

 A Guide By Professional Photographer Toby Harriman

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# AERIAL PHOTOGRAPHY BASICS



In Partnership with:





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A DOORS-OFF AERIAL PHOTOGRAPHY GUIDE

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# PLANNING & BOOKING TIPS



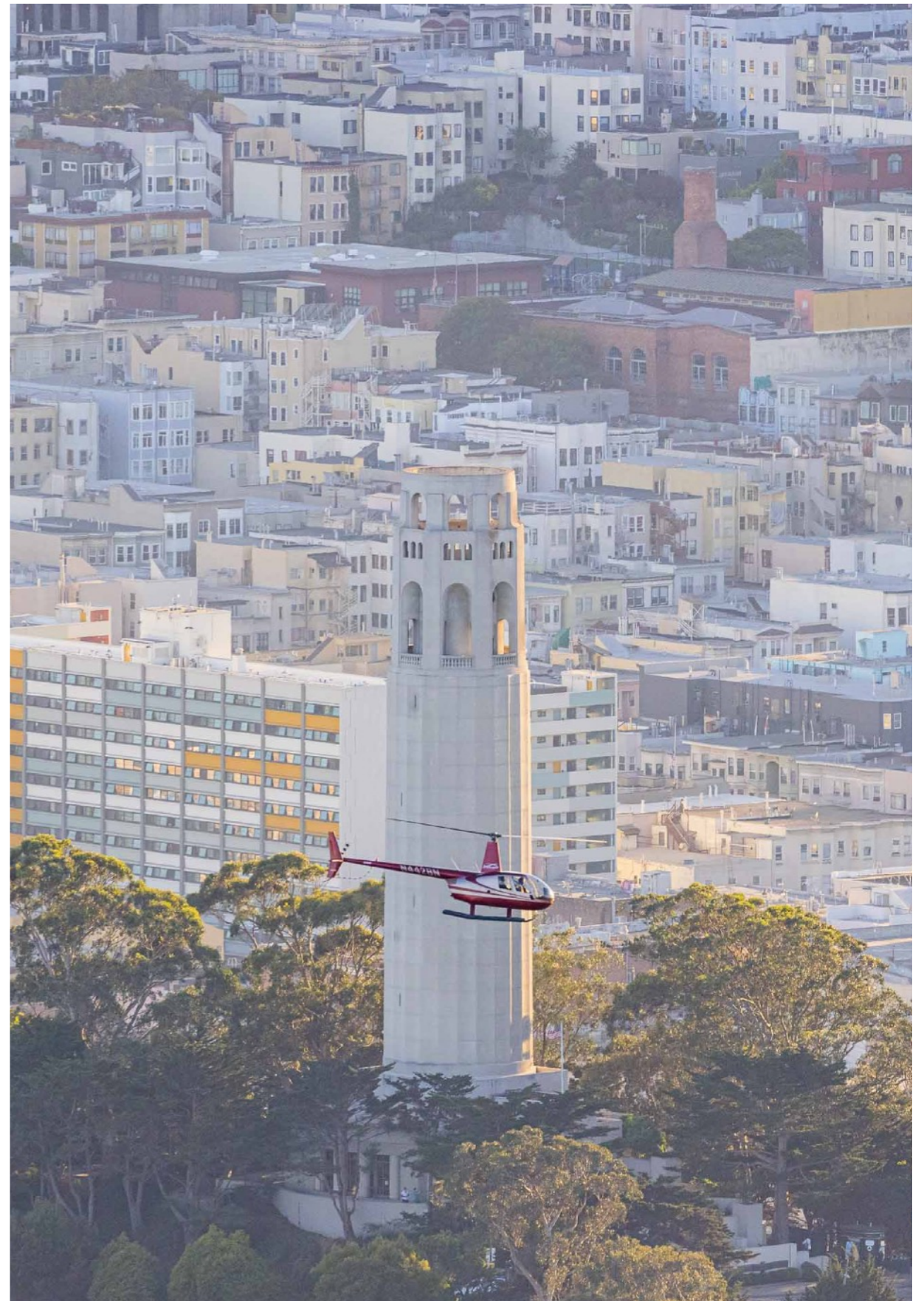
# PLANNING & BOOKING

One of the first things to consider when booking an aerial experience is the planning that goes into your flight.

