



There have been many factors that have changed the look and feel of Long Island over the course of time. The water that surrounds us has changed the physical landscape through erosion and severe weather events like hurricanes that created inlets. There are also changes that came about through modernization; the change from an agricultural society to a suburban culture, for instance. In addition, man-made structures and inventions have changed the look and feel of our island. Inventions like automobiles, the railroad, and the airplane have all impacted the landscape.



Long Island, surrounded by water, had originally been inhabited by indigenous people and then New Englanders came by boat and settled in Suffolk County first.



Long Island's flat landscape created a good venue for windmills and wind energy which allowed early settlers to grind corn and other grains. Where rivers and streams were located, watermills were also used. The first windmill on Long Island was built in Southold.

See Appendix A to learn more about the Town of Southold.



Montauk Point with windmill in an early photograph.
See Appendix B to learn more about windmills.



Watermills were common on Long Island, this one located in Oyster Bay.
See Appendix C to learn more about watermills.

Along the south shore of Long Island, in the towns of Islip and Brookhaven, boats were built to harvest bushels of shellfish. Other settlers found drift whales on the shores and soon realized that hunting whales could be profitable.





The Hempstead Plains, located in the middle of Long Island was a large grassy common land that early Long Islanders used for grazing cattle and other livestock.



According to the 1850 census farmers grew corn, wheat, hay, barley, cucumbers, pumpkins and cauliflower.

The
Rushmore
farm
harvested
many crops
including
pumpkins,
photograph,
1916.





Livestock, such as cows and sheep were a staple on Long Island. Photograph of cows on Block Island, 1954.



There were many duck farms and the Long Island duck reached its peak in the 1960's when farms here produced 7.5 million ducks a year for restaurants. Photograph of duck farm located in Quogue. **See Appendix D to learn more about duck farms.**

IF YOU WANT THE BEST LOTS IN HEMPSTEAD



Gas,
Water,
Trees,
Sidewalks,
Good
Building
Proposition.

DO NOT PASS THIS SIGN.

By about 1850 in the town of Hempstead, the common lands started to be sold off. In 1866, the town gave 40 acres of land to Queens County Agricultural Society “for the promotion of agriculture.” This land was used as the Mineola Fair Grounds until 1937. Other land began to be used for housing. Real estate prospectus for Hempstead, 1908.



Early Long Islanders used horses and carriages to get around.



Bridges were not wide enough for cars. Pedestrians or horse and buggies were all that could pass on this iteration of the Bayville Bridge, completed in 1898.



As early as 1840 railroads came to Long Island. This was a convenient way for farmers to get their produce to market in New York City and beyond. By 1900 it was also a good way for people to move around. This photograph from 1899.



These homes in Garden City were built to house workers who would commute by train into the city to work at A. T. Stewart's Department Store. Stewart incorporated the Central Railroad of Long Island and in 1873 it ran from New York City through Garden City to a brickyard in Bethpage and docks in Babylon.



Massapequa station, c.1901.



Central Islip station, 1910 – people wait for the first train from Penn Station.



LIRR to Greenport, c.1920's.



East Hampton train, 1920's.
See Appendix E to learn more about Long Island Rail Road history.



Many towns originally developed near water as it was both convenient for travel as well as a source of energy for mills. It also served as a place of recreation. The use of water on Long Island became controversial when the Brooklyn Water Works began buying rights to ponds and streams for use by the residents of Brooklyn. Photograph of Roslyn Harbor.

See Appendix F to learn more about the Brooklyn Water Works.



By the 1900 census, the population on Long Island was 133,000 and there were still more individuals who lived in Suffolk Co. than Nassau by over 20,000 people.



Beach communities were initially built as resort areas for the wealthy. Links to the railroad were extremely important to bolster this tourist trade.



In about 1880, the Long Beach Association had begun to develop land so that people could enjoy the ocean. The property on Long Beach was sold to William H. Reynolds, who had developed Miami Beach, Florida as a resort city. By 1909, Reynolds wanted to make further developments to the property on Long Beach. Photograph of Long Beach Hotel, 1909.



Swimmers, Massapequa Hotel, 1901



Boaters, Massapequa Hotel, 1901



South Oyster Bay



Various shores around Long Island became sites for relaxation and escape.



Much of Long Island in the 19th century was made up of small clusters of homes, farms, and fishing villages. As the towns became more populated, main streets featured retail businesses and restaurants.



