

A region at the center of the world:

THE ROLE OF THE PORT AUTHORITY OF NEW YORK
AND NEW JERSEY

HUGH O'NEILL
PRESIDENT, APPLESEED

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Organizations that endure for a hundred years or more share two key characteristics – they fulfill important functions, and they adapt to changing needs and circumstances. How these organizations are able to do so, however, may only become evident over time. The one hundredth anniversary of the establishment of the Port Authority of New Jersey thus offers an opportunity to consider how and to what extent the agency has exhibited these characteristics – and in particular, how it has served to more effectively connect New York and New Jersey, and to connect the New York-New Jersey region to the world.

This paper briefly reviews:

- The origins of the Port Authority of New York and New Jersey
- How the agency helped the region adapt to the automobile age
- The Port Authority's essential role after Second World War in connecting the region to the wider world economy
- Port Authority investments that supported the growth of the region's economy in the 1960s and after
- Notable examples of innovation and entrepreneurship at the Port Authority
- Strategic investments in the region since the 1990s

We conclude with a brief discussion of why and how the Port Authority's contribution to the vitality of the region's economy will be even more critical in the future than it has been for the past hundred years.

In the beginning

When the interstate compact that created the Port of New York Authority was signed one hundred years ago, the New York-New Jersey region had already emerged as America's first great metropolis, and as its principal gateway to the rest of the world. Many of the region's civic and business leaders, however, believed that its central role in the nation's commerce was seriously threatened by what to them seemed an accident of economic geography: Most of the maritime trade and travel that connected the region to the world was centered on the docks of Manhattan and Brooklyn; but most of the dozen or so railroads that connected the region to the rest of the country terminated on the New Jersey side of the Hudson. The process of moving goods and people from one side of the harbor to the other could be time-consuming and inefficient.¹

The Port Authority was charged with bringing order out of this chaos, by improving connections between the two states and rationalizing the tangle of competing rail services. This proved, however, to be a more difficult task than advocates for creation of the new agency had anticipated. The railroads generally showed no interest in collaborating with each other or with the Port Authority; New York City Mayor William Hylan fought hard against construction of a proposed rail tunnel from Jersey City to Brooklyn; and the agency had no power to compel their cooperation.

By the early 1920s, moreover, the world for which the Port Authority had been created was changing radically. The first great era of global economic integration – a key contributor to the prosperity of both the U.S. and western Europe – had come to a crashing halt in 1914. After

¹ Joe Mysak and Judith Schiffer, *Perpetual Motion: The Illustrated History of the Port Authority of New York & New Jersey* (Santa Monica: General Publishing Group, 1997), pp. 29-31.

the horrors of the war years and the disillusionment that followed, the United States and many other nations began to retreat from engagement with the world – raising new barriers to international trade, sharply restricting immigration and pursuing increasingly toxic forms of nationalism.²

Planning for the automobile age

In some respects, however, the retreat from globalization in the 1920s gave the Port Authority an opportunity to fashion a new approach to knitting the region together. As both automobile traffic and the volume of goods being shipped by truck surged, the agency shifted its focus from trying to rationalize the region's railroads to developing new vehicular connections between New Jersey and New York.

In 1924 Port Authority's Board of Commissioners authorized construction of the agency's first two crossings – the Goethals Bridge and the Outerbridge Crossing, connecting Staten Island to New Jersey. Both were completed in 1928. In 1930 the Port Authority also assumed responsibility for operation of the Holland Tunnel – the first vehicular crossing between New Jersey and Manhattan, which had originally been constructed by the two states and opened in 1927. The George Washington Bridge – then the world's longest suspension bridge – and the Bayonne Bridge soon followed; both were completed in 1931.

The new agency's plunge into the automobile age was not limited to these five crossings. In 1932 the Authority completed and opened what was then called the Commerce Building – a massive, fifteen-story, 2.9 million square-foot structure located at 111 Eighth Avenue in Manhattan. The building combined a large truck terminal, designed for consolidation of less-than-truckload freight with a mix of manufacturing, warehousing and distribution, and showroom/office space. It also housed the Port Authority's headquarters.³

While the Port Authority's focus during these years was primarily (if not entirely) regional, its investments nevertheless helped in several important ways to set the stage for the era that was to come.

- The development and operation of the Port Authority's vehicular crossings helped knit the New York-New Jersey area into a single, more dynamic metropolitan region. Over time, this improved connectivity played a key role in the growth of what in the 1930s were still rural areas in New Jersey, such as Bergen County; and at the same time expanded the workforce from which New York City businesses could draw.
- The construction of Port Authority facilities provided jobs for thousands of New York and New Jersey residents during the Depression – a pattern that continued into the late 1930s, with the construction of the north tube of the Lincoln Tunnel.
- The Port Authority's success in planning, construction and managing six major projects in less than fifteen years went a long way toward establishing its reputation as an agency

² Johan Norberg, *Open: The Story of Human Progress* (London: Atlantic Books, 2020) p. 214

³ After the World Trade Center was completed in 1973, the Port Authority sold 111 Eighth Avenue to a private real estate venture. In 2009 it was purchased by Google.

that the two states, their constituents, and investors could entrust with major regional initiatives.

- Finally, by providing a stream of revenues that supported further investments, the facilities developed in the 1920s and 1930s made possible 75 years of investment in the infrastructure that helped make the region one of the leading centers of the global economy.

Connecting the New York-New Jersey region to the world

By the time the Port Authority was created in 1921, the U.S. was already the world's leading economic power. Twenty-five years later, the U.S. was emerging from the Second World War as the world's *dominant* power. This transformation presented the New York-New Jersey region – the unrivalled commercial capital of the U.S. – with an unprecedented opportunity for growth. Whether the region was fully prepared to take advantage of that opportunity, however, was not entirely clear.

