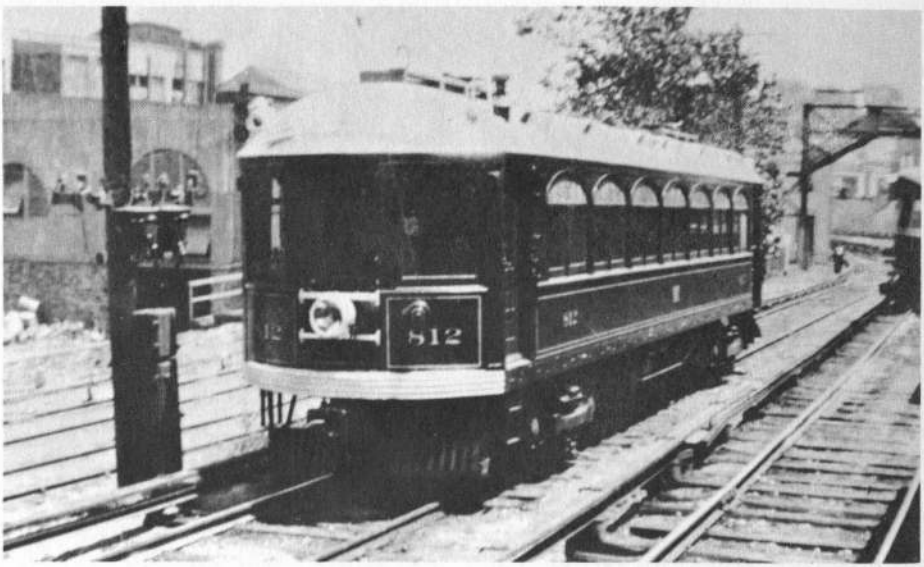
Relocation of Norristown station by Philadelphia and Western Railway Company effective November 15, 1931, an accommodation arranged specifically to properly serve the company's new platform-loading 200 Series "bullet" cars, eliminated the street level station on Swede Street in favor of a second story location near the north end of the elevated structure which led to Schuylkill River viaduct. As the result of this relocation Lehigh Valley Transit Company's limited cars served the new platform station and street-loading local cars terminated at a separate area constructed on the girders several feet northward from the station. In addition, the new station established another crew transfer practice by eliminating layover time in the station and requiring crews to step to and from northbound and southbound cars at Marshall Siding located midway between borough line and the elevated structure. Also, the operator either engaged or disengaged the third rail-overhead knife switch and either raised or lowered the trolley pole in the overlap section at the station during the halt for passenger accommodations.

Deluxe cars operated continuously between Easton and 69th Street Terminal via Bethlehem from November 15, 1931, to August 1, 1932. The four cars, transferred from Allentown Division's to Easton Division's roster for this service, departed from Easton at 6:55 a.m., 8:55 a.m. 12:55 p.m. and 2:55 p.m. in place of the regular schedule Easton Limited and arrived in Allentown in time to operate the previously established southbound deluxe schedule. Otherwise, 214 Series cars introduced by Easton Transit Company in 1914, maintained Allentown - Bethlehem - Easton limited schedules. Under these arrangements a 214 Series car was stored overnight at Fairview Carbarn in order to commence the next day's routine.

Car No. 810 was withdrawn from service after being damaged in a collision with an automobile at a crossing in Hatfield on January 27, 1932. Derailed by wreckage on the rails, the speeding interurban car ploughed up trackage and severed two service poles before halting. The transit company, having ten 800 Series cars, car No. 812, four deluxe cars, and ex-chair car No. 706 available for regular service as well as seven center entrance 700 Series cars for train service, placed smashed car No. 810 on Fairview Carbarn's storage track in front of fire-gutted car No. 811. Philadelphia and Western Railway Company's car No. 209, a bullet type, slid on slippery rails and crashed into the No. 1 end of deluxe car No. 702 at 69th Street Terminal on April 25, 1932. The jolt slightly bent No. 702's platform downward on the left side, but the shop never altered the distortion.

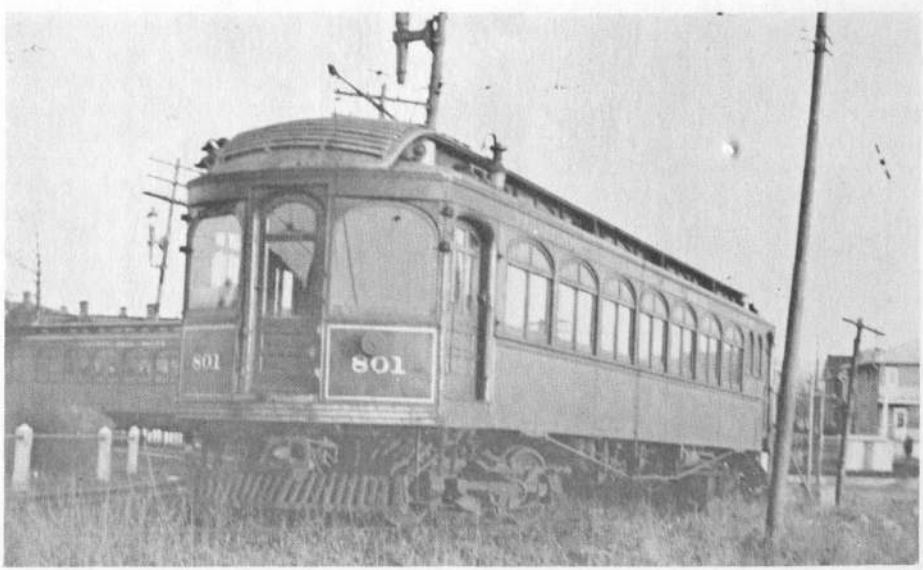
## DELUXE SERVICE DISCONTINUED

One man operation policy adopted August 1, 1932, for all Liberty Bell Route two man limited and remaining local runs ended high speed service with deluxe-type 700 Series cars and use of 800 Series cars in regular limited service. Consequently, deluxe cars Nos. 702, 703, 704, and 710 returned to Allentown from Easton. Deluxe cars, already having left and right side street




**Francis J. Goldsmith, Jr. Collection**

Car No. 812, prepared for a northbound assignment, stands on 69th Street Terminal trackage in Upper Darby during the waning days of two man car operations, July 13, 1932.




**Harold L. Goldsmith Collection**

Car No. 801 stands on No. 0 track at Fairview Carbarn, Allentown, on June 20, 1933. Shortly thereafter the transit company permanently retired the car from service.

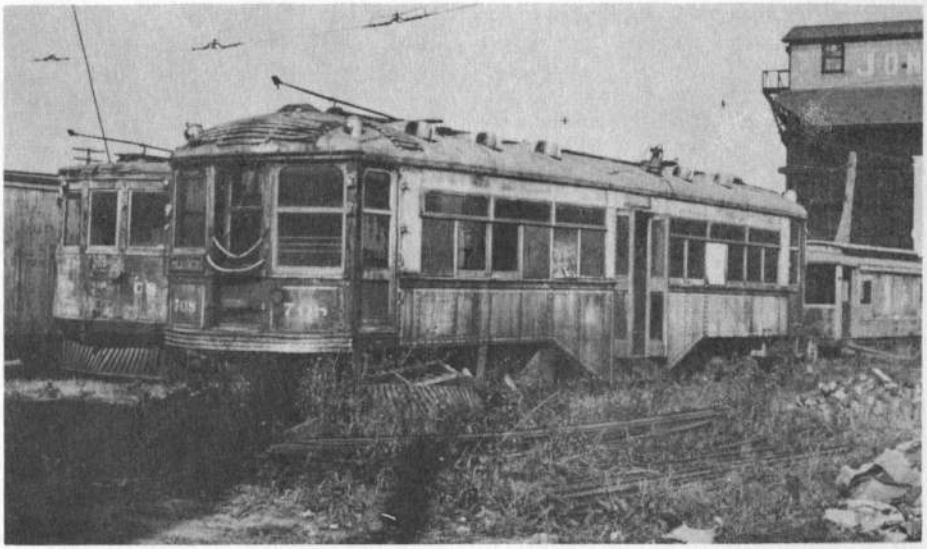
loading passenger entrances, required no renovations for one man operation. Coincidental with the new policy, 800 Series cars served spare assignments at Souderton Carbarn.

Lehigh Valley Transit Company, during winter 1931-1932, had converted cars Nos. 700, 701, and 711 from original center entrance structure to one man operation by removing center entrance leaf doors, rods, post, folding steps, and side destination signs; enclosing center door spaces with steel sheets and a double window; creating a cabinet with door in right side enclosed door well space for storage of headlight; enclosing side destination sign spaces with steel sheets; covering interior step spaces with floor boards; placing two plush covered walkover seats at each center entrance location, replacing side seats with forward facing walkover seats; removing smoker-coach partition; removing No. 1 end motorman's cab partition and door and adding a curtain plus rods to eliminate interior glare for motorman from lights during night operations; moving switches to positions near control at No. 1 end; adding a partition at No. 2 end's right side to create a vestibule; removing No. 2 end's cab door; transferring coal stove and bin from near center entrance to No. 2 end's platform; installing traps and doors and new type steps to both No. 1 end entrances with only the left front door operated by air valve; moving No. 1 end's pilot from underneath platform to truck frame; and moving whistle from above No. 1 end's right front window to a position beneath platform. The lavatory remained at its original position. The three cars received the paint scheme adopted in 1928. Introduction of one man limited service also reactivated car No. 812.

Car No. 706's revisions for one man operations included only the removal of smoker-coach partition. The milk white upper sash glasses remained intact. Car No. 812's revisions included relocation of lavatory from fourteenth window on left side from No. 1 end to fifth window on right side; removal of smoker-coach partition; removal of No. 2 end's vestibule-coach partition and installation of rod and curtain at motorman's position to eliminate interior glare from lights during night operations; moving air horns from No. 1 end's upper right corner to No. 2 end; and installation of air operated traps and doors at both No. 2, or operating, entrances. Painters applied the 1928 color scheme. During conversion of 700 Series cars to one man operations the No. 1 end became the operating end; however, for economic structural reasons car No. 812's passenger, or No. 2 end, entrance became the operating position.

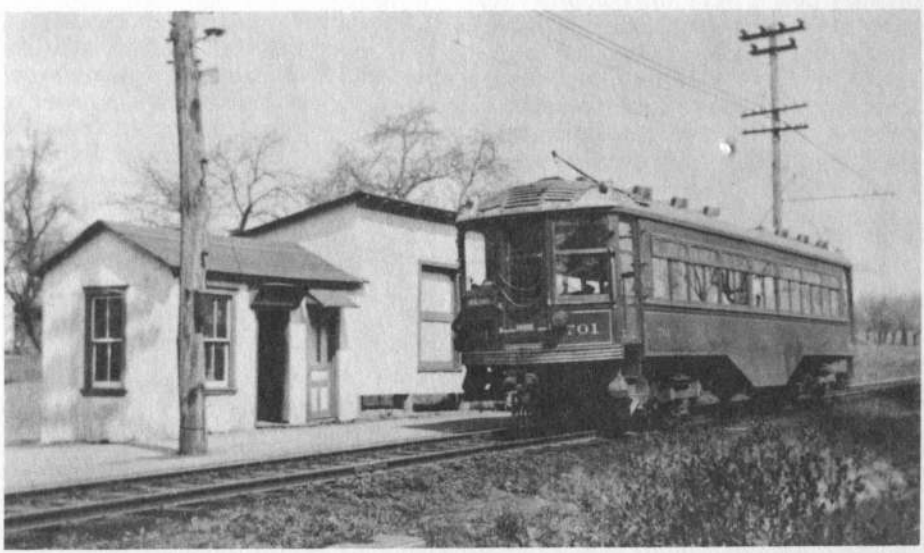
Passenger entrances located at only one end reclassified all converted 700 Series cars to single end types. Operators assumed a position at the No. 2 end only in emergencies and in operating between Fairview Carbarn and Allentown station and through the reversal wye near 69th Street Terminal. The motorman who completed a northbound trip reversed the car for the next southbound trip by operating through the loop in Fairview Carbarn yard.

Unfavorable financial conditions also cancelled car No. 708's conversion to deluxe form without any noteworthy work having been accomplished and halted further work on car No. 707. Car No. 707 had been completely stripped in preparation for structural revisions. Work cars moved cars Nos. 707 and 708 to the 13th and Gordon streets storage yard.



**Howard E. Johnston Collection, North Jersey Chapter, N.R.H.S.**

Car No. 708, in the process of deterioration, stands in the storage yard at North Thirteenth and Gordon streets, October 24, 1934. The transit company cancelled its conversion to deluxe car form in 1932.




**Wilbur G. Sherwood**

Southbound car No. 701 converted to one man service by having center entrances enclosed, accommodates passengers at Center Square station, April 24, 1935. Cars Nos. 700 and 711 were revised for one man service in the identical manner in 1932.

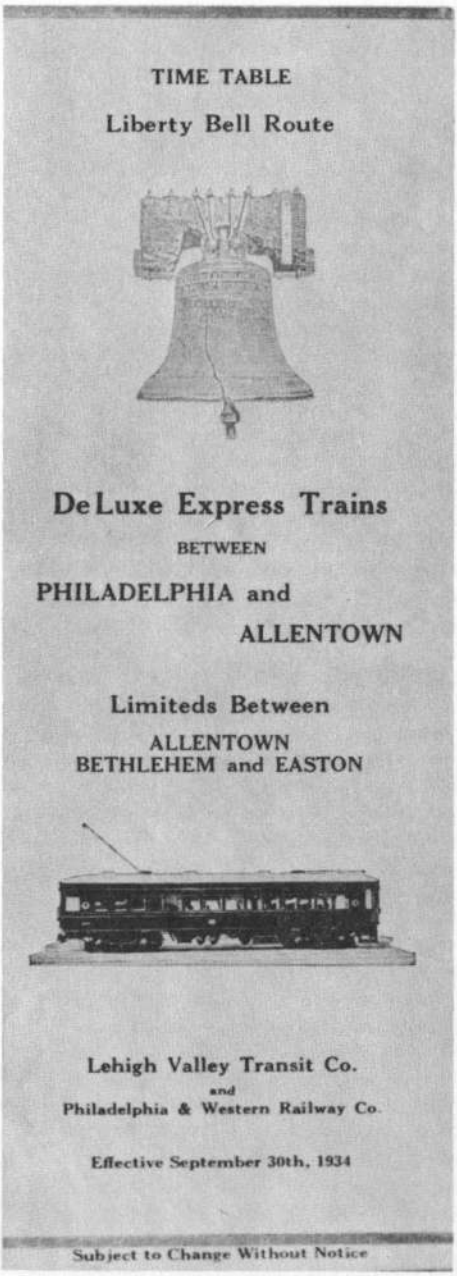
A motley group of interurban cars maintained Philadelphia Division's limited schedules between 1932 and 1939. Former Deluxe Limited cars Nos. 702, 703, 704, and 710; No. 706, a revised coach; Nos. 700, 701, and 711, converted to one man operations by enclosing center door wells and creation of passenger loading steps and traps at No. 1 end; and No. 812 indiscriminately appeared on regular schedule assignments. Cars Nos. 705, 707, 708, and 709, no longer included in operational plans, had been retained but assigned to storage.

Cars Nos. 800 to 809, between 1932 and 1939, appeared occasionally, with the operator stationed at No. 2 end controls, in regular service but assignments in train service behind 700 Series cars and No. 812 were more frequent. The 800 Series cars, lacking air operated traps and doors and fast accelerating motors, were unpopular with operators for one-man regular schedules. Numerous stops, some only a few hundred feet apart, caused the movement to lag behind scheduled time. During one man service 800 Series cars carried either "Allentown Express" or "Phila. Express" signs in the lower portion of the window in front of No. 2 end controls. By this time interior lighting of all 800 Series cars had been supplied from line voltage. Two 800 Series cars remained in 69th Street Terminal's storage spur and another at Souderton Carbarn for spare and emergency service. Permanent retirement of cars Nos. 801 and 804 from operations in 1933 left only eight 800 Series cars in operating condition but they were not maintained in the traditional manner as 700 Series cars and No. 812 had been following their elevation to regular limited service.

Either coupling of a mixture of 700 Series and 800 Series cars and No. 812 or identical types in two car trains required a new arrangement. The passenger loading entrance of the second car was always coupled to the non-loading entrance of the first car. Operational policy of the company required the assignment of an operator to the second car of a train. When the occasion demanded only 800 Series cars operated in standard three cars trains between 1932 and 1935.

Lehigh Valley Transit Company replaced freight car No. C13, derailed by a broken axle and wrecked plunging down Lehigh Mountain's southern slope right of way embankment on October 10, 1934, by converting car No. 802 into freight car No. C14, later renumbered No. C19, during late 1934 and early 1935. In summer, 1935, the company replaced small capacity wooden body freight car No. C3, lacking multiple unit controls, by converting car No. 808 into car No. C15, identical to Car No. C14. Renovations included removal of passenger entrance steps and trap doors and creation of a car-wide platform; addition of stirrup steps at the former passenger entrances; removal of seats, lavatory, side lights, and smoker-coach partition; installation of a wide doorway, with a steel sliding door, on both sides in sections cut through body plates and window frame work near the passenger end; removal of window panes, sashes, and cathedral arch windows; and sheathing outside window section with steel plates and lining interior sides with heavy wood planks. Brill trucks replaced original Baldwin trucks under car No. 802 during conversion to car No. C14. These conversions reduced the 800 Series cars' operating roster to six entries.