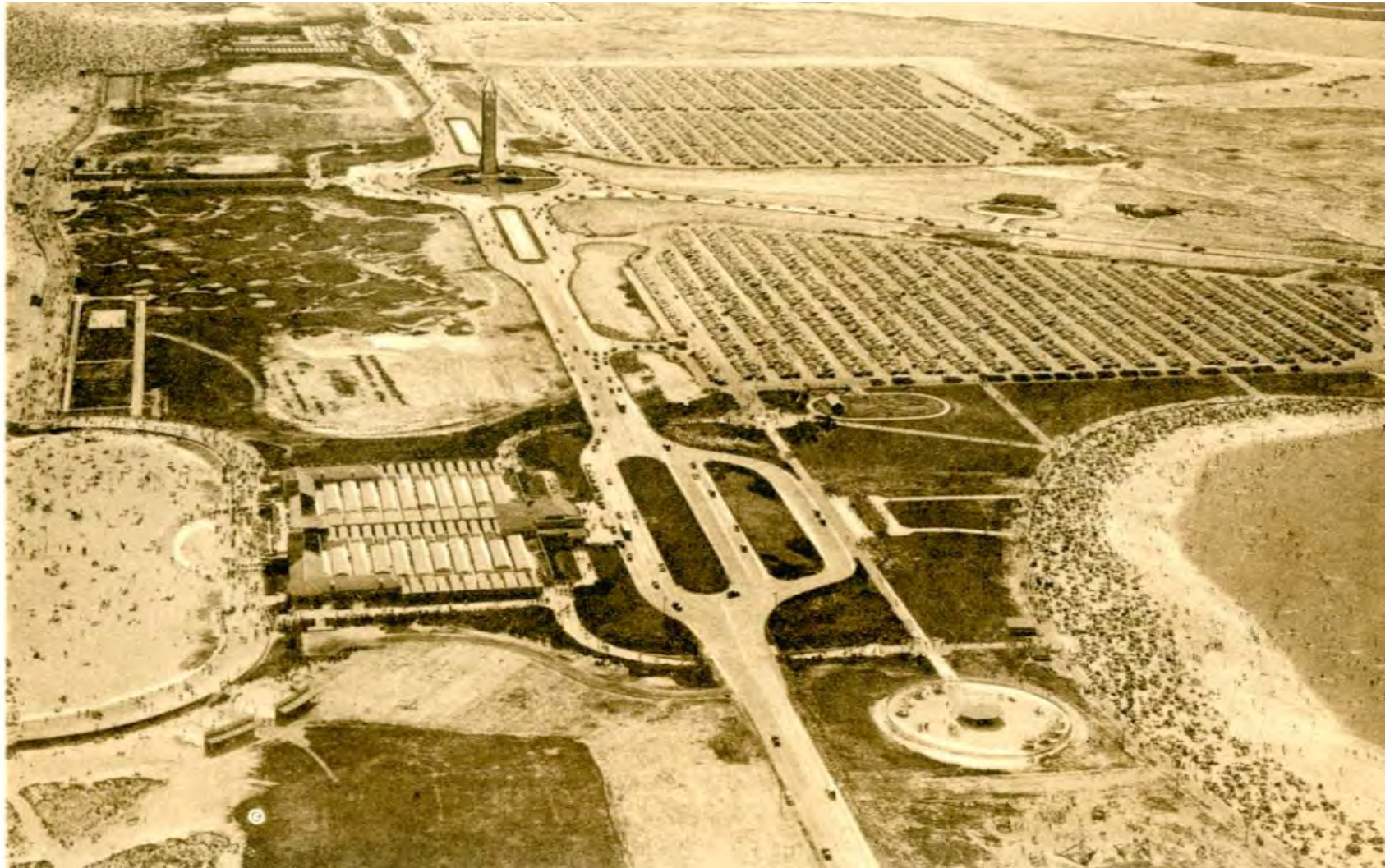
As large estates, like the Mackay estate pictured here, were sold, large developments with smaller suburban homes and streets were created. This home, known as Harbor Hill was built by Stanford White and was completed in 1902. By 1948 the house was dynamited and sold off for residential development.



Long Islanders liked their recreational sports as well, here at the Locust Valley Piping Rock Club spectators watch a horse race.



Bayville ice boating for recreational purposes.



One of the most visited beaches on Long Island is Jones Beach. The park was completed in 1929 and has the Art Deco style of that time period. It remains popular with both residents and visitors alike. Photograph of Jones Beach roadways and water tower, the tower was completed in 1930.



Boardwalk and Central Mall at Jones Beach.



Luncheon Terrace at Jones Beach.



Entrance to Zach's Bay.

Jones Beach swimming pool, August 1964.





Beach and boardwalk at Long Beach, 1930's.





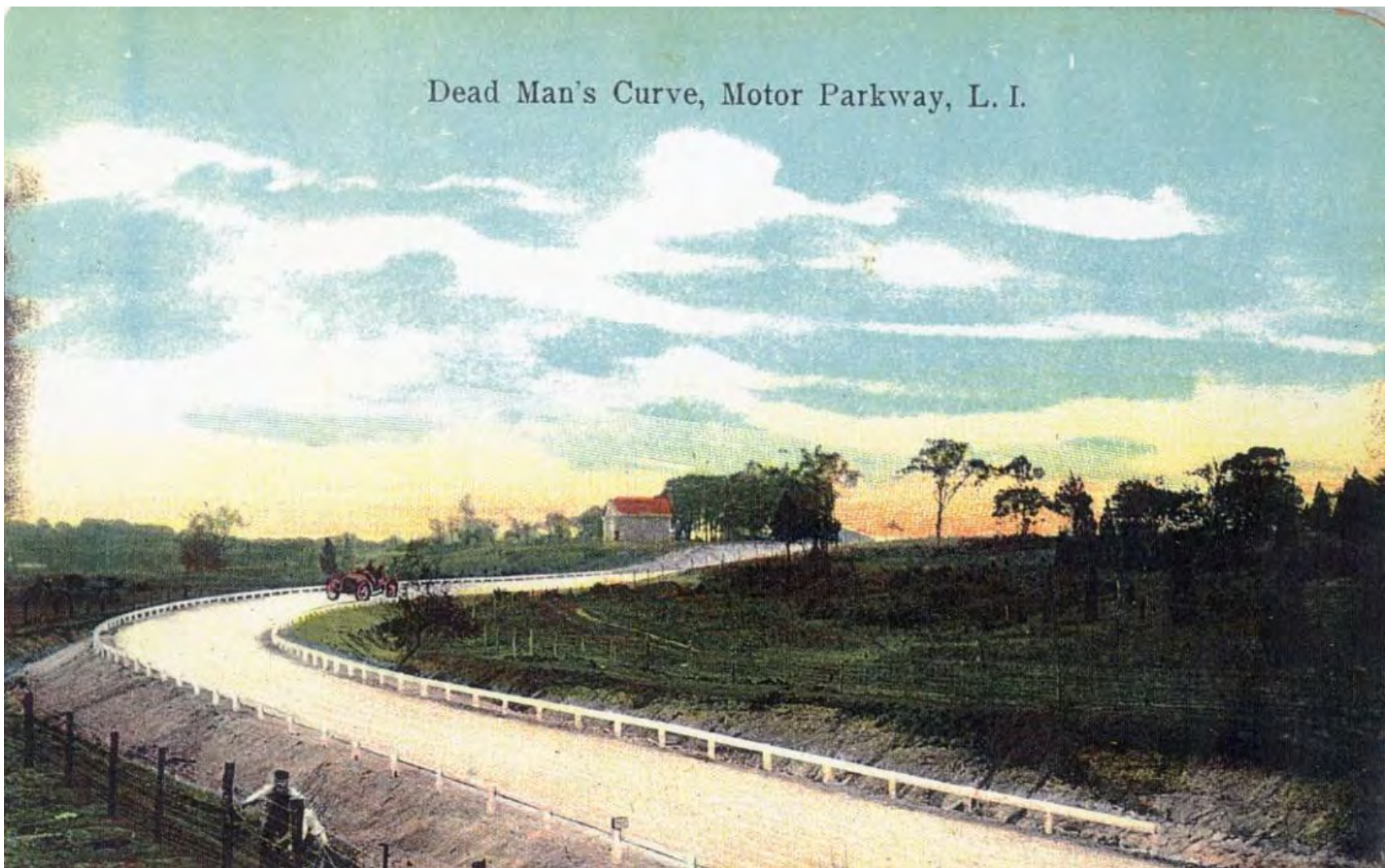
Shelter Island beach, July 1953.