Less than two years after the end of the War, the Port Authority began moving in a new direction, taking the lead in developing and operating facilities that would play a key role in strengthening the region's connections to the world.

Enabling the growth of air travel and trade

In 1947, the agency leased both LaGuardia Airport and New York International Airport (which was then under construction, and commonly called Idlewild, after the golf course that previously occupied the site on which it was built) from the City of New York. In 1948, the Port Authority completed initial construction at Idlewild – including roadways, runways, and a passenger terminal – and opened the airport to commercial flights.

Development at New York International continued throughout its first decade. In 1952 the Port Authority expanded the airport's passenger terminal, which nearly tripled in size to 215,000 square feet; and completed a new control tower. Traffic grew rapidly; by 1954 Idlewild was handling more international passengers than any other airport in the world. In 1955 the agency reached agreement with the major airlines serving the Airport on a plan for development of seven new terminals.

In 1956 the agency added a five-building air cargo complex, combining the cargo operations of 27 domestic and international airlines with office space for federal agencies, customers brokers, freight forwarders and other tenants providing international trade services. Air Cargo City, as it was called, marked the airport's emergence as one of the world's leading air freight gateways.

The Port Authority's first decade at Idlewild culminated in 1957 with the completion and opening of a new International Arrivals Building – a 600,000 square-foot complex designed by the New York firm Skidmore, Owings & Merrill. At the same time, work had begun on construction of new terminals for several airlines. In 1959 United and Delta moved into a new, shared terminal; and Eastern opened its own new terminal. A new American Airlines terminal, and PanAm's Worldport, both opened in 1960.

In 1948, the Port Authority also leased Newark Airport from the City of Newark, taking responsibility for airport operations; and immediately undertaking a major modernization and expansion. A new runway and a new control tower were completed in 1952, and a new passenger terminal in 1953. In 1959, the agency added a four-building air cargo complex.

Expanding and modernizing the New York-New Jersey port

When the Port Authority leased Newark Airport from the City in 1948, it also leased Port Newark. By 1951 the agency had increased the number of deep-water berths at Newark from 14 to 21; deepened the Port's channels to 35 feet; and built new warehouses.

In 1958, the Port Authority also began to develop the first phase of a new marine terminal on what would ultimately become 450 acres of reclaimed marshland in Elizabeth, just south of Port Newark. The first phase of the Elizabeth Port Authority Marine Terminal was opened in 1962. In the years that followed it would (as discussed below) play a key role in revolutionizing maritime trade around the world.

In Brooklyn, the Port Authority followed a more piecemeal approach, acquiring or leasing a chain of piers and other properties along a two-mile stretch of the waterfront, from the Brooklyn Bridge south to Erie Basin in Red Hook. The agency invested in new piers and warehouses; but still struggled to overcome Brooklyn's disadvantages, including poor truck access, limited rail access, and a lack of adequate upland.

Building more interstate connections

In addition to developing the region's connections to the world, the Port Authority continued during the post-War years to improve connections between the states.

- When the George Washington Bridge opened in 1932, the two center lanes on the bridge had been left unfinished. In 1946 the center lanes were completed, increasing the Bridge's capacity by one-third.
- In 1947, the Port Authority Board authorized construction of a new midtown bus terminal at 41st Street and Eighth Avenue. The Port Authority Bus Terminal opened in 1950, speeding the flow of both long-haul and commuter buses into Manhattan, and at the same time taking hundreds of buses each day off the streets of West Midtown. In the 1970s the Port Authority embarked on a major expansion of the Terminal, to handle a rising tide of commuters from New Jersey to New York; by 1981 its capacity had doubled.
- Construction of a third tube of the Lincoln Tunnel, which had been authorized in 1950, began in 1954. It was completed and opened in 1957, increasing the Tunnel's capacity by 50 percent.
- The six-lane lower level of the GWB was completed in 1962. A year later the Authority opened a new bus terminal on the New York side of the Bridge, providing easier travel into Manhattan for residents of Bergen and Rockland Counties.

These projects may not have had the same direct impact on international commerce as the Port Authority's airports and marine terminals in the post-War years; but by continuing the process of

knitting New York and New Jersey more closely together, they contributed to the region's ability to grow into its global role.

Years of expansion: the 1960s and early 1970s

The surge of growth that occurred at Idlewild International Airport in the late 1950s continued in the years that followed. Trans World Airlines' distinctive TWA Flight Center, designed by Eero Saarinen, opened in 1962, followed later the same year by a new terminal shared by Northwest Airlines and Braniff International.

At LaGuardia, construction of a new Central Terminal Building began in 1957, along with a new air traffic control tower, a new runway, roadways and parking. The program was completed in 1964, with six airlines moving into the new Central Terminal Building. In 1967, two runways were lengthened to 7,000 feet.

Until the 1970s, Newark was essentially a regional airport, with a single terminal building, few non-stop transcontinental flights and virtually no international traffic. After negotiating a new lease with several leading airlines, the Port Authority undertook a major redevelopment at Newark. Two new passenger terminals (Terminal A and B) were opened in 1973. The Port Authority also built a new airport administration building, a central heating and cooling plant, and fuel storage facilities. Construction was also started on a new Terminal C; but it would not be completed until the 1980s.

Developing the World Trade Center

In 1960, two seemingly unrelated proposals were unveiled that together would shape the future of the Port Authority and its role in the region's economy. New Jersey Governor Robert Meyner proposed that the Port Authority take over the financially troubled Hudson and Manhattan Railway; and the Downtown Lower Manhattan Association, a business group led by David Rockefeller, proposed to jump-start the revitalization of Lower Manhattan by having the Port Authority take the lead in developing a new office space in Lower Manhattan for companies engaged in international commerce, to be called the World Trade Center.