The 1934 - 1935 scrap program eliminated excess city and suburban cars idled by trackage abandonments to Slatington, Nazareth, Egypt, Emaus, and Macungie from




**Randolph L. Kulp Collecton**

Public timetable issued on September 30, 1934, featured a photograph of deluxe car No. 703; however, deluxe service had been discontinued in 1932.

1931 to 1933 inclusive plus limited car No. 811. Retired cars Nos. 801, 804, and 810, although showing evidences of deterioration, remained on the roster.

Cars Nos. 805, 806, and 807, the last three car train of 800 Series cars to operate in revenue service over Liberty Bell Route departed from 69th Street Terminal before midnight, March 23, and arrived in Allentown early in the morning, March 24, 1935. The train, an extra movement, conveyed homeward jubilant students and partisans after Allentown High School's basketball team had defeated Rankin High School for the Pennsylvania scholastic championship in a contest played on University of Pennsylvania's Palestra court in Philadelphia.

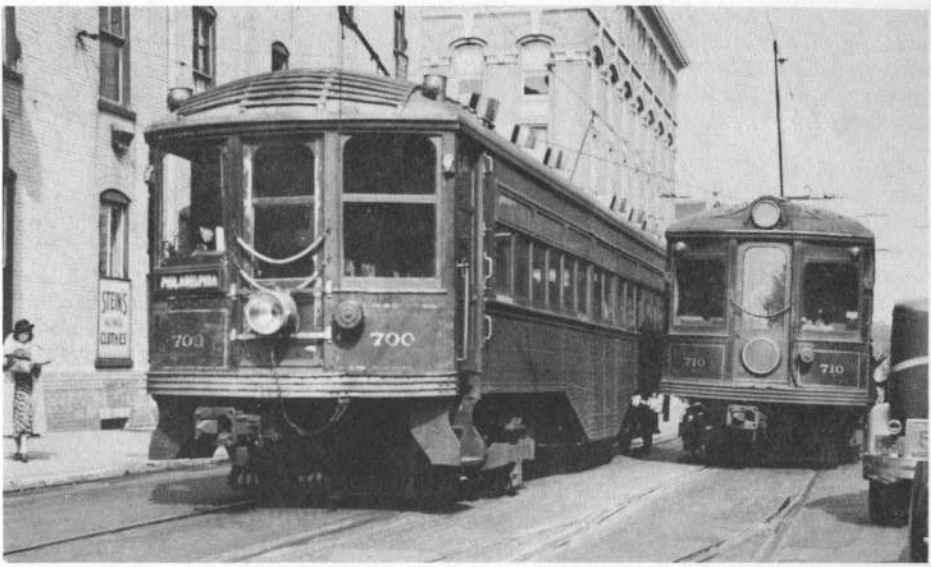
The paint scheme varied on most equipment between 1932 and 1935. The four former deluxe cars retained the style adopted in 1931, but cars Nos. 700, 701, 706, and 711 retained the type introduced in 1928. Late in 1935 the company applied the 1931 scheme to cars Nos. 700, 701, 706, and 711. In addition, the company converted the traps and doors at control position on cars Nos. 700, 701, and 711 from hand to air valve operations. Painted heralds also replaced the illuminated disc drums on observation train doors of cars Nos. 702, 704, and 710.

## FIRE DESTROYS CAR NO. 703

An overheated electric seat heater set the window drapes afire in deluxe-type car No. 703 on November 18, 1935, at King Manor along Philadelphia and Western Railway Company. While passengers fled to safety the fire engulfed the car and reduced it to a charred twisted shell. Rather than rebuild car No. 703 or revise one of the four remaining unconverted 700 Series cars, the company chose the more economical task, the conversion of car No. 800 to a one-man type. Alterations included relocation of lavatory from the left side's eighth pair of windows to the right side's third pair; removal of passenger vestibule and smoking compartment partitions; converting No. 2 or passenger, end to operating end by installing air valves to operate traps and doors; installing a rod and draw curtains behind motorman's position to eliminate interior window glare during night operatons; permanently fastening a headlight on roof above train door at operating end; installing a destination sign box in lower portion of right front window; replacing Baldwin 78-30A trucks with Brill MCB3X; and moving the third rail-overhead change-over switch and air horns from No. 1 end to No. 2 end. In February, 1936, car No. 800, painted dark red with small silver numbers, striping, monograms, anti-climbers, headlight and roof assumed regular car status.

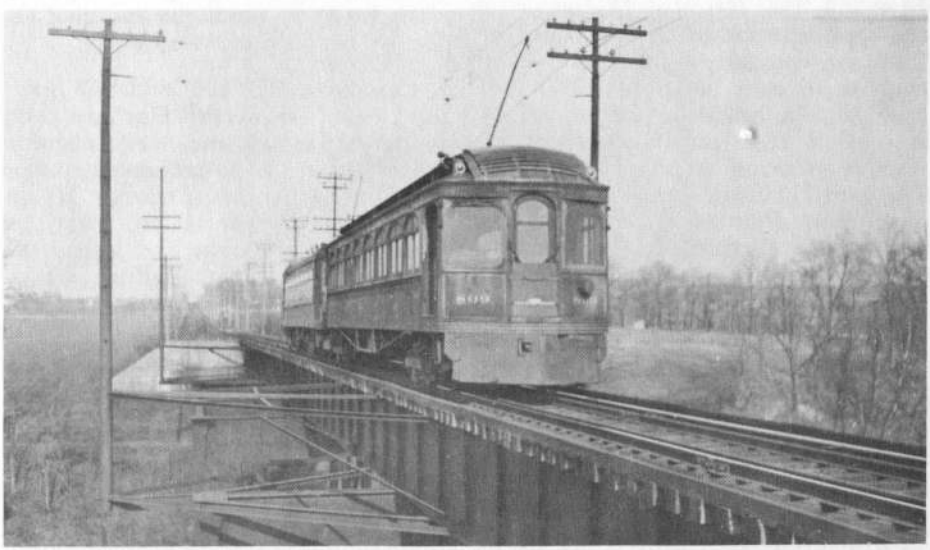
Cars Nos. 803, 805, and 807 operated from Souderton Carbarn during the summer and early autumn months in 1936 to transport, under contract with the Federal Works Progress Administration, workers between Norristown and a government project near Telford. Philadelphia Division local crews manned the cars, usually a two car train, for the daily routine.

A moderate improvement of business conditions late in 1936 and early in 1937 motivated the transit company to rehabilitate their five operating unconverted 800 Series cars to accommodate increased patronage. Car No. 809, minus the smoker partition, painted dark red; varnished; gold striping, monogram, and small numbers; black anticlimbers and headlight; and a silver roof




**James P. Shuman**

Car No. 700, prepared for a southbound trip, and car No. 710, having completed a northbound schedule, stand alongside each other on South 8th Street, near Hamilton Street, in Allentown, September 15, 1935.



**Robert G. Lewis**

Northbound train, composed of cars Nos. 706, an ex-chair car, and 809 crosses Gehman Bridge, located between Souderton and Hatfield, January 12, 1936. The snow plow attached to car No. 809 plus general physical conditions reveal that the car had been idle since winter, 1931-1932.

minus mats became the favored spare car. Cars Nos. 803, 805, 806, and 807, almost devoid of paint applied in 1928, received a flat dark red body paint; a silver roof, small numbers, monograms, headlight, and anticlimbers, but not striping. During the next three, or final years 800 Series cars, including one man type No. 800, appeared daily on Liberty Bell Route either as a regular or spare assignee. Car. No. 812 received two adjustments at this time. Shops crews removed roof mats over platforms in summer, 1936, and 14th Street Shop's carpenters squared both large arch windows and train door window at No. 2, or operating, end in winter 1936-1937. Operators complained that the arch reduced visibility as compared to the windows of 700 Series cars.

A rule issued by Pennsylvania Utility Commission early in 1937 required the installation of "dead man" controls on all cars which operated Liberty Bell Route's passenger and freight schedules. William Klein, Superintendent of Equipment, designed the apparatus which the mechanical department quickly installed. An air piston placed near the brake valve, when extended, struck an extension added to the brake lever and moved it to emergency position. At the same time sand flowed from boxes to the rails. A second piston forced the control reset switch to "off" position. Either full brake application or depression of a foot pedal prevented air pressure from activating both pistons.

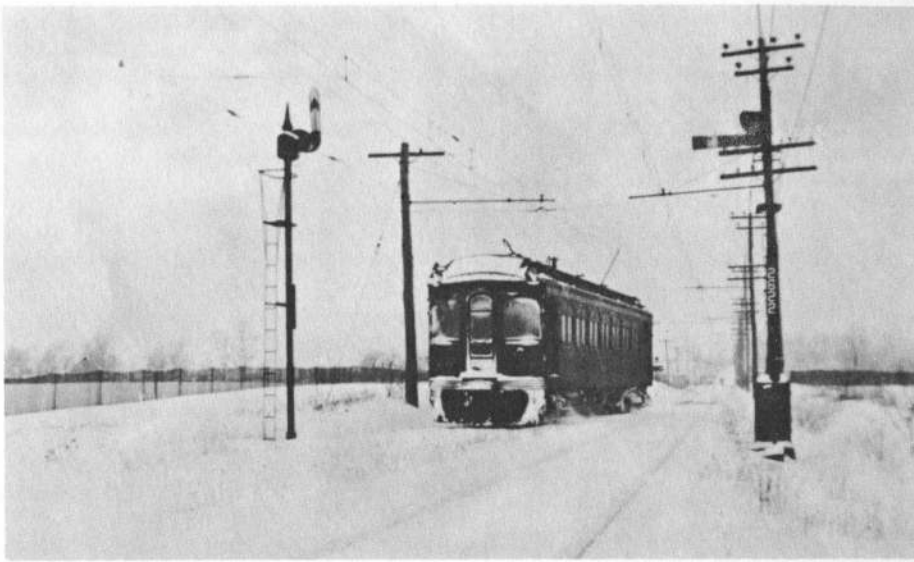
Car No. 706 suffered extensive fire damage on November 27, 1936, coincidental with a fatal crossing collision with an automobile along "Three Mile Run" northward from Perkasie. Gasoline, sprayed over the No. 1 end after the automobile's gasoline tank had burst, ignited and destroyed the forward half of the roof and most interior furnishings. Rebuilding chores included a new roof; dark brown upper sash boards in place of the milk white glass; floor repairs; installation of deluxe type stationary bucket seats in place of the walkover; and elimination of No. 1 end roof mat. Early in 1937 No. 706 returned to service in a fresh coat of dark red paint. In appearance it represented a semi-deluxe type. At this time the company scrapped the remains of car No. 703 which had stood in the yard following its destruction by fire.

The transit company, acceding to Allentown council's request in 1938 to void southward movements through the trailing crossover in opposition to automobile traffic on South Eighth Street, routed Liberty Bell Limited cars which had completed a northbound trip back to Fairview Carbarn over Union Street loop via Hamilton, South Sixth, and Union streets to the north entrance of Eighth Street Bridge. This maneuver automatically reversed the car's position for the next southbound trip. Customary northward movements of southbound scheduled cars through the facing point crossover for placement before the station remained unchanged.

## MODERNIZATION PROGRAM

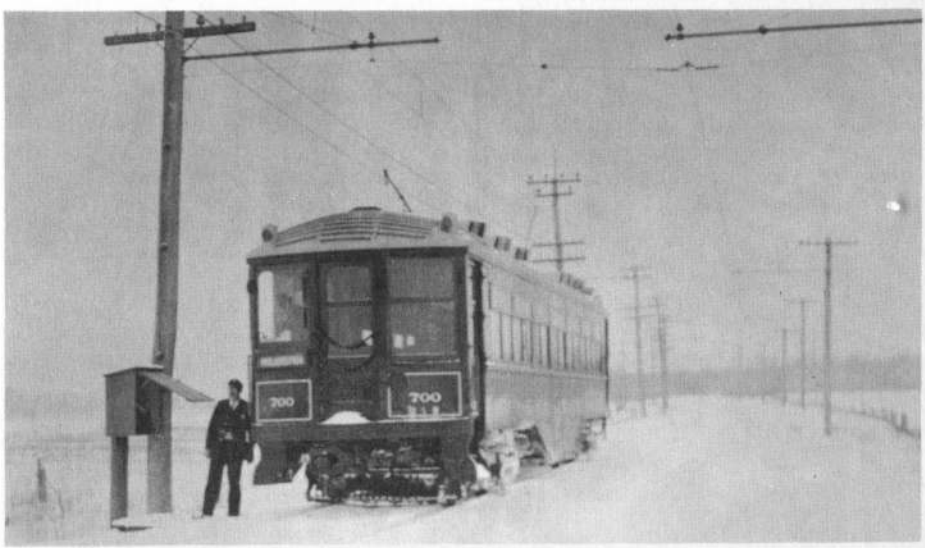
### 1938-1940

Engineers engaged by Electric Bond and Share Company in 1938 evaluated Lehigh Valley Transit Company's position as a street railway operator and recommended, among various provisions, retention of Liberty Bell Route and acquisition of newer second hand cars to replace most 700 Series cars and all 800 Series cars. Within a few weeks after the proposal the transit company commenced the suggested rehabilitation program. Second hand cars acquired for the program by



Robert G. Lewis

Southbound car No. 809, doubling as a snow plow and a passenger unit during a severe snow storm, enters Gehman Siding, February 9, 1936.




Robert G. Lewis

Northbound car No. 700, operated by a P&W employee, stands in a snow storm at the north end of Gehman Siding, February 9, 1936. This is the farthest point along Liberty Bell Route ever operated by a P&W employee.

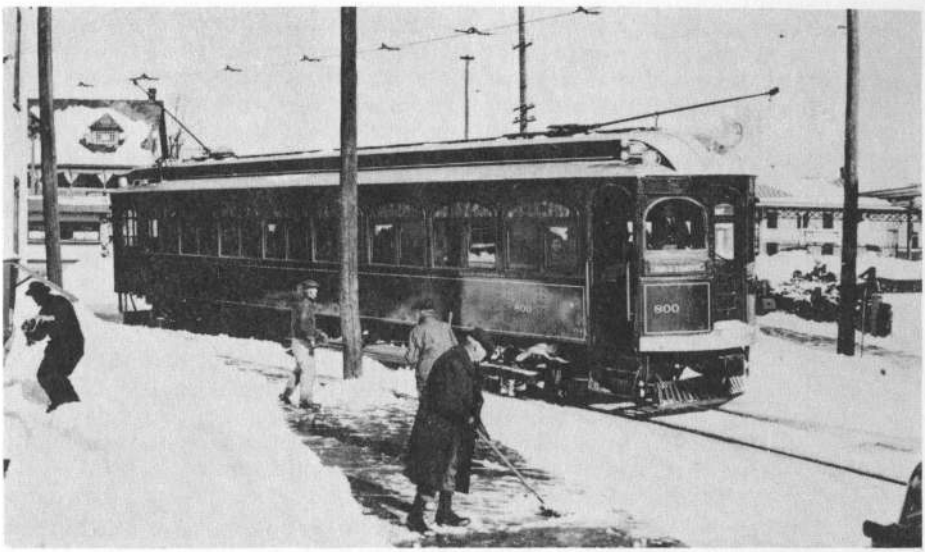
Utility Equipment Company included thirteen single end single unit lightweight compact double truck interurban cars which had inaugurated high speed luxury service over Cincinnati and Lake Erie Railroad Company's network in Ohio in summer, 1930. To this group of cars Lehigh Valley Transit Company assigned the 1000 Series classification.

Cincinnati and Lake Erie Railroad Company's interurban cars arrived in Allentown for conversion to Lehigh Valley Transit Company's Liberty Bell Route services between September, 1938, and April, 1939. Effective February 13, 1939, six of the cars commenced operation of regular schedules. Several weeks passed before the transition from 700-800 Series to 1000 Series operations had been completed. Car No. 809, towing disabled car No. 700 from Souderton Carbarn to Fairview Carbarn in May, 1939, recorded the 800 Series cars' farewell performance over Philadelphia Division. During twenty-seven years of high speed operation the handsome and durable 800 Series interurban cars established a record unique among interurban and railway systems — no passengers were fatally injured while riding within their sturdy bodies.

The equipment company disposed of six 800 Series cars in the following manner: Nos. 803 and 804, scrapped at Fairview Carbarn in mid-August, 1940, and bodies of cars Nos. 801, 805, 807, and 810, between March, 1938, and August, 1940, sold privately for conversion, respectively, to a home near Neola, Pennsylvania, a home in the rural area near Fogelsville westward from Allentown, a utility building northward from Allentown, and a diner in Hellertown, Pennsylvania. The transit company retained and converted, in 1940, cars Nos. 800, 806, and 809 into freight cars Nos. C16, C17, and C18, identical to cars Nos. C14 and C15. A stationary head light imbedded in the train door at each end replaced the portable type on all converted cars, and all cars were equipped with Brill trucks.

