
NOISE ABATEMENT PLAN

**St. Paul Downtown Airport
Holman Field**

MAC Department of Environment
Office of Aviation Noise and Satellite Programs
June 2008

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I. Glossary of Terms

Above Field Level (AFL) – The altitude in feet above the airport field elevation.

Air Traffic Control (ATC) – Ground based service provided by the Federal Aviation Administration at Holman Field, who direct aircraft and provide traffic advisory services to aircraft on the ground and in the air.

Close-In Departure Procedure - Unique departure profile designed to minimize noise impact for communities within the immediate vicinity of the runway end (typically within 3.5 miles from the start of takeoff roll).

Federal Aviation Regulations - Aviation rules and regulations enforced by the FAA.

Feet Per Minute (FPM) – The rate of climb or speed at which an aircraft increases its altitude.

Final Approach – The last leg in the traffic pattern or the final path aircraft use while landing at an airport. The final approach path will be a straight line extending from the runway centerline.

Final Segment Speed (Vfs) – The speed used for climbing during the final segment of departure.

Glide Slope – Component of an Instrument Landing System that provides aircraft with vertical guidance to the touchdown point of the runway.

Instrument Flight Rules (IFR) - Aviation rules applied when weather conditions are below the VFR (Visual Flight Rules) minimums.

Instrument Landing System (ILS) - Accurately guides aircraft to the airport's runways when flying in IFR conditions.

Intersection Takeoffs – Taking off on a point along a runway that intersects an adjacent taxiway, therefore not utilizing the full length of the runway on departure.

Knots Indicated Airspeed - The direct airspeed indication in knots that is uncorrected for variations in atmospheric density, instrument error or installation error.

Maintenance Runups - The sustained operation of an aircraft engine for the purposes of maintenance, repair or testing.

Part 91 – General operating and flight rules for aviation enforced by the Federal Aviation Administration.

Precision Approach Slope Indicator (PAPI) - Provides the pilot with visual approach slope angle information while on final approach and allows for an optimal descent angle for safe touchdown at the runway.

Standard Departure Procedure - Unique departure profile designed to minimize noise impact for communities that are not within the immediate vicinity of the runway end (typically beyond 3.5 miles from the start of takeoff roll).

Traffic Pattern - Standard path that is followed by aircraft when taking off or landing at an airport and consists of five standard segments (upwind leg, crosswind leg, downwind leg, base leg, and final approach). Aircraft are expected to enter and exit the traffic pattern in an orderly and safe manner, while following the pattern already in use and avoiding other traffic in the pattern.

Traffic Pattern Altitude - Level of flight above the airfield which aircraft are expected to operate at while conducting operations in the traffic pattern.

V2 – Takeoff safety speed.

Vs – Minimum steady flight speed at which the aircraft is controllable, also known as stall speed.

Visual Approach Slope Indicator (VASI) - Similar system as a PAPI, provides the pilot with visual approach slope angle information while on final approach and allows for an optimal descent angle for safe touchdown at the runway.

Visual Flight Rules (VFR) - Flight rules that apply when stated weather conditions are above the required minimums.

1 INTRODUCTION

The noise abatement plan for the St. Paul Downtown Airport (STP) has been prepared in recognition of the need to make the airport and the surrounding community as environmentally compatible as possible. The plan, as set forth here, is the culmination of a cooperative effort between airport users, airport businesses, the St. Paul Downtown Airport Advisory Council, City officials, Federal Aviation Administration representatives, and the Metropolitan Airports Commission. In addition, this plan includes the provisions and recommended procedures that were outlined in the June 19, 2006 Supplemental Conditions of Agreement for the floodwall at STP.

The goal of the noise abatement plan is to direct the bulk of traffic over the sparsely populated areas such as the Mississippi River Valley, nearby Interstate Highways or railroad areas to limit flying over residential areas. The additional step of raising the traffic pattern altitude to 1,200 feet helps to reduce noise levels over sensitive areas. The procedures outlined in this plan are recommended and are not intended to replace safe aircraft operations and/or compliance with Federal Aviation Regulations. FAA regulations and requirements take precedence over noise abatement procedures.

2 MAC AIRPORT USE AND INFRASTRUCTURE LIMITATIONS

The MAC approved the “Supplemental Conditions of Agreement” at their June 19, 2006 board meeting. The Supplemental Conditions of Agreement outline certain representations and commitments on behalf of the Metropolitan Airports Commission for the nature and use of STP.

2.1 Runway Infrastructure Characteristics

Two elements in the Supplemental Conditions of Agreement do not require actions on the part of the operators; rather, they represent commitments on behalf of the MAC. These commitments include provisions regarding runway infrastructure characteristics and the nature of airport use.

2.1.1 Runway Length

As part of the conditions of agreement the MAC will not take any action to increase the length of the runways at STP 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.

2.1.2 Pavement Strength

As part of the conditions of agreement the 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.

2.2 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.

3 NOISE ABATEMENT TAKEOFF AND APPROACH PROCEDURES

A basic noise mitigation strategy is the use of noise abatement takeoff and landing procedures. There are a number of alternatives within this strategy including runway selection, takeoff and landing profiles and power settings, and approach or departure paths. Runway selection is affected by winds, airspace procedures with adjacent air traffic facilities, navigational aids, local tower procedures, aircraft performance and requirements, and traffic density. When linked with appropriate landing and takeoff profiles and approach/departure paths, runway selection should provide relief when compared to an unconstrained airport environment. The following takeoff and approach procedures shall apply to the St. Paul Downtown Airport.

