

N57
2020

DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

MAY 2023

N57—NEW GARDEN FLYING FIELD



2020 AIRCRAFT OPERATIONS COUNTING PROGRAM

3-42-0125-020-2019



The Delaware Valley Regional Planning Commission (DVRPC) is the federally designated Metropolitan Planning Organization for a diverse nine-county region in two states: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. The DVRPC Regional Aviation System Plan Region includes three additional counties: Salem in New Jersey, New Castle in Delaware, and Cecil in Maryland.

DVRPC's vision for the Greater Philadelphia region is a prosperous, innovative, equitable, resilient, and sustainable region that increases mobility choices by investing in a safe and modern transportation system; that protects and preserves our natural resources while creating healthy communities; and that fosters greater opportunities for all.

DVRPC's mission is to achieve this vision by convening the widest array of partners to inform and facilitate data-driven decision making. We are engaged across the region and strive to be leaders and innovators, exploring new ideas and creating best practices.

Aircraft Operations Counting Program

The Delaware Valley Regional Planning Commission (DVRPC) has conducted aircraft operations counts at the non-towered airports in the 12-county, four-state Delaware Valley Regional Airport System Plan area (RASP) since 1986. Aircraft operations counts and annual estimates of activity are essential for planning and programming of airport improvements. Reliable operations data at airport facilities provides a basis for service provision and future activity forecasting. While towered airports generally have access to this information through air traffic controllers, the general aviation and reliever airports, that make up the majority of facilities in the region, rely primarily on estimates for their traffic data.

DVRPC's cyclical aircraft operations counting program focuses on the counting of non-towered National Plan of Integrated Airport Systems (NPIAS) airports and is made possible by funding through the Federal Aviation Administration (FAA). The regional NPIAS airports are counted in a three-year program. The resulting aviation operations data created from these annual counting cycles provides facility level details on based aircraft; estimated average daily, seasonal, and annual fixed-wing operations; and helicopter activity estimates.

The complete program methodology is documented in *Aircraft Operations Counting Program Methodology (TM19018)* and additional aviation data resources are available at www.dvrpc.org/aviation.

Acknowledgments:

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N57—New Garden Flying Field

Toughkenamon, Chester County, Pennsylvania

Runway Orientation: 06/24
Runway Length: 3,695 ft.

New Garden Flying Field is a publicly-owned, public-use airport located in Toughkenamon, Pennsylvania. New Garden Flying Field is owned and operated by New Garden Township. The airport serves a wide range of general aviation and corporate users. New Garden provides maintenance facilities, fueling, flight instruction, aircraft rental, hangar/tie-down space, and a pilot lounge. The airport also hosts community events, the Young Aviators program as well as the Brandywine Soaring Association, and Chapter 240 of the Experimental Aircraft Association.

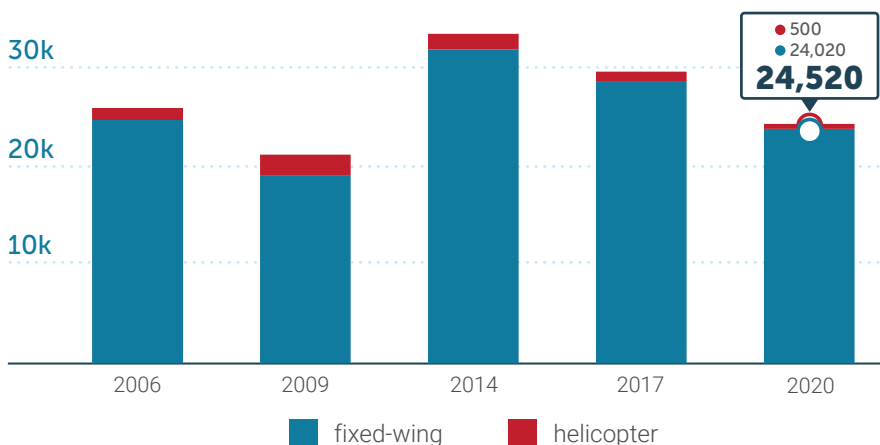
Operations during the 2020 cycle were significantly impacted by the COVID-19 pandemic.