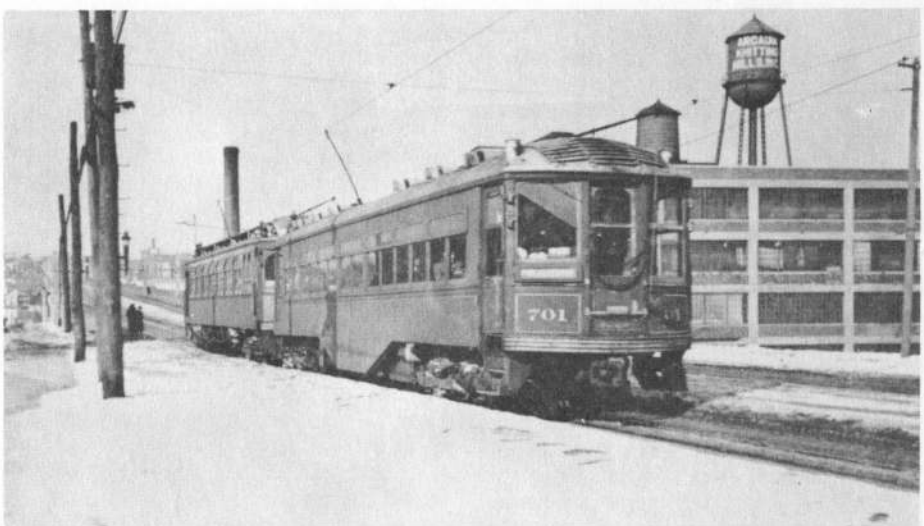
The transit company's operating department assigned straight side cars Nos. 702, 704, 706, 710, and 812 to the retention list for spare service over Liberty Bell Route and assigned cars Nos. 700, 701, 705, 707, 708, 709, and 711 to the scrap list. Car No. 701 replaced car No. 706 on the retention list after fire destroyed the latter's switch board at Norristown station on February 21, 1939. The equipment company scrapped cars Nos. 705, 707, and 708 on Fairview Carbarn's scrap track in 1938; scrapped Car No. 709 on January 28, 1940; and sold the body of car No. 706 in 1940 for conversion into a diner at Breinigsville, Pennsylvania. Trucks from car No. 706 replaced St. Louis trucks under line car No. R3.

Six of the seven 137 Series St. Louis cars which remained in operating condition during 1939 received assignments to Philadelphia Division's local schedules until the transit company acquired six of seven medium weight suburban cars which formerly had operated Steubenville, East Liverpool and Beaver Valley Traction Company's services in eastern Ohio near the boundary with Pennsylvania. To these cars the transit company assigned the 430 Series classification. Fairview Carbarn transferred refurbished 430 Series cars to Souderton Carbarn's roster individually between September 14, and November 7, 1939. During the transition cars No. 700 and 711, excluded from the modernization program, also operated Philadelphia Division's local schedules from Souderton Carbarn from April 13, 1939, until autumn, 1939. Car No. 700 returned to Fairview Car-




**Andrew W. Maginnis Collection**

Car No. 800, operating a southbound trip, pauses before Souderton station, February 9, 1936. This probably was its maiden trip as a permanently converted one man car.




**John P. Scharle**

Southbound train composed of cars No. 701 and 807 passes the intersection of South Eighth and Pittston streets after crossing Eighth Street Bridge, Allentown, February 19, 1936. The 800 Series cars assigned to multiple unit operation usually appeared as the second car in a train with 700 Series cars after adoption of one man service in 1932.

barn on October 22, and car No. 711 on November 22, 1939. Meanwhile, the transit company had decided to retain both cars but had not listed them for immediate reconditioning. In January, 1940, shops crews placed both cars in storage in Fairview Carbarn's yard.

During September and October, 1939, cars Nos. 701, 702, 704, 710, and 812 emerged from Fairview Carbarn's paint shop adorned in the paint scheme reserved for Philadelphia Division's local cars: mountain ash scarlet body; white window frames and sashes; gold striping and small numbers; silver roof, poles, and headlight; and black anticlimbers and undercarriage. No. 704's bucket seats, transferred to a 1000 Series car; had been replaced with green leather walkover seats. All cars were equipped with stands at the operator's position to hold electric Ohmer registers which had been acquired to record Philadelphia Divisions' zone fare system.

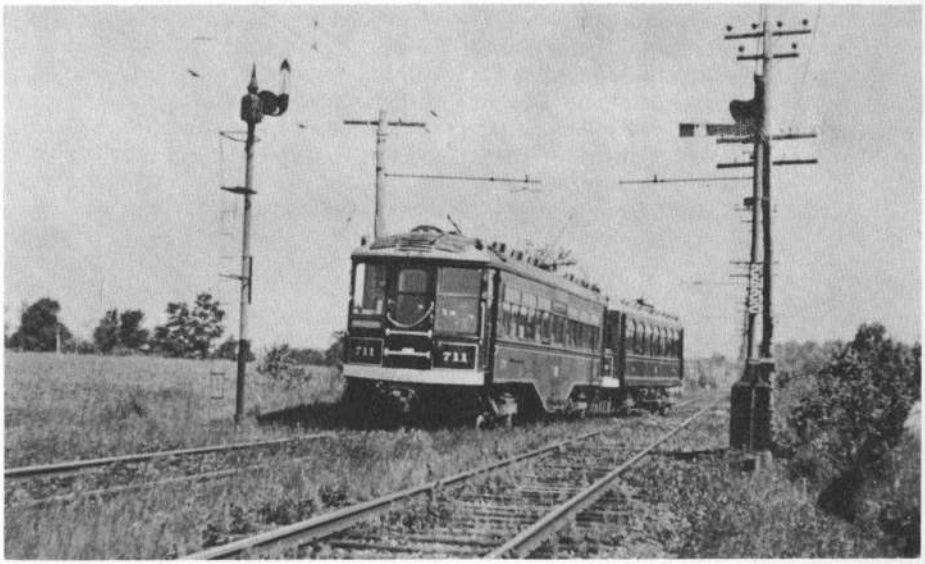
## 700 SERIES CARS RETURN TO REGULAR SERVICE

Gasoline rationing and suspension of automobile manufacture for civilian use during World War II diverted mass transportation from highways to rail and autobus routes. Lehigh Valley Transit Company, accommodating increased patronage, introduced a half hour Liberty Bell Route limited schedule on September 20, 1942, and transferred cars Nos. 701, 702, 704, 710, and 812 from spare to regular car status. In addition, cars Nos. 701 and 812 became a familiar train along Liberty Bell Route on occasion as the "Draftee Special" which carried armed service inductees between Norristown and Allentown's induction center.

The addition of a trap door and step to the right rear platform entrance of cars Nos. 701 and 812 in 1942 created a third street loading and platform entrance and made the cars more flexible for local service assignments and passenger pick-up where neither a wye nor a loop were accessible. Shop crews also removed the coal heater from the rear platform and ducts along right side, installed electric seat heaters, and removed the coach-platform partition opposite rear control position. Alterations reclassified both cars as double end types. The possible reassignment of cars Nos. 700 and 711 to active service ended in 1942 when the company sold the trucks and motors underneath both cars to Chicago, Aurora, and Elgin Railway Company and placed the bodies on piled ties and timbers.

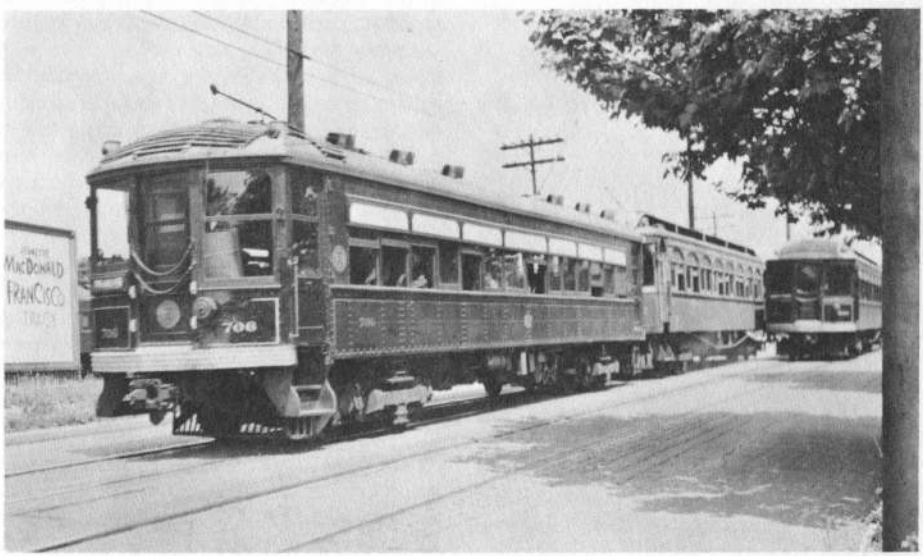
Another paint scheme applied in 1947, identical to that of 1000 Series limited cars, belatedly identified cars Nos. 701, 702, 704, 710, and 812 with the regular car group. A picador cream body; mountain ash scarlet numerals, broad stripe below window ledge, a narrow stripe along body edge, headlight, marker lights and a pyramid which extended upwards from anticlimbers over train door to the roof; two mountain ash scarlet stripes flanking a picador cream stripe on anticlimbers; "Liberty Bell Limited" stencilled in mountain ash scarlet paint on letterboard above side windows of 700 Series cars but not on No. 812; a pearl gray roof and poles; and black undercarriage. Car No. 812 emerged from the paint shop in the new scheme on June 30, 1947.

As post World War II automobile production increased and war industries closed their plants, Liberty Bell Route's patronage correspondingly decreased. The company eliminated most of the half hour schedule effective September 6, 1947, and assigned cars Nos. 701, 702, 704, 710, and 812 to spare car status.



**Francis J. Goldsmith, Jr. Collection**

Cars Nos. 711 and 812, a southbound train, enter the north end of Gehman Siding, southward from Souderton, on May 30, 1936.



**John P. Scharle**

Cars Nos. 706 and 807, a southbound train, pass northbound car No. 800 in Marshall Siding, Norristown, July 4, 1936. Car. No. 706, formerly a chair and a parlor car, had been converted to a coach in 1932.

Shop crews scrapped car No. 711's body on July 11, 1949, and car No. 700's on December 29, 1949, at Fairview Carbarn.

## LIBERTY BELL ROUTE ABANDONED

Effective September 24, 1949, Lehigh Valley Transit Company reduced service over Liberty Bell Route by cancelling passenger car operations over Philadelphia and Western Railway Company's tracks between Norristown and 69th Street Terminal and terminated southbound and commenced northbound schedules at Norristown station. Thereafter, passengers who required transportation between 69th Street Terminal and Norristown patronized connecting Philadelphia and Western Railway Company's service. Although passenger service had been severed over third rail trackage, Liberty Bell Route's freight cars continued operations to and from 72nd Street freight terminal. From 1949 until 1951 Lehigh Valley Transit Company withdrew from service those 1000 Series cars which required costly repairs and assigned cars Nos. 701, 702, 704, 710, and 812 to regular schedules. The company withdrew car No. 710 from schedules in spring, 1951, because the body had become rusty.

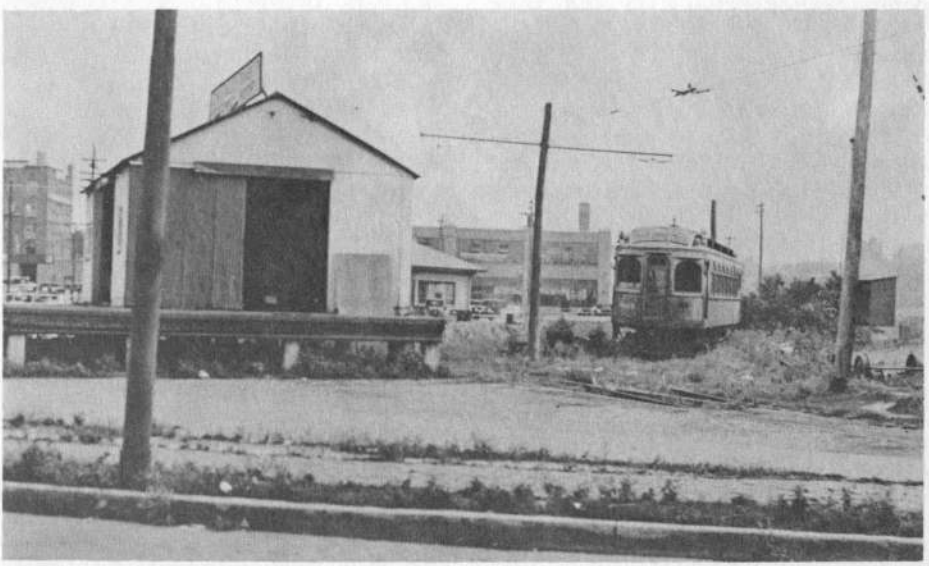
Lehigh Valley Transit Company on Thursday, September 6, 1951, at 6:00 p.m. suddenly announced the conversion of Liberty Bell Route's railway service to autobus operation effective with commencement of schedules on Friday, September 7th. During the remaining hours of September 6th, the company's operators quickly moved all rolling stock from Philadelphia Division trackage into storage at Allentown Division's Fairview Carbarn until disposition had been arranged. At 11:06 p.m. car No. 1006 departed from Allentown on the last scheduled passenger car trip over Liberty Bell Route and returned from Norristown at 2;46 a.m., Friday, September 7, 1951. Cars Nos. 702, 704, and 812 along with several 1000 Series cars operated regular schedules on the last day of rail service. Car No. 702 operated the second last and No. 812 the third last scheduled trip.

All Liberty Bell Route limited and local cars remained at Fairview Carbarn until the transit company instituted another scrap program. Eventually, the company concluded arrangements with scrap brokers which permitted delivery of cars on wheels to Bethlehem Steel Corporation's Bethlehem Plant. A spur constructed from Bethlehem - Hellertown route trackage on Daly Avenue through a temporary gate built in the fence connected physically with a dead end siding of Philadelphia, Bethlehem and New England Railroad Company. A temporary wire which led from the transit company's overhead wire to the trolley pole of cars being scrapped provided the electricity necessary to properly space cars within the steel plant's property. Diesel-electric locomotives of the railroad moved all cars from the siding to the scrap preparation area by draw bars.

All 700 Series cars and No. 812 performed their final assignments for Lehigh Valley Transit Company in active service. On November 14, 1951, car No. 710 pulled car No. 1007 and car No. 812 pulled car No. 1022 to Bethlehem Plant via the Allentown-South Bethlehem route, and on January 8, 1952, cars Nos. 701 and 1001, Nos. 702 and 1003, and Nos. 704 and 1020 entered the steel work's property. In all cases draw bars connected the cars because 1000 Series cars lacked a train coupling system.


**Francis J. Goldsmith, Jr. Collection**

Southbound car No. 710 has negotiated the curve at the intersection of Railroad Avenue and South Broad Street in Lansdale, July 30, 1936.



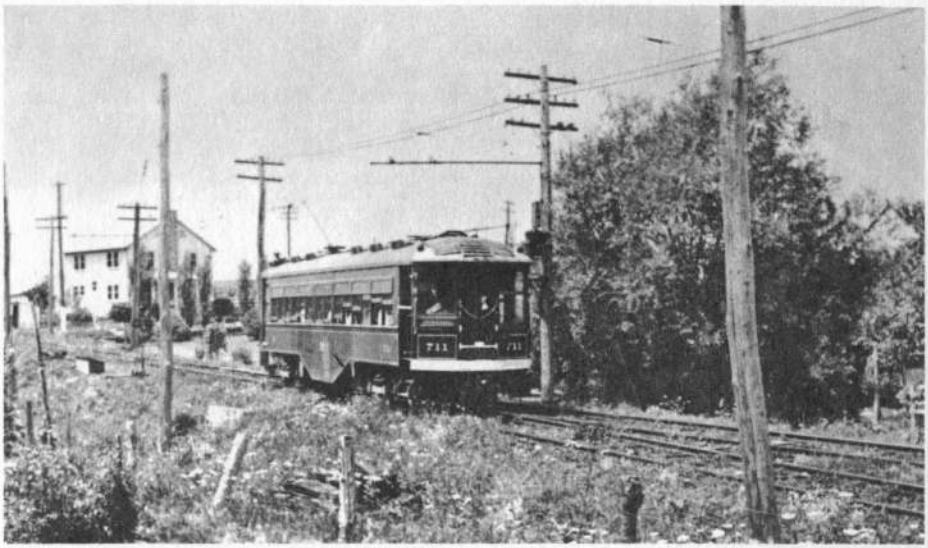
**William P. Hamilton III**

Car No. 803, assigned to Works Progress Administration charter service emanating from Norristown, stands in Rink Siding's storage spur, Norristown, August, 1936.

## TWO CARS SURVIVE THE SCRAP PROGRAM

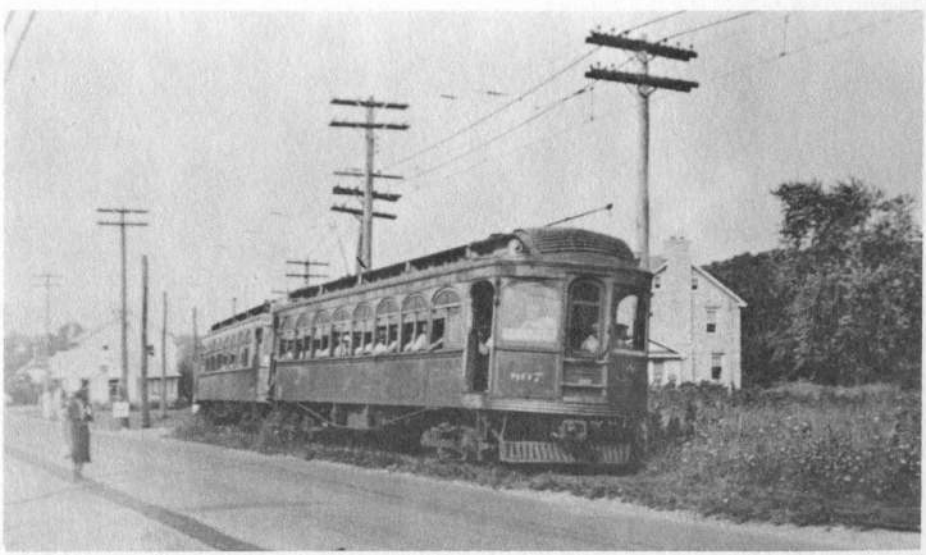
Two cars, Philadelphia Division's interurban limited car No. 1030, which had been sold to Seashore Electric Railway Company's operating museum located near Kennebunkport, Maine, and freight car No. C15, former interurban passenger car No. 808, which had been sold to Philadelphia Transportation Company's Broad Street subway system for utility use, represent the only two cars of Lehigh Valley Transit Company which, in operating condition, escaped destruction by the scrap program. Philadelphia Transportation Company had also purchased cars Nos. C17, ex No. 806, and No. C19, ex No. C14 and No. 802, for trucks and electric equipment. After the cars had been stripped of essential parts at Riverside Yard, Allentown, the company sold the bodies of both cars to Bethlehem Steel Corporation's Bethlehem Plant for scrap. In 1953 Broad Street Subway's Fern Rock Shop released former car No. C15 as utility car No. T18.