3.1 When the winds are calm (less than 5 knots) the preferred runway shall be **Runway 14**. However, if traffic density or air traffic procedures dictate, **Runway 32** may also be used.

3.2 In most circumstances the winds, weather or traffic density will dictate the runway to be used. However in some circumstances there will be an option. To have the least impact on the surrounding community, and to provide for an orderly flow of traffic during non-towered hours, the following priorities are recommended when selecting a runway (during tower hours, air traffic control will dictate the active runway):

3.2.1 Piston Engine Aircraft or Turbo Prop Aircraft:

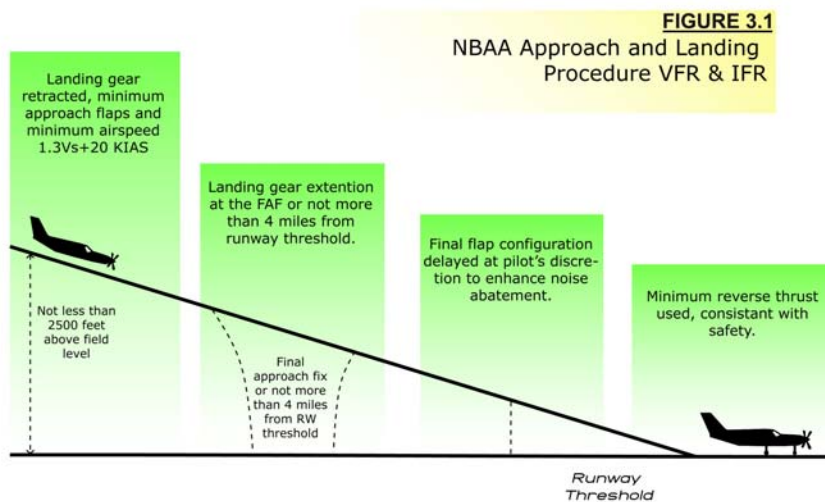
- Arrivals - 32, 31, 27, 14, 13, 9
- Departures - 14, 13, 9, 32, 31, 27

3.2.2 Jet Aircraft:

- Arrivals - 32
- Departures - 14

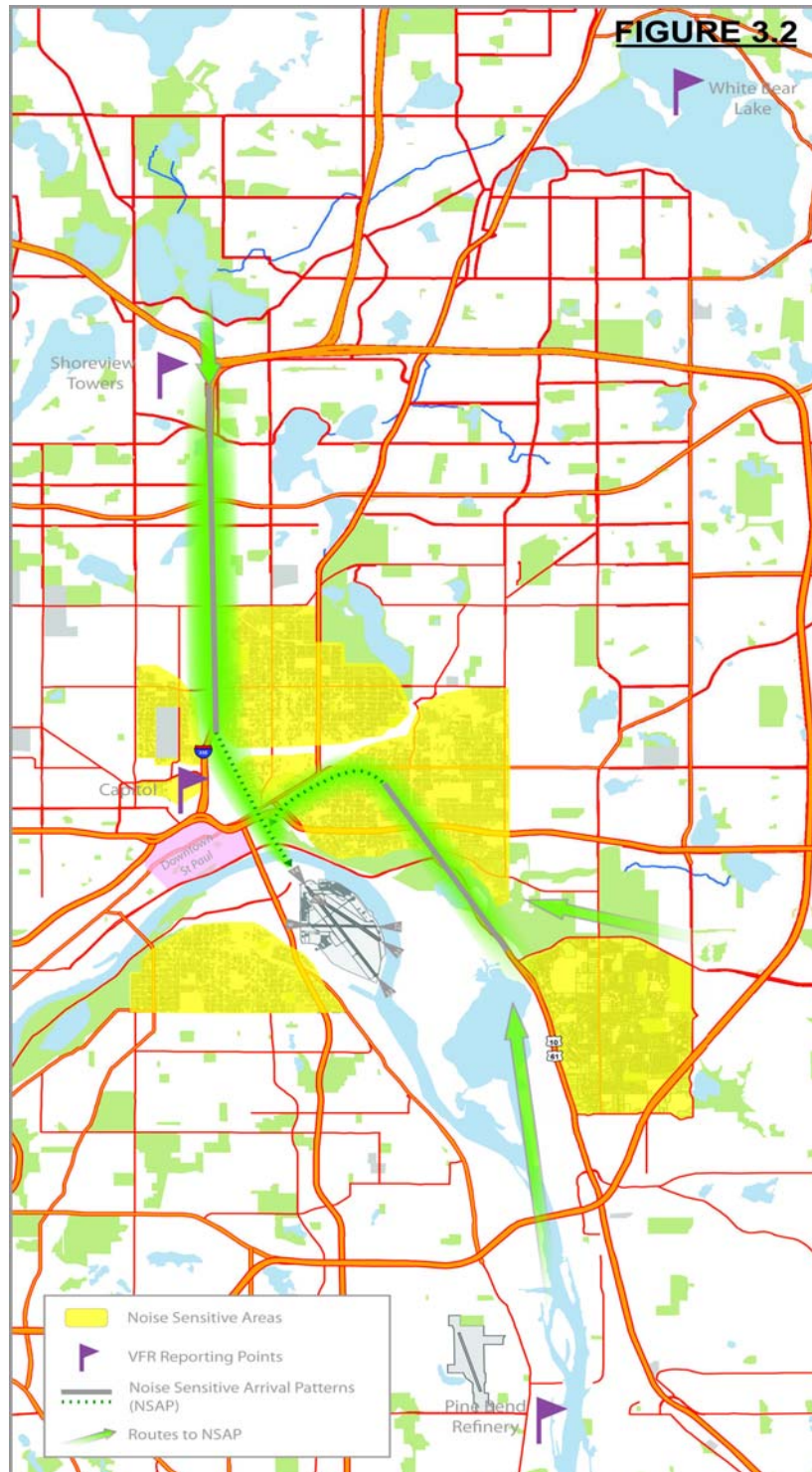
3.3 Unless otherwise instructed by Air Traffic Control, aircraft should follow the below detailed procedure while approaching to land at STP to minimize impact on the surrounding community.

