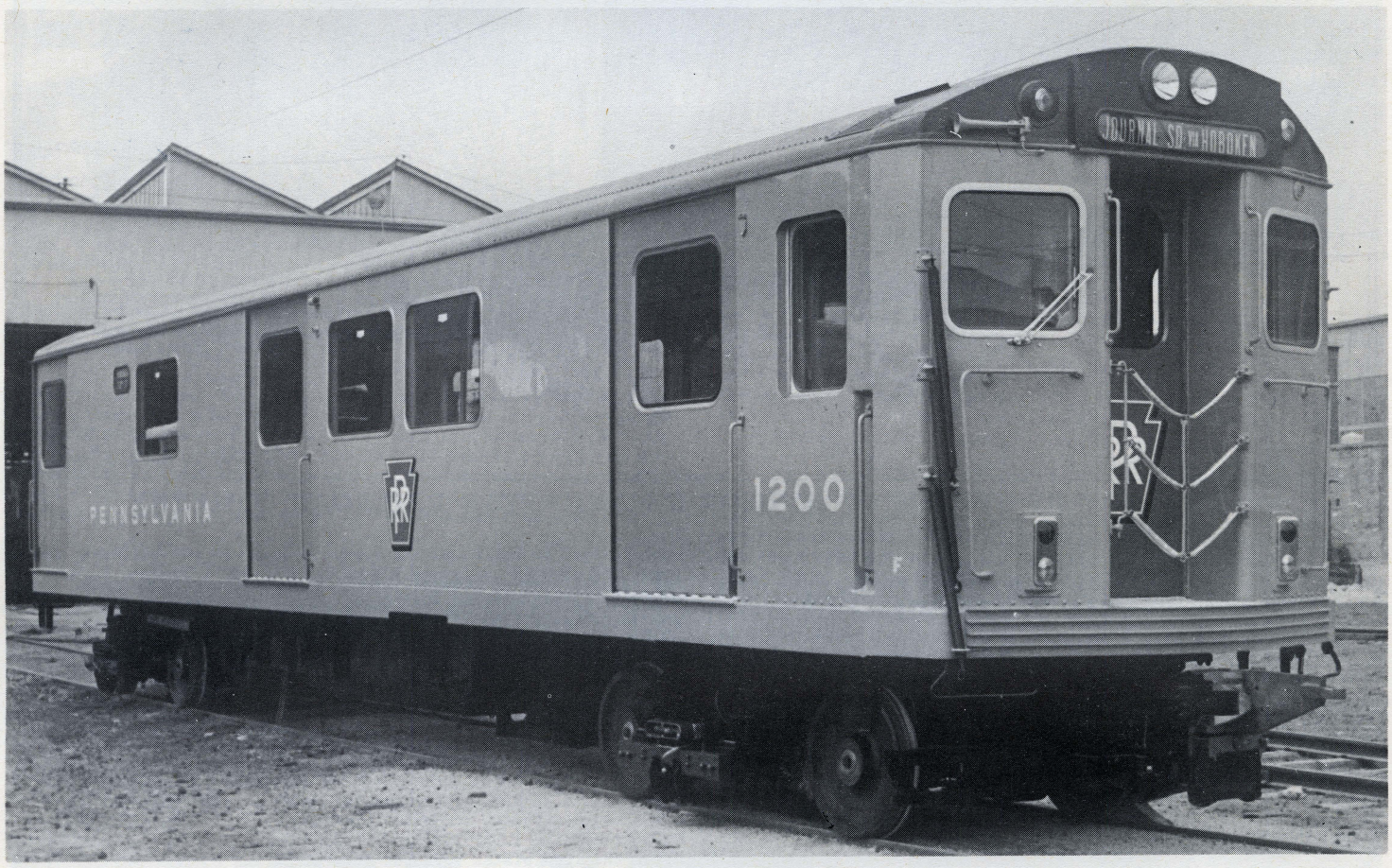
Electric Railroads

NUMBER 27 AUGUST, 1959

HUDSON and MANHATTAN RAILROAD



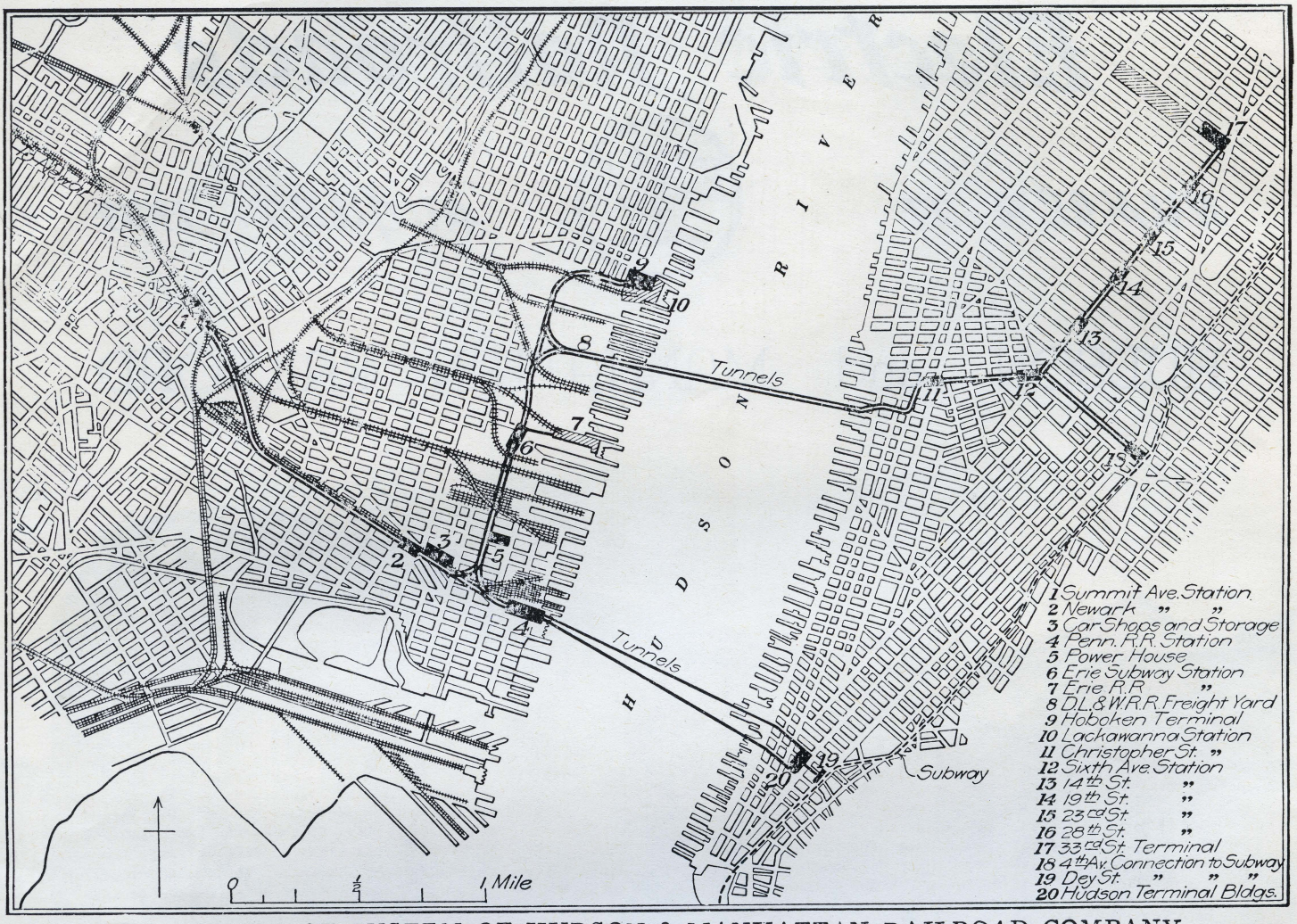
CAR 1200 IS SIMILAR TO H & M CLASS "K" CARS WITH AIR-CONDITIONING. IT HAS TWO OPERATING CABS. (Photo from Julien Wolfe Collection)

Of all the electric railroads that serve the New York Metropolitan Area, none had a more difficult time in its founding and construction than did the Hudson & Manhattan Railroad. Known also as "The Hudson Tubes" or "The McAdoo Tunnels" it might also be called "The railroad that won't give up". For here is a system that provides the latest in modern passenger equipment, yet is bankrupt. Here is a railroad that must compete against subsidized competition and yet the possibilities for its future look bright indeed.