END



**Robert G. Lewis**

Northbound car No. 711 enters the south end of Brush Siding, Norristown, August 2, 1936.

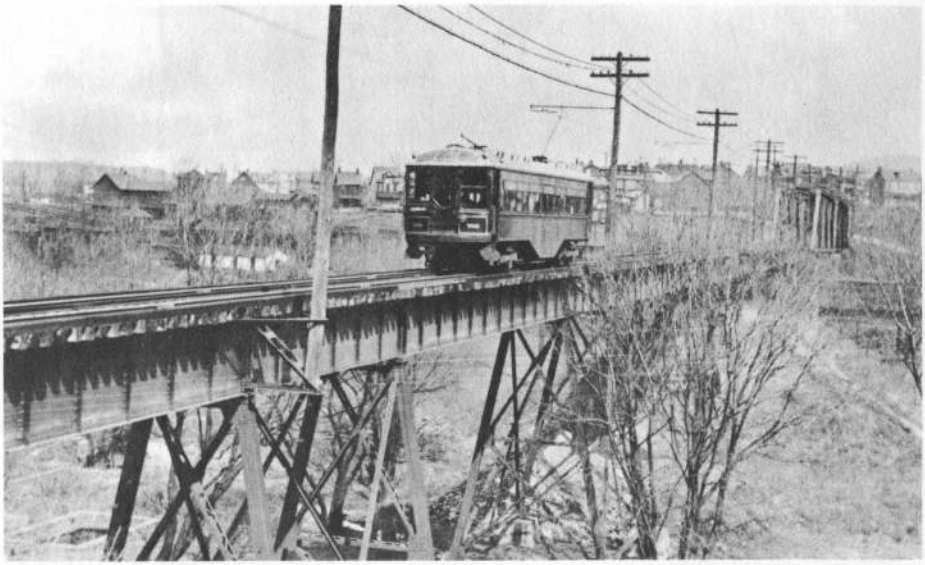


**Robert G. Lewis**

Southbound WPA train composed of cars Nos. 807 and 803 enters Markley Street, Norristown, from private right of way, August 13, 1936. The cars, a special movement, conveyed workers to and from a project located near Telford. Paint applied to 800 Series cars in 1928 had all but disappeared by this time.

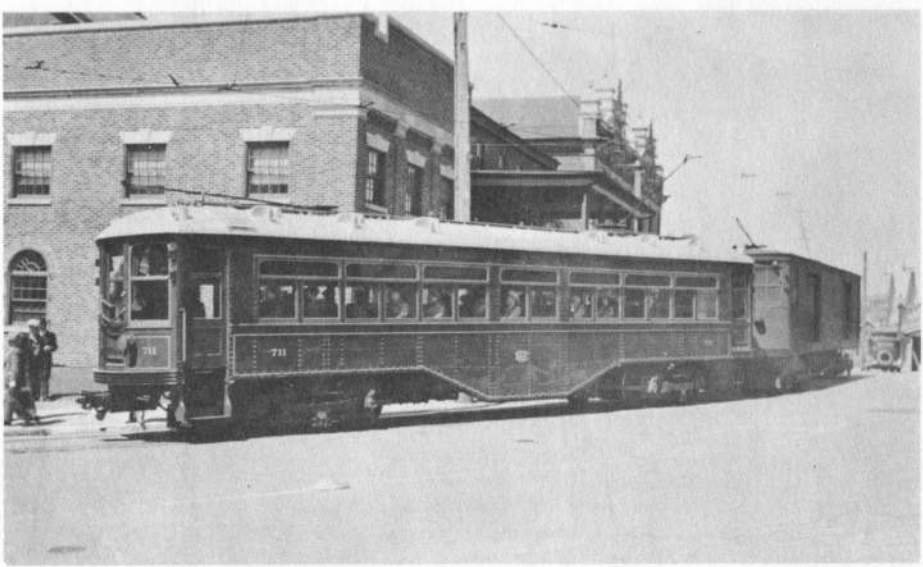
## 800 SERIES ROSTER

| Number | 1st Rebuilding | 2nd Rebuilding | Disposition |
|---|---|---|---|
| 800 | One-man, 1936 | Freight car No. C16, 1940 | No. C16 scrapped, Bethlehem Steel Corp., Bethlehem Plant, January 10, 1952. |
| 801 | —— | —— | Body sold for dwelling at Neola, Pa., March, 1938. Sold in turn to Magee Transportation Museum, Bloomsburg, Pa., May, 1967. |
| 802 | Freight car No. C14, 1934 - 1935 | Renumbered, No. C19, 1942 | No. C19 sold to Philadelphia Transportation Co., 1951. Trucks retained by PTC but body scrapped at Bethlehem Steel Corp., Bethlehem Plant, March 11, 1952. |
| 803 | —— | —— | Scrapped, Fairview Carbarn, August 17, 1940. |
| 804 | —— | —— | Scrapped, Fairview Carbarn, August 17, 1940. |
| 805 | —— | —— | Body sold for dwelling westward from Allentown, 1940. |
| 806 | Freight car, No. C17, 1940 | —— | No. C17 sold to Philadelphia Transportation Co., 1951. Trucks retained by PTC but body scrapped at Bethlehem Steel Corp., Bethlehem Plant, March 11, 1952. |
| 807 | —— | —— | Body sold for utility building northward from Allentown, summer, 1940. |
| 808 | Freight car, No. C15, 1935 | —— | No. C15 sold to Philadelphia Transportation Co., November 24, 1951. Rebuilt by PTC and identified at No. T18 for utility std. gauge third rail subway systems. Sold in turn by PTC to Magee Transportation Museum, Bloomsburg, Pa., May, 1967. |
| 809 | All-coach, 1936 | Freight car, No. C18, 1940 | No. C18 scrapped, Bethlehem Steel Corp., Bethlehem Plant, January 10, 1952. |
| 810 | —— | —— | Out of service, 1932, Hatfield auto collision. Body sold for diner in Hellertown, Pa., December 14, 1938. |
| 811 | —— | —— | Gutted by fire on Philadelphia & Western Railway Co., September 1, 1929. Scrapped, Fairview Carbarn, 1935. |



**William P. Hamilton III**

Northbound car No. 700 crosses viaduct which spanned Trout Creek and Reading Company's East Penn yard in South Allentown, late winter, 1936-1937.



**John P. Scharle**

Southbound passenger-freight train composed of cars Nos. 711 and C6 accommodates passengers at Souderton station, April 17, 1937.

# 800 SERIES TECHNICAL INFORMATION

BUILDER — Jewett Car Company, Newark, Ohio
800 to 805, 1912; 806 to 811, 1913

COST — $12,000 each

BODY — Combination baggage-passenger; steel frame with structural side plates; wood above window sills; and solid inlaid mahogany interior; 55 ft., 10½ in. long; 9 ft. wide; 13 ft. high from rails to trolley boards

TRUCKS — 800 to 805—Baldwin 78-30A, roller bearing; 6 in. dia. axles; 36 in. dia. forged steel wheels; 78 in. wheel base; 5x9 in. journals; plain journal replacements; third rail equipment.
806 to 811—Brill MCB3X, plain bearing, same dimensions as 800-805.

CONTROL — WH AL type C36 with C36C controller and relay advancing buto selecting next contactor step

MOTORS — 4 WH303A; 22:55 gear ratio; rated 115 horsepower at 600 volts

BRAKES — WH AMM straight and automatic; M22 brake valves; Peacock hand brake wheel

COUPLERS — 800 to 805—Westinghouse car and air, 1912; adapter for LVT-P&W car train operation, 1912-1913; Tomlinson form 16, car and air, 1913
806 to 811—Tomlinson form 16, car and air, 1913

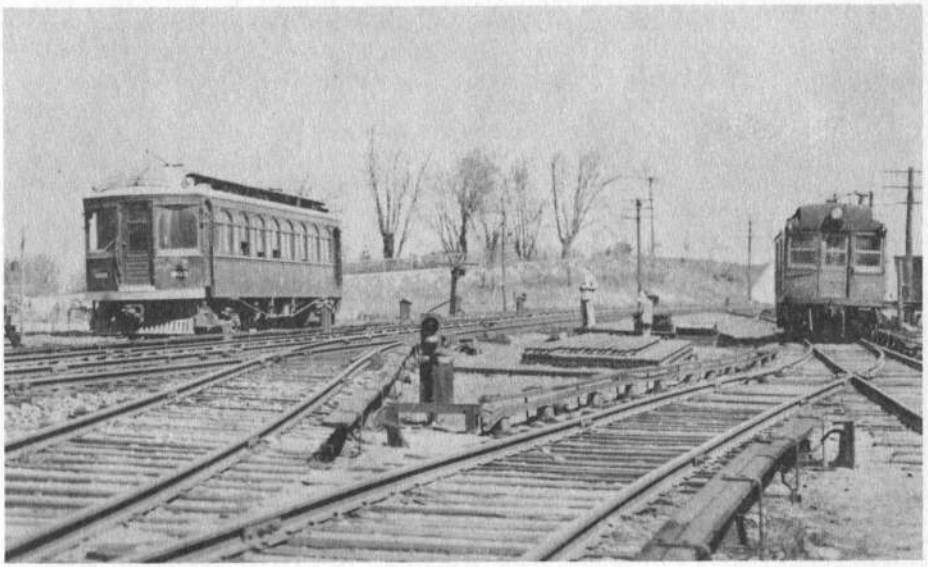
WEIGHT — 800 to 805—82,420 lbs.; 806 to 811—82,600 lbs.

SEATING CAPACITY — 800 to 803—54
804 to 805—44 with club chairs; 54, 1913, with walkover seats
806 to 811—54

COLOR — 1912 to 1918—Medium chrome green; varnished; gold striping; monograms, letters, and medium size numbers; chrome yellow roof; black anti-climbers, undercarriage, and headlight.
1918 to 1928—Bright red; varnished; gold striping, monograms, letters, and medium-size numbers; tan roof; black anti-climbers, undercarriage and headlight.
1928 to 1936—Light red; varnished; silver striping, monograms, letters, medium size numbers, roof, anti-climbers, and headlight; and black undercarriage. (806 small numbers).
1936 to 1939—800; same as 1928-1936 except dark red and small numbers. No letters.
809, dark red; varnished; silver roof and headlight; gold striping, monograms, and small numbers; black anti-climbers, headlight, undercarriage. No letters.
803, 805, 806 and 807; dark flat red; silver monograms, small numbers, roof, anti-climbers, and headlight. No stripes and letters.

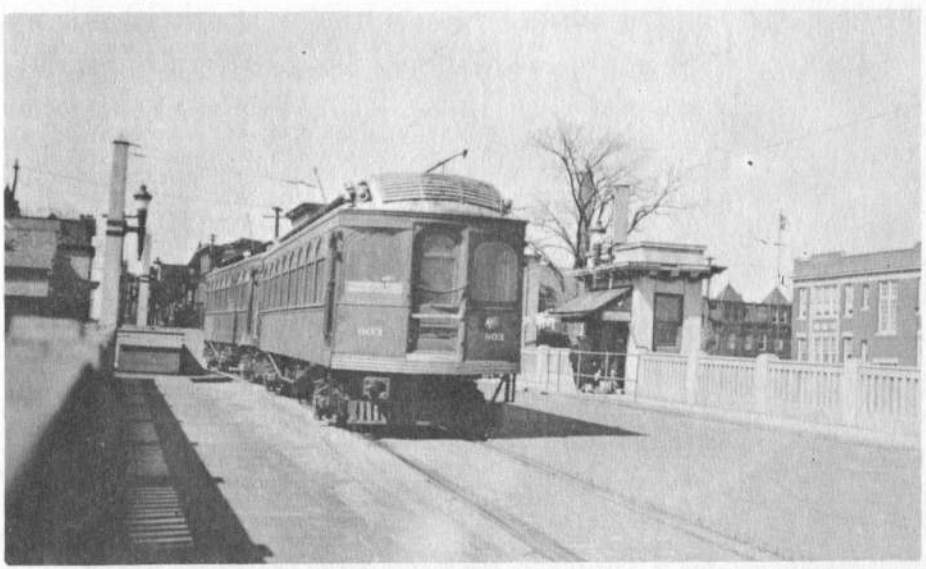
SIGNAL LIGHTS — 800 to 805—1912 to 1923—Adlake oil in corner post sockets
1923 to 1939—Electric Ohio Brass Co. in roof
806 to 811—1913 —Electric "bulls-eye" in letterboard
1913 to 1923—Adlake oil in corner post sockets
1923 to 1939—Electric Ohio Brass Co. in roof

WHISTLES — 1912 to 1914—10 in. single tone above motorman's window
1914 to 1918—10 in. single tone lengthwise on roof mat
1918 to 1927—10 in. single tone and 5 in. chime with shield on clerestory wall at No. 1 end
1927 to 1939—Twin Strombos air horns on roof at No. 1 end. (No. 800, No. 2 end, 1936)



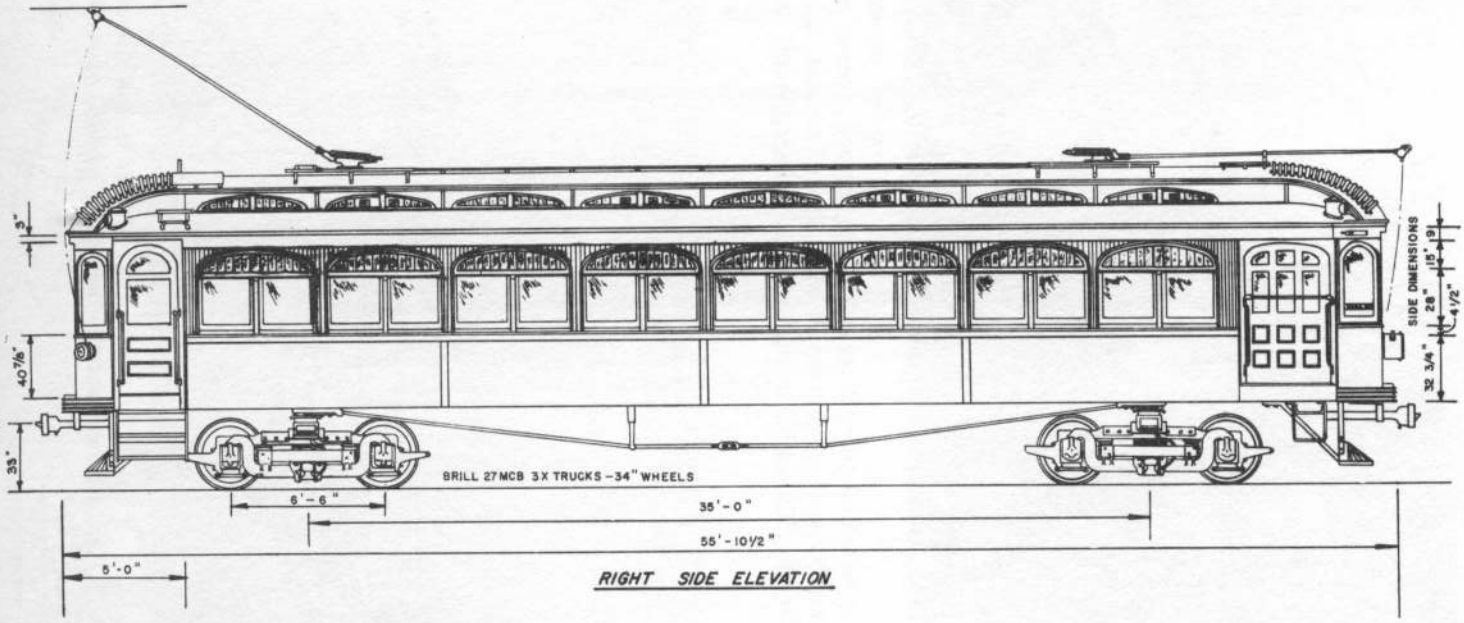
**John P. Scharle**

Northbound car No. 805, operated from passenger entrance end in one man service, passes Philadelphia and Western Railway Company's carbarn, Upper Darby, May 3, 1937.



**John P. Scharle**

Cars Nos. 803 and 800 in a train return to Fairview Carbarn, Allentown, via Eighth Street Bridge after completing a northbound schedule, May 12, 1937.



