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Teterboro Airport Grows, Evolves In Busy Airspace

Bill Carey October 01, 2024



A Bombardier Challenger 604 touches down at Teterboro Airport, where 85% of traffic is jets. The aircraft's N-number has been obscured in this photo.

Credit: Bill Carey

TETERBORO, New Jersey - Residing in one of the most congested air traffic areas in the country, the preeminent U.S. airport for business jets is a case study in the interdependencies of the national airspace system.

Twelve miles from midtown Manhattan, on the New Jersey side of the Hudson River, Teterboro Airport (TEB) is the oldest operating airport in the New York-New Jersey metropolitan area. In the 105 years since investment banker Walter C. Teter erected it from swampland in 1917-19, TEB has evolved into a perennial industry leader in aircraft movements, even as it defends against persistent complaints over noise in an environment shaped by the FAA's management of the airspace.

Close proximity to New York City has an obvious allure, as evidenced by some of the companies that do business at TEB. Major fixed-base operators (FBO) Atlantic Aviation, Jet Aviation and Signature Aviation have facilities there, and fractional operator NetJets plans to open an exclusive-use FBO for its owners in the former Signature South terminal next year.

Dassault Falcon Jet established its corporate headquarters at TEB in 1997. Earlier this year, Signature acquired family-owned Meridian, the lone remaining independent FBO at the airport, which had been founded in 1946.

New ATC Tower



The FAA's new ATC tower overlooks the existing tower at Teterboro Airport. Credit: Bill Carey

Closeness to the city that never sleeps also places TEB within a thicket of other, major airports serving the airline industry as well as nearby medium-sized airfields, including John F. Kennedy (JFK), LaGuardia (LGA) and Newark Liberty International (EWR) airports encircling New York City; Stewart International (SWF), Tweed-New Haven (HVN) and Westchester County (HPN) airports to the north; Long Island MacArthur (ISP) and Republic (FRG) airports to the east; and Morristown Airport (MMU) to the west.

The New York-New Jersey airspace is a component of the Northeast Corridor that extends from Boston south to Washington, D.C., and is considered one of the most congested air traffic regions in the U.S. The FAA's NextGen Advisory Committee has estimated that 78% of flight delays in the national airspace system begin in the corridor and have a ripple effect across the country.

“New York ATC [air traffic control] is grumpy for a reason,” advised the headline of a 2022 post by the OpsGroup, a membership organization representing pilots, dispatchers, schedulers and controllers.

“This started off as a very specific post just aimed at folks who operate into KTEB/Teterboro because the Runway 06/24 rehab project has begun,” OpsGroup wrote, using the airport's four-letter international code. “But then we realized the ‘problem’ with KTEB is that it's very, very close to a lot of other bigger airports.”

JFK, EWR and LGA “have the dubious titles of ranking first, third and fourth for worst delays in the nation,” the post added. “They are looking at ways to improve this, but most of them involve building more runways, which won't necessarily help poor old KTEB, stuck underneath the ever-growing traffic flow.”

On July 28 this year, the FAA transferred management of its Newark airspace sector, including for TEB, MMU and Essex County Airport (CDW) further west, from its beleaguered New York Terminal Radar Approach Control (Tracon) facility on Long Island to the Philadelphia Tower Tracon at Philadelphia International Airport.

Despite various incentives and hiring campaigns to bring controllers to the high-cost-of-living area, the FAA said the New York Tracon facility, known as N90, was operating at 61% of its target staffing level, with a 33% success rate for controller trainees—the lowest of any facility in the country. The end goal is to address growing air traffic demand in the Northeast Corridor.

“Over time, this airspace transfer will enhance efficiency for the millions of passengers traveling through the New York/New Jersey metropolitan area, enable FAA to train and hire more air traffic controllers more quickly and accelerate the implementation of modernization

programs,” the agency said in response to an inquiry.

Promises notwithstanding, the FAA was forced to impose temporary ground stops at both EWR and TEB on Sept. 2—the end of the busy Labor Day weekend—due to a radar outage attributed to the data feed it had established between N90 and the Newark-sector controllers who have relocated to Philadelphia.

The agency said it also slowed flights into and out of several Northeast airports due to “data transmission issues” between the MMU tower and N90.

