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PlanIt ! for Photographers

ALL-IN-ONE PLANNING APP FOR LANDSCAPE PHOTOGRAPHERS

QUICK USER GUIDES

The Viewfinder VR

What Is Viewfinder VR?

- VR stands for virtual reality. In PlanIt, Viewfinder VR refers to a simulated virtual reality (VR) of the view as if you were looking through your camera's viewfinder. The simulated viewfinder will show:
  - The scene location as a red dot
  - Markers such as an icon, a rectangle (with height or width information), or just a name
  - The ground contour of the scene if the Show Ground Contour checkbox is checked
  - Celestial objects depending on the Ephemeris page in use

Advantages of Viewfinder VR?

- It is accurate. It is the most accurate viewfinder mode in similar apps on the market today.
- It is quick. Viewfinder VR is not dependent on the availability of a street view, nor any existing picture.
- It is virtual. You don’t need to be there on location to get a view of the photo you want to take .

What Are the Drawbacks of Viewfinder VR?

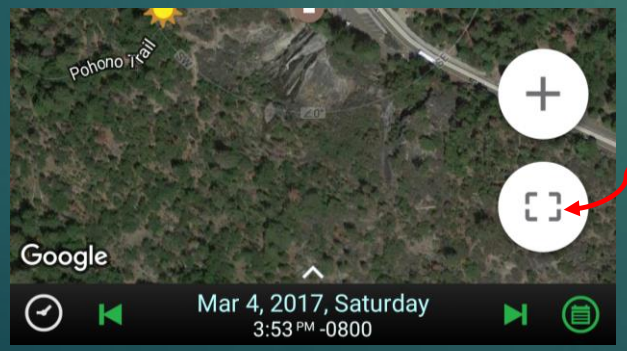
- Depending on the complexity of the plan, it may take some time and effort to add markers.
- Although it is fully functional, it is not as visually appealing as picture VR, augmented reality (AR), or street view.

Viewfinder VR

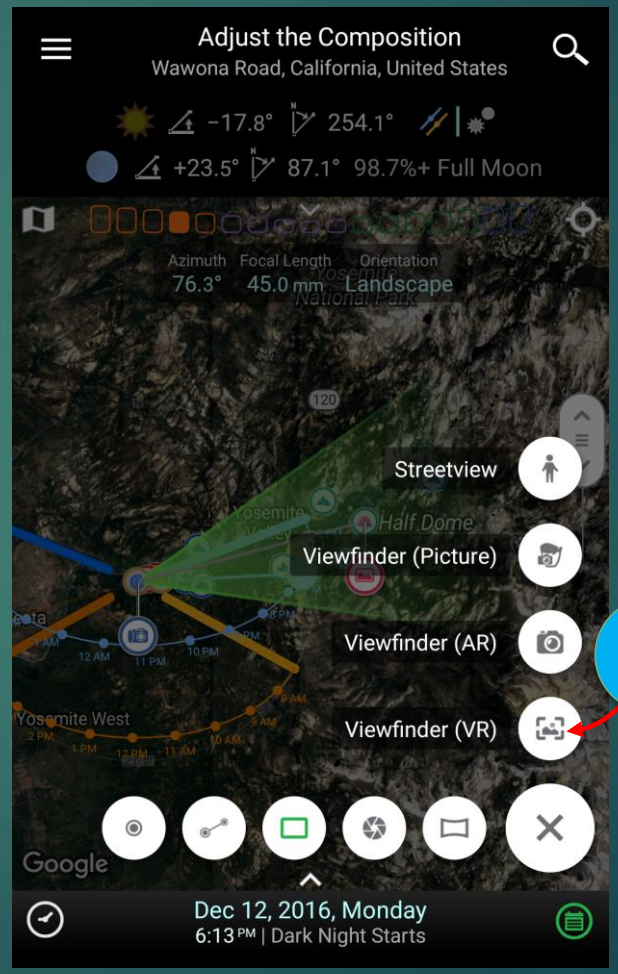
How to get to this viewfinder mode?

Tap on the Mode button to display four buttons in a column.

Tap on the bottom small button to open Viewfinder VR.