One might say that the conditions that brought about the building of the railroad began in the early part of the 19th century. New York City was gradually expanding uptown due to the water boundaries that surround Manhattan Island. With new areas of commerce and industry opening up north of Canal Street on the West Side, new ferry routes were established between those areas and the railroads that terminated on the New Jersey shore of the Hudson River. With the establishment of these lines, it was possible for a segment of the city's bankers and workers to move across the river and live in suburban comfort.

On the New Jersey shoreline, a rocky ridge known as the Palisades extends down river from Nyack to just north of Hoboken. This ridge forced the railroads on the west bank of the Hudson to terminate most of their facilities in the areas of Hoboken and Jersey City, which is directly opposite downtown Manhattan. With grants of land on the Jersey shore, they were able to develop large terminal and yard facilities. With the lone exception of the New York & Hudson River Railroad, which entered Manhattan from the north at Spuyten Duyvil, all other carriers had to ferry their passengers and freight across the mile-wide Hudson. Even the West Shore Railroad which was owned by the N.Y. & H.R. RR. had tunneled through the Palisades to come out at Weehawken, still had to provide ferry service to Manhattan.

Plans for bridging over or tunneling under the Hudson River were formed in the 1850's, but it was not until 1873, that they took a definite shape. On May 22, 1873, The Hudson Tunnel Railroad Co. was incorporated with a capital stock authorization of $7,000,000. Its purpose was to build a tunnel under the Hudson to connect New York City with the railroads terminating at Jersey City. Another corporation was also formed on May 26, 1873, with the same name under the



MAP OF SYSTEM OF HUDSON & MANHATTAN RAILROAD COMPANY

laws of New Jersey. The president was De Witt Haskin, whose ideas for building under-river tunnels were years ahead of his time.

On May 19, 1874, the two companies were consolidated as the Hudson Tunnel Rail-Road Company. With an increase of capital stock authorized to $10,000,000, the company began the preliminary work of digging a shaft at the foot of 15th Street, in Jersey City. The plan was to build a tunnel 26 ft. wide by 24 ft. high for a double-track railroad. This tunnel was to extend partly under private property and partly under streets to a terminal station in Manhattan at, or near Washington Square, with steam trains of the Delaware, Lackawanna and Western RR. and the Erie Railroad operating through the bore. The 15th Street site was between the two railroads' terminals. This left out the other railroad lines.

Work had proceeded to digging a shaft only twenty feet deep, when it was halted by an injunction granted to the Lackawanna Railroad. This injunction and other legal proceedings had the effect of stopping the work until 1879. When it resumed, the shaft was dug to a depth of sixty feet and then the heading towards the river was begun. At this time, the plans were altered to build two tunnels instead of one, each to be 18 ft. high by 16 ft. wide. The use of compressed air was started to hold up the ceiling and to keep the water from coming in. The diggings were hoisted to the surface and placed on scows to be dumped at sea.

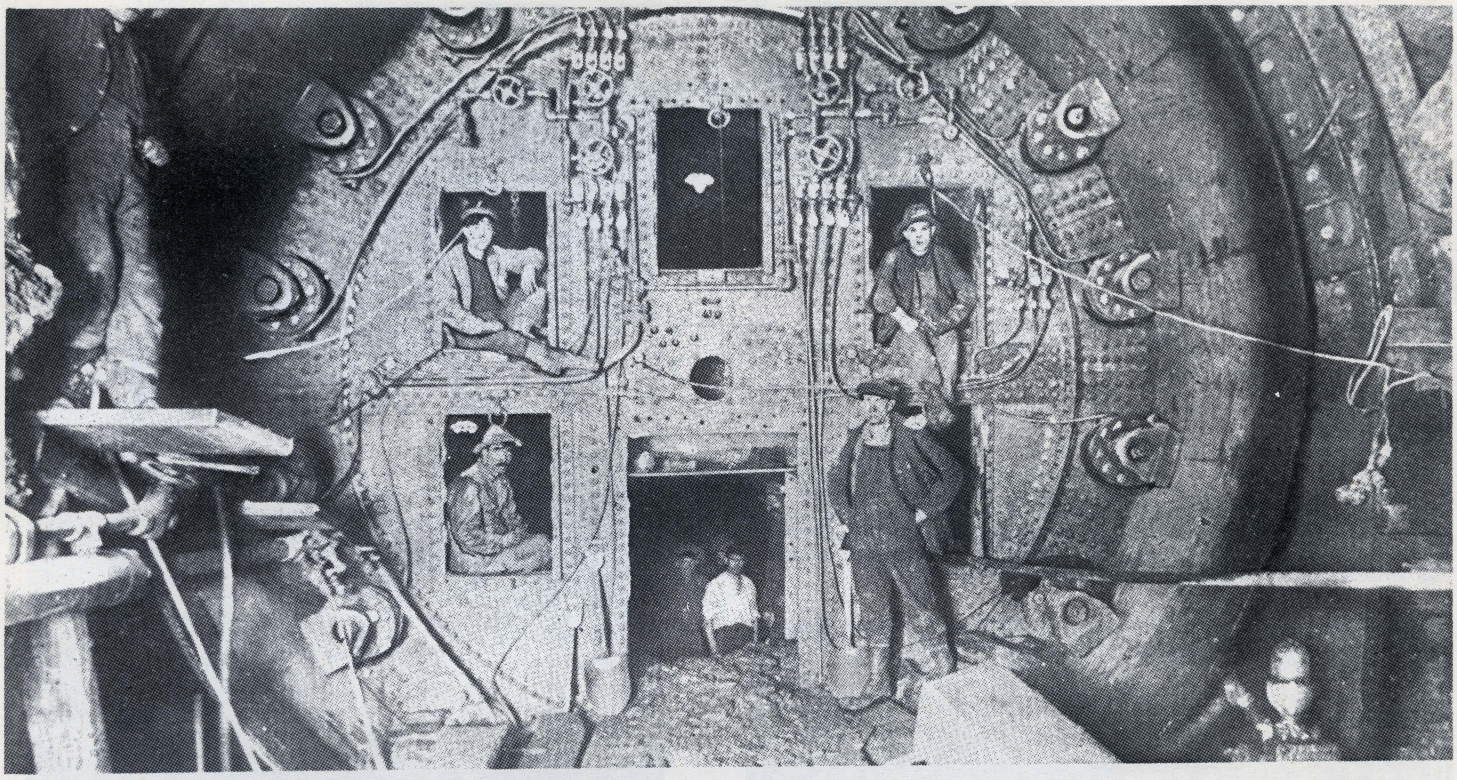
For a short time things went smoothly and then, on July 21, 1880, a serious leak occurred which resulted in the loss of twenty lives and brought out one of those instances of heroism which have so often been displayed during the progress of great engineering projects.

One of the workmen, a Peter Woodland of Jersey City, was the first to discover the leak. He was at the door of the air lock and yelled to the men to run for their lives. After eight of them had passed through the air lock door, he saw that if the door were not quickly closed from inside, everyone would be drowned. So, in order to save the lives of those who had passed through, he closed the door and the inrushing water drowned him and the others unable to pass. This disaster halted work on the tunnel which had progressed 280 feet in the North tunnel and 15 ft. in the South tunnel. The bodies of the drowned men were not recovered until six months later when a pneumatic caisson had been sunk. Mr. Woodland is buried in New York Bay Cemetery in Jersey City and a monument on his grave commemorates his courageous deed.

The disaster caused several changes in the corporate annals of the company. On March 30, 1881, a new company known as the Hudson Tunnel Railway Company was organized and the work was resumed. The new company sunk a shaft on the New York side of the river at the foot of Morton Street, in addition to extending the North tunnel on the New Jersey side 1,542 feet and the South tunnel being driven 570 ft. After the iron plates were put into place and bolted, brick lining was put into place, which may still be seen today. Work was halted several times for lack of funds and in 1889, bonds were floated in England to continue the work. In 1890, another bad "blow-out" made the contractors introduce the use of the tunnel shield and the work then continued without further mishaps. However, financial woes beset the company and needed funds were difficult to raise. In 1892, the contractor secured a lien against the company for $20,000, and the work was halted for 10 years.