Unrelated to the Tracon swap, the FAA planned to commission a new \$86 million ATC tower at TEB in October. The new tower replaces a structure the agency commissioned in October 1975 and is expected to have a ground-monitoring system for aircraft broadcasting by ADS-B on the airport surface.

Port Authority-Owned



TEB as seen from an airliner approaching Newark Liberty International Airport. Credit: Bill Carey

The Port Authority of New York and New Jersey (PANYNJ) purchased TEB in 1949. It also owns SWF and operates EWR, JFK and LGA, which are owned by their respective cities. Avports, formerly known as Pan World Services, leased Teterboro from the Port Authority from 1970-2000 and still manages it for the authority.

Sherri Smith, who previously served as the Port Authority manager of airport concessions and strategic customer experience, took over as TEB airport manager in July, succeeding interim manager Scott Marsh.

With two intersecting runways—6/24 (6,013 ft.) and 1/19 (7,000 ft.)—TEB is classified as a general aviation (GA) reliever airport. Its primary function, the Port Authority says, is to accommodate GA aircraft operating in the New York-New Jersey metropolitan area and to draw smaller aircraft away from nearby commercial airports serving airlines.

Use of its two runways “is often driven” by the runway usage at EWR, located 11 mi. southwest of TEB, as determined by FAA controllers, the authority says. Teterboro Class D airspace underlies New York Class B airspace, which includes EWR. Airliners arriving at Newark-Liberty from the north use a VOR transmitter at Teterboro as the initial approach fix for the instrument landing system (ILS) approach to Runway 22 at EWR.

Activity at Teterboro has returned to pre-COVID pandemic levels. There were 171,460 total operations (takeoffs and landings) in 2023, of which 85% (146,649) involved jets, according to the Port Authority. This approximates the level of activity in 2018 and 2019 before the pandemic temporarily slowed business aviation activity.

The number of operations dived in 2020 to 84,819—half the current level—then climbed back to 143,975 in 2021 and 167,137 in 2022.

By way of comparison, there were 426,260 domestic and international operations at EWR in 2023, a number that, in addition to passenger and cargo airlines, includes some air taxi, business, private and government aircraft movements, according to the Port Authority.

In pursuit of environmental sustainability, TEB was expected to have fully replaced its incandescent airfield lighting with LED lighting by this year. FBOs have installed solar panels on some facilities and were moving toward converting to electric ground support equipment.

The airport does not currently have sustainable aviation fuel (SAF) on site, reports the Port Authority, which says it is “researching the steps necessary with fuel suppliers and FBOs to make SAF available.”

Noise Abatement Program



A Bombardier Global 7500 moves toward a taxiway prior to takeoff. Credit: Bill Carey

Due to its closeness to residential communities, TEB has instituted a robust noise abatement program, policed by a surrounding array of six permanently stationed noise monitors. Runway 24 has a maximum noise level of 80 dBA between the hours of 10 p.m. and 7 a.m. and 90 dBA from 7 a.m. to 10 p.m. Runways 1, 6 and 19 have a maximum limit of 90 dBA at all hours, with 95 dBA allowed for helicopter departures. There is a voluntary curfew on nighttime operations from 11 p.m. to 6 a.m.

Aircraft operators who exceed noise limits are issued noise violations. Aircraft that have received three noise violations in a two-year span are prohibited from operating at TEB.