The Mode button



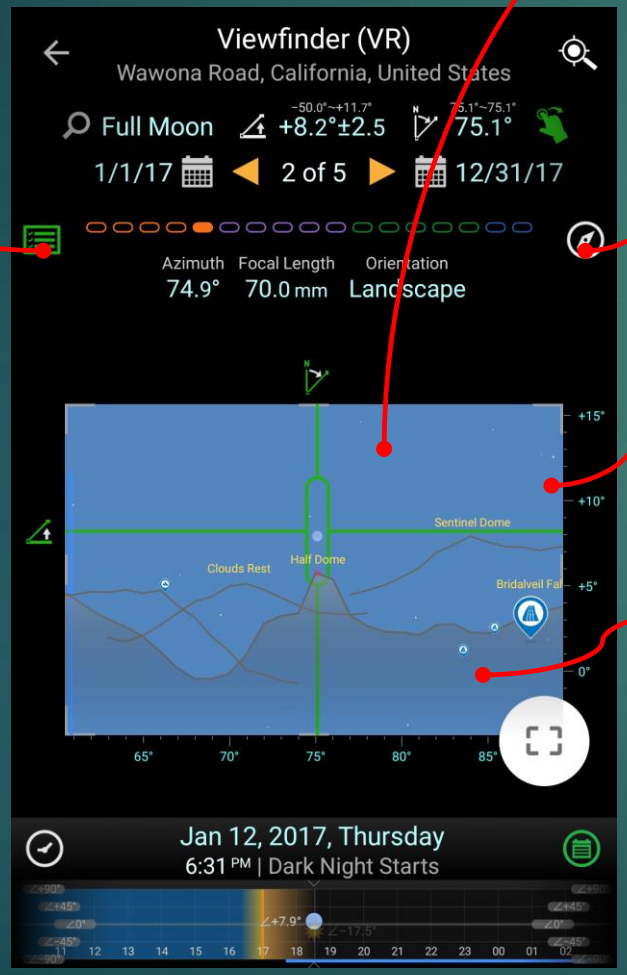
1

Tap this button to open Viewfinder VR

Viewfinder VR

The content in the viewfinder changes depending on the Ephemeris page. For example, to see the Milky Way, you need to change to one of the two Milky Way pages. To see a rainbow, you need to change to the Rainbow page.

Viewfinder settings

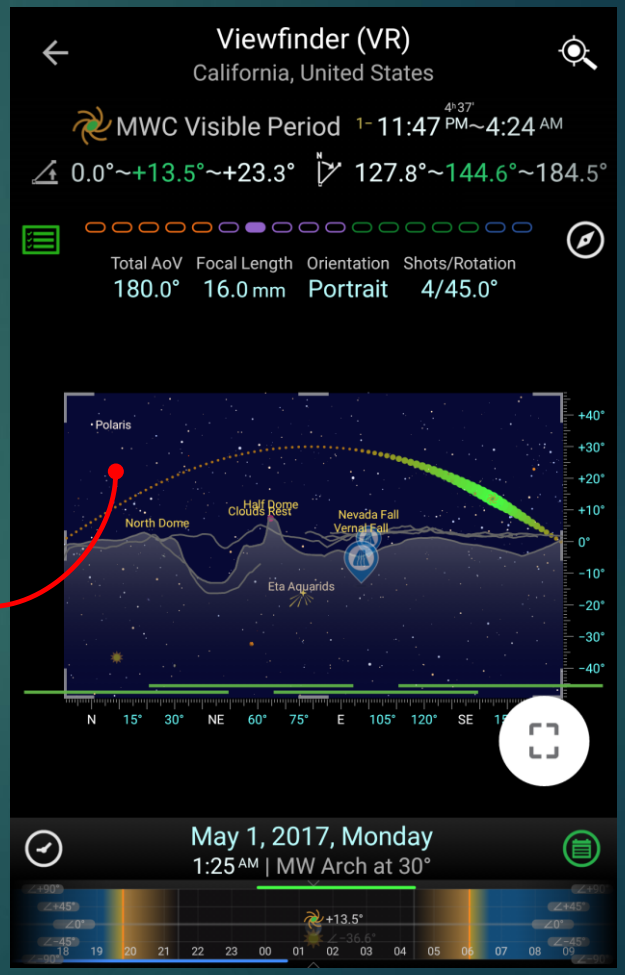


Toggle the orientation sensor. If turned on, the viewfinder will move when you rotate your phone.

Drag the Elevation Angle scaleup and down to change the camera's elevation angle.

Drag the Azimuth Angle scaleleft and right to change the camera's azimuth angle.

On some pages, the sky color in the viewfinder changes based on the Sun's or the Moon's elevation. If the page is to find a date/time, the color doesn't usually change.



What Is Viewfinder AR?

- In PlanIt, Viewfinder AR is an augmented reality mode using the view from your device's camera. Viewfinder VR shows the following:
  - Celestial objects depending on the Ephemeris page in use
  - The scene location as a red dot (Optional)
  - Markers such as an icon, a rectangle (with height or width information), or just the name (Optional)
  - The ground contour of the scene if the Show Ground Contour checkbox is checked (Optional)

Advantages of Viewfinder AR?

- It's easy to use. All you need to do is to be there on location and then turn on the AR.
- What you see is what you get. No preparation is required.

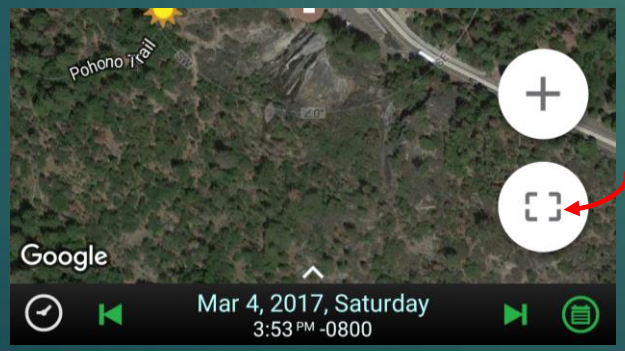
What Are the Drawbacks of Viewfinder AR?