3.3.1 An airplane approaching to land on a runway served by a visual approach slope indicator or precision approach path indicator shall maintain an altitude at or above the glide slope until a lower altitude is necessary for a safe landing, and, unless otherwise instructed by Air Traffic Control all general aviation aircraft shall use National Business Aircraft Association Noise Abatement Approach and Landing Procedures when arriving to the airport (see Figure 3.1).

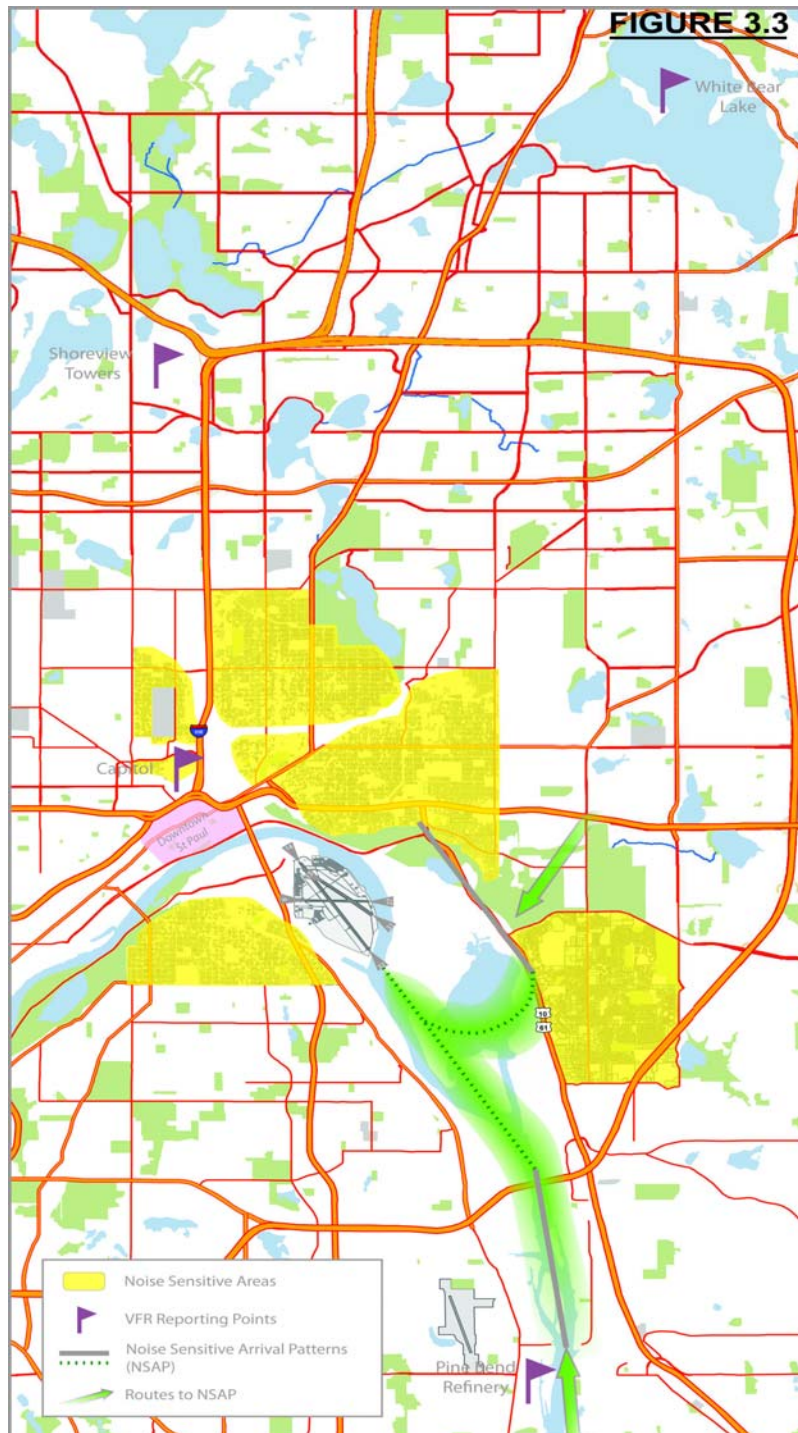


3.4 During non-tower hours, aircraft flying under VFR should follow the below detailed procedures while approaching to land at STP on Runway 14 or Runway 32 to minimize impact on the surrounding community.