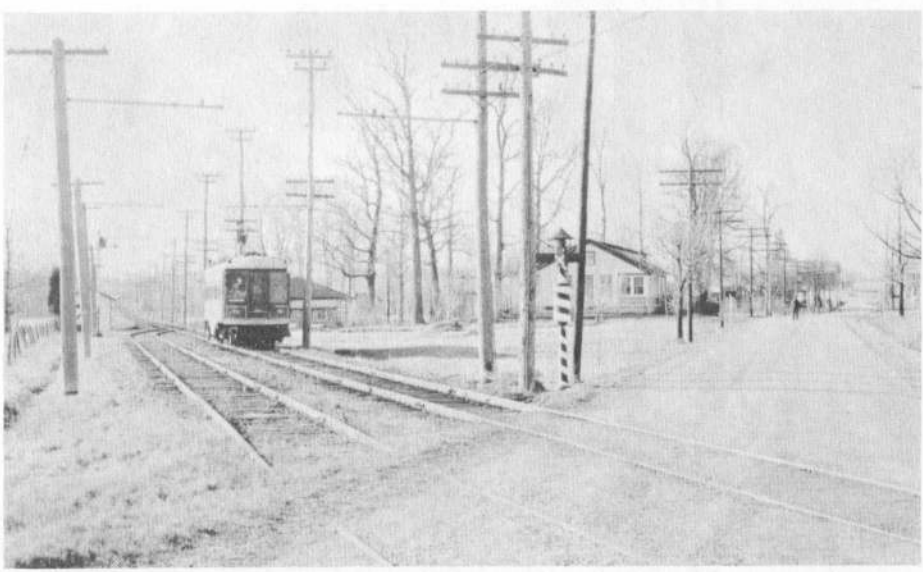

RIGHT SIDE ELEVATION



Exterior drawing of 800 Series cars as built in 1913 plus later revisions.

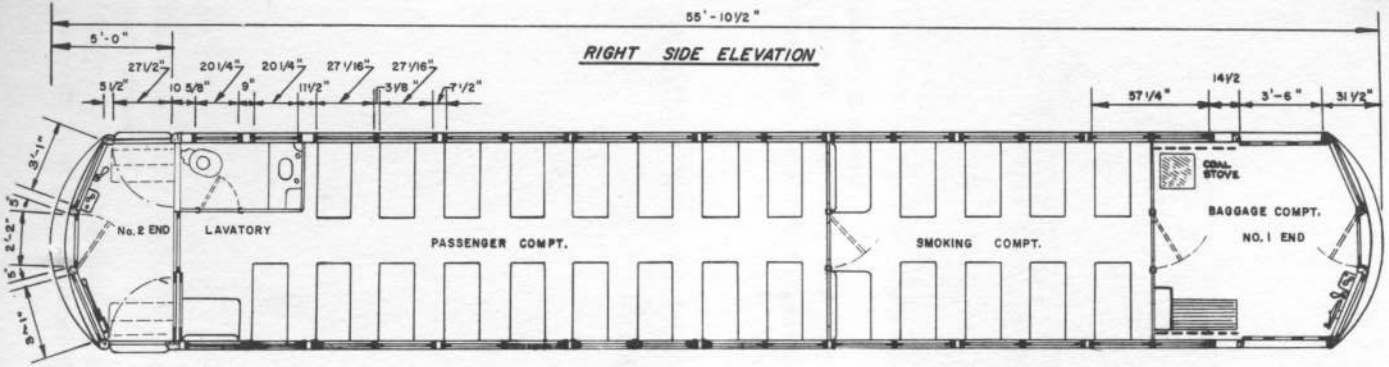

**C. W. Jernstrom**

Car No. 702, being operated from observation end controls, moves into loading position for a northbound assignment at 69th Street Terminal, Upper Darby, spring, 1937. Car No. 806 stands in storage spur in background.



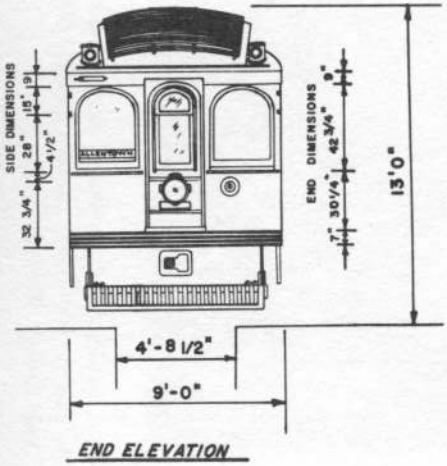
**Howard P. Sell Collection**

Southbound car No. 711 approaches Wood Siding, Brick Tavern, northward from Quakertown, summer, 1937.




FLOOR PLAN

NOTE: ROOF MARKERS INSTALED IN 1923




END ELEVATION

Interior and end drawings of 800 Series cars as built in 1913 plus later revisions. (drawings of 800 Series cars as originally appearing in **Trolley Talk,** No. 70, September, 1968)

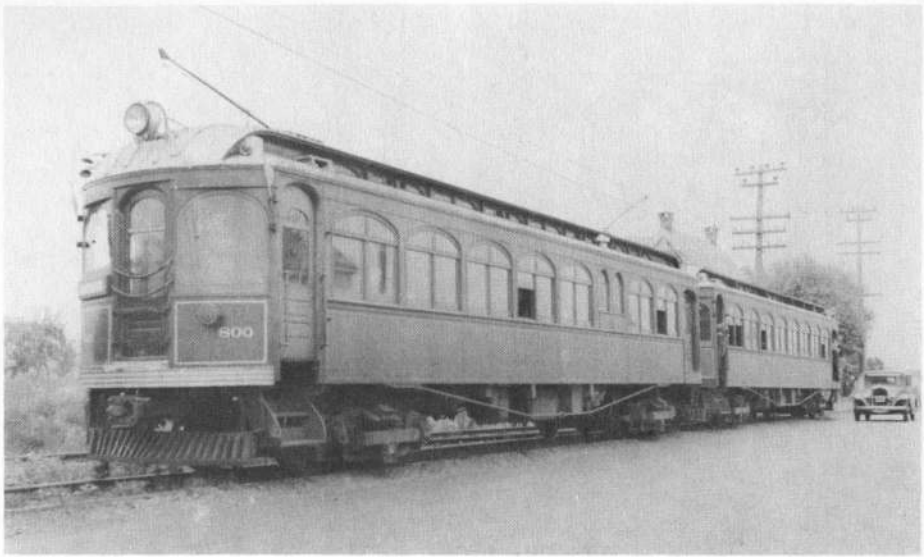
LEHIGH VALLEY TRANSIT CO.

CARS: 806 - 811 - Jewett - 1913

Scale: 1/4" = 1'-0"

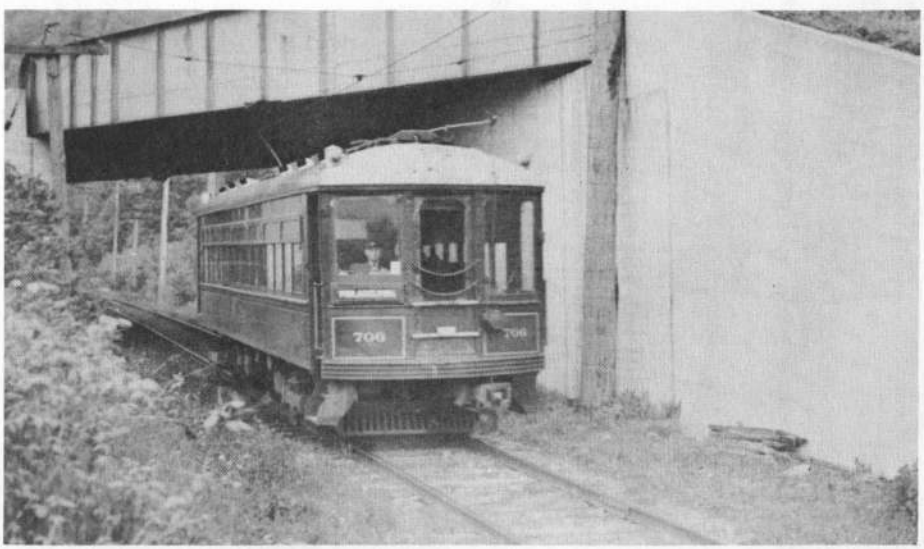
Drawn By: A.W. Maginnis 4/28/68

Data Sources: J.T. Derr & Field Measurements On 8/16/67




**George E. Votava**

Northbound train composed of cars Nos. 800 and 809 passes through Ridge Siding, northward from Perkasie, while operating a chartered trip sponsored by Philadelphia Chapter, N.R.H.S., October 3, 1937.

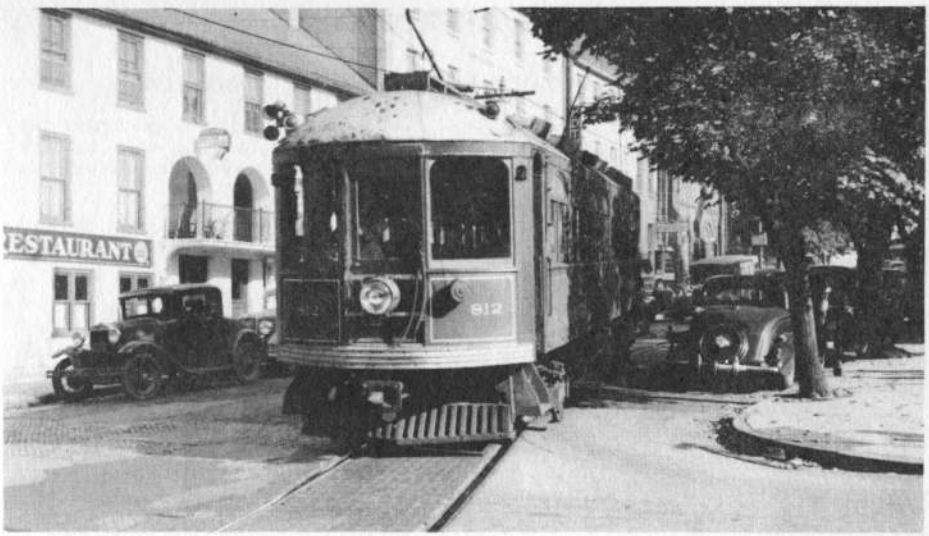



**Harold B. Olsen**

Southbound car No. 706, having descended the southern slope of Lehigh, or South, Mountain, passes under Allentown-Philadelphia highway overpass near Lanark, May 8, 1938.

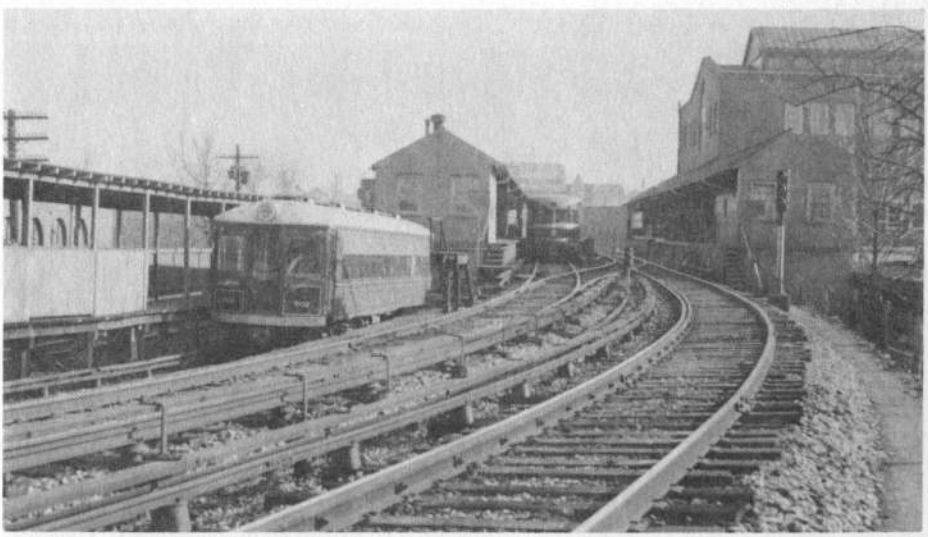
# NO. 999/812 ROSTER

| Number | 1st Rebuilding | 2nd Rebuilding | Disposition |
|---|---|---|---|
| 999 | —— | —— | Converted into passenger car No. 812, 1921, with interior closely resembling 800 Series type. |
| 812 | One man, 1932 | Windows enlarged at No. 2 end in 1936 and right rear passenger entrance added to left side of No. 1 end, 1942. | Scrapped, Bethlehem Steel Corp., Bethlehem Plant, November 4, 1951. |




**C. W. Jernstrom**

Southbound car No. 812 approaches the north entrance of Philadelphia and Western Railway Company's elevated structure at Swede Street, Norristown, summer, 1938.



**David H. Cope**

Northbound scheduled car No. 702 stands at loading platform reserved for Liberty Bell Route cars in 69th Street Terminal, Upper Darby, summer, 1938. Philadelphia and Western Railway Company's car No. 206, bound for Norristown, accommodates passengers at its proper location.

# NO. 999/812 TECHNICAL INFORMATION

BUILDER — Lehigh Valley Transit Company, Allentown, Pa., 1914

COST — ?

BODY — Lounge-dining car; wood panel body with plate steel ends; wood above window sills; 50 ft. long; 8 ft., 9 in. wide; and 12 ft., 4 in. high from rails to trolley boards

TRUCKS — 1914 to 1916—Baldwin 78-30A, roller bearing; 6 in. dia. axles; 36 in. dia. forged steel wheels; 78 in. wheel base; 5x9 in. journals; third rail equipment.
1916 to 1951—Brill stMCB2X (same as 700 Series); third rail equipment

CONTROL — WH AL type C36 with C36C controller and relay advancing button selecting next contactor step.

MOTORS — 1914 to 1916—4 WH303A; 22:55 gear ratio; rated 115 horsepower at 600 volts
1916 to 1951—4 WH547A; 25:62 gear ratio; rated 80 horsepower at 600 volts

BRAKES — WM AMM straight and automatic; M22 brake valves; Peacock hand brake wheel

COUPLERS — Tomlinson form 16, car and air

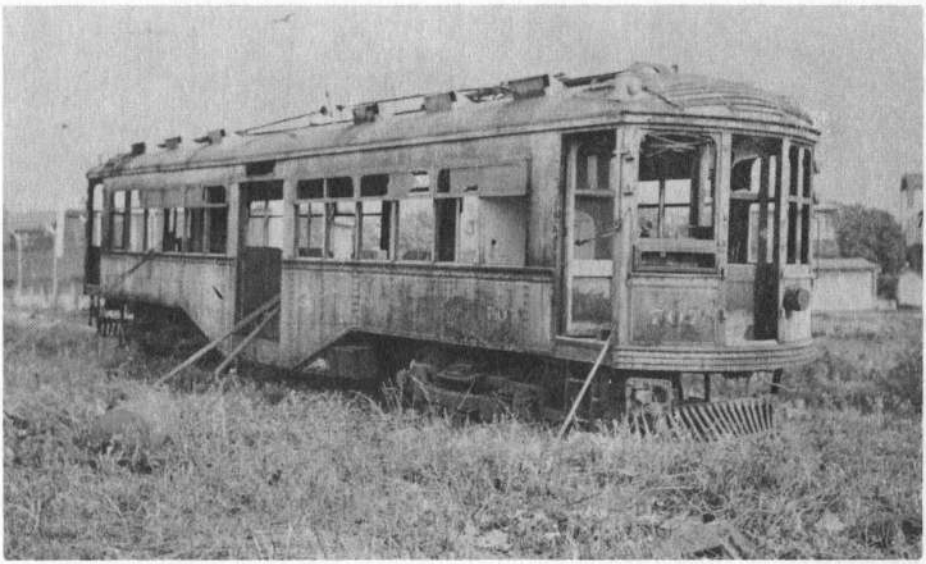
WEIGHT — 67,400 pounds

SEATING CAPACITY — No. 999—28
No. 812—52

COLOR — 1914 to 1921—Medium chrome green; varnished; gold fancy emblems, letters, and medium size numbers; chrome yellow roof; black anti-climbers, undercarriage, and headlight
1921 to 1928—Bright red; varnished; gold striping, monograms, letters, and medium size numbers; tan roof; black anti-climbers, undercarriage, and headlight.
1928 to 1936—Light red; varnished; silver striping, monograms, medium size numbers, roof, anti-climbers, and headlight, and black undercarriage. No letters
1936 to 1939—Same as 1928 to 1936 except small numbers
1939 to 1947—Mountain ash scarlet boly and anti-climbers; white window sills and sashes; silver roof and headlight; gold numbers; and black trucks and undercarriage. No letters and monograms
1947 to 1951—Picador cream; varnished; mountain ash scarlet numbers, stripes, anti-climbers, and headlight; pearl gray roof; black trucks and undercarriage. No letters and monograms.