Neither of these concepts was new. The idea of developing a center for international businesses in New York City first arose in the 1940s; and New Jersey commuter groups (and some public officials) had been urging the Port Authority to rescue the H&M since 1954, when the railroad had filed for bankruptcy. But the confluence of the two proposals in 1960, with high-level support in both states, suggested that the makings of a deal might be at hand.

The Port Authority quickly endorsed the idea of building a World Trade Center, but initially resisted acquisition of the H&M, fearing it would set a precedent for further involvement in efforts to save the region's failing commuter railroads. Finally, a deal was struck. The Port Authority would acquire, rehabilitate and operate the H&M, but with an assurance from both states (thereafter written into the agency's bond covenants) that the Port Authority would not be required to support any other money-losing rail passenger services. The Port Authority would also be authorized to build and operate the World Trade Center; but rather than being located at the eastern end of Wall Street (as proposed by DLMA), it would be built on the site of the H&M's Hudson Terminal,

on the west side of Lower Manhattan – a location that would provide much better access to the new complex via New York City subway, and (for New Jersey residents) via PATH.

In 1962 the legislatures of both states authorized the Port Authority to proceed with both projects. A new Port Authority subsidiary acquired the H&M (renamed PATH, for Port Authority Trans-Hudson), and launched a \$70 million overhaul of the aging railroad. Planning and design work on the World Trade Center began that same year.

From its inception, the World Trade Center was criticized by some as a massive commercial and government office complex masquerading as an international trade facility. A group of businesses that stood to be displaced from the site, along with owners of other commercial office buildings who objected to what they saw as unfair competition from the Port Authority, sued to block the project, arguing that building and operating the proposed World Trade Center fell far outside the scope of the interstate compact that had created the agency. In 1963, however, the New York State Court of Appeals ruled 6 to 1 that promoting and facilitating international trade was a legitimate part of the Port Authority's mission. The plaintiffs then filed an appeal with the U.S. Supreme Court; but in November 1963 the justices declined to hear the case.⁴

The Port Authority then proceeded to acquire the site. Construction got under way in 1966, and the first wave of tenants moved into the WTC in 1973.

Despite its critics concerns, the Port Authority sought – at least in the 1970s and 1980s – to create at the World Trade Center an environment consistent with its stated purpose. Notable examples included:

- Development of Six World Trade Center, a 538,000 square-foot office building, completed in 1974, that provided a new home for the U.S. Customs Service, the Export-Import Bank, the Department of Commerce and other federal agencies involved in international trade.
- Providing space at below-market rates to small firms that provided a wide range of trade-related services.
- Creating and hosting the World Trade Institute, a provider of international business-related educational programs (described in greater detail below).
- Creating the World Trade Centers Association, a network of international business facilities in 120 cities around the world that promoted trade, provided WTC tenants with connections to businesses in other countries – and not least, proved to be an effective tool for marketing the New York-New Jersey World Trade Center as a home for the U.S. offices of foreign firms.

Innovations in global trade and connectivity

The Port Authority's role in supporting the region's emergence as a center of global commerce was not limited to the development of the region's transportation infrastructure and the development of the World Trade Center. Starting in the 1960s – and accelerating in the 1970s

⁴ Martin Arnold, "High Court Plea is Lost by Foes of Trade Center," *New York Times*, November 13, 1963.

and early 1980s – the Port Authority took on a more innovative and more entrepreneurial role. Below we highlight several notable examples.

A partner in the container revolution

In the 75 years since the end of the Second World War, few innovations have had as profound an effect on the world economy as the development of containerized shipping.⁵ The story of how Malcom McLean, owner of a North Carolina trucking company, first conceived the idea of shipping maritime cargo in containers while waiting in Hoboken to have a truckload of goods unloaded and then reloaded onto a freighter bound for Europe, is now well known. After buying Mobile, Alabama-based Waterman Steamship Company, McLean launched his new venture in 1956, when the *Ideal X* set sail from Port Newark with 58 truck trailers bound for Houston.⁶

In the beginning, the new company's service was limited to coastal trade. But McLean had bigger ideas. With the Port Authority in the early stages of planning for the development of Port Elizabeth, he approached the agency's executive director, Austin Tobin, and proposed the development of new facilities in Elizabeth for his company, Pan-Atlantic, which was outgrowing its space in Newark. Tobin quickly came to share McLean's conviction that the future of ocean shipping lay in containerization; and McLean and the Port Authority began to work together on construction of world's first marine terminal designed from the ground up to serve ocean-going container ships – years before any such ships were launched. McLean's company (which in 1960 was re-named Sea-Land Services) moved its operations from Newark to Elizabeth in 1962.

The sharp reductions in the cost of coastal shipping that Sea-Land was achieving soon caught the attention of more established companies; and where McLean led, others followed. In the spring of 1966, Sea-Land, U.S. Lines and Moore McCormack all began offering containerized shipping from Elizabeth to several European ports. Within a year, six other lines had joined them.⁷

McLean's great innovation was not simply the idea of moving cargo in thirty- or forty-foot boxes – others before him had the same idea, and to a limited extent some had tried it. Instead, McLean's genius lay in realizing that containerization could be the key to providing a much cheaper, faster, *more integrated* way to move goods from the factory loading dock to their final destinations. What counted was not just the box; it was the *system*.

The Port Authority's contribution was to quickly grasp the significance of what McLean wanted to do, and to work with him to design and build port facilities that would help him realize his vision. The agency opened the Elizabeth Marine Terminal in 1962; demand was so strong that it was expanded twice in the next four years. The New York-New Jersey port was established as the nation's leading center of containerized maritime trade; and Elizabeth became a prototype for new container ports around the world.