A foreclosure against the company was rendered by the Supreme Court of New York on February 28, 1898, and a law firm, representing the bondholders, purchased all the properties. In 1902, the project was revived by the New York & Jersey Railroad Company, whose president was William Gibbs McAdoo, who subsequently became Secretary of the Treasury under President Wilson. From this time onward, the prospects brightened for trains to go through the tunnel.

As the tunnel on the New Jersey side was then planned to run South to the Pennsylvania Railroad terminal in Jersey City, a new company was organized under the laws of New Jersey, known as the Hoboken and Manhattan Railroad. Plans were also formulated to dig a new tunnel



One of the shields that burrowed under the river

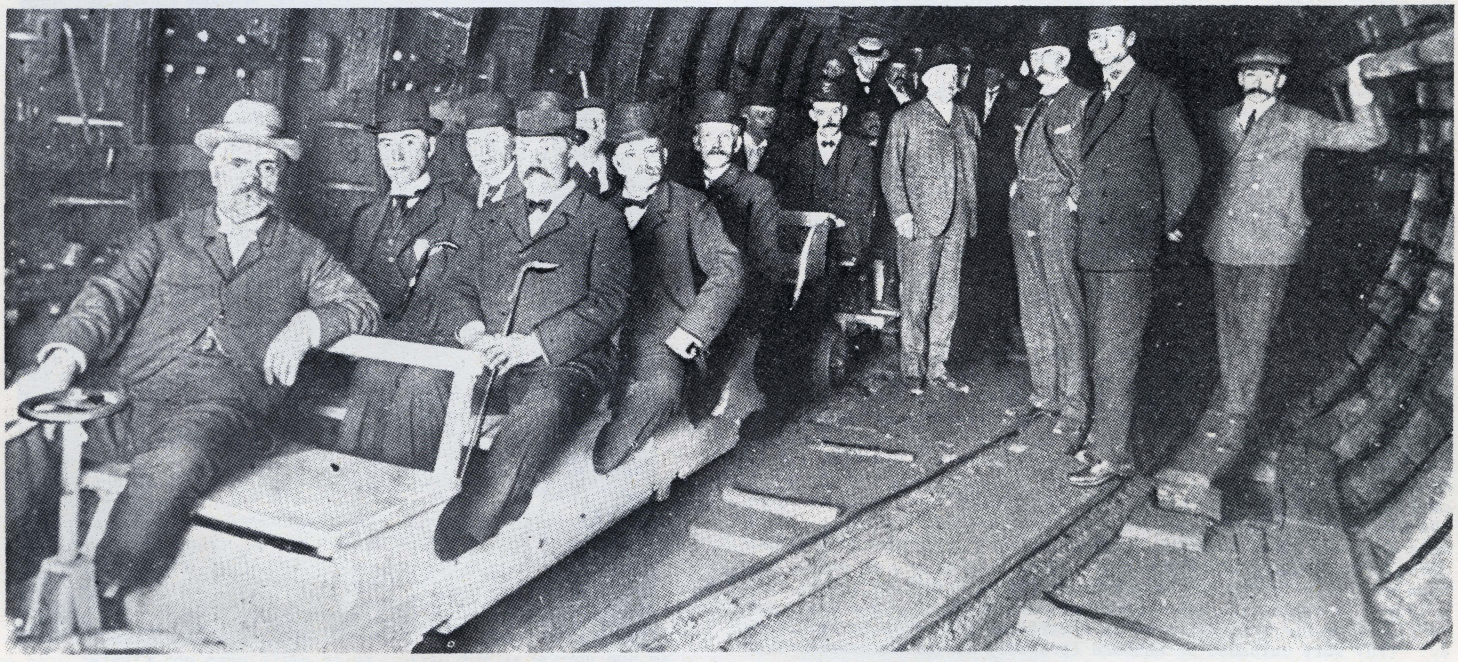
from that point to downtown Manhattan and a New Jersey corporation with the name of Hudson & Manhattan Railway Company, Inc. was created.on September 19, 1902.

In New York, on March 20, 1903, a company was formed known as the Hudson & Manhattan R.R. Co. for the purpose of securing a perpetual franchise under the Hudson River from the state boundary line to an area bounded by Greenwich, Cortlandt, Church and Fulton Sts. in Manhattan. Permission was finally secured from the Rapid Transit Board to build four tunnels. Two were to connect with the Penn. RR. station and the other two were to go to the Erie Railroad terminal.

In the meantime, the New York & Jersey RR. Co. filed an application to secure a perpetual franchise from the tunnel at Morton St. and extend it under West 10th Street and then up 6th Av. to 33rd Street. With various plans under way by the City of New York for rapid transit lines eventually to be built, the application was refused since it involved one of Manhattans principal north and south thorofares. The company then submitted an application for a perpetual franchise for a line to be built in an eastwardly direction under Christopher and Ninth Streets to Third Avenue. Property owners along Sixth Avenue objected strenuously to the abandonment of the proposed route under that street and the Rapid Transit Board then agreed to offer the company a franchise for the Sixth Avenue route subject to recapture by the City after 25 years and a perpetual franchise for the Ninth Street route to Fourth Avenue. The company accepted these terms and the franchises were awarded on December 22, 1904.

For the Sixth Avenue Line, a two track tunnel was planned and the construction of this line began on June 6, 1905. It was decided to defer construction for the Ninth Street route to Fourth Avenue until all of the previous plans and contracts were carried out.

When Mr. McAdoo took charge of the construction of the original old tunnel, which had lain dormant for 10 years, it was necessary to discard old methods of work. The mules and lanterns which had been in use from the beginnings in 1874 were discontinued and electric lighting was installed with the debris cars being pulled by cable.

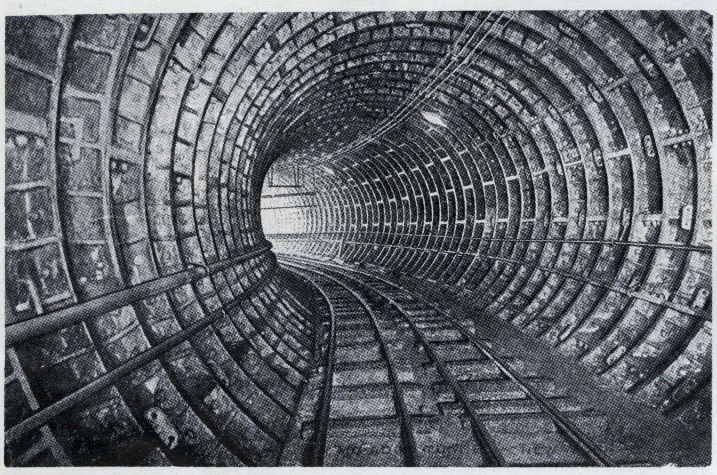


The HUDSON & MANHATTAN RAILROAD BOARD OF DIRECTORS INSPECT THE TUNNELS BEFORE TRACKS ARE LAID FOR TRAINS. MR. McADOO IS SECOND FROM RIGHT.

Since changes in operation had occurred during these many years, it was deemed that railroad engines would not pull trains through the tubes since they had been built for much lighter traction and some form of trolley car was envisioned. Also, to achieve public acceptance and backing of the project, it was decided to pursue the completion of the northerly tunnel, before starting the other projects.

It was necessary to continue using the old shield for the boring process, since at times there was only about 10 feet of river silt above the tunnel roof and it would have been dangerously unsafe to replace the old with a new shield. Some engineering problems were encountered when the shield would cut through a section that contained rock. It was necessary to blast the rock and yet not disturb the soft silt above.

The method of excavating and lining the tunnel is interesting, despite the simplicity of operation. The doors of the compartment of the shield having been opened, it is pushed forward into the mud exactly 25 inches, the displaced material entering its compartments. The men within the airlock then remove the material and, when the interior of the shield is clear, a number of the arc-shaped sections of the cast iron lining are taken forward and bolted into connection with the previously constructed tube in the form of a ring of a width equal to the length of the shove. Thus, with each shove of the shield, with the structural work which follows, added about two feet to the completed tunnel. When working in rock however, drilling, blasting and clearing away the debris of the blast in front of the shield necessarily precede the shove.