Robert Moses Causeway Inlet Bridge, 1964.



The car soon became LI's preferred mode of transportation. Because of the car, the towns in between the railway stations developed at breakneck speed. Good roads were a selling point for real estate developers. The original roads were not made of macadam or packed dirt, but were covered in Oyster shells. Soon, cars became more affordable and people with more modest incomes could travel around Long Island.



Built for the Vanderbilt Races, Motor Parkway officially opened in 1908 as a toll road and closed by NY State in 1938 for non payment of taxes.



Sunken Meadow roadway.

Northern State Parkway, 1949.





Southern State Parkway, Exit 32 North Amityville, late 1950's.



LIE under construction in Roslyn Heights, 1957.

See Appendix G to learn more about Long Island Roads.



In 1910 the Sperry Corporation began on Long Island and the aviation industry was founded. First seaplanes took off from the waters surrounding our shores. Later, airstrips were built and Long Island was known as the “cradle of aviation.” Photograph of seaplane with Beacon Towers, Sands Point in center.



By the 1900's a good portion of the Hempstead Plains had been used for the newly developed aviation industry. Roosevelt Field was first a field for flying. It was where Charles Lindbergh and other early pilots took off. In the 1950's, Roosevelt Field Shopping Center was built on the site of the former runways and hangars.

See Appendix H to learn more about the aviation industry on Long Island.




Other businesses sprang up on Long Island – many related to the auto industry. This included car salesrooms, repair shops and gas stations. Smithtown Chevrolet Garage, 1943.



Nassau County was deemed the fastest growing county in the US in the years between 1920 and 1930. After World War II, however, a new crop of residents needed housing. Returning GI's started a new boom for housing. By 1947 the construction of Levittown changed America's notion of suburbs. Veterans of World War II received a better deal, as well as, government backed loans.



The suburban movement spread from west to east across Long Island – this was opposite to the original settling of Long Island when Suffolk County had been populated first. Almost all the farm land in Nassau County was soon sold off and more homes were built for an ever-growing suburban- hungry population.



Grand Opening

**NEW
SOLID BRICK
HOME
IN JAMAICA!**

Inter-Racial
\$12,990
COMPLETE
NO CASH DOWN

for Vets
10% DOWN FOR NON-VETS
New York City's lowest priced new home
PAY LESS THAN RENT

Features include: master-sized bedrooms, tiled baths, 13' kitchens, large living rooms and dining areas, wrought iron railings, landscaped plots.

ROSEWOOD

AT JAMAICA

107-01 WATSON PLACE

DIRECTIONS: By Subway: R train to 116th Street Station, there take Q-42 Bus to Watson Place and model — or — walk south on 177th Street to 106th Avenue, then right 1 block to model — or — By Car: Jamaica Avenue to 177th Street and same as above.

ROSE PARK — Inter-racial, new homes, \$100 down, Albany Ave. and Great Neck Road, Amityville 4-3977.

3,000 Swarm to See Inter-Racial Project
North Amityville — Surveyors today began plotting streets for 147 Hollywood homes, the vanguard in a modern housing development of 1,000 houses to be sold without racial restrictions.

By the 1940's middle class African Americans were looking for homes in the suburbs. Unfortunately they were not given the same opportunities as their white counterparts. This development in Jamaica appealed to families of color who were looking for suburban living. Additional suburban communities were built to house families that had often been steered away from white suburban neighborhoods.



Housing on Long Island soon took over what had been farmland and grazing areas. This photograph off of Southern State Parkway, South Farmingdale, late 1950's, shows how suburban sprawl changed the landscape.

By the middle of the 20th century, Long Island was home to over a million people and the suburbs were more than sleepy villages loosely connected by small roads.

· Major parkways, train lines and expressways, as well as major airports moved all these people in and out of New York City, as well as, around Long Island.



The landscape of Long Island has been completely changed by all of those who live, work and play here. The island's 7.8 million people have built structures like homes, roads and bridges; formed parks and protected sea shores; and used the resources that surround us. It is extremely important that future generations think sensibly about the impact of the use of our environment so that it will be here for generations to come.



Appendix A - Town of Southold

List below is of settlers to Southold in the first five years and where they originally resided:

Reverend John Youngs – Salem, MA

Barnabas Horton - Ipswich MA

Thomas Moore - Salem, MA (brother in law to Rev Youngs)

John Underhill - Massachusetts Bay Colony

Jeremiah Vail - Salem, MA

Matthis Corwin - Ipswich MA, then New Haven CT

Philemon Dickerson - Salem, MA (reputed to be a servant possibly to the Youngs family).