⁵ Tim Harford, *Fifty Inventions that Shaped the Modern Economy* (New York: Riverhead Books, 2017), pp. 96-101

⁶ Marc Levinson, *The Box: How the Shipping Container Made the World Smaller and the World Economy Bigger* (Princeton: Princeton University Press, 2006), pp. 36-100.

⁷ *Ibid.*

The New York-New Jersey port eventually yielded its leading position in the U.S. to Los Angeles; but as of 2020 New York-New Jersey ranked second – and despite the pandemic and a global economic downturn, was still growing.

Training a workforce for a global economy

From the time it was first unveiled, the Port Authority's decision to pursue development of the World Trade Center drew sharp reactions from critics who believed that the agency should not be involved in the business of financing, constructing and managing commercial office buildings. Proponents of the project argued (among other things) that the World Trade Center would be much more than an office building – it would be place that could provide a home for a wide range of companies, agencies and organizations involved in international trade, and provide access as well to services that companies throughout the region would need to succeed in a global economy.

It's probably fair to say that when it was completed and occupied in the 1970s, the World Trade Center was more than just a conventional office building; but it was nevertheless *mostly* a conventional office building. Still, tenants in the twin towers – and residents and businesses throughout the region – did have access to a variety of trade-related resources. Perhaps the most notable of these was the World Trade Institute. Located on the 55th floor of One World Trade Center, the Institute offered a broad range of trade-related educational programs – entry-level certificate courses in fields such as freight forwarding; executive and professional programs in areas such as trade finance, maritime law, supply-chain management and doing business in China; one-day conferences on current topics; and beginners,' intermediate and advanced courses in an array of foreign languages. By the 1980s, 7,000 to 10,000 people each year were participating in WTI programs, including not only residents of the region but also students from 90 other countries.⁸

In 1997, as part of an effort to focus the agency more narrowly on transportation, the Port Authority sold the World Trade Institute to Pace University, with Pace agreeing to keep the Institute at the World Trade Center for the next sixteen years. That arrangement seemed to work well for the next several years; but the Institute's space – along with the rest of the World Trade Center – was destroyed on September 11th. In 2002 the University began to offer a limited number of Institute programs in other leased space downtown; but they never generated enough participants to cover their costs. In the summer of 2005, Pace announced that it was permanently shutting down the World Trade Institute.⁹

There were (and are), of course, other ways in which the region's working adults can acquire the skills and knowledge needed for careers in international business. But the WTI's record suggests there was a real demand for its services – and reminds us that the region's role in the global economy depends not just on physical and financial capital, but on human and intellectual capital as well.

Helping small and mid-sized manufacturers go global

⁸ David Chen, "Port Authority school is acquired by Pace," *New York Times*, July 8, 1997

⁹ Stewart Chirls, "World Trade Institute closing its doors," *Journal of Commerce*, June 8, 2005

In 1982, the Port Authority established its X-Port Trading Company – an organization dedicated to helping small and mid-sized New York and New Jersey manufacturers gain entry to overseas markets. X-Port offered its clients a range of services that for-profit trading companies typically provided only to much larger firms – an assessment of the firm’s export potential, identification of specific market opportunities, helping its clients line up foreign distributors, securing needed licenses and permits, arranging trade financing through commercial banks or the U.S. Export-Import Bank, and helping clients arrange shipping.

Participating firms paid X-Port a commission on their export sales. They typically worked with X-Port for a few years, “graduating” when they were ready to fly on their own.

X-Port focused its efforts in six sectors, including biotechnology, telecommunications equipment and electronics. Between 1982 and 1990 it worked with more than 100 New York and New Jersey firms, helping them win \$100 million in export sales. In 1990, X-Port was cited by Harvard University’s Kennedy School as one of the country’s leading public sector innovations.

Despite its success – and despite being replicated in several other cities and states – X-Port was disbanded in 1995 by a new leadership team at the Port Authority that (as with the World Trade Institute) was determined to focus the agency more narrowly on transportation.¹⁰

Reviving Trans-Hudson ferry service

For two hundred years after the founding of New Amsterdam, ferries were the principal means of transportation across the Hudson. But with the advent of the automobile and construction of the Port Authority’s bridges and tunnels, ferry service began a long, slow decline. The last scheduled cross-Hudson service – between Hoboken and 14th Street – ended in 1967.

But by the mid-1980s, increased traffic congestion, increased crowding on some PATH lines, and a surge in waterfront development on both sides of the river, were leading to renewed interests in ferry service. In 1984 the Port Authority, at the urging of New Jersey Governor Tom Kean, began planning for the development of a new PA-operated ferry service connecting Hoboken to a new landing at Battery Park City. At this point the Port Authority viewed ferry service as a relatively inexpensive way to relieve severe overcrowding on PATH’s Hoboken-to-World Trade Center line.

While the Port Authority was planning its Hoboken service, a company called TradeBase International in 1986 started to provide service between Fort Lee and Wall Street – but it drew few passengers and lasted only four months. At roughly the same time, a start-up (then called Port Imperial Ferry) launched a new, single-vessel service between Weehawken and West 38th Street in Midtown. Now called NY Waterway, the ferry was the brainchild of Arthur Imperatore, the head of family-owned APA Trucking. A few years earlier, Imperatore had acquired a two-mile stretch of the Hudson River waterfront and begun development of what would ultimately become a massive mixed-use project called Port Imperial. He initially saw his ferry venture less as a potential money-maker in itself than as a way to enhance the value of Port Imperial’s residential properties.