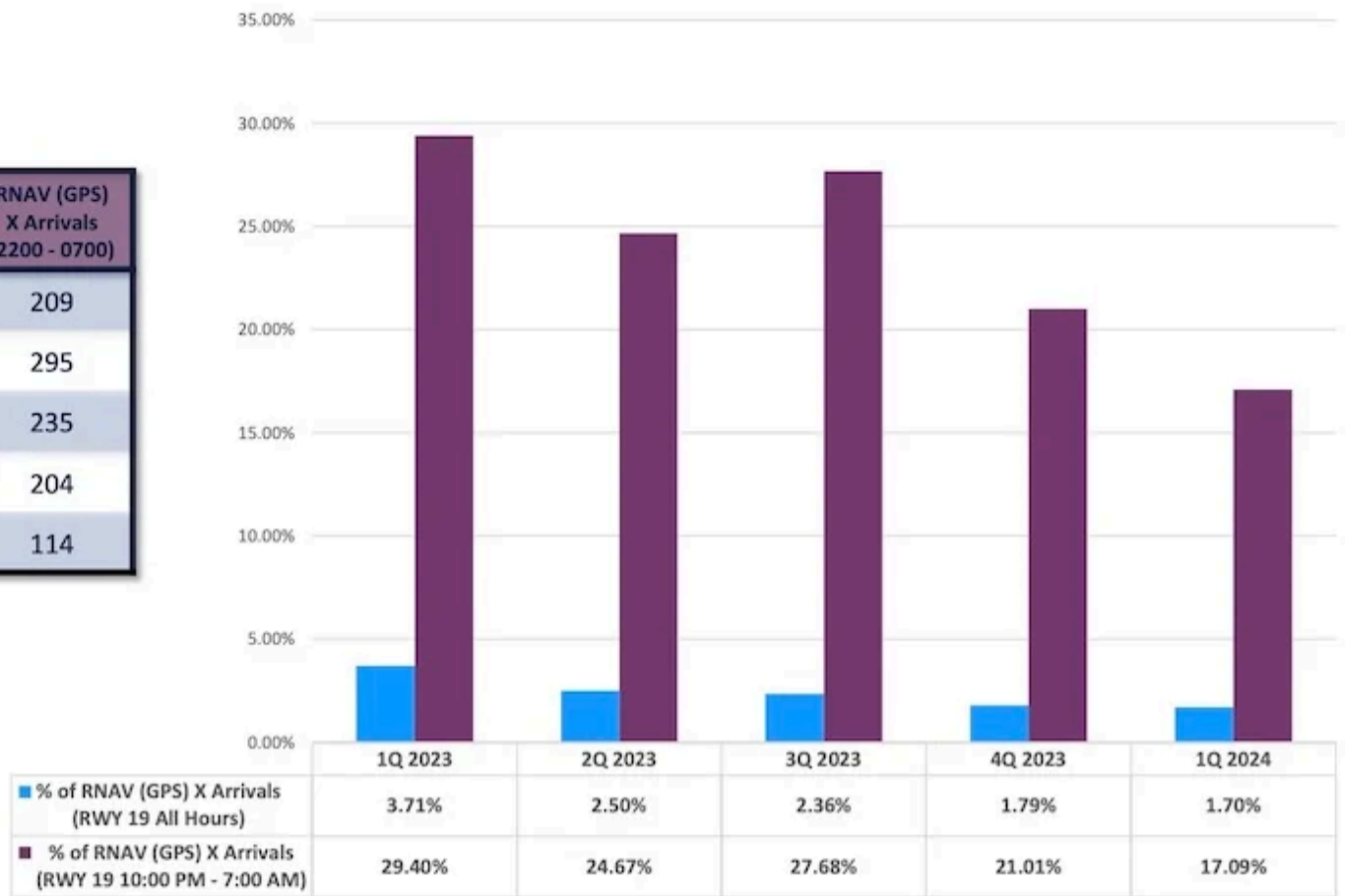
There is no scheduled airline service at Teterboro, and no jet-powered aircraft may operate without approval of the airport manager. The operating weight of an aircraft while on the ground cannot exceed 100,000 lb.

Some newer large-cabin, long-range business jets—for example, the 19-passenger Bombardier Global 7500, with a maximum takeoff weight of 114,850 lb., and the Gulfstream G700 (107,600 lb.)—have the potential to operate above TEB’s weight limitation. In such cases, the airport requires that operators provide certification and weight-and-balance documentation verifying compliance with the 100,000 lb. limit while operating at Teterboro, a rule that applies to both arriving and departing aircraft.

RNAV (GPS) X Runway 19 Offset Approach

Utilization

Quarter Year	RWY 19 Arrivals (All Hours)	RNAV (GPS) X Arrivals (All Hours)	RWY 19 Arrivals (2200 - 0700)	RNAV (GPS) X Arrivals (2200 - 0700)
1Q 2023	8105	215	711	209
2Q 2023	12,025	301	1,196	295
3Q 2023	10,049	237	849	235
4Q 2023	11,637	208	971	204
1Q 2024	6,985	117	667	114



Availability of the RNAV (GPS) X Runway 19 approach is dependent on several factors including weather, visibility, and air traffic volume.

