

LOWER MANHATTAN'S TRANSPORTATION NETWORK PROVIDES

Lower Manhattan's transportation network provides an unparalleled combination of convenient access to employment, fast commutes and a wide breadth of transportation options. Home to 13 subway lines, two PATH lines, 15 commuter ferry routes, 28 Citi Bike stations, more than 2.3 miles of bike lanes, four major vehicle crossings and a major limited access highway. Lower Manhattan is among the most easily accessible business districts in America. And with a direct, 36-minute transit link to Newark Liberty International Airport in the planning stages, there will soon be another way for the world to come to Lower Manhattan.

Today, workers across the city and region can access Lower Manhattan's 89 million square feet of office space with commutes that are shorter or equal to the metro area average commute time. In the next few years Lower Manhattan's transportation advantages could only grow. Six subway lines servicing the district have the potential to add capacity, and several of these lines connect Lower Manhattan employers to high growth neighborhoods with more than 22,000 planned or under construction housing units.

MORE THAN 90 PERCENT OF LOWER MANHATTAN'S JOBS ARE WITHIN A FIVE MINUTE WALK OF SEVEN TO NINE SUBWAY/PATH LINES

Lower Manhattan's compact size and dense transit network create a wealth of commuting options. More than 90 percent of jobs are a five minute walk or less from seven to nine different subway or PATH lines. This is unique among Manhattan's major business districts. Only 49 percent of jobs in Midtown East and less than 30 percent of Hudson Yards jobs provide the same subway access. Nearly 100 percent of jobs are a five minute walk from one to three subway lines and 41 percent of jobs are within five minutes of ten or more subway or PATH lines. This unparalleled access extends to ferries as well. With the East and Hudson Rivers on both sides, Lower Manhattan is at an advantageous location when it comes to commuting by water—more than 97 percent of jobs in the neighborhood are within a 10 minute walk of a ferry landing.

LOWER MANHATTAN'S REDUNDANT NETWORK PROVIDES OPTIONS NO MATTER THE DESTINATION

Lower Manhattan's rich transportation infrastructure benefits commuters by providing multiple modes and routes. This redundancy is a boon to commuters dealing with a regional network challenged by record ridership and ongoing capital work. This makes the district a smart choice for decision makers looking for an office location served by a wide variety of transit options, many of which offer a one seat ride for employees.

Not only can Lower Manhattan commuters choose from among 13 subway lines and two PATH lines, they can also get to work by driving over the Brooklyn or Manhattan bridges or through the Holland or Hugh L. Carey tunnels. Drivers can use the FDR Drive while bus riders can take advantage of the 260 AM/PM peak period trips on MTA commuter & express Bus Routes. Once downtown, the free Downtown Connection bus service (operated by the Downtown Alliance) provides convenient transportation across the district.