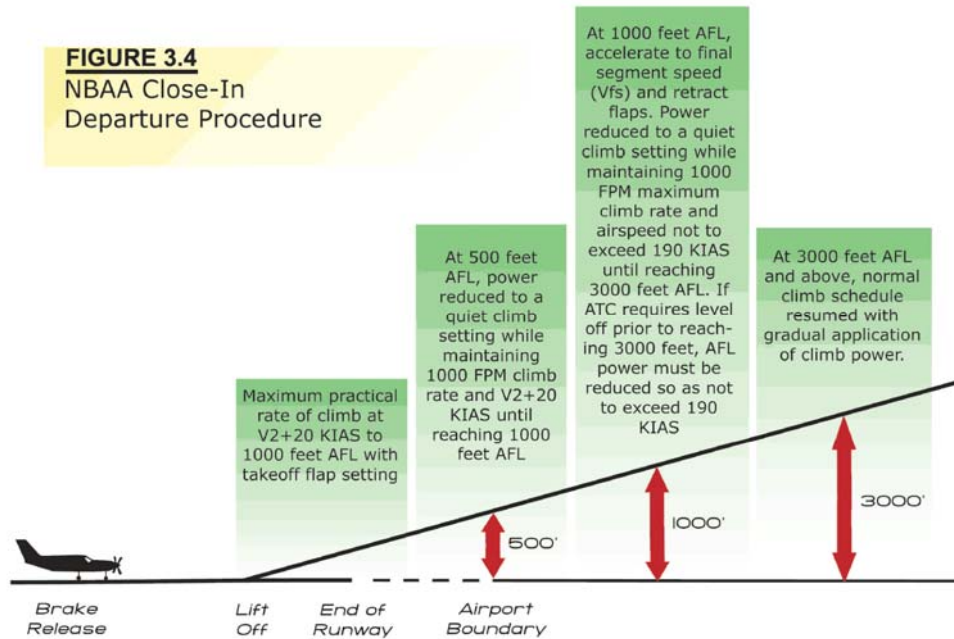
3.4.1 During non-tower hours, aircraft landing on **Runway 14** should follow the preferred noise abatement arrival routes (Interstate 35E or Mississippi River) and avoid noise sensitive residential areas (see Figure 3.2)



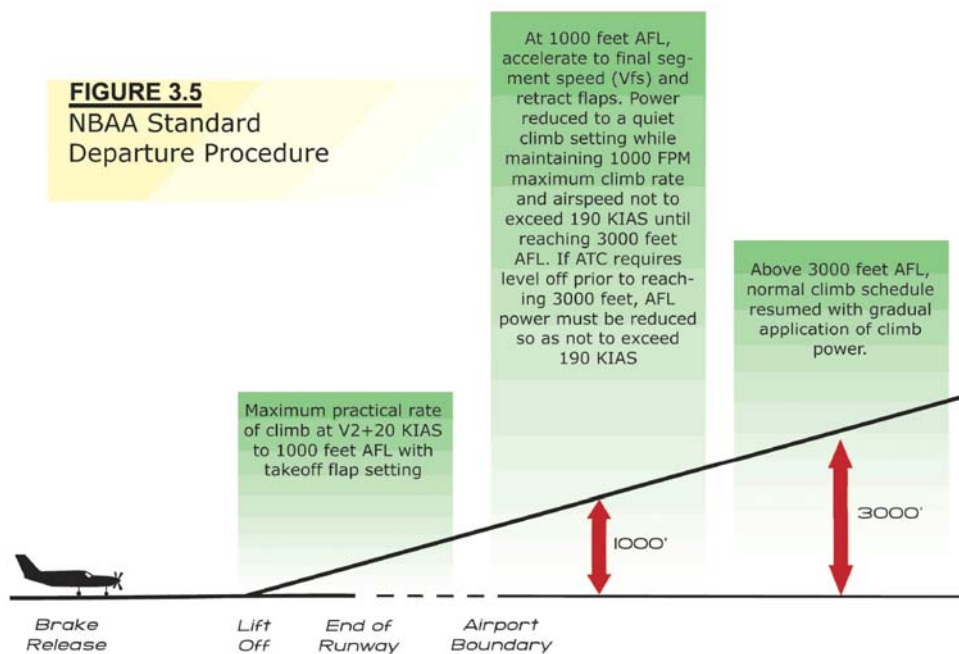
3.4.2 During non-tower hours, aircraft landing on **Runway 32** should follow the preferred noise abatement routes (Mississippi River/Downwind over Highway 61) and avoid noise sensitive residential areas (see Figure 3.3).



