

**Minutes
Tempe Aviation Commission
August 6, 2014**

Minutes of the Tempe Aviation Commission meeting held on August 6, 2014, 6:30 p.m., at the Public Works Conference Room, Garden Level, City Hall Complex, 31 E. Fifth Street, Tempe, Arizona.

(MEMBERS) Present:

Lane Carraway
Sally Clements
Shannon Dutton (Vice Chair)
Gordon Gauss*
Karyn Gitlis
Lance McIntosh
Barbara Sherman (Chair)*

(MEMBERS) Absent:

Mark Garrigan (Excused)
James Wennlund (Excused)

Guests Present:

Erik Bowring, Operations Support
Manager, FAA WSE-P50 Phoenix
TRACON
Curt Faulk, FAA Staff Manager, FAA
WSE-P50 Phoenix TRACON

Citizens Present:

Darlene Justus, NTNA President
Bill Justus

City Staff Present:

Oddvar Tveit, Environmental Quality
Specialist

Meeting convened at 6:32 p.m.

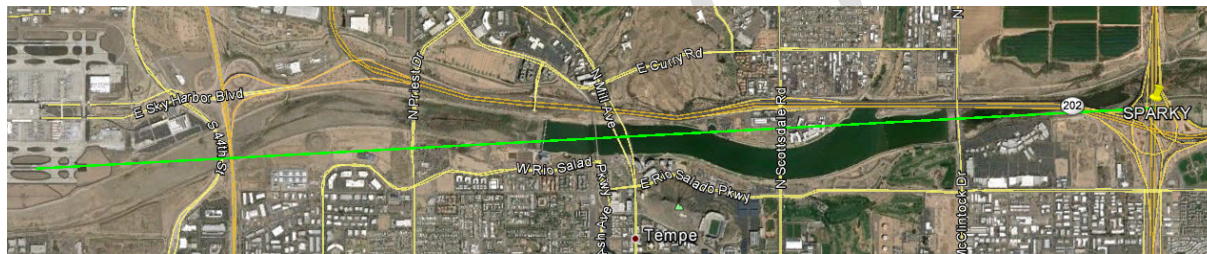
Shannon called the meeting to order.

Agenda Item 3 – Updates from PHX FAA

Curt Faulk opened his presentation by explaining the federal mandate given to the FAA by Congress to implement a new air traffic control system called "NextGen." PHX is among the "Core 30" airports which are on a schedule to have their air traffic procedures replaced. In the past the FAA made an effort to speed up this process by producing new technology flight procedures that overlaid the existing procedures. The improvements in safety, efficiency and capacity to be gained by introducing new technology could not be accomplished by this effort; it did not meet the goal and the mandate from Congress. The goal is to modernize the system by 2025. Replacing a ground-based navigation system with a satellite based system that is more accurate and flexible can save flight miles, and reduces aircraft emissions and the number of people over flown. PHX is in the forefront of this transition. Between 1999 and 2003 air traffic increased a lot at PHX. New technology was introduced; the environment the air traffic controllers were working in meant that PHX approach control often had to hold back traffic at the outer fixes 40 miles out, because they were not able to handle the traffic volume. In the middle of the last decade operations went down, and PHX was looking at ways to be prepared when

*Attending by telephone conference call.

the traffic rebounded. In 2006, before the “NextGen” got its name, PHX started its work on new technology procedures. In 2008 PHX implemented flight procedures that changed not so much where planes were flying, but how high and at which aircraft power settings they were flying. PHX has been successful implementing new technology flight procedures. An arrival route from the north east (Eagul) to PHX has brought acclaim nationally as an example of what can be accomplished with the new technology. Curt showed paragraphs in the FAA air traffic controller handbook that require controllers to prevent air traffic collisions. Air traffic control is there to provide safe, orderly and expeditious air traffic, and the air traffic controller’s job is to keep aircraft separated by certain minimum distances. However, the air traffic controller also has to keep the aircraft together as close as possible without breaking the minimum distances, which makes this a stressful profession. Providing separation between aircraft and giving safety alerts is what the air traffic controller does; everything is secondary to safety. Curt explained the term RNAV, and required [RNAV procedure accuracy](#) and displayed what the pilot has available in cockpit including a screen showing geometric depictions of waypoints on a selected RNAV departure route. PHX has in the past been implementing RNAV arrival routes, reducing the area where populations are overflown and reducing the need for pilots to level the aircraft off during descents and instead implement idle continuous descents towards the airport. He showed how RNAV navigation points are used to create procedures aircraft can follow quite precisely, and explained how the traditional procedure headings off the runways to the east of PHX would be replaced by a “fly over” waypoint in the middle of the “PHX Gate” at 4-DME.



“Sparky” fly over navigation point in proposed PHX RNAV IDPs for eastbound departures. The depiction includes a line drawn from Runway 7L, the main departure runway, to the new waypoint. When an RNAV equipped aircraft reach 1620 feet (MSL) the aircraft is programmed to climb east over the “Sparky” waypoint.

Ninety-five percent of the aircraft and all jets in use at PHX can fly the new technology (RNAV) procedures. The airline’s ability to fly these procedures depends on the equipment in the aircraft used and the pilot’s certifications. The change to new RNAV standard instrument departure procedures will occur on September 18th, 2014.

Lane asked about airlines descending over north Tempe neighborhood and Sally asked questions about the responsibilities of the air traffic controller and the pilot to make sure flight procedures are followed.

