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State of New York

MEMORANDUM



**Metropolitan  
Transportation  
Authority**

Alexandra Zetlin  
Director, Media Information Services

Dear Judah,

Figured this would get you  
started (see pp.3-33).

Please let me know if there's  
anything else.

A handwritten signature in cursive script, appearing to read 'Alex', is written in dark ink.

**BOUND BOOK**

**BEST IMAGES AVAILABLE  
WITHOUT DISBINDING  
THE BOOK**

JUDAH GRIBETZ



**FACTS**



**AND**



**FIGURES**



**1979**



**New York City  
Transit  
Authority**



# **FACTS & FIGURES**

## **1979**

PUBLISHED BY:

PUBLIC AFFAIRS DEPARTMENT  
NEW YORK CITY TRANSIT AUTHORITY

## Foreword

On October 27, 1979, New York's subway will be 75 years old. It has changed considerably since that Thursday afternoon in 1904 when Mayor McClellan turned a special silver control handle and moved the first train north past the Byzantine arches of City Hall station.

The ride to 145th Street and Broadway was 9.1 miles long and lasted 26 minutes. With fare set at a nickel, the subway was a big improvement over the omnibus, which cost ten cents, and the horse car, both of which lumbered haltingly through midtown traffic.

Getting from one place to another in 19th century New York was so time consuming that businesses had begun to move to Long Island and Westchester. The population of the city had stabilized at well under a million.

One solution to the transportation quagmire was the elevated railroad. While the "El" enabled working people to live in such countrified outer boroughs as The Bronx, it was the subway that really changed the face of the city.

New Yorkers moved en masse into the new apartment houses springing up along the new subway routes, paying monthly rentals in direct ratio to proximity to the stations. In terms of cold, hard cash, New Yorkers knew the value of the subway and never underestimated its impact on their lives.

The following pages present an objective picture of what it takes in terms of plant, organization and personnel to move 3½ million people a day. Clearly, the system, with its 458 stations, 229 miles of routes costing \$2.5 billion to construct and \$27 billion to replace, has been a blue chip investment. In today's world of dwindling energy, it is a major resource.

In this Diamond Jubilee year, \$1.3 billion of Federal, State and City funds have been earmarked by the legislature for future upgrading of the subways and buses of New York.

The timing of this program is impeccable, for it will make it possible for people to move people until the Subway Centenary and beyond.

The 75th anniversary of the subway is a tribute to the men and women who made a dream come true for future generations of New Yorkers and a reminder to us all of our obligation to maintain that dream and continue to see it grow and serve the generations to come.

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## I. ADM

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## I. ADMINISTRATION

The New York City Transit Authority was created by the New York State Legislature in 1953 to operate all New York City-owned subway and bus lines. Since March 1968, the Board of the Metropolitan Transportation Authority has been the Board of the Transit Authority and its subsidiary, the Manhattan and Bronx Surface Transit Operating Authority (MaBSTOA). MaBSTOA was created by the New York State Legislature March 19, 1962 to operate bus routes of two companies, the Surface Transit Company and the Fifth Avenue Coach Lines, which had been taken over by the City of New York.

The MTA Board has 13 members including the Chairman, all appointed by the Governor with the advice and consent of the New York State Senate, three of them on the recommendation of the Mayor of the City of New York.

### Board Members

Harold L. Fisher, Chairman  
Daniel T. Scannell, First Vice Chairman  
Lawrence R. Bailey, Vice Chairman

Carol Bellamy  
Stephen A. Berger  
David W. Brown  
Jane K. Butcher  
Herbert J. Libert

John F. McAlevey  
Ronay Menschel, designee  
William Sheridan  
Constantine Sidamon-Eristoff  
Robert F. Wagner, Jr.

Robert T. Waldbauer

Steven K. Kauffman is the Senior Executive Officer/General Manager of the Transit Authority. Reporting to him are these principal officials:

Charles Kalkhof

General Superintendent, Rapid Transit

George J. Ziegler

Chief Engineer

Andrew T. O'Rourke

Executive Officer, Controller

Hyman Feldman

Executive Officer, Surface Transit

Helen R. Cassidy

General Counsel

Edward J. Babb

Secretary

Sanford D. Garelik

Chief, Transit Police Department,  
Director of Security



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## II. HISTORY

### Public Transportation in New York City

New York itself began with transportation breakthroughs: the voyages of Verrazano in 1524 and Hudson in 1609. But for more than two centuries after Hudson's sailing ship, Half Moon, provided the transportation that opened the region to exploration and eventual settlement, available records offer virtually no details of the development of transportation within the fast-growing community.

Conspicuously missing thus far is a firm date for even so great a step as the introduction of the first regular transportation on a fixed route available to the general public for a set fare-- that is: The Day Transit Began.

The year 1746 has been mentioned as the start of a horse-drawn route along Broadway to carry the "hurrying throngs" into the city (then located in lower Manhattan), but the details are obscure.

Transit events in the first quarter of the 19th century are hardly any clearer. By 1825, when New York had surpassed Philadelphia to become the largest city in the United States with a population of some 200,000 and a built-up area reaching all the way to 14th Street, the first recorded proposal was made for an elevated railroad in Manhattan. Nothing seems to have come of the idea.

Then, in 1827, a visionary named Abraham Brower contracted with the coachbuilding firm of Wade & Leverich for a 12-seat horse-drawn vehicle that he named "Accommodation" and began running up and down Broadway as far north as Bleeker Street charging a flat fare of one shilling regardless of the distance traveled. Two years later Brower increased his service with the 12-passenger "Sociable"-- this one with trend-setting longitudinal seats and a rear entrance-- and in 1831 he added the "Omnibus."

Meanwhile, John Mason, president of the Chemical Bank, had organized the New York and Harlem Railroad to build the world's first street railway and operate horse cars between Fourth Avenue at 14th Street and the Bowery at Prince Street. Looking into the future, The New York Courier & Inquirer predicted that completion of the line "will make Harlem a suburb of New York." Although the first trip, on Nov. 26, 1832, was marred by the world's first horse car accident (a minor one), Mayor Walter Bowne proclaimed, "This event will go down in the history of our country as the greatest achievement of man."

Those two events, Brower's omnibus in 1827 and Mason's street railway in 1832, not only launched transit in New York, they also set the lines of its development for the next century and a half. The modern motorbus is the lineal descendant of Brower's brainchild, and today's stainless steel air-conditioned subway train is a many-times-removed refinement of Mason's application of metal wheels to metal rails to move passengers for a set fare within the city.

But the development of transit was never smooth. It was not until the 1850's that additional horse car tracks were laid down. Meanwhile the city grew north, to 42d Street, and recorded 515,000 inhabitants in 1850, without counting the 97,000 residents of the City of Brooklyn. By 1855 there were 593 omnibuses in the city, running on 27 routes, most of them converging on Broadway, where they made up half the traffic. An 1852 count showed that omnibuses passed Chambers Street on Broadway at the rate of one every 15 seconds in each direction during a 13-hour period. The fare was 10c.

Then came a breakthrough in street railways, spurred by the growing market and improvements in the design of the cars, and by 1855 horse cars were in service on Third, Sixth and Eighth Avenues, as well as on Fourth. They charged a fare of 6c.

Following, in condensed form and chronological order, are highlights in the subsequent development of New York's transit system:

1855      The Staten Island Rail Road Company began construction  
Nov.      of a 13-mile road through the center of the island,  
            from Townsend dock at Vanderbilt's landing to Totten-  
            ville. The line was completed in 1860.

1864      The first rapid transit bill was introduced into the  
Mar. 23      New York State Legislature. It would have given the  
            Metropolitan Railway Company, newly chartered and  
            organized by Michigan railroad man Hugh E. Willson,  
            the right to build a subway modeled after the London  
            steam-operated underground (which had been opened in  
            January 1863). Despite considerable support from the  
            public (and The New York Times), the bill died in  
            committee.

1864      The New York Herald described the New York omnibus  
Oct. 2      as "a perfect Bedlam on wheels" and said horse cars  
            were even more crowded, with standees hanging from

straps "like smoked hams in a corner grocery . . . .  
The foul, close, heated air is poisonous. A healthy  
person cannot ride a dozen blocks without a headache."

1865  
Feb. 7      The second subway bill passed the legislature but was  
vetoed by Gov. Reuben E. Fenton. Some historians say  
his action delayed underground rapid transit for  
almost a half century. His reason: "I cannot con-  
sent. . . to such use of these grounds (digging under-  
neath Battery Park) without feeling I had violated  
the trust reposed in me by the people."

1867  
Jan. 31      The State Senate Committee on Rapid Transit reported  
that underground railways were the only quick solution  
to the city's need for "safe, rapid and cheap trans-  
portation of persons and property," and proposed that  
two lines be constructed, one on the East Side and one  
on the West Side. The Committee also supported  
Charles T. Harvey's proposal that a half-mile of  
elevated cable railroad be erected on Greenwich Street  
as an experiment.

1867  
Dec. 7      The first operation of an elevated train in New York  
City took place when Harvey demonstrated his cable  
system on Greenwich Street.

1868  
July 3      The Greenwich Street cable elevated railroad was built  
by the West Side Elevated (Patent) Railway Company  
and, according to The New York Times, reached 10 miles  
an hour in its trial run. After April 20, 1871, the  
line, by now extended to 30th Street and Ninth Avenue,  
was run by steam locomotive rather than propelled by  
cables driven by stationary steam engines.

1870  
Feb.      Scientific American publisher Alfred Ely Beach, who  
in 1868 had incorporated the Beach Pneumatic Transit  
Company, ostensibly to speed mail and parcels through  
an underground tube by means of compressed air, re-  
vealed that the tube could handle a passenger vehicle.  
Beach's "subway" was a single tunnel, 9 feet in dia-  
meter, under Broadway from Murray to Warren Streets.  
It represented the first application of shield tun-  
neling in America. Although this was a promotional  
device designed to win support for a franchise and  
attracted 400,000 people who paid 25c to ride the  
single 22-passenger car on its 312-foot route, it  
failed to impress engineers and financiers. It was  
soon abandoned.

- 1872  
May 22      Commodore Cornelius Vanderbilt and his New York City Rapid Transit Company were authorized by the legislature to build and operate a two-track tunnel railroad from City Hall to 59th Street, to connect with the New York Central Railroad system at Grand Central. Adverse criticism led to the abandonment of these plans.
- 1872  
June 17      The Gilbert Elevated Railway Company was chartered and made plans to suspend a pneumatic tube above the street surface on Sixth Avenue by means of Gothic arches, and run trains by atmospheric power, compressed air or other power. It was the steam locomotive, however, that was actually used on this line when it opened to revenue service on June 5, 1873.
- 1874  
Nov. 17      Construction began of the Hudson and Manhattan tunnels, between 15th Street in Jersey City and Morton Street in Manhattan, the first effort to link New York and New Jersey by a tunnel under the Hudson River.
- 1875      The State Legislature created the first Rapid Transit Commission, which promptly advertised for rapid transit plans to be submitted by August 1st. Although the Commission fixed the routes and rates of fare for elevated roads and was authorized to locate railways under as well as over streets, it refused to consider any underground project as this would constitute "a proceeding of such doubtful legality that we cannot advise it." Instead, it set routes for elevated lines on Second, Third, Sixth and Ninth Avenues to be constructed by the New York Elevated Railroad Company and the Gilbert Elevated Railway Company. The latter changed its name to the Metropolitan Elevated Railway Company on July 1, 1878.
- 1879  
May 20      The Manhattan Railway Company concluded leasing arrangements with the New York Elevated Railroad Company and the Metropolitan Elevated Railway Company, by which it agreed to finish construction of the lines these companies had begun.
- 1881  
June 27      The first elevated line in Brooklyn, running from Brighton Beach to West Brighton, was a wooden elevated structure built by the Coney Island Elevated Railway Company. It was operated during the summer only and lasted only a few years.



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- 1883  
Sept. 24     Regular transit service began over the Brooklyn Bridge, from Sands Street to Park Row. A moving cable was used to haul the elevated type cars on the bridge.
- 1885  
May 14     The Brooklyn Elevated Railroad Company ran its first elevated train from Washington and York Streets to Gates Avenue and Broadway via York Street, and Hudson, Park, Grand and Lexington Avenues.
- 1885  
Aug. 13     The first cable street car line opened, from Eighth Avenue and 125th Street to Fort George in upper Manhattan.
- 1885  
Aug. 27     The first test of an electric train on the elevated was carried out on the center track of the Ninth Avenue line between 14th and 50th Streets. Drawing power from a temporary third rail, an engine pulled four cars at 25 m.p.h.
- 1885  
Oct. 29     The Fifth Avenue Transportation Company, Ltd. (sic) was incorporated to forestall the establishment of a street railway on the Avenue. In 1886, a franchise was granted for an omnibus line to run between Bleecker Street and 89th Street, along Fifth Avenue. The company was reorganized and incorporated as the Fifth Avenue Coach Company on July 25, 1896. It operated horse-drawn omnibuses along Fifth Avenue.
- 1886  
April 20     Most New York street railways were struck by horse car drivers and conductors demanding a wage of \$1.50 per day and a reduction of daily hours to 12. Strikers and police clashed in a bloody confrontation. Most service was restored after several days when arbitration began.
- 1886  
May 17     The Suburban Rapid Transit Company opened the first part of its elevated line from Manhattan into the "suburban Bronx." The line connected in Manhattan with the Second and Third Avenue lines.
- 1887  
Dec. 17     The first electric trolley car line was operated between Brooklyn and Jamaica, along Jamaica Avenue, by the Jamaica and Brooklyn Road Company.
- 1889  
April     A five-member Board of Rapid Transit Commissioners was appointed by Mayor Hugh J. Grant to lay out rapid transit routes, either above or below ground.

1891 Governor David B. Hill signed the Rapid Transit Act of 1891, creating a Board of Rapid Transit Commissioners and naming as its first commissioners the same five men appointed to the New York City Board. The Commission decided on the underground road. When no satisfactory bids were received, the Board offered the Manhattan Railway Company the rights for extension of its existing elevated lines. The company refused the offer.

The Commissioners heard banker Jacob H. Schiff argue for the use of city funds to defray the cost of construction of electricity over steam, which had proved unsatisfactory in the London Underground. The Act was soon amended to permit cities to use their own capital in construction.

1891 By this time, the Manhattan Railway Company, under  
June 30 the leadership of financiers Jay Gould and Russell Sage, controlled and merged all the elevated lines in Manhattan and The Bronx.

1891 The Park Avenue elevated in Brooklyn was abandoned.  
Dec. 26 This was the first elevated line to be abandoned.

1894 The 1891 Board was abolished by the State Legislature after it failed either to build a subway line or to extend existing elevated lines.

1894 The Brooklyn, Bath & West End Railroad introduced  
Summer electric-powered trains into the New York metropolitan area. One motor car pulled three open trailers from 39th Street to Coney Island.

1894 Private capital having proven unable or unwilling to  
Nov. 6 undertake construction of underground railroads in New York City, the voters approved the Rapid Transit Act of 1894, under which the city would pay private contractors to build subways and lease the facilities to private companies for equipping, maintaining and operating. A new Board of Commissioners was appointed consisting of the Mayor and Comptroller of the City of New York, the president of the Chamber of Commerce and five prominent businessmen.

1896 The Brooklyn Rapid Transit Company (BRT) was chartered  
Jan. 16 to control various street railways and rapid transit lines in Brooklyn. It took over the Brooklyn Union Elevated Railroad and the Kings County Elevated Rail-

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road. Within ten years it also absorbed five existing railroads into its system: Brooklyn, Bath & West End Railroad (which became the West End line); Sea Beach Railway (Sea Beach line); Brooklyn & Brighton Beach Railroad (Brighton line); Prospect Park & Coney Island Railroad (Culver line); and Brooklyn & Rockaway Beach Railroad (Canarsie line).

1900

Feb. 21

A contract (Contract No. 1) for the construction, proper equipment and operation of New York's first real subway, between City Hall and Harlem, was awarded to contractor John B. McDonald by the Board of Rapid Transit Railroad Commissioners. McDonald shortly assigned 75 per cent of his interest in the contract to the Rapid Transit Subway Construction Company, organized by financier August Belmont to provide McDonald with additional financial backing. On March 24, 1900 construction was formally begun in front of City Hall.

1900

Sept. 4

The first escalator at a rapid transit station went into service at 59th Street on the Third Avenue "El."

1901

Jan. 24

The Board of Rapid Transit Railroad Commissioners adopted the route and general plan for a Brooklyn extension of the subway. The low bidder for this route, the Rapid Transit Subway Construction Company, began this work in Manhattan on November 8, 1902.

1901

Dec. 30

The first electric-powered elevated train was put into regular service by the Manhattan Railway Company on its Second Avenue elevated line between South Ferry and 129th Street in Manhattan.

1902

May 6

The Interborough Rapid Transit Company (IRT) was incorporated by McDonald, Belmont, Cornelius Vanderbilt and others to operate the subway being built for the city.

1903

Jan. 1

The Manhattan Railway Company leased its four elevated lines (the Second, Third, Sixth and Ninth Avenue lines) in Manhattan and The Bronx to the IRT for 999 years from November 1, 1875. The Metropolitan Street Railway system had gained control of almost all surface lines in those two boroughs but in so doing had overextended itself financially and wished to merge with the IRT. To accomplish this, it threatened to get a franchise to build another subway, one which would not only transport passengers by underground means but would give them free

	transfers to the company's surface lines. Unwilling to face the competition, the IRT consented to the marriage and the <u>Interborough Metropolitan Company was formed in January 1906.</u>	1906
1903 June 25	<u>The last steam-powered elevated train was operated in passenger service on the Ninth Avenue line.</u>	
1903 Dec. 10	<u>The first all-steel subway car, an experimental model, was delivered to the IRT Company.</u>	1907 July
1904 Mar. 3	The first <u>Hudson and Manhattan tube</u> was holed through, culminating 30 years of effort, marred by financial failures and accidents, to link New York and New Jersey by a Hudson River tunnel. Rapid transit service began February 25, 1908.	1907 July
1904 Oct. 27	<u>The first regular New York subway was inaugurated, with Mayor George E. McClellan at the controls of an eight-car IRT train jammed with invited guests. The first line ran 9.1 miles: from City Hall north to Grand Central station, west to Times Square, then north on Broadway to 145th Street.</u>	
1904 Oct. 28	<u>The first full day of subway operation.</u>	1907 Dec.
1904 Oct. 29	Newspaper headline: "Rush Hour Blockade Jams Subway; Other Delays Day and Evening; 350,000 Passengers; 17-Minute Delays."	1908 Jan.
1904	<u>Daily average for the year was 300,000 passengers, with Brooklyn Bridge station (near City Hall) doing the most business.</u>	1909 April
1905 July 10	<u>The subway was extended into The Bronx through a 650-foot tunnel under the Harlem River to 149th Street in The Bronx.</u>	1909 Nov.
1906 March	The Board of Rapid Transit Railroad Commissioners appointed a subcommittee of two members and the Chief Engineer to investigate <u>complaints of poor subway service</u> . On the subcommittee's recommendation, the company decided to run seven- or eight-car (instead of five-car) trains on express tracks weekdays as well as all day Sunday and to increase local service during rush hours.	1910  1911 July 1913 Mar.

- 1906      An experimental cooling plant was installed in the Brooklyn Bridge station (near City Hall). Water from two artesian wells was pumped into cooling pipes on each side of the station lowering the temperature 12 degrees on hot summer days.
- 1907  
July 1      The first gasoline-powered motorbus, an open-top double-decker, was operated by the Fifth Avenue Coach Company between Washington Square and 90th Street.
- 1907  
July 1      The Public Service Commission was created to succeed the Board of Railroad Commissioners of New York State, and the city Board of Rapid Transit Railroad Commissioners was abolished for its failure to move quickly enough in building subways into Brooklyn, Queens and other parts of Manhattan.
- Two Public Service Commissions were created: one for the First District with jurisdiction over New York City, the other for the rest of the state.
- 1907  
Dec. 31      The Commission adopted the "H" system under which subway lines ran up the east and west sides of Manhattan with a cross bar at 42d Street.
- 1908  
Jan. 9      The subway was extended into Brooklyn through the 5,385-foot Joralemon Street tunnel under the East River.
- 1909  
April 26      The first subway train with center doors as well as end doors, was put into service in an effort to speed loading and unloading.
- 1909  
Nov. 12      Ground was broken for the Fourth Avenue subway in Brooklyn.
- 1910      The State Legislature increased the borrowing capacity of New York City by \$120,000,000 to enable the city to expand rapid transit.
- 1911  
July 21      Ground was broken at 62d Street and Lexington Avenue for the Lexington Avenue subway.
- 1913  
Mar. 19      Contracts were signed by the IRT, the Brooklyn Rapid Transit Company and the city to increase single track mileage to 620 from 296 miles in a five-year period.

- 1913  
Mar. 19  
(Cont'd.) Known as the Dual System of Rapid Transit, the agreements also provided for the joining and extension of existing elevated and subway lines. Each company could charge no more than 5¢ fare on any part of its system; each was permitted to issue free transfers between its own intersecting lines.
- 1915  
June 22 The first subway was operated into Queens, by the IRT, through the 3,500-foot Steinway tunnel under the East River, completed in 1907 for trolley cars but never used for regular service. On the same day:
- 1915  
June 22 The Brooklyn Rapid Transit Company operated its first subway in Brooklyn and, via the Manhattan Bridge, into the Chambers Street station.
- 1917  
July 26 Manhattan's last horse car was operated, on the Bleecker Street line.
- 1917  
Dec. 28 Miss I. A. Lilly, the first "conductorette," began service on Brooklyn Rapid Transit Company cars. During World War I a number of women were employed as conductors on New York street cars, subways and elevated trains.
- 1918  
Nov. 1 One hundred and two persons were killed when a Brooklyn Rapid Transit train crashed into a tunnel wall at Malbone Street in Brooklyn. An inexperienced employee had been pressed into service as a motorman during a wildcat strike and lost control of the train as it rounded a curve.
- As a result of the accident, Malbone Street was renamed Empire Boulevard and the Brooklyn Rapid Transit was put on the road to bankruptcy.
- 1918  
Dec. 31 The Brooklyn Rapid Transit Company declared bankruptcy and went into receivership.
- 1920  
May 10 The first recording, coin-operated turnstiles went into use at some IRT stations, replacing ticket "choppers."
- 1921  
April 25 The Transit Commission, a state agency, was established to make provision for radical and permanent relief of the transit situation in New York City.

