

# history of the nyc subway

## The Fascinating History of the NYC Subway

**history of the nyc subway** is a story that weaves together innovation, urban growth, and a testament to New York City's ever-evolving spirit. From its humble beginnings to becoming one of the largest and busiest transit systems in the world, the subway has played a crucial role in shaping the city's culture and daily life. If you've ever ridden the 7 train to Flushing or transferred at Times Square, you've been part of a legacy that dates back over a century.

## The Origins: Laying the Tracks for a Modern City

The idea of an underground railway in New York City first gained traction in the late 19th century. As the city's population exploded, surface transportation like horse-drawn carriages and elevated trains became overcrowded and inefficient. The necessity for a faster, more reliable mode of transit led to the birth of the subway system.

In 1900, the Interborough Rapid Transit Company (IRT) was established with the goal of building the first underground subway line. After years of planning and construction, the inaugural subway line opened on October 27, 1904. This initial route ran from City Hall in Lower Manhattan to 145th Street in Harlem, covering about 9 miles. It was a monumental achievement, not just in engineering but in urban planning, as it helped unlock new neighborhoods for development and made commuting accessible to millions.

## Early Challenges and Innovations

Building the subway was no easy feat. Engineers had to navigate around existing sewer lines, water mains, and building foundations while digging through Manhattan's dense underground. The "cut-and-cover" method was primarily used, where a trench was dug from the surface, the tracks laid, and then covered back up. Despite the disruption above ground, this technique allowed the subway to be constructed relatively quickly.

The early subway cars were powered by electricity, a cutting-edge technology at the time. This was a significant improvement over horse-drawn and steam-powered transit options, reducing pollution and noise while increasing speed and reliability. The subway also introduced innovations like signaling systems and standardized track gauges, setting the foundation for future expansions.

## Expansion and Competition: The Rise of the IND and BMT

After the success of the IRT line, other companies entered the picture, leading to a period of expansion and competition. The Brooklyn-Manhattan Transit Corporation (BMT) and the Independent Subway System (IND) were two major players vying to serve the growing city.

## **The BMT and Its Role**

The BMT operated elevated lines and subways primarily in Brooklyn and parts of Manhattan. Its routes often complemented those of the IRT, serving different neighborhoods and providing alternative travel options. The BMT was known for its distinctive wider cars and innovative tunnel designs, which allowed for faster and more comfortable rides.

## **The Independent Subway System (IND)**

The city government launched the IND in the 1930s as a municipally owned alternative to the private IRT and BMT lines. The IND was built to high standards, featuring wider tunnels, longer platforms, and modernized stations. This move was part of a broader political effort to unify and improve transit service while breaking up private monopolies.

The IND's construction included iconic lines such as the Eighth Avenue line and the Sixth Avenue line, which connected Manhattan to Queens and other boroughs. The city's investment in the IND paid off by increasing transit capacity and offering improved service to millions of riders.

## **Unification and Modernization: The Post-War Era**

In 1940, the city took a major step by unifying the three subway systems — the IRT, BMT, and IND — under municipal control. This consolidation was aimed at streamlining operations, reducing redundancies, and improving service.

## **Challenges of Unification**

While unification brought the subway under one umbrella, it also revealed significant challenges. The infrastructure inherited from the different companies varied widely in design and condition. Some lines were outdated, and integrating fare systems and schedules proved complex. Additionally, the subway faced increasing maintenance backlogs as ridership soared in the post-war years.

## **Technological Advances and Service Improvements**

Throughout the mid-20th century, the subway system saw important technological upgrades. Automatic signals replaced manual ones, new subway cars with air conditioning were introduced, and stations were renovated for better accessibility. Despite these improvements, the subway struggled with overcrowding and financial difficulties, especially during the turbulent 1970s.

## **The Subway in Crisis and Revival: Late 20th Century to Today**

By the 1970s and '80s, the NYC subway had fallen into a state of decline. Crime rates on trains increased, graffiti covered cars and stations, and infrastructure deteriorated. Many New Yorkers viewed the subway as unsafe and unreliable, a sharp contrast to its earlier image.

### **The Turnaround Begins**

In the 1980s and '90s, a concerted effort to restore the subway began. The Metropolitan Transportation Authority (MTA), established in 1968, took a leading role in financing repairs and upgrading facilities. Anti-graffiti campaigns, increased police presence, and community engagement helped improve safety and cleanliness.