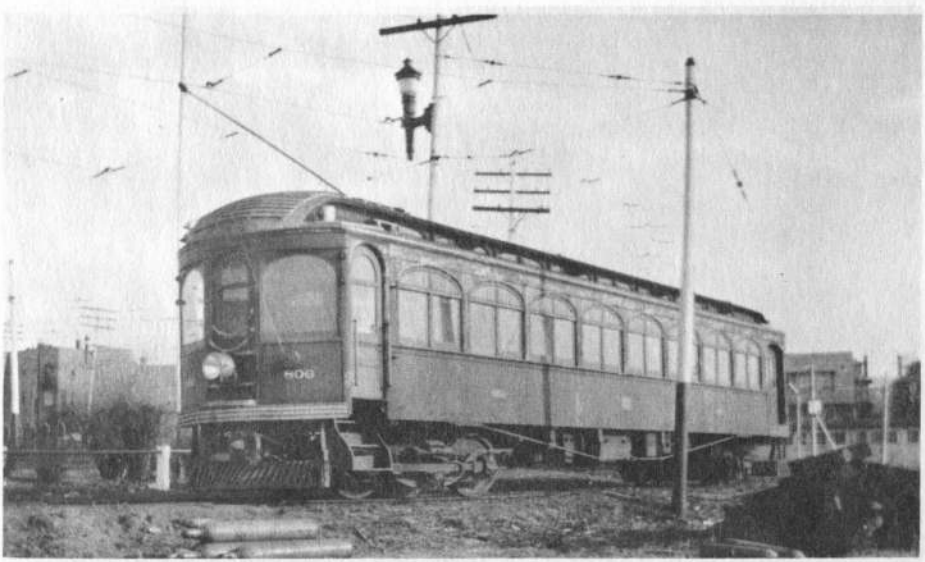
SIGNAL LIGHTS — 1914 to 1921—Adlake oil in corner post sockets
1921 to 1951—Electric Ohio Brass Co. in roof

WHISTLES — 1914 to 1927—10 in. single tone above motorman's window
1927 to 1932—Twin Strombos air horns on roof at No. 1 end
1932 to 1947—Twin Strombos air horns on roof at No. 2 end
1947 to 1951—Twin Strombos air horns on roof near trolley board at No. 2 end



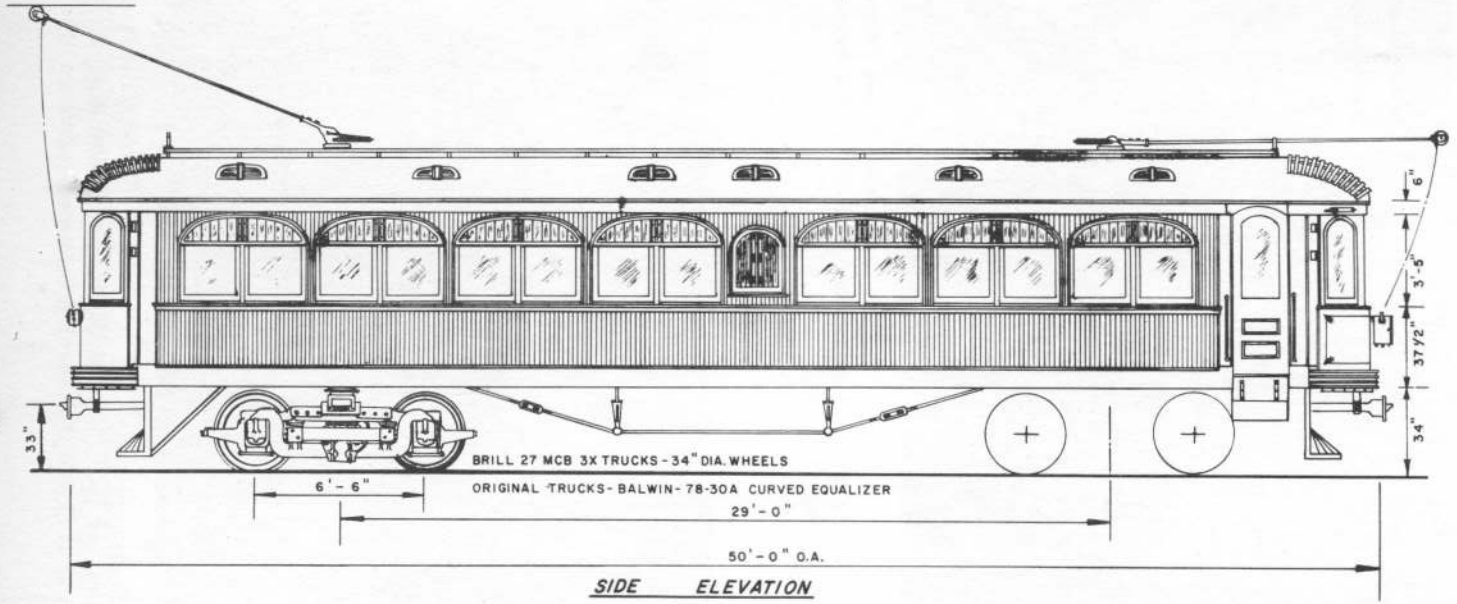
**E. Everett Edwards**

Car No. 707, stripped for conversion to a deluxe type, scrapped in that condition at Fairview Carbarn, Allentown, August, 17, 1938. The transit company cancelled the rebuilding in 1932.



**Randolph L. Kulp**

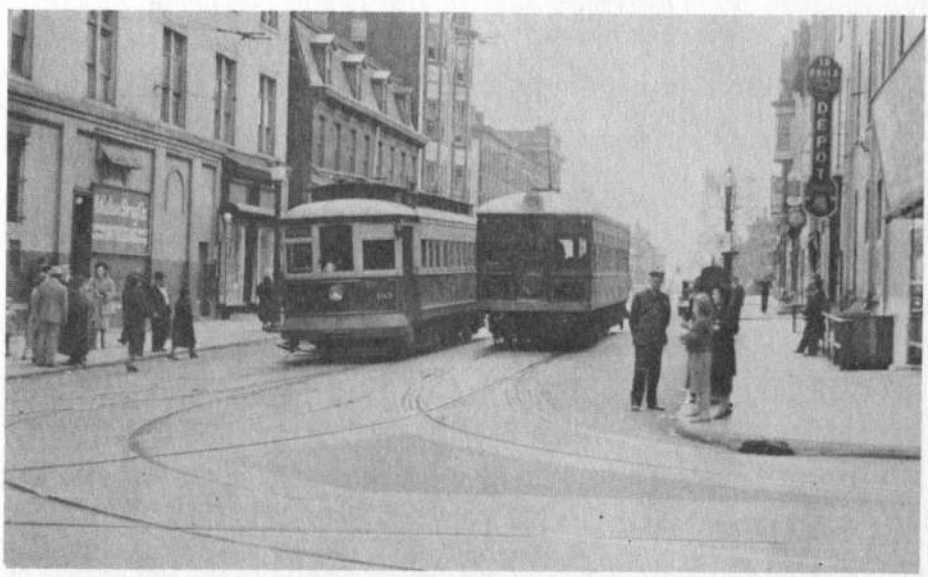
Car No. 806, prepared for an early evening southbound trip, stands on No. 0 track at Fairview Carbarn, Allentown, December, 1938.




Exterior drawing of private interurban car No. 999 as built in 1914.

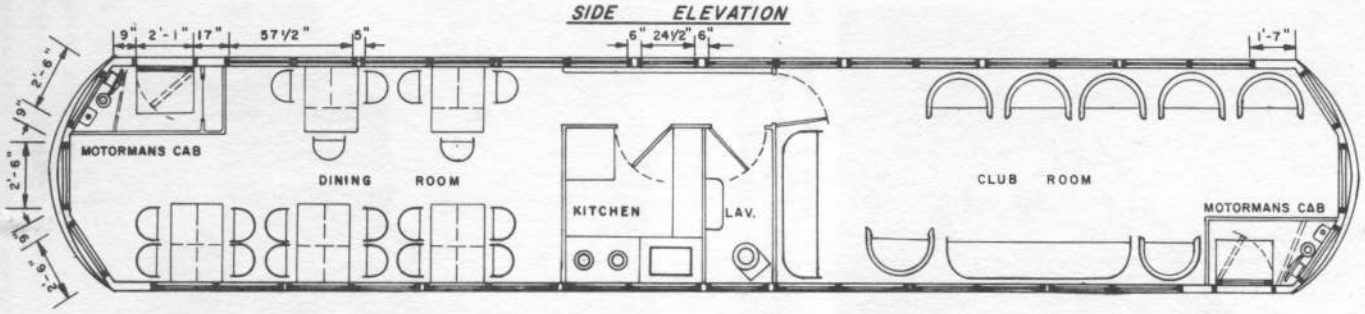
**Howard P. Sell Collection**

Southbound car No. 704, a deluxe type, enters Gehman Siding between Souderton and Hatfield, December 11, 1938.

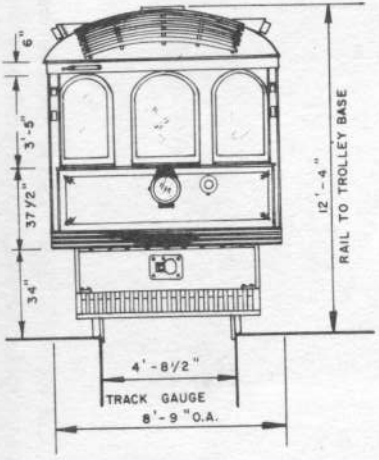



**David H. Cope**

Southbound scheduled car No. 710 and Liberty Bell Route local car No. 153, a St. Louis type, stand at Eighth and Hamilton streets, Allentown, winter, 1938-1939.



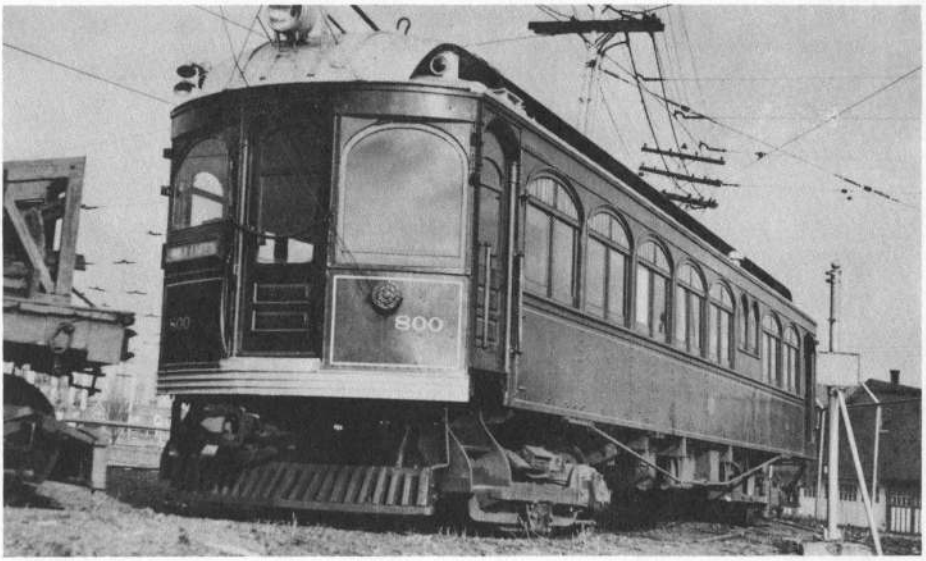

FLOOR PLAN




END ELEVATION

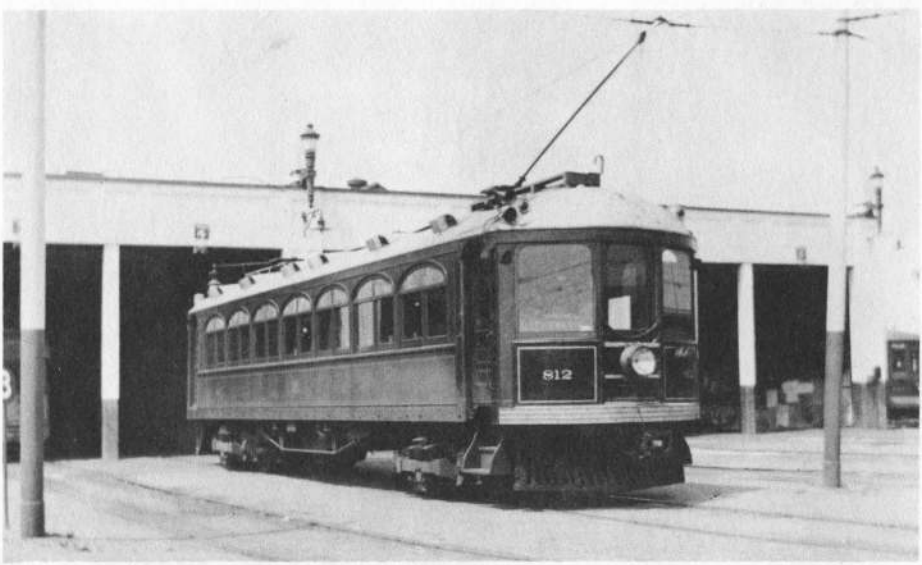
Interior and end drawings of private interurban car No. 999 as built in 1914. The car was rebuilt as passenger car No. 812 in 1921. (drawings of car No. 999 as originally appearing in **Trolley Talk,** No. 70, September, 1968)

| LEHIGH VALLEY TRANSIT COMPANY |
|---|
| PRIVATE INTERURBAN CAR - 999 |
| BUILT BY LVT Co. GORDON ST. SHOPS - 1914 |
| REBUILT INTO INTERURBAN CAR No. 812 - 1921 |
| SCALE: 1/4" = 1'-0" |
| DRAWN BY: W. B. MAGINNIS, 3/8/1952 |
| TRACED BY: A.W. MAGINNIS, 5/16/1968 |
| |




**John J. Bowman, Jr.**

Car No. 800 stands before Fairview Carbarn, Allentown, prepared for a southbound schedule ten days after 1000 Series had been successfully tested over Liberty Bell Route, February 19, 1939.

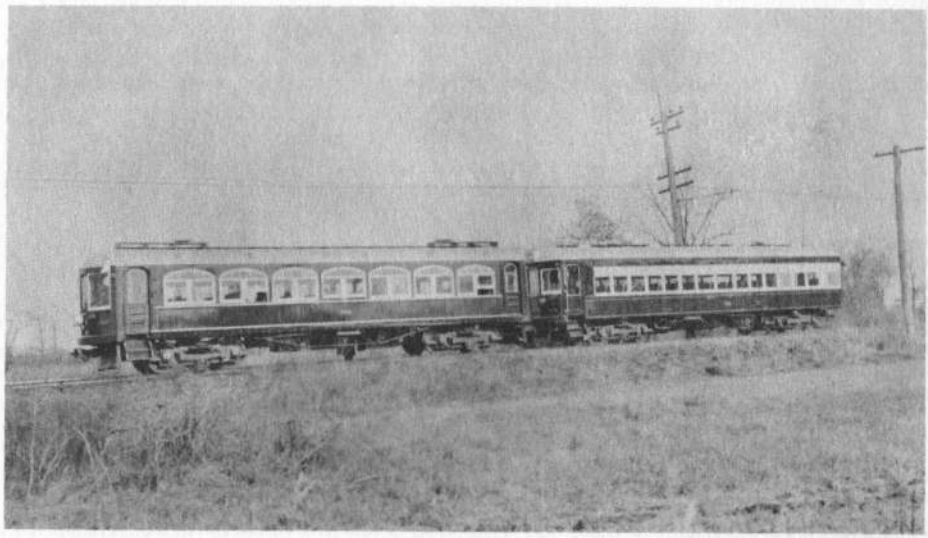



**Randolph L. Kulp**

Car No. 812, even though 1000 Series had generally replaced the heavier cars in regular service, stands on No. 4 track at Fairview Carbarn, Allentown, awaiting an assignment, June, 1939.

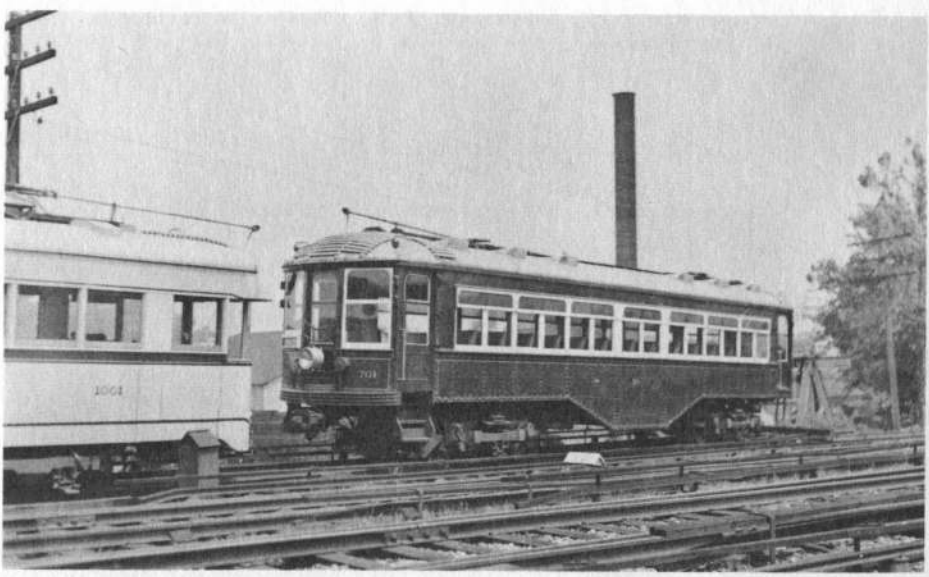
## 700 SERIES ROSTER

| Number | 1st Rebuilding | 2nd Rebuilding | Disposition |
|---|---|---|---|
| 700 | Completely rebuilt after fire at Oakland, April 11, 1918. | Center entrance enclosed and trap doors and steps added at No. 1 end for one man service, 1932. | Body scrapped, Fairview Carbarn, December 29, 1949. Trucks to Chicago, Aurora & Elgin Ry. Co., 1942. |
| 701 | Center entrance enclosed and trap doors and steps added at No. 1 end for one man service, 1932. | Trap door and step added to right rear, 1942. | Scrapped, Bethlehem Steel Corp., Bethlehem Plant, January 8, 1952. |
| 702 | Straight side Deluxe Limited type, August 8, 1931. | —— | Scrapped, Bethlehem Steel Corp., Bethlehem Plant, January 8, 1952. |
| 703 | Straight side chair car, 1923. | Deluxe Limited type, March 31, 1931. | Gutted by fire at King Manor on P&W, November 18. 1935. Scrapped, Fairview Carbarn, 1936. |
| 704 | Straight side, Deluxe Limited type, April 17, 1931. | —— | Scrapped, Bethlehem Steel Corp., Bethlehem Plant, January 8, 1952. |
| 705 | —— | —— | Scrapped, Fairview Carbarn, 1938. |
| 706 | Straight side chair car, January, 1923 | Parlor car, 1929. Coach, May 8, 1931, steps and traps at both doors of No. 1 end. Rebuilt and fitted with deluxe seats after fire, 1936. | Body sold for diner in Breinigsville, Pa., and trucks to line car No. R3, 1940. |
| 707 | Completely rebuilt after fire at Rock Hill, March 5, 1920. | Stripped for conversion to Deluxe Limited type, cancelled August, 1932. | Scrapped, Fairview Carbarn, October 17, 1938. |
| 708 | In shops for conversion to Deluxe Limited type, cancelled, Aug., 1932. | —— | Scrapped, Fairview Carbarn, December 13, 1938. |
| 709 | —— | —— | Scrapped, Fairview Carbarn, January 28, 1940. |
| 710 | Straight side chair car, January, 1923. | Deluxe Limited type, September, 1931 | Scrapped, Bethlehem Steel Corp., Bethlehem Plant, November 14, 1951. |
| 711 | Center entrance enclosed and trap doors and steps added at No. 1 end for one man service, 1932. | —— | Body scrapped, Fairview Carbarn, July 11, 1949. Trucks to Chicago, Aurora & Elgin Ry. Co., 1942. |



**William J. Rugen**

Northbound train composed of cars Nos. 812 and 702, operating a trip sponsored by North Jersey Chapter, N.R.H.S., halts for photograph at the north end of Gehman Siding, November 12, 1939. The view reveals the similarity of dimensions of car No. 812 and 700 Series cars.