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1921  
Oct. 8      New York's first trolley bus line, (this is a bus drawing electric power from overhead lines), began service on Staten Island. The line, known sometimes as the Sea View-Linoleumville-Egbertville line, closed August 1, 1927.

1922  
Feb. 22      The first closed-top double-decker bus went into service on Fifth Avenue.

1923  
June 14      The Brooklyn-Manhattan Transit Corporation (BMT) emerged from reorganization proceedings as the successor to the bankrupt Brooklyn Rapid Transit Company.

1923  
June 25      Six persons were killed when a BMT elevated train rounding a curve at great speed fell to the street from the structure at Flatbush and Atlantic Avenues in Brooklyn.

1924  
July 1      The Board of Transportation was created by the State Legislature. Described as a "municipal board appointed by the Mayor," its three members, resident New Yorkers, were given responsibility for the "laying out and supervising of the construction of rapid transit railroads" previously done by the Transit Commission of New York State.

1925  
Mar. 14      The city began construction of the Eighth Avenue subway for lease on completion to private operators.

1925  
Sept. 14      The first articulated cars (cars with jointed bodies with trucks under each joint as well as at each end) were introduced on the BMT.

1927  
Nov. 8      New York City was permitted, by constitutional amendment, to extend its debt limit up to \$300 million "for the construction or equipment, or both, of new rapid transit railroads."

1928  
Aug. 24      An IRT subway train derailed and struck the wall of the tunnel at Times Square killing 16 persons.

1930  
July 23      Trolley coaches began service in Brooklyn on Cortelyou Road between Flatbush and Coney Island Avenues and for the next 30 years (until July 27, 1960), "trackless trolleys" were a feature of Brooklyn life.

1932  
Aug. 26      The IRT, bankrupt, went into receivership one month short of its 28th birthday.

1932 Sept. 10 There having been no satisfactory bids for private operation of the new Eighth Avenue subway, the city put the line into operation under its own management, calling it the Independent City-Owned Rapid Transit Railroad or the Independent System (IND).

1934 Aug. 28 The first train of stainless steel subway cars went into service on the BMT.

1936 Oct. 1 The first PCC street car, a streamlined vehicle designed by the Presidents' Conference Committee-- (presidents of the principal operating companies)-- went into service on the BMT Smith-Coney Island line. A standard among street cars, the "PCC" is still in use in many cities throughout the world.

1938 Dec. 4 The Sixth Avenue "El" suspended service from Morris Street to 53d Street and Ninth Avenue.

1940 June 1 New York City acquired all BMT rapid transit and surface lines except the Fulton Street "El" west of Rockaway Avenue and the Fifth Avenue-Bay Ridge "El," both of which went out of business at this time.

1940 June 12 New York City acquired all IRT lines except the Second Avenue "El" north of 57th Street and the Ninth Avenue "El" south of 155th Street, both of which were then discontinued. The city was now the operator as well as the owner of all New York subway and elevated lines and the system was unified.

1940 Dec. 15 Service began today on the IND Sixth Avenue line: from West 4 Street-Washington Square to the junction at 53d Street-Sixth Avenue.

1943 May 10 The first women street car operators were hired by the Board of Transportation. Many other women went to work in jobs formerly exclusively male during World War II.

1946 Dec. 23 The all-time record day for rapid transit passengers: 8,872,244 passengers carried in a 24-hour period on the city's subway and elevated lines.

1946 Dec. 28 The open-top double-decker Fifth Avenue bus was discontinued.

1947 Feb. 23 The city acquired the Isle Transportation Company, formerly the Staten Island Coach Company, and began operating buses on Staten Island.



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- 1947  
Mar. 30 The city acquired the North Shore Bus Company and began operating buses in Queens.
- 1947  
June 28 The last street car line to operate in Manhattan ended service. Several Bronx lines continued to run into Manhattan until July 10, 1948.
- 1948  
Sept. 24 The city acquired the Comprehensive Omnibus Corporation and the East Side Omnibus Company and began operating buses in Manhattan.
- 1951  
Nov. 5 New York State voters approved a constitutional amendment authorizing the city to issue \$500 million in bonds outside its constitutional debt limit "...for construction and equipment of new Rapid Transit Railroads...and reconstruction and equipment of existing Rapid Transit Railroads." Although the money was meant largely for the proposed Second Avenue subway, the Board of Estimate voted to use it for improvements in the existing system. According to the New York Times, "The Board decided rightly... that today's urgent needs took precedence over yesterday's promises. The alternative was, in the Board's words, 'to make drastic cuts in the allocation for schools, hospitals and other vital improvements.'"
- 1953  
Apr. 27 The closed-top double-decker Fifth Avenue bus made its last run.
- 1953  
June 15 The New York City Transit Authority was established under state law. City-owned transit was leased to the new agency. Under the law, the Authority could set fares to insure that its operations would be self-sustaining; all capital costs were to be borne by the city.
- 1954  
July 1 The first labor contract negotiated by the Transit Authority and employee unions became effective.
- 1955  
May 12 The last wholly elevated line in Manhattan, the Third Avenue "El," ended service.
- 1956  
June 28 The Transit Authority, after extensive reconstruction, began operation of the Rockaway line, formerly a part of the Long Island Rail Road.

- 1956  
Oct. 3      The McDonald Avenue and Church Avenue lines in Brooklyn, the last full-length trolley lines operating on the city's streets, were discontinued.
- 1957  
Apr. 7      The only trolley line left in New York State, in operation on the Queensboro Bridge, was closed down.
- 1959  
Aug. 1      The city's rapid transit power plants were sold to the Consolidated Edison Company.
- 1960  
July 26     The last trolley buses were operated on five Brooklyn routes.
- 1962  
Mar. 19     The Manhattan & Bronx Surface Transit Operating Authority (MaBSTOA) was created by the State Legislature as a subsidiary of the Transit Authority, to operate bus lines recently acquired by the city including those of the Fifth Avenue Coach Company.
- 1962        The New York State Legislature amended the Public Authorities Law enabling the Transit Authority to buy 724 new subway cars (424 for the IRT and 300 for the BMT) by issuing bonds in an amount not to exceed \$92 million.
- 1965  
Apr. 6      Transit police were assigned to each train and station between the hours of 8 P.M. and 4 A.M.
- 1965  
May 21     The first two-way radio system in the subway was put into operation on the IRT Lexington Avenue line.
- 1965  
Nov. 3      The first regular express bus service in New York City was adopted on a trial basis. Known as the RSX, it ran from Staten Island to downtown Brooklyn during morning and evening rush hours and is today one of twenty-two Transit Authority express bus services.
- 1966  
Jan. 1-12    A strike by unionized employees tied up subways and buses for twelve days.
- 1967  
July 19     The first successful train of air-conditioned cars went into service on the IND division.
- 1967  
Nov. 7      New York State voters approved the Transportation Capital Facilities Bond Act permitting the state to

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issue bonds for \$2.5 billion to improve mass transportation. Of this amount \$600 million was set aside for subway building and was transferred to the MTA by an act of the 1969 session of the State Legislature.

1967  
Nov. 26

The BMT and IND divisions were merged following the opening of the Chrystie Street subway connection between the Broadway-Lafayette (IND) station and the BMT lines crossing the Manhattan and Williamsburg Bridges.

1967  
Nov.

A color-coding system was introduced to better identify rapid transit services and a new signage system was inaugurated to reduce visual clutter and guide passengers to their destinations with greater ease. These were followed in August 1972 with a completely revised systemwide subway map coordinated to the same overall design concepts.

1968  
Mar. 1

The Metropolitan Transportation Authority (MTA) assumed control of the Transit Authority and the Manhattan and Bronx Surface Transit Operating Authority (MaBSTOA).

1968  
May 14

A two-way radio link between Transit Authority bus headquarters and buses in the street was placed in operation.

1968  
Sept. 20

The New York City Board of Estimate approved the construction of 11 new subway routes and additions to existing lines at a cost of \$1.3 billion. In addition to the Second Avenue subway, these included the 63d Street tunnel and crosstown as well as various lines in Brooklyn, Queens and The Bronx.

1969  
Oct. 4

The last wooden passenger cars were retired when the Myrtle Avenue elevated line abandoned its structure from Broadway to Bridge and Jay Streets in Brooklyn.

1969  
Nov. 3

This was the last day of operation of the Lo-V (low voltage) car in New York, on the Third Avenue "El." These were the last of the cars bought by former private operators of the city's subways.

1969  
Nov. 24

Construction began on the double-decked 63d Street East River tunnel, which will carry the subway on its upper level and the Long Island Rail Road on its lower portion.

- 1969      The State Legislature voted to permit the Triborough Bridge and Tunnel Authority to transfer surplus funds to the Transit Authority to help meet operating deficits.
- 1970  
May 20      Two persons were killed and 60 injured when an IND passenger train and a disabled train without passengers collided at a switch west of Roosevelt Avenue in Queens. A thorough investigation of the accident resulted in major changes to longstanding operational rules and procedures.
- 1970  
Oct. 15      The Urban Mass Transportation Assistance Act, committing \$10 billion for new and improved bus and subway systems in urban areas over 12 years, was enacted. Its purpose was to upgrade existing transit systems and construct new ones. The Federal Government will pay up to two-thirds of the cost of transit projects as well as purchase land, equipment and other facilities.
- 1971  
July 1      The Staten Island Rapid Transit Operating Authority (SIRTOA), a newly formed subsidiary of the MTA, took over operation of the Staten Island Rapid Transit Railway Company after the city acquired the line from the Baltimore & Ohio Railroad Company.
- 1971  
July      Work on the 63d Street crosstown subway line began under Central Park. This was the first construction of a major new subway route in New York City in almost a half century.
- 1971  
Nov. 2      State voters turned down a \$2.5 billion State Transportation Bond Issue that would have provided monies for additional capital improvements in the transportation system as well as new lines.
- 1972  
Jan. 31      A subway train speed record of 83 miles an hour was set on a Long Island Rail Road test track in a performance trial of the new R-44 cars.
- 1972  
Aug. 15      For the first time in 40 years, the construction of major new subway lines got under way, in Queens at Archer Avenue and 151st Street, paving the way for the construction of the Southeast Queens subway line and the demolition of the Jamaica Avenue "El" from 121st Street to 169th Street.

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- 1972  
Oct. 27      Construction of the Second Avenue subway began.
- 1973  
Feb. 28      The first new cars (R-44) for the Staten Island Rapid Transit system since the system was electrified in 1925, were placed in service.
- 1973  
April 28      Operation of the Third Avenue Elevated in The Bronx ended at midnight. The Bx55 then began serving the El's former passengers.
- 1973  
Aug. 5        The last grade crossing on the New York subway system, at the East 105th Street station on the LL line in Brooklyn, was eliminated.
- 1973  
Aug. 28        One passenger was fatally injured when part of a concrete duct fell from the roof of the IRT Steinway tunnel and struck the first car of a Queens-bound Flushing local. The tunnel was originally completed in 1907 for use by trolley cars and the duct added in 1913 when the unused East River tube was refitted for subway trains. The duct has since been removed and the power cables that it carried were placed underground.
- 1973  
Sept. 1        The first Culture Bus, the M41, began service in mid-Manhattan.
- 1973  
Nov. 6        The voters of New York State defeated a \$3.5 billion Transportation Bond Issue. This amount, combined with federal monies, would have provided funding of capital investment programs for transit and commuter rail facilities.
- 1974  
May 1        The first payment of \$25 million was made under a new law providing \$140 million in mass transit operating assistance in equal amounts from state and city funds.
- 1974  
July 1        New bus route numbers were introduced in all five boroughs and new pocket-size bus route maps were published for Manhattan and The Bronx to coincide with these numbers. The confusion of duplicate route numbers within the boroughs was eliminated. New bus maps for Brooklyn, Staten Island and Queens followed.

1974  
Nov. 26 President Ford signed the National Mass Transportation Assistance Act, which established a six-year program to support public transportation capital and operating programs.

1975  
Mar. 21 A track-welding and wheel-truing project was begun as part of a ten-year subway noise abatement program. It will cost an estimated \$62.5 million of which \$50 million will be borne by the Urban Mass Transportation Administration (UMTA) and the \$12.5 million balance by New York City. Actual work on the first step, track welding at several stations, began May 1976.

1975  
Mar. 27 The first four of 754 new subway cars, the R-46 series, were delivered. They will permit the retirement of all of the remaining 848 old cars, series R-6 through R-9, first placed in service in the 1930's.

1975  
April to 1977 To boost productivity, cut operating deficits and, above all, keep the fare down, the Transit Authority adopted changes aimed at bringing bus and subway service into a more realistic relationship to a lessened passenger demand. The first of these adjustments began in April 1975 when bus headways were increased on routes that had experienced severe losses in ridership. The changes were minimal, amounting at most to an increase of one or two minutes in waiting time.

Other adjustments followed. Manning of token booths was curtailed by seven per cent in October 1975. A month earlier, in September, train trips on IRT lines were pared to 2,114 per day from 2,208, representing a four per cent reduction.

January 1976 marked the beginning of another series of adjustments, these designed to produce an annual net savings of \$12.6 million. The number of train trips on BMT and IND lines was reduced by five per cent and changes were made on the #1, B, CC, F, GG, J, M and N lines. EE and K services were terminated.

Ordered by the New York State Emergency Financial Control Board to balance the budget, the Transit Authority made further cuts in subway and bus service beginning January 1977, as follows: The A assumed some of the local midnight runs of the AA; the Bowling Green shuttle

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was discontinued; and B,N,GG and J services were re-  
vised. Trains were shortened during non-rush hours  
while bus headways were lengthened to conform to reduced  
passenger volume. By January 1978 ridership was up and  
ten-car trains were running again during off-peak hours.

1975  
May 11

Service was terminated at 12:01 A.M. on the Culver  
Elevated, which had been reduced to only 1.1 miles  
of single-track shuttle. Free transfers to a  
parallel bus line, the B35, were substituted.

1975  
June 24

Two 10-car air-conditioned IRT trains entered service,  
the first such trains on the 70 year-old system. Made  
up of retrofitted standard IRT cars, the trains capped  
more than two decades of work to produce air-condition-  
ing units small enough to fit IRT cars and powerful  
enough to handle the summer cooling requirements of  
heavy passenger loading on rush hour trains. Two such  
cars, first introduced September 5, 1973, had success-  
fully completed a two-year test.

1975  
Dec. 22

The first five of an order for 398 "kneeling buses"  
were delivered to the Transit Authority. So called  
because the front steps can be lowered to within three  
inches of the curb thereby making boarding easier, the  
"kneeling bus" is the first city bus designed to im-  
prove service for the elderly and the infirm.

1976  
Jan.28

Pocket-size timetables giving starting times of subway  
trains from their terminals as well as running times to  
each station, were introduced to riders on the D line.  
They were prepared and printed without cost to the  
Transit Authority under an agreement with Metro Transit  
Schedules, Inc., a private concern that sells adver-  
tising in timetables. This is a test preparatory to  
the publication of timetables for all subway lines of  
the system.

1976  
July 2

The Transit Exhibit, a congeries of vintage trains, pot-  
bellied stoves, maps and transit memorabilia de-  
picting seven decades of public transportation in New  
York City, opened today in the Court Street subway sta-  
tion in downtown Brooklyn.

1976  
July 16

The Nostalgia Special made its maiden run to the  
Rockaways and back with a full load of passengers, many  
of whom had not been born when the BMT triplex cars in  
which they rode were put into service in 1927.

- 1976  
Sept. 14 Double deck buses, a New York City tradition until they were phased out in 1953, made their appearance once again on Fifth Avenue and Riverside Drive when eight new English-built, air conditioned buses were placed in operation as a test on the M4 and M5 lines in Manhattan.
- 1977  
Feb. 12 Service on the Bowling Green shuttle, which links the Bowling Green station on the IRT #4 and 5 lines with the South Ferry station on the #1 Broadway local line, was discontinued at midnight. The shuttle covered a distance of less than three-tenths of a mile. The decision to discontinue the shuttle was part of the Transit Authority's \$30 million cost-cutting program.
- 1977  
Sept. 2 A bus stop informational sign was unveiled on the Q44A bus route. The unit is an 18-inch-high cylinder bolted to the bus stop sign, showing scheduled arrival times for buses at that stop and a strip map diagram of the route with subway and bus connections. This is the prelude to extensive testing in all boroughs before final designs are drawn for the 10,000 bus stops on the TA's 201 bus routes.
- 1977  
Sept. 11 At 12:01 A.M., service was terminated on one section of the Jamaica El specifically the J line, from Queens Boulevard to 168th Street. Passengers wishing to continue their journey to 168th Street were given free transfers to the Q49 bus. The first phase of demolition of the structure itself was set to begin July of the following year.
- 1978  
Sept. 23 Air travelers were invited to "take the train to the plane" today when the Metropolitan Transportation Authority, in cooperation with The Port Authority of New York and New Jersey, introduced limited-stop subway and bus service, the JFK Express, to JFK airport.



# JFK Express



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# 11. HISTORY: Discontinued Elevated Lines

## Manhattan Elevated Railway and Interborough Rapid Transit

### Line

#### Section

Opening  
Dates \*  
Service  
Suspended \*  
See  
Note No.

### Second Avenue

Chatham Square to 57th Street (opened to 65th Street)  
57th Street to 127th Street (opened from 65th Street)  
57th Street via Queensboro Bridge to Queensboro Plaza  
127th Street to 129th Street

3-1-80  
8-16-80  
7-23-17  
5-17-86  
6-13-42  
6-11-40  
6-13-42  
6-11-40

(1)

### Third Avenue

South Ferry to Chatham Square  
City Hall to Chatham Square  
Chatham Square to 129th Street

8-26-78  
3-17-79  
8-26-78/  
12-30-78  
5-17-86/  
6-16-87  
7-1-87/  
4-29-73  
4-29-73  
11-14-51  
4-15-24  
12-6-23  
7-14-30

(2)

### 129th Street to 149th Street (The Bronx)

149th Street to Fordham Road (Pelham Avenue)

Fordham Road (Pelham Avenue) to Gun Hill Road  
Fordham Road (Pelham Avenue) to Bronx Park (Bronx Park Spur)  
Marlem River Spur (Willis Avenue Spur)  
42nd Street Spur (Third Avenue to Park Avenue-Grand Central Terminal)  
34th Street Shuttle (Third Avenue to East River)

7-1-01  
10-4-20  
5-21-02  
8-1-91  
8-26-78  
7-1-80

(3)

### Sixth Avenue

Battery Place to 59th Street-Minut Avenue (Columbus Avenue)

6-5-78/  
6-9-79  
6-5-78

(6)

### 56th Street Spur

### Ninth Avenue

South Ferry to 155th Street

12-4-38  
6-16-24

(7)

### 155th Street to 167th Street (Jerome Avenue)

2-14-70/  
12-1-79  
3-1-18/  
7-1-18

(8)

### Miscellaneous

Westchester Avenue Connection  
Bergen Cut-off (West Farms Connections)

11-26-04  
7-1-17  
- - -  
11-5-46

(10)

\* In some cases, elevated lines were opened in various stages. Where this occurred, the dates of the first and final stages are listed. In listing the dividing point of sections, the nearest station or the principal intersection is given, whichever is appropriate.

NOTES: Manhattan Elevated Railway and Interborough Rapid Transit

- (1) The station at 57th Street is given for clarity. The opening dates listed refer to 65th Street, while the closing dates refer to 57th Street.
- (2) When the Third Avenue line opened from South Ferry, its northern terminal was on the 42d Street spur at Park Avenue in front of Grand Central Depot. When the line opened above 42d Street, the spur was relegated to shuttle operation.
- (3) This is a prime example of the confusion in the opening or closing dates. The last full day of operation from 149th Street to Gun Hill Road was April 28, 1973 though the last train did not depart 149th Street for Gun Hill Road until 12:06 A.M. on April 29, 1973 as per schedule.
- (4) Some sources say the service was suspended November 13, 1951.
- (5) The Harlem River spur connected the 129th Street station with the Harlem River Terminal of the New York, New Haven & Hartford Rail Road and the New York Westchester & Boston Railway. At one time, during steam days, New Haven trains were operated in this service.
- (6) The Sixth Avenue line turned off the Ninth Avenue El structure at Morris Street and rejoined the line at 53d Street.
- (7) The original terminal of the line, before construction on 53d Street from Sixth to Ninth Avenue, was at 58th Street. The structure was built as far as 59th Street however. In later years this was a shuttle operation from 50th Street to 58th Street.
- (8) The original elevated structure was a cable-operated line from Cortlandt Street to 30th Street, with stations at Bay Street and 29th Street only. The original test of this cable elevated railway took place on Greenwich Street on December 7, 1867 when Charles T. Harvey tested his new-fangled method of transportation. Because of difficulty with the cable operation the line was shut down and converted to steam locomotive operation and reopened on April 20, 1871. Some confusion exists regarding the date of cable operation from Battery Place to Cortlandt Street.
- (9) This section was built to connect the Third Avenue line with the first subway line along Westchester Avenue. In fact, this connection was first used to permit operation of elevated trains along this subway route (on an elevated structure, of course) prior to the opening of the Harlem River tunnel, which would permit subway trains to use this route. Elevated service appears to have been discontinued over that connection on July 10, 1905 but the connection remained in service for work trains etc. for a number of years.
- (10) The Bergen cut-off was built to permit trains to operate over the subway route along Westchester Avenue without having to use the Westchester Avenue connection, and to bypass the very busy station at 149th Street. This connection was available for use by work trains until November 10, 1949. It should be noted that the Bergen cut-off and the Westchester Avenue connection joined and used the same tracks on the approach to the subway route along Westchester Avenue.