- You have to be there at the location to use this mode.
- When it is working properly, it is accurate enough for estimating purposes but it is not very reliable. This mode depends on the phone's orientation sensor (the same sensor used by compass apps), which could be affected by magnetic fields nearby. You can rotate the phone as if drawing an 8 to reset the orientation sensor, which will improve the accuracy.
- You should use this mode only to get a rough idea of the direction of light. You should never depend on it to get a perfect alignment shot, nor make a life-critical decision (for example, to get the direction when lost). Always double-check other sources (such as the North Star, the sun's or the moon's direction if visible)
- Remember that this unreliability applies to all other similar apps that depend on orientation sensors, including pretty much all star chart apps, other planning apps which use a phone's camera as the background to show celestial overlays.

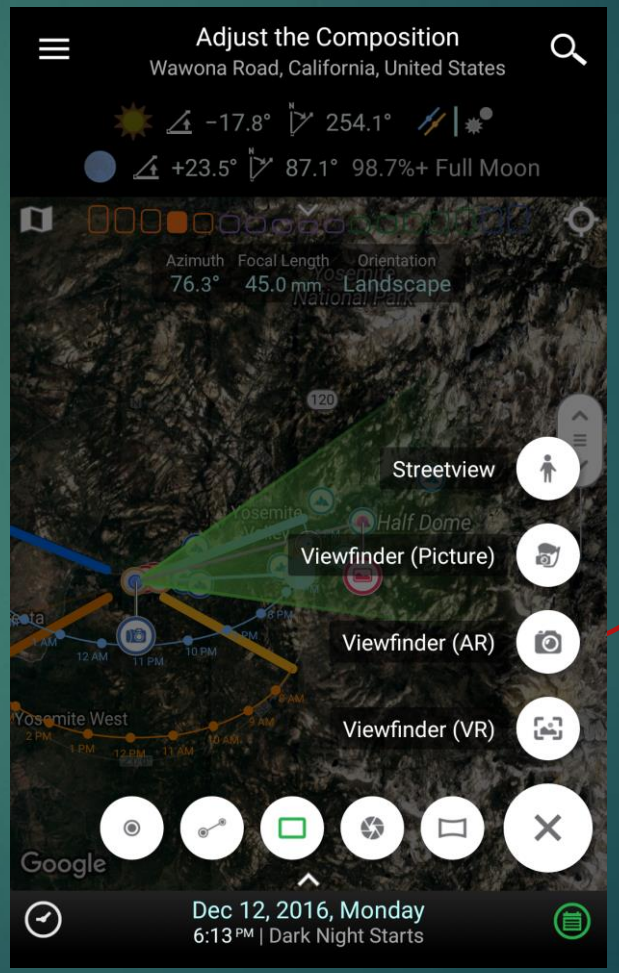
Viewfinder AR

How to get to this viewfinder mode?

Tap on the Mode button to display a column of four buttons. Tap on the second small button from the bottom.



Mode Action Button



1

Tap this button to open Viewfinder AR

What Is Viewfinder Picture?

- In the Viewfinder Picture mode, the app uses an existing picture as the background of the simulated viewfinder. On top of the background picture, the view shows the following:
  - Celestial objects depending on the Ephemeris page in use
  - The scene location as a red dot (Optional)
  - Markers such as an icon, a rectangle (with height or width information), or just the name (Optional)
  - The ground contour of the scene with markers if the Show Ground Contour checkbox is checked (Optional)

Advantages of Viewfinder Picture

- It is very precise if used correctly. It is ideal to use for a perfect alignment from a known location.
- It is visually more appealing than VR.

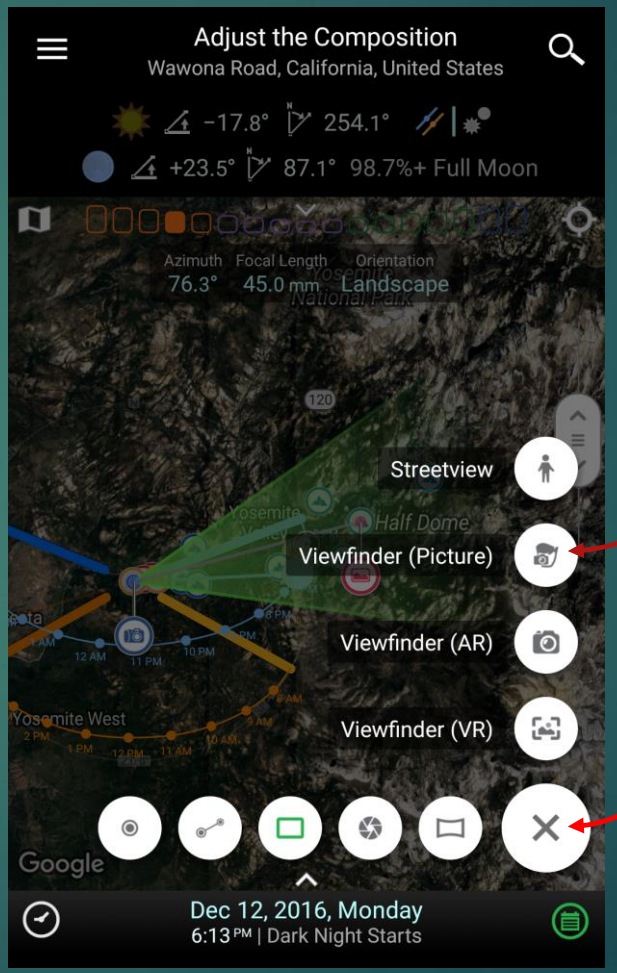
What Are the Drawbacks of Viewfinder Picture?