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The current instrument approach is available upon pilot request, but its utilization by pilots has been minimal. Credit: PANYNJ

Winds at TEB typically come from the south and southwest. The most common operational configuration calls for aircraft to land into the wind on Runway 19 (190 deg. heading), which has an instrument landing system, and depart on Runway 24 (240 deg.), the FAA says.

In July 2021, the FAA made available for use an “offset” instrument approach procedure for aircraft landing from the north on Runway 19 that, when used, shifts flights over communities directly north of the runway to the northwest. The RNAV (GPS) X RWY 19 Approach path generally follows New Jersey State Route 17 and features an offset final approach leg to avoid direct overflight of Hackensack University Medical Center.

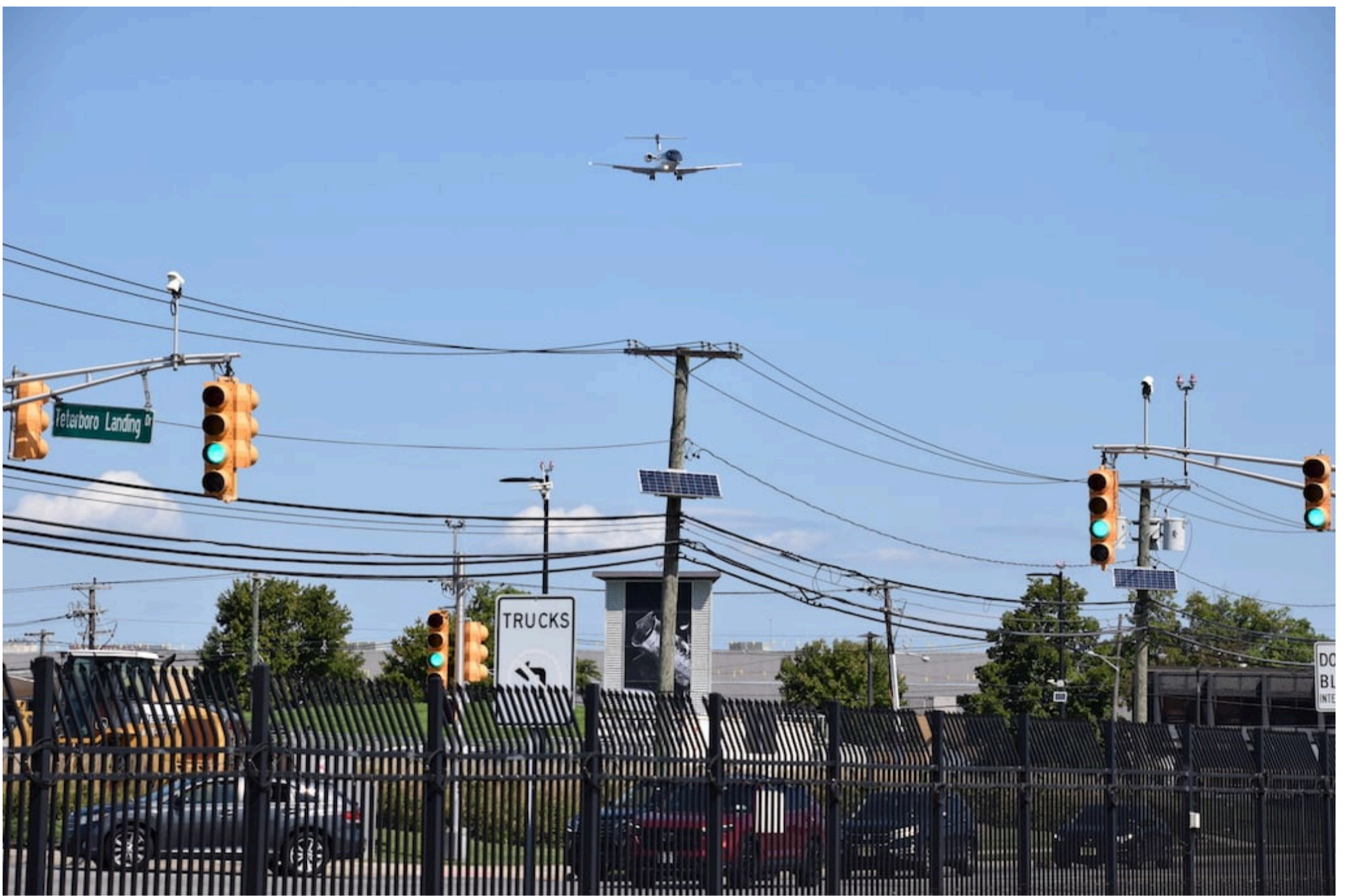
Several years before, the agency had tested a visual approach procedure called “Quiet Visual 19” that required pilots to fly along Route 17 and follow landmarks to the airport. The earlier visual procedure, which approximated the current GPS-based approach, also routed arriving aircraft west of the hospital. It eventually was discontinued “due to lack of usage, reported difficulties identifying charted landmarks and increased pilot workload to fly the procedure,” the Port Authority reported in a 2022 briefing for elected officials.