II. HISTORY: Discontinued Elevated Lines

Brooklyn Rapid Transit and Brooklyn-Manhattan Transit

Line	Section	Opening Dates *	Service Suspended	See Note No.	
		9-24-83 (cable)			3-5-44
					3-5-44

Part Box to Sands Street

# Rapid Transit

The opening and closing dates refer

erry, its northern terminus in front of the 42d Street, the

opening or closing of 42d Street to Gun Street did not depart on April 29, 1975

September 15, 1951.

the station with the New York & Hartford Rail Road. At one time, it was used in this service.

the structure at the intersection.

construction on 33d Street. The structure was completed in 1871. This was a test.

erected line from 42d Street to 33d Street and a cable elevated railway was built in 1867 when Charles F. Smith was shut down and completed on April 20, 1871. The operation from

venue line with the fact, this connection was made along this subway line prior to the opening of the subway trains to use the line. The operation remained in service.

to operate over the line, leaving to use the line as a very busy station for use by workmen. It was noted that the term "trolley" was coined and used the first time along Westchester.

## II. HISTORY: Discontinued Elevated Lines

### Brooklyn Rapid Transit and Brooklyn-Manhattan Transit

Line	Section	Opening Dates *	Service Suspended *	See Note No.
Brooklyn Bridge Sands Street Union Station	Park Row to Sands Street	9-24-83 (cable)	3-5-44 3-5-44	(1)
	Fulton Ferry to Washington Street Washington Street to Hudson Avenue Hudson Avenue to Grand Avenue-Myrtle Avenue Park Avenue to Hudson Avenue-Myrtle Avenue	11-12-85 5-14-85 5-14-85 11-5-88	4-10-04 4-10-04 12-26-91 4-10-04	(2) (2) (3) (2)
Old Main Line	Sands Street Connection Johnson Avenue to Bridge Street Bridge Street to Grand Avenue Grand Avenue to Broadway Grand Avenue Connection (NE corner)	9-1-88 4-10-88 4-10-88 4-27-89 4-27-89	3-5-44 3-5-44 10-4-69 10-4-69 12-26-91	(4) (4) (4) (4a)
	Grand Avenue-Myrtle Avenue to Gates Avenue (Broadway) Myrtle Avenue Connection (SW corner)	5-14-85 4-10-88	10-13-50 10-13-50	(5) (5a)
Lexington Avenue	Myrtle Avenue to Atlantic Avenue Atlantic Avenue to 36th Street 36th Street to 65th Street 65th Street Incline Myrtle Avenue Connection (SW corner)	11-5-88 6-22-89/6-12-90 10-1-93 9-21-03 6-21-89	5-31-40 5-31-40 5-31-40 12-8-03 5-31-40	(6) (7) (8) (6)
	Sands Street Connection Fulton Ferry to Rockaway Avenue Rockaway Avenue to Hudson Street	11-1-98 4-24-88/11-16-88 5-30-89/9-25-15	5-31-40 5-31-40 4-27-56	(9) (10)
Canarsie Line	Rockaway Parkway to Canarsie Shore	7-28-06	10-18-20	(11)
Broadway Line	Broadway Ferry to Marcy Avenue Cypress Hills Sub Cypress Hills Incline	7-14-88 5-30-93 5-30-03	7-2 or 7-3-16 5-27-17 12-8-03	(12) (13) (14)
	Queensborough Plaza to Main Street	4-21-17/1-2-28	10-14-49	(15)
Flushing Line	14th Avenue to Ditmars Avenue Ditmars Avenue to Kings Highway Kings Highway to Avenue X Avenue X to Scitwell Avenue	3-16-19 3-16-19 5-10-19 5-1-20	5-11-75 11-1-54 11-1-54 11-1-54	(16) (16) (16) (16)
Jamaica Line	Queens Boulevard-168 Street	7-3-18	9-11-77	

\* In some cases, elevated lines were opened in various stages. Where this occurred, the dates of the first and final stages are listed. In listing the dividing point of sections, the nearest station or the principal street intersection is given, whichever is appropriate.

NOTES: Brooklyn Rapid Transit and Brooklyn-Manhattan Transit

- (1) Sands Street Union Station, or Sands Street as it became known, was the focal point for service to Manhattan (Park Row) via the Brooklyn Bridge. Over the years, connections were made with the different elevated companies to permit through operation of trains over the Bridge. At different times propulsion was by means of cable, steam locomotives and finally electric trains.
- (2) This is the date of the last recorded service over this never-electrified line. It was formally abandoned on August 31, 1904. With the opening of connections to Sands Street station permitting through operation of trains over the Brooklyn Bridge, this "Old Main Line" route lost its importance. Passengers to this terminal at Fulton Ferry had to change trains and walk through a number of passageways in order to get a Manhattan-bound train.
- (3) The line from Park and Hudson Avenues to Grand and Myrtle Avenues contained what has become known as the Park Avenue line. It is the earliest abandonment of a major elevated structure in what was subsequently to become New York City. The direct connection to the Sands Street station were a major factor in the elimination of this line.
- (4) The last full day of operation of the Myrtle Avenue line from Bridge-Jay Street to Broadway-Myrtle Avenue was October 3, 1969; however, the last train did not depart Bridge-Jay Street station until 12:13 A.M. on October 4, 1969.
- (4a) This connection was made so that the dangerous grade crossing between Myrtle Avenue and Lexington Avenue trains could be eliminated. Instead of operating along Myrtle Avenue for the entire run, trains used this turnout into the "Old Main Line," which was built in the northeast corner of the junction. A similar turnout was built in the southwest corner to permit Lexington Avenue trains to run along Myrtle Avenue toward the Brooklyn Bridge. Thus, instead of both lines crossing in front of each other, trains turned away from each other.
- (5) This was built as part of the original "Old Main Line" with trains originating at Fulton Ferry and operating via York Street, Park, Grand and Lexington Avenues to Broadway.
- (5a) This is the other part of the connection referred to in 4A.
- (6) The Fifth Avenue elevated was originally connected with the "Old Main Line" at Hudson and Park Avenues. The section between Myrtle Avenue and Park Avenue along Hudson Avenue was never electrified.

- (7) This service Belt structure
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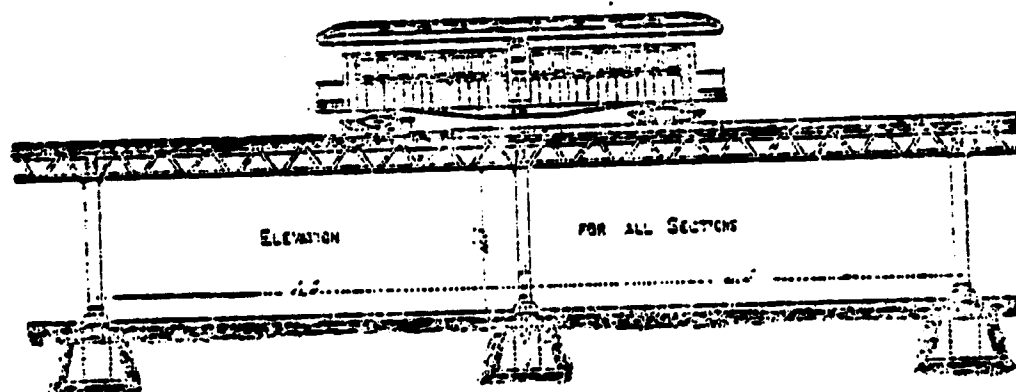
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As was the case at Myrtle and Grand Avenues, the building of the elevated along Myrtle Avenue resulted in a grade crossing between Fifth Avenue and Myrtle Avenue trains. As at Myrtle and Grand Avenues connections were constructed in the northeast and southwest corners so that trains could turn away from instead of crossing in front of each other. In this instance, trains from the Fifth Avenue line turned west to the Myrtle Avenue "El" and trains coming along Myrtle Avenue from Grand Avenue turned north into Hudson Avenue.

- (7) This portion of the line was on Third Avenue and after elevated service was discontinued, the structure was incorporated into the Belt Parkway system now known as the Gowanus Parkway. The structure has since been rebuilt.
- (8) This incline permitted elevated trains to ramp to the service and run as far as Ft. Hamilton. It is not known if through trains were ever operated there but elevated shuttles were in service. In later years trolley cars used this ramp.
- (9) This Fulton Ferry station should not be confused with the "Old Main Line" station of the same name even though they were within a short distance of each other.
- (10) The portion of the line from Hudson Avenue station to Lefferts Boulevard was turned over to the IND Division on April 29, 1956 as an extension of the Fulton Street subway line (A and E).
- (11) After elevated service was discontinued, trolley cars used this right-of-way until November 21, 1942.
- (12) This stub was used for storage of trains and was finally torn down in 1941.
- (13) This stub and station were eliminated with the extension of the line along Jamaica Avenue.
- (14) This incline was used by elevated trains to reach the surface of Jamaica Avenue and to operate to 168th Street.
- (15) On this date BMT service was eliminated and thereafter operated exclusively by the IRT division.
- (16) Converted to IND operation.

It should be noted that with the elimination of the last of the "Old Main Line" in 1904, all Fifth Avenue, Lexington Avenue and Myrtle Avenue trains shared the elevated along Myrtle Avenue as far as the junction of the Myrtle Avenue structure with their line: Fifth Avenue junction at Hudson Avenue; Lexington Avenue junction at Grand Avenue; Myrtle Avenue continued along Myrtle Avenue.



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Cost of Facilities: Construction and equipment of the New York City transit system cost over \$2.5 billion. Replacement today would cost approximately \$27 billion.

Operating Budget, 1978-79, for TA and MaBSTOA: \$1,200,964,251

#### Fares: History

1904 Oct. 27	Five-cent fare established for first subway.
1948 July 1	Rapid transit fare went from 5¢ to 10¢. Surface fare went from 5¢ to 7¢. Combination rapid transit and surface fare was 12¢. Reduced fare for school children went into effect. Staten Island fare zones were eliminated.
1950 July 1	Surface fare went from 7¢ to 10¢. Combination fare went from 12¢ to 15¢.
1952 July 1	Discontinuance of 15¢ combination fare.
1953 July 25	All fares went to 15¢. Tokens were used for the first time on subways and buses.
1956 June 28	An additional fare of 15¢ was required for the Rockaway line south of Howard Beach station when the Transit Authority took over the line from the Long Island Rail Road.
1959 Sept. 14	Special train to Aqueduct Race Track. Fare 50¢.
1965 Nov. 3	Fare on the first regular express bus service in New York City, the R8X, from Staten Island to downtown Brooklyn, was set at 30¢.
1966 July 5	TA fares went from 15¢ to 20¢. Fare on Aqueduct special train went from 50¢ to 75¢.
1966 July 24	MaBSTOA fare changed from 15¢ to 20¢.

### III. FISCAL

- 1968 Fare on express buses X9 and X10 from Staten Island  
Dec. 9 to lower Manhattan was 75c, to mid-Manhattan 90c.
- 1969 Reduced fare for senior citizens began: 20c for a  
July 1 round trip on the subway and 10c for a one-way bus trip.
- 1969 Exact fare in either coins or tokens was required  
Aug. 31 on all buses operated in the city.
- 1970 All fares went from 20c to 30c.  
Jan. 4 Senior citizens were required to pay 30c for a round trip on the subway and 15c for a one-way bus trip. Fares on the Aqueduct special went from 75c to \$1. Large tokens were introduced.
- 1972 All fares went from 30c to 35c except special services.  
Jan. 3 Senior citizen fare became 35c for a round trip on the subway and 15c for a one-way bus trip. Fare on all express buses except the R8X went to \$1; on the R8X it became 50c. Fare on the Q44, the Bronx-Jamaica route crossing the Whitestone Bridge, went from 35c to 40c. Fares on Aqueduct special train went from \$1 to \$1.50.
- 1973 Culture Bus I, the M41, was inaugurated at a fare  
Sept. 1 of \$1.
- 1973 The Shopper's Bus Ticket-- fare 75c in coins or  
Oct. 8 tokens-- was begun.
- 1973 Culture Bus II, the B88, was inaugurated at a fare  
Oct. 20 of \$1.
- 1973 The Half-Fare Program was introduced on subways and  
Dec. 16 buses. Hours were from 6 A.M. to midnight Sunday for purchase of ticket, valid till 1 A.M. Monday.
- 1974 The third Culture Bus, the Bx56, for The Bronx and  
Sept. 28 upper Manhattan began service. Fare was \$1. The service was discontinued after December 1, 1974 because of lack of ridership.
- 1974 One-way fare on the Aqueduct special train reduced  
Oct. 14 to 75c from \$1.50. Passengers also received a \$1 discount toward a \$1.50 grandstand ticket.
- 1974 The Night-on-the-Town Ticket for buses-- fare 75c  
Nov. 15 in coins or tokens-- was begun.



### III. FISCAL

1975 All fares went from 35¢ to 50¢ with no change in  
Sept. 1 token.

The Add-A-Ride ticket was established at 25¢. It may be used between all intersecting or continuing city-owned bus lines, where free transfers did not heretofore exist. Exceptions are routes offering passengers a return trip. Existing free transfers were continued. When the Half-Fare Program is in effect, Add-A-Ride tickets cost 10¢.

The program also includes transfers to private bus lines except for continuation trips and those intersecting within a quarter of a mile of the terminal of either route.

1975 The extra fare required south of Howard Beach station  
Sept. 1 on the Rockaway line was eliminated, thereby making the fare to and from the Rockaways equal to other subway fares.

All express bus fares including the R&X went to \$1.50.

The senior citizen fare went to 50¢ for a round trip on the subway and 25¢ for a one-way bus trip. An Add-A-Ride ticket costs 10¢ for senior citizens.

Culture Bus fares increased from \$1 to \$1.25.

Shopper's Bus ticket and the Night-on-the-Town ticket went from 75¢ to \$1.

1975 Half-fare for the physically handicapped during off-  
Sept. 2 peak hours was instituted on all Transit Authority subways and buses, on Manhattan and Bronx Surface Transit Operating Authority buses and on trains of the Staten Island Rapid Transit Operating Authority (SIRTOA). An Add-A-Ride ticket costs 10¢.

1975 Hours of the half-fare program, first introduced on  
Sept. 6 New York City subways and buses and SIRTOA trains on December 16, 1973, were established as follows: 6 P.M. Saturday to 1 A.M. Monday. This was an increase of 12 hours over the original schedule.

### III. FISCAL

- 1975  
Oct. 20 Reduced fare subway and bus riding for elderly and handicapped persons was extended to 20½ hours daily from 11 hours. The new hours were established as follows: 9 A.M. to 4:30 P.M. and 6 P.M. to 7 A.M. the following morning, Monday to Friday. Reduced fares for these two groups of riders, now in effect all day Saturday and Sunday, will continue.
- 1976  
Jan. 1 The Add-A-Ride transfer program was extended to private bus lines in The Bronx, Brooklyn and Queens.
- 1976  
July 1 The reduced-fare program for the elderly and handicapped was expanded to include mentally retarded and brain-damaged persons, specifically those persons with an IQ below 69 who are unable to perform routine, repetitive tasks or with a physical or mental impairment resulting in restriction of function. A special ID card is issued to those who qualify on certification by the New York City Human Resources Administration or the MTA Community Relations Department.
- 1976  
July 1 The Night-on-the-Town ticket was renamed Night Coach.
- 1976  
July 12 The Add-A-Ride transfer program was extended to buses on the M8, M9 and M9A routes of lower Manhattan operated by the Avenue B-East Broadway Transit Company. Transfers will be valid at 14 points, where TA and Avenue B routes intersect.
- 1977  
June 1 The half-fare return-trip subway and SIRTCA coupon used by the elderly and the handicapped became valid for three days instead of one. All other conditions remain the same.
- 1978  
Oct. 1 The weekday half-fare for elderly and handicapped persons riding SIRTCA trains and New York City subways and buses was increased from 20½ hours daily to 24 hours for a six-month trial period.

#### Fares: Reduced

#### Senior Citizens and Handicapped Persons

Fifty-cent round-trip on subways and 25¢ one-way fare on buses, 24 hours a day, effective October 1, 1978. An Add-A-Ride ticket, purchasable from the bus operator at the time fare is

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paid, costs 10¢. The return-trip subway coupon is valid for three days and for travel from any station except station of origin. Transportation ID cards for senior citizens may be obtained from the New York City Department for the Aging; for the handicapped from the City's Human Resources Administration and the MTA Community Relations Department.

Procedure: On subways, the elderly or handi-  
capped passenger shows his ID card to the clerk in the change booth when he buys a token and is given a ticket valid for three days for a return trip. When he enters the station for his return, he surrenders the ticket. On buses he shows his card and deposits the half-fare, 25¢.

#### Children Under Six

Up to three children, each under six years of age, may ride free on all New York City subways and regular (non-express) buses as well as trains of the Staten Island Rapid Transit Operating Authority, when accompanied by an adult. Full fare must be paid for each additional child under six.

#### School Children

Varied fares depending on route traveled and grade; most are the equivalent of 10¢ per round trip per school day. Reduced fares are granted on SIRTDA trains as well as subways and buses of the New York City Transit Authority and the Manhattan and Bronx Surface Transit Operating Authority.

#### Marketing Innovations

#### Culture Buses

On September 1, 1973, the Metropolitan Transportation Authority inaugurated the Culture Bus. This was a new concept in bus travel by which a passenger buying an all-day ticket can get on and off at any or all of the scheduled stops and then reboard later without paying an additional fare. Culture Bus I, the M41, in mid-and upper Manhattan was the first of the MTA innovations in marketing public transit during off-peak hours and weekends. It makes 22 scheduled stops and brings passengers to scores of cultural institutions, religious edifices and landmarks on its

### III. FISCAL

17-mile route, using express service buses that would otherwise stand idle in depots over the weekend.

Responding to popular demand, a second Culture Bus service, Culture Bus II, the B88, in Brooklyn and lower Manhattan was begun on October 20, 1973. Its 32-stop, 22-mile route provides access to many interesting neighborhoods and historic districts in both boroughs.

Like its Manhattan counterpart, Culture Bus II operates from 10 A.M. to 6 P.M. on Saturdays, Sundays and most holidays. Intervals on the Manhattan Culture Bus are 22 minutes during July and August and 32 minutes for the balance of the year; Culture Bus II in Brooklyn operates on a 30-minute headway throughout the year. The all-day ticket for each bus may be purchased from the bus operator for \$1.25 exact fare in coins or tokens.

#### Night Coach

Another transit marketing promotion to increase off-peak ridership and promote the many attractions of New York is the Night Coach ticket. Begun on November 15, 1974 as the Night-on-the-Town, it was a special 75c bus ticket good for unlimited riding on all 39 Manhattan bus routes except express buses and those sections of four Bronx routes that operate in Manhattan. The ticket is valid Monday through Friday from 6 P.M. until 2 A.M. the following morning.

Price of the ticket, which may be bought on the bus, is now \$1 in exact fare, coins or tokens.

#### Half-Fare Program

To encourage New Yorkers to use energy-saving public transportation, the Half-Fare Program was introduced on December 16, 1973 on subways and buses of the New York City Transit Authority, Manhattan and Bronx Surface Transit Operating Authority buses and Staten Island Rapid Transit Operating Authority trains.

Here is how it works. A bus passenger deposits 25c in exact fare, coins or tokens, in the fare

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box any time between 6 P.M. Saturday and mid-  
night Sunday. At that time he may request an  
Add-A-Ride ticket for 10¢.

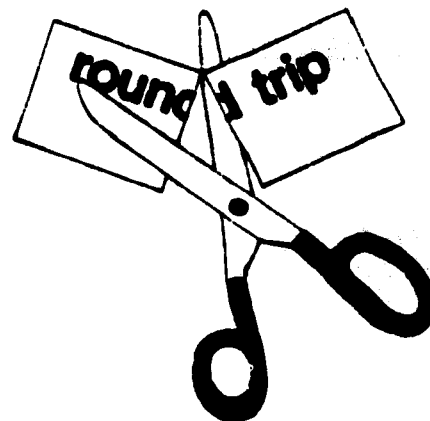
Subway passengers purchase a token at a change  
booth and receive a coupon valid for a return  
subway trip. The program is in effect as fol-  
lows: subway coupons are issued from Saturday  
6 P.M. to Sunday midnight and accepted until  
1 A.M. Monday. (The program was extended from  
6 A.M. Sunday on September 6, 1975.)

Coupons are not interchangeable between subways  
and buses and they may not be used on either  
of the Culture Buses. The reduced fare for  
the elderly and the handicapped is not changed  
by these special Sunday fares.

This innovation in transit marketing is a daily  
ticket designed to give the shopper and anyone  
else virtually unlimited riding on some 1,200  
non-rush hour Transit Authority buses throughout  
the New York City shopping area. The 200 square-  
block shoppers' paradise is bounded by 59th Street  
on the north, 32d Street on the south, Third  
Avenue on the east and Eighth Avenue on the west.

The ticket, which costs \$1 in exact fare, coins  
or tokens, may be purchased by passengers  
boarding buses in the area between 9:30 A.M.  
and 4:30 P.M., Monday through Friday, 6:30 P.M.  
and 10:00 P.M., Thursday evening, and 9:30 A.M.  
and 6:30 P.M., Saturday.

The Shopper's service began October 8, 1973.