Investment in infrastructure became a priority, with millions of dollars allocated to rebuilding tracks, modernizing signal systems, and refurbishing stations. These efforts gradually restored public trust and ridership.

### **21st Century Innovations and Expansion**

The 2000s ushered in a new era for the subway. Technology played a big role, with the introduction of electronic fare cards (MetroCard), real-time arrival information, and later, contactless payment options. The subway system also expanded, with projects like the Second Avenue Subway finally coming to fruition after decades of planning.

Newer subway cars were designed with energy efficiency and passenger comfort in mind. Accessibility improvements, such as elevators and ramps, have been steadily added to make the subway more inclusive.

## **Understanding the Cultural Impact of the Subway**

Beyond transportation, the NYC subway has left an indelible mark on the city's culture. It has been featured in countless films, songs, and works of art, symbolizing the hustle and diversity of New York life. From street performers to subway murals, the system is a living canvas reflecting the city's vibrancy.

For many commuters, the subway is more than just a way to get from point A to B — it's a daily ritual, a place where stories unfold and communities intersect. Appreciating the history of the NYC subway adds depth to this everyday experience, reminding us of the decades of effort and innovation that keep the city moving.

Travelers planning to explore New York can benefit from understanding this history, as it enhances appreciation for the subway's role in connecting neighborhoods and shaping the urban landscape. Whether you're navigating the labyrinth of tunnels or simply waiting for your train, you're participating in a rich legacy that continues to evolve with the city itself.

## **Frequently Asked Questions**

### **When was the New York City subway system first opened?**

The New York City subway system first opened on October 27, 1904, with the Interborough Rapid Transit (IRT) line running from City Hall to 145th Street.

### **Who was the key figure behind the development of the NYC subway?**

August Belmont Jr. was a key figure in the development of the NYC subway, as he financed and led the construction of the Interborough Rapid Transit (IRT) line.

### **How did the NYC subway system expand in its early years?**

After the initial IRT line, the subway expanded rapidly with the addition of the Brooklyn-Manhattan Transit (BMT) and Independent Subway System (IND) lines, eventually unifying into a single system in 1940.

### **What role did the NYC subway play during World War II?**

During World War II, the NYC subway was crucial for transporting large numbers of workers to factories and shipyards, and some stations were used as air raid shelters.

### **When did the NYC subway become publicly owned?**

The NYC subway became publicly owned in 1940 when the city took over the private IRT and BMT companies, consolidating them with the city-run IND system.

### **How has the NYC subway system influenced urban**

## **development in New York City?**

The subway system shaped New York City's growth by enabling residential and commercial expansion into outer boroughs, promoting dense urbanization and economic development.

## **What are some major renovations or changes in the history of the NYC subway?**

Major changes include the unification of the subway in 1940, the introduction of air conditioning in the 1950s, automation improvements, and recent accessibility upgrades under the ADA compliance initiatives.

## **Additional Resources**

History of the NYC Subway: An In-Depth Exploration of One of the World's Largest Transit Systems

**history of the nyc subway** traces back to the early 20th century, marking a pivotal evolution in urban transportation not only for New York City but for metropolitan transit worldwide. As one of the oldest and most extensive public transit networks, the New York City subway system has undergone significant transformations, expansions, and technological advancements since its inception. Understanding this history offers valuable insights into the complexities of urban growth, transportation planning, and the socio-economic fabric of one of the world's most dynamic cities.

## **Origins and Early Development**

The inception of the NYC subway system is rooted in the late 19th century when the burgeoning population of New York City demanded more efficient means of transportation beyond horse-drawn carriages and elevated trains. Prior to the subway, the city relied heavily on elevated railways, which were noisy, unsightly, and limited in capacity.

The first underground subway line officially opened on October 27, 1904, operated by the Interborough Rapid Transit Company (IRT). This initial route ran from City Hall in Lower Manhattan to 145th Street in Harlem, spanning approximately 9 miles. This groundbreaking project was a feat of engineering that involved tunneling beneath the city streets and laid the foundation for rapid transit within a dense urban core.

## **Technological Innovations and Engineering Challenges**

Constructing the subway required innovative engineering solutions to navigate the challenges posed by New York's geology, existing infrastructure, and densely populated neighborhoods. The use of the cut-and-cover method dominated early construction, involving excavating large trenches along streets, building the subway structure, and then

covering it up.