EXTENSIVE TRANSIT INFRASTRUCTURE





3 commuter ferry landings with 15 total



260 AM/PM peak period trips via MTA commuter & express bus routes

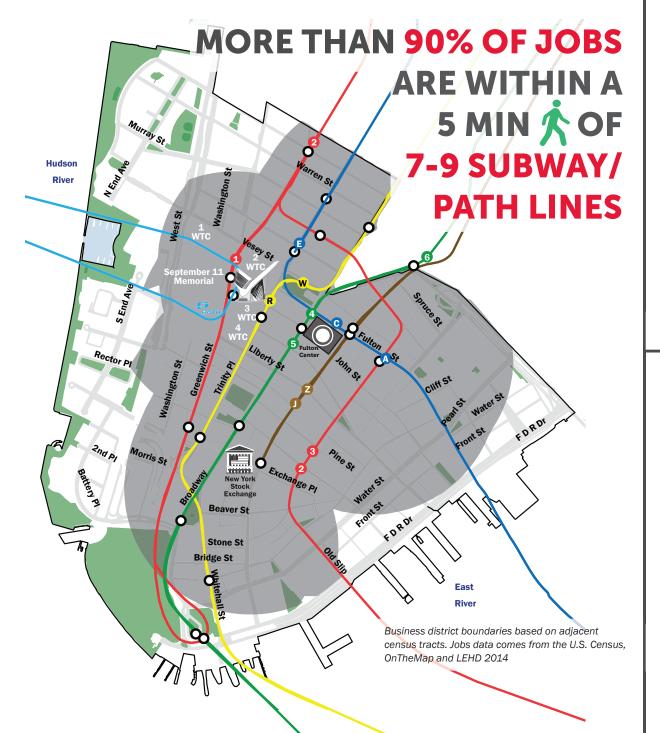


28 Citi Bike stations & more than 2.3 miles of bike lanes

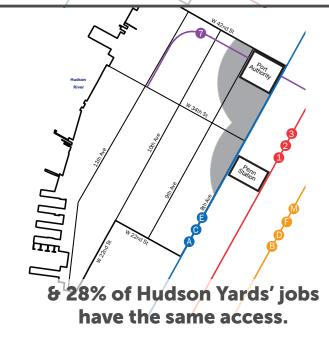


Downtown **Connection** free circulator with 36 stops

AN UNMATCHED COMBINATION OF CHOICE, EASE & SPEED







ALL "ROADS" LEAD TO LOWER MANHATTAN

LOWER MANHATTAN'S NETWORK PROVIDES SWIFT, **EFFICIENT OPTIONS FOR COMMUTING ACROSS ENTIRE REGION**

Public transit travel times to key urban and suburban markets from Lower Manhattan are below or equal to the NYC metro region average. According to the American Community Survey, commuters traveling by subway in the New York metro region spend an average of 48 minutes in transit. Commutes to Lower Manhattan from Jersey City and key neighborhoods like Park Slope and Greenpoint are all 38 minutes or less.

The same advantage exists for commuter rail riders who work in the neighborhood. Average travel time for commuter rail riders in the metro region is 72 minutes. Commuter rail travel times to Lower Manhattan from signature bedroom communities like New Rochelle, NY and Montclair, NJ are shorter than the average and Hicksville, Long Island is on par.

Travel times via car to major commuter markets across the region are all a little more than an hour or less. In timed trials to six major urban and suburban commuter markets shown to the right, five out of six commutes by car were approximately an hour or less. While drivers represents a small percentage of Lower Manhattan's commuting population (less than 16 percent), average suburban travel times range from 59 minutes from New Rochelle to 79 minutes from Hicksville, Commutes from popular urban markets can be made in less than half these times. They range from 23 minutes from Park Slope to 32 minutes from Jersey City.

More than 70 percent of Lower Manhattan's workforce commutes within NYC. The majority of Lower Manhattan's workforce lives in New York City. These commuters can get here via Lower Manhattan's 13 subway lines, the newly launched NYC Ferry service and on the MTA's 23 express and commuter bus routes serving Lower Manhattan.

More than 17 percent of the workforce commutes from New Jersey. New Jersey is the second largest commuter market for Lower Manhattan. PATH service out of World Trade Center makes Lower Manhattan the only business district with direct access to Hoboken, rapidly growing Jersey City and Newark. New Jersey Transit commuters have two options for completing their trips to Lower Manhattan. Riders can travel into Hoboken and transfer to the PATH or connect to the six subway lines at New York Penn Station that serve the neighborhood.

About 12 percent commute from Long Island and New York City's northern suburbs. Most of the remaining share commute from Long Island or suburban counties north of New York City. Long Island commuters also have multiple connecting points for Lower Manhattan, including New York Penn Station and Brooklyn's Atlantic Terminal. The latter is approximately an 11 minute subway ride away from Fulton Center, Commuters from the northern suburbs. can connect to Lower Manhattan from Metro-North to the Lexington line at Grand Central Terminal. On an express train, it is a 12 minute ride from there to Fulton Center.

Source of workers by residence is CTTP data, based on 2010 ACS 5-Year Estimates. Daily ridership figures are for 2016. Ferry and subway ridership provided by NYC DOT and PATH ridership provided by PANYNJ. Source of average commute times for the NYC Metro Region is 2015 American Community Survey 5-year Estimates. Commute times from key locations to Lower Manhattan come from Sam Schwartz's sample trip analysis.