John Budd - New Haven, CT

Richard Brown - Watertown, MA

Richard Benjamin - Watertown, MA

John Booth - Scituate, MA

John Bayley - Guildford, CT

Appendix B - Windmills

The earliest mill in Southold was by Hasharnomuck Pond and was probably a tidal mill, we only know of its existence because it was used as a landmark in describing the property of Thomas Cooper in 1654 in Town Records. When the mill was built is unknown. A 1663 record notes that the mill was owned at that time by John Payne - but we don't know if he was the builder and original owner or if he was a later owner.

The area where the town records note the 1654 mill was located, was consistently used as a tidal mill up to the 1820s. One of last owners of the mill at that site was a member of the Albertson family and he ran the mill with enslaved workers.

Appendix C - Watermills

In 1640 Edward Howell came to Southampton being the wealthiest citizen in this new colony (the first English settlement in New York State). Howell came from Lynn, Massachusetts with English colonists, where he owned a watermill and was familiar with water power. The town gave him 40 acres, a pond (now known as Mill pond), along with labor and money for his watermill project. Built on the south fork of Long Island it was the only settlement on Long Island that had both a functioning watermill and windmill.

Appendix D – Duck Farms

- Crescent Duck Farm was founded in 1908, when Henry Corwin purchased 30 ducks to raise on land that had been in the family since it was first settled around 1640. Five generations later, Crescent Duck Farm raised over a million ducks a year, supplying about 4 percent of the nation's total. It is also the only duck farm left on Long Island. Located in Aquebogue, New York.
- Nine Pekin ducks were brought to the United States from the Chinese Imperial City of Peking by Ed McGrath in 1873. In the spring of 1872 Mr. McGrath saw some white ducks of extraordinary size, and was able to obtain some eggs from this stock. He took these eggs with him to Shanghai, had them incubated and raised fifteen ducks. Mr. McGrath arranged with James E. Palmer, an American poultry fancier, to take these ducks with him back to NY. Six of the ducks were lost in a storm at sea. The remaining nine ducks, three drakes and six ducks, arrived in New York City on March 13, 1873, after a voyage of 124 days.
- There were once ninety duck farms located in the Towns of Brookhaven, Southampton and Riverhead.
- By 1900, approximately thirty duck farms were in operation in the Moriches, Eastport and Riverhead.
- The first duck farm in the Riverhead area was begun by Asa Fordham in an old ramshackle building on what was to become known as the A. B. Soyars Duck Farm, located on the Peconic River.
- The Atlantic Duck Farm, located in Speonk on the Speonk River and operated by the Hallock family, grew to become one of the largest duck farms under continuous operation since the 1880s. From 1916 until 1938 the Atlantic Duck Farm was the largest duck farm in the world producing 125,000 ducks in 1916 and 260,000 ducks in 1938. The farm was destroyed by the 1938 hurricane.
- After 1938, Hollis Warner of Riverhead became the largest producer of ducks with a peak annual production of 500,000 ducks per year.
- Martin Maurer, an early duck farmer from Riverhead, found a unique way to market his product. He had what is now known as the Big Duck built on his farm (later purchased and operated by Carmine Bruno) in Upper Mills, Riverhead, on the north side of Route 25. In 1936, Mr. Maurer purchased a duck farm in Flanders (property on Reeves Bay now owned by the Town of Southampton). The Big Duck still exists and although it has been moved several times it is now located in Flanders.

Appendix E – Long Island Rail Road History

- The first railroad chartered on Long Island was the Brooklyn & Jamaica Railroad April 25, 1832, This road started from the then village of Brooklyn, running to Jamaica, a distance of about ten miles.
- The Long Island Railroad proper was chartered in 1834, by a special act of the Legislature
- 1836 The LIRR leases the just completed Brooklyn and Jamaica RR, and immediately begins building the Main Line east from Jamaica.
- By March, 1837, they had succeeded, in constructing a single track from Jamaica to Hicksville, a distance of about fifteen miles.
- On April 5, 1837 Financial crisis resulted in all work suspended on the line east of Hicksville, and also on the Williamsburg branch.
- 1839 The LIRR builds its first branch off the Main Line, from Mineola to Hempstead.
- 1841 The main line is extended Farmingdale
- 1842 The main line is extended to Central Islip
- 1842 Deer Park
- 1844 Medford.
- 1844 The Main Line is completed to its final terminus at Greenport. New York to Boston rail-ferry-rail service commences. The Atlantic Ave. tunnel is built allowing trains to go all the way to the East River, replacing the horse-pulled cars previously used. On July 27, 1844 the first three trains made the run from Brooklyn to Greenport in an amazing 3-1/2 hours.
- 1854 The LIRR builds a branch from Hicksville to Syosset. This line will eventually continue to Port Jefferson and Wading River.
- 1854 The LIRR's first competitor, the Flushing Railroad, builds its line from Hunter's Point to Flushing
- The LIRR had switched its main western terminus from Brooklyn to Hunters Point on the main line in 1860, since the City of Brooklyn (note that Brooklyn, as well as Queens and Richmond, would not become part of NYC until 1898) would no longer allow the use of steam engines along Atlantic Ave. west of East New York.
- 1864 The LIRR builds a branch north from Mineola to Glen Head. This line will eventually continue to Oyster Bay.
- 1866 The North Shore RR, builds a line from Flushing to Great Neck. This line will eventually continue to Port Washington. It was leased and operated by the Flushing & NY RR (former Flushing RR)
- 1867 Another competitor of the LIRR, the South Side RR of LI, is formed and builds a line from Jamaica to Babylon.
- 1867 The LIRR extends the Port Jeff. line to Northport. Extension of the line from Hicksville to Syosset to Huntington and Northport
- 1868 The South Side RR extends east from Babylon to Islip and west from Jamaica to Bushwick.
- 1868 The LIRR extends the Oyster Bay line from Glen Head to Glen Cove.
- 1869 Another competitor, The Flushing and North Side RR, bullds a line from Hunter's Point to Flushing. The South Side extends from Islip to Patchogue, starts using steam dummies to replace horsecars from Bushwick to the East River, and builds a branch from Valley Stream to Far Rockaway
- 1870 The South Side leases a new RR, from Valley Stream to Hempstead , built by the NY & Hempstead (Plains) RR. The South Side extends the Rockaway line to Beach House.
- 1870 The LIRR builds a branch from Manor (now Manorville) on the Main Line southward to Eastport then eastward to the Hamptons and Sag Harbor. This line will eventually continue to Montauk.