CURVE IN EAST-BOUND TUNNEL AT THE CORNER OF MORTON & GREENWICH STS. TRACKS ARE FOR CONTRACTORS EXCAVATION TRAINS

Thirty-five years of intermittent effort and toil were completed on March 11, 1904, when the shields working towards each other met and the last sections were bolted into place. Mr. McAdoo was the first one to walk through the completed tube followed by Walter G. Oakman and Charles M. Jacobs, the chief engineer. The headings met perfectly without a bit of variation in the heighth or direction.

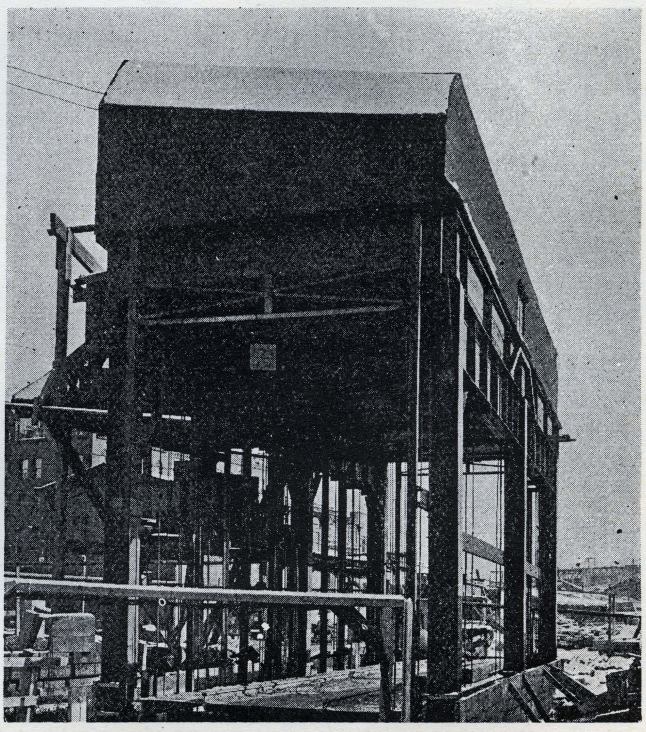
Work proceeded rapidly on the boring of the South tunnel and, since it had not progressed far underwater, it was not too difficult placing an improved shield for the work. This tube was finally "holed through" on September 29, 1905. In the same month, work began on the downtown tunnels and they were "holed through" on Jan. 27, 1909.

On December 1, 1906, all of the various companies that were connected with this enterprise were consolidated into the Hudson & Manhattan Railroad Company, which conducted the management and operation of the railroad. A subsidiary company to manage the real estate properties under the name of the Hudson Companies had been previously organized in 1905.

DELIVERY OF FIRST CARS

When the first cars for the system were ordered, the company had no facilities for the installation of electrical equipment and, so an arrangement was made with the Interborough Rapid Transit Company to do the electrical work on the cars. Consequently, the cars were delivered from the builders directly to the IRT which did the work in the 129th Street Shops of the Manhattan Railway Division. Upon the completion of a group of cars, they were tested for operation over the Second and Third Avenue elevated lines, without passengers. The cars were delivered over the Third Avenue "el" line to the 99th St. yards (see ELECTRIC RAILROADS #25). From this point, at night, the cars were transferred to the Lexington Avenue streetcar tracks, via a temporary connection and were towed down to 34th Street and over to a dock on the East River where a carfloat took them to New Jersey. They were unloaded at Hoboken (probably at the Lackawanna Yard) and then to the H & M which had a car elevator built for lowering them into the tunnel close to the Hoboken Station.

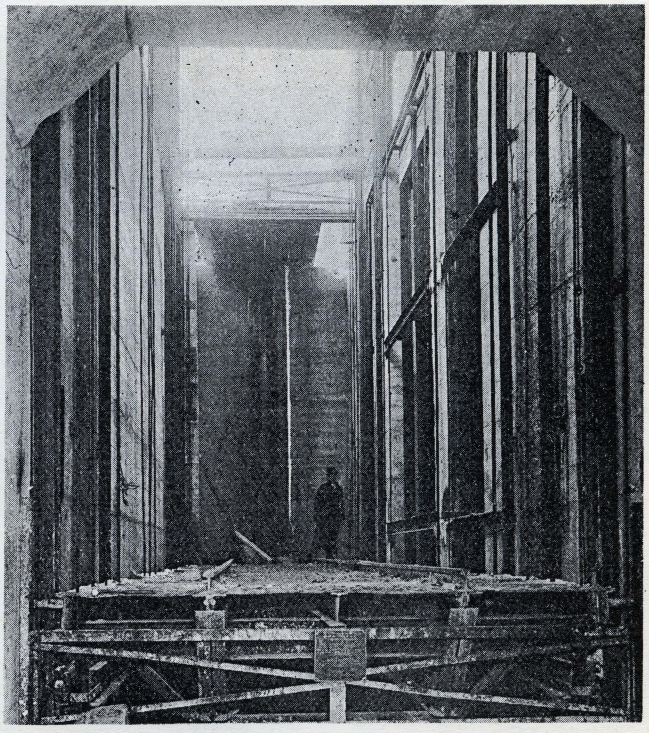
CAR ELEVATOR FOR THE HUDSON RIVER TUNNELS



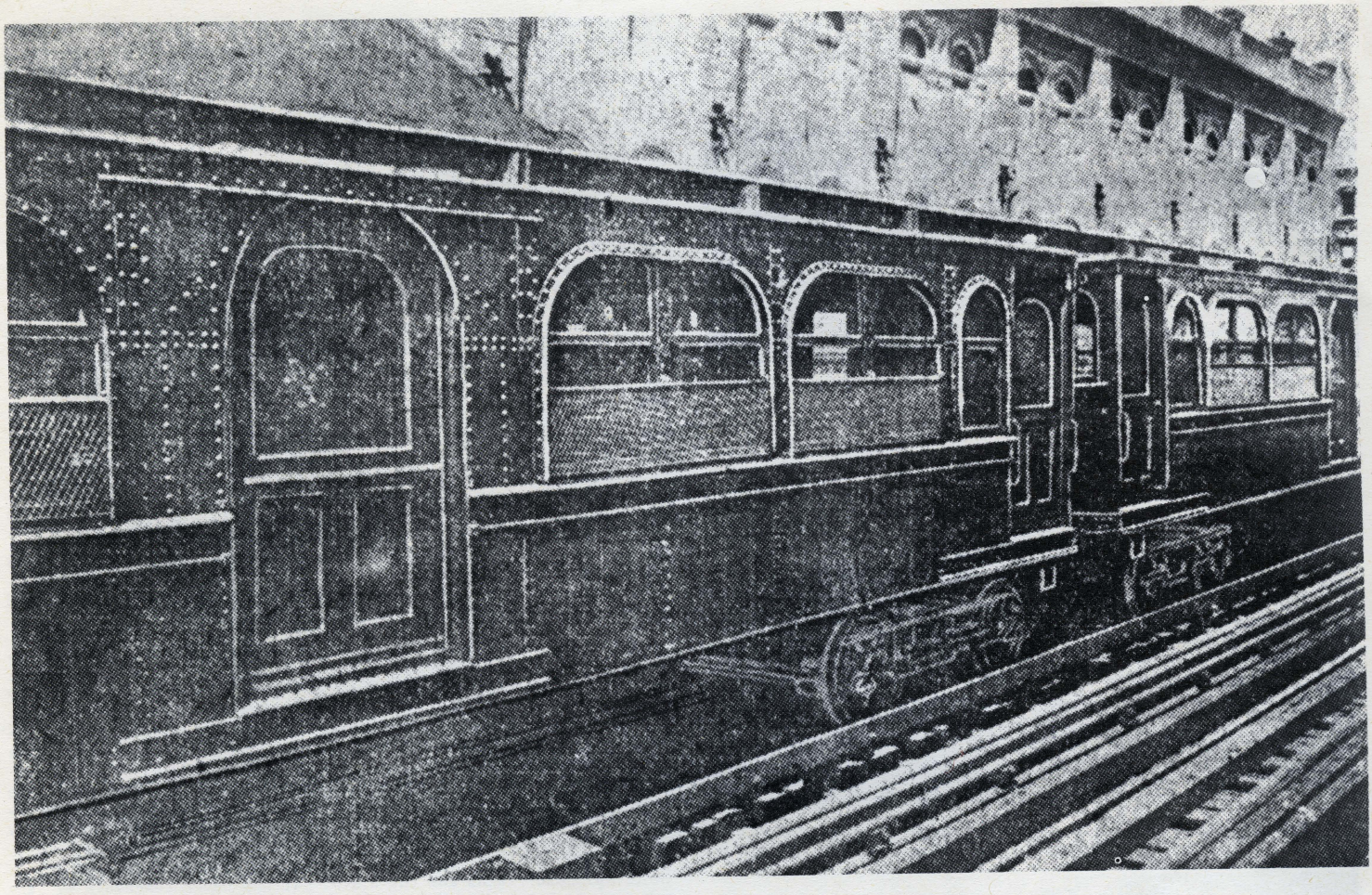
VIEW AT THE TOP OF THE ELEVATOR IN HOBOKEN.