AVERAGE DAILY RIDERSHIP



282,000 **MTA Subway Riders**



79,000 **Ferry Commuters**



44,000 **NJ PATH Riders**

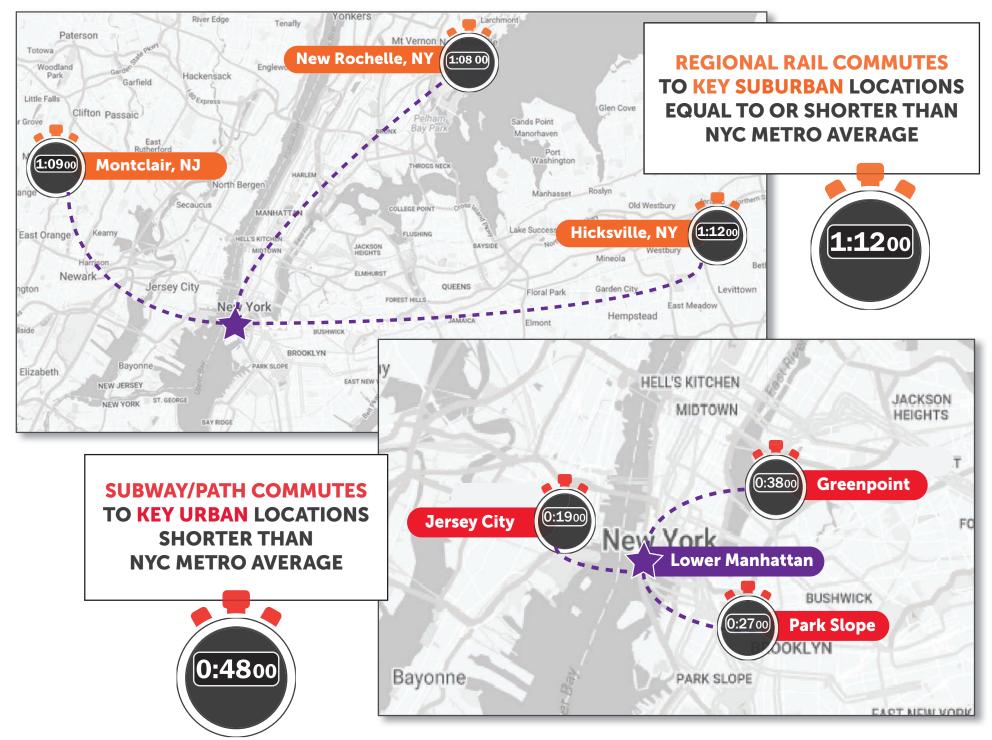


>70% of Lower Manhattan's workforce is a NYC resident



> 97% of Jobs

within a 10 minute walk of at least one ferry landing















OTHER 1%

MODAL SPLIT OF LOWER MANHATTAN WORKFORCE

82% COMMUTE BY PUBLIC TRANSIT

Modal split data comes from 2010 Census. Ferry's share expected to rise with increases in service in future data.

235,000 private sector employees



61,000 residents



6,600 hotel rooms



42,000 public sector employees



LOWER **MANHATTAN'S TRANSPORTATION NETWORK SERVES**

14.8 million unique annual visitors



89 million

square feet of commercial office space



1,200 shops, bars & restaurants



56,000 higher education students





TALENT & TRANSIT DRIVE LOWER MANHATTAN'S TRANSFORMATION

SHIFTING REGIONAL DEMOGRAPHICS SUPERCHARGE LOWER MANHATTAN'S ADVANTAGES AS A BUSINESS LOCATION

Since 2000, Lower Manhattan and its surrounding environs have changed dramatically. Neighborhoods easily accessible via Lower Manhattan's dense transportation network—Manhattan below 34th Street, Brownstone Brooklyn, Williamsburg and waterfront cities in New Jersey—have also grown at impressive rates. This growth, combined with Lower Manhattan's transit access, has put the neighborhood in a place to compete for the region's most desirable talent pool.

