Saint Paul Downtown Airport (STP)
Annual Sound Study Report

October 2023

Community Relations Office

Table of Contents

List of Tables

List of Figures

1.0 Introduction

The Metropolitan Airports Commission (MAC) has completed an Annual Sound Study related to St. Paul Downtown Airport (STP) flight activity since 2007. Each Study assesses sound data associated with aircraft operating to and from STP in accordance with the St. Paul Downtown Airport Advisory Council (DAAC) Work Plan and the Supplemental Conditions of Agreement (MAC action taken on June 19, 2006) related to the flood protection project at STP. A core element of the flood protection plan was the construction of the flood wall at STP in 2009 to mitigate flood events that historically have required the airport to close. A copy of the Supplemental Conditions of Agreement is provided in Appendix A.4.

The 2023 STP Annual Sound Study was conducted exclusively utilizing the Federal Aviation Administration's (FAA) Aviation Environmental Design Tool (AEDT) modeling software. Previous studies involved deploying six mobile sound measurement devices to collect actual single-event sounds from aircraft as they operated to and from STP. However, DAAC members convened in April 2023, and agreed that the study in 2023 would only utilize the federal standard modeling software for assessing aircraft sound. This decision was based on the ability of AEDT to provide expanded sound data coverage for 22,500 data points compared to the limited capabilities of six mobile sound measurement devices.

The 2023 STP Annual Sound Study was conducted from August 13-19, 2023. The sections below describe the STP runway use, aircraft operations, weather, AEDT modeling data and analysis, and a summary of aircraft noise complaints received during the study period. A glossary of terms is available in Appendix A.5 to help the reader understand the study and findings.

2.0 Operations

STP is a general aviation, public-use airport owned and operated by the MAC. The airport is a primary reliever airport for Minneapolis-St. Paul International Airport (MSP) and accommodates personal use and recreational, business, utility, general aviation, air taxi, flight training and military aircraft operations. The aircraft operating at the airport currently include single and multi-engine propeller-driven aircraft, corporate jet aircraft, and helicopters.

The airport is open for aircraft operations 24 hours per day; however, FAA Air Traffic Controllers (ATC) are on site to help direct aircraft operations during the busiest operational periods. ATC directed aircraft into and out of STP between 6:00 AM and 10:00 PM, Monday through Friday and between 7:00 AM and 10:00 PM on Saturday and Sunday during the study period. Outside of these hours, a common traffic advisory frequency was used by pilots to coordinate their arrivals and departures safely. There are three runways available for use at STP: Runway 14/32, Runway 13/31, and Runway 9/27. Helicopters may land and depart from areas other than a runway.

According to FAA aircraft operations counts for STP during August, the three-year average for 2021, 2022 and 2023 shows 4,712 monthly operations, with 1,064 flights using the airport during an average week when the Air Traffic Control Tower is staffed. The three-year average is impacted by higher than typical levels in August 2022 that were reported by the FAA due to increased flight training and a closure of South St. Paul Airport

during the 2022 study period. As reported by the FAA, there were 4,001 STP flight operations in August 2023, with 1,007 operations occurring during the study period.

Flight training at STP generates multiple operations during a single flight as pilots practice their takeoffs and landings (called touch and go operations) for proficiency. It is normal and expected that the airport will be busier in the summer when increased flight training and recreational flying take place. As such, the STP Sound Study is conducted during this time of year to capture as much aircraft activity as possible.

The MAC Noise and Operations Monitoring System (MACNOMS) collects and reports flight track data. Until recently, MACNOMS counted an operation only when a flight arrived at the airport or departed from the airport. This means that a single training flight that included numerous consecutive takeoffs and landings would only be counted for its initial takeoff and its final landing. Beginning on July 1, 2021, the MACNOMS methodology for counting operations was updated to more accurately reflect total aircraft departures or arrivals at MAC airports by counting each time the aircraft took off and touched down. The updated methodology was used for 2023 operations counts, while historical data reflect prior methodology. While the process for counting MACNOMS operations has improved, discrepancies remain between FAA reported operations and MACNOMS. During the study period, MACNOMS data show 923 total operations at STP with 460 arrivals and 463 departures. Table 2.1 shows the number of operations on each STP runway per day. The highest levels of STP runway use occurred on Runway 32 with 244 arrivals and 243 departures.

Table 2.1: STP Aircraft Activity per Runway each Day during the Study Period

Runway	13-Aug	14-Aug	15-Aug	16-Aug	17-Aug	18-Aug	19-Aug	**Runway Total**
STP Arrivals								
9	1	-	-	-	-	-	-	1
13	-	-	-	-	-	-	6	6
14	19	17	1	53	-	60	35	185
27	1		5	-	-	-	-	6
31	-	1	2	-	1	-	14	18
32	9	44	101	2	66	1	21	244
STP Departures								
13	-	-	-	-	-	-	4	4
14	16	31	1	51	2	60	36	197
27	-	1	8	-	-	-	-	9
31	-	1	1	-	1	-	7	10
32	18	30	101	3	63	1	27	243
Daily Total	**64**	**125**	**220**	**109**	**133**	**122**	**150**	**923**