THE OFFICIAL OPENING

On February 25, 1908, the uptown line formally opened for operation. Service was inaugurated from the 19th Street station when President Theodore Rossevelt pushed a button on his White House desk to send electricity flowing through the third rails to power the trains. As the first train left for Hoboken with invited guests, including the Governors of the two states, crowds flocked at the stations located also at 14th, 8th and Christopher Streets to ride. The inaugural speeches were made at Hoboken before a crowd of 15,000. The rest of the Sixth Avenue line was extended to 23rd Street, using the East track only on June 15, 1908, and then the West track, 28th and 33rd Street stations were opened on November 10, 1910. The 33rd Street



AT THE BOTTOM OF THE WELL. IT IS STILL USED FOR LIFTING CARS OF THE MAINTENANCE OF WAY DEPARTMENT



A RARE PICTURE OF CLASS "A" CARS AT A STATION ON THE SECOND AVENUE "EL" OF THE MANHATTAN RAILWAY. FEW NEW YORKERS KNEW WHAT THESE CARS WERE FOR AND SOME BELIEVED THAT THEY WERE DESTINED FOR THE NEW STEINWAY TUNNELS.

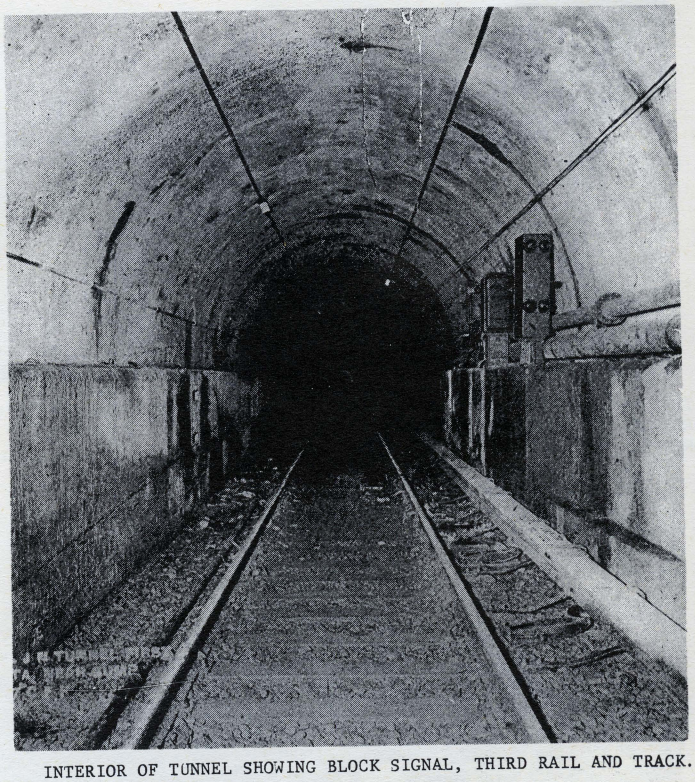
(from David Rogoff collection)

station had been originally planned as an off-street terminal and for this purpose land was purchased upon which the Gimbel Brothers Department Store now stands. Before the station was built however, the plans were changed to provide for an extension up Sixth Avenue, under Bryant Park and across 42nd Street to the Grand Central Terminal. For many years, the H & M owned the land and leased it over to Gimbels. Due to various unfavorable financial factors over the years, the line was never extended beyond 33rd Street.

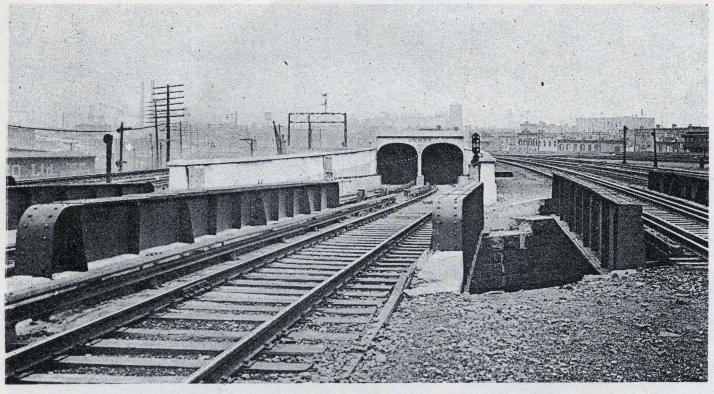
HUDSON TERMINAL OPENS

The downtown Hudson Terminal station of the railroad opened on July 19, 1909, and it was considered a marvel of engineering. The ground in the area had formerly river frontage that had been filled in the years previously. Consequently when the construction work began, a great amount of water seepage was discovered. To keep the station area dry, a giant coffer dam was built around the whole area encompassed by the Terminal. While only a single tube in each direction handles the traffic today, plans were made for two additional tubes which would go direct to Erie Station in Jersey City at which time there would be two double-track railways entering the station. All the stairways and exits were designed with that in mind. Above the station area was built two mammoth office buildings of 22 stories. Plans had also been advanced to connect the terminal with a passage way to the then new IRT subway station on Broadway, but these were never carried out and subsequently the subway lines that were built either terminated or passed close to the building.

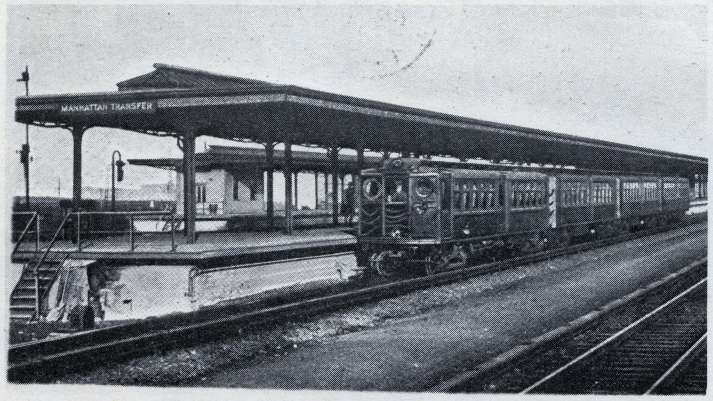
When the service from Hudson Terminal was inaugurated, it ran only to Exchange Place with the trains being turned on the pocket track just west of the station. This pocket was built for the purpose of of turning short runs at this point and is known as "Penn Pocket". Coinciding with this service, interline tickets with the Penn. R.R. were accepted thus providing through railroad passengers with a down town connection, although the uptown passengers benefitted the most as the Pennsylvania Railroad tunnels to Penn Station were still under construction, not to open until 1910.