2020 Aircraft Operations

New Garden Flying Field had an estimated 24,520 total operations during the 2020 cycle, a 17.9 percent decrease from the previous cycle in 2017 as shown in Figure 1. Fixed-wing operations decreased by 4,803 or 16.7 percent. Helicopter operations decreased by 540 or 51.9 percent.

FIGURE 1: HISTORIC AIRCRAFT OPERATIONS



24,520
2020 total operations

24,020
fixed-wing operations

500
helicopter operations

The operations estimates for the 2020 cycle reverses an upward trend in activity experienced in previous count cycles.

Source: DVRPC, 2023

Seasonal Operations

Figure 2 illustrates the total seasonal operations estimated for each period during the 2020 count cycle at New Garden Flying Field. Tables 1 and 2 show the breakdown for fixed-wing and helicopter operations by season with average daily operation estimates.

FIGURE 2: TOTAL ESTIMATED SEASONAL OPERATIONS



Source: DVRPC, 2023

TABLE 1: FIXED-WING OPERATIONS BY SEASON

SEASON	AVG. DAILY OPERATIONS	SEASONAL OPERATIONS	PERCENT DAYS OBSERVED ¹
WINTER	62.1	5,646	84%
SPRING	63.4	5,769	100%
SUMMER	73.4	6,752	91%
FALL	63.6	5,852	33%

¹“Percentage days observed” is calculated based on the number of days observations were collected as a share of the total days in a given season.

Source: DVRPC, 2023

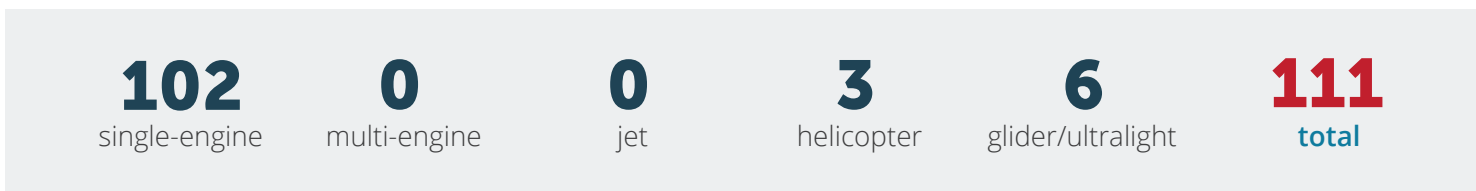
TABLE 2: HELICOPTER OPERATIONS BY SEASON

SEASON	AVG. DAILY OPERATIONS	SEASONAL OPERATIONS
WINTER	1.4	124
SPRING	1.4	124
SUMMER	1.4	126
FALL	1.4	126

Source: DVRPC, 2023

2020 Based Aircraft

New Garden Flying Field had a reported 111 based aircraft during the 2020 count cycle. This is an increase from the 96 based aircraft reported during the 2017 cycle.