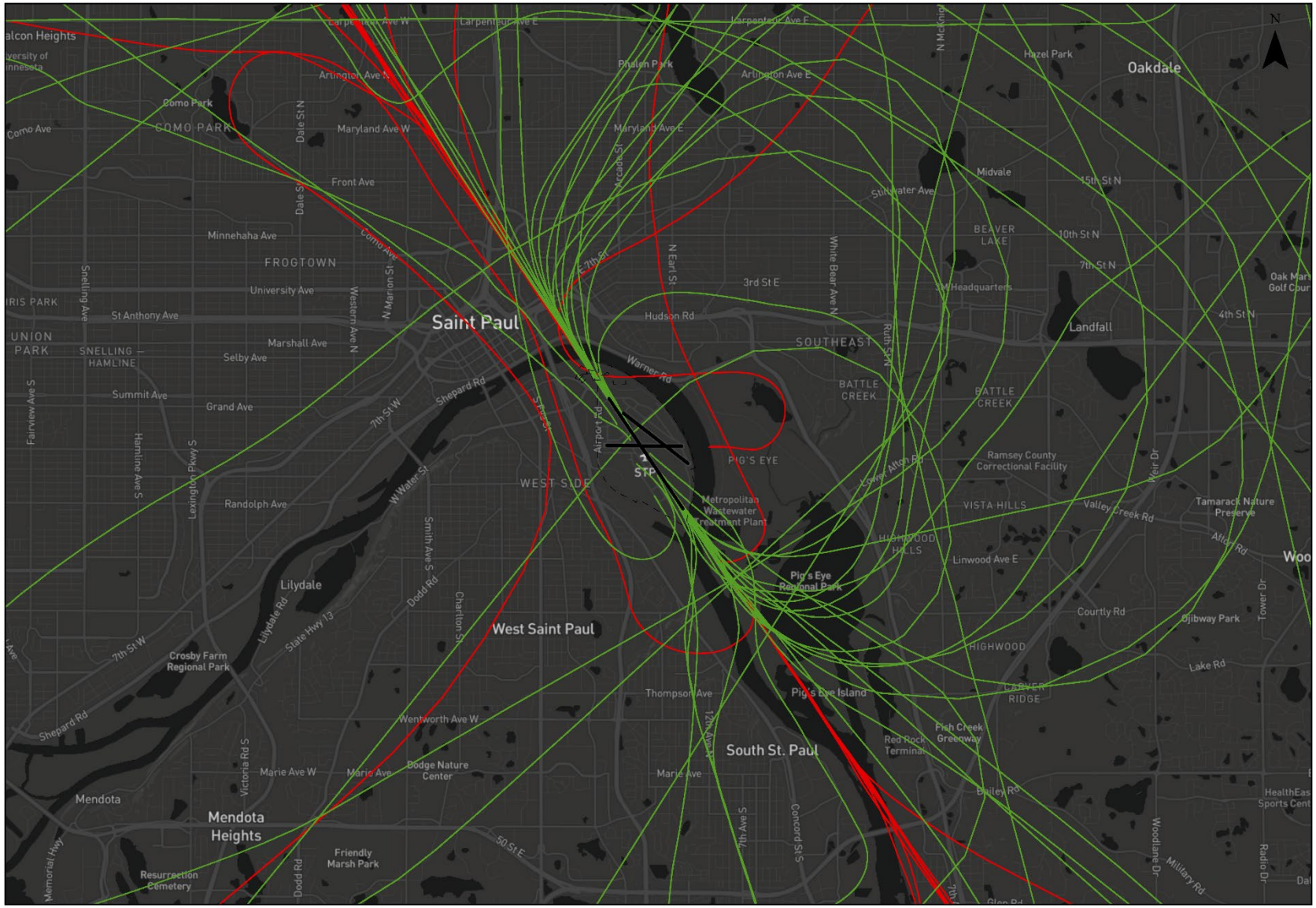
Runway 14/32 was used for 94 percent of the activity during the study period, Runway 13/31 was used 4 percent and Runway 9/27 was used 2 percent. Figure 2.1 shows the STP flight tracks for daytime operations.

There were 62 flights that operated between the hours of 10:00 P.M. and 7:00 A.M.; of those flights 24 were arrivals and 38 were departures. Figures 2.2 depicts STP nighttime activity during the study period.

Weather during the study week was desirable for flying with typical mid-summer wind and temperature patterns, and very little precipitation occurred. Weather conditions (e.g., temperature, precipitation, wind, etc.) affect airport activity, runway use decisions and aircraft performance. In addition to operational factors, weather conditions can also affect the way sound is transmitted and observed. As such, weather data are documented during the study period and a summary of daily weather conditions is available in Appendix A.2.

Figure 2.1: STP Daytime (7:00 A.M to 10:00 P.M.) Operations During Study Period

Figure 2.2: STP Nighttime (10:00 PM to 7:00 AM) Operations During Study Period



3.0 Sound Modeling

Since 2007, sound analysis has been conducted for six sites where mobile sound measurement equipment were positioned in coordination with DAAC District Council memberships. A map of all St. Paul Districts is provided in Appendix A.3. The mobile sound measurement sites were positioned in the same or similar locations each year as much as possible to assist with comparing results. Figure 3.1 shows a map of the historical mobile equipment placement locations from previous studies for reference.

The 2023 STP Annual Sound Study period is August 13-19, 2023. This general time frame was coordinated with the DAAC during its meeting on April 18, 2023. As determined by the DAAC, the study did not include physical placement of mobile measurement equipment at data collection locations used in previous studies. The 2023 Study only utilizes the federal process and AEDT software for the assessment of aircraft activity and sound levels.

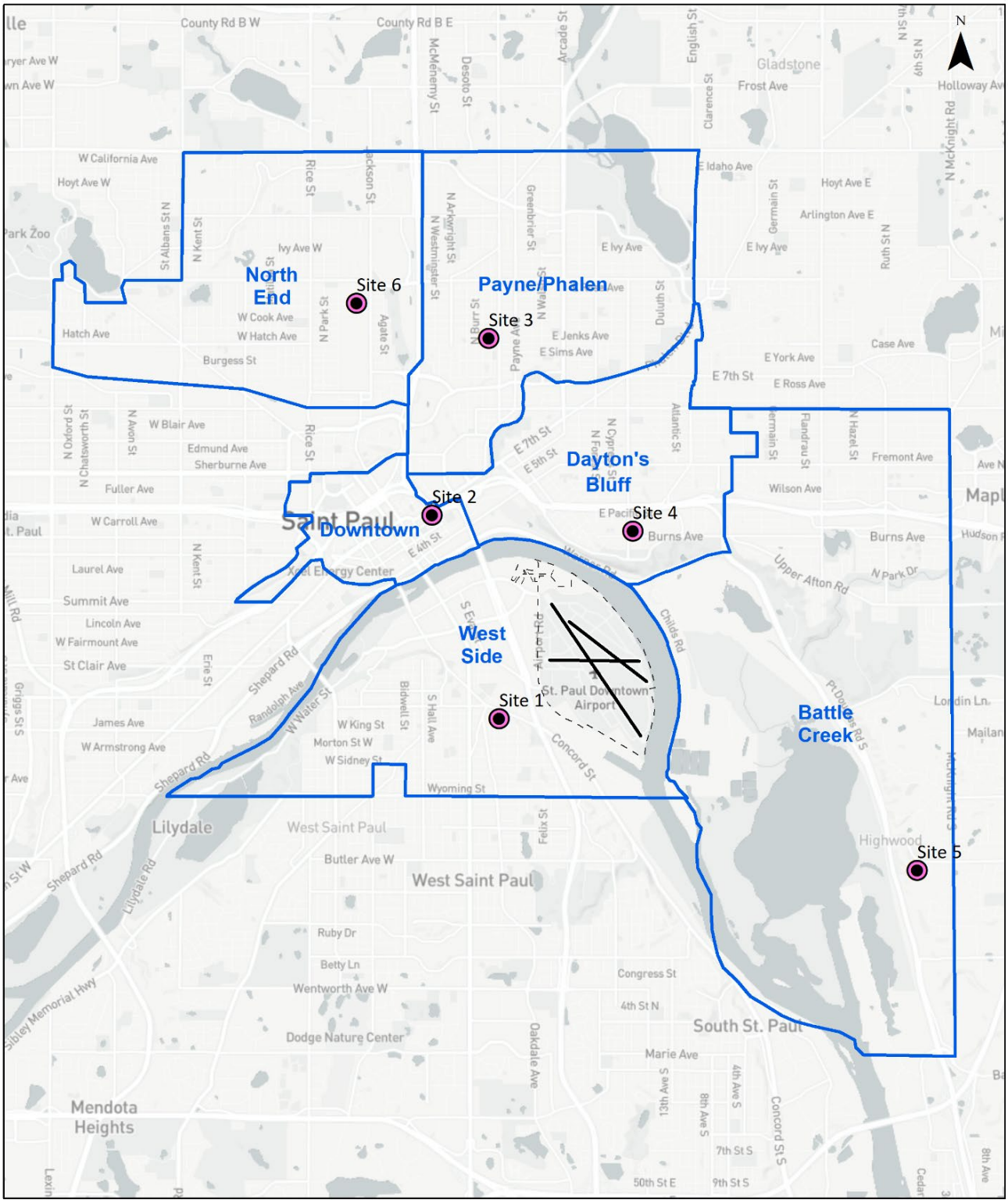
Specifically, STP aircraft activity during the study period was modeled using AEDT, Version 3e. Study period inputs to AEDT include types of aircraft operating, weather conditions, runway use as well as local terrain information. Based on aircraft types, AEDT makes assumptions about aircraft performance, flap configurations, engine settings, and weight. AEDT uses standard aircraft thrust settings, standard departure climb-rates as well as standard arrival descent rates, which may not represent actual flight operating characteristics. Additionally, certificated sound data are available for many aircraft types in the model, however all aircraft operating at STP are not available in the software. In those situations, modeling requires aircraft substitutions be used to represent missing aircraft types.