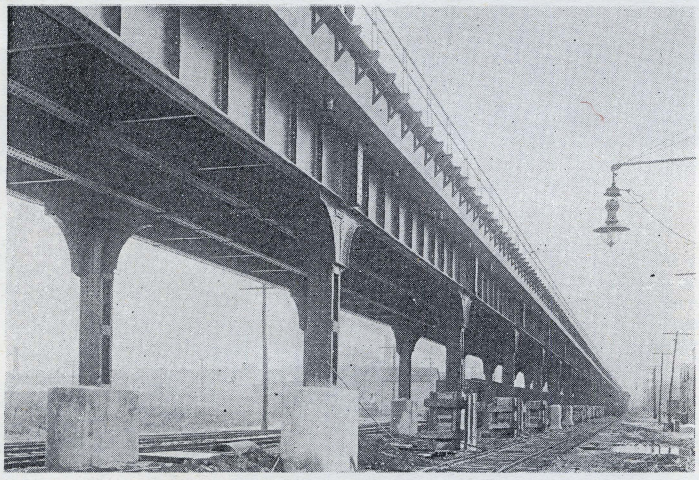
INTERIOR OF TUNNEL SHOWING BLOCK SIGNAL, THIRD RAIL AND TRACK.



Hudson Tunnel Traffic—Portal of Tunnels on Pennsylvania Railroad Right-of-Way in Jersey City



THIS ONE OF THE VERY FEW VIEWS EVER MADE OF MANHATTAN TRANSFER
(from Barney Neuburger collection)



THIS ELEVATED STRUCTURE FROM HARRISON (above) BROUGHT THE TUBE TRAINS ACROSS THE PASSAIC RIVER INTO THE RED BRICK STATION AT PARK PLACE IN NEWARK (below) FROM 1911 TO 1937. (from George J. Abere, Jr.)



The various tunnels on the New Jersey side were opened in quick succession. The tunnels between Caisson 1 and 3, were opened on August 2, 1909, which enabled trains to run from Hoboken to Hudson Terminal, while the link permitting the uptown (33rd St.) trains to go to Erie and Penn Stations at Exchange Place was placed in service September 20, 1909. The line was extended from Exchange Place to Grove and Henderson Sts. on September 6, 1910, while the following November 10th, the Henderson Street Yard was opened.

HENDERSON STREET YARD

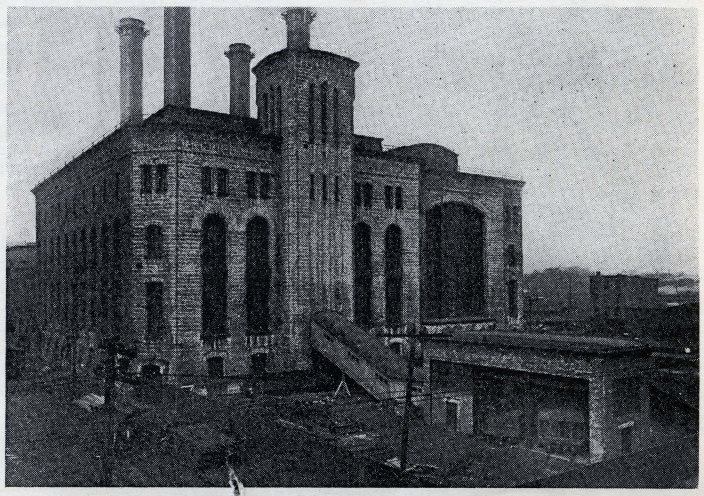
It was desirable to provide facilities for the storage, inspection, repair and cleaning of the cars of the railroad at a point as near the center of gravity of the system as possible, so as to reduce empty car mileage in placing cars and trains in and out of service. In order to carry this out, the property bounded by Henderson, Warren and Steuben Streets and Railroad Avenue in Jersey City was purchased and the buildings occupying the site removed. For efficient maintenance of rolling stock, it is essential to bring cars to open daylight for inspection, cleaning and repairs, as it is unsatisfactory and uneconomical, as well as unsanitary to undertake this work underground.

The yard has a capacity, including cars undergoing repairs, of 123 cars. Access from the underground tracks to the surface storage area is obtained by an incline extending from a switch east of the Henderson Street station with a gradient of 1 in 22.3.
The repair shop will accomodate six cars and is equipped with two 15-ton traveling cranes which are of sufficient capacity to raise one end of a car body, by means of a steel yoke, while while trucks are being removed and replaced.
This yard was designed to give complete and effective utilization of a limited area of land within a congested district.

On April 18, 1906, the H & M signed an agreement with the PRR to operate a joint service between Hudson Terminal and a new station to be built by the Pennsylvania Railroad in Newark. Each party to this agreement was to furnish track and facilities for its operation. The earnings and expenses were to be prorated on an equitable basis. The trains were to be operated by H & M crews who were required to pass a PRR train rules test.
From Exchange Place to a point west of Grove Street, the tunnels are under the PRR tracks. From this point, the tracks were built to emerge to the surface and run in the center of the railroad right-of-way to a station in the Jersey Meadows called Manhattan Transfer. This station was built for passenger interchange between through Pennsylvania Railroad trains and the H & M. It was never reachable by any other means. Train service began here on October 1, 1911 and then on the following November 26th, the H & M extended its service to a new station located at Park Place, Newark. The last station to be opened on the system was on April 14, 1912, when Summit Avenue station (Journal Square) opened.

THE POWER PLANTS

When the system was being built, a power generating plant was built in Jersey City with approximately nine boilers. Power was generated by steam and was transmitted at 11,000 volts D.C. to three sub-stations transformers where it was reduced to 600 volts for the third rails. The company generated its own power until November 15, 1920 when an agreement became effective for the New York Edison Company to take over the operation of the plants. The reason for this arrangement was that the plant was beginning to need repairs and improvements, but due to difficulties in financing, funds were not available. As the facilities wore out, additional power was bought from the N.Y. Edison until 1929, when the plant was shut down completely and the contents sold for scrap. All the power today comes from Consolidated Edison Co. sources.



Hudson & Manhattan Railroad Power Station—Eastern and Southern Front

INDUCEMENTS FOR PASSENGER TRAVEL

On March 21, 1909, the tube service introduced a new innovation. A car at the rear of each train in rush hours was provided exclusively for the use by women. The trainman assigned to this car wore a red cap and the signs used to point out this service were of the same hue. Apparently the women felt that the presence of gentlemen in a car would discourage any molestation and since the possibilities of a flirtation were discouraging, the car was not patronized sufficiently to make it worth while and it was discontinued the following July 1st. It was revived on July 10, 1958, with the introduction of the new air-conditioned trains and is still being offered.

On March 14, 1910, a train of three cars was placed in service with automatic indicators inside to announce the next stop by illuminated signs. It was announced at the time that if the tests succeeded 10 more cars would be equipped with the device. The results over a period of time did not justify further expenditures and the signs eventually disappeared.

Another innovation which occurred in 1910, was the introduction of baggage service. Two special cars were built by J. G. Brill to handle station baggage wagons which could be rolled on the cars with contents intact. The cars were built in the conventional manner of the passenger equipment except that the sides had curtains which rolled to the ceiling. It is believed that the cars were used only for a short time on Hudson Terminal runs. They were never used to 33rd St due to Morton St. tunnel clearances and Penn. Railroad objections.

The last major improvements that were made on the system were in the Jersey City area. The underground passage connecting the H & M with the Erie was built and planned as a temporary facility as the Erie had planned a station location change. In 1912, with the congestion at this point acute, an additional platform was opened. Then, in 1924 enlargement work on the passageways and station was carried out. Improvements at the Journal Square station were carried out in 1925 for easier transfer between Public Service Railway trolley lines and the H & M which had become a transportation nexus over the years.

The decline in passenger revenues of the H & M can be stated as having started on November 12, 1927. For on that date the Port of New York Authority opened up the first vehicular tunnel under the Hudson River. Named after Clifford Holland, a renowned tunnel engineer, the Holland Tunnel connected Jersey City with Canal St. in Manhattan. By speeding up the vehicular flow which formerly depended on the ferries, it encouraged greater use of the private car. About this same time, the State of New Jersey embarked a huge road-building program and bus lines began operations. Although these carriers did not have to pay real estate taxes, or file returns on their operations, they were granted franchises to use the tunnel and the highways. One of the routes that was established on February 27th, 1928, was from Journal Square to 33rd Street in Manhattan, with a branch to Ninth Street and Fourth Avenue. Free of the onerous taxes which are levied on the railroads, the bus lines were able to undercut the fares and services of their competitor which took fares away. Over the years, since that time, the H & M patronage has decreased with wages and various costs of operation mounting. Eventually, it was forced into bankruptcy, from which it is struggling to emerge.