- You have to have a picture whose settings are known–e.g., the location where it was taken and the focal length, camera direction, and tilt angle used when the picture was taken .
- If you don’t know all the settings of the picture , you can use VR as the overlay to guess the settings.

Viewfinder Picture

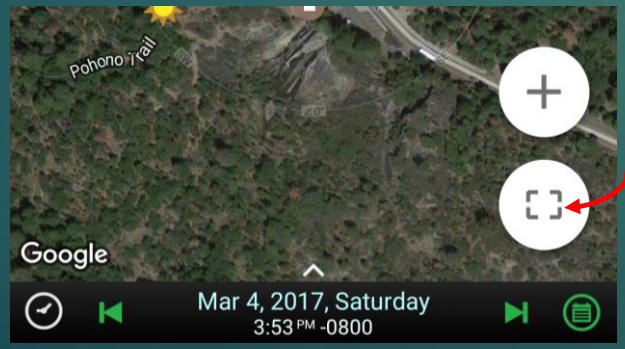
How to get to this viewfinder mode?

Tap on the Mode button to display four vertical buttons. Tap on the second small button from the top.



1

Tap this button to open Viewfinder Picture

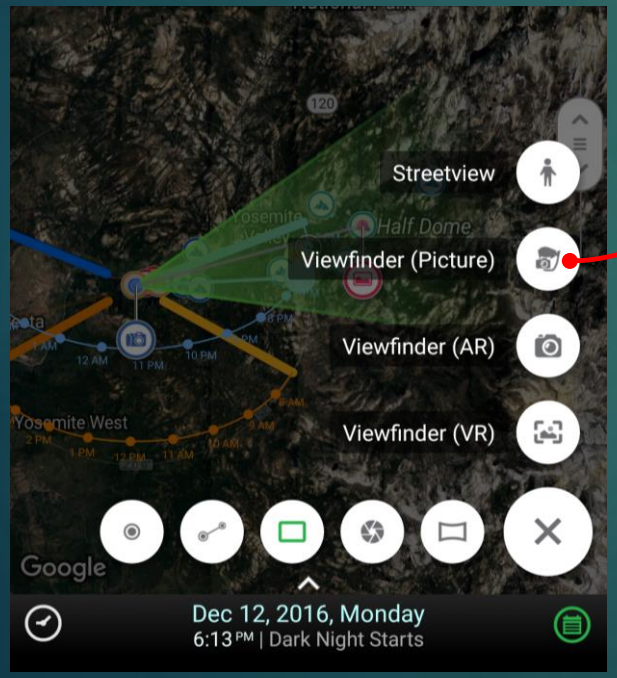


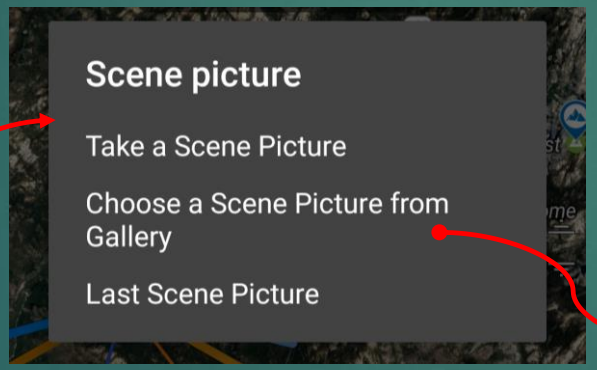
The Action button

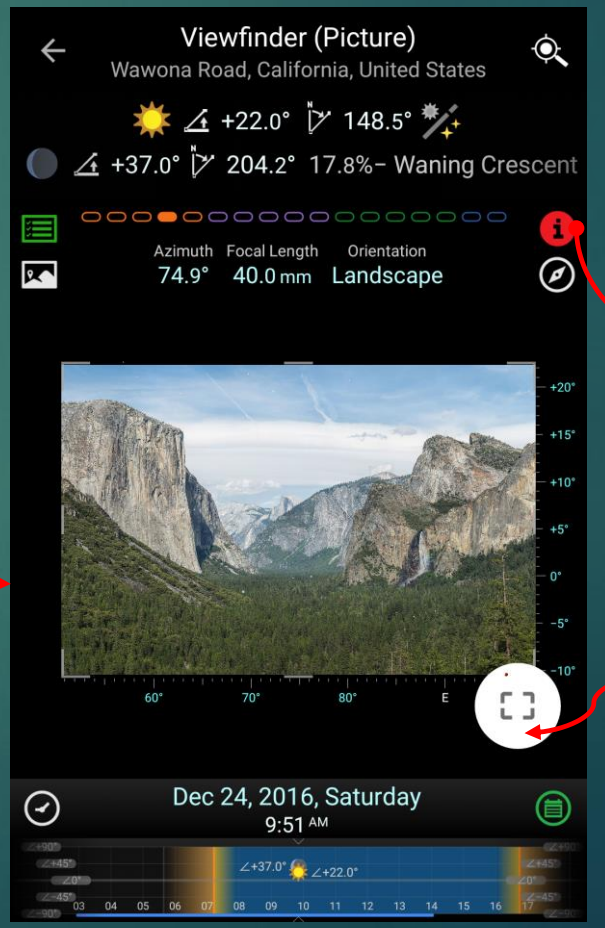
The Mode button

Load a Picture

Tap the Viewfinder (Picture) button, you will see two or three choices. The first one lets you take a picture. It works only if you are actually at the camera location. The second one lets you load an existing picture. The third one is available only if you have loaded a picture before. It basically lets you quickly reload the same picture without browsing to it.





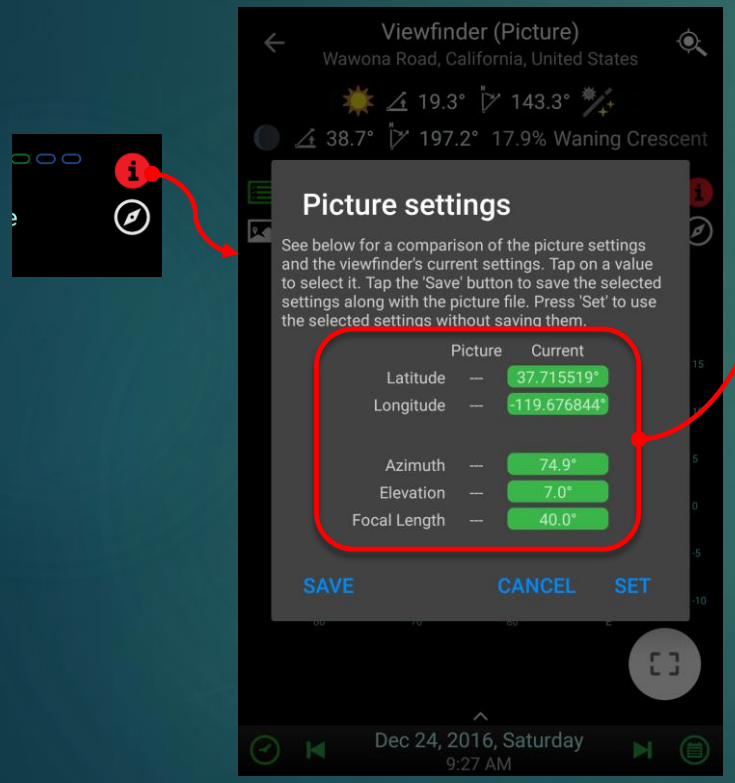


The picture is now loaded. You may say, wow! I can do my planning now. But wait, this **red** Info button means the setup of this picture viewfinder is not done yet. Continue to the next page to see what you still need to do .

The Action button

Set up Picture Settings

Tap on the red Info button. You will see a table showing the current settings and the picture settings. Since we haven't set up the picture, the Picture Settings column is empty.



Those five values are the settings you must have before you can use this picture to do any planning. It may take time to find out the exact settings. But once you do, you can use this picture to do many plans from this location. For famous locations or locations near your house, it is worth the effort.

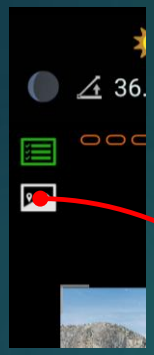
The first two values are for the location. They are easy to find out.

1. If the picture has GPS information, the app will automatically load it from the picture.
2. If you know exactly where the picture was taken, just move the map and pin the camera location there.
3. If you know only the approximate location, you may need to compare the picture with the view from the simulated viewfinder along with some markers to determine the exact location. This is also how you can use this app to find out the location of a photo taken by other people.