The AEDT model can produce various sounds metrics. Two metric options available are the Number Above Noise Level and Time Above Noise Level. For this analysis, MAC staff evaluated the number of operations at or above 65 dBA at a specific grid point and their duration.

This modeled sound analysis depicts aircraft sound events from actual aircraft activity at STP from August 13, 2023 through August 19, 2023 using model inputs such as runway use, aircraft fleet mix, aircraft performance and thrust settings, topography, and atmospheric conditions. The study utilized MACNOMS fleet and runway use information. MACNOMS aircraft operations counts were adjusted up to equal the 1,007 operations reported by the FAA during the study period. Quantifying aircraft-specific sound characteristics in AEDT is accomplished using a comprehensive database developed by the FAA under 14 CFR Part 36. As part of the airworthiness certification process, aircraft manufacturers are required to subject aircraft to extensive sound testing. Using federally-adopted and endorsed algorithms, this aircraft-specific sound information is used in the generation of model outputs. Justification for such an approach is rooted in national standardization of sound quantification at airports. Appendix A.1 includes the fleet mix and Appendix A.2 includes weather data utilized in the AEDT model for this analysis.

AEDT uses a grid pattern of individual sound measurement points, known as receptors, and calculates sound at each of these points. The grid pattern for this study included 22,500 unique points spaced 0.1 nautical miles apart for a range of 15 miles.

Figure 3.1: Measurement Locations Used in Previous Studies*



*Note: Field locations were not used to collect sound measurements during the 2023 STP Annual Sound Study assessment. Instead, the federally-approved AEDT noise model was used to assess noise across 22,500 receptor points.

Additionally, AEDT uses standard weather inputs that are typically available for a study comprising a full year of data. For this study, standard weather inputs were changed to represent the average weather conditions for the seven-day study period. These inputs are available in Appendix A.2.

Figure 3.2 shows the modeled grid points by average number of events per day during the study period. Grid points with the highest number of events per day are located within STP airport property.

Table 3.1 below provides the total number of aircraft sound events above 65 dBA modeled at each historic field measurement location. The table also provides the number of modeled sounds events above 65 dBA correlated to aircraft that were previously modeled during other study periods for comparison.

Table 3.1 Modeled Number Above 65 dBA Sound Levels				
Site	2020	2021	2022	2023
1	13	22	100	64.2
2	88	67	134	130.6
3	70	48	77	79.0
4	32	25	59	52.7
5	92	121	107	97.4
6	62	147	117	100.4

Figure 3.3 shows the modeled grid points by average time spent above 65 dBA per day during the study period.

Table 3.2 below provides the total amount of time aircraft sound levels were above 65 dBA modeled to occur at each historic measurement locations. The table also provides the total modeled time above 65 dBA correlated to aircraft modeled during other study periods for comparison.

Table 3.2 Modeled Time Above 65 dBA Sound Levels (min)				
Site	2020	2021	2022	2023
1	1.8	2.3	10.0	6.0
2	18.6	8.8	19.2	21.0
3	22.7	9.8	16.9	19.4
4	6.5	4.8	10.9	7.6
5	19.3	24.7	24.7	21.1
6	14.7	34.3	25.1	23.5