The NYC subway also became a laboratory for early electrical propulsion technology. Unlike earlier streetcars and elevated trains that relied on steam or cable systems, the subway used electric-powered trains, enabling faster, cleaner, and more reliable service. This transition was critical in setting new standards for urban transit systems worldwide.

## **Expansion and the Dual Contracts Era**

Following the success of the initial line, the subway system expanded rapidly during the 1910s and 1920s, particularly under what became known as the Dual Contracts. Signed in 1913 between the city and two private operators — the Interborough Rapid Transit Company (IRT) and the Brooklyn Rapid Transit Company (BRT, later BMT) — these agreements facilitated a vast expansion of subway lines, reaching out to the outer boroughs.

The Dual Contracts period saw the creation of new routes, including lines extending into Brooklyn, Queens, and the Bronx, significantly increasing the system's coverage. This expansion was instrumental in shaping the residential patterns of New York City, enabling suburban growth and better connectivity.

## **Impact on Urban Development**

The subway's expansion had profound social and economic consequences. Neighborhoods previously inaccessible by rapid transit experienced population booms, and commercial activities flourished around new stations. The NYC subway effectively became a catalyst for urban sprawl within the city's boroughs while reinforcing Manhattan's status as the central business district.

## **Consolidation and Public Ownership**

By the 1930s, the complexity of operating multiple private subway companies led to inefficiencies and competition that often hampered service quality. In response, the city moved toward consolidating the system under public ownership. In 1940, the city acquired the IRT and BMT lines, merging them with the city-operated Independent Subway System (IND), which had been established in the 1930s as a municipally operated competitor.

This unification under the New York City Board of Transportation, later the New York City Transit Authority, allowed for coordinated planning, fare integration, and streamlined operations. The consolidation marked a significant transition from fragmented private ownership to a publicly accountable transit agency.

# **The Independent Subway System (IND) and Modernization**

The IND, built in the 1930s and 1940s, was designed with modern standards, including wider cars, longer platforms, and more advanced signaling systems. Its construction represented a shift in subway philosophy, emphasizing efficiency and government control over profit-driven motives.

The IND also introduced express and local services on the same lines, facilitating faster travel times and better passenger distribution. This innovation remains a hallmark of the NYC subway's operational flexibility.

## **Challenges in the Post-War Era**

The post-World War II period presented significant challenges for the NYC subway system. Aging infrastructure, deferred maintenance, and increasing ridership strained the network. The rise of automobile culture and suburbanization threatened public transit's prominence, while financial difficulties limited the city's ability to invest adequately.

## **Decline and Crisis in the 1970s**

By the 1970s, the subway system reached a critical low point. Vandalism, graffiti, crime, and frequent service delays characterized daily commutes, eroding public confidence. Funding shortages led to deteriorating tracks, signal failures, and unreliable rolling stock.

This era's challenges highlighted the complex relationship between urban policy, economic conditions, and transportation infrastructure. The subway's decline mirrored broader social and fiscal crises affecting New York City during this period.

## **Revitalization and Modern Upgrades**

Starting in the 1980s, concerted efforts to revitalize the NYC subway system began to bear fruit. The Metropolitan Transportation Authority (MTA), established in 1968, took a leading role in securing funding, modernizing infrastructure, and improving service quality.

## **Technological Innovations in Recent Decades**

Recent decades have seen the introduction of advanced signaling systems such as Communications-Based Train Control (CBTC), which allows for more precise train spacing and increased capacity. Additionally, the MTA has invested in new rolling stock featuring

improved accessibility, energy efficiency, and passenger comfort.

Station renovations have incorporated modern amenities, including digital information displays, enhanced lighting, and expanded accessibility through elevators and ramps, addressing long-standing concerns about equity and convenience.

## Expansion Projects and Future Prospects

The history of the NYC subway continues to evolve with ongoing projects such as the Second Avenue Subway, which aims to alleviate congestion on existing lines and serve underserved neighborhoods. Extension plans and modernization efforts reflect the metropolitan region's dynamic needs and underscore the subway's role as a backbone of urban mobility.

## Comparative Insights: NYC Subway vs. Global Transit Systems

When compared to other major transit systems like London's Tube or Tokyo's Metro, the NYC subway stands out for its 24/7 operation and extensive network of over 470 stations, making it one of the largest and busiest in the world. However, it also faces unique challenges related to its age, infrastructure complexity, and maintenance demands.