Lower Manhattan is at the epicenter of an area that has experienced the greatest gains in young, educated professionals and those working in creative and professional fields. Since 2000, the number of college-educated adults between the ages of 18 and 44 living in a 30 minute commute of Lower Manhattan has grown by 39 percent to more than 750,000. The same trend has occurred in creative and professional industries. More than a half million people, working in those industries now live within a 30-minute commute, an 18 percent jump since 2000. About a quarter of the metro region's college educated adults and workers in creative and professional fields live within a 30 minute transit commute of this business district.

Companies relocating to Lower Manhattan to appeal to potential employees are transforming Lower Manhattan's office market. The district has welcomed an increasingly diverse array of companies including those in technology, advertising, media and information (TAMI) who have responded to the above demographic trend by relocating to Lower Manhattan, helping the district reach its highest private sector employment since the end of 2001. Many have moved to be closer to where their employees live. Today, TAMI occupies 13 percent of Lower Manhattan's office space, more than twice

the footprint in 2008 (5 percent). Finance, insurance and real estate (FIRE) is down to 37 percent from 55 percent in 2008, as TAMI, as well as fashion and merchandising, healthcare and professional services have expanded south of Chambers Street.

Capacity on WTC-bound PATH lines expected to expand with current and planned improvements, providing greater service from rapidly growing Hudson County to Lower Manhattan. Current improvements, including the installation of a state-of-the-art signalling system, construction of a new Harrison Station, and a planned expansion of the Grove Street Station will expand capacity on World Trade Center-Newark PATH service, whereas there is little that can be done to expand uptown service.

Lower Manhattan's subway network directly connects to areas of strong housing growth along lines that have potential to add capacity. The accessible labor force is poised to expand further as neighborhoods on Lower Manhattan subway lines continue to add residential units. Based on available subway schedules and MTA data on effective maximum track capacity (trains per hour), there are more subway lines serving Lower Manhattan with additional capacity than those serving Midtown East and Midtown West, combined. Six subway lines servicing Lower Manhattan (the 1, A, J, Z, R and W trains) can accommodate additional trains with improvements in infrastructure and signaling systems. Several of these lines connect Lower Manhattan to high-growth neighborhoods with over 22,000 planned or under construction housing units. Notably, Lower Manhattan is the only business district in the city served by the J and Z lines and easily accessible to workers in neighborhoods as diverse as the Lower East Side and Bushwick.



6 Subway Lines

with additional capacity in Lower Manhattan



> 750,000

college-educated, young professionals living within a 30 minute commute of Lower Manhattan



643 Relocations

since 2007, accounting for over 15.6 million square feet of office space

"It's really where things are moving. It's clearly to us the center of New York City at this point. Every single subway line converges around City Hall."

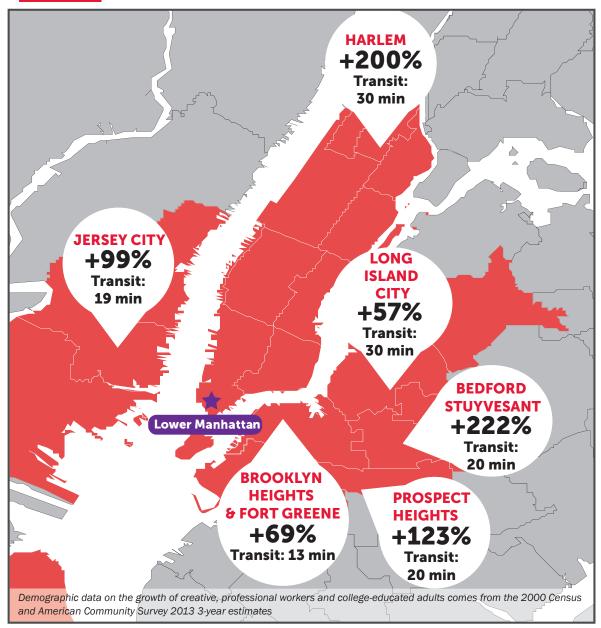
- Gregg Pasquarelli, Co-founder, SHoP Architects