### III. FISCAL

#### Coordinated Transit Services

Enabling passengers to buy tokens without standing on line, or to use tokens on carriers other than New York City subways and buses are some of the experiments being conducted by the Metropolitan Transportation Authority to facilitate passenger travel in the twelve-county region it serves.

In September 1974, Transit Authority tokens went on sale at Westchester County stations on the Penn Central line. Token sales have since been extended to Long Island Rail Road stations in Nassau and Suffolk Counties.

Another effort to coordinate transit services within the twelve-county region was the decision effective July 13, 1975 to accept Transit Authority tokens for full or partial payment of fares on all Nassau County buses operated by the Metropolitan Suburban Bus Authority, a constituent agency of the Metropolitan Transportation Authority. This was the first time that Transit Authority tokens have been valid for payment of fare outside of New York City limits.

Along the same line, two bus commuter rail services were inaugurated on October 1, 1975 between New York City Transit Authority bus routes serving as feeders to the Penn Central Harlem line in The Bronx and the Long Island Rail Road in Queens. Riders in these boroughs may now buy UniTickets, a combination bus-rail commutation ticket that offers substantial savings in time and money for the purchaser.

The services operate in The Bronx between the Bx15 bus serving the Co-Op City-Eastchester-Williamsbridge areas and the Williamsbridge station on the Harlem line, and in Queens between the Q12A bus route in Little Neck to the Little Neck station on the Long Island Rail Road's Port Washington branch.

#### Fares: Special

##### Aqueduct

The year 1978 marked the twentieth consecutive year of subway service to the Big "A" and the fourth year of direct service on the Aqueduct Special. These trains operate every day that the track is open from the lower level of the IND 42d Street-Eighth Avenue station in Manhattan, making only one stop, Hoyt-Schermerhorn Street in Brooklyn, on the way to the track. Return trips are made after the seventh race. The trip takes 35 minutes and costs \$1.

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#### JFK Express

This combination subway and bus service was inaugurated September 23, 1978 to speed travelers to the John F. Kennedy International Airport. Priced at \$3.50, the JFK express is a combination ride in the Transit Authority's most modern subway car, the R-46, to Howard Beach and from there in air conditioned buses equipped with luggage racks, to the individual airport terminals.

The airport subway service begins at the IND 57th Street-Avenue of the Americas (6th Avenue) station and makes stops along Sixth Avenue at 50th Street-Rockefeller Center, 42d Street, 34th Street and West 4th Street stations. There, trains switch to the IND 8th Avenue line, stopping at Chambers Street-World Trade Center and Broadway-Nassau Street stations in Manhattan and Jay Street-Boro Hall in downtown Brooklyn, en route to Howard Beach.

The JFK Express operates at 20 minute intervals, seven days a week, every day of the year, from approximately 6 A.M. to 11 P.M. Total travel time ranges from 55 to 75 minutes from 57th Street to 45 to 60 minutes from the World Trade Center, depending on the time of day.

Payment of Fare: To the Airport --Passenger deposits a token in the turnstile and pays \$3 aboard the train. From the Airport --Passenger pays \$3.50 aboard the train, which includes his bus fare.

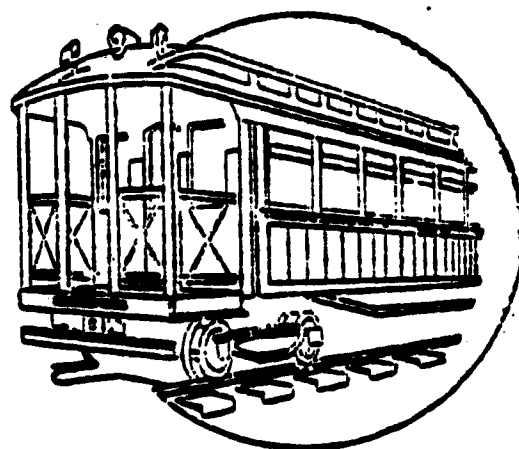
Note: Regular subway passengers may go to the airport from Howard Beach for \$1 fare payable at the exit of the Howard Beach station. Regular subway-bound bus passengers can enter the Howard Beach station on payment of \$1.50.

Fare is \$1.50 one way except for \$2 on the X61.

Fare on this bus, the only non-express bus that crosses the Bronx-Whitestone Bridge, a toll bridge, is 55¢ one way, (50¢ fare plus 5¢ toll).

#### Express Buses

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#### IV. PERSONNEL

The work force of the Transit Authority including MaBSTOA is second in size only to the Board of Education among government agencies in New York City: 43,760 men and women as of January 1, 1979.

The work of the Transit Authority is organized into a number of major areas and subdivisions:

##### Rapid Transit

Total Number of Employees: 23,860 in the departments listed below.

Transportation (7,104 employees), which operates the trains with

Asst. Genl. Supt. and Supts.	- 9	Towermen	- 550
Trainmasters	- 73	Conductors	- 2,641
Motormen Instructors	- 75	Freight	- 3
Yardmasters	- 84	Administrative,	
Train Dispatchers and		Clerical, Other	- 71
Asst. Train Dispatchers	- 684		
Motormen	- 2,914		

Maintenance of Way (6,160 employees), which cleans, inspects, repairs and services tracks, signals and structures, bus depots, and car maintenance barns.

Car Maintenance (4,343 employees), which cleans, inspects, repairs and services subway cars.

Station (5,294 employees), which staffs, cleans and collects revenues from the stations with

Asst. Genl. Supt. and Supts.	- 7
Station Supervisors, Asst.	
Station Supervisors	- 244
Collecting Agents	- 111
Railroad Clerks	- 3,923
Porters	- 993
Administrative, Clerical,	
Other	- 16

Power (959 employees), which designs and supervises the construction of new transit power facilities and oversees the purchase of all transit system power, its conversion to direct current for traction use and the distribution of transit equipment. This department maintains existing power facilities.

#### IV. PERSONNEL

##### Surface

Total Number of Employees: 13,791 in the following departments

Transportation (10,166 employees), which operates all buses, with

Asst. Genl. Supts. & Supts.	- 9
Supervisory, Other	- 78
Surface Line Dispatchers including	
Chief Dispatchers & Senior	- 1,225
Dispatchers	- 8,774
Bus Operators	- 80
Administrative, Clerical, Other	

Maintenance (3,625 employees), which cleans, inspects, repairs and maintains buses and depot equipment, with

Asst. Genl. Supts. & Supts.	- 7
Foremen	- 266
Maintainers & Helpers	- 2,504
Supervisory, Others	- 707
Administrative, Clerical, Other	- 141

##### General Administration

Over 2,064 TA/OA men and women work in Accounting, Systems and Computer Services, Labor Relations, Law, Medical, Payroll, Personnel, Purchase, Revenue, Safety, Special Inspection and other administrative departments.

Transit Police Department (2,945 employees). Of this number, 316 are superior officers, 140 are detectives and 2,380 are police officers. There are 109 administrative and other personnel.

##### Engineering Department

Some 1,100 engineers, architects, chemists and designers as well as technical and clerical personnel are paid out of capital budget funds and work on planning, design and construction of new subway lines, new car and bus design as well as the testing of thousands of new materials and products.

#### IV. PERSONNEL

##### Unions

As of July 1, 1978, the Transit Authority including MaBSTOA had contracts with 17 local unions and supervisory organizations (listed alphabetically below) representing 42,718 employees; it recognizes 5 other labor organizations with 115 employees.

Amalgamated Transit Union, AFL-CIO, Divisions 726, 1056

American Federation of State, County and Municipal Employees,  
AFL-CIO, District Council 37, Locals 154, 1407, 1655, 1795.

American Federation of State, County and Municipal Employees,  
AFL-CIO, Civil Service Technical Guild, Local 375

Communications Workers of America, AFL-CIO, Local 1180

New York City Transit Police Captains' Endowment Association

New York City Transit Police Detectives' Endowment Association

New York City Transit Police Lieutenants' Benevolent  
Association

New York City Transit Police Patrolmen's Benevolent  
Association

New York City Transit Police Sergeants' Benevolent Association

Queens Supervisory Association

Subway-Surface Supervisors Association

Transit Supervisors Benevolent Association

Transit Supervisors Organization

Transport Workers Union, AFL-CIO, Local 100

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New York City Transit Police Lieutenants' Benevolent Association

New York City Transit Police Patrolmen's Benevolent Association

New York City Transit Police Sergeants' Benevolent Association

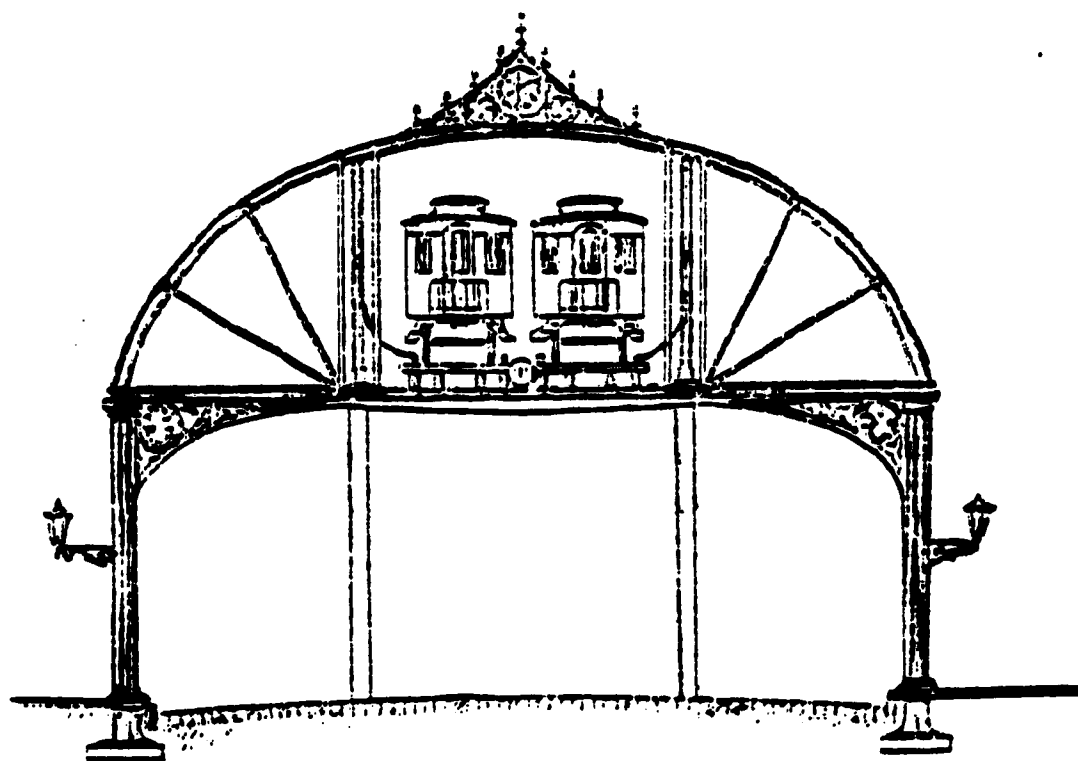
Queens Supervisory Association

Subway-Surface Supervisors Association

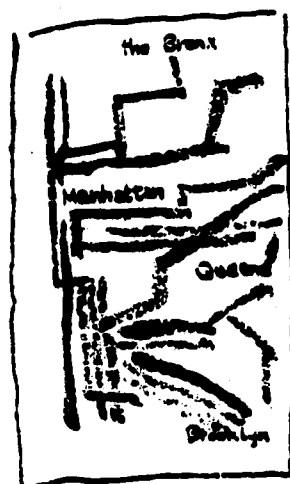
Transit Supervisors Benevolent Association

Transit Supervisors Organization

Transport Workers Union, AFL-CIO, Local 100



## SUBWAY TRANSPORTATION



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## V. RAPID TRANSIT

Services: Rapid transit services are identified by division (IRT, IND or BMT) and by line (letter or number) as follows:

### IRT (Division A)

- 1 - Broadway-Seventh Avenue local
- 2 - Seventh Avenue-White Plains Road express
- 3 - Seventh Avenue-Lenox Avenue express
- 4 - Lexington Avenue-Woodlawn express
- 5 - Lexington Avenue-East 180th Street-Dyre Avenue express
- 5 - Lexington Avenue-White Plains Road through express
- 6 - Lexington Avenue-Pelham Bay Park local
- 6 - Pelham express (Lexington Avenue local)
- \*7 - Times Square-Flushing local and express
- SS - Times Square-Grand Central shuttle

### BMT (Division B-1)

- LL - 14th Street-Canarsie local
- M - Myrtle Avenue line-Brighton local
- N - Broadway-Sea Beach express extended to Queens for part-time service
- QB - Broadway express-Brighton local
- J - Jamaica-Nassau Street local and express
- RR - Broadway-Fourth Avenue local
- SS - Franklin Avenue shuttle

### IND (Division B-2)

- A - Eighth Avenue-Washington Heights-Fulton Street express
- AA - Eighth Avenue-Washington Heights local
- B - Avenue of the Americas (Sixth Avenue)-West End express, (to Washington Heights during rush hour, BMT in Brooklyn)
- CC - Eighth Avenue-Bronx-Fulton Street local, Rockaway Park, Queens
- D - Avenue of the Americas (Sixth Avenue)-Bronx-Brighton express (BMT in Brooklyn)
- E - Eighth Avenue local-Queens express
- F - Avenue of the Americas (Sixth Avenue) local-Queens-Brooklyn express
- GG - Brooklyn-Queens crosstown local

\* Operated by the BMT Division



# V. RAPID TRANSIT

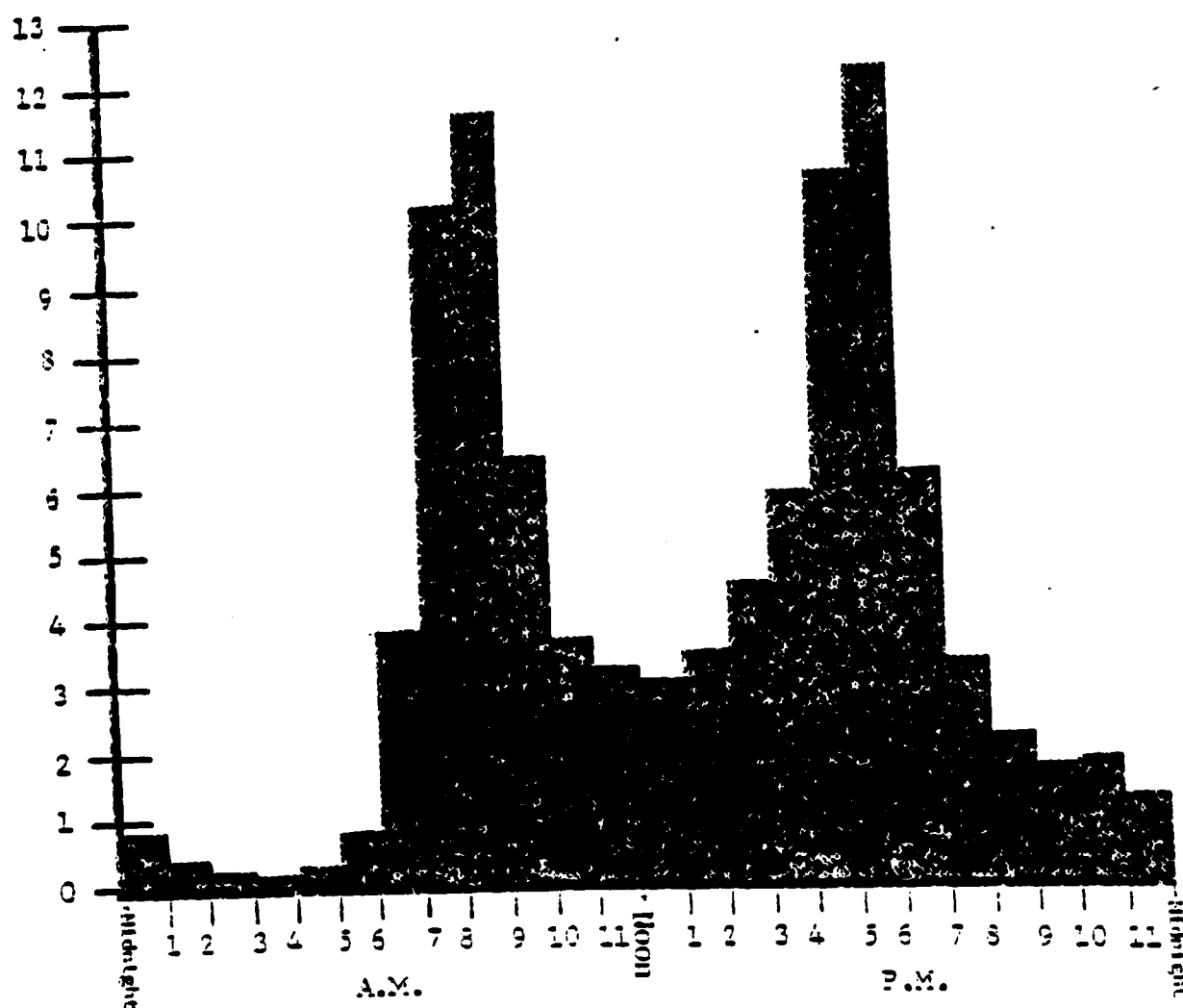
Passengers, year ending June 30, 1978:

Revenue passengers - 1,018,833,642  
 Weekday average 3,426,095

Typical weekday,  
 March 15, 1978 - 3,508,747

<u>Hours</u>	<u>Numbers</u>	<u>Per Cent of Total Day</u>
7 A.M. to 8 A.M.	354,692	10.10
8 A.M. to 9 A.M.	405,425	11.55
4 P.M. to 5 P.M.	369,244	10.52
5 P.M. to 6 P.M.	421,018	12.13

% of daily Rapid Transit Ridership During the 24 Hours of a  
ridership Typical Weekday, March 15, 1978



## V. RAPID TRANSIT

### Traffic\*

The extent of service provided by the New York City subway system can be gathered from the fact that it achieves a total of 757,693 revenue car miles every weekday, (this is the sum of the miles of passenger service of every car in the system), and from the following figures on the number of train trips and car trips at various hours.

<u>Time Period</u>	<u>No. of Train Trips</u>	<u>No. of Car Trips**</u>
Daily (trips)	- 6495	- 44,919
At peak hour	- 567	- 5,029
At 8 P.M.	- 269	- 1,601
At midnight	- 178	- 830
At 4 A.M.	- 121	- 526

There are approximately 4,357 trains operating daily through the Times Square area, as follows:

Broadway line: N, QB, RR	- 587
Broadway-Seventh Avenue line: 1, 2, 3	- 966
Flushing line: 7	- 520
Times Square-Grand Central shuttle: SS	- 548
Eighth Avenue line: A, AA, CC, E	- 852
Avenue of the Americas (Sixth Avenue) line: B, D, F	- 884

### Traffic: Busiest Stations by Number of Trains

West Fourth Street-Washington Square, upper and lower levels:

#### Trains per Hour

A.M. rush, southbound	- 80
P.M. rush, northbound	- 86

DeKalb Avenue, one level:

A.M. rush, Manhattan-bound	- 67
P.M. rush, Brooklyn-bound	- 64

\* As of January 1, 1979

\*\* Times Square-Grand Central shuttle not included

## V. RAPID TRANSIT

### Comparison With Other Systems

#### Subways: How Big is Big?

There are many ways of measuring the size of subway systems. They can be ranked by number of miles of subway routes, by number of subway cars, by number of stations, by number of passengers each year and by the total number of passenger car miles of service provided the riding public.

By some yardsticks and in terms of complexity, New York's subway system ranks No. 1 in the world even though the Moscow, Paris and Tokyo subways now carry more passengers in a year and London has slightly more route miles.

How big is big? The figures on the facing page, on the "biggest" foreign subway systems were compiled by the International Metropolitan Railways Committee of the International Union of Public Transport for the latest (1977) edition of its publication, Metropolitan Railways in the World.



## V. RAPID TRANSIT

### Comparison With Other Subway Systems

City	Miles of Routes		Stations	Cars	Passengers (Mill./Yr.)	Car Miles (a) (Mill./Yr.)	Hours of Operation
	Subway	Other					
Paris (b)	105.4	8.6	353	3485	1050.1	115.6	5:30 AM/1:15 AM
London	97.5	139.4	248	4434	546.0	213.2	5:00 AM/1:00 AM
Moscow	91.0	11.2	103	2392	2083.4	239.3	6:00 AM/1:00 AM
Tokyo (c)	85.8	16.5	159	1829	1779.3	116.8	5:00 AM/12:30 AM
Hamburg	19.9	35.7	80	855	178.3	32.3	4:30 AM/12:30 AM
Stockholm	26.6	29.2	89	883	185.0	34.9	5:00 AM/2:00 AM

The same figures for New York are:

New York (d) 137.05 92.71 229.76 458 6424 1018.8(e) 229.4(e) 24 hours

By way of comparison, these are the same figures for other United States city subway systems:

Boston	9.9	21.1	31.0	45	339	(g)	11.1	5:15 AM/1:00 AM
Chicago	8.9	80.5	89.4	142	1128	88.4	49.1	24 hours
Cleveland	.4	18.6	19.0	18	116	14.5	3.5	24 hours
Phila. (f)	18.6	20.3	38.9	67	562	72.1	19.0	24 hours
San Francisco	19.0	51.9	70.9	34	350	32.9	22.4	6:00 AM/Midnight

... and for other North American subway systems:

Toronto	24.4	2.1	26.5	49	494	198.2	34.4	6:00 AM/2:00 AM
Montreal	20.7	-	20.7	35	363	148.0	21.5	5:30 AM/1:30 AM
Mexico City	19.2	6.2	25.4	48	690	604.8	38.0	6:00 AM/Midnight

(a) A measurement of service that is the sum of the miles of passenger service provided annually by every car in the system.