Where systems like Tokyo's emphasize punctuality and technological integration, the NYC subway is often noted for its resilience and scale. The subway's ability to operate continuously through emergencies such as Superstorm Sandy in 2012 testifies to its critical role in city life.

## Pros and Cons of the NYC Subway System

- **Pros:** Extensive coverage, 24/7 service, relatively affordable fares, high capacity, and critical role in reducing urban congestion.
- **Cons:** Aging infrastructure, occasional service disruptions, accessibility challenges in older stations, and the complexity of modernization efforts impacting daily service.

The history of the NYC subway reflects a broader narrative about urban growth, technological progress, and public policy. As the city continues to evolve, so too does its subway system, balancing the demands of heritage preservation with the imperatives of modernization and sustainability.

## History Of The Nyc Subway

**history of the nyc subway:** *New York Subways* Gene Sansone, 2004-11-29 The first subway line in New York City opened on October 27, 1904. To celebrate the centennial of this event, the Johns Hopkins University Press presents a new edition of Gene Sansone's acclaimed book, *Evolution of New York City Subways*. Produced under the auspices of New York's Metropolitan Transit Authority, this comprehensive account of the rapid transit system's design and engineering history offers an extensive array of photographs, engineering plans, and technical data for nearly every subway car in the New York City system from the days of steam and cable to the present. The product of years of meticulous research in various city archives, this book is organized by type of car, from the 1903-04 wood and steel Composite cars to the R142 cars put into service in 2000. For each car type, Sansone provides a brief narrative history of its design, construction, and service record, followed by detailed schematic drawings and accompanying tables that provide complete technical data, from the average cost per car and passenger capacity to seat and structure material, axle load, and car weight. Sansone also includes a helpful subway glossary from A Car (the end car in a multiple car coupled unit) to Zone (a section of the train to the conductor's left or right side). Subway and train enthusiasts, students of New York City history, and specialists in the history of technology will appreciate this updated and authoritative reference work about one of the twentieth century's greatest urban achievements.

**history of the nyc subway:** *The New York City Subway* Charles River Editors, 2016-04-18  
\*Includes pictures \*Includes accounts of the construction of the competing lines and their unification  
\*Includes online resources and a bibliography for further reading \*Includes a table of contents  
In New York, you've got Donald Trump, Woody Allen, a crack addict and a regular Joe, and they're all on the same subway car. - Ethan Hawke  
Of all the great cities in the world, few personify their country like New York City. As America's largest city and best known immigration gateway into the country, NYC represents the beauty, diversity and sheer strength of the United States, a global financial center that has enticed people chasing the American Dream for centuries. One of the most significant needs of a growing civilization is an efficient transportation system, and by the time the burgeoning New York City had reached the latter half of the 19th century, the waterways and narrow streets were no longer sufficient to get people from one part of the city to another. Something new was needed, and in a place where real estate was already at a premium, building above ground was not an economically efficient option. As such, the leaders of the city commissioned companies to explore the world under the busy streets, and to build a rail system that would allow people to move quickly below the feet of those walking above. First one company and then another rose to the challenge, and the first decade of the 20th century found the city with one of the best subway systems in the nation. As the city grew, so did the companies, and they continued to dig like human gophers into more expansive areas. Perhaps not surprisingly, barely anything went smoothly, and for every mile of track put down, there was at least another mile of red tape that had to be cut through. There were also accidents and tragedies both big and small, but the subway continued to expand. Eventually, city officials decided that such a large undertaking, one on which the city had grown dependent, could not be left in private hands, so the city ultimately took control of the system and made it part of a larger public transportation system in 1940. This proved to be good in the long run, but in the short run caused quite a stir, as old lines were closed and new ones opened. Moreover, as middle-class people began to own automobiles and to drive back and forth to the suburbs each day, the subway fell into disrepute, becoming a seedy place that was considered dangerous for all but the bravest citizens. That might have been the end of the enterprise, had it not been for a serious program of renovation and security that brought the underground train system safely into the 21st century. The subway survived not only its own downfall but the terror that gripped the city on September 11, 2001, and today it is once again considered the way to get around by New Yorkers in the know. Just as notably, the size and scope of the subway brings the city's

residents and workers together, a sentiment David Rakoff captured only half in jest: Deprived of the opportunity to judge one another by the cars we drive, New Yorkers, thrown together daily on mass transit, form silent opinions based on our choices of subway reading. Just by glimpsing the cover staring back at us, we can reach the pinnacle of carnal desire or the depths of hatred. Soul mate or mortal enemy. The New York City Subway: The History of America's Largest and Most Famous Subway System looks at the construction and history of one of the world's biggest and busiest public transportation systems. Along with pictures of important people, places, and events, you will learn about the New York City subway like never before.

