

IV.C.3 Helicopter Flight Path Impacts Study

The proposed PAD will have no impact on the routing or flight path of medical transport helicopters to and from the Banner-University Medical Center (BUMC) hospital.

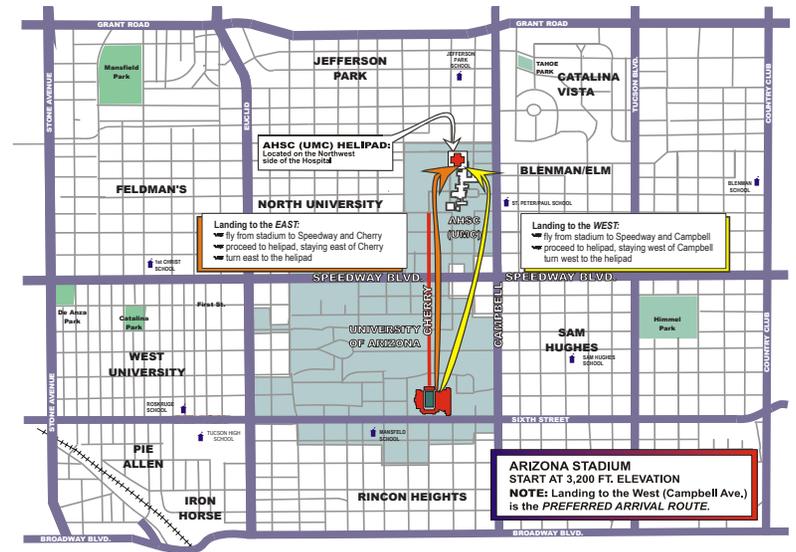
a. Existing Routing Per Approved MOU

During the PAD process for Banner-University Medical Center (BUMC), that developer pledged to honor and operate in full accordance with the existing Memorandum of Understanding (MOU) that was already in place between University Medical Center and the Jefferson Park Neighborhood to the immediate north.

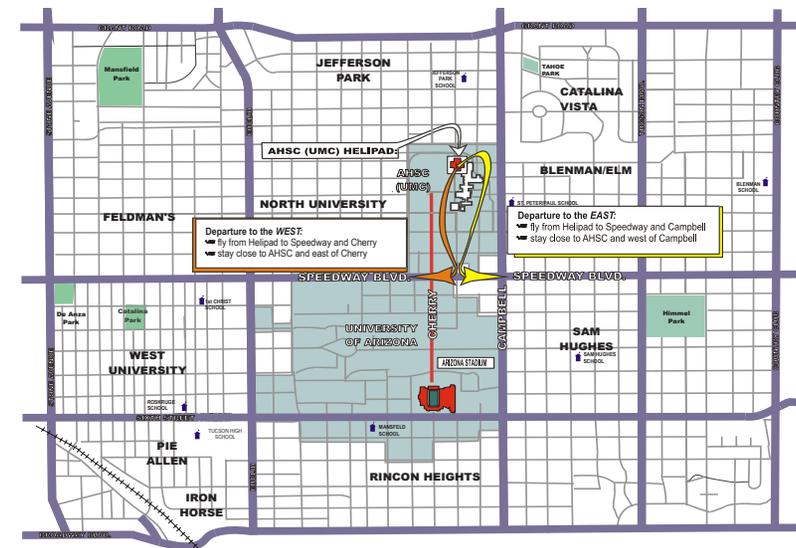
Exhibit No. 36 is taken directly from the aforementioned MOU. The proposed PAD Project and its associated vertical elements will not disrupt the established arrival and departure routes as depicted thereon. While the arrival route for “Landing to the West” depicted on the exhibit graphically appears to be near the proposed PAD Site, there is more than sufficient horizontal separation between the arrival route and the PAD’s proposed high-rise element to ensure avoidance by incoming helicopters.

More recently, a temporary flight path has been established, in coordination with the Jefferson Park Neighborhood Association, to address the significant on-going construction that is occurring with the Banner-University Medical Center (BUMC) Hospital, as well as with the new Health Sciences Innovation Building and the Bioscience Research Laboratory on the Arizona Health Sciences Center (AHSC) campus. The numerous construction cranes and active vertical elements associated with this construction have yielded the new, temporary flight pattern that is illustrated in Exhibit No. 37. This temporary routing may also stay in force beyond the completion of construction, until such time that the new helipad location is in place atop the new BUMC Hospital. The proposed PAD Project will have no impact on these revised arrival and departure paths.