There are lots of things to think about. From what type of light you want to capture, what time of day you want to fly, what camera, what lenses will be the best fit and even what you wear, especially if you are shooting with the doors-off.

When working in urban environments, like San Francisco or any city for that matter, I personally tend to lean towards booking a custom doors-off helicopter experience with a local provider.

Over this guide I will go over the basics to help get you started and better your aerial photography experience. This is a guide to help you get started and are just my personal recommendations from what I have learned over many hours of flying and shooting.



# PLANNING & BOOKING

Knowing what type of budget you have, will be extremely helpful when choosing your helicopter or airplane package.



When I am flying by myself I tend to book a Robinson R22. It's a two seater (Pilot + 1 Passenger) and will be the most cost effective helicopter when flying solo. Booking a Robinson R44 however, gives you four seats (1 Pilot + 3 Passengers) which can also be cost effective as it will allow you you split the helicopter cost 3 ways. Beyond those two helicopters, you could book a Robinson R66 if your provider has one and this will give you five seats (1 Pilot + 4 Passengers).

Beyond the typical Robinson brand, going more expensive routes with A-Stars, Bell Rangers, Euro Copters and beyond will give you dual engines and freedom for mounting expensive camera packages. Every provider will have different options.

When I fly in places like Alaska and want to get far into the mountains, I will most likely book an airplane vs a helicopter.

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# TIME OF DAY

Picking what time of day you want to fly can definitely be a personal preference. I personally love flying around blue hour to Sunrise and visa versa Sunset into blue hour times.

## Morning, Daytime or Evening:

After flying a few times during sunrise, it definitely became my favorite. I am not a morning person though. However, every shoot and location will have different variables and goals. Try to plan how the light will be interacting with your location. Use apps like PhotoPills to see where the sun will rise and set. Work with your helicopter/airplane company on current weather conditions. Finally, make sure everyone is on the same page with your flight plan.

For example, San Francisco is incredible at sunrise. You will be taking off super early, by the time you hit the city, the sun will be popping over the hills filling in the skyline with some of the most beautiful light you can imagine. When you shoot San Francisco at sunset, the city will be more backlit with the sun sitting over the ocean. Both are amazing.

I always try to book 30 to 45 minutes before when I want to shoot. With San Francisco it can take 15-25 minutes to take-off from the Heli pad and fly to the location you will be shooting at. Keep that in mind if you want to shoot a sunset and trying to plan you schedule.





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# COMMUNICATION

In most if not all cases, you will have a headset on and will have direct communication with your pilot at all times. Use this to your advantage.

## Pre-Flight Planning:

Having a specific shot or plan upfront is always helpful. I will always communicate with my pilot well before my flight. I go over a rough idea of shots, location, elevations, time of day and even whether. They are professionals, they know the area well and are always happy to help you accomplish your goals. On the day of shoot. I will arrive extra early before my flight to make sure I have time to get all my gear ready and talk with pilot one last time about our flight plan and goals.

## In-Flight Communication:

First and foremost, I take the pilots word when it comes to safety and regulations. If I give them direction on a specific shot I am after and they are not comfortable with it, I throw that idea out. During every flight, I am always giving as much direction as possible. Every pilot will be different but the more you fly with the same pilot, the more you learn each others language.



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# GEAR & SETTINGS TIPS







# CAMERA SETTINGS

There are many ways to shoot, but these are my personal and preferred settings after taking 100+ flights, shooting out of helicopters, bush planes and even hot air balloons.