In the early 1930's, the PRR had electrified their mainline trackage between New York and Washington, which permitted trains to run through without a change of motive power. It also began work on the rebuilding of its Newark facilities in co-operation with other railroads, the City and the Public Service Railway to consolidate all transportation into one central area. As a result of this consolidation, the H & M began using the Penn Station in Newark for a terminus of its operations on June 21, 1937. Since passengers were able to make a direct transfer between trains at Newark, Manhattan Transfer became unnecessary and it was closed down on the same day along with the old Park Place and Harrison Stations. The Park Pl. station was demolished but the bridge over the Passaic River was converted to automobile usage. A new layup track was built beside the PRR right-of-way for a mile south of Newark, ending at South St.

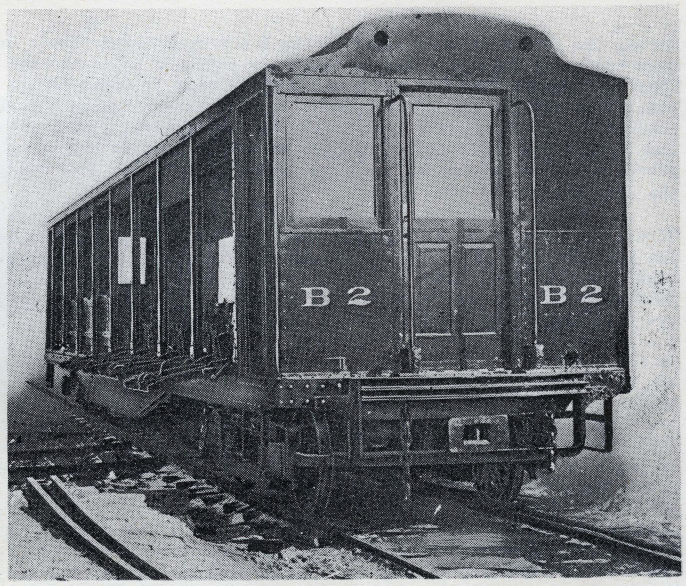
In the mid-thirties, the City of New York began construction of the INDependent Subway-6th Avenue Line. The plan was to build the local tracks to straddle the H & M tracks that were under the center of the street and then, upon the recapture of the H & M franchise and trackage, these inner tracks would be incorporated as express tracks, with the H & M having to terminate at Ninth Street. During the construction period, it was necessary to close down and demolish the 33rd Street station of the H & M in order for the subway to be built over the crosstown tunnels of the Pennsylvania and Long Island RR. at 32nd and 33rd Sts. This station was closed on December 20, 1937.



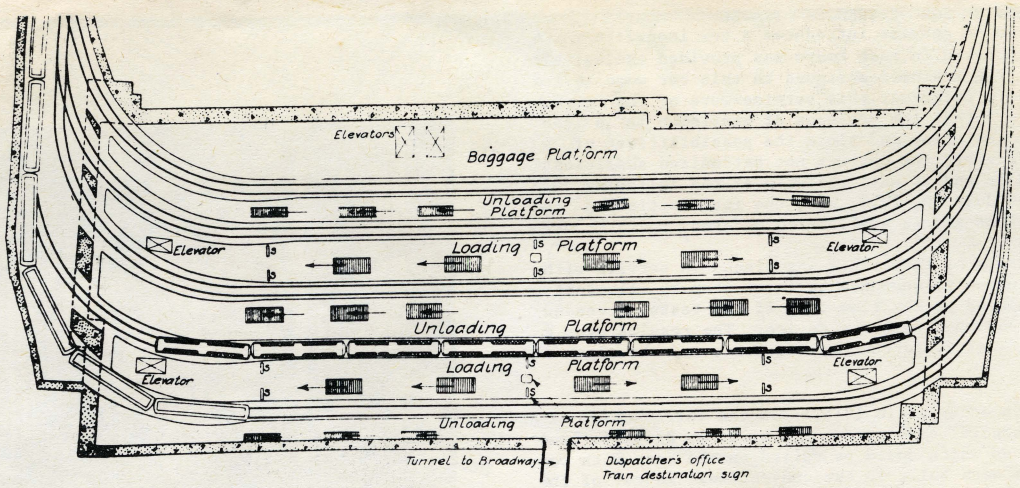
BACK IN 1908, WHEN THE HUDSON & MANHATTAN INTRODUCED A SPECIAL CAR FOR THE LADIES, IT WAS WELL PATRONIZED AT FIRST BUT, SINCE THERE WERE FEW OPPORTUNITIES TO MAKE A MANS ACQUAINTANCE THIS WAY, IT GRADUALLY LOST THE LADIES FAVOR AND AFTER TWO MONTHS OR SO, THIS GALLANT GESTURE BY THE COMPANY WAS DROPPED. (Culver Service Photo)



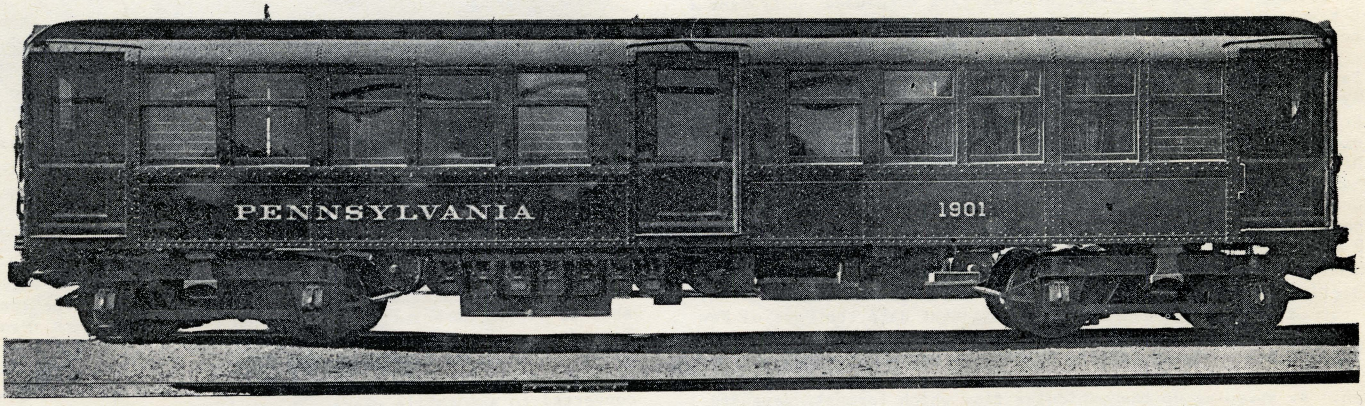
THE HENDERSON STREET YARDS IN JERSEY CITY WITH INSPECTION SHEDS OFF TO THE RIGHT (Henry Raudenbush Photo)



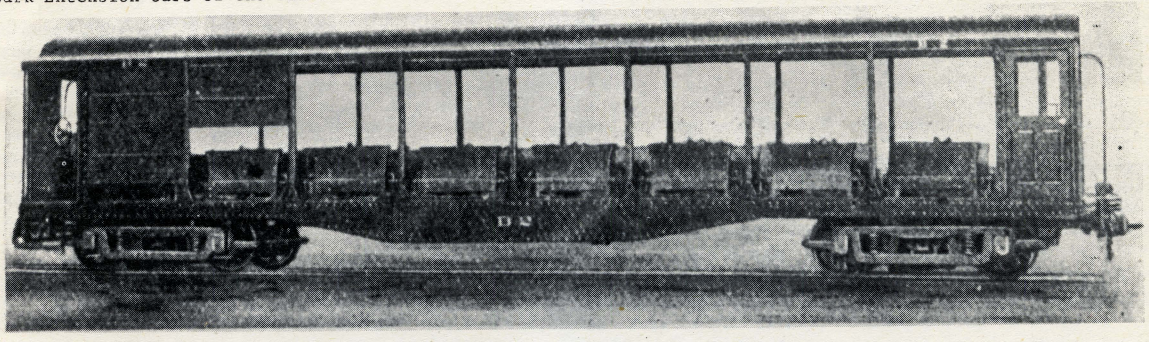
BAGGAGE CAR B-2 END VIEW WITH SEVERAL APRONS LOWERED



Hudson Terminal—Plan of Track Level, Showing Position of Eight-Car Train



Newark Extension Cars of the PRR were similar to H & M cars of Classes "D", "E", "F" & "G". (ERJ Photo)



All-Steel Car for Handling Loaded Baggage Trucks, Hudson Tunnel Lines.