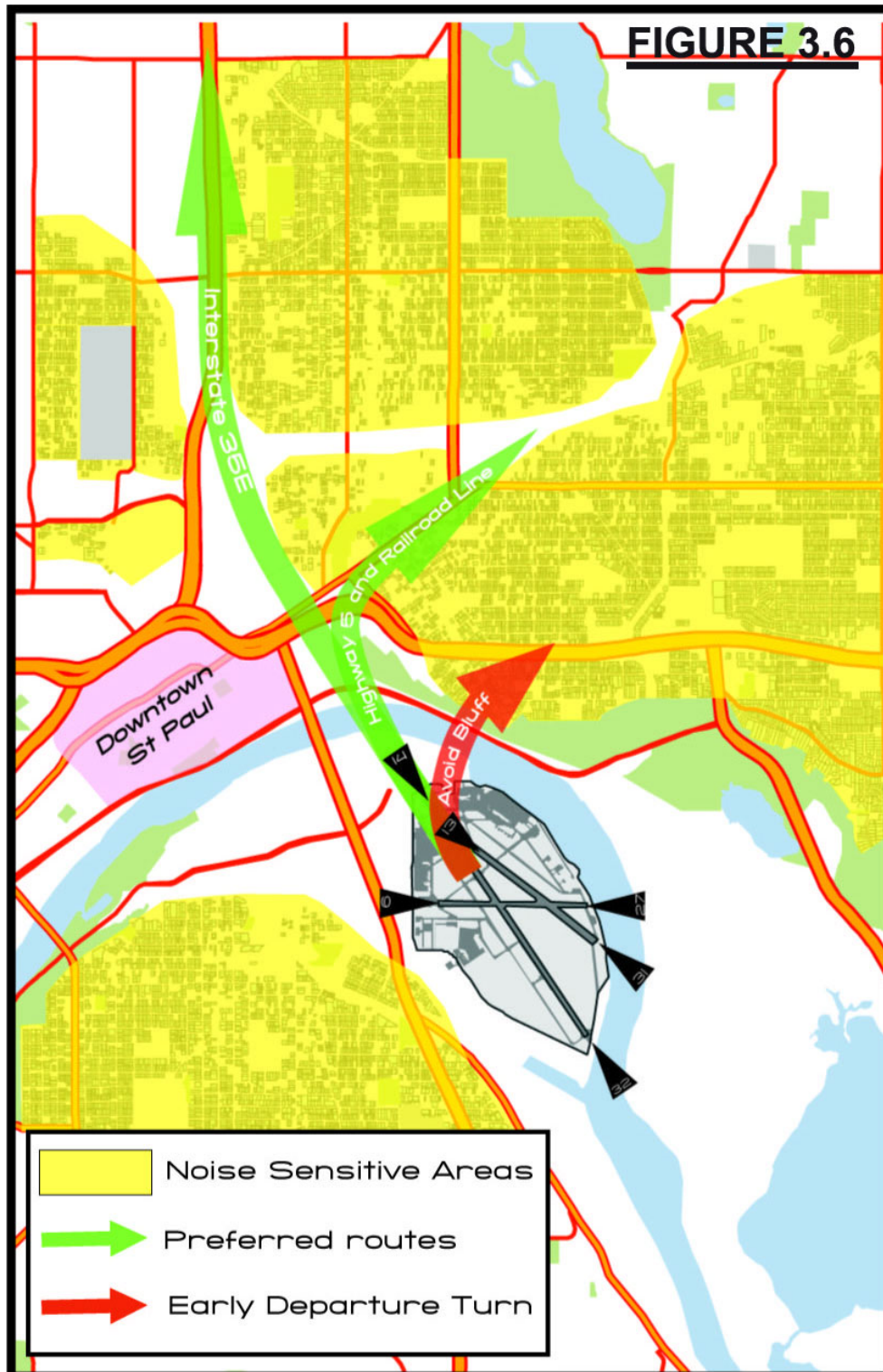
3.5 Unless otherwise instructed by Air Traffic Control, turbojet aircraft departing on **Runways 32 or 31** shall use the National Business Aircraft Association Close-In Departure Procedure (see Figure 3.4).



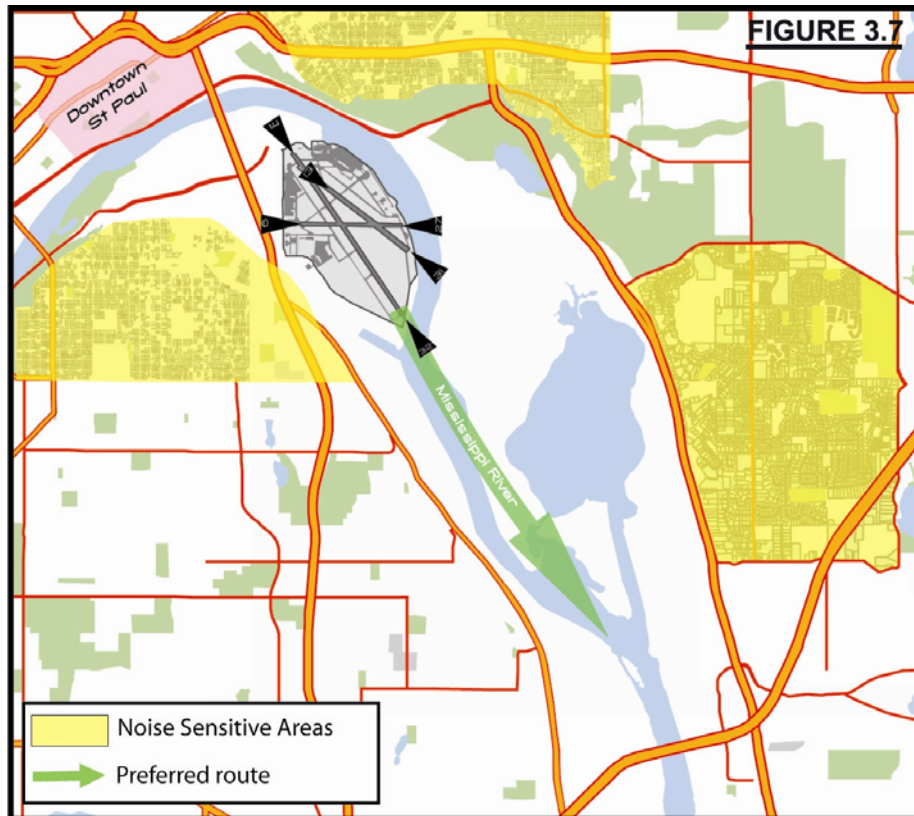
3.6 Unless otherwise instructed by Air Traffic Control, turbojet aircraft departing on **Runways 14 or 13** shall use the National Business Aircraft Association Standard Departure Procedure (see Figure 3.5).
Note: Birds on and in the vicinity of the airport (particularly over River Valley).



