

To: Truckee-Tahoe Airport District
From: Karin Hardiman, TRK NFCT ATM
Date: March 24, 2020
Subject: How are Runway Decisions Made at TRK?

The air traffic controllers at TRK rely on a combinations of runways, or a single runway configuration, to efficiently and safely direct the landing and departure of aircraft. They also follow the strict guidelines set forth by the Federal Aviation Administration (FAA) which can be found in FAA Order JO7110.65Y which states:

Section 5. Runway Selection

3-5-1. SELECTION

- a. Except where a “runway use” program is in effect, use the runway most nearly aligned with the wind when 5 knots or more or the “calm wind” runway when less than 5 knots unless use of another runway:
 1. Will be operationally advantageous, or
 2. Is requested by the pilot

NOTE-

1. If a pilot prefers to use a runway different from that specified, the pilot is expected to advise ATC.
2. At airports where a “runway use” program is established, ATC will assign runways deemed to have the least noise impact. If in the interest of safety a runway different from that specified is preferred, the pilot is expected to advise ATC accordingly.

Weather is an integral factor in airport operations, aircraft performance, and determining runway selection and flight paths. Factors such as surface winds, winds aloft, cloud height, cloud type, precipitation, temperature, sea level pressure, and density altitude are considered by pilots and air traffic controllers before a runway determination is made.

Under ideal conditions aircraft takeoffs and landings should be conducted into the wind. However, other considerations such as delay and capacity issues, FAA-mandated separation requirements, runway length, available instrument approaches, noise abatement procedures, and other factors may require aircraft operations to be conducted on runways not directly aligned into the wind. Aircraft land into the wind to slow to a speed capable of a controlled touch-down on a runway. Therefore, the wind direction and speed at TRK is the foundation for many operational decisions. While aircraft may operate with limited tail winds, it is not ideal because higher ground speeds may lead to unsafe conditions upon landing. As the wind changes at TRK throughout the day, the runways in use and flight paths change accordingly.

Air temperature also has an impact on the performance capabilities of aircraft. Colder temperatures lead to better aircraft performance and allow aircraft to climb faster when departing. Warmer temperatures can cause aircraft to climb slower. These calculations are critical in mountainous terrain and an important factor in runway selection for an aircraft departing TRK. Additionally, aircraft flight paths and runway selection may change in order to

avoid severe weather such as thunderstorms, snow storms, icing, turbulence, wind shear, or lightning.

Because of the unique influences and dynamics associated with TRK airport, electing which runway(s) to use for aircraft departing and arriving can be a complex task. Decisions about airport configuration and runway use at TRK are made carefully on a continuous basis by the Midwest ATCS air traffic controllers. When selecting runway(s) in use, the air traffic controllers take into consideration numerous factors including:

- Safety
- Efficiency
- Wind direction and wind speed (on the surface and aloft)
- Aircraft weight and performance
- Noise abatement
- The number of inbound and outbound aircraft
- Direction aircraft are arriving from / departing to.
- Special activities such as gliders, skydivers, training flights, etc.

TRK air traffic controllers take pride in being partners with the Truckee-Tahoe Airport in helping reduce noise annoyance due to air traffic flying in and out of the TRK airport. The controllers utilize calm wind runways whenever possible and direct aircraft to fly over roads in lieu of houses when able. They issue specific instructions to each arriving and departing aircraft with this in mind. The phraseology utilized by the TRK air traffic controllers to direct pilots away from neighborhoods is often lengthy and arduous during busy periods, however they are committed to fulfill the contractual agreement to provide this service and do so professionally and transparently.