**history of the nyc subway: NYC Subway And Transit History** Neva Bulls, 2021-07-14 The New York City Subway is a rapid transit system that serves four of the five boroughs of New York City, New York: the Bronx, Brooklyn, Manhattan, and Queens. In 2016, an average of 5.66 million passengers used the system daily, making it the busiest rapid transit system in the United States and the seventh busiest in the world. This book will broaden your knowledge about NYC subway system, including... -Early horsecar transit -Rube Goldberglike experimental lines -The subway station with a grand piano, fountain, and frescoes -The politics of public transportation -History-making disasters -Curious rolling stock -Subway art

**history of the nyc subway: Subway** John E. Morris, 2020-10-06 This dynamic visual history of the world's largest transit system -- in all its intriguing, colorful, and even seedy glory -- is packed with fascinating facts and hundreds of compelling photographs. When the first New York subway line opened in 1904, it was the most advanced in the world and a source of enormous civic pride. Today, it is an essential function to the lives of New Yorkers and a perennial cultural touchstone. To be a New Yorker is to take the train. To celebrate it, or grumble about it. Subway: The History, Curiosities, and Secrets of the New York City Transit System by John E. Morris is both a vivid history of this great transportation system and an exploration of its impact on the city and popular culture. The book covers every remarkable moment, from the technical obstacles and corruption that impeded plans for an underground rail line in the 1800s, to the current state of the system and plans for the future; profiles of the colorful, forgotten characters who built and restored the subway; graphics and imagery showing the evolution of subway cars and the way fares are collected; how subway etiquette rules have evolved with society; great subway chase scenes and songs about the subway; a look at abandoned stations and half-built tunnels; and more. In this visually stunning work, packed with original research, journalist and bestselling author John Morris brings life to this one-time engineering marvel that has united and expanded the city for the last 116 years.

**history of the nyc subway: NYC Subway Guide** Rueben Tetrick, 2021-07-14 The New York City Subway is a rapid transit system that serves four of the five boroughs of New York City, New York: the Bronx, Brooklyn, Manhattan, and Queens. In 2016, an average of 5.66 million passengers used the system daily, making it the busiest rapid transit system in the United States and the seventh busiest in the world. This book will broaden your knowledge about NYC subway system, including... -Early horsecar transit -Rube Goldberglike experimental lines -The subway station with a grand piano, fountain, and frescoes -The politics of public transportation -History-making disasters -Curious rolling stock -Subway art

**history of the nyc subway: 722 Miles** Clifton Hood, 2004-08-23 When it first opened on October 27, 1904, the New York City subway ran twenty-two miles from City Hall to 145th Street and Lenox Avenue—the longest stretch ever built at one time. From that initial route through the completion of the IND or Independent Subway line in the 1940s, the subway grew to cover 722 miles—long enough to reach from New York to Chicago. In this definitive history, Clifton Hood traces the complex and fascinating story of the New York City subway system, one of the urban engineering marvels of the twentieth century. For the subway's centennial the author supplies a new foreword explaining that now, after a century, we can see more clearly than ever that this rapid transit system is among the twentieth century's greatest urban achievements.

**history of the nyc subway: The Stations - New York City Subway** Yongki Hwang, 2013-09-13 THE STATIONS - New York City Subway tells the inside story of New Yorkers' lives and

introduces the New York City Metro to the viewers. A Brooklyn-based photographer Yongki Hwang traveled the underground world of Manhattan, NY and captured the most common lives of New Yorkers. With photographs captured in 120 subway stations in Manhattan, Hwang tried to convey the human life and human dreams beneath the streets from his work. Since the first inaugural in 1904, the New York City Subway system has been the cornerstone of the city's development. For more than 100 years, the subway is the place where New Yorkers spend most of the time during their commutes and travels. Table of Contents 1. New York City Subway Stations 2. Red Line (1, 2, 3) 3. Green Line (4, 5, 6) 4. Blue Line (A, C, E) 5. Orange Line (B, D, F, M) 6. Yellow Line (N, Q, R) 7. The Stations

**history of the nyc subway: Under the Sidewalks of New York** Brian J. Cudahy, 1995 But as it is in no other city on earth, the subway of New York is intimately woven into the fabric and identity of the city itself.