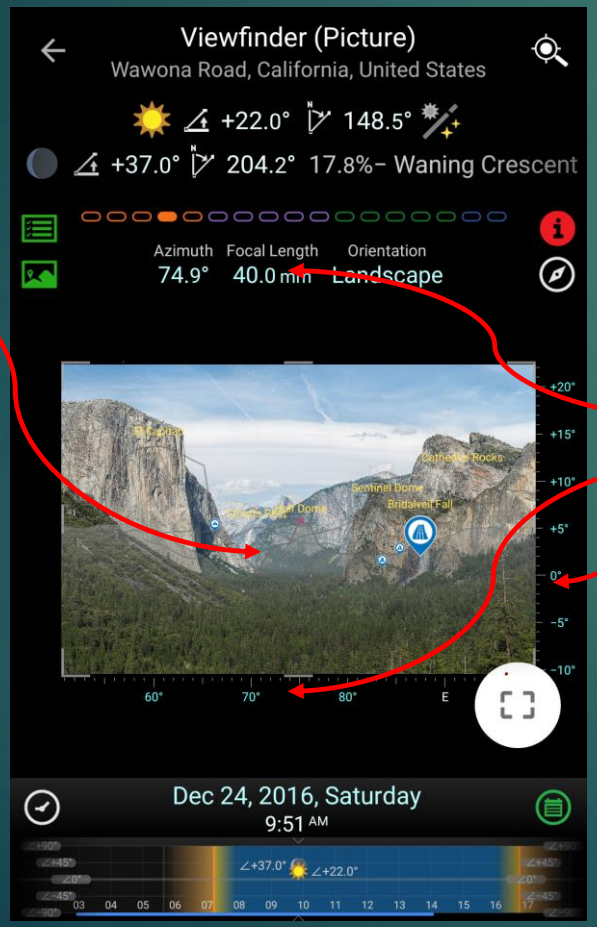
The focal length is also easy to find out as most pictures contain the focal length information.

Find out the Picture Settings

While it is easy to find out the location and focal length, it is hard to know the camera's azimuth and elevation angles of the picture taken. This page shows you how.



Tap the Picture icon will show the overlays. As you can see, the overlays don't match the picture scene.



Tap the Picture icon on the top left, you will see ground contours and markers on top of the picture. Those overlays were there because I added markers at that location. If you never added any markers, go back to the map view, add markers to the mountain peak, trees, or or other objects that you can see on the picture. For this picture, I can see the Half Dome, Cloud Rest, El Capitan, Bridalveil Fall, etc. I added these markers for them.

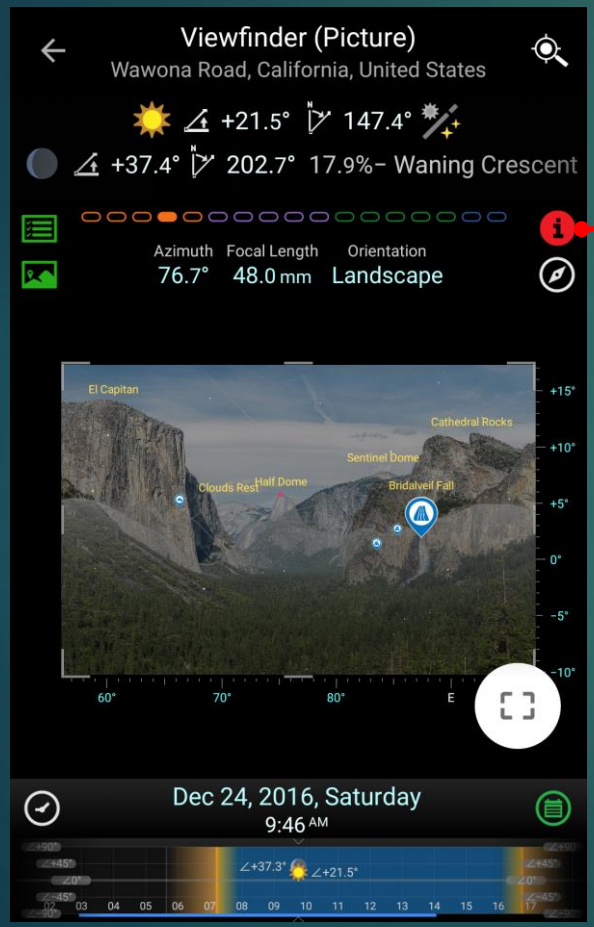
Note the overlay doesn't match the scene in the actual picture at all. Now you can adjust three things. See the arrows to find out how to change them.

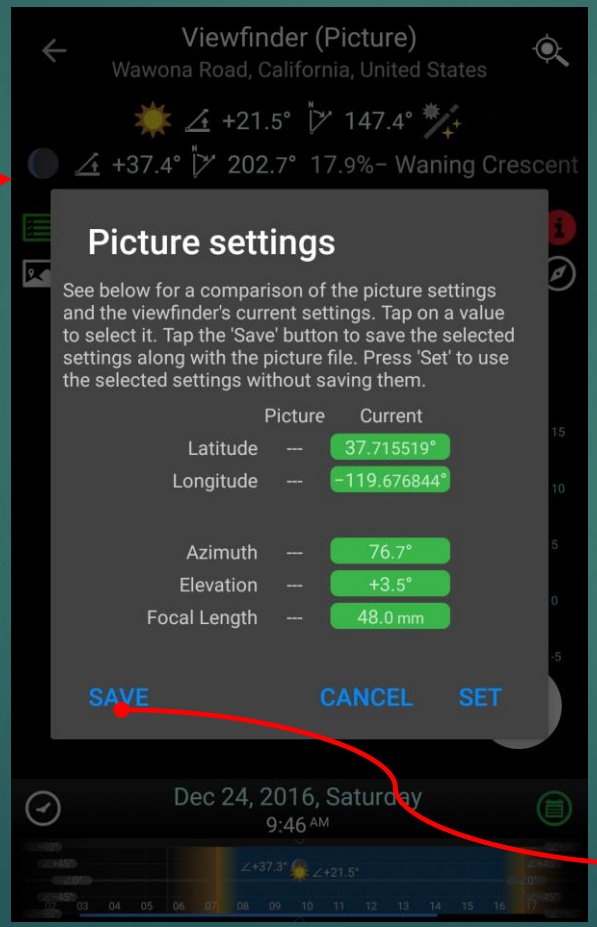
- Focal Length
- Azimuth
- Elevation Angle

