

# How Aerial Photographers, Pilots and Air Traffic Control Collaborate for Success

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In 1858, the first known aerial photograph was taken from a tethered hot air balloon by a French photographer and balloonist, Gaspar Felix Tournachon, who patented the idea of using aerial photographs in map making and surveying.

Early pioneers of aerial photography also used kites, pigeons and rockets to take their cameras into the skies. Carrier pigeons, with tiny breast-mounted cameras, were used by the Bavarian Pigeon Corp during the early 1900s to carry messages and for aerial reconnaissance.

In 1906, the devastation of the San Francisco, California earthquake and fire was photographed with a camera attached to a string of kites high above the city. Nobel prize winner and Swedish inventor, Alfred Nobel, used a rocket mounted camera to take aerial photographs in 1897.

In 1909, Wilbur Wright was the first to take aerial photographs from an airplane. During World War I, aerial photography of the battle fields soon replaced sketching and drawing. Throughout the years, cameras with greater stability and a shutter located inside the lens have been developed and improved for use in airplanes.

## PAPA Members Rely on Air Traffic Control Services

Today, organizations such as the Professional Aerial Photographers Association (PAPA) rely upon FAA services to accomplish the mission of the pilot and the aerial photographer. Members of PAPA include professional aerial photographers throughout the world. PAPA, an educational group, is dedicated to the promotion of high business ethics, to help members provide quality service and products through shared experience.

There are many different kinds of aerial photography ranging from beautiful pictures of homes or other real estate to photographs showing the progress in the construction of buildings or highways. This type of aerial photography usually is accomplished by having the pilot fly in circles over the site to allow the photographer to capture images from a variety of aerial perspectives.

Also, there are infrared surveys of foliage or land masses, and aerial surveys which – more often than not – are shot during the day and almost always are accomplished while flying in straight lines. Some aerial photography is done in fixed wing, single- and twin-engine propeller airplanes and some is done with helicopters.

## Communication Between Controllers and Aerial Photographers

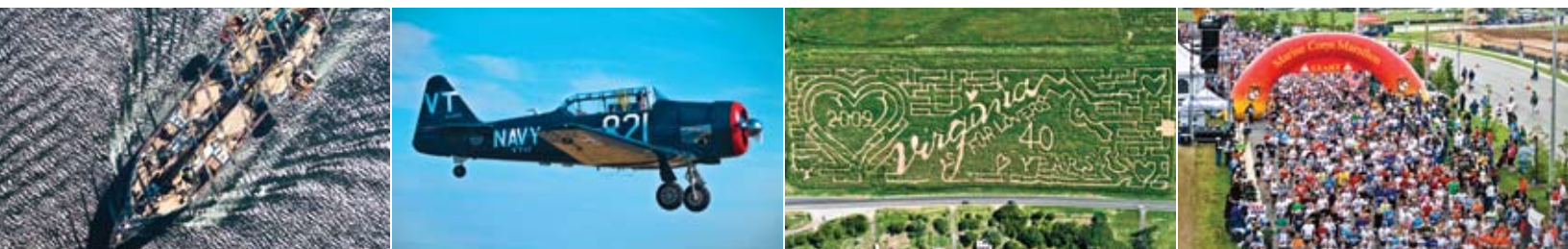
Types of aerial photography include still photography and aerial video. To shoot the ideal image, aerial photographers often request to go places and do maneuvers in the sky that air traffic controllers can hardly believe yet are ready to accommodate. Communication and understanding between controllers and photographers are vital to getting the job done safely and efficiently.

At times, the pilot with an aerial photographer onboard must circle over a site that is centered on a main arrival path to an airport. There may be numerous arrivals on that arrival path at exactly the time the pilot wants to be taking photographs.

Today, with many aerial photographers taking to the skies, the aerial photographers, pilots, FAA management and air traffic controllers complete detailed advance coordination. The site to be photographed, in grid format, often is sent to the air traffic facility in anticipation of the flight.

## Oblique Aerial Images

The most popular aerial image is an oblique image which is shot out of the front, side or rear of an aircraft, and is



defined as “neither perpendicular nor parallel to a given line or surface, slanting, or sloping.”

It is a “sideways” image shot from the air. Professional aerial photographers shoot through open windows or ports keeping the camera lens out of the slipstream and wind with no barriers between the lens and the subject.

### Vertical Aerial Images

The other type of aerial image is a vertical (or near vertical) image which is shot straight down toward the ground showing no side walls on buildings. This is the imagery seen in satellite or Google Earth images. Most vertical images are shot through a “belly port” or hole in the floor of the aircraft.

Near vertical shots are generally shot by tilting the aircraft and the camera toward the ground and shooting out the side window. These are not truly vertical since – in order to shoot them – the pilot would need to tip the aircraft perpendicular to the ground and hold it there long enough to get the shot or shots.

Several types of camera mounting methods and systems are used in aerial photography. Most oblique aerial photography is done from high winged aircraft or helicopters. In low winged aircraft, it is difficult to shoot out the window and not get the wing in the shot.

For vertical photography with a belly port, the wing structure is not important since the shot is straight down. For aerial mapping and straight line vertical photography, remotely controlled cameras with shutter timing devices are the norm.

### Planning an Aerial Photography Assignment

A typical photography assignment includes a review by the photographer of the customer’s needs. The type of shots needed is determined based on assignment requirements. The time of day for the shoot is important to ensure that sunlight is on the correct side of the subject.

For example, if a shopping center faces west, shooting the photograph in the morning would leave the front side in the shade. It would be much more pleasing to see in the late afternoon with sun shining and lighting it like a movie set.

Some locations, especially in the Washington DC area, simply cannot be photographed due to their proximity to restricted airspace. Of course, the distance to be traveled in the aircraft to reach a photo site is an important factor in the price of a job.

### Time is Money

After all assignment details are agreed upon, the pilot and photographer wait for good weather, enter the coordinates in the GPS, coordinate with air traffic control, file the required flight plans and go get the shots.

For an aerial photographer, time is money. The pilot and photographer want to get up there, get the shot and get out. Working collaboratively, the pilot, aerial photographer and air traffic control assure the ultimate success of the aerial photography mission.

### A Personal Note

Several years ago my husband Dan, a retired controller and my Chief Pilot, and I started an aerial photography business. Soon after, we also joined the Professional Aerial Photographers Association (PAPA), finding that familiarity with air traffic control produced interest among the photographers and pilots we met.

As PAPA members, we assumed the role of liaisons for ATC related issues. In fact, many pilots had never visited an air traffic facility and don’t understand what controllers do. I try to explain the air traffic controller’s responsibilities and how to most efficiently and safely work within the system. Dan and I have given several presentations at aerial photography conferences on “How to Play Better with ATC.”

We find it helpful for controllers to see and understand different types

of aerial photography needs and purposes so they can plan better and more efficiently accommodate aerial photographer’s needs. I encourage photographers and pilots to visit or call the TRACON; explain what they want to do, when they want to do it, and where they want to shoot. Then, they can coordinate a time when their mission can be accommodated.

Several years ago, I initiated a PAPA program to provide aerial photography exhibitions to FAA and Canadian facilities. These exhibitions raise awareness among controllers about the business of aerial photography and provide facilities with world class photography and art on display.

Currently there are exhibitions in Miami ATCT/TRACON, Nashville ATCT/TRACON, Potomac TRACON, and Montreal. If you are interested in mounting an aerial photography exhibition at no cost, please contact me at <http://FlyingHAerialPictures.com>. ■