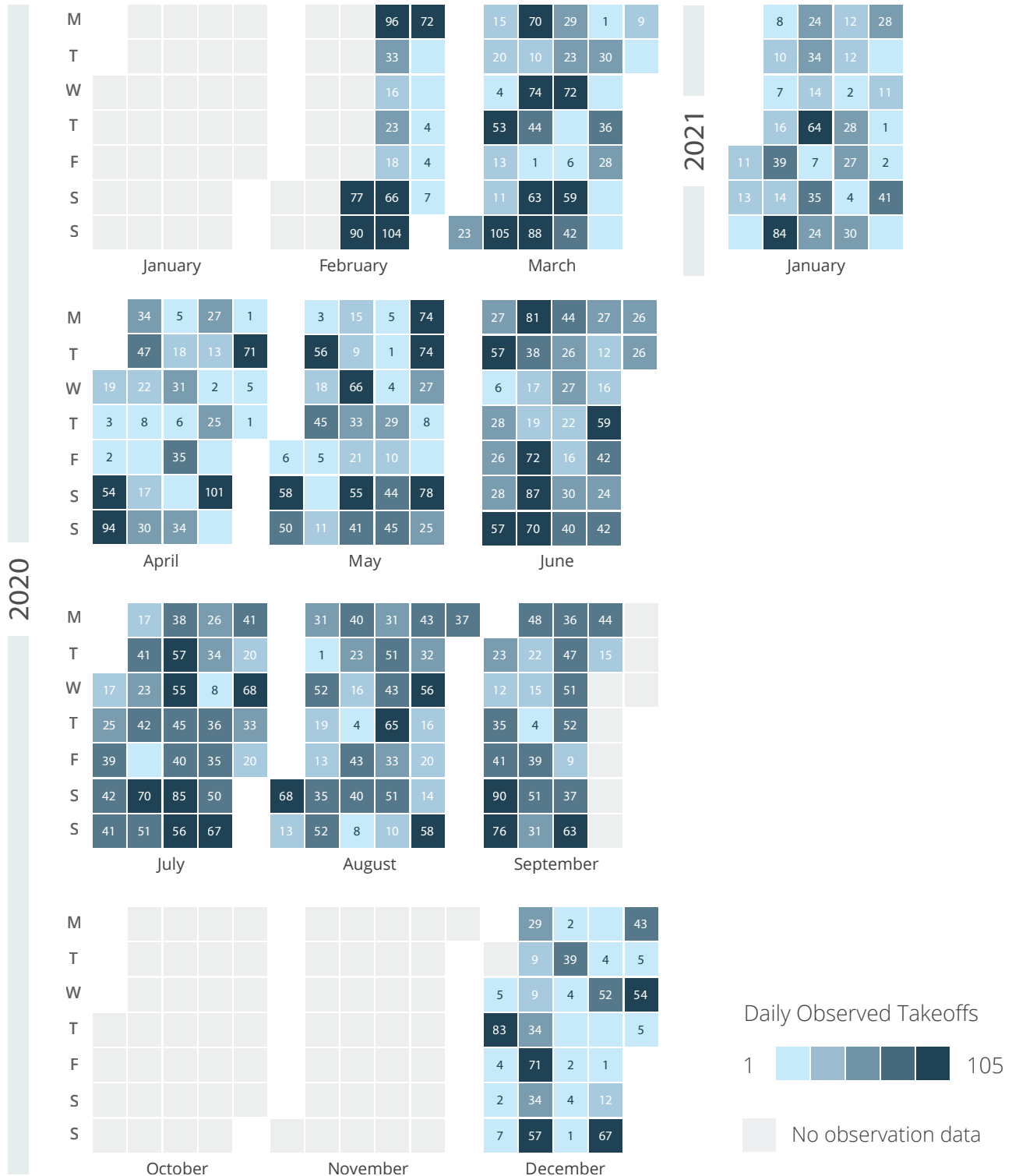


Source: FAA 5010 Master Record, 2020

Observed Daily Fixed-Wing Takeoffs

Fixed-wing operation estimates are based on takeoff events observed at New Garden Flying Field over the course of the counting cycle. Figure 3 illustrates the daily total of observed takeoffs for each day in the counting cycle.

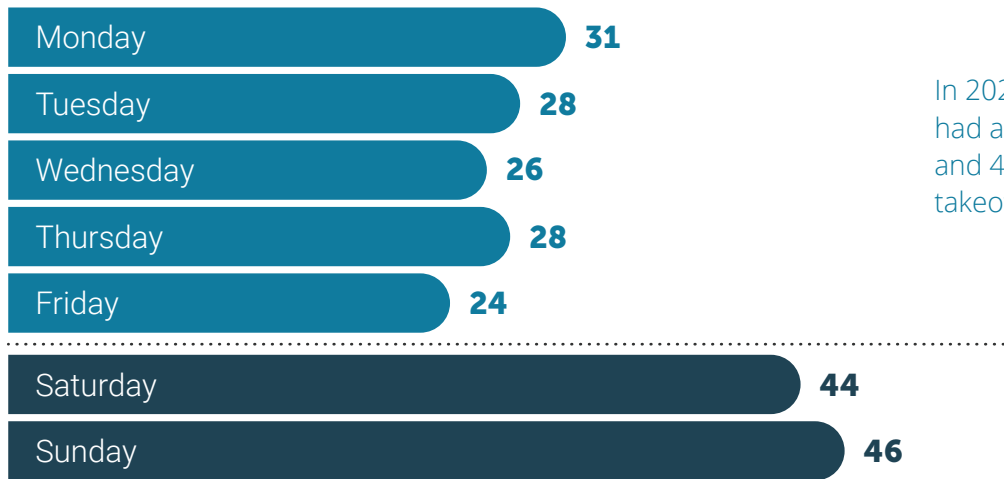
FIGURE 3: OBSERVED DAILY FIXED-WING TAKEOFFS