3.7 During non-tower hours, when departing **Runway 32**, aircraft shall fly runway heading for 1.7 nautical miles before turning to a northerly or northeasterly heading to follow the preferred noise abatement routes (Interstate 35E or Highway 5/Railroad Line). See Figure 3.6.

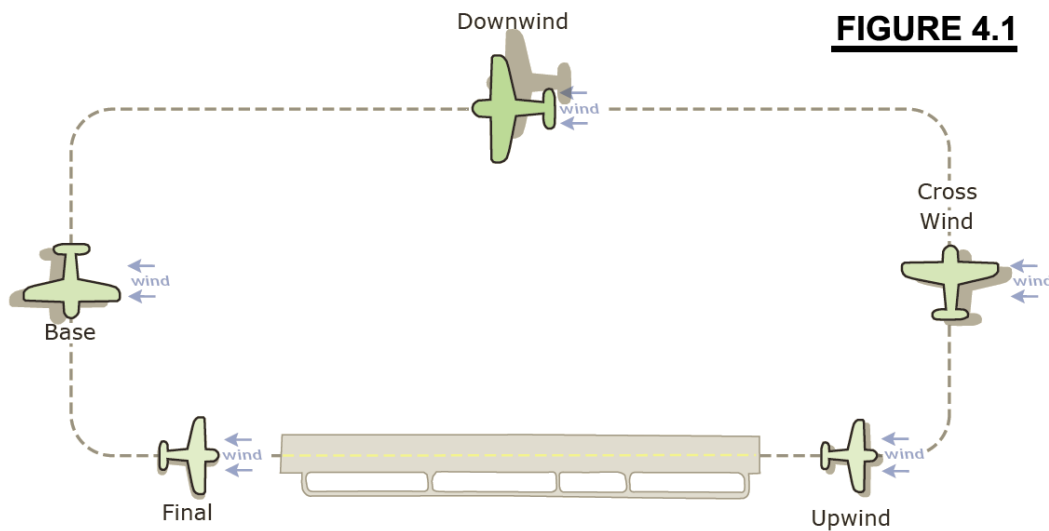


3.8 During non-tower hours, when departing **Runway 14**, aircraft shall follow the preferred noise abatement route (Mississippi River) whenever possible and avoid noise sensitive residential areas (see Figure 3.7).



4 TRAFFIC PATTERN PROCEDURES

The traffic pattern is the specified path to be flown by aircraft operating in the vicinity of an airport. The components of a typical traffic pattern are: upwind leg, crosswind leg, downwind leg, base leg, and final approach (see Figure 4.1).



The following procedures shall be adhered to while operating in the traffic pattern at the St. Paul Downtown Airport:

- 4.1** Consistent with recommended airport operating procedures and minimum safe altitudes as established in Part 91 of the Federal Air Regulations, the traffic pattern altitude shall be **1,200 feet** above ground level.
- 4.2** Multiple training events by jet aircraft in the traffic pattern are prohibited.
- 4.3** Extended legs in the traffic pattern are not permitted unless required by Air Traffic Control or for operational safety.
- 4.4** Whenever feasible, aircraft remaining in the traffic pattern shall use **Runway 13/31**.
- 4.5** During non-tower hours, avoid noise sensitive residential areas and avoid repeated training operations over the same noise sensitive areas.

5 MAINTENANCE RUNUPS

Two locations on the airport are designated for engine tests and maintenance runups, as specified below. These locations are selected to minimize the amount of noise projected toward adjacent residential areas.

- 5.1** Between 1700 local and 2200 all engine tests and maintenance runups in excess of 5 minutes shall be conducted in the designated area.
- 5.2** Aircraft will be parked on a heading of 270 to 320 degrees whenever practical.
- 5.3** Except in emergencies, engine tests and maintenance runups are prohibited between 2200 local time and 0800 local time.
- 5.4 Run-up Areas** - The runup pad adjacent to the threshold of the active runway should be used.