**Ernest A. Mozer**

Car No. 701, painted in the mountain ash scarlet and white paint scheme, stands behind car No. 1000 in the storage spur at 69th Street Terminal, Upper Darby, July, 1942.

## 700 SERIES TECHNICAL INFORMATION

BUILDER — Southern Car Company, High Point, North Carolina (LVT design), 1916

COST — $12,000 each

BODY — All steel center entrance; 50 ft., long; 8 ft., 9 in. wide; 12 ft., 4 in. high from rails to trolley boards

TRUCKS — Brill stMCB2X, 5½ in. dia. axles; 36 in. dia. forged steel wheels; 78 in. wheel base; 4¼x8 in. journals; third rail equipment

CONTROL — WH AL type C36 with C36C controller and relay advancing button selecting next contactor step

MOTORS — 4 WH547A; 25:62 gear ratio; rated 80 horsepower at 600 volts

BRAKES — WH AMM straight air and automatic; M22 brake valves; Horne hand brake wheel.

COUPLERS — Tomlinson form 16, car and air

WEIGHT — 69,180 pounds, center entrance
66,000 pounds, chair car and deluxe limited

SEATING CAPACITY — 48 plus 12 temporary, center entrance car
23, chair car
54, deluxe limited car
56, enclosed center entrance car

COLOR — 1916 to 1921—Medium chrome green; varnished; gold striping; monograms, and medium size numbers; chrome yellow roof; black anti-climbers, undercarriage, headlight

1921 to 1928—Bright red; varnished; gold striping; monograms, and medium size numbers; tan roof; black anti-climbers, undercarriage, and headlight

1928 to 1939—Light red; varnished; silver striping, monograms, medium size numbers, roof, anti-climbers, and headlight; and black undercarriage

1931 to 1939—Deluxe cars Nos. 702, 703, 704 and 710; same as 1928-1939 except dark red body; gold striping, monograms, and small size numbers; green and gold herald added

1936 to 1939—Converted cars 700, 701, and 711 and car 706 in 1936; same as Deluxe scheme

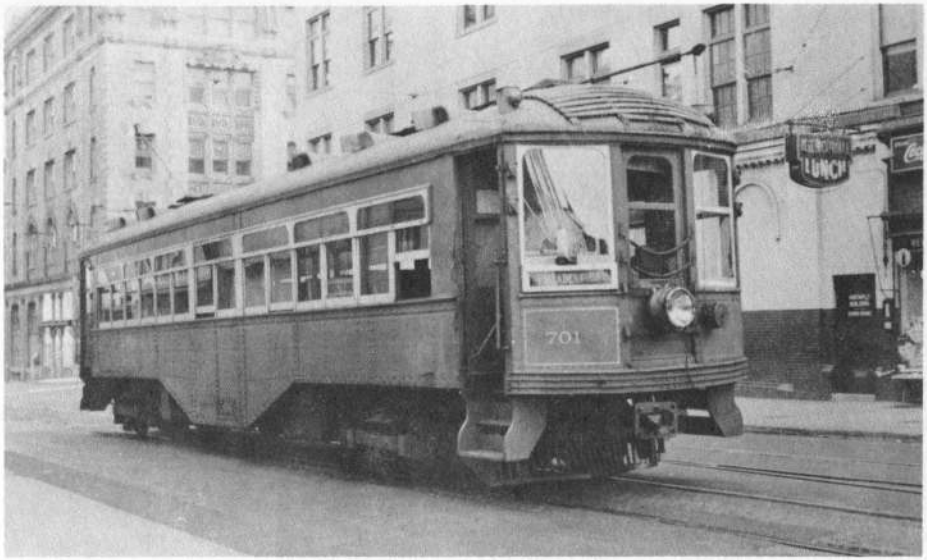
1939 to 1947—702, 704, and 710; Mountain ash scarlet body and anti-climbers; white window sills and sashes; silver roof and headlight; gold numbers and black trucks and undercarriage. No monograms or heralds

1947 to 1951—701, 702, 704 and 710; Picador cream; varnished; mountain ash scarlet numbers, stripes, letters, anti-climbers, and headlight; pearl gray roof; black trucks and undercarriage. No monograms

SIGNAL LIGHTS — 1916 to 1923—Adlake oil in corner post sockets
1923 to 1951—Electric Ohio Brass Co. in roof

WHISTLES — 1916 to 1931—10 in. single tone above motorman's window

1931 to 1951—Twin Strombos air horns underneath No. 1 end platform on cars Nos. 702, 703, 704, 706, and 710; 10 in. single tone under all others

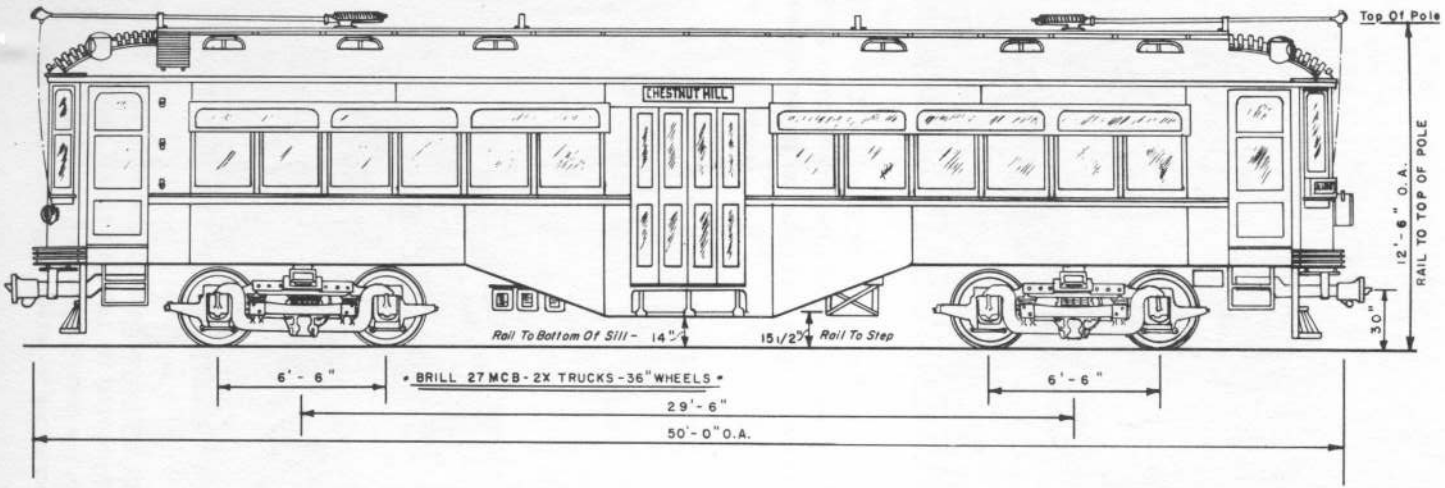



**Stephen D. Maguire**

Car No. 701, assigned to a southbound schedule, stands before Allentown station, August 11, 1946. The street loading entrance at the right rear door had been added to cars Nos. 701 and 812 in 1942 to establish flexibility for local service assignments.

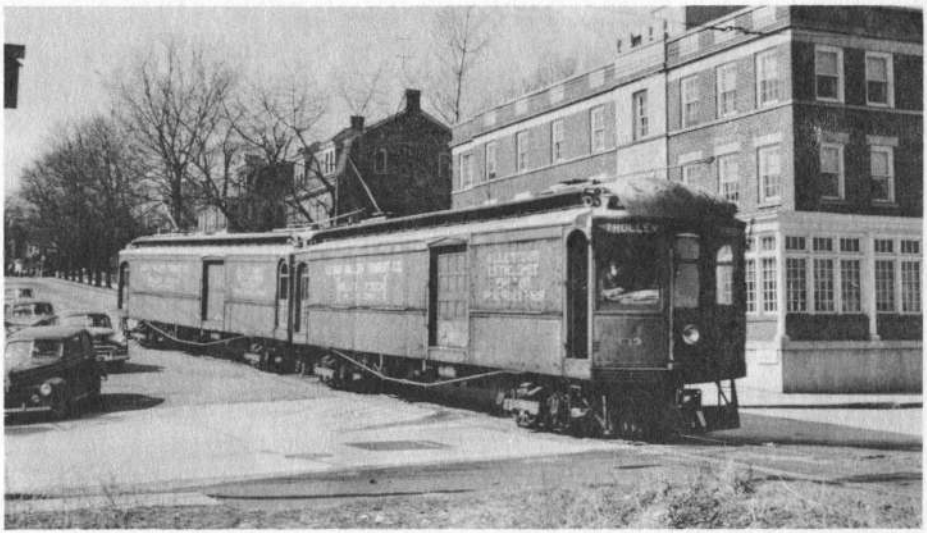
**Lester K. Wismer**

Southbound car No. 702 operates on Main Street, Souderton, summer, 1950.



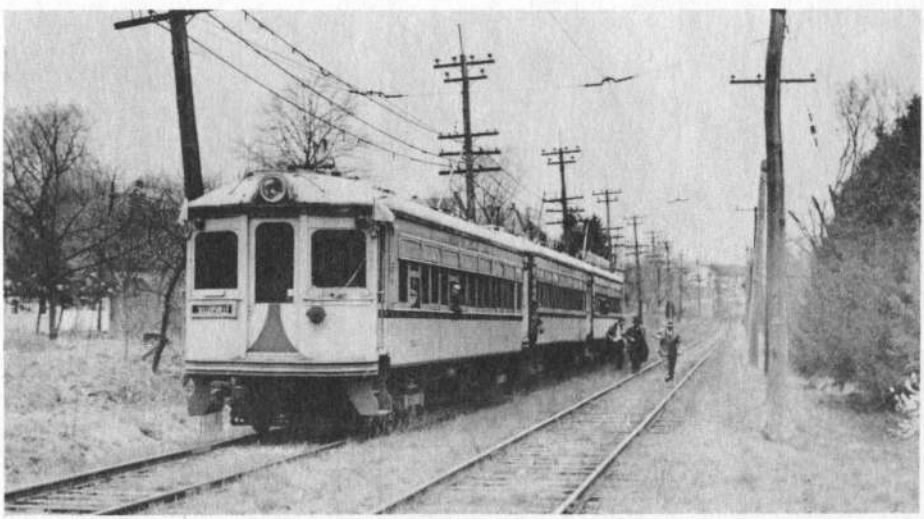

## SIDE ELEVATION

Exterior drawing of 700 Series cars as built in 1916 plus later revisions.



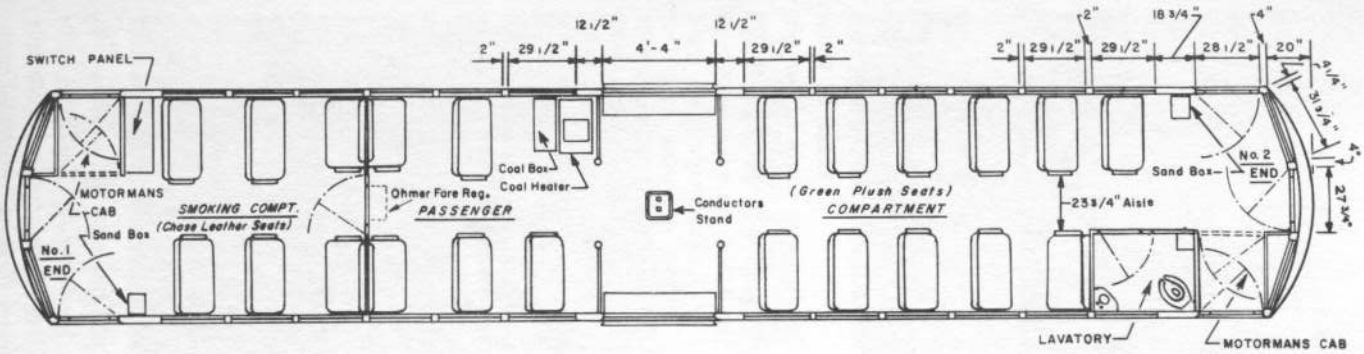
**William D. Middleton**

Southbound freight car train composed of cars Nos. C19, ex No. 802 and C14, and C17, ex No. 806, passes through the intersection of St. John and South Fifth streets, Allentown, to gain entrance to South Allentown viaduct, March 2, 1951.

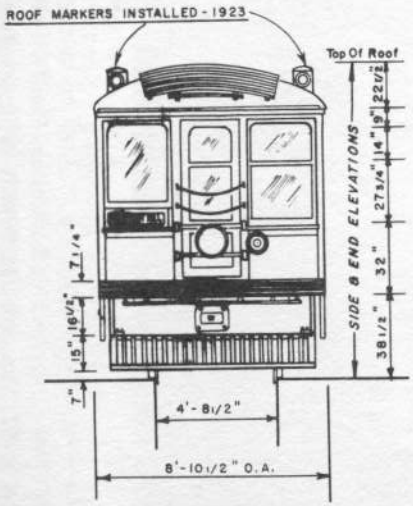


**Max Hubacher**

Southbound three-car train composed of cars Nos. 702, 704 and 710, operating a chartered trip sponsored by Lehigh Valley Chapter, N.R.H.S., halts in Sellers Siding, Sellersville, for photography purposes, April 15, 1951. This represents one of the few occasions in which three 700 Series cars appeared in a train.




## FLOOR PLAN




## END ELEVATION

Interior and end drawings of 700 Series cars as built in 1916 plus later revisions. (drawings of 700 Series cars as originally appearing in **Trolley Talk,** No. 72, December, 1968)

**LEHIGH VALLEY TRANSIT Co.**

**CARS 700-711**

**-Built By Southern Car Co. 1916-**

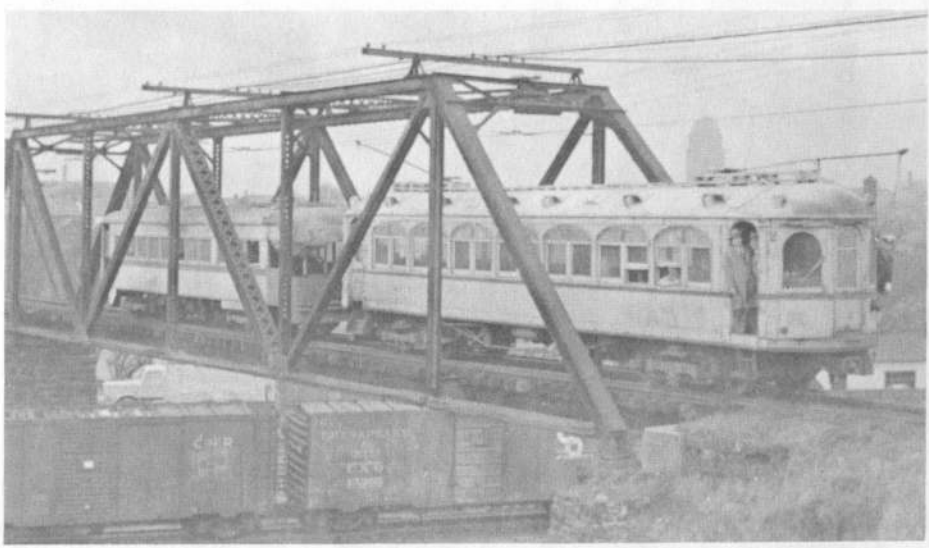
SCALE : 1/4" = 1'-0"

DRAWN BY: A.W. MAGINNIS - Dec. 6, 1968

DATA SOURCES: John P. Schorle; E.W. Fry, J.H. Richards & Elec. Rwy. Jrnl.