Figure 3.2: Number of Events Above 65 dBA per Day

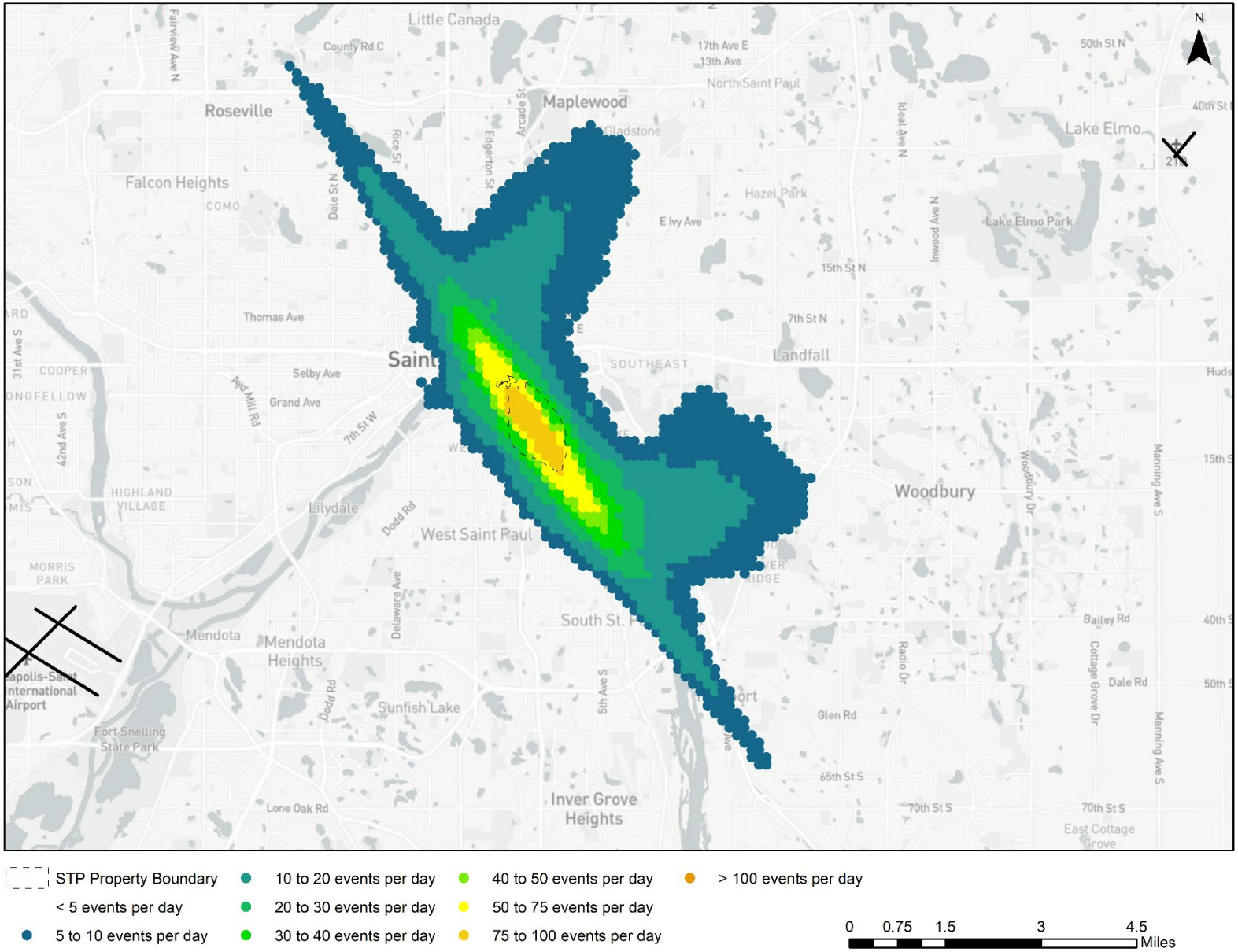
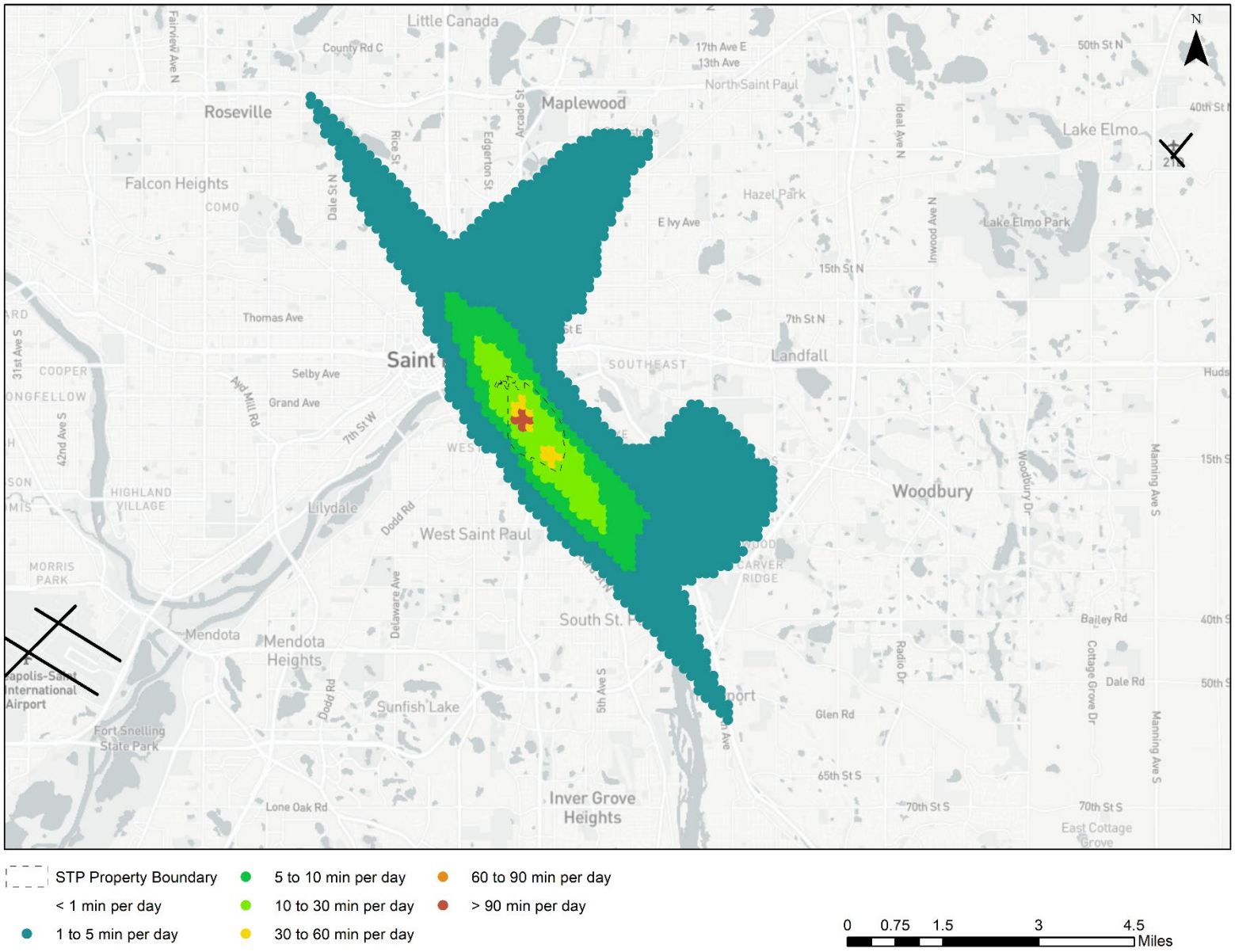


Figure 3.3: Time Above 65 dBA (minutes per day)