(b) Urban Metro.

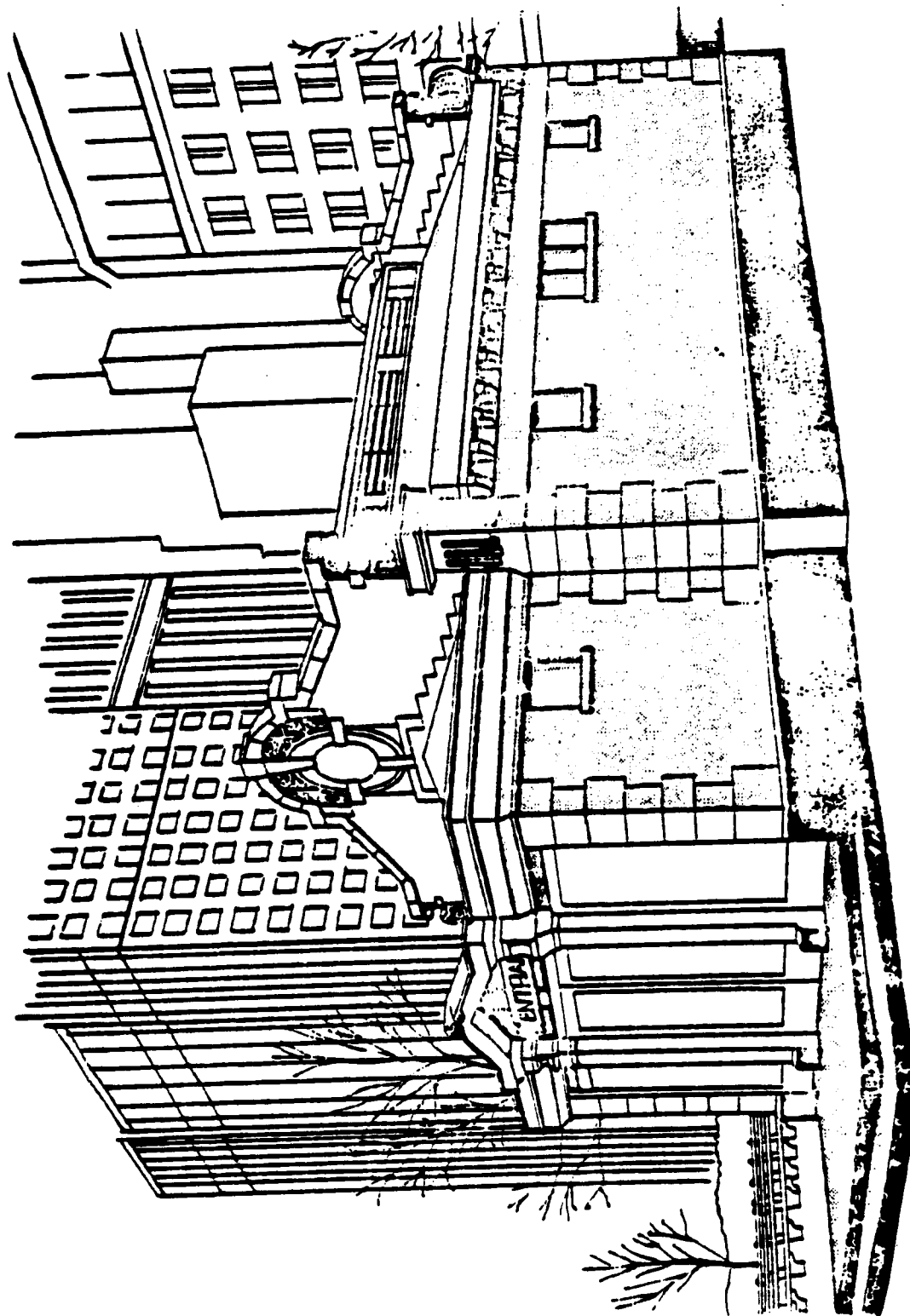
(c) Combined MTA (Metropolitan Transit Authority) and TBTC (Transportation Bureau of Tokyo Metropolitan Government) figures.

(d) Does not include SIRTDA (Staten Island Rapid Transit Operating Authority), PATH (Port Authority Trans-Hudson Corporation) or any other commuter lines.

(e) July 1, 1977 to June 30, 1978.

(f) Combined PATCO (Port Authority Transit Corporation) and SEPTA (Southeastern Pennsylvania Transportation Authority).

(g) Not available.



## VI. STATIONS

### By Type of Structure

Underground	- 265
Elevated	- 155
Other (open cut, embankment, surface)	- 38
<b>Total</b>	<b>- 458</b>

### By Borough

Manhattan	- 138
Queens	- 79
The Bronx	- 70
Brooklyn	- 171
<b>Total</b>	<b>- 458</b>

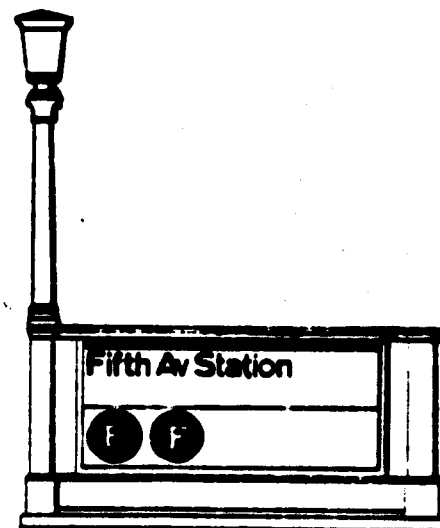
Highest Station: Smith-Ninth Street, Brooklyn (GG and F lines: 87.5 feet from street to base of track.

Deepest Station: 191st Street at St. Nicholas Avenue, Manhattan (No. 1 line): 180 feet from street to base of track.

### Equipment and Facilities

Elevators (Passenger)	- 23	Change Booths	
Escalators	- 112	Full-time	- 521
		Part-time	- 225
Turnstiles		<b>Total</b>	<b>- 746</b>
Low Exit	- 78		
High Exit	- 396		
High Entrance	- 205		
Low Electric	- 126		
Low Mechanical	- 2,500		
<b>Total</b>	<b>- 3,305</b>		
Transfer-dispensing machines	- 22		
Agent-controlled Turnstile	- 15		

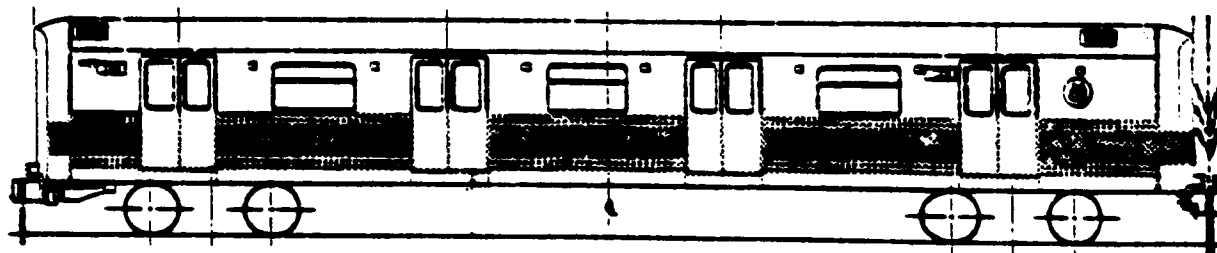
(As of January 1, 1979, 508 are of the modern type, with air conditioning, electronic communications and bullet-resistant glass.)



# VI. STATIONS

## Busiest Stations by Number of Passengers Year Ending June 30, 1978

<u>Name of Station</u>	<u>Line</u>	<u>Number of Passengers</u>
Grand Central	4,5,6,7,SS	29,817,538
34 St-Av of the Americas (Sixth Av)	B,D,EE,F,K,N,QB,RR	23,074,229
Times Square	1,2,3,SS,EE,RR,N,QB,7	21,478,237
Pennsylvania Station 34 St-Seventh Av	1,2,3	16,503,537
47-50 Sts-Av of the Americas (Sixth Av)	B,D,F,K	14,839,134
Union Sq	4,5,6,EE,N,RR,QB,LL	14,265,001
Fulton St	2,3,4,5,6,A,E,M,J,RR	14,187,925
59 St-Lexington Av	4,5,6,EE,RR	13,822,098
34 St-Eighth Av (Pennsylvania Station)	A,AA,CC,E	12,843,740
42 St-Eighth Av	A,AA,CC,E	11,370,095



# VII.

## Divis

A (IF

B (IN  
St

R-

The n  
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cars

The c  
World  
R-46  
(a)

(b)

## VII. ROLLING STOCK

### Passenger Cars (a) Number

#### Number of Passengers

IRT (Division A) 2,246  
BMT-IND (Division B) - 4,178 (b)  
Total 6,424 (in 22 classes)

29,817,538

23,074,229

21,478,237

16,503,537

14,839,134

14,265,001

14,187,925

13,822,098

12,843,740

11,870,095

### Dimensions

<u>Division</u>	<u>Length over</u> <u>Couplers</u>	<u>Width</u>	<u>Height</u> <u>Rail to Roof</u>	<u>Weight</u> <u>Lbs.</u>	<u>No.</u> <u>Seats</u>	<u>Total</u> <u>Capacity</u>
A (IRT)	51'4"	8'9"	11' 10-7/8"	69,100/ 78,700	44	180
B (IND-BMT) Standard	60'6"	10'	12' 1-15/16"- 12' 2-7/16"	68,000/ 85,000	46-56	220
R-44,R-46	75'	10'	12' 1-1/2"	84,000/ 89,000	70-76	280

### Comparison with Other Services

The number of New York subway cars is almost 3½ times that of Amtrak, the national railroad passenger service. Moreover, each subway car, unlike most railroad passenger cars, is a locomotive as well as a passenger vehicle.

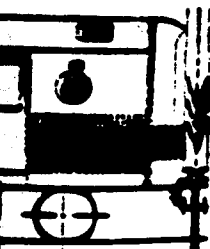
### Number of New Cars

The subway fleet includes 2,660 stainless steel cars, (it's the world's largest stainless steel fleet), of which 1,663 (non-IRT) are air conditioned. Contracts have been awarded for air conditioning 426 and then 600 IRT cars. By the end of February 1979, 376 cars had received air-conditioning units under the first contract and were in operation. By the early 1980's there will be between 1300 and 1400 air conditioned IRT cars in service.

### Cost

The contract price of a subway car has risen from \$71,486 at the end of World War II to an average of \$275,000 for each of the 754 cars of the R-46 order.

- (a) The Transit Authority also operates 380 work cars such as diesel locomotives, work motors, flat cars, crane cars, revenue collection cars and rubbish collection cars, rail grinding cars, track vacuum cars, hopper cars, wash and detergent cars, pump cars, signal supply cars among others.
- (b) Includes 399 "Corona" IRT type cars assigned to the BMT-IND division.





## VII. ROLLING STOCK

### Description of New Passenger Cars

The newest acquisitions of the Transit Authority, the R-44 and the R-46, have enabled the Authority to replace its R-1 to R-9 cars, which have served for over 35 years and had become a major cause of delays.

The first four of the 754 R-46 cars on order were delivered in March 1975. In December 1975, the remainder, having successfully completed rigorous equipment and road tests, were authorized for delivery. All cars were delivered by October 1978.

Similar in size and appearance to the R-44, the stainless steel R-46 also contains an air spring suspension system based on a combination of air springs and rubber spring elements instead of steel coil springs, that will give passengers a smoother, quieter ride. A valve system automatically controls operating height and pressure on the air spring to maintain ride quality and keep the car floor level with station platforms under varying passenger loads.

Both new cars were designed to meet the highest standards of safety and have been outfitted with fireproof or fire-resistant materials wherever possible.

Passenger comfort was also high on the list of priorities. A thermostatically-controlled ventilating and air-conditioning system regulates temperatures and cools, dehumidifies and circulates the air. Wind screens installed near side doors protect passengers from drafts. Illumination intensity is greater and glare-free owing to the fluorescent lighting system and diffusing lenses.

Maintenance will be easier than before. Stainless steel exteriors with molded fiberglass ends require little paint; fiberglass seats are not only comfortable but vandal-resistant.

Cars are larger, too: 75 feet long compared with 60 feet for older cars, thus increasing maximum capacity by 80 passengers to 300. The designed operating speed, 70 miles an hour, is an increase of almost 30 m.p.h. over that of the older cars. In other words, the modern New York City subway system will carry more passengers in less time and in greater comfort than ever before.

All new trains have both manual and automatic controls.

# VII. ROLLING STOCK

## Roster of Passenger Cars since the Opening of the Subway

### IRT

<u>Car No.</u>	<u>Class or Contract No.</u>	<u>Car Builder</u>	<u>Year Built</u>	<u>Total Built</u>
3350-3649(a)	*H.V. Gibbs	A.C.F.	1904-05	300
3650-3699(a)	*H.V. Deck Roof	A.C.F.	1907-08	50
3700-3809(a)	*H.V.	A.C.F.	1910-11	110
3810-3849(a)	*H.V.	Standard Steel	1910-11	40
3850-4024(a)	*H.V.	Pressed Steel	1910-11	175
4025-4036(a)	*L.V. Steinway(c)	Pullman	1915	12
4037-4160(a)	*L.V. Flivver Motor	Pullman	1915	124
4161-4214(a)	*L.V. Flivver Trailer	Pullman	1915	56
4215-4222(a)	*L.V. Steinway	Pullman	1915	8
4223-4514(a)	*H.V. Trailer	Pullman	1915	93
4515-4554(a)	*L.V. Trailer	Pullman	1916	39
4555-4576(a)	*L.V. Steinway	Pullman	1916	22
4577-4810(a)	*L.V.	Pullman	1916	235
4811-4965(a)	*L.V. Trailer	Pullman	1916-17	35
4966-5302(a)	*L.V.	Pullman	1917	337
5303-5402(a)	*L.V. Trailer	Pullman	1922	100
5403-5502(a)	*L.V.	Pullman	1922	100
5503-5652(a)	*L.V.	A.C.F.	1924-25	150
5653-5702(a)	*L.V. World's Fair	St. Louis	1938	50
5703-5802	R-12	A.C.F.	1948	100
5803-5952	R-14	A.C.F.	1949	150
5953-5999	R-15	A.C.F.	1950	47
6200-6252	R-15	A.C.F.	1950	53
6500-6899	R-17	St. Louis	1955-56	400
7050-7299	R-21	St. Louis	1956-57	250
7300-7749	R-22	St. Louis	1957-58	450
7750-7859	R-26	A.C.F.	1959-60	110
7860-7950	R-28	A.C.F.	1960-61	100
8570-8805	R-29	St. Louis	1962-63	236
8806-9305	R-33	St. Louis	1963	500
9306-9345(b)	R-33	St. Louis	1963	40
9346-9493(b)	R-36	St. Louis	1964	178
9494-9557	R-36	St. Louis	1964	34
9558-9769(b)	R-36	St. Louis	1964	212

(a) No longer in service

(b) Flushing

(c) These cars were designed for the steep grades of the Steinway Tunnel; this was built originally to accommodate trolley cars.

\*Note: H.V. stands for high voltage; L.V. stands for low voltage.  
Both refer to types of speed control in the motorman's cab.

# VII. ROLLING STOCK

## Roster of Passenger Cars since the Opening of the Subway

### IRT

<u>Car No.</u>	<u>Class or Contract No.</u>	<u>Car Builder</u>	<u>Year Built</u>	<u>Total Built</u>
3350-3649(a)	*H.V. Gibbs	A.C.F.	1904-05	300
3650-3699(a)	*H.V. Deck Roof	A.C.F.	1907-08	50
3700-3809(a)	*H.V.	A.C.F.	1910-11	110
3810-3849(a)	*H.V.	Standard Steel	1910-11	40
3850-4024(a)	*H.V.	Pressed Steel	1910-11	175
4025-4036(a)	*L.V. Steinway(c)	Pullman	1915	12
4037-4160(a)	*L.V. Flivver Motor	Pullman	1915	124
4161-4214(a)	*L.V. Flivver Trailer	Pullman	1915	56
4215-4222(a)	*L.V. Steinway	Pullman	1915	8
4223-4514(a)	*H.V. Trailer	Pullman	1915	93
4515-4554(a)	*L.V. Trailer	Pullman	1916	39
4555-4576(a)	*L.V. Steinway	Pullman	1916	22
4577-4810(a)	*L.V.	Pullman	1916	235
4811-4965(a)	*L.V. Trailer	Pullman	1916-17	55
4966-5302(a)	*L.V.	Pullman	1917	337
5303-5402(a)	*L.V. Trailer	Pullman	1922	100
5403-5502(a)	*L.V.	Pullman	1922	100
5503-5652(a)	*L.V.	A.C.F.	1924-25	150
5653-5702(a)	*L.V. World's Fair	St. Louis	1938	50
5703-5802	R-12	A.C.F.	1948	100
5803-5952	R-14	A.C.F.	1949	150
5953-5999	R-15	A.C.F.	1950	47
6200-6252	R-15	A.C.F.	1950	53
6500-6899	R-17	St. Louis	1955-56	400
7050-7299	R-21	St. Louis	1956-57	250
7300-7749	R-22	St. Louis	1957-58	450
7750-7859	R-26	A.C.F.	1959-60	110
7860-7950	R-28	A.C.F.	1960-61	100
8570-8805	R-29	St. Louis	1962-63	236
8806-9305	R-33	St. Louis	1963	500
9306-9345(b)	R-33	St. Louis	1963	40
9346-9493(b)	R-36	St. Louis	1964	178
9494-9557	R-36	St. Louis	1964	34
9558-9769(b)	R-36	St. Louis	1964	212

(a) No longer in service

(b) Flushing

(c) These cars were designed for the steep grades of the Steinway Tunnel; this was built originally to accommodate trolley cars.

\*Note: H.V. stands for high voltage; L.V. stands for low voltage. Both refer to types of speed control in the motorman's cab.

VII. ROLLING STOCKRoster of Passenger Cars since the Opening of the SubwayBMT-IND

<u>Car No.</u>	<u>Class or Contract No.</u>	<u>Car Builder</u>	<u>Year Built</u>	<u>Total Built</u>
100- 399(a)	R-1	A.C.F.	1930-31	300
400- 899(a)	R-4	A.C.F.	1932-33	500
900-1149(a)	R-6-3	A.C.F.	1935-36	250
1150-1299(a)	R-6-2	Pullman	1936	150
1300-1399(a)	R-6-1	Pressed Steel	1936	100
1400-1474(a)	R-7	A.C.F.	1937	75
1475-1549(a)	R-7	Pullman	1937	75
1550-1599(a)	R-7A	Pullman	1938	50
1600-1649(a)	R-7A	A.C.F.	1938	50
1650-1701(a)	R-9	A.C.F.	1940	52
1702-1802(a)	R-9	Pressed Steel	1940	101
1803-1852(b)	R-10	A.C.F.	1948	50
2000-2599(a)	AB	A.C.F.	1914-19	600
2600-2899(a)	AB	Pressed Steel	1920-22	300
2900-2924(a)	SIRTOA	Pressed Steel	1925	25
2950-3349	R-10	A.C.F.	1948-49	400
3350-3649	R-32A	Budd	1965	300
3650-3949	R-32	Budd	1965	300
3950-4149	R-38	St. Louis	1966	200
4000-4049(a)	BX Trailer	Pressed Steel	1924	50
4150-4549	R-40	St. Louis	1967-68	400
4550-4949	R-42	St. Louis	1968-69	400
6000-6120(a)	D	Pressed Steel	1925-28	121
6300-6499	R-16	A.C.F.	1955	200
7003 (a)	Multi-Section	Pullman	1934	1
7004-7013(a)	Multi-Section	St. Louis	1936	10
7014-7028(a)	Multi-Section	Pullman	1936	15
7029 (a)	Multi-Section	Budd	1934	1
8000-8005(a)	Compartment	Clark	1938-40	6
8010-8019(a)	R-11	Budd	1949	10
8020-8249	R-27	St. Louis	1960	230
8250-8351	R-30	St. Louis	1961	102
8352-8411	R-30A	St. Louis	1961	60
8412-8569	R-30	St. Louis	1960	158
100- 399(c)	R-44	St. Louis	1971-73	300
400- 452(d)	R-44	St. Louis	1971-73	53
500-1227(e)	R-46	Pullman	1975-78	728
1228-1278(e,f)	R-46	Pullman	1975-73	26

(a) No longer in service.

(b) Renumbered 2950-2999.

(c) These numbers were originally assigned to the R-1 series, now retired and scrapped. The letter A, added to cars 100, 103, 381, 484 and 800, designates cars of special historical interest.

(d) Assigned to Staten Island Rapid Transit Operating Authority (SIRTOA).

(e) These have replaced the R-6 to R-9 cars, which were retired as R-46 cars were received.

(f) Even-numbered cars only, each with motorman's cab.

VII. ROIContract Numbers

R-1\*

R-2\*

R-3\*

R-4\*

R-5\*

R-6-1\*

R-6-2\*

R-6-3\*

R-7\*

R-7-A\*

R-8\*

R-8-A\*

R-9\*

R-10

R-11

R-12

R-13

R-14

R-15

R-16

R-17

R-18

R-19

R-20

R-21

R-22

R-23

R-24

R-25

R-26

R-27

R-28

R-29

R-30

R-30-A

VII. ROLLING STOCK
Roster of Rolling Stock Contracts

<u>Contract</u>	<u>Total</u>
<u>Number</u>	<u>Built</u>
0-31	300
2-33	500
3-36	250
4	150
5	100
6	75
7	75
8	50
9	50
10	52
11	101
12	50
13-19	600
20-22	300
23	25
24-49	400
50	300
51	300
52	200
53	50
54-68	400
69-73	400
74-78	121
79	200
80	1
81	10
82	15
83	1
84-90	6
91	10
92	230
93	102
94	60
95	158
96-73	300
97-73	33
98-78	728
99-73	26

R-1 series,  
and to cars 100,  
special historical  
Operating Authority  
which were retired  
cab.