Lower Manhattan: NYC's Premier Transit Hub

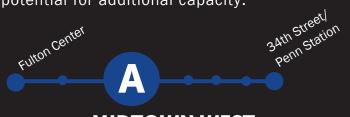
39%

IN COLLEGE EDUCATED, YOUNG PROFESSIONALS LIVING WITHIN A 30 MINUTE COMMUTE SINCE 2000



LABOR FORCE WITHIN A 30 MINUTE COMMUTE WILL CONTINUE TO GROW

Lower Manhattan's subway system connects to several areas undergoing robust housing growth over the next several years, including neighborhoods on subway lines that have the potential for additional capacity:



MIDTOWN WEST 4,800 new housing units in pipeline



DOWNTOWN BROOKLYN

10,000 new housing units in pipeline



LOWER EAST SIDE

4,700 new housing units in pipeline

MAJOR INVESTMENTS PAY OFF

LOWER MANHATTAN'S TRANSPORTATION NETWORK HAS ADVANCED GREATLY AFTER TWO DECADES OF MAJOR INVESTMENT

Events like September 11 and Superstorm Sandy in 2012 challenged the neighborhood. Subsequent massive infrastructure investments have vielded a greatly improved transportation system for Lower Manhattan, Several planned and funded projects will enhance Lower Manhattan's already extraordinary transportation advantages. And with continued investment, Lower Manhattan's centuries old tradition of connectivity can continue to provide the district's businesses and residents with even better access to the region and beyond.

More than \$6.9 billion has been invested in Lower Manhattan's multi-modal transportation network. Since 2001, billions in public investment has transformed Lower Manhattan's transportation network. The area now features two of New York's premier transit facilities - the World Trade Center Transportation Hub and Fulton Center. Investments have been made at all three of the district's ferry landings, to the bike network, most prominently expanded along the East River waterfront, and to major thruways like West Street and Broadway. The aftermath of Superstorm Sandy necessitated major improvements in the transportation network's resiliency. These upgrades include the rebuilt South Ferry subway station with new flood resistant features, and flood mitigation measures at the Hugh L. Carey Tunnel, on West Street and the Battery Park Underpass.

The World Trade Center Transportation Hub, Fulton Center and underground connections are important amenities for the district. The unveiling of the World Trade Center Transportation Hub and Fulton Center elevated the commuting experience in Lower Manhattan and enriched the area's civic architecture and public space. The underground connections

and concourse are an amenity, providing cover from inclement weather, an alternate route to traverse the neighborhood from east to west, and direct access to 895,000 square feet of retail and an adjacent 16.4 million square feet of office space at the World Trade Center and Brookfield Place.

Waterborne transportation has expanded greatly with addition of NYC Ferry Service. Wall Street's Pier 11 rose to new prominence with the launch of NYC Ferry service in May 2017. Currently hosting nine ferry routes. New York's "Grand Central" for ferries experienced a 15 percent year-over-year increase in ridership in June 2017 after the launch of three of the planned six routes.

IMPROVED BIKE CONNECTIONS TO BROOKLYN BRIDGE IN THE WORKS

The New York City Department of Transportation is currently installing series of bike routes that will connect the Battery to the Brooklyn Bridge, further improving access in the district.





ONE-SEAT RIDE TO NEWARK LIBERTY INTERNATIONAL AIRPORT IN 2026

Lower Manhattan will gain direct transit access to an international airport when the PATH extension is complete, which is anticipated in 2026. The Port Authority of New York & New Jersey approved \$57 million in its 2017 budget to fund planning and design work for the two-mile extension of the PATH system from Newark Penn Station to Newark Liberty International Airport. This direct transit link will raise Lower Manhattan's profile, as the business district will join the ranks of other world class cities with similar access. The travel time from the World Trade Center Transportation Hub to Newark Liberty International Airport is expected to be under 40 minutes, besting current commute times from Penn Station to both JFK and Newark airports. The ease and value of doing business in Lower Manhattan will rise with this capital project.