**Manual:** Going back to what your high school photo teacher might have said: “Manual is the only setting.”

**Settings:** Shoot fast, faster shutter speeds will help you achieve sharper images. If it is still fairly bright out, you may want to start at a mid-range f-stop in the f/5.6 to f/11 range with a faster shutter in the 1/1000 – 1/5000 range and an ISO of 50-600. As the light dims you will want to start compensating for this. For example, if your lens can go down to f/2.8 you can keep the faster shutter speeds and lower ISO, you may find yourself around f/2.8 with an ISO of 800 and 1/1000. In most cases, I would recommend not going slower than 1/250 of a second if possible. Realizing you may be bumping your ISO well above 1,000 if not 3,000+ in some cases and getting to an f/2.8 stop. Every camera and lens will be different, so you may be able to shoot upwards of ISO 6400 with no issues at all. Or lower if you lens has a wider f-stop like a 1.4 or 1.8.

**Focus:** Just as we are shooting in manual here, setting your lens to “Infinite focus” will be a good way to insure everything is in focus. Modern Auto-Focus camera will also do a pretty good job as well, but Infinite focus will insure sharp images throughout the flight.



# CAMERA SETTINGS

Every camera will perform at different levels. Below is a helpful guide and starting point. Play around with these settings or experiment with your own and see what works best for you.

## Day Time Settings:

F/5.6 > F/11  
F/1,500 > F/4,000  
ISO 50 > 600

## Sunset > Golden Hour Settings:

F/2.8 > F/9  
F/800 > F/1,500  
ISO 350 > 1,000

## Blue Hour > Night Time Settings:

F/1.4 > F/5.6  
F/250 > F/800  
ISO 600 > 6,400

*\*If you are shooting air-to-air. For example shooting helicopters or airplanes and flying at similar speeds in formation, you can play with shutter speed in the 1/80 to 1/250 range. This will give you a better motion blur on the propellers. It's definitely a more advanced situation and you can definitely risk a few more blurry shots at times.*





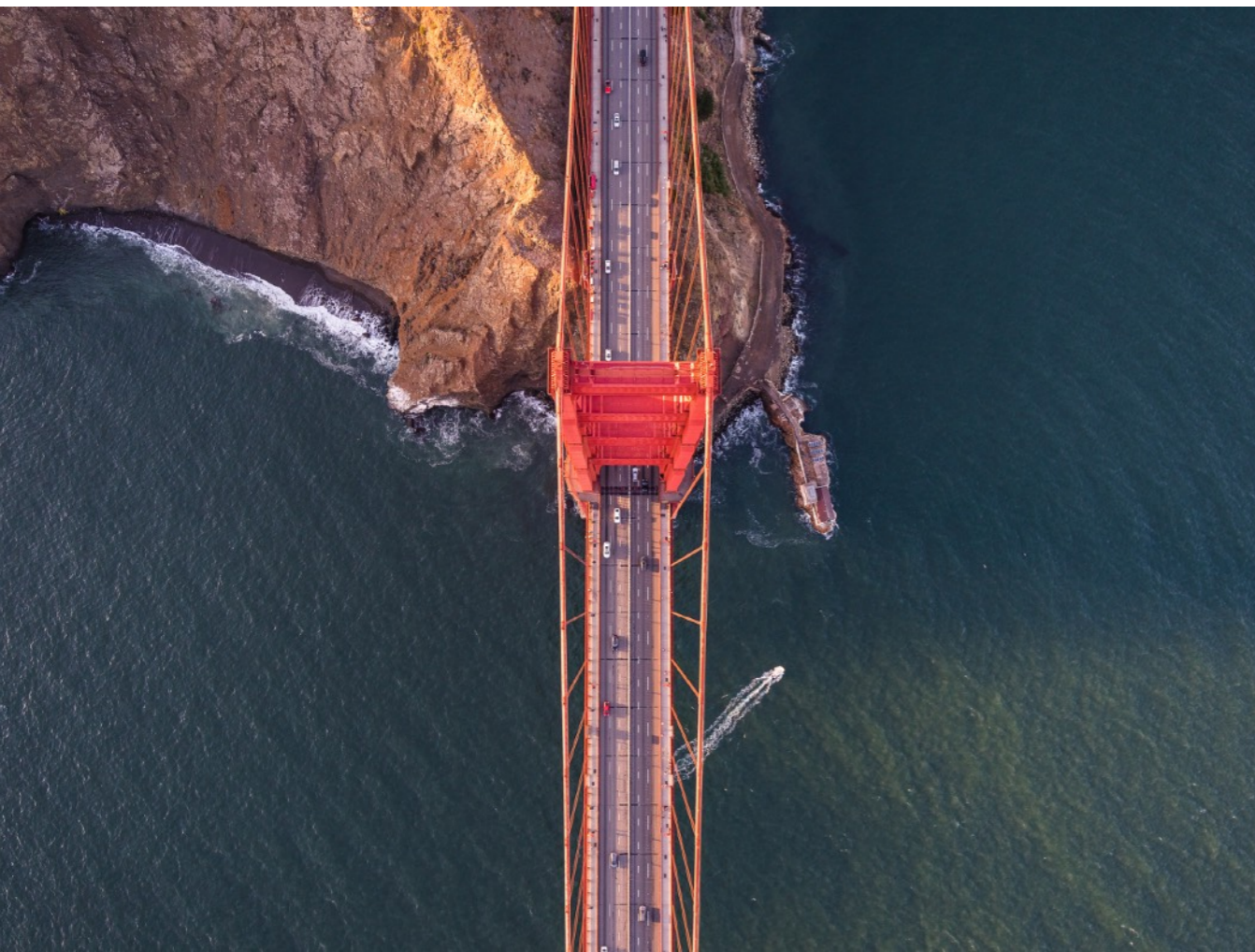
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# COMPOSITION