**history of the nyc subway: Evolution of New York City Subways** Gene Sansone, 2002 Photographs, line drawings, and narratives record the development of the New York City subway system's rolling stock. A collaborative labor of love by the Metropolitan Transportation Authority and the New York Transit Museum, Gene Sansone's *Evolution of New York City Subways: An Illustrated History of New York City's Transit Cars, 1867-1997*-now available from the Johns Hopkins University Press with a new foreword by Clifton Hood-offers an extensive array of photographs, line drawings, and stories about the city's most treasured railcars. Subway buffs, railfans, students of New York City history, and specialists in the history of technology will appreciate this authoritative account. MTA New York City Transit and Sansone provide a record of the rolling stock that helped make New York City one of the great cities of the world.

**history of the nyc subway: The New York Subway System** Tim McNeese, 1997 Discusses the history of the New York City subway system.

**history of the nyc subway: The Wheels That Drove New York** Roger P. Roess, Gene Sansone, 2012-08-23 *The Wheels That Drove New York* tells the fascinating story of how a public transportation system helped transform a small trading community on the southern tip of Manhattan island to a world financial capital that is home to more than 8,000,000 people. From the earliest days of horse-drawn conveyances to the wonders of one of the world's largest and most efficient subways, the story links the developing history of the City itself to the growth and development of its public transit system. Along the way, the key role of played by the inventors, builders, financiers, and managers of the system are highlighted. New York began as a fur trading outpost run by the Dutch West India Company, established after the discovery and exploration of New York Harbor and its great river by Henry Hudson. It was eventually taken over by the British, and the magnificent harbor provided for a growing center of trade. Trade spurred industry, initially those needed to support the shipping industry, later spreading to various products for export. When DeWitt Clinton built the Erie Canal, which linked New York Harbor to the Great Lakes, New York became the center of trade for all products moving into and out of the mid-west. As industry grew, New York became a magnet for immigrants seeking refuge in a new land of opportunity. The City's population continued to expand. Both water and land barriers, however, forced virtually the entire population to live south of what is now 14th Street. Densities grew dangerously, and brought both disease and conflict to the poorer quarters of the Five Towns. To expand, the City needed to conquer land and water barriers, primarily with a public transportation system. By the time of the Civil War, the City was at a breaking point. The horse-drawn public conveyances that had provided all of the public transportation services since the 1820's needed to be replaced with something more effective and efficient. First came the elevated railroads, initially powered by steam engines. With the invention of electricity and the electric traction motor, the elevated's were electrified, and a trolley system emerged. Finally, in 1904, the City opened its first subway. From there, the City's growth to northern Manhattan and to the outer boroughs of Brooklyn, Queens, and the Bronx exploded. *The Wheels That Drove New York* takes us through the present day, and discusses the many challenges that the transit system has had to face over the years. It also traces the conversion of the system

from fully private operations (through the elevated railways) to the fully public system that exists today, and the problems that this transformation has created along the way.

**history of the nyc subway:** *Engineering the New York City Subway* Kyle M. Kirschling, 2021-01-12 Why does New York City have a subway system, and why does it have such an unusual design? Railroad engineers developed its bold and ambitious design in 1891 for the purposes of speed and convenience, above all else. By understanding the original thinking behind the subway, we can see beneath the grit and appreciate the true beauty of the system...and be inspired to build even bigger and better things in the future. The subway possesses a combination of design elements that make it unequalled among the world's major rapid transit systems. The pillars of the system's design are the high-speed right-of-way and trains, being underground but close to the surface, having extensive four-track mainlines with all tracks on the same level, and providing bi-directional local and express service.