Exhibit No. 36 | Existing Helicopter Flight Patterns (Excerpt from MOU)

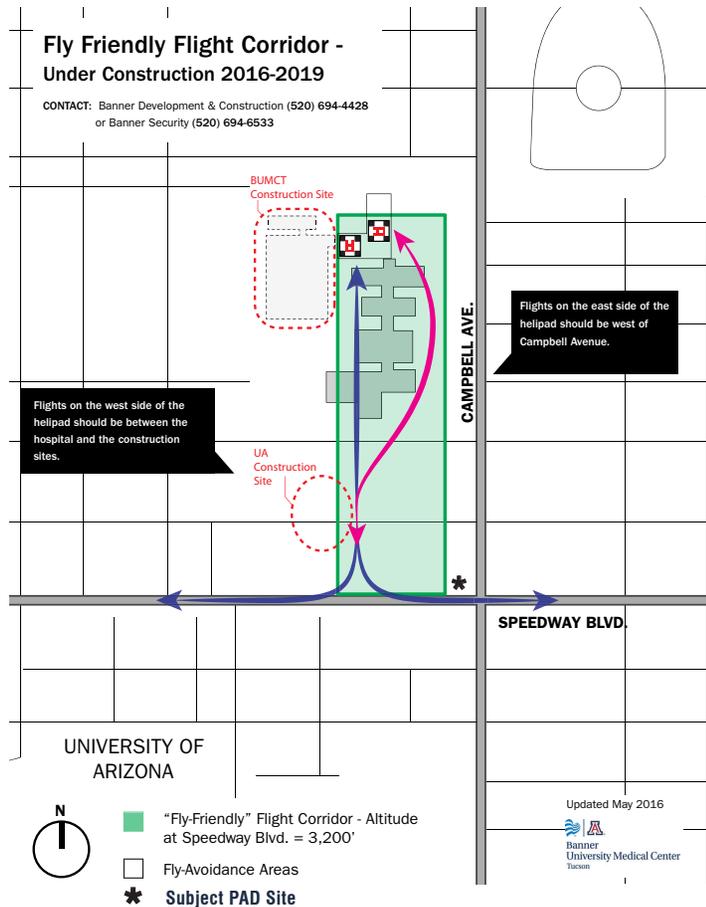


AHSC (UMC) HELIPAD ARRIVAL INSTRUCTIONS
 UMC Facilities Planning, Design & Construction -- May 1999



AHSC (UMC) HELIPAD DEPARTURE INSTRUCTIONS
 UMC Facilities Planning, Design & Construction -- May 1999

Exhibit No. 37 | Temporary Helicopter Flight Patterns During Construction



b. Noise Reflectivity/Reverberation Upon Neighborhoods

An independent acoustical analysis was completed to address neighbor concerns regarding the potential for increase in helicopter noise and/or reverberation upon residential areas. These concerns pertained to the introduction of a twenty-story high-rise building near the flight paths of the incoming and outgoing helicopters.

The basic orientation of the proposed high-rise is such that its predominant elevations face north and south, with only a narrow face oriented eastward in the direction of the nearest residential areas. Given this orientation and the slender nature of the east facade, only the north and south building faces afford any potential for significant sound reflection.

In addition, the helicopter's flying altitude/elevation at Speedway Boulevard must be kept in mind. The prescribed flying altitude is 3,200 feet. The ground elevation of the PAD Site is approximately 2,500 feet and its high-rise is limited to a height of 250 feet, placing its top at an elevation of approximately 2,750 feet. With this in mind, any incoming helicopter, even if directly overhead, will pass the high-rise significantly above its highest point when in compliance with the prescribed flying altitude.

To ensure a worst-case analysis with the acoustical study, the proposed high-rise has been analyzed as a perfect reflector of sound and no atmospheric sound absorption has been contemplated. The basic flight paths used in the analysis are the incoming and outgoing ones under the existing Memorandum of Understanding (MOU), as the incoming path therein traverses closest to the proposed high-rise element. To even further ensure maximum sound potential, the incoming flight was routed and analyzed as proceeding directly over the proposed high-rise (see Exhibit No. 38).