6 HELICOPTER PROCEDURES

The unique design characteristics and capabilities of helicopters allow and sometimes require operations to and from movement areas not designated for fixed wing aircraft. In general, helicopter operators are instructed to avoid the flow of fixed wing aircraft. The following procedures shall apply to helicopter training.

- 6.1** Helicopter training in the traffic pattern area is prohibited from 2200 local time to 0800 local time.
- 6.2** Air Traffic Control shall determine traffic pattern procedures for training helicopters, keeping in mind the noise sensitive areas surrounding the airport.
- 6.3** During non-tower hours, helicopters shall follow the preferred noise abatement routes (Interstate 35E, Highway 5/Railroad Line, and the Mississippi River) whenever possible and avoid noise sensitive residential areas, as detailed in Figures 3.2, 3.3, 3.6 and 3.7.

7 NIGHTTIME RESTRICTIONS

The period of 2200 hours to 0700 hours is when most people are resting and are most sensitive to noise intrusions. To help mitigate the effect of airport operations on the surrounding community, the following voluntary nighttime restrictions are in effect.

7.1 Operators are asked to voluntarily restrain from conducting operations during the quiet hours, 2200 to 0700 local time.

7.1.1 If operations must occur during the quiet hours, operators shall follow the departure and arrival procedures previously outlined and avoid flying over noise sensitive residential areas.

7.2 No training may be conducted in the traffic pattern between the hours of 2400 local and 0700 local. *Note: Operations between 2200 and 2400 local may need to be conducted for the purposes of meeting nighttime flight currency requirements.*

7.3 Intersection takeoffs at the airport are discouraged at all times. There may be no intersection takeoffs between the hours of 2200 local and 0700 local.

8 COMPLAINT PROCEDURES

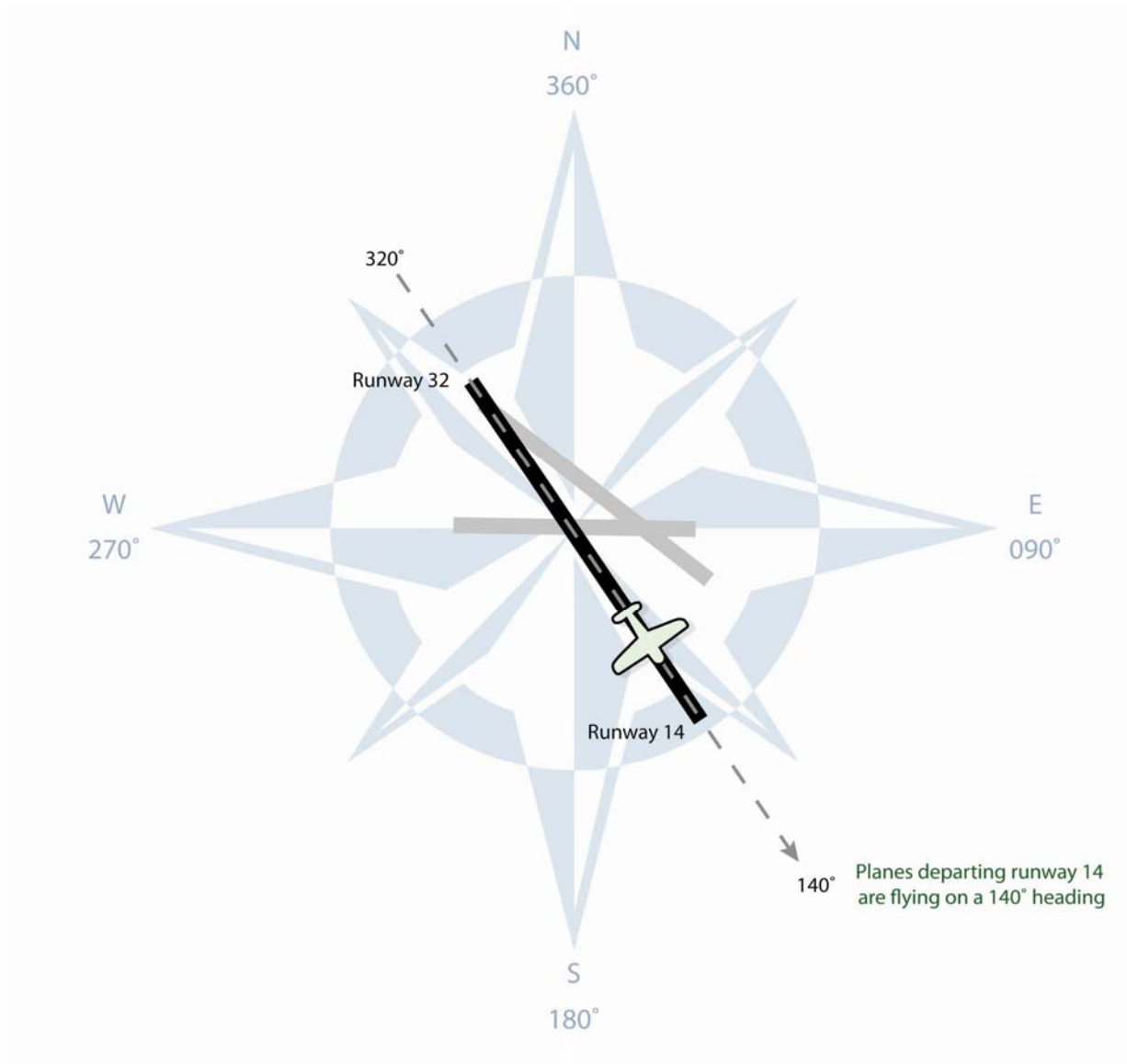
The Metropolitan Airports Commission maintains a noise complaint and information line 24 hours a day, seven days a week. Residents can call this number **(612-726-9411)** or the locally listed number **(651-224-2203)** to file noise complaints about specific operations at STP or to request a return call. Residents may also log complaints using the Noise Program website: www.macnoise.com.^{*}