**Ernest A. Mozer**

Northbound car No. 812, having descended the northern slope of Lehigh, or South, Mountain crosses Emmaus Avenue at former Emaus Junction in the Mountainville section of Allentown, summer, 1951.



**Call-Chronicle Newspapers, Inc.**

Car No. 812, performing its final assignment, hauls car No. 1022 to Bethlehem Steel Corporation's Bethlehem Plant where both were scrapped, November 14, 1951. The cars halt briefly on South Allentown viaduct for photograph.

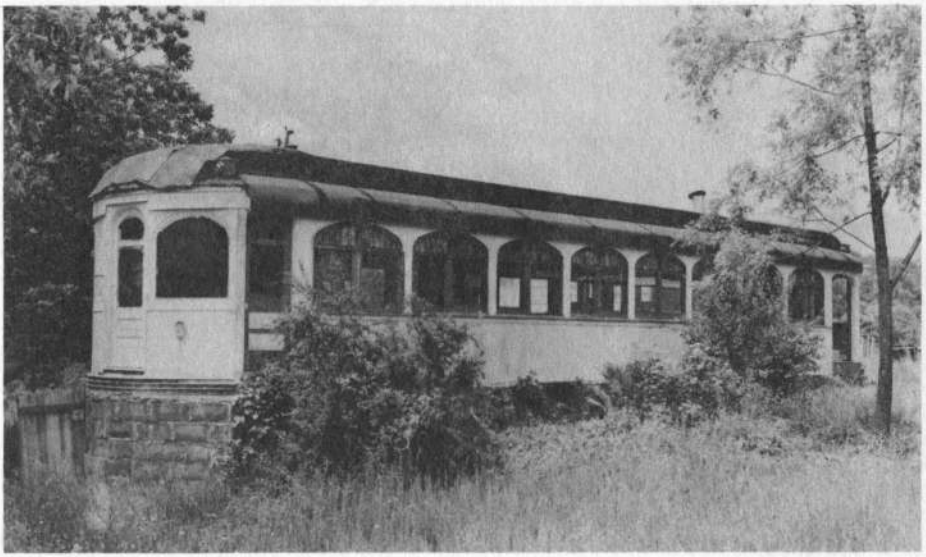
## MAGEE TRANSPORTATION MUSEUM

Electric railway historians, identified as The Liberty Bell Jewett Society, through the initiative of Edward H. Blossom, traction superintendent for Magee Transportation Museum in Bloomsburg, Pennsylvania, arranged the salvation and restoration of Lehigh Valley Transit Company's majestic interurban car No. 801 as an operating unit. For almost one generation the body of this classic example of the electric interurban railway's "golden era" had served as a dwelling near the village of Neola located in the Pocono Mountain region of eastern Pennsylvania far from the famous Liberty Bell Route for which it had been built in 1912.

Events which culminated with the acquisition of car No. 801 and a freight-converted sister car for display and operation on museum trackage actually began three decades earlier when the transit company conducted a modernization program which replaced older cars with newer second hand types. Utility Equipment Company, contracted to conduct the transit company's program, stripped older cars of electrical and mechanical equipment, interior furnishings, and trucks; however, before scrapping the bodies the equipment company offered them for sale via newspaper advertisements. Edward Souders of Bethlehem, Pennsylvania, purchased car No. 801's body for use as a summer home to be located near Neola. Beers Transportation Company of Richmond, Pennsylvania, on March 9, 1938, moved the body by placing one end on the tractor's frame and the other end on a pair of small sturdy wheels which were securely bolted to the floor's underside. At the site the hauler placed No. 801 on a previously built foundation.

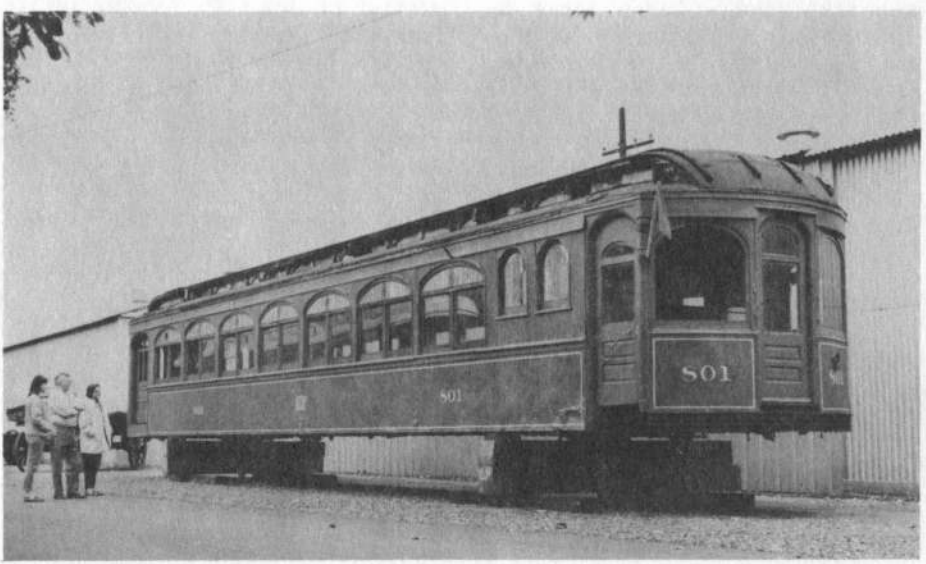
The post World War II era found the American public turning away from public owned transportation systems to privately owned highway vehicles for its transportation needs. Consequently, the transit company gradually converted its operations to motorized units. Abandonment of the Liberty Bell Route effective September 7, 1951, involved the transit company in a program which eliminated all interurban passenger and freight cars from the roster. Philadelphia Transportation Company purchased freight car No. C15, former passenger car No. 808, for conversion to a utility car for use in the standard gauge subway systems. Fern Rock Shop released the revised car, identified as No. T18, in 1953.

Edward H. Blossom, at the suggestion of John P. Scharle of Allentown, Pennsylvania, examined car No. 801 in Neola in 1967. His investigation disclosed the firmness of the light steel underframe; only minor deterioration of steel side plates; satisfactory condition of the roof under protective layers of tarpaper; unmolested interior woodwork, partitions, and ceiling; and unaltered window and door arrangements. Firmly convinced that No. 801 could be restored for use on museum trackage, Mr. Blossom contacted railway historians about his proposal. The response was heartening and the project was underway. While Mr. Blossom negotiated for purchase of car No. 801, a group of historians in the Philadelphia area persuaded Philadelphia Transportation Company to part with car No. T18 so that electrical equipment and trucks eventually would be available for No. 801's restoration.



**Edward S. Miller**

The body of car No. 801, serving as a dwelling, resposes in the rural area near Neola, Pennsylvania, on June 20, 1967. The car had been placed there on March 9, 1938.

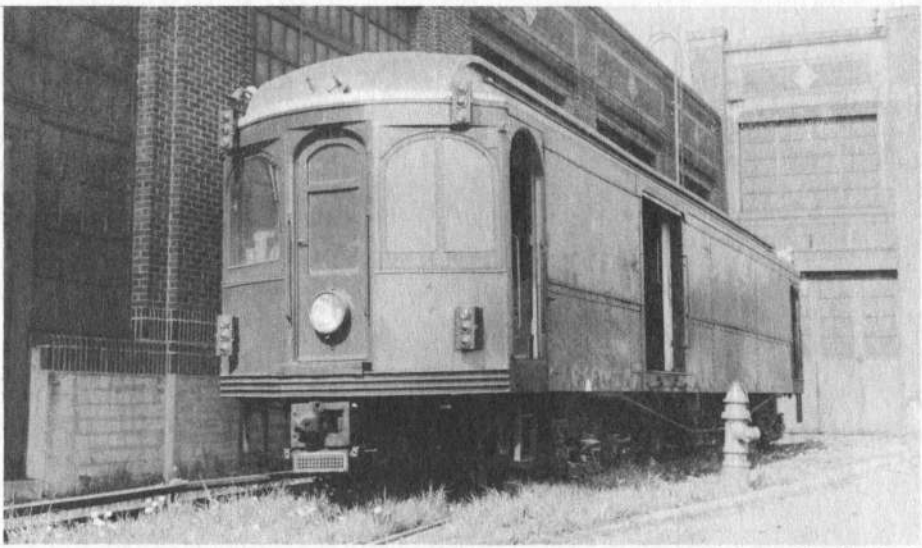



**Edward S. Miller**

Car No. 801's body, painted to resemble the decor in which it had last operated in Liberty Bell Route service, stands on supports alongside the antique automobile building at Magee Museum of Transportation, Bloomsburg, Pennsylvania, September 23, 1967.

All efforts of the various individuals concluded successfully when car No. T18 and trucks arrived in Bloomsburg on railway cars on May 27, 1967, and car No. 801 via highway motor truck and trailer on June 20, 1967. Car No. T18, renumbered to Lehigh Valley Transit Company's identification No. C15 was placed on exhibition in the southwest corner of the museum's grounds and No. 801's body on supports near the museum's carbarn. A coat of paint similar to Lehigh Valley Transit Company's red and yellow color scheme of the 1920's provided protection to the body and created a traction atmosphere for the visiting public.

By utilizing available equipment plus identical, or similar, articles of hardware either purchased from or donated by other museums and private collectors, Edward H. Blossom and his staff will restore No. 801 to original structure as nearly as physically possible. In addition, freight car No. C15 will be retained as a stationary (unmotored) example of the 800 Series cars in "Trolley Freight" form.

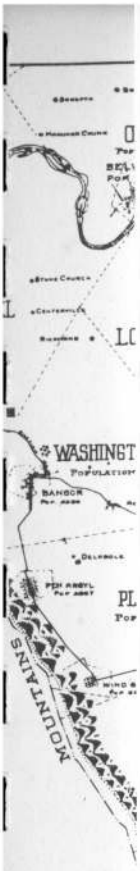


**Andrew W. Maginnis**

Philadelphia Transportation Company's utility car No. T18, formerly Liberty Bell Route freight car No. C15 which had been rebuilt from passenger car No. 808, stands alongside Fern Rock Shop of the Broad Street Subway system, summer, 1967.


**Edward S. Miller**

Magee Museum of Transportation placed former PTC utility car No. T18 in southwest corner of its property to serve both as an advertisement medium for the museum and as an example of LVT's conversion of 800 Series cars into freight cars, August 11, 1968.



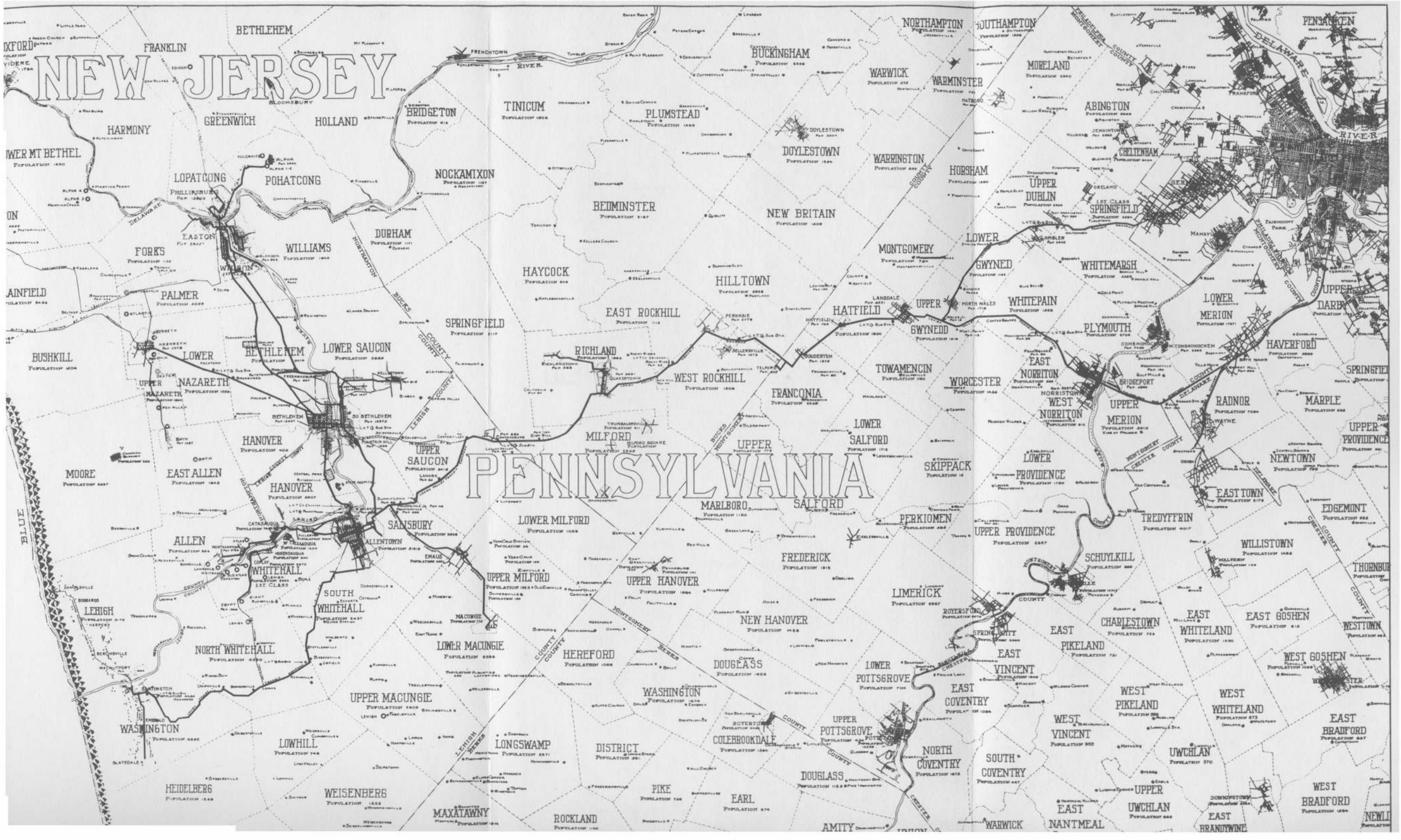

# MAP SHOWING TERRITORY SERVED
— BY —
# LEHIGH VALLEY TRANSIT CO.

— IN —

EASTERN PENNA. AND WARREN COUNTY N.J.

SCALE, 1" = 3 MILES

(from collection of Robert H. Adams, Jr.)


NEW JERSEY
PENNSYLVANIA
BETHLEHEM
FRANKLIN
HARMONY
GREENWICH
HOLLAND
LOPATCONG
POHATCONG
PHILLIPSBURG
EASTON
FORKS
WILLIAMS
PALMER
DURHAM
NOCKAMIXON
TINICUM
BRIDGETON
PLUMSTEAD
BUCKINGHAM
DOYLESTOWN
NORTHAMPTON
SOUTHAMPTON
WARWICK
WARMINSTER
MORELAND
ABINGTON
CHELTENHAM
PENNSBURY
BEDMINSTER
NEW BRITAIN
WARRINGTON
HORSHAM
UPPER DUBLIN
SPRINGFIELD
LOWER GWYNEDD
MONTGOMERY
WHITEMARSH
WHITEPAIN
LOWER MERION
UPPER DARBY
HAYCOCK
HILLTOWN
EAST ROCKHILL
SPRINGFIELD
HATFIELD
UPPER GWYNEDD
PLYMOUTH
HAVERFORD
BUSHKILL
LOWER NAZARETH
UPPER NAZARETH
BETHLEHEM
LOWER SAUCON
RICHLAND
WEST ROCKHILL
TOWAMENCIN
WORCESTER
EAST NORRITON
WEST NORRITON
UPPER MERION
RADNOR
MARPLE
SPRINGFIELD
HANOVER
MILFORD
UPPER SALFORD
LOWER SALFORD
FRANCONIA
SKIPPACK
LOWER PROVIDENCE
UPPER PROVIDENCE
NEWTOWN
EASTTOWN
MOORE
EAST ALLEN
HANOVER
UPPER SAUCON
MARLBORO
SALFORD
PERKIOMEN
TREDYFFRIN
EDGEMONT
ALLEN
SAUCON
ALLENTOWN
LOWER MILFORD
FREDERICK
UPPER PROVIDENCE
SCHUYLKILL
WILLISTOWN
WHITEHALL
UPPER MILFORD
UPPER HANOVER
LIMERICK
THORNBURY
LEHIGH
SOUTH WHITEHALL
NEW HANOVER
CHARLESTOWN
EAST WHITELAND
EAST GOSHEN
WESTTOWN
NORTH WHITEHALL
LOWER MACUNGIE
HEREFORD
DOUGLASS
LOWER POTTSGROVE
EAST PIKELAND
EAST VINCENT
WEST GOSHEN
WASHINGTON
EAST COVENTRY
WEST PIKELAND
WEST WHITELAND
UPPER MACUNGIE
WASHINGTON
WEST VINCENT
EAST BRADFORD
LOWHILL
LONGSWAMP
DISTRICT
COLEBROOKDALE
UPPER POTTSGROVE
NORTH COVENTRY
UWCHLAN
SOUTH COVENTRY
HEIDELBERG
WEISENBERG
PIKE
EARL
DOUGLASS
UPPER UWCHLAN
WEST BRADFORD
MAXATAWNY
ROCKLAND
AMITY
EAST NANTMEAL
EAST BRANDYWINE
DELAWARE RIVER
SCHUYLKILL RIVER
LEHIGH RIVER
BLUE