4.0 Noise Complaints

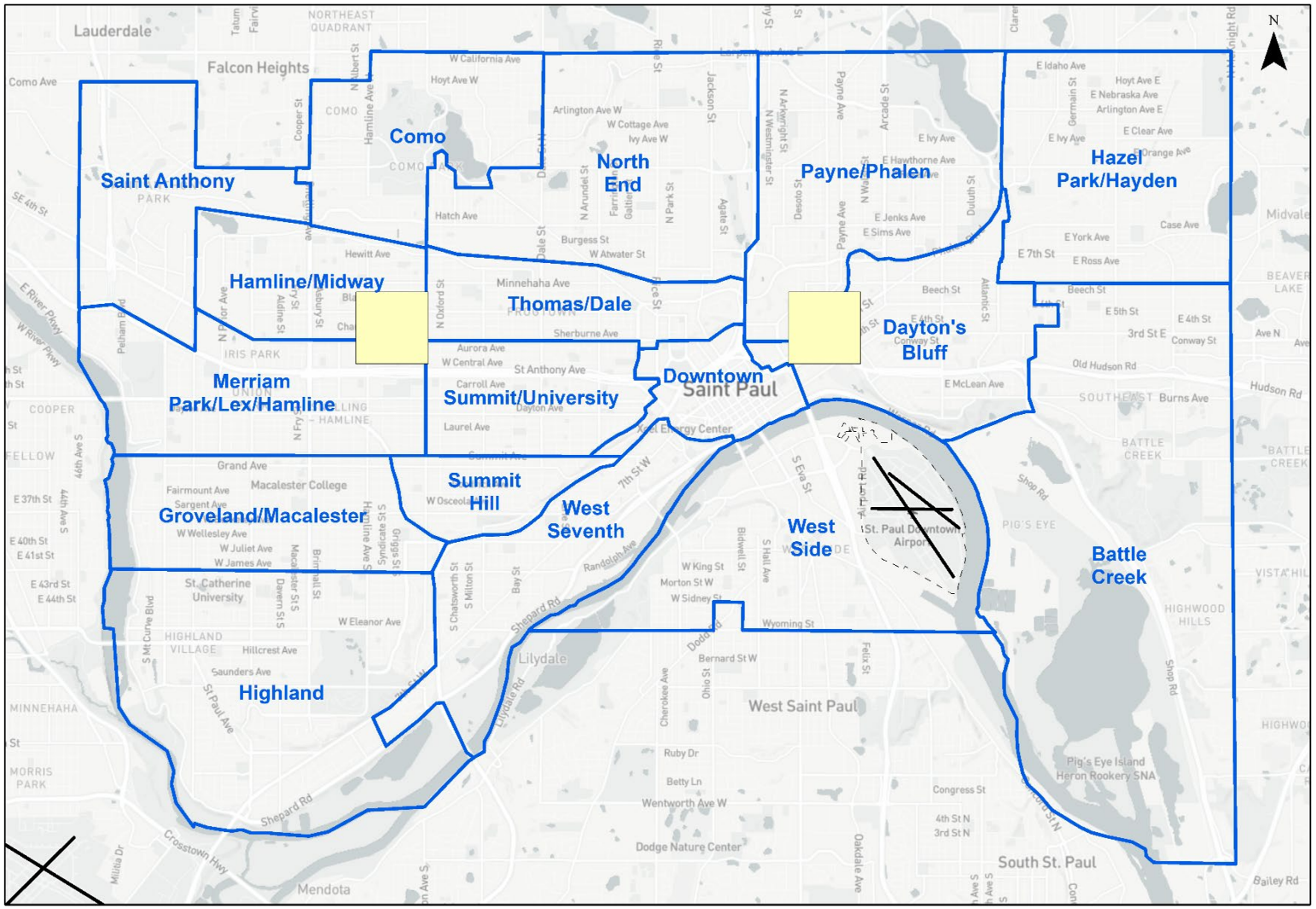
During the study period, three complaints were received from two Saint Paul households, and three complaints were received from two households in other cities. One complaint was received during nighttime hours, between 10:00 P.M. and 7:00 A.M. Table 4.1 illustrates the complaints with correlated operations by aircraft type. Piston aircraft operated the most flights during the study period. Jet aircraft generated the greatest number of complaints.

Table 4.1 Complaints and Operations

Aircraft Type	Operations	Complaints
Helicopter	56	1
Jet	230	4
Piston	493	-
Turboprop	119	1
Unknown	25	-
Total	**923**	**6**

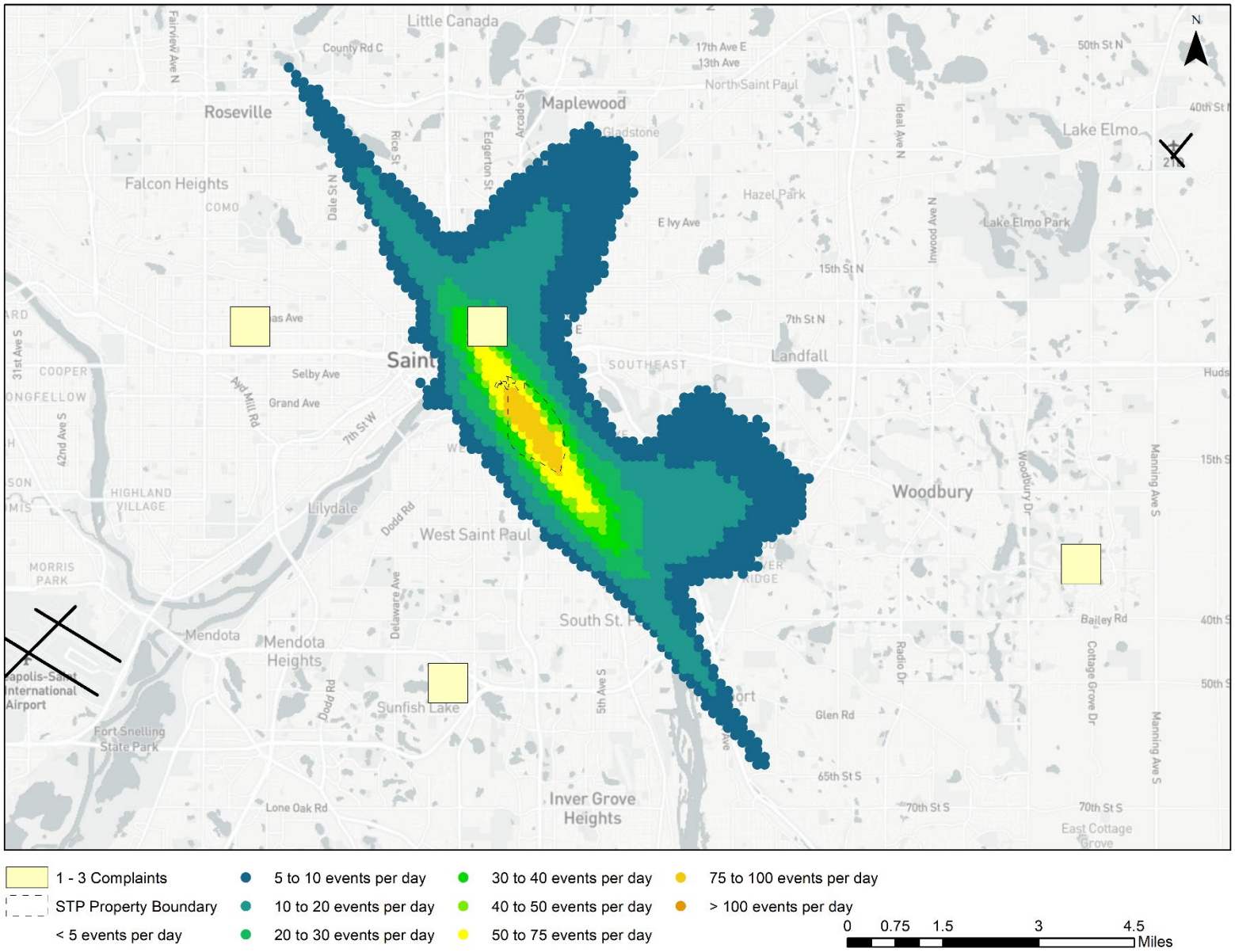
Figure 4.1 shows a complaint heat map representing the number of households that submitted a complaint within each grid square for areas near STP airport. Figure 4.2 shows complaints and the number of events above 65 dBA for all areas during the study period.