¹⁰ Harvard University, John F. Kennedy School of Government, 1990; *Journal of Commerce*, September 18, 1995

The Port Authority meanwhile began to consider whether it might be able to launch its Hoboken service more quickly and at lower cost by contracting with a private operator. In 1987 the agency issued a request for proposals that asked prospective operators to state how much they would need from the Port Authority in both up-front capital and ongoing operating support to provide the service requested in the RFP. Private ferry operators from as far away as Hong Kong submitted proposals. But the winning proposal came from NY Waterway, which asked only that the Port Authority bear the cost of new ferry landings on both sides of the Hudson; the company would pay the full cost of acquiring vessels for the Hoboken-to-Battery Park City route, and the entire operating cost of the new service. NY Waterway's Hoboken-to-Battery Park service was launched in December 1989, and quickly proved popular with commuters. Other trans-Hudson services – and a bus service taking ferry riders to their final destinations in Manhattan – soon followed.¹¹

The Port Authority's collaboration with NY Waterway – with a public agency paying for landings and terminal facilities and a private operator acquiring vessels and covering operating costs – soon became a model for other routes connecting communities in New Jersey to Manhattan. It thus became yet another step in the decades-long process of integrating the economies of New York and New Jersey.

Attracting foreign investment

The New York-New Jersey region has benefited from its connections to the global economy through foreign direct investment – that is, through capital investment from non-U.S. sources in property, plants, equipment, and ownership of businesses in the region. In 2018, the states of New York and New Jersey, attracted \$64.7 billion in foreign direct investment – 32.4 percent of the nationwide total.¹²

Foreign investment has been a significant source of good jobs. In 2012 (the last year for which comprehensive data are available) foreign-owned establishments employed 445,452 wage-and-salary workers in the New York-New Jersey-Pennsylvania metropolitan area – 6.4 percent of all wage-and-salary jobs in the region. In 2012 the region accounted for 8.1 percent of all wage-and-salary jobs with foreign-owned establishments nationwide; but because of the relatively high average earnings of workers employed by foreign-owned firms in the NY-NJ-PA area, the region also accounted for 13.9 percent of total wages and salaries paid by foreign-owned establishments nationwide.¹³

While the overall level of foreign direct investment is driven primarily by macroeconomic factors, local conditions – and local efforts to attract them – can affect *where* in the U.S. foreign-owned firms choose to invest.

In 1985, the Port Authority acquired the former Otis Elevator plant in Yonkers, which had shut down in 1982, from United Technologies (Otis's parent company), with plans to convert the plant into a multi-tenant industrial park. A few months later, the agency awarded a contract for the manufacture of a new fleet of PATH cars to a joint venture of two Japanese firms, Kawasaki Heavy Industries and Nissho Iwai. The contract provided that the new cars would be assembled

¹¹ NY Waterway, "NY Waterway Company History," March 22, 2021

¹² U.S. Bureau of Economic Analysis

¹³ U.S. Bureau of Labor Statistics

at the PA's Yonkers Industrial Park. By 1987, 500 workers were employed in assembling rail cars for PATH and for New York City Transit; and Yonkers Mayor Angelo Martinelli was calling the Port Authority's overhaul of the Otis complex and the arrival of Kawasaki "the best thing that's happened in this city in years."¹⁴

The Port Authority was one of the first U.S. transit agencies to use procurement of rail cars to attract a rail car manufacturer. Its ability to combine a major contract with the availability of suitable industrial space helped make Kawasaki an enduring presence in Yonkers. In 2013, after having leased its plant for more than 25 years, the company purchased it outright¹⁵ – a sign, perhaps, that it expects to be in Yonkers for the long haul.

The Port Authority also sought to attract private investment to New Jersey. In Elizabeth, the agency had embarked in 1981 on a massive clean-up of a 71-acre former landfill, strategically located between Port Elizabeth and Newark International Airport. After remediation was completed, the Port Authority sold 21 acres – later increased to 46 – to Swedish furniture retailer IKEA, which developed what was then its largest U.S. store on the site. While the site's proximity to the Port and the New Jersey Turnpike was undoubtedly a factor in the company's choice of this location, the Port Authority's ability to finance and manage a multi-year clean-up was also critical to turning a contaminated property into a developable site.

Not all of the Port Authority's innovations during this period were successful. Some – such as an ill-fated attempt in the 1980s to develop a commercial fishing port at Erie Basin in Brooklyn – were soon abandoned; but others survived, and some have had a continuing impact. Perhaps most important, all of them reflected a willingness to experiment with new ways in which the Port Authority could help to strengthen the region's competitive position in the global economy.

The Port Authority's last 25 years

During the past 25 years the Port Authority has continued to undertake major investments both in new projects, and in the redevelopment and modernization of existing facilities. These projects have helped to improve connectivity between New Jersey and New York and have enhanced the region's global competitiveness. Because these projects are likely to be more familiar to many than those from earlier periods in the Port Authority's history, we will highlight here just a few examples.

The 1990s and early 2000s, the region experienced the greatest surge in new investment in its airports since the early 1970s. At JFK:

- A consortium of four foreign airlines – Air France, Lufthansa, Japan Air and Korean Air – financed and managed the construction of Terminal 1, a new international terminal completed in 1998. Two years later Terminal 1 was serving 11 international airlines.
- In 2001 the Port Authority opened a new International Air Terminal (Terminal 4), a \$1.4 billion replacement for the airport's original International Arrivals Building. Terminal 4 was developed by LCOR Inc. and managed by JFKIAT, a subsidiary of Amsterdam's Schipol

¹⁴ Thomas Lueck, "In Yonkers, Kawasaki Offers Hope," *New York Times*, April 17, 1987

¹⁵ Scott Simone, "Behind the Scenes: Yonkers Kawasaki Rail Car," *Westchester Magazine*, April 22, 2014

Airport – making it the first major terminal in the U.S airport managed by a foreign airport operator.