36 Minutes

direct to Newark Liberty **International Airport in** 2026 from WTC Hub

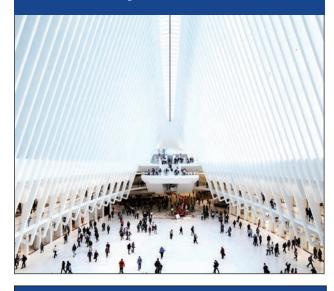


KEY TRANSPORTATION INVESTMENTS SINCE 2001

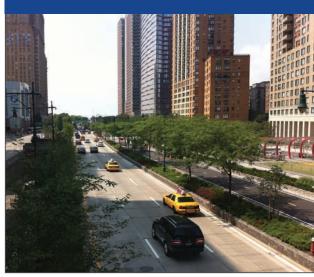
Expansion of Ferry Service & Ferry Terminal Improvements



World Trade Center Transportation Hub



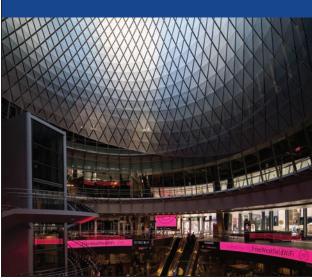
Route 9A / West Side Highway Improvements



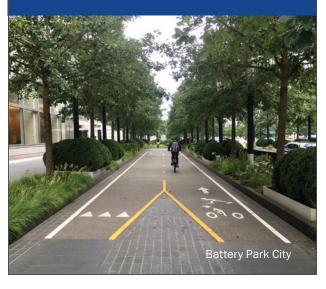
South Ferry Subway Station



Fulton Center



Bicycle Infrastructure



A HISTORY OF INNOVATION

FROM ITS BEGINNINGS AS A DUTCH TRADING POST NEARLY 400 YEARS AGO TO ITS EMERGENCE AS A GLOBAL FINANCIAL CENTER, TRANSPORTATION HAS BEEN AT THE HEART OF LOWER MANHATTAN'S STORY

From its beginnings as a Dutch trading post nearly 400 years ago to its emergence as a global financial center, transportation has been at the heart of Lower Manhattan's story. Lower Manhattan's superior connections to the region, the country and the world have been central to its growth into one of the world's premier business districts. Lower Manhattan has been defined by transportation innovation for centuries, ranging from the earliest steamship to the first East River crossing and the desegregation of transit in NYC.

This spirit of innovation and investment has propelled the neighborhood forward over the centuries and most recently helped Lower Manhattan reach new heights after September 11th. Maintaining the district's economic strength requires continued investment in our transportation network and bold thinking for the neighborhood and city. Turning vision into action requires continued partnership between the public and private sectors, advocacy and engagement among Lower Manhattan's business and community leaders and the foresight to plan the best transportation network for the next 10 as well as 100 years.



1814

Fulton Ferry—the first steamship ferry route by Robert Fulton that connected Manhattan and Brooklyn in 1814, making Brooklyn Heights "America's first suburb".



1658

Stone Street—New York's first paved street completed by Peter Stuyvesant in 1658.



1878

The Third Avenue EI opened in 1878, running from South Ferry to Grand Central.





1868

The Ninth Avenue EI, the first elevated railway in New York City opened in 1868, running from Battery Place to Cortlandt Street.

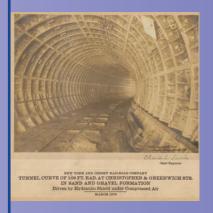
1854

In 1854, Elizabeth Jennings Graham, "Lower Manhattan's Rosa Parks," boarded a segregated streetcar at Pearl Street and Chatham Square (today's Park Row) which led to a landmark court case and eventual desegregation of all NYC transit by 1865.



1909

The Hudson and Manhattan RR (now the PATH) began service between Exchange Place in Jersey City and Lower Manhattan's Hudson Terminal in 1909. This was the first Hudson River passenger tunnel.



1950

Brooklyn-Battery Tunnel—the Robert Moses highway project that opened in 1950, connecting Battery Park to Brooklyn's Red Hook neighborhood.