I don't want to dig too deep into this subject, as it can definitely be a "subjective" discussion. But here are some tips on what I look for while shooting my personal aerials.

I have flown in a lot of places, shooting out of helicopters, airplane and hot air balloons. Flying over incredible places like San Francisco, Hawaii, Alaska, Hong Kong all the way to Myanmar. However, I have flown over San Francisco the most, probably 30 or so times now. This has given me a ton of opportunity to shoot many different ways, times of day, with different cameras and different lenses. From shooting super wide to super zoomed in or even with shooting exclusively with my iPhone.

If this is your first flight, my recommendation is to have a mid range lens at the ready. My personal favorite is my Canon 24-105mm f/4L II because it gives me a great range to work with. I personally don't like getting too much wide as you risk getting the helicopter props in the shot. Which in fairness, sometimes is pretty cool! I will shoot a range of shots when flying, from vertical compositions to horizontal compositions. I am always searching for the light, flying back and forth from subject to subject in order to hit that light just right. Flying around a subject multiple times to get different angles.



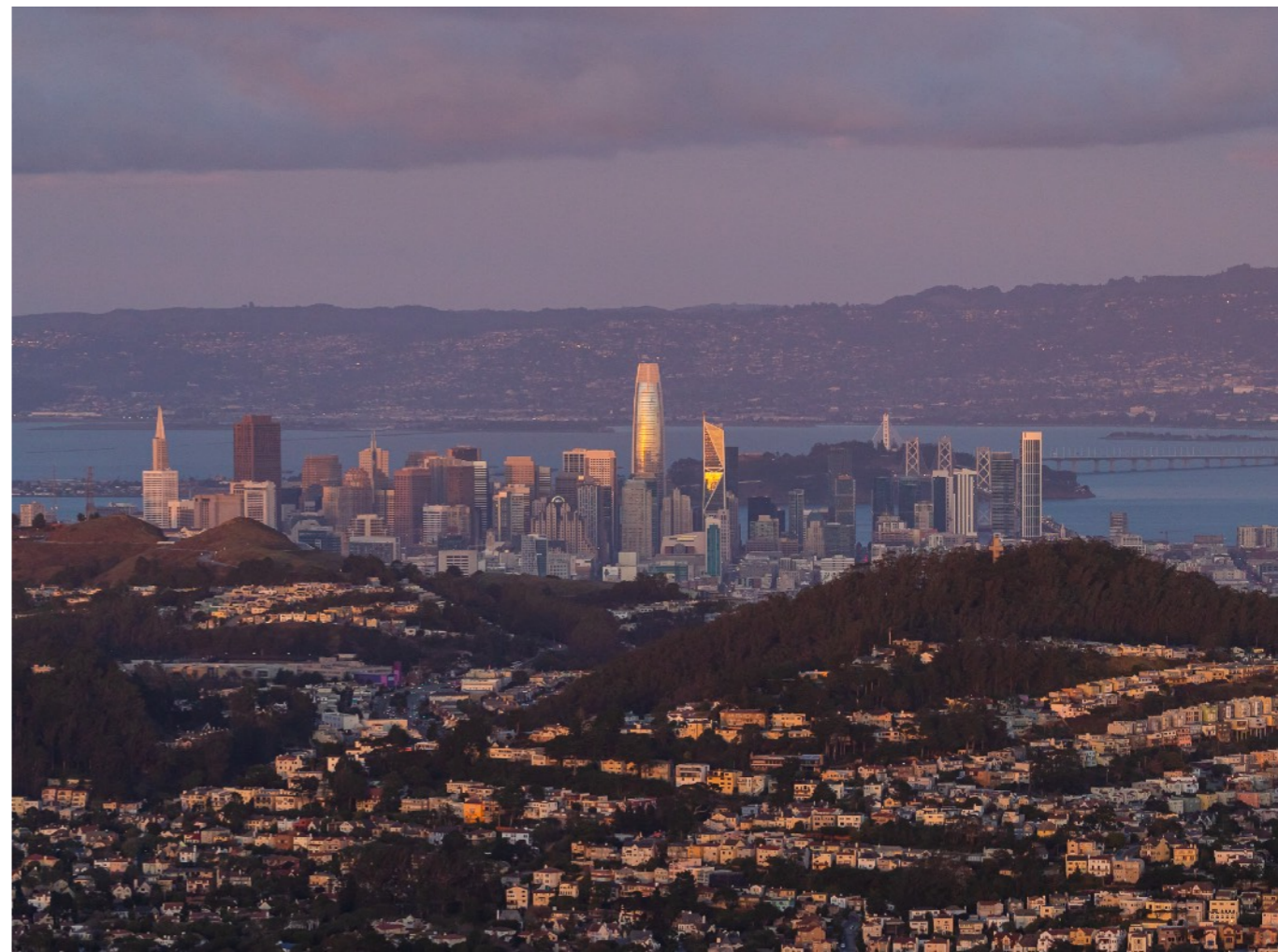
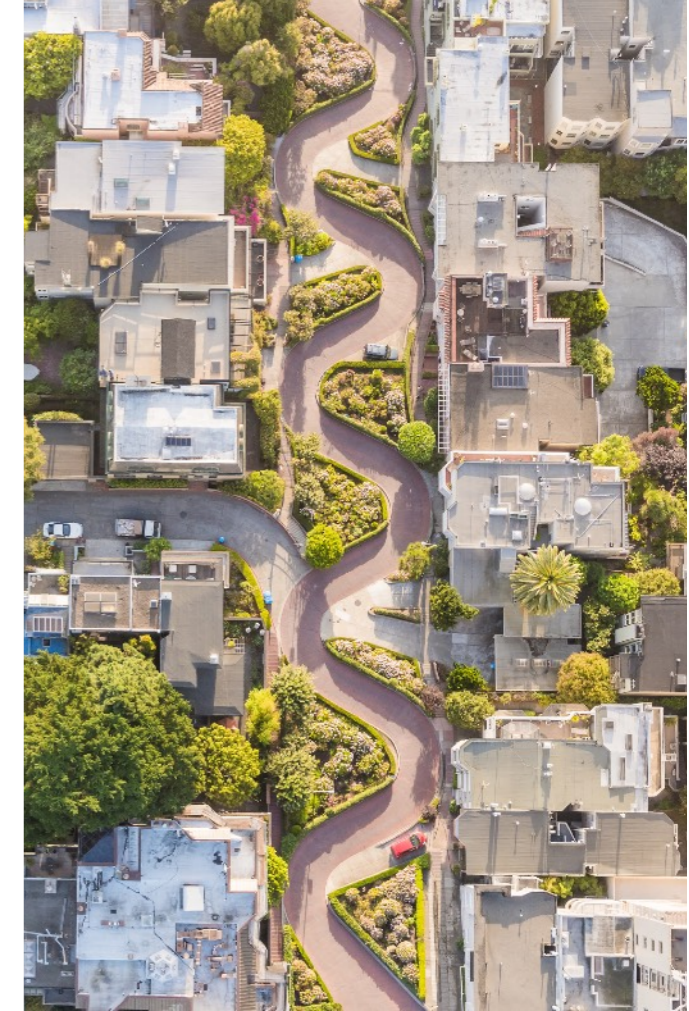
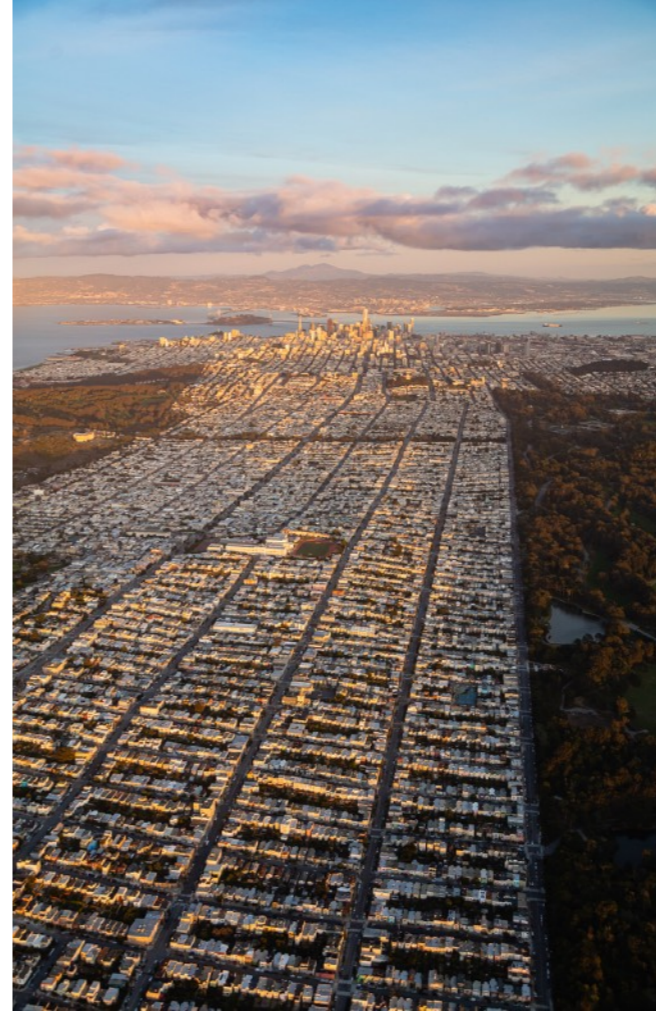
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# COMPOSITION