Figure 4.1: STP Study Period Complaint Heat Map*



*Complaint locations outside of the City of Saint Paul not shown.

Figure 4.2: STP Study Period Complaint Heat Map with Number of Events Above 65 dBA



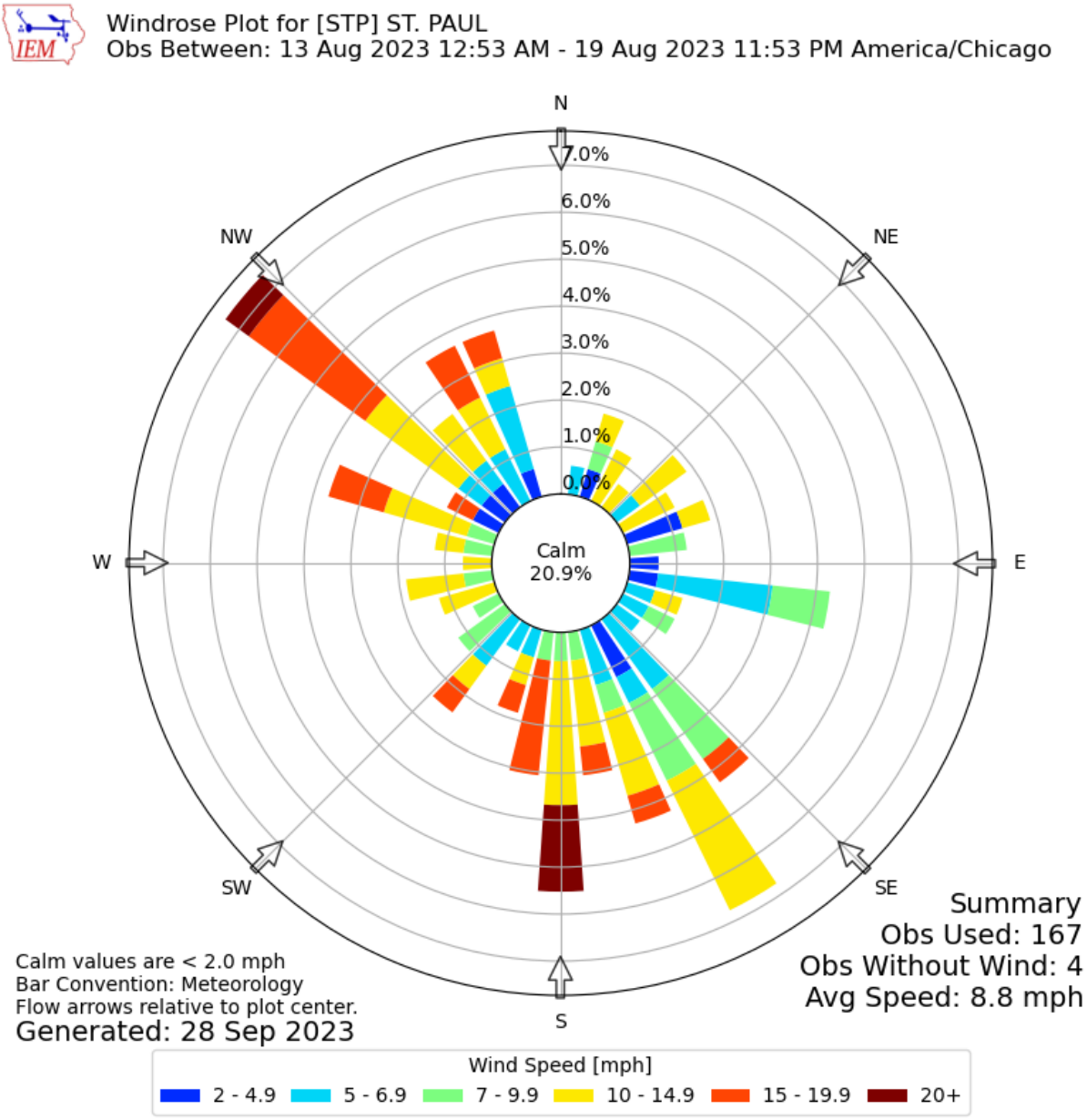
Appendix

A.1 Modeled Aircraft Distribution

Aircraft Type	Arrival	Departure	Touch and Go	Total Operations
Jet	**136.3**	**138.6**	**0.0**	**274.8**
Bombardier Challenger 300	1.1	2.3		3.4
Bombardier Challenger 350	3.4	3.4		6.9
Bombardier Learjet 45	3.4	3.4		6.9
Bombardier Learjet 60	1.1	2.3		3.4
Cessna 525A CitationJet	1.1	3.4		4.6
Cessna 525B CitationJet (CJ3)	6.9	4.6		11.5
Cessna 525C CitationJet	8.0	10.3		18.3
Cessna 550 Citation II	1.1	1.1		2.3
Cessna 560 Citation Encore	4.4	4.4		8.9
Cessna 560 Citation Ultra	2.4	2.4		4.9
Cessna 560 Citation XLS	9.2	8.0		17.2
Cessna 650 Citation III	1.1	1.1		2.3
Cessna 680 Citation Sovereign	12.6	11.5		24.0
Cessna 680 Citation Longitude	2.3	2.3		4.6
Cessna 750 Citation X	2.3	2.3		4.6
Dassault Falcon 2000	13.7	16.0		29.8
Dassault Falcon 50	3.4	2.3		5.7
Dassault Falcon 900	1.1	2.3		3.4
Embraer ERJ135	1.1	1.1		2.3
Embraer Legacy 500 (EMB-550)	4.6	4.6		9.2
Embraer Phenom 100 (EMB-500)	8.0	6.9		14.9
Falcon 7X	2.3	3.4		5.7
Gulfstream G150	1.1	1.1		2.3
Gulfstream G280	1.1	1.1		2.3
Gulfstream G400	2.3	2.3		4.6
Gulfstream G500	11.5	11.5		22.9
Gulfstream G600	1.1			1.1
Gulfstream II	3.4	3.4		6.9
Raytheon Premier	3.4	3.4		6.9
Raytheon Beechjet 400	10.3	9.2		19.5
Raytheon Hawker 4000	1.1			1.1
Raytheon Hawker 800	5.7	6.9		12.6
Piston	**171.8**	**167.2**	**208.8**	**547.8**
Single Engine	**161.5**	**159.2**	**208.8**	**529.5**
Aviat Husky	2.3	1.1		3.4
Beechcraft Bonanza 33 (FAS)	1.1			1.1
Beechcraft Bonanza 35 (FAS)	2.3	1.1		3.4
Cessna 150 Series	4.6	4.6		9.2
Cessna 152 (FAS)	3.4	3.4	13.8	20.6
Cessna 172 Skyhawk	44.7	47.0	98.7	190.3
Cessna 177 (FAS)	2.3	2.3		4.6
Cessna 180 (FAS)	2.3	2.3		4.6
Cessna 182	14.9	12.6	29.8	57.3
Cessna 206	1.1			1.1
Cessna 210 Centurion	2.3	2.3		4.6
Cirrus SR20	1.1	2.3		3.4