- The JFK AirTrain, completed in 2003, improved on-airport circulation; provided an easy transfer to the Long Island Rail Road at Jamaica Station; and thus to Long Island, to other neighborhoods in Queens, and to Manhattan. The JFK AirTrain also connects to the New York City subway system at the A train's Howard Beach station.
- The American Airlines Terminal (Terminal 8) was modernized and expanded in two phases, completed in 2005 and 2008, at a cost of \$1.3 billion. The expansion increased the number of gates from 19 to 36 (including 19 dedicated to international flights) and added an 82,000 square-foot Customs and Immigration hall, to process arriving international passengers.
- Jet Blue undertook a major renovation and expansion of Terminal 5, completed in 2008; and added a new international concourse in 2014. Eero Saarinen's historic TWA Terminal also became part of the Jet Blue complex; in 2019, a transformed TWA Terminal was restored and reinvented as the 512 room TWA Flight Center and Hotel with state-of-the-art facilities for meetings and events.
- Between 1998 and 2017, nearly 1.0 million square feet of new air cargo facilities were developed at JFK, along with nearly 500,000 square feet of apron space for 747 freighters, and improved access to taxiways; and a new service plaza for truckers.

At Newark (which in 2001 was renamed Newark-Liberty International Airport):

- The Newark AirTrain, completed in 1996, greatly improved on-airport circulation. In 2000 it was connected to Amtrak's Northeast Corridor line, easing access to the airport from Newark, Hudson County, and communities in central New Jersey; and from Manhattan.
- A \$1.2 billion renovation and expansion of Terminal C, enabling it to serve as Continental's global gateway, was completed in 1998.
- A new air traffic control tower was completed in 2003.
- Federal Express completed a \$60 million expansion of its ark regional hub in 1995; the Port Authority added a \$33 million multi-tenant cargo building in 2003; and UPS completed a new, state-of-the-art cargo building in 2019.
- In 2016, the Port Authority authorized the development of a new \$2.3 billion, 33-gate terminal, to be called Terminal 1, that will replace Newark-Liberty's 43-year-old Terminal A. Like Terminal A, the new terminal – which will be completed in two phases in 2021 and 2022 – will be managed by Munich International, the airport operations subsidiary of Munich Airport.

At LaGuardia, the Port Authority in 2015 approved an ambitious plan for a comprehensive, \$8 billion redevelopment of the airport, including:

- Construction of a new Terminal B – by a private-sector consortium called LaGuardia Gateway Partners – to replace the 50-year-old Central Terminal Building. Construction of Terminal B started in 2016.
- Delta’s development of a new Terminal C, to replace two smaller terminals. Construction of Terminal C started in 2017.
- Development of new taxiways, roadways and utilities.

The Port Authority has also undertaken a series of initiatives aimed at ensuring that the New York-New Jersey port can maintain its position as a leading gateway for maritime trade.

- In a project that began in 2005 and was completed in 2016, the Army Corps of Engineers and the Port Authority deepened key shipping channels in New York Harbor to 50 feet, allowing the Port to accommodate new generations of large container ships.
- The Port’s ability to serve the largest container ships was also affected by the relatively low height of the Bayonne Bridge, which crosses the Kill Van Kull – the narrow trait between Staten Island and Bayonne, through which ships pass on their way to and from Port Newark, Port Elizabeth and the New York Container Terminal on Staten Island. With a maximum clearance of about 155 feet, the bridge was too low to accommodate the largest ships, some of which required an “air draft” of 175 feet or more above the water level.

After a detailed study, the Port Authority and the Corps of Engineers concluded that the most cost-effective solution would be to keep the existing bridge but raise its roadway high enough to provide an air draft of 215 feet. Work on the \$1.7 billion project started in 2015; the old roadway was demolished in 2017, allowing larger ships to pass beneath the bridge; and the new roadway was completed in 2019. In the fall of 2020, the Port Authority welcomed the largest containership in its history – the 15,000-TEU *CGM-CMA Brasil* – to Port Elizabeth.

The Port Authority has at the same time continued to undertake projects aimed at improving connections between New Jersey and New York. In April 2013, the Port Authority awarded a forty-year contract to NYNJLink, a collaboration between the Macquairie Group and Kiewit Development Corporation, under which NYNJLink was responsible for financing construction and ongoing maintenance of a new, twin-span, \$1.5 billion replacement for the Goethals Bridge in return for annual payments from the PA over the life of the contract. Work on the new bridge commenced in 2014 and was completed in 2017.

Along with the other advantages associated with design-build construction, this public-private partnership ensured that the long-awaited construction of a replacement for the Goethals Bridge could proceed without up-front financing from the Port Authority – an agency whose capital capacity was already under pressure from the demands of rebuilding the World Trade Center, reinvesting in the region’s airports, subsidizing the PATH system and financing other projects of interest to the governors of New Jersey and New York.

Even with all these advances, however, the Port Authority's history during the past quarter-century has also been a story of recovery from the death and destruction of September 11, 2001. How the Port Authority, in collaboration with New York State, New York City and Silverstein Properties, has rebuilt the World Trade Center is a longer story than we can relate here – and it is in any case unfinished.¹⁶ Suffice it to say that just as the development of the original World Trade Center played a key role in the revitalization of Lower Manhattan three decades earlier, its reconstruction has helped Downtown New York maintain its position as a diversified center of international business.

Into the future

One hundred years after its founding, the Port Authority and the region are simultaneously facing an array of challenges that have few precedents in U.S. history. To succeed in meeting these challenges, the region will have to draw on all its strengths, including the strengths it derives from its central role in the global economy.