Your goal is to make sure the overlay matches the scene in the picture perfectly.

Done with Picture Settings

After a few tries, I aligned the overlay perfectly. See below. Tap the red Info button again.

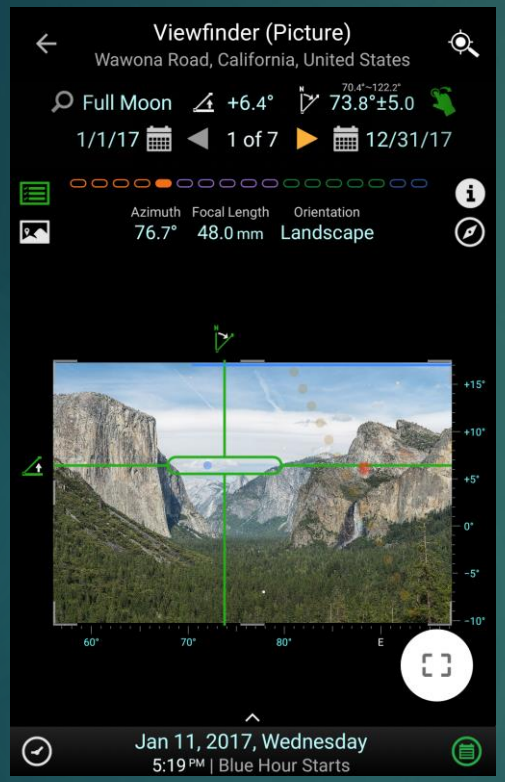




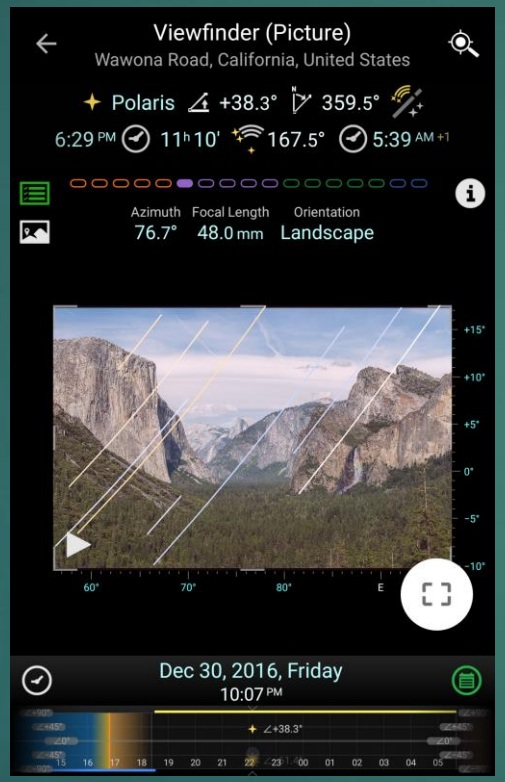
Note the current settings use correct values so we tap the same button to save them. The red Info button will become white once the settings are saved. Now you are done. Congratulations! Go to the Drawer menu and save it as a new plan because this plan can be reused many times in the future whenever you want to plan to shoot at this location.

Planning with the Viewfinder Picture

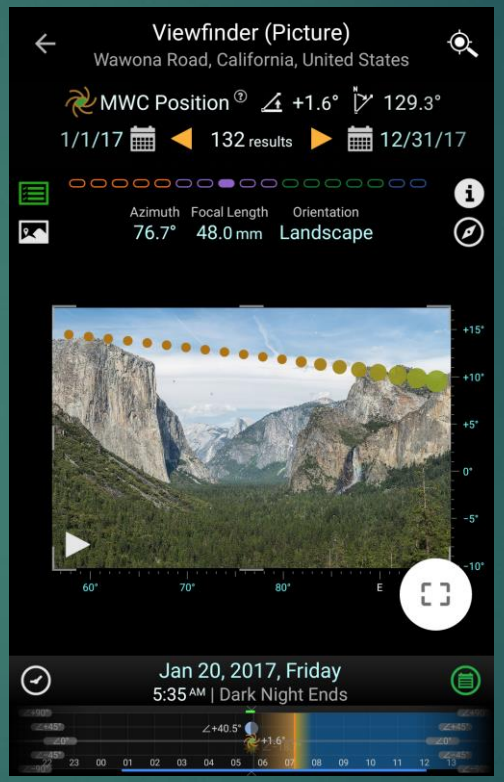
Now I can plan to take different photos and find out which one will work.



