

Airspace and Operational Impacts Study

Cardno provided an airspace and operational impacts study for the rooftop helipad at Thomas Jefferson University Hospital (TJUJH), a Level One Trauma Facility, in downtown Philadelphia.

URBAN ENCROACHMENT

Cardno evaluated the proposed mixed-use residential tower development directly across the street from the Thomas Jefferson University Hospital (TJUJH) I and its potential impact to air medical transport services provided by (TJUJH's rooftop helipad. TJUH is a Level One Trauma Center in Center City, Philadelphia serving the Southeast Pennsylvania, New Jersey, and Delaware region.

The analysis indicated the proposed development would present an obstruction to safe air navigation and significantly impact TJUH's helipad operations interfering with the safe operation of the helipad and TJUH's ability to provide critical air transport medical services. Cardno quickly assembled a team to support TJUH in their deliberations with the residential developer. Safety issues of most concern that were addressed:

- > Helipad Annual Utilization (arrivals and departures)
- > Prevailing Winds and Wind Rose
- > Visual Flight Rules
 - Wind Direction and Speed
 - Landing Orientation
 - Standard Operating Procedure
- > Wind Turbulence Around Buildings
- > Alternative Flight Corridor Analysis

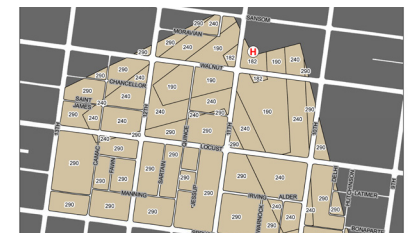
Based on the above key findings, Cardno concluded that the proposed 258-ft mixed use residential development would significantly impact TJUH's air medical transport operations, likely require diversions to alternate landing sites, and increase the critical response time for patients in need of emergency medical services. As a result, the developer subsequently entered into discussions with TJUH and Cardno to find an acceptable development solution.

ZONING ORDINANCE

In light of this most recent mixed-use development, Cardno initiated a further review of other proposed development in the vicinity of THUH's flight corridors over Center City with the goal of developing a long-term plan to protect THUH's helipad operations. Cardno reviewed land use and existing zoning classifications in the vicinity of the helipad and flight corridor, reviewed the City's Comprehensive Plan, and identified other projects under consideration by the City Planning Commission.



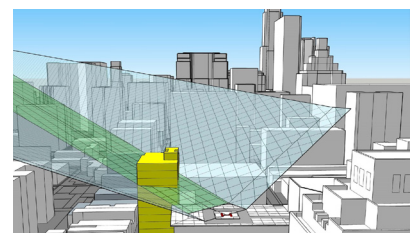
Taking off from the rooftop helipad.



Final Max Height Map for Zoning Ordinance.



The TJUH helipad.



Artist rendering show obstructed flight path with desired residential development design.

While airports are addressed in the City's Zoning Code, there was no existing ordinance to protect flight operations at TJUH's rooftop helipad or the other five hospital helipad facilities in the City.

Cardno recommended that an overlay height zoning ordinance be pursued with the City of Philadelphia to address potential safety risks posed by high-rise buildings to TJUH's helipad in Center City, Philadelphia. The height zoning ordinance would address limiting the heights of proposed development to avoid potential obstructions to flight operations within and adjacent to the approved flight corridors and would require developers seeking a variance from proposed height limitations to obtain an independent study of the proposed development on TJUH's helipad operations further assuring TJUH had an opportunity to comment to any proposed variance during the planning and zoning approval/permitting process.

As a result of Cardno's work with TJUH and the City Planning Commission of Philadelphia, the overlay height zoning ordinance and accompanying zoning map for Center City, Philadelphia was successfully adopted by the City Council in July 2021.

"Just a note to inform Cardno that the ordinance protecting the Jefferson helipad approach and departure was enacted by the City Council and Mayor last week. We ABSOLUTELY could not have accomplished this feat without the assistance of Cardno.... it was tough for us at times however, no significant effort can be accomplished without some measure of pain... There were high stakes as you are aware but our executive leadership team has expressed ecstatic appreciation for the outstanding outcome."

- Clayton Mitchell
Thomas Jefferson University Hospital

MEET OUR EXPERTS



Alan Zusman, AICP
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Senior Principal
AICUZ/Encroachment/EUL

Alan Zusman, AICP Alan joined Cardno after a 30-year career with the Naval Facilities Engineering Command (NAVFAC) as a senior civilian. Alan was the Director of Intergovernmental Planning and was the Program Manager for Navy's Air Installations Compatible Use Zones (AICUZ) Program and Encroachment Management Program. In this capacity, he worked with senior Navy Commands, installations, and community leaders to foster compatible development in the vicinity of Navy installations. Alan was directly responsible for authoring the Navy's encroachment program policy and for advising senior officials within the Navy and Department of Defense (DoD) on strategies for achieving compatible land use. Alan holds a M.S. in Transportation Planning and a B.S. in Aerospace Engineering from the Polytechnic Institute of New York University.



Geoff Olander
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Senior Principal
Military Operations/Noise

Geoff Olander Geoff is a Senior Technical Expert in the areas of aviation, airspace, and military operations and training. In his over 20 years of service as an aviator in the U.S. Marine Corps, he was highly qualified tactics instructor and was responsible for planning and executing the highest level exercises conducted in Marine aviation. His experience covers ground and aviation operations and their integration both at home and abroad, including airspace and range management. His combat experience includes theater-level airspace planning at the Joint level. He has written Training and Readiness Manuals for multiple aircraft. He was the Officer in Charge of the F-35B Site Activation for the West Coast Marine Corps – an effort that encompassed NEPA, MILCON planning, and modification to the Air Station Master Plan to incorporate the structural and infrastructure changes required by the F-35 Program.

For more information and to learn how Cardno can meet your needs, please contact:

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