- 1872 Eastward from Jamaica, a line was built in 1872 to Springfield Junction (where it crossed the South Side) and on to Far Rockaway.
- 1872 South Side extends from Beach House to Seaside House (Beach 103rd St.); acquires Flushing RR from Hunter's Point to Winfield and connects Fresh Pond and Haberman. Central RR of LI builds Flushing to Farmingdale, Garden City to Hempstead and Bethpage Jct. to Bethpage
- 1873 LIRR extends from Northport to Port Jefferson.
- 1873 Central RR Extension Co. extends from Farmingdale to Babylon town dock.
- Another line (called the White Line for the color of its passenger cars) was also built in 1873 from Winfield to Flushing.
- 1873 Port Jefferson
- Passenger steam service began on January 13, 1873 and the branch was later incorporated into the LIRR. The Port Jefferson branched from the main line at Hicksville and continued along the North Shore communities of Syosset, Cold Spring Harbor, Huntington, Greenlawn, Northport, Kings Park, Smithtown, St. James, Stony Brook, Setauket, and Port Jefferson.
- 1874 LIRR builds the Newtown and Flushing RR, better known as the White Line (for the color of the cars) from Winfield to Flushing. This line ended up being the shortest lived of all the many RR's on Long Island, being abandoned in 1876 (although horse cars were later used until about 1880).
- 1874 The Flushing & North Side completes its Woodside Branch, officially the Flushing and Woodside RR, which used a more northern route to get from Woodside to Flushing, following approximately what is now Northern Blvd.
- 1875 LIRR extends Oyster Bay line from Glen Cove to Locust Valley.
- 1875 The South Side extends its Rockaway Line to Seaside House (Beach 116th St.) The ROW of the former Flushing RR (later the NY&Flushing RR) from Haberman to Winfield is abandoned for passenger service - freight service continues for a couple of years before the tracks are torn up.
- 1876 The three main competitors - the LIRR, the Flushing, North Shore and Central RR, and the South Side RR are all united under common ownership - the Poppenhusen Family, which previously owned the NS&C. Poppenhusen took over Long Island in 1876, creating the unified system in operation today, retaining the name LIRR. Although Poppenhusen soon went bankrupt the railroad carried on, going into receivership and under control of Austin Corbin. Under Corbin's leadership the old South Side right-of-way was connected to the LIRR at Eastport, creating one line running along the South Shore from the East River to Sag Harbor.
- 1876 The White Line is abandoned for regular passenger service although it was connected with the Central branch for special trains to serve the Creedmoor Rifle Range. The portion of the South Side's Bushwick line from Bushwick to the East River ferry is also abandoned.
- A new RR, the NY, Bay Ridge and Jamaica RR Co. is formed from the "ashes" of the NY & Hempstead RR (which first started building a failed version of the Bay Ridge branch back in 1870 - but they did build the branch from Valley Stream to Hempstead and completes the portion of the Bay Ridge branch from the Ferry at 65th St. to Bath Junction. They negotiate a lease with the Brooklyn, Bath and Coney Island RR (today's West End Line of the NYC Subway System), to use their tracks to get to Coney Island.
- 1877 The NY and Manhattan Beach Railway is formed by Austin Corbin, takes over the NYBR&J and completes the Bay Ridge line to East New York. They also build a line to Manhattan Beach. After an absence of 17 years, steam trains return to Brooklyn, but the line now only goes to Flatbush Ave.
- 1878 The Glendale and East River RR (part of the NY & Manhattan Beach Ry) is formed and builds what is now the Evergreen branch from East NY to a terminal at the East river in Greenpoint. The Kings

County Central RR (also part of the NY&MBRy) is built from Parkville to Prospect Park. This line will close down later this same year, never to run again.

- 1879 The Hempstead Branch of the old South Side RR (originally built by the NY and Hempstead Plains RR) is abandoned.
- 1880 The New York, Woodhaven and Rockaway RR is built from Fresh Pond to Rockaway Beach. The New York and Long Beach RR is built from Lynbrook to Long Beach
- In 1880, the LIRR was taken over by Austin Corbin and under him, the railroad prospered and expanded to more-or-less its greatest limits: Patchogue to Eastport (1881), Locust Valley to Oyster Bay (1889), Bridgehampton to Montauk (1895), Port Jefferson to Wading River (1895), Great Neck to Port Washington (1898). In addition, in 1882 the LIRR took over the NY, Brooklyn and Manhattan Beach RR, which had been built in 1876 and part of which presently forms the LIRR's Bay Ridge branch, used for freight only, from Bay Ridge to Fresh Pond, with a now-abandoned spur to Manhattan Beach. In 1893, the remaining Garden City to Hempstead line was repositioned to its present ROW and a new line was built from Valley Stream (the present West Hempstead branch) which connected to it just north of the present Country Life Press station.
- In July, 1901 the LIRR took control of the NY & Rockaway Beach RR, which ran from Glendale Junction to Rockaway Park over a long trestle over Jamaica Bay. In 1910, the final portion of this line, from White Pot Junction in Rego Park to Glendale Junction was built.
- By 1901, the LIRR had been bought by the Pennsylvania Railroad. The history of the LIRR, under PRR ownership,
- September 10, 1910 A turning point in Long Island's development came in 1900 when the LIRR received permission to establish a terminal in Manhattan. Since this required crossing the East River, a bridge or tunnel needed to be built. Meanwhile, the Pennsylvania Railroad (PRR) also received permission to construct a Manhattan station and connect to it via a Hudson River crossing. Since Long Island had no funds for bridge or tunnel construction, LIRR President William Baldwin sought help from the financially-sound PRR. A deal was reached whereby the PRR constructed both sets of tunnels and the Manhattan terminal in exchange for LIRR ownership. Following years of construction, LIRR trains finally ran to Pennsylvania (Penn) Station via the East River tunnels on September 10, 1910.
- Under PRR ownership, LIRR improvements included direct access to Manhattan and rail electrification as far east as Mineola on the main line. The LIRR served primarily commuter traffic to and from Manhattan, the railroad also provided service to summer destinations along both the North and South shores as wealthy New York merchants sought escape from city life. However, the Stock Market Crash of 1929 and the Great Depression put a damper on both the island and the railroad. No money was available for community development and rail improvements. The automobile became the dominant means of travel, altering the LIRR's role as the primary choice of transportation.
- Another factor affecting the railroad directly was the construction of the Independent Subway to Jamaica in 1937 which took away close to eighty percent of Queens' ridership.
- On February 2, 1949, the PRR declared the LIRR bankrupt. After World War II home building escalated and the population skyrocketed. For example, in the twenty-nine year period from 1930 to 1959, Suffolk's population quadrupled. Like other American railroads, the Long Island was in need of new equipment. As a private endeavor, its rate of return was not high enough to borrow money. The PRR was also in economic trouble and was of no substantial help.
- A disaster occurred in Rockville Centre on February 17, 1950 when two trains collided head-on, claiming over thirty lives.

