

Alternate Runway Consideration

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DRAFT 02 - DAVID DIAMOND (sfdavidd@gmail.com) - FEB 07 2020

This suggestion includes:

- Construct a north-south runway.
- Add a displaced threshold to Runway 20.

Rationale

The Airport has done much in terms of reducing noise and annoyance to the community. Issues that come before the Board and ACAT are often focused on this topic. With the low-hanging fruit picked, the airport is left to invest in methods that will, at best, *theoretically* reduce noise and annoyance. In many cases, these efforts yield negligible results, for those most adversely affected by airport noise and annoyance.

Airplanes will not become substantially quieter any time soon. Pilots can be trained and encouraged to use no-wind “quiet” runways, when safety permits; but there will always be those who choose otherwise. Our best option for reducing noise, while increasing safety for the underlying community, is to reduce the number of planes that fly over our community.

There are two main goals here:

1. Send aircraft where there is little to no community below.
2. Give pilots fewer reasons to choose “noisier” runways.

What's suggested in this document will not be easy or inexpensive to implement, but I believe it's our best option for making a significant step toward reducing noise and annoyance.

With new flight procedures available to us, thanks to the deployment of an ADS-B ground station, now is the time to consider whether we further that investment for the benefit of the community. This new runway option could yield flight procedure options that could really move the needle, in terms of the airport's impact on the region.

NOTE: Because this new runway would not be longer than the current Runway 29/11, it cannot be expected to permit larger, heavier aircraft to use the airport.

Diagonal Runway

A long, north-south runway was dismissed in previous conversations due to costs and prevailing winds. There was recognition that such a runway could decrease noise and annoyance, and increase safety, because aircraft could arrive and depart over areas of minimal to no population.

Wind Considerations

There can be significant portions of time during which TRK is under calm-wind. This is especially true during nighttime and early morning hours.

If morning turbine traffic were to depart to the north--essentially direct toward the Bug Station, then on course--this would greatly reduce annoyance for community off the departure end of 29. Reduced departures off 2 would likewise decrease noise for Glenshire residents.

Any late-night emergency operations that use the airport could also use the new runway, making their operations much less noticeable to residents.

Assuming the common afternoon winds at TRK, there would be a crosswind component for the south runway that would not be objectionable to the largest, loudest aircraft. These pilots might readily

accept the crosswind to be able to make what is essentially a straight-in approach from the existing RNAV (GPS) Y arrival.

In IMC conditions, this runway option could preclude the need for a circle-to-land approach to Runway 29, which pilots and the FAA would appreciate.

For pilots concerned about the winds, Runways 20 and 29 remain available.

Terrain Considerations

Terrain isn't a significant concern to the north, so this departure should be available to all aircraft types. Traffic landing to the south would likewise have few terrain concerns. IFR approaches would likely have requirements no more restrictive than those currently affecting the approach to Runway 20.

Departures to the south would have roughly the same terrain concerns of aircraft departing from Runway 20.

Higher performance aircraft flying VFR toward Lake Tahoe would have a fast, nearly straight path out of the area, limiting their time circling over town. Contrast this to the Tahoe-bound path of a Runway 29 departure. Lake-bound VFR aircraft departing to the north (in any performance class) would be able to circle back over the Bug Station to gain altitude, while remaining clear of residential areas.

IFR Departures

Northbound IFR departures to the TRUCK4 intersection would require a minor westerly turn, by contrast to the turns currently required when runways 2 or 29 are used. While making this turn, they are not overflying neighborhoods, which is in contrast to IFR departures off 29.

Traffic Pattern

A traffic pattern west of the runway would keep aircraft away from neighborhoods. (Left traffic for the north runway; right traffic for the south runway.) This, along with the long runway length, would make the runway

ideal for training during calmer winds. (Or for crosswind practice otherwise.)

Displaced Threshold for Runway 20

By adding a displaced threshold to Runway 20, we discourage larger aircraft from using the virtually shortened runway. By having the longer, diagonal runway as an option, these aircraft will likely have no interest in Runway 20 at all. This would be good news for Glenshire residents.

The threshold will additionally ensure that arriving aircraft for Runway 20 remain at higher altitudes while near Glenshire, and that they are more likely to avoid the sometimes strange wind patterns just short of the existing threshold.

Essentially, runways 2-20 become the domain of smaller aircraft, such as those used for skydiving and glider tows.

No changes would be made to Runway 2. (The Master Plan discusses adding physical length to the arrival end of Runway 2, but this would be unnecessary, in light of the addition of a larger diagonal runway.)

Summary

A primary goal of this suggestion is to reduce the need for and interest in Runway 29. In doing so, we reduce the noise and annoyance that affects many Truckee residents, without shifting the traffic toward other neighborhoods.

When flight safety favors Runway 29, that runway remains available. But for the times during which the wind is light or calm, there is a new runway option that offers better emergency landing options (according to the pending Emergency Landing Locations map), with fewer terrain considerations.

In having a new departure option, we can further diversify flight paths, so that certain residents aren't unfairly burdening the lion's share of flight traffic.

We also provide a new traffic pattern option that keeps aircraft over airport grounds, away from residences.