Aircraft Type	Arrival	Departure	Touch and Go	Total Operations
Cirrus SR22 Turbo (FAS)	5.7	5.7		11.5
EADS Socata TBM-700	1.1	1.1		2.3
Lancair 360	1.1	1.1		2.3
Mooney M20-K	1.1	1.1		2.3
Piper PA-24 Comanche Series	2.3	1.1		3.4
Piper PA-28 Cherokee Series	57.3	59.5	62.0	178.8
Piper PA-31 Cheyenne	1.1	1.1		2.3
Piper PA-32 Cherokee Six	1.1	1.1		2.3
Piper PA44 (FAS)	1.1	1.1		2.3
Piper PA46 Malibu	1.1	1.1		2.3
Piper PA46-TP Meridian	1.1	1.1		2.3
Raytheon Beech Bonanza 36	4.6	4.6	4.6	13.8
Multi Engine	**10.3**	**8.0**	**0.0**	**18.3**
Beech 95 (FAS)	10.3	8.0		18.3
Turboprop	**61.8**	**60.7**	**9.2**	**131.7**
Single Engine	**16.0**	**14.9**	**0.0**	**30.9**
American Champion Cibrata (FAS)	1.1	1.1		2.3
Cessna 208 Caravan	2.3	2.3		4.6
DeHavilland III Beaver Float		1.1		1.1
Pilatus PC-12	8.0	6.9		14.9
Vans RV12 (FAS)	2.3	1.1		3.4
Socata TBM-9 (FAS)	2.3	2.3		4.6
Multi Engine	**45.8**	**45.8**	**9.2**	**100.8**
Raytheon King Air 90	5.7	4.6	9.2	19.5
Raytheon King Air 100	1.1			1.1
Raytheon Super King Air 200	33.2	35.5		68.7
Raytheon Super King Air 300	5.7	5.7		11.5
Helicopter	**26.3**	**26.3**	**0.0**	**52.7**
Single Engine	**0.0**	**0.0**	**0.0**	**0.0**
Multi Engine	**26.3**	**26.3**	**0.0**	**52.7**
Bell 407 / Rolls-Royce 250-C47B	4.6	4.6		9.2
Robinson R44 Raven / Lycoming O-540-F1B5	21.8	21.8		43.5
Grand Total	**396**	**393**	**218**	**1007**

A.2 STP Weather Details

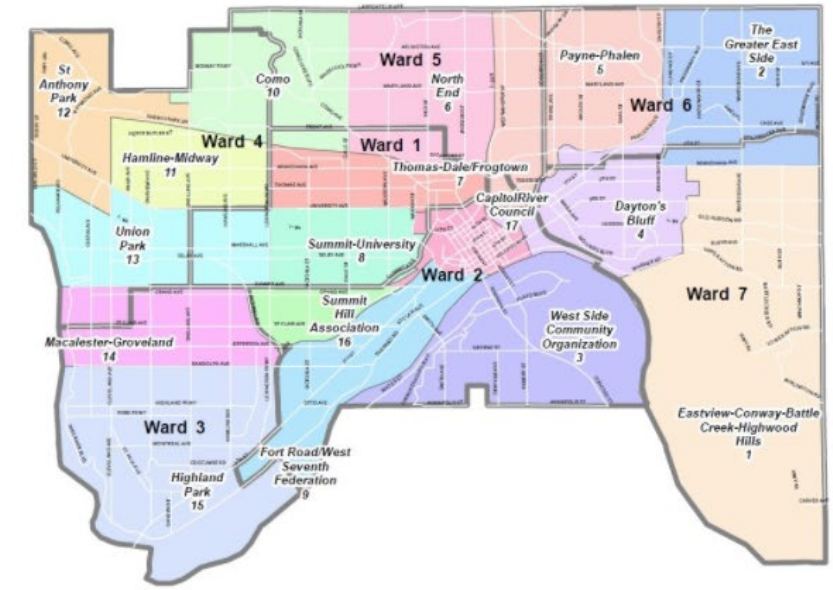


Source: [Mesonet Iowa State]

Model Weather Inputs	
Average Temp	70.0
Average Wind Speed	8.9
Average Dew Point	60.6
Average Sea Level Pressure (SLP)	29.1
Average Relative Humidity	72.0
Average SLP (millibar)	986.8

A.3 St. Paul District Council Map and Details

District Council Directory



District	Neighborhood	District Council
1	Eastview - Conway - Battle Creek - Highwood Hills	District 1 Community Council
2	Greater East Side	District 2 Community Council
3	West Side	West Side Community Organization
4	Dayton's Bluff	Dayton's Bluff Community Council
5	Payne-Phalen	Payne Phalen Community Council
6	North End	North End Neighborhood Organization
7	Thomas-Dale/Frogtown	Frogtown Neighborhood Association
8	Summit-University	Summit-University Community Council
9	West 7th/Fort Road	Fort Road Federation
10	Como	District 10 Como Community Council
11	Hamline-Midway	Hamline Midway Coalition
12	St. Anthony Park	St. Anthony Park Community Council
13	Union Park	Union Park District Council
14	Macalaster-Groveland	Macalester Groveland Community Council
15	Highland	Highland District Council
16	Summit Hill	Summit Hill Association
17	Downtown	Capitol River Council

Source: www.stpaul.gov/residents/live-saint-paul/neighborhoods/district-councils/district-council-directory

A.4 Supplemental Conditions of Agreement

METROPOLITAN AIRPORTS COMMISSION

Minneapolis-Saint Paul International Airport
6040 - 28th Avenue South • Minneapolis, MN 55450-2799
Phone (612) 726-8100

TO WHOM IT MAY CONCERN:

On June 19, 2006 the following action took place at the Metropolitan Airports Commission full Commisson meeting regarding the St. Paul Downtown Airport – Flood Protection Update:

COMMISSIONER MARS MOVED AND COMMISSIONER LANNERS SECONDED TO INCREASE THE AMOUNT FOR THE PROJECT IN THE CAPITAL IMPROVEMENT PROGRAM FROM $28.5 MILLION TO $29.3 MILLION AND AUTHORIZE STAFF TO INCLUDE THE CONDITIONS THAT WERE PRESENTED TO THE COMMITTEE IN THE ZONING APPLICATION WHEN RESUBMITTED TO THE CITY. FURTHER THAT STAFF WORK WITH PUBLIC AND PRIVATE PARTIES THAT WILL DIRECTLY BENEFIT FROM THE FLOOD PROTECTION PROJECT TO RAISE REVENUES TO OFFSET THE COST INCREASE.