Try and think of your altitudes when composing a shot. You are no longer restricted to a tripod. Your tripod is now airborne.

With my mid range lens and when shooting my typical landscape photography. My eyes are always looking for the long shadows around trees, textures and patterns the roads and neighborhoods make and leading lines into a bigger subject. I am looking for how the light is interacting with the scene and I try to highlight that.

If I am shooting in a place like Alaska and capturing mountain landscapes, I try to get lower altitudes so the mountains feel taller and bigger on a grand scale. You can use this same philosophy when shooting tall buildings in a city. Once you get above them, you are looking down on them and then I focus more on the textures and detail the peak may have to offer. Like the sharp ridges on on the edge of a peak.





# BODIES & LENSES

I realize not everyone will have the same equipment. So bring what you have, even if its just a mobile phone.

I personally will always have two cameras on me. The purpose of this is so I can have one body equipped with a wide or mid range lens and the second body equipped with a zoom lens. By doing this I won't need to waste value time switching lenses in flight, which also risky as the doors are off and you could slip up and drop one out. If you don't have two bodies, no worries. Bring what you have. I personally recommend having a tiny bag that can sit at your feet for you extra lens and other gear. Remember, you will be very limited on space.

## Camera #1:

Canon R5 or any Camera  
Canon 24-105mm f/4 L II or Similar

## Camera #2:

Canon 5DS R or any Camera  
Canon 100-400mm or 70-200mm or Similar

## Camera #3:

iPhone 12 Pro Max

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# BODIES & LENSES

Not a big camera person? No worries.

Camera technology in modern mobile phones is getting to be extremely impressive. So much so the latest iPhones are actually becoming one of my favorite cameras.

I recently shot a full film with just my iPhone and a small DJI Osmo Mobile stabilizer/gimbal right from the helicopter.

The newer iPhones or other similar devices are starting to have 3 lenses/cameras if not more built right in, they have RAW formats and honestly everything you would ever need to capture some amazing photography and even video without having a bulky mess of cameras wrapped around your neck.

Keep in mind, this is your choice. We work with professionals.





# STRAPS & BAGS

This one is important. But it's also important to your helicopter and airplane provider, the FAA and the safety of people and property you may be flying over.

## Camera Straps/Leashes:

The PeakDesign Leash & Anchor System is my go-to. I can put Anchors on just about everything. I actually wear two of their leashes so I can have both cameras always attached to my self. They also make other straps and like a wrist strap.

## iPhone/Smartphones:

PeakDesign Mobile System or the BlackRapid Smartphone Safety Tether System. Right now I will attach a PeakDesign Anchor to the BlackRapid Tether or I just wear it around my neck with a lanyard.

## Battery/Memory Bag:

Zipper Pockets are best here. But PeakDesign makes a small Field Pouch which uses their Anchors so I can attach to my leash as well. I can easily put it at my feet and not have it in the way. It fits a few extra batteries and my memory cards perfectly!

## Extra Lens/Camera Bag:

One of my favorite bags, is actually a Small Core Unit from Shimoda Designs. It actually comes right out of my backpack system so it has that multi-use purpose to it. It fits one extra lens and a camera, as well as other small accessories. It zips up and usually fits perfectly at my feet in front seat or in between the two back seats and within reach.



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# CLOTHING

If you booked a helicopter with a doors-off photography experience, you will definitely want to come prepared. It can get very cold and very warm all within the same flight. You will also be dealing with heavy winds at times, especially when you are commuting from location to location, vs hovering around your photo targets.

My recommendation is to wear layers.

I usually wear a fleece with zipper pockets and am just fine. Especially in San Francisco. If warmer weather, I wear a t-shirt and have my memory cards and batteries in a secure pouch/bag.

Avoid wearing a “brimmed” baseball type hat. A slight lean out the door and the wind will rip that hat right off! Which is also very dangerous as it could get caught in the back helicopter rotor. A beanie type hat will be best or nothing at all!

Wear darker black colors. Especially if you happen to have doors on, or are shooting through the front window. Brighter colors will show up more in reflections.

If you suspect cold weather, wear a lightweight liner glove with screen touch fingers.







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# CONCLUSION

I really hope my guide helps you.

These are the basics I wish I knew on my first aerial photography endeavors.



If you have any additional questions, please reach out to me. Be sure to follow along as well.

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