2014-2016

Fulton Center and WTC
Hub debut, offering
modern and seamless
underground connections
to several transit lines and
office buildings





The following projects would further enhance the quality, accessibility and efficiency of Lower Manhattan's network:

- Fully funding the Second Avenue Subway to ensure the line runs from 125th Street to Hanover Square in Lower Manhattan;
- Increase in current rolling stock to allow for more trains on lines where extra capacity is possible, and add more cars to lines that run less than full-length trains.
- Installation of state of the art signalling and train control equipment on all subway lines in order to accommodate increased capacity (trains per hour);
- Integrate the NYC and Hudson River ferry systems to build on the tremendous success of NYC Ferry and create a rational and connected waterborne transportation network serving the entire region;
- Work with all stakeholders to reduce vehicle congestion in Lower Manhattan by identifying creative new ways to handle freight delivery in the neighborhood;
- Install an east-west bike lane to further fill out the bike network in the neighborhood;
- Improving district-wide wayfinding and pedestrian connections to the Brooklyn Bridge and Chinatown;
- Better organization of tour buses including limiting licenses and regulation of stops;
- Reconnect Greenwich Street to neighborhood street grid.



First NYC Subway line opened running from

City Hall to 145th Street and Broadway.

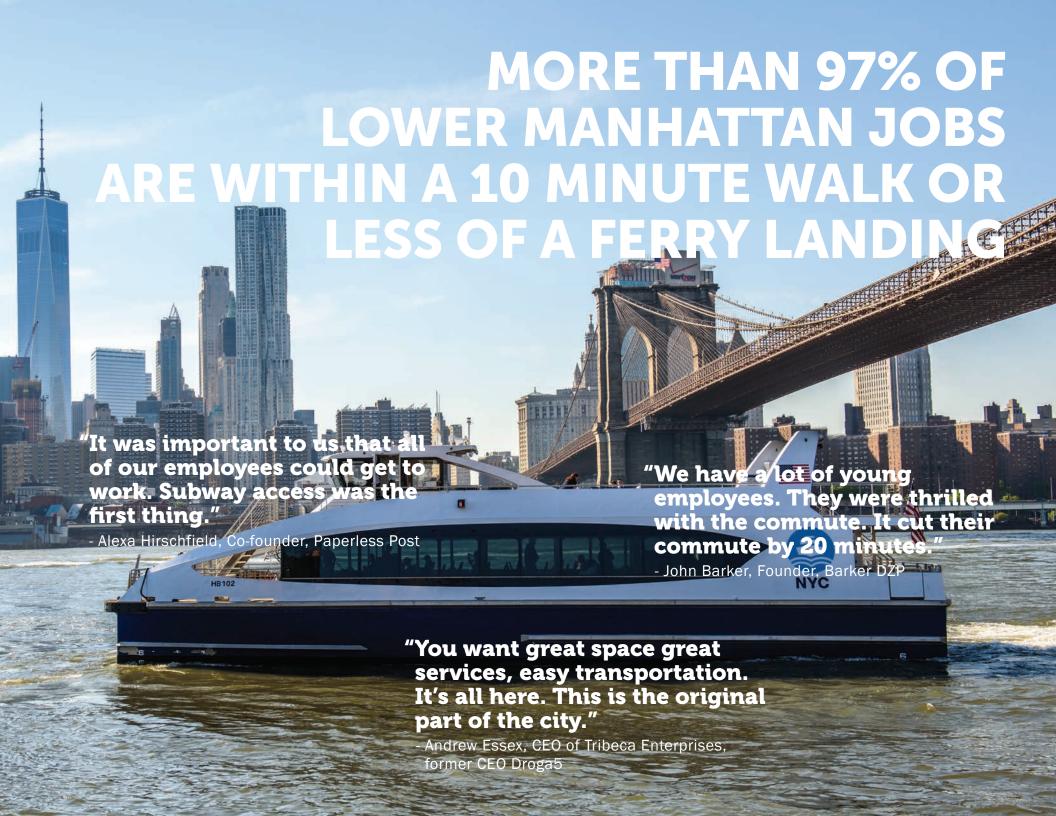
1883

Brooklyn Bridge—the first steel-wire suspension bridge and longest suspension bridge in the world at the time of its construction, opened in 1883.











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Sam Schwartz Engineering conducted a comprehensive accessibility and transportation study and provided source material for this report.

This report as well as other research on Lower Manhattan are available here: http://www.downtownny.com/research-statistics