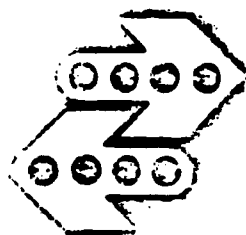
<u>Contract</u>	<u>Equipment</u>
<u>Numbers</u>	
R-1*	300 Passenger Cars
R-2*	Trucks and Motors for R-1 Cars
R-3*	16 Miscellaneous Service Cars
R-4*	500 Passenger Cars
R-5*	Trucks and Motors for R-4 Cars
R-6-1*	100 Passenger Cars
R-6-2*	150 Passenger Cars
R-6-3*	250 Passenger Cars
R-7*	150 Passenger Cars
R-7-A*	100 Passenger Cars
R-8*	1 Crane Car
R-8-A*	4 Flat Cars and 2 Revenue Collection Cars
R-9*	153 Passenger Cars
R-10	400 Passenger Cars
R-11	10 Passenger Cars
R-12	100 Passenger Cars
R-13	Track Cleaning Unit (Abandoned)
R-14	150 Passenger Cars
R-15	100 Passenger Cars
R-16	200 Passenger Cars
R-17	400 Passenger Cars
R-18	1 Pump Car and 2 Hose Cars (No bids received)
R-19	Diesel Elect. Loco. for Pump Car (Abandoned)
R-20	38 Miscellaneous Service Cars
R-21	250 Passenger Cars
R-22	450 Passenger Cars
R-23	30 Hopper Cars (Maintenance of Way purchase)
R-24	2 Wheel Truing Machines
R-25	1 Wheel Truing Machine
R-26	110 Passenger Cars
R-27	230 Passenger Cars
R-28	100 Passenger Cars
R-29	236 Passenger Cars
R-30	260 Passenger Cars
R-30-A	60 Passenger Cars

\* No longer in regular service

# VII. ROLLING STOCK

## Roster of Rolling Stock Contracts (Cont'd.)

<u>Contract Numbers</u>	<u>Equipment</u>
R-31	1 Vacuum Cleaning Unit
R-32	300 Passenger Cars
R-32-A	300 Passenger Cars
R-33	540 Passenger Cars
R-34	10 R-11 Budd Cars, Modification (Purchase Agent's Order)
R-35	15 Service Cars
R-36	424 Passenger Cars
R-37	4 Diesel Electric Locomotives
R-38	200 Passenger Cars
R-39	120 Passenger Cars for Elevated Lines BMT & IRT (never built)
R-40	400 Passenger Cars
R-41	6 Diesel Locomotives
R-42	400 Passenger Cars
R-43	3 Diesel Locomotives
R-44	352 Passenger Cars
R-45	2 Crane Cars
R-46	754 Passenger Cars
R-47	8 Diesel Locomotives
R-48	1 Rail Derrick Car
R-49	20 Flat Cars
R-50	2 Supply Cars (not purchased; included in R-54 Contract)
R-51	18 Flat Cars
R-52	12 Diesel Electric Locomotives
R-53	4 Crane Cars
R-54	1-2 Supply Cars
R-55	Passenger Cars (BMT-IND type, quantity and date to be determined)
R-56	1 Rail-Welding Unit
R-57	1 Self-Propelled Crane



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## VII. ROLLING STOCK

### How a Subway Train Works

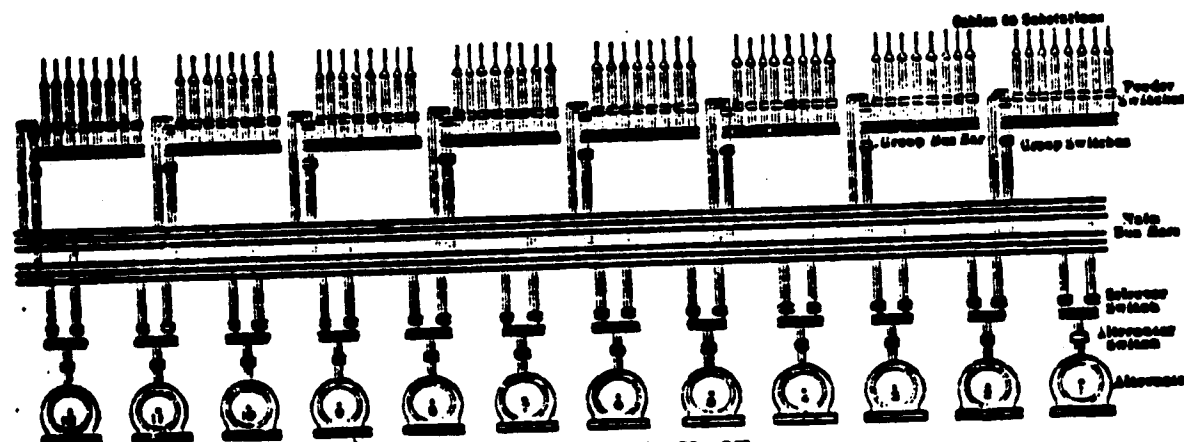
When the motorman turns the master-controller in his cab to the "power" position, a signal is sent to each car's motor control unit to feed electric power to the traction motors, and the train moves. When the motorman turns off the master-controller, braking occurs in two stages. First, the motors act as generators to produce deceleration. Then, when the train has been slowed to about ten miles an hour, the air brake shoes press against the wheels and the train is brought to a full stop.

Traction is provided by four 100-horsepower motors under each car, (115-horsepower for the R-44's and R-46's), one for each axle, or two for each four-wheel truck. Contact shoes projecting from the wheel trucks draw 600-volt direct current from the track-side third rails. The automatic couplers that hold the cars together in a train also link airhoses for the braking system and electric lines, so that acceleration, or deceleration and braking, takes place simultaneously on all the cars of a train.

### Car Maintenance

More than 4,300 TA employees in the Car Maintenance Department inspect, clean, repair and overhaul all rolling stock. Subway cars are inspected and repaired at 13 shops in Manhattan, Brooklyn, The Bronx and Queens where parts are adjusted and replaced, if necessary. Major repairs and overhaul take place at either of two main shops: the Coney Island shop at Avenue X and McDonald Avenue in Brooklyn, and the 207th Street shop at 3961 Tenth Avenue in Manhattan. The shops are at the following locations:

<u>Name</u>	<u>Location</u>
Coney Island	Avenue X and McDonald Avenue, Brooklyn
East New York	1700 Bushwick Avenue, Brooklyn
Pitkin	1434 Sutter Avenue, Brooklyn
Concourse	3119 Jerome Avenue, The Bronx
239th Street	4750 Furman Avenue, The Bronx (White Plains Road line)
240th Street	5911 Broadway, The Bronx (Broadway line)
Jerome	Jerome Avenue at Van Cortlandt Avenue, The Bronx
Pelham	Eastchester Road and Haswell Street, The Bronx
Corona	42d Avenue and 120th Street, Queens
Jamaica	7815 Grand Central Parkway, Queens
Livonia	Hegeman Avenue-Elton-Linwood, Brooklyn
East 180th Street	1151 East 180th Street, The Bronx
207th Street	3961 Tenth Avenue, Manhattan



GENERAL DIAGRAM OF  
11,000 VOLT CIRCUITS IN MAIN POWER STATION



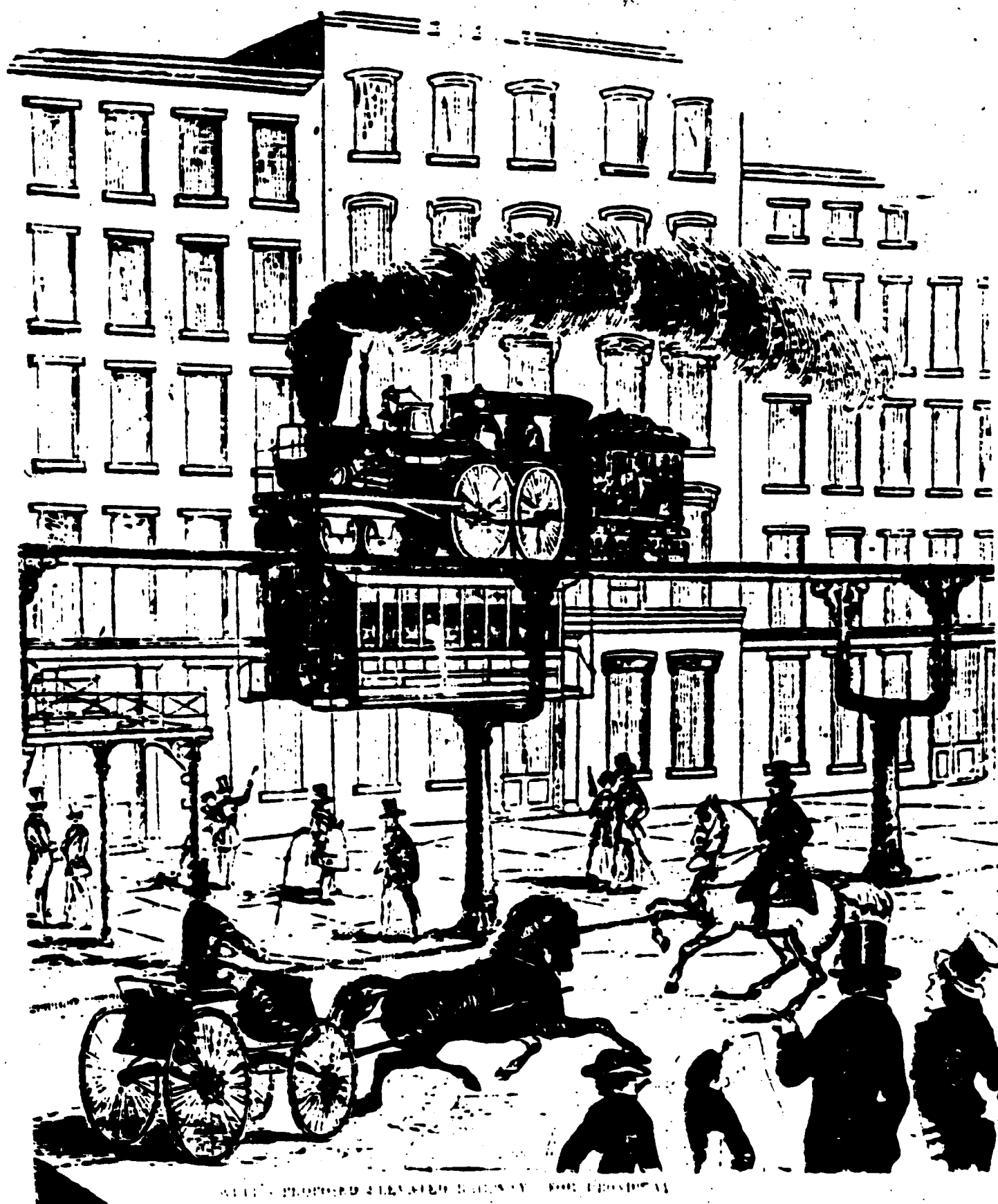
### VIII. POWER

The New York City Transit Authority at present purchases from the Power Authority of the State of New York all the electric energy required to operate the transit system except for energy furnished by the Long Island Lighting Company to run trains on the Rockaway peninsula.

Alternating current is used for signals, station and tunnel lighting, ventilation and miscellaneous line equipment. Direct current is used for the operation of the trains and miscellaneous auxiliaries such as pumps and emergency lighting. This direct current is converted from alternating current in 185 substations: 29 manual and 156 automatic.

Trains draw approximately 625 volts from the contact rail. The power required to run the system during peak hours is approximately 452,000 kilowatts. For the year ending June 30, 1978, a total of 1,779,413,271 kilowatt-hours was used to run the system, costing \$72,135,108.





THE GREAT EASTERN RAILWAY, FOR LONDON

# IX. SIGNALS AND SWITCHES

Number: Wayside Track Signals - 10,346  
Power Track Switches - 2,459

## SOME EXAMPLES OF FREQUENTLY SEEN SIGNALS Interlocking Approach and Automatic Signals (a)



Green



Yellow



Yellow



Red

Proceed.

Proceed with caution; prepare to stop at next signal.

Proceed with caution at allowable speed.

Stop and stay. Proceed according to rule.

## Interlocking Home Signals (b)



Green



Yellow



Green



Yellow



Red



Green



Green



Yellow



Yellow



Red

Proceed on main route.

Proceed with caution on main route, prepared to stop at next signal.

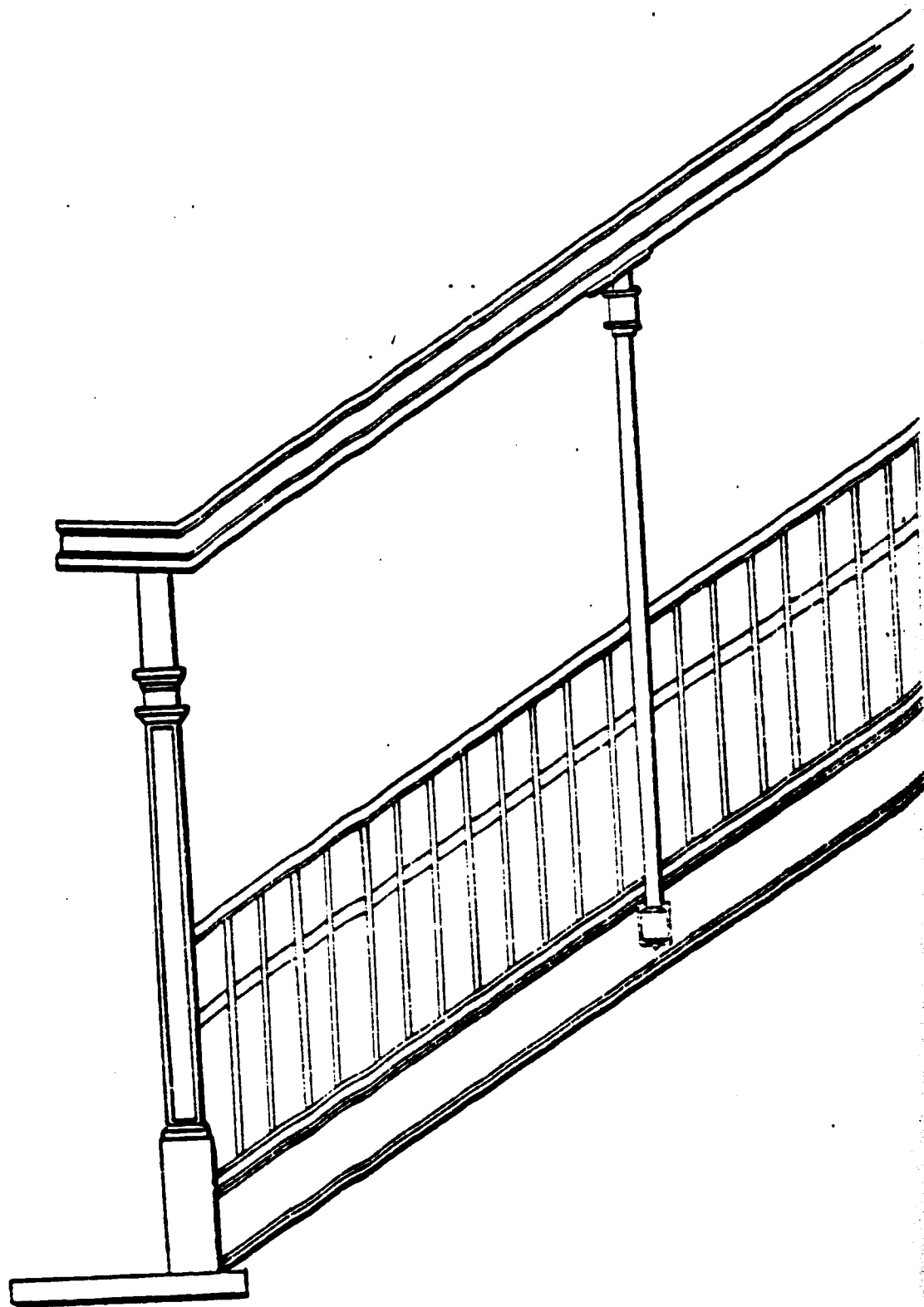
Proceed on diverging route.

Proceed with caution on diverging route, prepared to stop at next signal.

Stop and stay.

(a) An automatic signal is controlled by track circuits activated by the presence of a train.

(b) A home signal is an interlocking signal at the entrance to two routes. The lights of the upper section indicate the condition of the area ahead; those of the lower tell the motorman of an approaching train which route to take.



## X. TRACKS AND ROADWAYS

Track Gauge: In the New York subways, track gauge is the same as that of all major American railroads: 4'8½". This is the distance between the rails.

Mileage: A subway line that extends 10 miles consists of 10 route miles. The same 10-mile line with four tracks consists of 40 track miles. The tracks of the New York subway system, excluding yards and shops, would stretch from New York City to Detroit.

### Route Miles

<u>By Type of Roadway</u>		<u>By Borough</u>	
Underground	- 137.05	Manhattan (underground 66.99, - 71.06	
Elevated	- 69.94	elevated 4.07)	
Other (open cut, embankment, surface)	- 22.77	Queens (underground 15.17, - 41.86	
		elevated 20.42, other 6.27)	
		The Bronx (underground 11.78, - 32.78	
		elevated 17.80, other 3.20)	
		Brooklyn (underground 43.11, - 84.06	
		elevated 27.65, other 13.30)	
Total	- 229.76	Total	- 229.76

### Track Miles

<u>By Type of Roadway</u>		<u>By Borough</u>	
Underground	- 448.45	Manhattan (underground 214.66, - 223.98	
Elevated	- 182.64	elevated 9.32)	
Other (open cut, embankment, surface)	- 75.38	Queens (underground 56.15, - 124.50	
		elevated 50.40, other 17.95)	
Total Road Track	- 706.47	The Bronx (underground 52.74, - 97.50	
		elevated 56.45, other 8.31)	
All yard and storage tracks	- 121.89	Brooklyn (underground 144.90, - 260.49	
		elevated 56.47, other 49.12)	
		Total Road Tracks	- 706.47
		All yard and storage tracks	- 121.89
Total	- 828.36	Total	- 828.36

X. TRACKS AND ROADWAYS

Longest Rides

With No Change of Train

- 32.39 miles

"A," Eighth Avenue express, from 207th Street-Washington Heights, Manhattan, via Manhattan and Brooklyn, to Mott Avenue-Far Rockaway, Queens

With Change of Train

- 38.31 miles

No. 2, Seventh Avenue express, from 241st Street-White Plains Road, The Bronx, to Fulton Street, Manhattan; transfer to "A," Eighth Avenue express, to Mott Avenue-Far Rockaway, Queens

Between Stations

- 3.529 miles

On Eighth Avenue express, "A" or "CC," from Howard Beach-159th Avenue to Broad Channel, Queens



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(a)  
(b)

# X. TRACKS AND ROADWAYS

## Water Crossings: Bridges

<u>Name/Location From-To (stations)</u>	<u>Used by Lines</u>	<u>Number Tracks</u>	<u>Crossing Type</u>	<u>Length (feet)</u>	<u>Opened (a)</u>
Broadway-W.225 St.: W. 215 St., Man. to W. 225 St., Man.	1	3	Harlem River High lift	556	1/14/07
Williamsburg Bridge: Essex St., Man. to Marcy Ave., Bklyn.	M, J	2	East River Sus- pension	7308	9/16/08
Manhattan Bridge: Grand St., Man. and Canal St., Man. to DeKalb-Flatbush Aves., Bklyn.	B, D N, Q, E	4	East River Sus- pension	6855	6/22/15
Westchester Ave.: Whitlock to Elder Aves., Bronx	6	3	Bronx Fixed	220	1/3/19
Roosevelt Ave.: Willels Point-Shea Stadium to Main St., Queens	7	3	Flushing River Fixed	1806	1/21/23
Ninth St.: Carroll St. to Smith- Ninth St., Bklyn.	F, GG	4	Gowanus Canal Fixed	170	10/7/33
Howard Beach to Broad Channel, Queens	A, CC	2	Jamaica Bay (North channel)	276	6/28/55
Broad Channel: Broad Channel to Beach 67th St. to Beach 90th St., Queens	A, CC	2	Jamaica Bay (Broad Channel)	309	6/28/56
Stillwell Ave.: Bay 50th St. and 86th St. to Stillwell Ave., Bklyn.	B N	4	Coney Island Creek Fixed	266	4/18/71
Broadway (b): 125th St., Man.	1	3	Viaduct over Arch Street	179	10/27/04

(a) First day of rapid transit service

(b) Land bridge, not a water crossing

# X. TRACKS AND ROADWAYS

<u>Name/Location</u>	<u>Connecting Stations</u>	<u>Water Crossings: Tunnels</u>		<u>River Crossing</u>	<u>Tube</u>
		<u>Used by Lines</u>	<u>Number of Tracks</u>		
149th St.	W. 145 St., Man. to E. 149 St. Grand Concourse, Bronx	2	2	Harlem	Two in c
Joralemon St.	Bowling Green, Man. to Borough Hall, Bklyn.	4	2	East	Two
Steinway	Grand Central, Man. to Vernon-Jackson Ave., Queens	7	2	East	Two
Lexington Ave.	125 St.-Lexington Ave., Man. to 138 St.-Grand Concourse, Bronx	4 5 6	4	Harlem	Four conc
Clark St.	Wall St., Man. to Clark St., Bklyn.	2	2	East	Two
60th St.	Lexington Ave., Man. to Queensboro Plaza, Queens	N RR	2	East	Two
Montague St.	Broad St., Man. Whitehall St., Man. to Court St., Bklyn.	M RR	2	East	Two
14th St.	First Ave., Man. to Bedford Ave., Bklyn.	LL	2	East	Two
Fulton-Cranberry Sts.	Broadway-Nassau St., Man. to High St., Bklyn.	A CC	2	East	Two
161st St.	W. 155 St.-Eighth Ave., Man. to E. 161 St.-River Ave., Bronx	CC	3	Harlem	Thr
53rd St.	Lexington Ave., Man. to 23rd St.-Ely Ave., Queens	E F	2	East	Two
Jackson Ave.	Van Alst-21st St., Queens to Greenpoint Ave., Bklyn.	GG	2	Newtown Creek	Two
Rutgers-Jay	East Broadway, Man. to York St., Bklyn.	F	2	East	Two
63rd St.	Under construction. Lexington Ave., Man. to 21st St., Queens		2	East	Four sur two Wes

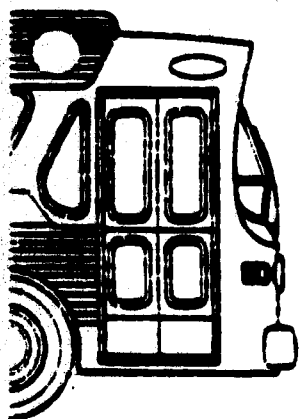


River Crossing	Tubes	Tunnels				Length(feet) Between Shafts	Opened(a)
		Depth(feet) from Mean High Water Level	Diameter(feet) Each Tube(b)	Center to Center			
Harlem	Two cast iron in concrete	50	16	16.5	650 tube length	7/10/05	
East	Two cast iron	100	17	30	5385	1/9/08	
East	Two cast iron	105	17	30	3500	6/22/15	
Harlem	Four steel in concrete	60	19	17	1100 tube length	7/17/18	
East	Two cast iron	90	17.5	30	4787	4/15/19	
East	Two cast iron	110	18	30	5489 tube length	8/1/20	
East	Two cast iron	90	18	30	3908	8/1/20	
East	Two cast iron	110	18	30	3341	6/30/24	
East	Two cast iron	90	18	28	3061	2/1/33	
Harlem	Three cast iron	55	18	26	1810	7/1/33	
East	Two cast iron	95	18	31	5300	8/19/33	
Newtown Creek	Two concrete	80	18	30	1480	8/19/33	
East	Two cast iron	90	18.25	28.5	2750	4/9/36	
East	Four rectangular sunken, end to end: two each in East and West Channels	85	38.5	-	760 East Channel 750 West Channel	Estimated completion date 1980(c)	

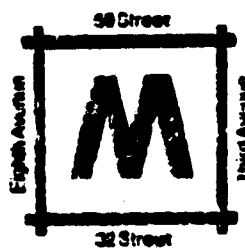
(a) First day of rapid transit service.