**history of the nyc subway: A History of the New York City Subway System** Joseph Cunningham, 1993

**history of the nyc subway:** Introduction to Transportation Security Frances L. Edwards, Daniel C. Goodrich, 2024-01-22 Providing students and industry managers with the knowledge, skills, and abilities to effectively manage the security of transportation assets, *Introduction to Transportation Security, Second Edition* examines: The core concepts of security, safety, and emergency management practices The integrated nature of the U.S. critical infrastructure and the threats to intermodal transportation Those federal agencies working in emergency management, hazmat response, and transportation security and their intelligence and response requirements and capabilities Cost-beneficial security strategies aimed at preventing catastrophic failures from disasters or intentional sabotage or attack in each transportation mode Transportation is the lifeline of any nation, connecting people, supporting the economy, and facilitating the delivery of vital goods and services. Past failures and terrorist attacks on such transportation systems, in the U.S. and abroad, have demonstrated such systems' vulnerability, the consequences of any potential damage and disruption, as well as the substantial impacts on people, property, and the economy. Now, more than ever, it has become imperative for public transit and transportation systems, as well as the many private businesses operating in these sectors, to develop comprehensive security programs. This includes accounting for both natural and man-made hazards—and safeguarding people, places, and equipment—while at the same time ensuring operations continuity. The book covers all transportation critical infrastructure—their modes and their interconnectivity—including highway, air, freight and passenger rail, transit, maritime, and pipeline security. Chapters provide learning objectives, key words, and discussion questions pedagogical elements as well as several case studies to facilitate a practical understanding of the concepts presented. New to this edition is a chapter dedicated to gas and oil pipelines as well as an increased focus throughout of recent cyberattacks, to emphasize the need for physical and cybersecurity integration. *Introduction to Transportation Security, Second Edition* serves as a comprehensive, practical overview for students in transportation management, homeland security, and emergency management programs as well as an up-to-date reference for professionals charged with safeguarding the movement of assets within our interconnected transportation network.

**history of the nyc subway: A History of the New York City Subway System: Rapid transit in Brooklyn** Joseph Cunningham, Leonard O. DeHart, 1976

**history of the nyc subway:** *Subway Story* Julia Sarcone-Roach, 2011-10-11 Never was there a subway car who loved her job more than Jessie. From morning to night she carried all sorts of people all sorts of places—to work and school and World's Fairs, over bridges and through tunnels—sometimes she even took a pigeon along for the ride! But as time passed, sleek new silver cars began to take over the tracks, banishing Jessie to an abandoned lot. What will she do with no passengers to carry? And where will she go now that she's no longer welcome on the tracks? Based on the true story of 1960's-era subway cars that are now being used to create artificial reefs in the Atlantic, this stunningly illustrated second book from Julia Sarcone-Roach is sure to delight scuba

diving historians and kids alike.

**history of the nyc subway: Brooklyn Manhattan Transit** James Poulos, 2016-05-15 A history of the Brooklyn Manhattan Transit Corporation from 1923-1939 as seen through original source documents such as maps, guides and brochures. Includes full color images of every map and service guide issued by the company as well as brochures for all of the experimental cars in its roster. Finally, it includes a map of the BMT trolley and bus routes as well as the service guide the BMT issued for its bus services. The section on trolleys also includes excerpts from the BMT Monthly describing the PCC car. A must-have for anyone interested in the history of the New York Subway System. This book expands upon the first edition, adding information about some of the BMT subway cars and trolley routes.

**history of the nyc subway: New York State History Network** , 1979

**history of the nyc subway: Subway Style** New York Transit Museum, 2004-10-01 More than 250 extraordinary photographs--including both newly commissioned color photographs and period images from the New York Transit Museum archives--chronicle one hundred years of architectural and design history from the New York City subway system, including everything from the interiors of t

**history of the nyc subway: Fodor's New York City** Fodor's Travel Guides, 2016-11-01 Written by locals, Fodor's travel guides have been offering expert advice for all tastes and budgets for 80 years. The lights, the sounds, the energy: New York City is the quintessential American city, an exciting, constantly changing destination that people visit over and over. Fodor's New York City, with color photos throughout, captures the universal appeal of the city's world-renowned museums, iconic music venues, Broadway spectacles, and, of course, gastronomic delights. This travel guide includes: · Dozens of full-color maps · Hundreds of hotel and restaurant recommendations, with Fodor's Choice designating our top picks · Major sights such as the Metropolitan Museum of Art, Times Square, Empire State Building, Museum of Art, Brooklyn Bridge, Statue of Liberty, American Museum of Natural History, Central Park, 9/11 Memorial and Museum, and the High Line · Coverage of Lower Manhattan; Soho, Nolita, Little Italy, and Chinatown; The East Village and the Lower East Side; Greenwich Village and the West Village; Chelsea and the Meatpacking District; Union Square, the Flatiron District, and Gramercy Park; Midtown East; Midtown West; The Upper East Side; Central Park; The Upper West Side; Harlem; Brooklyn; Queens, The Bronx, and Staten Island Planning to focus on Brooklyn? Check out Fodor's Brooklyn travel guide.

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