Embracing globalization

We need first to recognize that global integration continues to be one of the most powerful forces driving the growth of our economy. While the process of integration that began fifty years ago may be changing, there is no sign that it is ending, or even slowing down. Just as important, we need to acknowledge that – despite the heated rhetoric of populists on both the left and the right – taking advantage of the opportunities the global economy offers is essential to the future of America's and the region's working and middle classes.¹⁷

Supporting the region's role in international trade

Sixty-five years after Malcom McLean launched the container revolution from Port Newark, the New York-New Jersey port is still the U.S.'s second-leading center of maritime trade. And it is still growing; between 2005 and 2020, the volume of containerized trade moving through the New York-New Jersey port rose by more than 50 percent.¹⁸ A study conducted in 2020 by the North Jersey Transportation Planning Authority found that in 2019, the port directly and indirectly supported more than 506,000 jobs in the 31-county region NY-NJ-PA metropolitan region – an increase of more than 100,000 jobs just since 2016.¹⁹

Even more important than the region's role in global merchandise trade, however, is its position as a global center of trade in services – a broad category that encompasses everything from

¹⁶ For a discussion of the some of the issues surrounding the redevelopment of the World Trade Center site, see NYU Rudin Center for Transportation and Appleseed, *The World Trade Center Rebuilding Pays Off for the Port Authority and the Region*, October 2015

¹⁷ For a compelling presentation of this argument, see Kimberly Clausing, *Open: The Progressive Case for Free Trade, Immigration and Global Capital* (Cambridge: Harvard University Press, 2019)

¹⁸ PANYNJ

¹⁹ Anne Strauss-Wieder, *A 21st Century Supply Chain Critical to the Region and Nation: The 2020 report on the economic value of the NY-NJ port industry*, New York Shipping Association, July 2020

international finance and professional services to health care and higher education to TV and film production to tourism. Using data compiled by the Brookings Institution, we estimate that in 2018 export sales by 20 leading service industries in the eighteen-county Port Authority region directly supported more than 5.2 million jobs in the region (Table 1).

Table 1: Exports of services from the NY-NJ Port Authority region, selected industries

Industry	Exports from PA region (\$M)	Direct export-supported jobs, PA region	PA region as a share of total U.S. direct export-supported jobs
Investment banking	\$100,462	200,684	44.70%
Financial management	\$135,907	256,351	28.01%
Entertainment services	\$120,311	666,569	27.57%
Sports & performing arts	\$2,352	8,749	25.09%
Advertising services	\$20,681	128,688	20.54%
Film & music industry royalties	\$47,493	381,013	18.89%
Air transportation services	\$40,467	138,320	17.81%
Credit issuance & lending	\$65,405	268,809	17.80%
Retail services	\$78,490	402,490	17.40%
Food & drink services	\$69,655	1,002,599	16.03%
Industrial engineering services	\$7,031	26,733	14.92%
Accommodation services	\$69,284	636,037	14.82%
Legal services	\$16,904	126,265	14.81%
Accounting & auditing services	\$1,924	10,625	11.98%
Scientific & technical royalties	\$9,158	73,542	11.64%
Telecom services	\$17,730	29,512	11.39%
Information technology royalties	\$48,438	390,134	10.15%
R&D services	\$34,099	52,235	9.85%
Educational services	\$34,432	400,192	9.72%
Auxiliary insurance activities	\$1,845	12,822	9.60%

As Table 1 shows, air transportation is itself one of the region’s leading service exports. But perhaps even more important, it is also a critical part of the infrastructure that sustains other service exports – bringing visitors, university students and hospital patients from other countries to the New York-New Jersey region, and making it easier for professionals in finance and business services to reach their customers around the world. As Figures 1 and 2 show, the New York- New Jersey region ranks first in the U.S. by a wide margin in the extent and frequency of its international air travel connections.

Maintaining the capacity and competitiveness of the region’s air travel infrastructure and services should thus remain high on the Port Authority’s agenda in the years ahead.

Figure 1: Total seats on departing direct international flights by origin city/region, 2019