(b) Some are flat-sided.

(c) Connections to IND and BMT lines estimated for completion in fiscal year 1981-82.



## **SURFACE TRANSPORTATION**



## XI. GENERAL INFORMATION ON REGULAR AND EXPRESS BUS LINES

### Buses

#### Measurements:

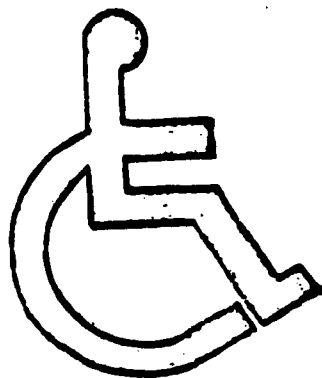
Height 10 ft. 4½ in. Width 8 ft. 6 in.  
Length 40 ft. Wheel base 23 ft. 8-¾ in.  
Depending upon the model of the bus and equipment, gross weight ranges from 19,395 lbs. to 23,350 lbs. and seating capacity from 43 to 49 passengers.

#### New Models:

The Kneeling Bus, so-called because it lowers itself to within three inches of the curb to make boarding easier, is a recent addition to the Transit Authority fleet. An order for 398 kneeling buses was completed in 1976. In 1977, an additional 310 kneeling buses were placed in service throughout the five boroughs.

Designed to make travel easier for the elderly and the handicapped, the kneeling bus like its predecessors is equipped with air conditioning, cantilever seats, two-way radios, public address systems and the latest fuel injector devices to cut air pollution by keeping engine emissions to a minimum.

The 870, the advanced design bus, was introduced to New Yorkers on September 11, 1978. Built by Grumman Flexible Corporation, the Model 870 features larger window panels than its New York City predecessors, cantilevered forward-facing seats, wider aisles and low profile tires, which put the floor of the bus closer to street level. It, too, has a kneeling mechanism and a high-visibility automatic electronic destination sign. The 870 will undergo extensive testing on all 22 express routes and some regular routes operated by the Transit Authority and its subsidiary, the Manhattan and Bronx Surface Transit Operating Authority, before being ordered in quantity for city service.



# XI. GENERAL INFORMATION ON REGULAR AND EXPRESS BUS LINES

	<u>TA</u>	<u>MaBSTQA</u>	<u>Total</u>
<u>Budget</u> (a)	\$229,915,192	\$168,844,595	\$398,759,787
<u>Passengers, Annual Total</u> (b)			
Express Service	6,242,923	422,270	6,665,193
Regular Service	324,375,456	285,796,458	610,171,914
Total	330,618,379	286,218,728	616,837,107
<u>Traffic</u> (c)			
Number of weekday daily scheduled trips	36,722	28,624	65,346
<u>Scheduled Mileage</u> (a)			
Express Service	7,411,655	305,624	7,717,279
Regular Service	60,607,196	40,148,302	100,755,498
Total	68,018,851	40,453,926	108,472,777
Rte. Miles, Both Services	633.3	319.54	952.84
<u>Fuel Consumption</u>			
Gallons of diesel fuel consumed (b)	18,072,177	12,757,313	30,829,490
Gallons of diesel fuel budgeted (a)	18,692,146	12,783,671	31,475,817
<u>Buses</u> (a)			
Total number	2,500	2,050	4,550
Air conditioned	1,673	709	2,382
In operation peak hours	1,989	1,431	3,420

- (a) Fiscal year July 1, 1978 - June 30, 1979  
 (b) Fiscal year July 1, 1977 - June 30, 1978  
 (c) As of January 1, 1979



M Manhattan  
 B Brooklyn  
 Bx Bronx  
 Q Queens  
 S Staten Island  
 X Express

XII. ROUTES

Total  
98,759,787  
6,665,193  
10,171,914  
16,837,107

<u>Borough</u>	<u>Regular Service</u>		<u>Total</u>
	<u>Transit Authority</u>	<u>MaBSTCA</u>	
Manhattan	5	31	36
Queens	35	1	36
The Bronx	-	43	43
Brooklyn	68	-	68
Staten Island	18	-	18
<u>Total</u>	<u>126</u>	<u>75</u>	<u>201</u>

65,346

<u>Bus No.</u>	<u>Express Service (a)(b)</u>	
	<u>From</u>	<u>To</u>
<u>Manhattan</u>		
X23	York Av-E 91 St	Broad-Water Streets
<u>Bronx</u>		
X61(b)	Broadway-W 261 St	Various points in lower and mid-Manhattan
<u>Queens</u>		
X18	Hillside Av-268 St	Four services: Various points in east midtown Manhattan
X20	149 Av-233 St	Various points in east midtown Manhattan
X24	Linden Blvd-234 St	" " "
X51	166 St - Northern Blvd	Various points in mid-Manhattan
<u>Brooklyn</u>		
X27	Shore Rd-Fourth Av	Various points in lower and east midtown Manhattan
X28	Cropsey Av-Bay 49 St	" " "
X29	Surf Av-W 37 St	" " "

7,717,279

100,755,498

108,472,777

952.84

30,829,490

31,475,817

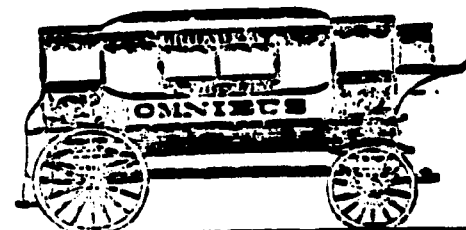
4,550

2,322

3,420

- (a) Operates Monday through Friday only  
(b) Express bus fare is \$1.50 one way, coins or tokens, except for the X61. One-way fare is \$2 on this route.

Manhattan  
Brooklyn  
Bronx  
Queens  
Staten Island  
Express



# XII. ROUTES

## Express Service (a)(b)(c)

### Staten Island

<u>Bus No.</u>	<u>From</u>	<u>To</u>
X8	Richmond Av- Richmond Terrace	Brooklyn Civic Center, Adams St near Fulton St
X9	Tysen Lane and Mill Rd	Various points in lower and east midtown Manhattan
X10(c)	Two services: Castleton Av-Jewett Av; Victory Blvd- So Gannon Av	Various points in lower and east midtown Manhattan
X10	Victory Blvd and West Shore Expressway	Various points in lower Manhattan
X11	Arthur Kill Rd- Richmond Av; Annadale Rd-Drumgoole Rd	Various points in lower and east and west midtown Manhattan
X12	Richmond Terrace- South Av	West side of lower Manhattan and midtown area
X12	Forest Av-South Av	Various points in midtown and lower Manhattan
X13(c)	Arthur Kill Rd- Richmond Av; Annadale Rd- Drumgoole Rd	West side of lower and east and west midtown Manhattan
X14	Castleton Av- Jewett Av	Various points in lower and midtown Manhattan
X15	Richmond Rd- Richmondtown	Lower Manhattan Loop
X16	Castleton Av- Jewett Av	West side of lower Manhattan
X17	St. Clare Av- Huguenot Av; Marsh Av- Platinum Av	West side of lower and east midtown Manhattan
X18	Narrows Rd-Britton Av	Lower Manhattan Loop
X19	Huguenot Av-St. Clare Av	West side of lower midtown Manhattan
X20	Sand Lane-Fr. Capodanno Blvd (Park & Ride)	Lower Manhattan Loop

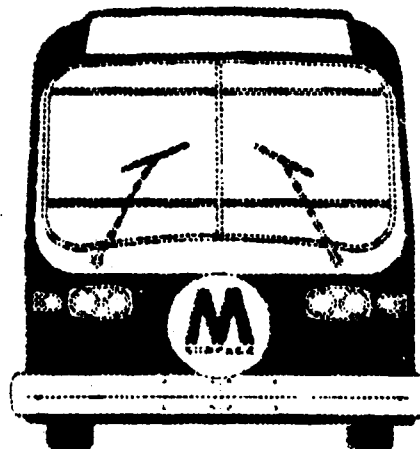
- (a) Operates Monday through Friday only
- (b) Express bus fare is \$1.50 one way, coins or tokens, except for X61  
One-way fare is \$2 on this route
- (c) Operates Monday through Saturday only



## XII. ROUTES

### Longest One-Way Routes

	<u>From</u>	<u>To</u>	<u>Miles</u>
<u>Regular Service</u>			
S103	St. George Ferry Terminal	Craig Avenue- Main Street Tottenville	16.7
<u>Express Service</u>			
X17	Huguenot Avenue	Various points in lower and east midtown Manhattan	27.7
<u>Culture Bus</u>			
B88	Brooklyn-Lower Manhattan loop	Brooklyn-Lower Manhattan loop	29.0



### XIII. MAINTENANCE

#### Repair Shops

Major repair and overhaul of buses take place at two main shops: for Transit Authority buses at 1 Jamaica Avenue in the East New York section of Brooklyn; and, for MABSTOA, at 605 West 132 Street in Manhattan. In addition, minor repairs, parts replacement and inspections take place at 21 depots in the five boroughs. Buses are garaged at the depots, which serve also as route terminals.

#### TA Depots

<u>Borough</u>	<u>Name</u>	<u>Location</u>
Manhattan	126th St	2460 Second Av
Queens	Fresh Pond	66-99 Fresh Pond Rd
	Jamaica	165-18 South Rd
	Flushing	123-53 Willets Point Blvd
	Queens Village	222-22 97th Av
Brooklyn	East New York	1 Jamaica Av (Broadway)
	Flatbush	4901 Fillmore Av (Utica Av)
	Fifth Avenue	847 Fifth Av (36 St)
	Ulmer Park	2449 Harway Av (25 Av)
	Crosstown	65 Commercial St (Box St)
Staten Island	Castleton Av	1390 Castleton Av (Jewett Av)
	Edgewater	Lynhurst Av-Edgewater St
	Yukon (a)	Yukon Av-Forest Hills Rd

#### MABSTOA Depots

	<u>Name</u>	<u>Location</u>
Manhattan	54 St	806 Ninth Av (53 St)
	Kingsbridge	4065 Tenth Av (218 St)
	132 St	605 W 132 St (Broadway)
	146 St	721-39 Lenox Av
	100 St	1552-64 Lexington Av
	Amsterdam	1381-1401 Amsterdam Av (129 St)
	Hudson	Hudson (North) River (15 St)
The Bronx	West Farms	1825 Boston Rd (175 St)
	Coliseum	1100 E 177 St (Devoe Av)

(a) Ground breaking, January 23, 1978; scheduled for completion January 1981.

two main shops:  
in the East New  
West 132 Street  
replacement and  
boroughs. Buses  
terminals.

Rd

Point Blvd

roadway)

(Utica Av)

St)

(25 Av)

(Box St)

(Jewett Av)

water St

Hills Rd

St)

(118 St)

(roadway)

Av

Av (129 St)

ver (15 St)

(175 St)

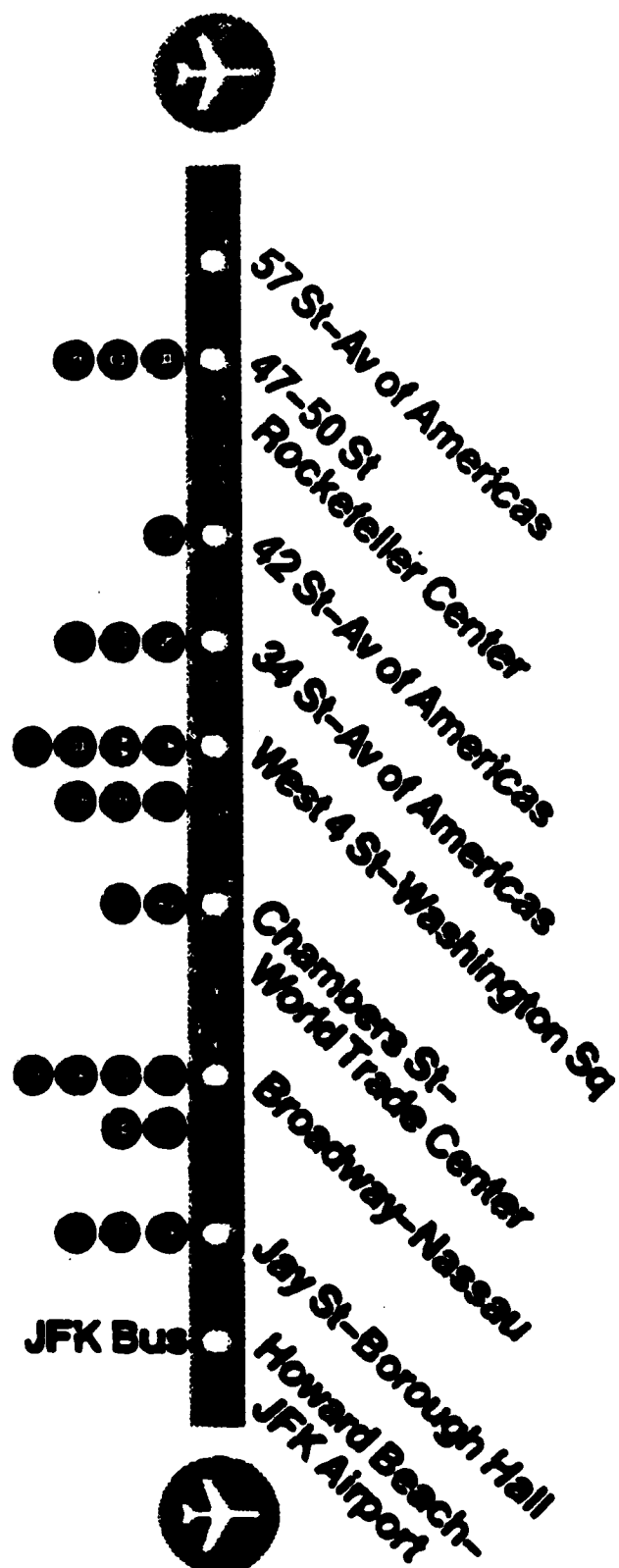
(Devoe Av)

for completion





## OTHER DEPARTMENTS



#### XIV. OTHER DEPARTMENTS

##### Labor Relations and Personnel

This department devotes itself to all matters relating to the conduct of labor relations with unions and other organizations representing employees and with personnel matters as governed by the Civil Service Law. It also runs a training center and administers employee medical and safety divisions.

##### Construction Administration and Chief Engineer

This department is responsible for the planning, design, construction and supervision of all capital improvements of the Authority including the new routes program. It is also responsible for the design, inspection and testing of subway passenger cars and signal and communications systems. Preparation of applications for federal capital and operating funds, management of the capital budget fiscal program, administration of contracts, inspection of construction materials and environmental quality control are among the functions of the engineers.

##### Office of the Controller

This department is responsible for the budgeting, purchasing, accounting, revenue control, payroll preparation and certification, systems and data processing.

##### Office of the General Counsel

The General Counsel heads the Law Department, which handles all legal matters connected with the operation of the subway and bus systems. These include torts and workmen's compensation cases, civil rights cases, contracts with union and employee organizations, and with suppliers of all materials and services purchased by the Authority. The department also reviews grant agreements with state and federal agencies involving capital projects.



#### XIV. OTHER DEPARTMENTS

##### Transit Police

This department, one of the largest police agencies in the United States, is primarily responsible for providing police services in the stations and trains of the rapid transit system. Besides uniformed officers on patrol, the department also fields special units such as the Emergency Medical Rescue Unit and various task forces, frequently in plainclothes, for specialized aspects of law enforcement in the transit system.

##### Secretary and Administrator for General Services

The department under the Secretary is responsible for the administration of general services of the Authority including Contract Compliance, Contract and Concessions, Proceedings, Records and Mail, Public Correspondence, Reporting and Stenographic Services, Administrative Services, Buildings and Office Services, Passenger Automobile Coordination, Reproduction and Photographic Services, and Special Inspection.

##### Public Affairs

News media relations, community relations, marketing, audio-visual and graphic standards, map and informational sign development and special events are major responsibilities of the Public Affairs Department. The department also runs the Transit Exhibit and the Travel Information Bureau (described on page 87).



The Subway Sun





#### XIV. OTHER DEPARTMENTS

##### Communications

All Transit Authority subway communications flow through a command center at Jay Street headquarters in Brooklyn. There, skilled senior transportation supervisors called desk trainmasters are in direct contact by two-way radio with every train in operation. In addition, transit police superiors are in radio communication with patrolmen, and maintenance of way supervisors with work crews at major points on the 706 miles of track and 458 stations that comprise the subway system. Serving this intricate communications network are:

187 base stations  
165 miles of antenna

Desk trainmasters at the Rapid Transit Command Center keep traffic flowing by communicating constantly with

Motormen over 1,873 two-way radios that can be plugged into operating cabs.

Motormen-instructors with walkie-talkies.

Terminals, towers and intermediary control points through loudspeakers and telephones.

The desk trainmaster can make announcements to passengers on nearly all trains and many stations. The news media is kept abreast of travel conditions by direct wire from the command center's communications desk to radio and television stations, wire services and newspapers.

Patrolmen are in touch with TA police headquarters over some 1,268 two-way portable radios, which permit them to hold conversations from stations, mezzanines, passageways and in some areas from trains. On the streets and highways, 60 police vehicles are in touch with headquarters via mobile radics.

Nine additional base stations help keep work crews of the Maintenance of Way Department in touch with their command

#### XIV. OTHER DEPARTMENTS

##### Communications

center from work sites throughout the system. This department now has

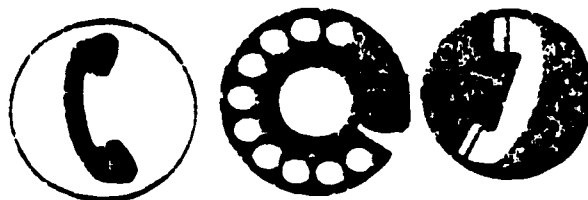
26 radios in mobile units  
362 portable radios

During 1978, communications facilities were provided for the Power and Car Maintenance Departments. The system comprises seven base stations and two repeater stations, ten mobile and ten portable radios for the Car Maintenance Department and 40 mobile and 12 portable radios for the Power Department.

The main switchboard at TA headquarters handles 9,000 calls daily requiring an operator's attention and over 100,000 without an operator.

Most buses have public address systems and two-way radios putting the bus driver in contact with the Surface Control Center at 25 Jamaica Avenue in Brooklyn.

In addition, dispatchers at each of 21 satellite bus depots in the five boroughs have radio contact with buses in their area and over 100 supervisory patrol and snow-fighting vehicles have two-way radios making this one of the largest mobile radio systems in the world.



#### XIV. OTHER DEPARTMENTS

##### Travel Information Bureau

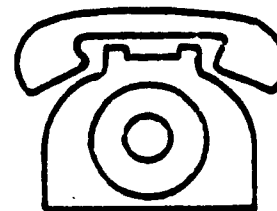
The Transit Authority maintains a staff of 61 trained information specialists at its Jay Street headquarters, who dispense travel information to the public 24 hours a day, seven days a week. The Center may be reached by calling 330-1234 or by direct line from free telephones installed at Penn Station at the Long Island Rail Road Information Booth, at the Information Booth at Grand Central Terminal and at the two busiest stations in the subway system, Times Square and Grand Central.