The current instrument approach is available upon pilot request, but its utilization by pilots has been minimal. During 2023, there were 41,816 arrivals to Runway 19 during all hours, of which 961 (2.3%) were RNAV (GPS) X arrivals. Pilots used the offset approach more during nighttime hours, defined as 10 p.m. to 7 a.m. Of 3,727 nighttime arrivals to Runway 19, 943 (25.3%) were RNAV (GPS) X arrivals.

A runway utilization report the Port Authority released in August, covering the period July 2023 to July 2024, counted 177,466 total operations at TEB, of which 43,097, or 49% of all arrivals, were to Runway 19.

“The selection of a flight procedure for use by arriving aircraft at the airport is determined by several factors: FAA air traffic control’s assignment of a procedure to an aircraft; which runways are in use at the time; operations at nearby airports; wind and weather patterns; efficiency and safety; and noise abatement when operationally feasible,” the authority explains.

Nearby Residents ‘Frustrated’



Aircraft arriving at TEB pass low over surrounding structures before landing. Credit: Bill Carey

The Port Authority established the Teterboro Aircraft Noise Abatement Advisory Committee (Tanaac) in 1987 to promote “meaningful dialogue” between the airport community and nearby municipalities.

During its first-quarter 2022 gathering, Hackensack Deputy Mayor Kathy Canestrino “expressed her extreme displeasure at the low number of flights utilizing the alternate approach, especially during the daytime,” according to meeting minutes. She requested that the approach be advertised to pilots during the daytime as it was at night—on the Automatic Terminal Information Service (ATIS) broadcast.

Veda Simmons, who served as the FAA’s community engagement officer on the committee, “explained that the Air Traffic Group has not advertised the Offset Approach on the ATIS during daytime hours because of the airspace complexity issues that are present during daytime hours,” the minutes state.

The Tanaac asked the FAA in a June 2023 letter to advertise the RNAV (GPS) X approach to Runway 19 on ATIS as the approach in use during daytime hours on Saturdays and non-peak daytime hours on Sundays. It further requested the agency review the feasibility of increasing the altitude of aircraft to 3,000 ft. from 2,000 ft. at the initial approach fix to the runway.

Among other noise abatement steps, the committee of local elected officials asked the FAA to develop an offset approach procedure to supplement the ILS approach to Runway 6 that would reduce the number of aircraft flying over communities southwest of the airport. It requested the agency implement a published approach procedure to Runway 1 and increase usage of the runway for arrivals to reduce noise impacts on communities south of the airport.

“It’s been a long struggle, and everyone is extremely frustrated at this point,” Canestrino, Hackensack’s liaison to the Tanaac, told BCA. “The fact that [the offset approach] is not being used I think is the most discouraging part for people now. We all understood that it wasn’t going to be a 100% solution, especially in bad weather and visibility. To me, the goal should have been to at least offload 30% of the volume. It’s just not being used the way it’s intended to be used.”

Consternation over noise at TEB—[a historical and perennial issue there as with other major airports](#)—has expanded in a formal way beyond the closer-in communities to include boroughs and townships in New Jersey’s Pascack Valley, a region of eight municipalities further north of the airport, bordering New York State.