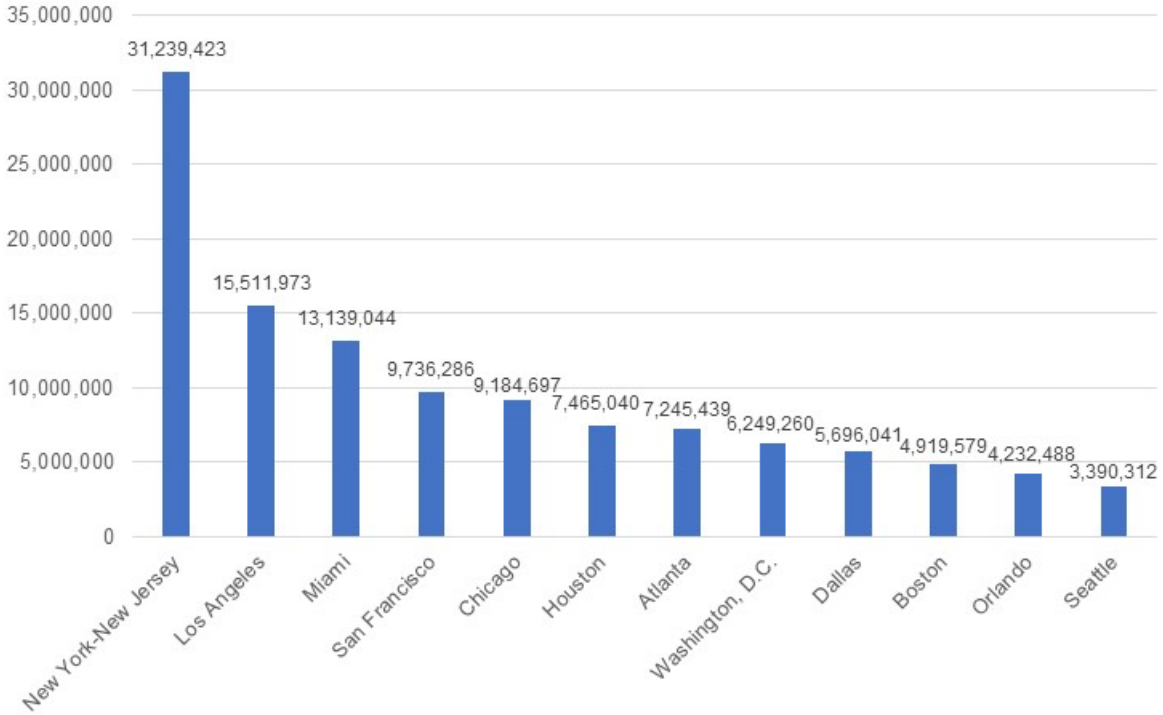
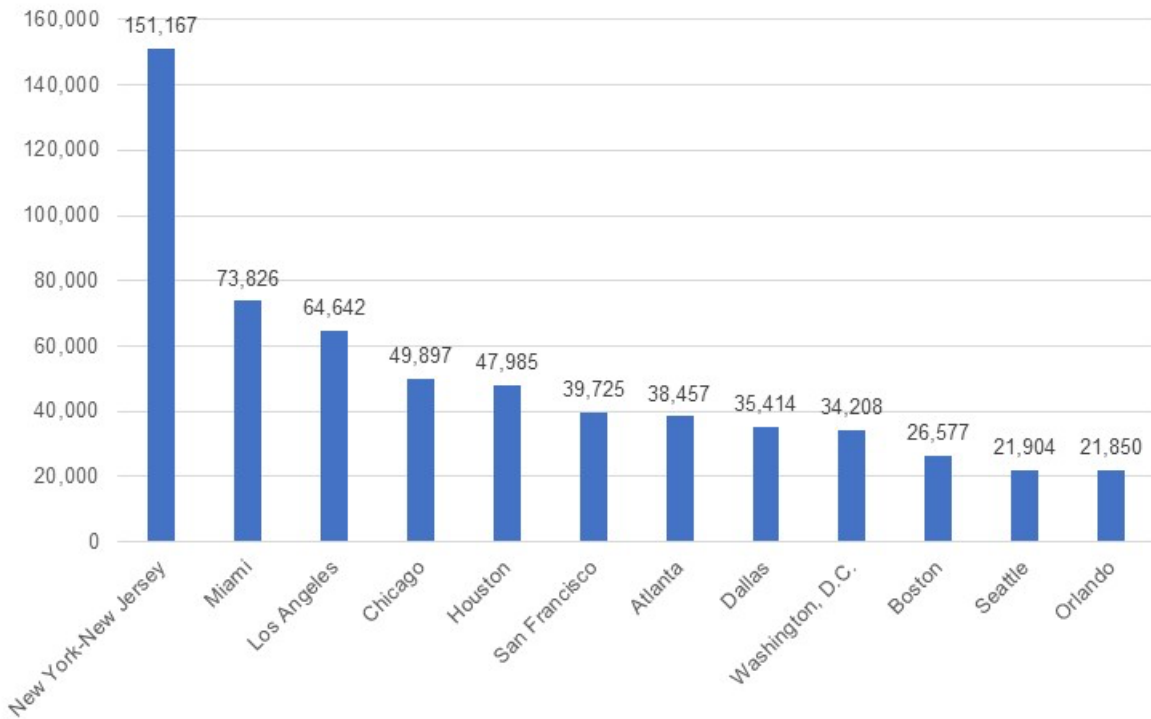


Figure 2: Total departing direct international flights by origin city/region, 2019



Attracting foreign direct investment

As noted above, foreign direct investment also plays a key role in maintaining the region's standing as a center of global commerce and capital. The U.S. is the world's leading destination for foreign direct investment; and while FDI totals can vary from year to year, the New York-New Jersey area is typically among the leading destinations in the U.S. The Commerce Department reports that in 2018 New York and New Jersey together attracted \$64.7 billion in foreign direct investment, accounting for 32.4 percent of all such investment nationwide.²⁰

The Port Authority has a long history of attracting foreign investment in its port and airport facilities, and attracting foreign businesses to the World Trade Center. There may now be an opportunity to draw on this history attract foreign firms that can help fuel the region's recovery. To cite one narrow example: The U.S.-Israel Business Alliance recently reported that there are now 21 tech "unicorn" companies that were founded in Israel and that have either moved their global headquarters to New York City, or set up their U.S. headquarters in the City, that are now valued at \$1 billion or more.²¹ The Port Authority should consider how it might use its resources to attract more firms like these to the region.

Helping the region's residents prepare for careers in an integrated global economy

The Port Authority can also contribute the region's current recovery and future growth by helping New York and New Jersey residents prepare for life and work in the global economy. This need not mean creating its own educational programs, as did in the 1970s. Instead, the agency should seek to collaborate with institutions that are already active in this area (such as New Jersey City University, Rutgers University, New York University and Baruch College), and encourage its business partners and tenant companies to do the same. The Port Authority could play a valuable role in expanding internship opportunities, cooperative education programs, and other opportunities for hands-on learning in areas such as port, airport and supply chain management, and in other dimensions of international trade and travel.

As it has been for 75 years, the Port Authority is in a key position to strengthen the region in the global economy. This will entail more than investments in transportation infrastructure – it will require a new focus on how the Port Authority's capabilities, resources and expertise can be deployed to help the region pursue a path to healthy and sustainable economic growth.

²⁰ U.S. Department of Commerce, Bureau of Economic Analysis

²¹ Shoshanna Solomon, "New York City now home to 21 Israel-founded tech unicorns," *The Times of Israel*, April 18, 2021