- On November 22, 1950 over seventy people died when an express train rear-ended a local on the same track in Richmond Hill.
- In response, the State Legislature created the Long Island Transit Authority to provide safe and adequate service on the LIRR.
- On August 12, 1954, following more than five years of bankruptcy, the LIRR embarked on a twelve-year, \$65 million rehabilitation program headed by former PRR official Thomas M. Goodfellow, who later became LIRR president. Funds came from a variety of sources: a twenty percent fare increase, a state-approved fifty percent real estate tax decrease, and a \$5,500,000 PRR grant. Within two years, hundreds of new cars were purchased and many older cars were modernized.
- Additionally, diesel locomotion replaced steam in all non-electrified territory by 1955.
- Beginning in 1956, running time of many trains were shortened by shifting express freight shipments, formerly handled on four daytime trains, to the late-night and early-morning. The action saved commuters anywhere from twenty-three to forty-three minutes. System-wide it shed forty-eight hours of scheduled running time.
- By 1958 the LIRR was deemed the nation's fastest means of commuter travel.
- Although improvements were made to LIRR service in the twelve-year plan more needed to be done. By 1965 about a sixth of scheduled trains on any given day were late and a dozen or more were cancelled for lack of equipment. When the rehabilitation program neared completion, New York State Governor Nelson Rockefeller called for the LIRR to be modernized. William J. Ronan, a former aide to the governor, was asked to head a five-man committee which later recommended that New York purchase the LIRR and act as a supervisory body.
- In response, the state formally acquired the railroad from the PRR on January 1, 1966. With Ronan as chairman, the Metropolitan Commuter Transportation Authority (MCTA) was chartered to oversee operation. The LIRR's former management was to remain as well as President Goodfellow.
- Immediately, the MCTA set out to extend electric rail into non-electrified territory. Since diesel locomotives could not travel to Penn Station in light of exhaust fumes, electric trains provided a one-seat ride to Manhattan. Financed with a voter-approved \$2.5 billion bond, electric rail was completed from Mineola to Hicksville and onward to Huntington on the Port Jefferson branch by 1970.
- Concurrently, a fleet of "Metropolitan" high-speed electric cars was purchased from the Budd Company. The new cars allowed for faster speed and quicker boarding times. Since the cars did not have steps to grade level, high-level platforms were constructed at all stations. The four-foot-high platform sped travel time since passengers could board and exit trains at door level.
- By 1974, all 770 Metropolitan cars were in service and a new scheduling system was in place. The concept was based on commuter zones whereby express trains stopped only at designated stations to and from Manhattan, permitting a faster commute.
- Faced with similar postwar issues, national railroads merged in order to provide centralized management. The consolidation movement started in the 1950s and culminated with the 1968 merger of the two largest American railroads, the Pennsylvania Railroad and the New York Central. By this time, both were in dire straits. Ultimately, the combined Penn Central Railroad went bankrupt on June 20, 1970.
- The 1971 Amtrak law created a quasi-public corporation that gained control of American passenger operations. Although not forced to, railroads joined Amtrak if they wished. If they did not, they had to continue train operation until January 1, 1975. To join Amtrak, a railroad contributed a sum of money calculated from passenger losses for the year 1969.

- The Regional Rail Reorganization Act of 1973 created a nonprofit, federally-chartered corporation which financed a new railroad, later known as Conrail. Prior to its downfall, the Penn Central was doing more freight tonnage than in previous years. However, it did not possess the funds to manage operations and improve infrastructure. Conrail's aim was to consolidate freight and improve the national railroad system
- Within two years of the MCTA's formation, Governor Rockefeller sanctioned an "umbrella-like state transportation agency" that expanded the MCTA and gave it control of the New York City Transit Authority and the Triborough Bridge and Tunnel Authority. To initiate the transition, the State Legislature passed new amendments to the state's public authorities' law creating a Metropolitan Transportation District with the Metropolitan Transportation Authority (MTA) to be in charge. The new state authority controlled greater New York's transportation network and provided funding for improvements. While not identical to the New York State effort, Amtrak and Conrail were federal bids to repair and consolidate the rail industry. As the MTA improved the LIRR system, similarly, federal funding modernized the national system. Essentially, the MTA set an example of the benefits of state control and what public funding could produce. Private enterprise alone could not repair the American railroad system.
- A new dual-mode fleet (half diesel half electric) was unveiled on the Port Jefferson branch on October 21, 1998, a year-and-a-half behind schedule. The first engines in service were strictly diesel locomotives. From the start, the fleet was problematic. The first issues were coach doors opening at inopportune moments and glitches in the train's braking system. Secondly, inspectors discovered cracks in the frames of locomotives. Lastly, air horn noise triggered complaints from residents living along the railroad's right-of-way.
- When dual-mode service was instituted more serious situations arose. On October 23, 2000, fire engulfed a dual-mode locomotive, marking the third time in two months that the new equipment was disabled because of fires triggered by electrical problems.
- In September of 2002, they were shipped one by one to Norfolk Southern in Altoona, Pennsylvania, to receive structural and mechanical fixes under warranty from their manufacturer, Electro Motive Division (EMD) of General Motors.
- In the summer of 2007, LIRR President Helena Williams hired former Metro-North Railroad head Donald Nelson to conduct a comprehensive review. In his report, Nelson called the LIRR's diesel engines a "repair headache" and recommended they be replaced. To complicate repair issues further, EMD shut down and the warranty on most parts expired. This left the LIRR with troubled trains unlike any others in the world.