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Appendix A - Additional Information

Aircraft Headings and Runway Assignments

Note: Complex airport geometry, verify correct compass heading prior to departure.

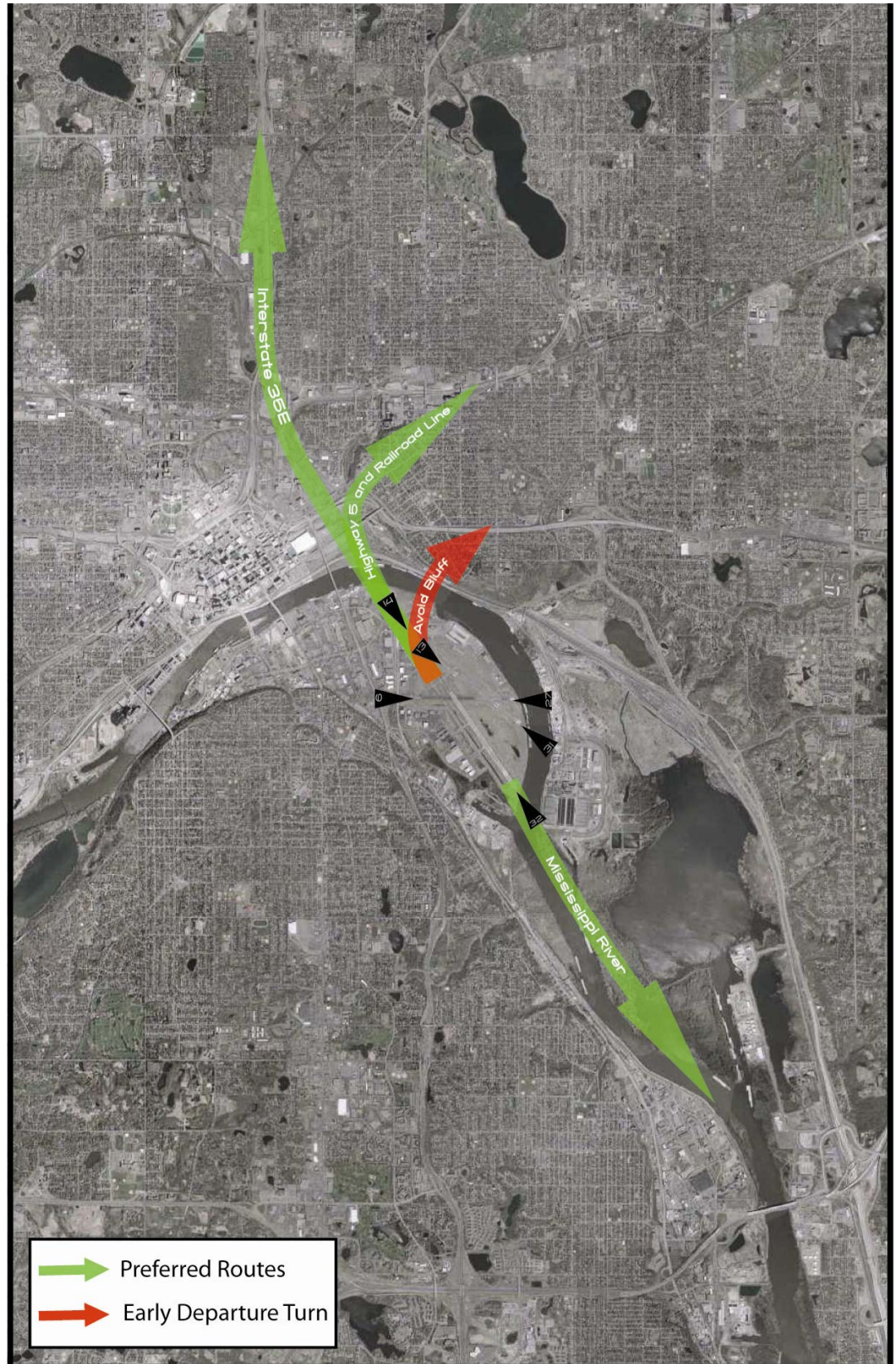


STP - Air Traffic Control Tower Hours

Monday - Friday: 0600 – 2200 local (6:00 a.m. to 10:00 p.m.)

Saturday - Sunday: 0700 – 2200 local (7:00 a.m. to 10:00 p.m.)

Appendix B - Aerial Photo and Noise Abatement Takeoff Procedures



Appendix C - Aerial Photo and Noise Abatement Approach Procedures

Runway 32 Noise Sensitive Arrival Pattern



Runway 14 Noise Sensitive Arrival Pattern