Park Ridge resident Audrey Herget helped form Taxpayers for Aircraft Noise Solutions & Safety (TANS2) in 2023 after the Port Authority denied a request by the Pascack Valley Mayors Association to join the Tanaac.

“The reason they stated for denying the group was that the bylaws state you have to be within a 5-mi. radius of the airport,” Herget said. “However, I can tell you that over the last couple of years, the traffic into Teterboro goes directly over our communities at an altitude of 2,000 ft. or less and it is excessive. Specifically, air traffic that is landing on the 1-9.”

TANS2 created an online petition that had been signed by 1,251 people as of September, asking the FAA to make the RNAV (GPS) X approach the preferred route for arrivals to Runway 19. During an interview with the group, members described the Tanaac as a “therapy” session and expressed frustration that the FAA has not mandated the offset approach.

“The good thing about the Route 17 route or coming down the [Garden State] Parkway is that jets can easily come directly over the highways,” said Woodcliff Lake resident Warren Feldman. “For whatever reason, the path [aircraft] take comes over certain narrow bands of communities in our area. It’s not so much that a plane comes over our houses, it’s that they come every two minutes. We don’t mind some traffic. What we don’t like is that whistle effect.”

Pilots Made Aware



Light jets are part of the traffic mix at Teterboro Airport. Credit: Bill Carey

Pilots and operators have been made aware of the offset approach by the National Business Aviation Association (NBAA), which announced its implementation in a July 2021 release, at the time encouraging its use during nighttime hours. In July 2022, the NBAA featured a “video plea” in which Canestrino and Woodcliff Lake Councilwoman Jacqueline Gadaleta asked business jet owners and operators to have pilots request the offset approach when weather permits.

“Make no mistake: These officials are telling us to sit forward and pay attention to this alternate approach to landings at Teterboro Airport,” said Heidi Williams, NBAA senior director of air traffic services and infrastructure. “The business aviation community has worked diligently with local leaders on tools for quiet flight at Teterboro Airport, and this is a key tool in the toolbox.”

The airport exhibits at industry conferences, including at the NBAA White Plains Regional Forum at Westchester County Airport this June, where staffers handed out copies of the “Flight Crew Handbook,” a pamphlet explaining TEB’s noise-abatement rules and procedures.

The Teterboro Users Group (TUG), which represents pilots, FBOs and other businesses at the airport, has conducted outreach to its membership to advertise the availability of RNAV (GPS) X to Runway 19, such as posting best practices for using the approach on its website. The TUG did not respond to an interview request.

In 2021, the users group conducted a survey of its membership that included questions about the offset approach, according to Avports’ manager of Noise Abatement and Environmental Compliance, Gabriel Andino. Pilots had various concerns about using the approach,

including the presence of a WABC radio tower along Route 17 in the borough of Lodi, Andino told the April 2024 meeting of the Tanaac.

“The issue with the tower is that some pilots were hesitant to use the approach because it is too near the tower,” the meeting minutes state, quoting Andino. “This was especially true for those pilots who are not familiar with the airport. There is a period of getting used to the approach.”

In response to BCA’s inquiry, the FAA said it “continues to work with communities and has talked with the Teterboro Users Group to encourage pilots to use the RNAV X. However, the pilot-in-command is not required to use this, or any, procedure if they aren’t comfortable that they can fly it safely.”

The agency added: “Many pilots prefer a straight-in approach, especially when there is an ILS, as is the case with Runway 19. Additionally, some pilots prefer not to use the RNAV X because there is a large broadcast tower about 0.5 miles to the side of the flight path.”

Canestrino is a retired aerospace engineer who worked for Bendix (now Honeywell), which had a parts manufacturing plant—now a shopping center—adjacent to TEB. During her career there and as a resident of Hackensack, she has watched the airport transition from mainly propeller-airplane traffic to business jets. “If anybody told me 20 years ago that you could fly from Teterboro to Europe, I would say it’s never going to happen,” she mused during a telephone conversation.

A decade into the effort to curb aircraft noise, Canestrino’s perception of where the responsibility lies for a solution has evolved.

“In the beginning, I don’t think Teterboro Airport was fighting enough for us, but now they are,” she said. “They’ve stepped up to the plate. They’re really trying the ideas we’ve given them, to communicate with the private jet owners, to speak at conferences. The problem is the FAA.”