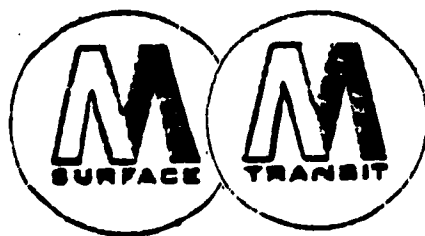
##### Transit Exhibit

On July 2, 1976, the New York City Transit Authority opened a Transit Exhibit in an unused downtown Brooklyn subway station. The Exhibit features vintage subway and "el" cars placed at mezzanine and track levels of the former Court Street station as well as transit memorabilia covering seven decades of subway and surface transportation in New York City. Here, visitors can sit behind the wheel of a modern bus and observe how a subway control tower works.

The Exhibit is open from 10 A.M. to 4 P.M. daily. It is located at Boerum Place and Schermerhorn Street and may be reached by taking IRT lines 2,3,4 or 5 to Boro Hall. Admission is 50¢ for adults; 25¢ for children under 17. Lunch is available on the premises and tours may be arranged by calling 330-4060.

(212) 330-1234





# XV. STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY (SIRTOA)

The Staten Island Rapid Transit Operating Authority (SIRTOA), the only rapid transit line in Staten Island, is a subsidiary of the Metropolitan Transportation Authority, organized in 1970 under the New York State Public Authorities Law.

New York City acquired the Staten Island Rapid Transit Railroad from the Baltimore and Ohio Railroad in July 1971 for \$3,500,001 and immediately entered into an agreement with SIRTOA by which the latter assumed "full authority to operate, maintain and repair the Railroad" until July 1981.

Capital costs are borne by New York City and New York State. Operating costs are covered by a combination of fares and a city subsidy.

<u>Operating Budget</u> (a)	\$7,353,000
-----------------------------	-------------

## Employees (a)

Total	280
Union-represented (b)	261

## Passengers (c)

Average weekday	17,000
Annual total	4,553,312

## Mileage (a)

Route Miles	14.3
Track Miles	37

## Rolling Stock (a)

Passenger Cars	32
Work Cars	5

## Stations

22

Modernization of SIRTOA'S Clifton inspection and shop facility began in October 1978 and will be completed in the early part of 1980. This is an addition to an existing maintenance building.

- (a) Fiscal year July 1, 1978-June 30, 1979
- (b) See following page
- (c) Fiscal year July 1, 1977-June 30, 1978

XV. STATEN ISLAND RAPID TRANSIT OPERATING AUTHORITY (SIRTOA)

Unions

American Train Dispatchers Association

Brotherhood of Locomotive Engineers, Division 541

Brotherhood of Railway, Airline, Steamship Clerks, Freight  
Handlers, Express and Station Employees (Clerical Division),  
Lodge 975

Brotherhood of Railway, Airline, Steamship Clerks, Freight  
Handlers, Express and Station Employees (Transportation  
Communication Employees Division), Lodge 975

Brotherhood of Railway Carmen of the United States and  
Canada, Local 1264

Brotherhood of Railroad Signalmen, Lodge 31

International Association of Machinists and Aerospace Workers,  
Local 341

International Brotherhood of Boilermakers, Iron Ship Builders,  
Blacksmiths, Forgers and Helpers, Local Lodge 619

International Brotherhood of Electrical Workers, Lodge 922

International Brotherhood of Firemen and Oilers, System  
Council No. 2

International Brotherhood of Teamsters, Chauffeurs,  
Warehousemen, and Helpers of America, Local 808

Railway Employees' Department

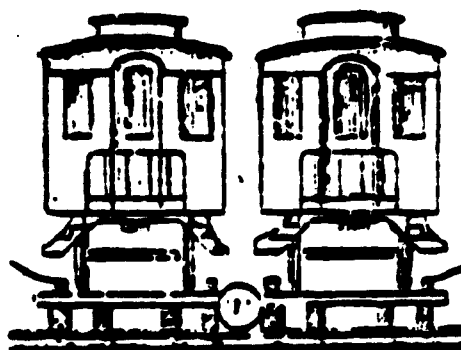
Sheet Metal Workers International Association, Local 149

United Transportation Union, Lodge 1440

XVI. THE SOUTH BROOKLYN RAILWAY COMPANY

This is a freight line organized in 1900 under the State Railroad Law, owned by New York City and operated by the Transit Authority. It serves freight customers along its 6.5 miles of track from 39th Street and Third Avenue to Coney Island, all in Brooklyn. Its rolling stock consists of two diesel locomotives.

The Company's Board of Directors is composed of city officials and officials of the Transit Authority.



## Rules & Regulations

### WARNING

Do not cross  
between cars  
when train  
is moving



### AVISO

No cruce  
entre los carros  
cuando el  
esté

Won't you please give this seat  
to the elderly or handicapped.

### WARNING

Subway tracks are dangerous. If the  
train stops between stations stay  
inside.  
Do not get out. Follow instructions of  
train crews or police.

LITTLE ENOUGH



TO RIDE  
FOR FREE?

ENOUGH  
TO RIDE  
YOUR KNEE

Please

No Littering  
Smoking

Please

No Littering  
Smoking  
Spitting  
Radio Playing



XVII. CODES, RULES and REGULATIONS of the STATE OF NEW YORK governing the NEW YORK CITY TRANSIT AUTHORITY

CHAPTER XXI METROPOLITAN TRANSPORTATION AUTHORITY § 1050.2

SUBCHAPTER F

*New York City Transit Authority*

PART

- 1050 Definitions and Construction
- 1051 Prohibited Uses
- 1052 Penalties
- 1053 Public Access to Records

PART 1050

DEFINITIONS AND CONSTRUCTION

(Statutory authority: Public Authorities Law, § 1204 [subd. 5-a])

Sec.  
1050.1 Definitions

Sec.  
1050.2 Construction

Historical Note

Part (§§ 1050.1-1050.2) added by renum. Sept. 1, 1974.  
Part (§§ 700.1-700.2), filed Aug. 28, 1974 eff.

Section 1050.1 Definitions. Unless otherwise expressly stated, the terms used in this Subchapter shall have the same meanings as set forth in section 1200 of the Public Authorities Law. The following terms shall respectively mean and include each of the meanings set forth:

(a) *New York City transit system.* The transit system including all the facilities thereof under the jurisdiction of the New York City Transit Authority.

(b) *Facility or transit facility.* The rapid transit railroad and the omnibus lines, together with the equipment, devices, and appurtenances thereof, and all power plants and transmission lines, and all real or personal property and instrumentalities, used or useful in connection with the operation of the New York City transit system.

(c) *Police officer.* Any member of the uniform transit police force, or any other police officer as defined in section 154-a of the Code of Criminal Procedure.

(d) *Animal.* Any animal, including fish, fowl or reptile.

(e) *Firearm.* Any pistol, revolver, sawed-off shotgun or other firearm of a size which may be concealed upon the person.

Historical Note

Sec. added by renum. 700.1, filed Aug. 28, 1974 eff. Sept. 1, 1974.

1050.2 Construction. In the interpretation of these rules of the New York City Transit Authority, their provisions shall be construed as follows:

(a) Any term in the singular shall include the plural.

(b) Any term in the masculine shall include the feminine and neuter.

(c) Any requirement or provision of these rules relating to any act shall respectively extend to and include the causing, procuring, aiding or abetting, directly or indirectly, of such act; or the permitting or the allowing of any minor in the custody of any person, doing any act prohibited by any provision hereof.

(d) No provision hereof shall make unlawful any act necessarily performed by an officer or employee of the New York City Transit Authority in line of duty or work as such, or by any person, his agents or employees, in the proper and necessary execution of the terms of any agreement with the authority.

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XVII. CODES, RULES and REGULATIONS of the STATE OF NEW YORK  
governing the NEW YORK CITY TRANSIT AUTHORITY

XVII.

§ 1051.1

TITLE 21 MISCELLANEOUS

(e) Any act otherwise prohibited by these rules shall be lawful if performed under, by virtue of and strictly in compliance with the provisions of an agreement, permit or license issued or approved by the authority and to the extent authorized thereby.

(f) These rules are in addition to and supplement all municipal, State and Federal laws and ordinances.

Historical Note

Sec. added by renum. 700.2, filed Aug.  
28, 1974 ex. Sept. 1, 1974.

PART 1051

PROHIBITED USES

(Statutory authority: Public Authorities Law, § 1204 [subd. 3-a])

Sec.

1051.1 Property and equipment  
1051.2 Handbills, flags, banners and signs  
1051.3 Disorderly conduct  
1051.4 Animals  
1051.5 Dumping  
1051.6 Toilet facilities  
1051.7 Explosives, firearms and weapons  
1051.8 Meetings

Sec.

1051.9 Photographs, peddling, etc.  
1051.10 Restricted areas  
1051.11 Obstructions  
1051.12 Bundles, bulky articles  
1051.13 Seats  
1051.14 Waste receptacles  
1051.15 Rifles and shotguns

Historical Note

Part (§§ 1051.1-1051.15) added by renum. ex. Sept. 1, 1974.  
Part (§§ 1051.1-1051.15), filed Aug. 28, 1974

Section 1051.1 Property and equipment. (a) No person shall injure, deface, destroy, loosen, remove or tamper with any transit facility.

(b) No person shall injure, mutilate, deface, alter, change, displace, remove or destroy any sign, notice, signal, or advertisement on the New York City transit system.

(c) No person shall interfere with any lamp, electric light or electric fixture on the New York City transit system.

(d) No person shall place or insert any paper, cloth, wadding or any other article, object, material, substance, instrument or contrivance other than a valid token issued by the authority or a lawful coin of the United States within the coin receptacle of a turnstile or fare box or token vending machine or in any manner whatsoever obstruct, alter, injure or interfere with the action or operation of any turnstile or fare box or token vending machine on the New York City transit system.

(e) No person shall write, paint or draw any inscription or figure on any transit facility.

Historical Note

Sec. added by renum. 701.1, filed Aug.  
28, 1974 ex. Sept., 1974

Decisions

1. Penal law held equally applicable

Held that an infant who defaced a subway station wall by writing the words "Satan Spades" thereon with a black magic marker could properly be charged with committing an act which, if done by an adult, would constitute the crime of criminal mischief, rather than with a mere violation under section 701.1 (e) of the

New York City Transit Authority rules and regulations (cf. 21 NYCRR 1051.1 (e)). The Transit Authority rules do not preempt the Penal Law (Transit Authority rules, § 700.2 (2) (cf. 21 NYCRR 1050.2 (2)) and violators may be prosecuted under applicable provisions of either. Matter of Charles W., 72 Misc 2d 370 (1972).

1051.2 Handbills, flags, banners and signs. (a) No person shall distribute any handbill or display any flag, banner, sign or other matter on or within the New York City transit system.

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XVII. CODES, RULES and REGULATIONS of the STATE OF NEW YORK  
governing the NEW YORK CITY TRANSIT AUTHORITY

ELLANEOUS

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Reg. etc.

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Injure, deface,

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Electric fixture

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written of any  
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on any transit

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201.1 (e)). The  
not prompt  
authority rules,  
201.1 (2)) and v-  
under applicable  
of Chapter W.

shall distribute  
within the New

CHAPTER XXI METROPOLITAN TRANSPORTATION AUTHORITY § 1051.3

(b) No person shall place, or cause, or procure to be placed upon or affixed to any part of the transit system any words, characters or device as a notice of, or reference to, any article, business, exhibition, profession, matter or event.

Historical Note

Sec. added by renum. 701.2, filed Aug.  
28, 1974 eff. Sept. 1, 1974.

Decisions

1. Constitutionality

Held that sections 701.2 (b) and 702.1 of the rules and regulations for use of the New York City Transit Authority (cf. 21 NYCRR 1051.2 (b) and 1052.1) which prohibit persons from affixing notices to any

part of the transit system and provide that persons affixing same shall be punished by fine or imprisonment are not unconstitutional. *People v. Kiger*, 68 Misc 2d 100 (1971).

**1051.3 Disorderly conduct.** No person shall, on or about the New York City transit system:

- (a) Disobey or disregard the notices, prohibitions, instructions or directions on any transit authority sign posted on the New York City transit system.
- (b) Fail or refuse to comply with any lawful order or direction of any police officer.
- (c) Solicit alms, subscription or contribution for any purpose.
- (d) Entertain passengers by singing, dancing or playing any musical instrument.
- (e) Interfere with, encumber, obstruct or render dangerous any transit facility.
- (f) Do any act tending to or amounting to a breach of peace.
- (g) Do, aid, abet or assist in doing any act which may be injurious to any person or property within the transit system not specifically prohibited herein.
- (h) Throw or project a stone or other missile at any subway or elevated car or omnibus of the New York City transit system.
- (i) Throw or project a stone or other missile from any transit facility.
- (j) Enter upon any transit facility when unable to take care of himself due to indulgence in alcoholic beverages or drugs.
- (k) Drink any alcoholic beverage on the New York City transit system except on premises licensed therefor.
- (l) Fail or refuse to comply with order or direction of bus operator, dispatcher or other authorized transit authority employee, to leave omnibus when payment of the exact fare for transportation on such omnibus has not been made.

Historical Note

Sec. added by renum. 701.3 filed Aug.  
28, 1974 eff. Sept. 1, 1974.

**1051.4 Animals.** No person shall carry onto or convey upon the New York City transit system a dog or other animal, unless it is enclosed in a basket which can be accommodated in the lap of the passenger without annoyance to other passengers. This rule shall not apply to a dog, properly harnessed and muzzled, accompanying a blind person or a trainer, carrying a certificate of identification issued by a dog guide school stating that the dog is trained or being trained to aid and guide a blind person.

Historical Note

Sec. added by renum. 701.4 filed Aug.  
28, 1974 eff. Sept. 1, 1974.

**1051.5 Dumping.** No person shall dump, litter or throw any ashes, refuse, dirt, or rubbish of any kind or abandon any vehicle or other property in or upon the New York City transit system.

Historical Note

Sec. added by renum. 701.5, filed Aug.  
28, 1974 eff. Sept. 1, 1974.

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XVII. CODES, RULES and REGULATIONS of the STATE OF NEW YORK  
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XV

§ 1051.6

TITLE 21 MISCELLANEOUS

**1051.6 Toilet facilities.** No person shall use the toilet facilities of the New York City transit system to change from or into bathing or swimming attire, play-suit or attire of like nature.

Historical Note

Sec. added by renum. 701.6, filed Aug. 23,  
1974 eff. Sept. 1, 1974.

**1051.7 Explosives, firearms and weapons.** No person shall bring into or have in his possession on any transit facility:

(a) Any firearm, slingshot, firecracker, torpedo, fireworks or other missile propelling instrument or explosive. Nothing herein contained shall make unlawful the possession of a firearm by a peace officer or by a person duly licensed to carry a firearm.

(b) Any substance, compound, mixture or article having properties of such a character that alone or in combination or contiguity with other substances, mixtures, compounds or articles may propel missiles or may decompose suddenly and generate sufficient heat, sound, gas or pressure or any or all of these to produce rapid flames, combustion or noxious or dangerous odors or sounds such as to annoy any other person or to injure any person or property.

(c) Subject to the provisions of section 701.15, nothing contained in this section shall prohibit a person from bringing into or having in his possession on any transit facility an unloaded rifle or shotgun.

Historical Note

Sec. added by renum. 701.7, filed Aug.  
23, 1974 eff. Sept. 1, 1974.

**1051.8 Meetings.** No person shall hold any meeting, perform any ceremony, make a speech, address or oration; exhibit or distribute any sign, placard, notice, declaration or appeal of any kind or description in any transit facility or upon any part of the New York City transit system.

Historical Note

Sec. added by renum. 701.8, filed Aug.  
23, 1974 eff. Sept. 1, 1974.

**1051.9 Photographs, peddling, etc.** (a) No person shall in any transit facility or upon any part of the New York City transit system, exhibit, sell or offer for sale, hire, lease or let out any object or merchandise, or anything whatsoever, whether corporeal or incorporeal.

(b) No person except members of the working press who hold working press identification cards issued by the New York City Police Department shall take moving pictures or photographs within the limits of the New York City transit system.

Historical Note

Sec. added by renum. 701.9, filed Aug.  
23, 1974 eff. Sept. 1, 1974.

**1051.10 Restricted areas.** (a) No person shall enter upon the roadbed, tracks, structures or other parts of the New York City transit system which are not open to passengers or to the public.

(b) No person shall park a motor vehicle, as defined in the Vehicle and Traffic Law, in an area of the New York City transit system posted as a restricted area.

(c) No person shall ride upon the outside or roof of any subway car or omnibus.

(d) No person shall enter the motorman's cab of a subway car which is closed to passengers.

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XVII. CODES, RULES and REGULATIONS of the STATE OF NEW YORK governing the NEW YORK CITY TRANSIT AUTHORITY

CHAPTER XXI METROPOLITAN TRANSPORTATION AUTHORITY § 1051.15

(e) No person shall extend his head or arms outside of the window or door of a subway car or omnibus while it is in motion.

Historical Note

Sec. added by renum. 701.10, filed Aug. 28, 1974 eff. Sept. 1, 1974.

**1051.11 Obstructions.** No person shall obstruct any transit facility or interfere with the flow of passenger traffic in or about the facilities of the New York City Transit Authority.

Historical Note

Sec. added by renum. 701.11, filed Aug. 28, 1974 eff. Sept. 1, 1974.

**1051.12 Bundles, bulky articles.** (a) No person shall bring or carry onto the New York City transit system any long or bulky article which is likely to be a hazard to other passengers.

(b) No person shall bring or carry on the transit system an article which is so long as to project above the door of a car or omnibus.

(c) No person shall place any article so that it extends outside the window or door of a subway car or omnibus.

(d) No person shall bring or carry on the transit system a soiled or dirty article of clothing or bedding.

(e) No person shall bring or carry on a car or bus liquid in an open container.

Historical Note

Sec. added by renum. 701.12, filed Aug. 28, 1974 eff. Sept. 1, 1974.

**1051.13 Seats.** No person shall put his foot on any seat provided for passengers of the New York City transit system, nor place any article on such seat which would leave grease, oil, paint, dirt, or other substance on such seat.

Historical Note

Sec. added by renum. 701.13, filed Aug. 28, 1974 eff. Sept. 1, 1974.

**1051.14 Waste receptacles.** No person shall disturb or remove any newspaper, refuse or other rubbish from any receptacle provided by the authority for the deposit of such matter on any station of the New York City transit system.

Historical Note

Sec. added by renum. 701.14, filed Aug. 28, 1974 eff. Sept. 1, 1974.

**1051.15 Rifles and shotguns.** No person shall bring into or have in his possession on any transit facility a loaded rifle or shotgun, nor shall any person bring into or have in his possession on any transit facility an unloaded rifle or shotgun unless such rifle or shotgun is completely enclosed, or contained, in a non-transparent carrying case. Nothing herein contained shall apply to persons in the military service of the United States or the State of New York and peace officers as defined in section 154 of the Code of Criminal Procedure.

Historical Note

Sec. added by renum. 701.15, filed Aug. 28, 1974 eff. Sept. 1, 1974.

XVII. CODES, RULES and REGULATIONS of the STATE OF NEW YORK  
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§ 1052.1

TITLE 21 MISCELLANEOUS

PART 1052

PENALTIES

(Statutory authority: Public Authorities Law, § 1204 [subd. 5-a])

Sec.

1052.1 Penalties

Historical Note

Part (§ 1052.1) added by renum. Part 1974.  
(§ 1052.1), filed Aug. 23, 1974 eff. Sept. 1,

**Section 1052.1 Penalties.** Any violation of the rules of the New York City Transit Authority shall be punishable by a fine not exceeding \$25 or by imprisonment for not longer than 10 days, or both.

Historical Note

Sec. added by renum. 702.1, filed Aug.  
28, 1974 eff. Sept. 1, 1974.

Decisions

1. Constitutionality

Held that sections 701.2 (b) and 702.1 of the rules and regulations for use of the New York City Transit Authority (cf. 21 NYCRR 1051.2 (b) and 1052.1) which prohibit persons from affixing notices to any

part of the transit system and provide that persons affixing same shall be punished by fine or imprisonment are not unconstitutional. *People v. Kiger*, 68 Misc 2d 100 (1971).

PART 1053

PUBLIC ACCESS TO RECORDS

(Statutory authority: Executive Law, § 102(1))

Sec.

1053.1 Definitions

1053.2 Purpose

1053.3 Applications for and the inspection and copying of records

1053.4 Prevention of unwarranted invasions of personal privacy

1053.5 Records not available for inspection or copying

Sec.

1053.6 Current list of records available for inspection and copying

1053.7 Appeals from denial of access to records

1053.8 Fee for copies

1053.9 Effective date of this Part

Historical Note

Part (§§ 1053.1-1053.9) filed Aug. 28, 1974  
eff. Sept. 1, 1974.

**Section 1053.1 Definitions.** Unless expressly otherwise provided, whenever used in this Part, the following terms shall mean or include:

(a) **Authority.** New York City Transit Authority.

(b) **Secretary.** The secretary of the authority, or his delegate, or such other officer or employee as shall be designated by the authority to perform one or more of the duties herein assigned to the secretary.

(c) **Fiscal officer.** The executive officer, controller of the authority, or his delegate, or such other officer or employee as shall be designated by the authority to perform one or more of the duties herein assigned to the fiscal officer.

(d) **Rules.** The rules set forth in this Part.

(e) **Records.** Those records, documents or other data which are in the custody of the authority and which are required to be made available for public inspection and/or copying under the terms and conditions of the Freedom of Information Law (article 6, Public Officers Law, State of New York).

Historical Note

Sec. added, filed Aug. 22, 1974 eff. Sept.  
1, 1974.

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