The Motion passed unanimously by the following roll call vote:

Commissioners: **Berman, Boivin, Harris, Landy, Lanners, Mars, McGee, Rehkamp, Sigel, Warner, Williams and Chair McKasy**

Absent: **Commissioners Foley and Stenerson**

Sallye Douma, Commission Secretary

The Metropolitan Airports Commission is an affirmative action employer.
www.mspairport.com
Reliever Airports: AIRLAKE • ANOKA COUNTY/BLAINE • CRYSTAL • FLYING CLOUD • LAKE ELMO • SAINT PAUL DOWNTOWN

Runway Length MAC will not take any action to increase the length of the runways at the Airport in excess of the current length, unless required to do so by State law, provided that MAC will not initiate, promote or otherwise support enactment of such law.

Pavement Strength MAC will not take any action to increase the Runway Pavement Weight-Bearing Capacity at the Airport beyond the maximum presently available, unless required to do so by State law, provided that MAC will not initiate, promote or otherwise support enactment of such law.

Cargo Operations MAC represents that, based on operational and space limitations, major air cargo transfer/sortation operations (such as Federal Express, UPS and other similar companies) are not able to use the Airport, nor will MAC take action to accommodate such activity.

Airport Noise Abatement Plan MAC will, in consultation and collaboration with the City and other interested parties (agreed to by MAC and the City), immediately initiate an update of the St. Paul Downtown Airport Noise Abatement Plan to include the following elements:

- Use of the runways at the Airport.
- Appropriate flight tracks for aircraft arriving at, or departing from, the Airport.
- Voluntary restraint on night-time aircraft operations and recommended procedures for any such operations that must occur.
- Voluntary restraint on night-time aircraft engine runups.
- Implementation of a pilot/FBO information and education program designed to inform Airport Users and Fixed Base operators of the elements contained in the Noise Abatement Plan.
- Completion of an annual study of aircraft noise in the areas surrounding the Airport.
- Incorporation of limitations regarding runway length, runway strength and cargo operations.
- Public Input.

As necessary, MAC will seek Federal Aviation Administration approval of the updated noise abatement plan. MAC shall use its best efforts to secure federal approval of the plan or any portion of the proposed plan.

Endangered/Threatened Species MAC will coordinate with the City of St. Paul and other appropriate agencies to complete an updated survey of threatened/endangered species within the project area.

Vegetation/Revegetation Plan MAC will coordinate with the City of St. Paul and other interested parties to review and make recommendations regarding a vegetation/revegetation plan for the project area. MAC will implement these recommendations if they are determined to be compatible with Airport operations.

Treatment of Contaminated Soils MAC will complete additional soil sampling and testing in the area proposed for compensatory excavation, including testing for PAH's and inorganics. MAC will also monitor excavated material from the compensatory excavation per a Testing and Disposal Plan. Any contaminated soils will be properly disposed of in a licensed facility approved for such disposal.

Stormwater Discharge MAC will complete a sampling/testing protocol for subdrain discharge, as may be required by the Minnesota Pollution Control Agency.

A.5 Glossary

Aircraft Operation

Aircraft arriving or departing from STP, or an aircraft that performed both an arrival and departure (touch and go).

Air Traffic Control (ATC)

Air Traffic Control (ATC) is an FAA service that direct aircraft on the ground and through a given section of controlled airspace and can provide advisory services to aircraft in non-controlled airspace.

Aviation Environmental Design Tool (AEDT) modeling software

The Aviation Environmental Design Tool (AEDT) is a software system that models aircraft performance in space and time to estimate fuel consumption, emissions, noise, and air quality consequences.

A-Weighting

A-Weighting is a standard filter used by acoustic measurement devices and can be applied to acoustic measurements. It is frequency filter that attempts to emulate the way human hear.

Day-Night Level (DNL)

The FAA established DNL as the primary metric for aircraft noise analysis and expressing aircraft noise exposure in the United States. "DNL" is the acronym for Day-Night Average Sound Level, which represents the total accumulation of all sound energy, with a 10-decibel penalty applied for each sound event between 10:00 P.M. and 7:00 A.M. DNL has been widely accepted as the best available method to describe aircraft noise exposure and is the industry standard for use in aircraft noise exposure analyses and noise compatibility planning. It also has been identified by the U.S. Environmental Protection Agency as the principal metric for airport noise analyses.

Decibel (dB/dBA)

Sound levels are measured in Decibels, a logarithmic scale of energy referenced to human hearing. Sound levels are reported in dB; dBA is the Decibel value after the A-Weighting filter is applied.

Federal Aviation Administration's (FAA)

The Federal Aviation Administration (FAA) is federal agency with the sole regulatory authority over aviation in the United States, including airports, pilots, airspace, flight procedures, and aircraft.

LA_{max} (Maximum A-weighted Sound Level)

This is maximum A-Weighted Sound Level observed for the period, event, or interval of interest.

MACNOMS™ (MAC Noise and Operations Monitoring System)

MAC Noise and Operations Monitoring System (MACNOMS) includes data collection, data processing, data analysis and publication, and community tools for accessing data. The MACNOMS data collection, processing and analysis and reporting tools are made up of customized software programs and instruments that provide system flexibility to conduct detailed analyses and reporting of aircraft operations and associated noise collects and reports flight track, sound and complaint data.

Metropolitan Airports Commission (MAC)

The Metropolitan Airports Commission (MAC) is the airport authority that owns and operates the Minneapolis-St. Paul International Airport (MSP) and six general aviation airports in the Twin Cities region.

Minneapolis-St. Paul International Airport (MSP)

The Minneapolis-St. Paul International Airport (MSP), also less commonly known as Wold-Chamberlain Field, is a joint civil-military public-use international airport located in Fort Snelling Unorganized Territory, Minnesota, United States.

Number Above

The "Number Above", also referred to as N-level sound metric or Count Above, is the total number of aircraft sound events that exceeded a specified sound level threshold (LA_{max}). This report contains a count of modeled departure events and arrival events when the maximum sound level of those events exceeds 65 dBA.

Saint Paul Downtown Airport - Holman Field (STP)

The Saint Paul Downtown Airport - Holman Field, is a public airport in the City of Saint Paul, County of Ramsey, State of Minnesota.

Saint Paul Downtown Airport Advisory Council (DAAC)

The DAAC was established to further the general welfare of the community and the Saint Paul Downtown Airport - Holman Field through minimizing or resolving problems created by the operation of the airport and aircraft. is comprised of appointed STP airport users and community representatives who reside in the Districts surrounding STP.

Time Above Metric

The "Time Above" noise metric measures the total time or percentage of time that the A-weighted aircraft noise level exceeds an indicated level. Time Above data are summarized for arrival and departure events based on one-second intervals.

Metropolitan Airports Commission

6040 28th Avenue South, Minneapolis, MN 55450

MetroAirports.org

This report is for informational purposes only.