Fixed-Wing Operation Patterns

The observation data collected provides insights to the patterns of aircraft operations at New Garden Flying Field. Utilizing the fixed-wing sample data, average daily takeoffs by day of week can be calculated to better understand the distribution of activity throughout the week. The observed events also provide a clearer illustration of the temporal distribution of fixed-wing takeoffs throughout a typical day.

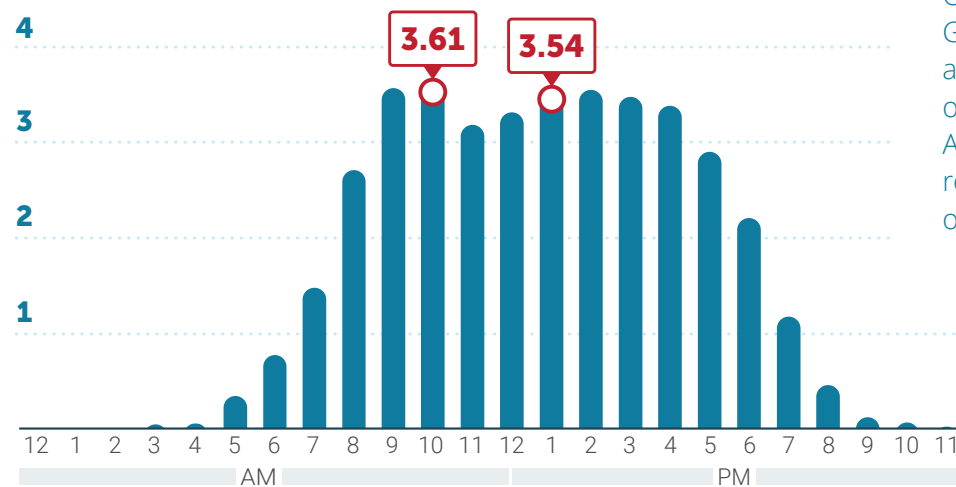
FIGURE 4: AVERAGE DAILY FIXED-WING TAKEOFFS BY DAY OF WEEK



In 2020 New Garden Flying Field had an average of 28 weekday and 45 weekend daily fixed-wing takeoffs.

Source: DVRPC, 2023

FIGURE 5: AVERAGE FIXED-WING TAKEOFFS BY TIME OF DAY



On a typical day in 2020, New Garden Flying Field had peak average hourly fixed-wing takeoffs of 3.61 between 10 and 11 AM. Activity throughout a typical day remained elevated above 3 take-offs per hour until 5 PM.

Source: DVRPC, 2023

N57—New Garden Flying Field 2020 Aircraft Operations Counting Program

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Chester County, Pennsylvania

ABSTRACT: This technical report presents aircraft operations estimates for N57—New Garden Flying Field in Toughkenamon, Pennsylvania. These aircraft operation estimates are a part of the cyclical regional aircraft counting program. This report is a part of the 2020 counting cycle. Acoustic counts of fixed-wing takeoffs were collected during the observation period from February 2020 through January 2021. The estimates based on these observations along with additional data collection are presented in this report. Results are used by multiple sources to monitor aircraft activity levels in the Delaware Valley and as a base for planning and forecasting documents.

STAFF CONTACT:

Michael Ruane
Associate Director, Planning Innovation
215.238.2888 | mruane@dvrpc.org



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190 N Independence Mall West
8th Floor
Philadelphia, PA 19106-1520
215.592.1800
www.dvrpc.org

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