Note:

Many of these companies were sold or leased to the LIRR almost as soon as their rails were laid, but several survived on their own for a few years. Among these were the New York and Flushing RR (1859, originally the Flushing RR in 1852), the South Side RR of LI (1867), the Flushing and North Side RR (1869) and the Central RR of LI (1869)

Sources:

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https://en.wikipedia.org/wiki/History_of_the_Long_Island_Rail_Road

Appendix F – The Brooklyn Water Works

In 1856, Brooklyn issued municipal bonds to fund the purchase of \$1.3 million in stock of the Nassau Water Company (incorporated April 25, 1855), and construction commenced at once on a reservoir and conduit. The aqueduct was built from Cornell's Pond in Valley Stream to Baisley's Pond in Jamaica, and from there to a reservoir atop the hills at the border of Kings and Queens. The ponds were drained to remove hundreds of thousands of cubic yards of mud and rotting vegetation that had settled on the sandy bottom. Initially, water from these two ponds and the streams feeding them was thought to be a sufficient supply, but very soon the works were extended eastward to Hempstead Pond, with a surface area of 23.5 acres and a capacity of 5.4 million gallons, providing an estimated flow of 7.8 million gallons per day. Situated opposite the Cemetery of the Evergreens, the Ridgewood Reservoir was built in a natural basin 172 feet above sea level, overlooking Cypress Hills and East New York. Brooklyn Mayor George Hall thrust the first shovel into the ground at the ground breaking on July 1, 1856. Reverend Kennedy told the assembled crowd, "This day our Mayor, like Moses in the wilderness, strikes the desert spot, and the gladdened stream is to come forth and bless the people." The two basins covered 25.5 acres, and with a depth of 20 feet had a capacity of 161 million gallons.

The Ridgewood Reservoir began filling on November 18, 1858, and in December water was flowing into the city's newly installed water mains. In January the fire hydrants were functioning and homeowners who had tapped into the system enjoyed fresh water in their homes. On April 28, 1859, the justifiably proud city staged a massive celebration: a five-mile long parade with thousands of participants, including elected officials, fire companies, military regiments, and tradesmen; speeches by Peter Cooper, Governor Edwin D. Morgan, and officials from Philadelphia, Boston, Buffalo, Richmond, Baltimore, and Hartford; a triumphal arch; and fireworks. An ornamental fountain in front of City Hall demonstrated the accomplishment in grand fashion.

In 1862, the water supply for the reservoir consisted of six dammed streams in what is now Queens and Nassau Counties: Jamaica Stream (Baisley Pond), Simonson's Stream, Clear Stream, Valley Stream, Pine's Stream, and Hempstead Stream (Hempstead Lake). This water was carried in a 12-mile-long masonry conduit, called the Ridgewood Aqueduct, to a pumping station at Atlantic Avenue and Chestnut Street near the City Line. There, steam-powered pumps, each with a capacity of 14 million gallons per day, forced the water up through a reinforced tube into the high reservoir whence it was distributed. By 1868 the Ridgewood Reservoir held an average of 154.4 million gallons daily, enough to supply the City of Brooklyn for ten days at that time.

One of the arguments for the City of Brooklyn to consolidate with the City of New York in 1898 was its need for a larger water supply, but it would be years before the borough would get it. As soon as Brooklyn began pumping water to its residents in the late 19th century, Long Island farmers suddenly found themselves without enough water pressure to work their mills and irrigate their fields. Water sources that were vital to Long Island's economy began to dry up, and the ensuing conflict between public and private sectors came to a head in *Resiert v. The City of New York*. In 1901, a Long Island farmer named Frederick Resiert sued New York City for depriving him of the stream that irrigated his farmland. He received a mere \$90 from the court to dig a deeper well, a decision Resiert appealed and won several cases. After 10 years of fighting, however, Resiert was foiled by Tammany Hall politicians, who hired scientists to argue that his claims were unfounded. They won, and Resiert's previous wins were overturned. Though the City of New York won the case, it was nevertheless apparent that Brooklyn's demand for water had grown too big for its supply, and in 1917 Brooklyn finally gained full access to New York City's water systems.

In the 1880s, the then City of Brooklyn acquired Milburn Pond in Freeport to feed the Ridgewood Reservoir to serve Brooklyn's growing water needs. The pond was subsequently enlarged, and architect Frank Freeman engaged to design a new, larger pumping station. The new station, completed in 1891, housed five large steam pumps capable of delivering up to 54 million US gallons a day.

Late in the 19th century, the conduit was extended to a large pumping station in Massapequa, some 30 miles away. Efforts to extend it farther were thwarted by legislation protecting the water of Suffolk County. Force Tube Avenue, Conduit Boulevard, and Sunrise Highway were built, in part, atop the water conduit or within its right of way, early in the 20th century.