The following points summarize the methodology and findings of the acoustical analysis:

- Four (4) ground-level field points were analyzed for impacts (labeled G1 through G4 on Exhibit No. 38), representing the closest residential properties to the east. Two (2) of the field points are located north of Speedway Boulevard within the Blenman-Elm neighborhood, while the other two (2) are located south of Speedway within Sam Hughes.
- At the prescribed 8.0-degree angle of descent, the helicopters would pass the proposed high-rise significantly above the building's highest point. This relationship ensures that any helicopter noise will be reflected downward, impinging upon the properties nearest to the building base. Exhibit No. 38 depicts this incoming flight scenario and illustrates that the primary receiver of reflected sound will be the A-Loft Hotel at the southeast corner of the Speedway/Campbell intersection.
- In the incoming flight condition, the resultant change in sound pressure level (SPL) at the four (4) analysis field points is insignificant, with the worst-case increase at any of the field

points being 1.1 decibels (field point G4) over the existing flight/noise condition. This increase is imperceptible to the unaided ear.

- The same basic result is true of the departure flight. Given its traverse further to the west, the worst-case increase at the four (4) analysis field points is 0.8 decibels (field point G2) over the existing flight/noise condition.

With respect to reverberation, the acoustic study indicates that there is no potential for same given the lack of sufficient other structures in the immediate area of similar height or mass as that of the proposed high-rise. Reverberation requires a “canyon” or other form of contained sound environment necessary for reverberation to occur. No such condition will be created with the new high-rise.

For those readers desiring more detail, the entire acoustical study summarized above has been included in Appendix C of this PAD.

Exhibit No. 38 | Acoustic Study Particulars

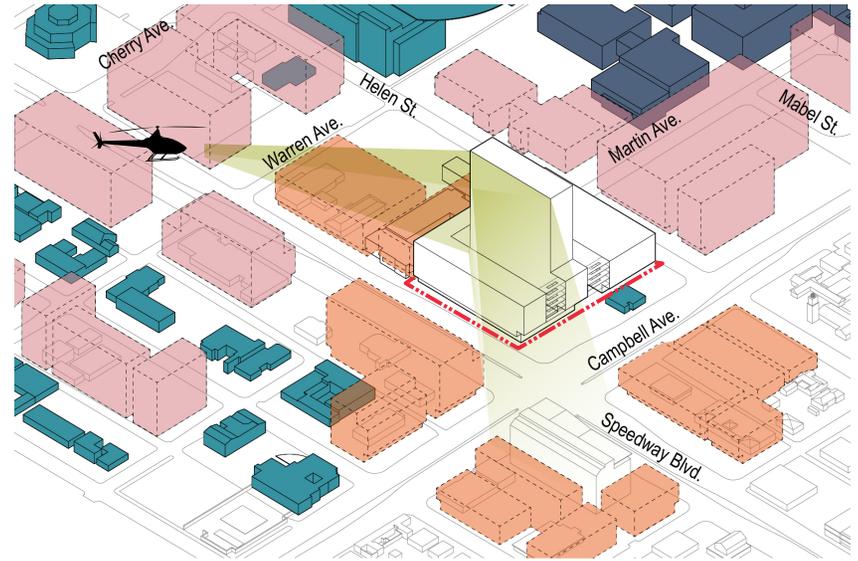
FLIGHT PATHS



Incoming/Outgoing Flight Paths for Acoustical Analysis and Location of Ground-Level Field Points

- LEGEND**
- PAD DISTRICT BOUNDARY
 - SOUTHERN DEPARTURE
 - EASTERN APPROACH
 - FIELD POINTS ANALYZED

SOUND REFLECTION



Downward Sound Reflection from the Incoming Flight Scenario

LEGEND

- PAD DISTRICT BOUNDARY
- PROPOSED SPEEDWAY + CAMPBELL GATEWAY PROJECT
- HELICOPTER SOUND REFLECTION
- UNIVERSITY OF ARIZONA, EXISTING BUILDINGS
- ARIZONA HEALTH SCIENCES/ABOR, EXISTING BUILDINGS
- POTENTIAL FUTURE BUILD-OUT AT SPEEDWAY/CAMPBELL INTERSECTION

* UA 2009 COMPREHENSIVE CAMPUS PLAN; PROPOSED MASSING.