During the period of construction, the H & M terminated their uptown trains at 28th St., with a temporary entrance built at 29th St. When the City changed its plans and decided that it would be too expensive to enlarge the H & M tunnels for the larger trains, it then rebuilt the 33rd Street station with the same general plans, except that it was one block further south. With this station having an entrance built at 30th Street, it was possible to close and demolish the 28th Street station.

With a declining use by passengers and the lease of property above the station coming to a close, it was decided to close 19th Street station on August 1, 1954. This was permitted by the Public Service Commission in view of the fact that another station at 14th Street, was available. Trains pass the darkened platforms today.

As the H & M enters its second 50 years of service, it is endeavoring to win back former and new passengers with air-conditioned cars, bright new paint, new trucks under the cars and a gradually improving signal system, under the present Receiver, Mr. Herman Stichman. With a growing awareness that the loss of the H & M, along with other commuter rail lines would be a great blow to the further growth of the New York Metropolitan Area and that buses and automobiles do not answer the needs of a moving populace, various committees and commissions of the two states' legislatures are looking into ways of alleviating the railroads plight. Plans have been suggested to tie the H & M in with the network of the New York City Transit System, but due to the small diameter of the tunnels and the sharp curvature of the rails, it is likely that it could only be physically connected with the Interborough Rapid Transit (IRT) Division.

The railroads that terminate on the New Jersey shore are curtailing their ferry operations which incur huge losses and in an effort to continue serving their passengers which must reach Manhattan, trackage arrangements are being weighed which will permit easy access between the tubes and the railroad for passenger convenience.

On its 25th Anniversary, the Electric Railroaders Association takes this occasion to salute the Hudson & Manhattan Railroad, "the railroad that won't give up".

NOTICE! Readers of this issue desiring further information may purchase a track map of the H & M showing yards, terminals and the location of signal towers. Ask for Map M-109. Price 50¢

Next Issue: STATEN ISLAND MIDLAND RAILWAY SYSTEM.

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ELECTRIC RAILROADERS ASSN. INC.
145 Greenwich Street, New York 6, N. Y.

HUDSON & MANHATTAN RAILROAD CO.
WORK EQUIPMENT ROSTER

NUMBER	TYPE	PURCHASED	DISPOSITION AND REMARKS
1	Crane	4- 2-07	Scrapped 7-31-43
2	Flat	-10	Scrapped 4-30-22
3	Flat	-10	Scrapped 4-30-22
4	Flat	-10	Scrapped 12-31-38
5	Flat	-10	New body on in 1922
6	Flat	8-21-21	In service
7	Work (compressor)	2- -50	Formerly Passenger Car 200
8	Work	2- -50-converted	Formerly Passenger Car 227
9	Flat		Believed formerly passenger car 210. Scrapped 3/54.
10	Flat(body by ACF)	-54	In service
11	Flat (body by ACF	-58	In service
B-2	Baggage	3- -10	Scrapped 192?
B-3	Baggage	3- -10	Believed converted into a Flat Car 3 in 1922 and was scrapped on 3-20-58.

All or most of the work equipment information is from H & M records, through the courtesy of H. E. Boucher, Superintendent of Equipment. These records have become obscure through the years and their accuracy is questioned in comparison with Public Service Commission Annual Reports of the State of New York. In the case of the Baggage Cars, it was authoritively stated that they were never used as such and due to their length of 50' 7", they were not used for work train service in the Morton Street (uptown) tunnels. Other work cars average 35'-4 3/4" length and 7' 9 3/4" wide.

Note 1 - Car 233 Scrapped 3-9-44
Note 2 - Cars 207,15,16,26,28,35,41 & 46 Scrapped 5-27-47.
Note 3 - Cars 201,04,06,11,21,31,32,34,38,42 & 43 Scrapped 5-28-47.
Note 4 - Cars 202,03,29,30,36,37,39 Scrapped 1-11-50.
Note 5 - Cars 209,18,20,25,44,45 & 48 scrapped 1-12-50.
Note 6 - Cars 205,08,12,13,14,17,19,22,23,24,40,47 & 49 scrapped by 4-28-50.
Note 7 - Modernization of these cars included aluminum window sash, stainless steel hand stanshions, plastic seat coverings, asphalt tile flooring and modern lighting. Cars 439 and then 438 were experimentally rebuilt for air-conditioning purposes with Carrier and Pullman-Trane units respectively.

Grateful acknowledgement is expressed to the Hudson & Manhattan Railroad Public Relations Office for their help in making much of this issue possible. Data was compiled by George E. Horn with assistance of Henry Raudenbush and George Abere.

MARKER LIGHTS

Hudson Term. - Hoboken	R	G
Hudson Term. - Journal Sq.	G	W
Hudson Term. - Newark	R	R
33rd St. - Hoboken	G	G
33rd St. - Journal Sq.	W	W
33rd St. - Journal Sq. (via Hoboken)	R	W
Empty or light trains	Y	Y

FARES

Year	Interstate	Intrastate N.Y.	Intrastate N.J.	Newark-N.Y.
1908	5¢	5¢	5¢	
1911	5¢- 7¢	5¢	5¢	30¢
1920	6¢-10¢	5¢	5¢	30¢
1938	8¢-10¢	5¢	5¢	30¢
1948	10¢-10¢	10¢	10¢	35¢
Now	25¢	15¢	15¢	40¢

HUDSON & MANHATTAN RAILROAD CO.
PASSENGER CAR ROSTER

NUMBER	CLASS	BUILDER OF BODY	TRUCKS	SERVICE DATE	LENGTH	WIDTH	HEIGHT	DISPOSITION AND REMARKS
200-209	A	*Pressed Steel Car Co.	Baldwin	2-08	48' 3"	8'10"	12' 0"	200 converted to Work Car #7, 8-31-43 See Notes 2,3,5 & 6
210-249	A	American Car & Foundry	ACF	2-08	ditto	ditto	ditto	227 converted to Work Car #8, 2-28-50 See Notes 1,2,3,4,5,6.
250-339	B	P. S. C. Co.	American Loco. Co.	10-09	48' 5"	8'10¼"	11'8 7/16"	318 destroyed in wreck - 1-16-31
340-389	C	ACF	Baldwin	10-10	ditto	ditto	ditto	
701-736	D	P. S. Co.	P. S. C. Co.	9-11	48'3½"	8'10½"	11'8½"	728 destroyed in wreck - 8-23-37
401-425	E	ACF	ACF	4-21	51'3½"	8'10½"	11'8 7/16"	407,08 modernized. See Note 7
426-450	F	ditto	ditto	9-22	ditto	ditto	ditto	438,39,45 & 47 modernized.
451-475	G	ditto	ditto	11-23	ditto	ditto	ditto	456,69,71 & 74 modernized.
801-804	H	ditto	ditto	10-27	48'3½"	8'10½"	11'8½"	
501-520	J	ditto	ditto	8-28	51'3½"	8'10½"	11'8 7/16"	502,11 & 16 modernized.
1230-1249	K	St. Louis Car Co.	St. Louis Car Co.	7-58	ditto	ditto	ditto	Air-conditioned. 1230-1233 double-ended 1234-1249 Single-ended cars in pairs One contains compressor units, the other contains batteries.

*McKees Rocks Penna. Plant

PENNSYLVANIA RAILROAD CO.
NEWARK EXTENSION CARS

1901-1960	MP 38	All data on these cars is the same as listed for H & M cars under Class "D".
1961-1972	MP 38	All data on these cars is the same as listed for H & M cars under Class "H".
1200-1229	MP 52	All data on these cars is the same as listed for H & M cars under Class "K".1200-1205 double-ended. 1206-1229 Single-ended cars in pairs.