Some of the Nassau County pumping stations including the one at Milburn (now Baldwin) survived into the 21st century as ruins. Valley Stream State Park, Hempstead Lake State Park, and other South Shore lakes and parks were originally Brooklyn Water Works reservoirs.

In 1898, Brooklyn was absorbed into New York City, allowing the former access to the Croton Aqueduct system, and reducing demand for the Milburn supply. By 1929, the Milburn Pumping Station was downgraded to a standby supply, for operation only in emergencies, at which time the building's two large smokestacks were dismantled. The pumping station was retained as a standby supply until 1977, when the property was sold to Nassau County and the machinery removed. The property was thereafter allowed to fall into decay.

In 1989, the property was purchased at auction by a developer, Gary Mileus, for the sum of \$1.4 million. Mileus set to work converting the building into 48 condominiums, a project set for completion in 1990. However, a housing market collapse put the project on hold, and the building was later severely damaged by a fire. Mileus then came up with a new proposal to convert what remained of the building into a nursing home, but this plan was eventually blocked by local government. In 2009, Mileus won a \$3.5 million lawsuit relating to ownership of the property from the Village of Freeport, with further lawsuits pending. Mileus estimates that prior to the 2009 lawsuit, he had lost \$12 million on the property.

As of August 2010, most of what was standing had been demolished, and as of 2019, nothing remains of the structure. It is now renatured land as part of the Brookside Preserve.

Reservoirs in system:

1. Hempstead Reservoir
2. Smith's Pond
3. Rockville Reservoir
4. Valley Stream Pond
5. Watts Pond
6. Clear Stream Reservoir
7. Brookfield Reservoir

8. Conselyea Pond
9. P. Cornells Pond
10. Springfield Pond
11. One Mile Pond
12. Jamaica Reservoir
13. Ridgewood Reservoir
14. Mount Prospect Reservoir

Appendix G –

Dates of Construction for Long Island Roads

Parkways:

- Bay Parkway: constructed 1930-1934
- Bethpage State Parkway: constructed 1934-1936
- Heckscher State Parkway: constructed 1929-1930 (original two-lane road to Heckscher State Park) 1959-1962 (controlled-access parkway)
- Loop Parkway: constructed 1932-1934
- Meadowbrook State Parkway: constructed 1932-1956
- Northern State Parkway: constructed 1931-1965
- Ocean Parkway: constructed 1930-1934
- Robert Moses Causeway: constructed 1950-1964; parallel Great South Bay span built 1966-1968
- Sagtikos State Parkway: constructed 1950-1952
- Southern State Parkway: constructed 1925-1949
- Sunken Meadow State Parkway: constructed 1929-1957
- Wantagh State Parkway: constructed 1927-1938
- Belt Parkway constructed: 1934-1960
- Long Island Motor Parkway (Vanderbilt Motor Parkway): constructed 1908

Expressways:

- Interstate 495/Long Island Expressway-constructed 1939-1972 opening to traffic in November of 1940
- Babylon-Northport Expressway: constructed 1966-1970
- Nassau Expressway: constructed 1965-1990
- Nicolls Road: constructed 1961-1975
- Seaford-Oyster Bay Expressway: constructed 1959-1969
- Sunrise Highway: constructed 1958-1998
- Route 25, Jericho Turnpike: constructed mid 1920s

- Route 27: constructed mid 1920s
- Route 27A: constructed 1931
- Route 106: constructed 1930
- Route 107: constructed 1930
- Route 110: constructed 1930
- Route 135: constructed 1964-1969
- Route 231: constructed 1970
- Route 454: constructed 1972
- Hempstead Turnpike constructed 1930
- Route 347: constructed 1966

Appendix H – The Aviation Industry on Long Island

The Sperry Corporation was founded as Sperry Gyroscope in 1910 by Elmer Ambrose Sperry, an inventor, to manufacture navigation equipment before adding aircraft components during World War I. In 1986, it merged with the Burroughs Corporation to become Unisys, though some divisions later went to other companies.

Republic Aviation Corporation, based in Farmingdale and originally called Seversky Aircraft Company, was founded in 1931 by Alexander de Seversky, a Russian-born World War I pilot who, like Sperry, was an inventor. The company's most important design for World War II was the P-47 Thunderbolt, followed in later years by the F-84 Thunderjet and F-105 Thunderchief. In 1965, it was acquired by Fairchild, another aircraft firm with Farmingdale roots that has since been taken over by other companies. The Republic name remains with the airport in East Farmingdale, where the American Airpower Museum keeps operational World War II aircraft and offers plane rides for special events like a Memorial Day Weekend Salute to Military Aviation.

Grumman Aircraft Engineering Corporation, which later became Grumman Aerospace Corporation, started in 1930 under the leadership of Leroy Grumman, a graduate of Huntington High School before he became an engineer and pilot. For many years, Grumman was Long Island's largest employer overall, not just in aviation. The company was based in Bethpage, where it produced the F6F Hellcat, considered critical to American victory in World War II, and the Apollo Lunar Module, arguably the most famous aircraft ever made here. Six modules landed on the moon from 1969 to 1972 and others are displayed in museums including the Cradle of Aviation Museum. A company outpost in Calverton made the supersonic F-14 Tomcat for the Navy beginning in the Vietnam era. In 1994, the company was acquired by the Northrop Corporation to become part of Northrop Grumman and mostly disappeared from Long Island.

Major aviation manufacturers were established on Long Island including Curtiss and Sikorsky in Garden City, Sperry and Fairchild in Farmingdale, and Brunner-Winkle in Queens. This meant that hundreds of new civil, commercial and military aircraft were built in the 1920s and 1930s on Long Island.

Locations:

The Sperry Corporation was founded as Sperry Gyroscope in 1910- Garden City, Lake Success

Grumman Aircraft Engineering Corporation, which later became Grumman Aerospace Corporation 1930-
Bethpage

Republic Aviation Corporation originally called Seversky Aircraft Company, was founded in 1931-
Farmingdale