Curt showed depictions of departure flight tracks dispersing over larger areas due to the controller’s need under existing procedures to clear each departing aircraft based on its separation to other aircraft. Much smaller areas are expected to be over flown by using the new RNAV departure procedures that not only reduce time, track mileage, fuel use, emissions and noise, but also reduce potential conflicts between aircraft.

Erik explained how the FAA TRACONS airspace is arranged around four corner posts for arrivals and departures are routed in the spaces in between. The north runway is supplied with arrivals from two corners as is the south runway. He explained how the southeast corner airspace is restricted by military airspace requiring routing around the military airspaces when

the airspace is in use. Instead of traditional radar vectoring the RNAV routes split the traffic depending on whether or not the gates to the restricted airspaces are open or not. This will provide less flight track dispersal.

The members asked about how the new routing technology would impact the airport noise exposure contours. Curt and Erik stated that that has yet to be seen, there is potential for a small reduction in size north/south inside the area three miles off the runways.

Karyn and Darlene Justus asked about what to expect over the riverbed. Would the air traffic controllers still be clearing planes for departure based on visual separation by the pilots? They stated that over Tempe, this can result in pilots maneuvering planes off the prescribed headings and we get flight tracks dispersing over populated areas before planes reach the 4-DME. Curt explained about the use of visual separation to keep departing aircraft separated by two nautical miles instead of three nautical miles. Most likely visual separation between departures using the new RNAVs would be restricted for some of the routes in the beginning of their use. It remains to be seen as controller training and the practicing of the new procedures evolves, but Curt emphasized that with the lab simulations done for the new procedures and their knowledge about avionics in the aircraft, they are quite confident that planes using the new RNAV procedures will perform accurately on departure and fly over the new waypoint at 4-DME.

Barbara asked how the location of the fly-over way point was selected relative to the classic procedure headings. Erik responded that coordinates for where the 4-DME gate is located were used as an overlay to find the location of the waypoint in the middle of the gate. To ensure predictability of flight paths at 4-DME, a fly-over waypoint was chosen to avoid the variations in pathways flown at fly-by waypoints of an RNAV route.

Karyn left the meeting at 7:40 p.m.

Erik explained that in addition to the four incoming arrival routes PHX will have nine departure routes after September 18th, 2014. He displayed depictions of the different departure routes after the initial fly over fix called "Sparky." At the end of the presentation Curt showed fuel savings at different airports, and mentioned how efficiently PHX is run compared to other airports. He also showed depictions of arrival flight tracks before and after RNAV arrivals were implemented at PHX with arrival flight profiles showing aircraft coming in higher and with a significant reduction in aircraft leveling off during descents to PHX. When arrivals reach the downwind leg, they will be sequenced by the air traffic controller just as today. South arrivals will be coming in higher, 17,000 feet instead of 12,000 feet. This means they can be on idle descent for a longer time, reducing noise and fuel burn. Instead of air traffic controller issued altitudes, speeds and headings the aircraft computer will be guiding the plane to fly the prescribed route.

Agenda Item 1 – Public Appearances

Darlene Justus presented articles about drones over north Tempe and Papago Park and provided copies of a memo to Curt and Erik, where the links to YouTube videos taken by drone users were posted.

Agenda Item 2 – Consideration of Meeting Minutes (July 8, 2014)

Sally and Barbara suggested changes to wordings in the drafted minutes. Barbara moved to approve the minutes as amended. Lane seconded the motion. The July meeting minutes were approved by a unanimous vote.

Agenda Item 4 – Drones

Shannon referred to articles distributed by staff and staff explained about the two issues that have been raised relating to the use of drones; the invasion of privacy and the use of drone under the flight paths close to airports. He mentioned that states like Arizona have bills or have passed legislation on drones and privacy, and Tempe has code restrictions on the use of model aircraft and similar aerial vehicles under the flight path in Tempe Beach Park and Rio Salado Park. Barbara expressed that the privacy legislation on the state level addressing enforcement agencies' drone use should be expanded. The FAA guidance on notification of model aircraft uses covers areas in five mile proximity to airports. This should be the area where the state should look at drone restrictions. Lance suggested that the guidance the FAA recently issued to model aircraft users could be used as argument for expanding current regulations in the city code about model aircraft use in city parks. Gordon proposed also adding the concerns raised by NTNA about their use. Shannon proposed discussing the drone issue further at the next meeting. She suggested that the discussion should include information received at this meeting including articles about flying drones over police stations and other public facilities of a city. The members agreed to refer the issue to agenda item six.

Agenda Item 5 – Information pamphlet on Tempe-Phoenix IGA on noise mitigation flight procedures

Staff presented an edited version on the information pamphlet, and asked for any suggestions for final edits. He stated that this would be an action item, recommending it be considered for use by the City of Tempe as a public source of information about the IGA. Barbara suggested final changes to a paragraph in the draft and moved that the Commission accept the draft with the changes and recommend the pamphlet to the Council as a useful piece of information. Lane seconded the motion, which carried by a unanimous vote.

Agenda Item 6 – Commissioners' Business (topics for future discussion)

No new topics were suggested in addition to proceeding with the discussion of private use of drones in Tempe.

Agenda Item 7 – Schedule next TAVCO meeting

The next meeting was tentatively scheduled for October 14, 2014.

Agenda Item 8 – Adjournment

The meeting was adjourned at 8:18 p.m.

Prepared by: Oddvar Tveit

Reviewed by: Steven Methvin

Authorized Signature
Deputy City Manager-Chief Operating Officer