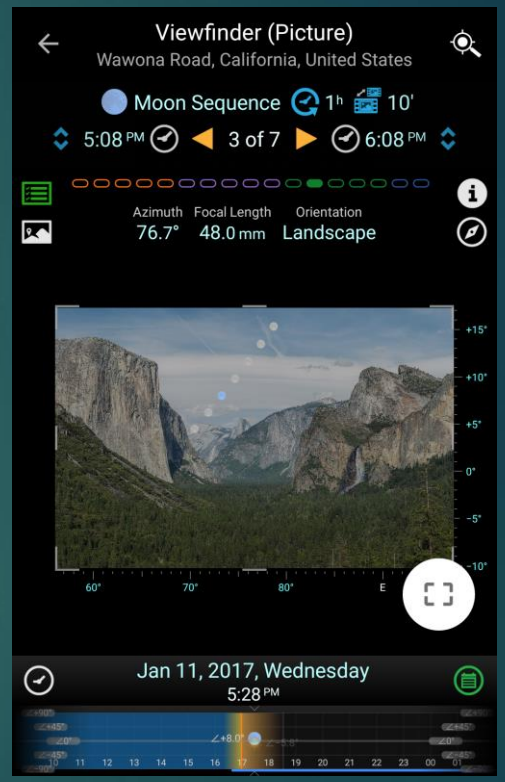
Here is the sun/moon finder. I can see the moon drawn on top of the real picture.



Here is a star-trail simulation. You can see the direction of star trails and whether they fit in with the foreground.



Here is the Milky Way seeker. I found out Tunnel View is not a good location for the Milky Way as we can barely see it.



Here is a possible shot showing the moon sequence. You can also use it for a time-lapse simulation.

What Is Streetview?

- PlanIt uses the street view provided by Google. Over the street view, we will show
  - The sun and the moon. The app doesn't show the Milky Way and stars because the street view does not handle a large data set.
  - The scene location as a red dot (Optional)
  - Markers such as an icon, a rectangle (with height or width information) or just the name (Optional)
  - The ground contour of the scene with markers if the Show Ground Contour checkbox is selected (Optional)

Advantages of the Streetview?

- It’s easy to use.
- It is visually more appealing than VR.

What Are the Drawbacks of Streetview?

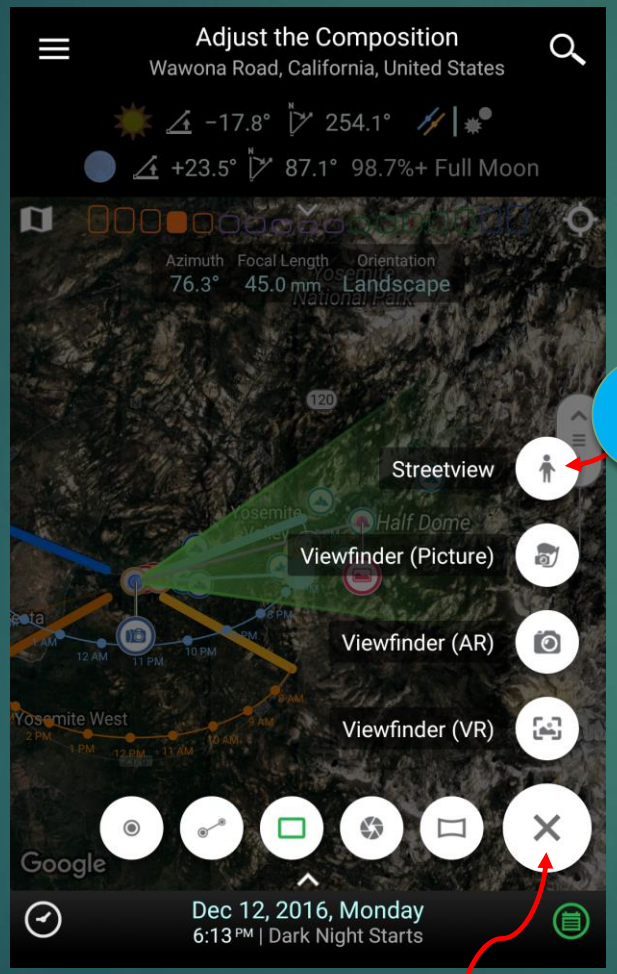
- Not all locations have available street views .
  - It is available mostly in the city.
  - It is available only on the road.
  - Its coverage of rural areas is very limited.
- It is more reliable than AR but its accuracy is not as good as VR or the Picture mode (if used correctly).

Streetview

How to get to this viewfinder mode?

Tap on the Mode button. Select the first small button from the top.

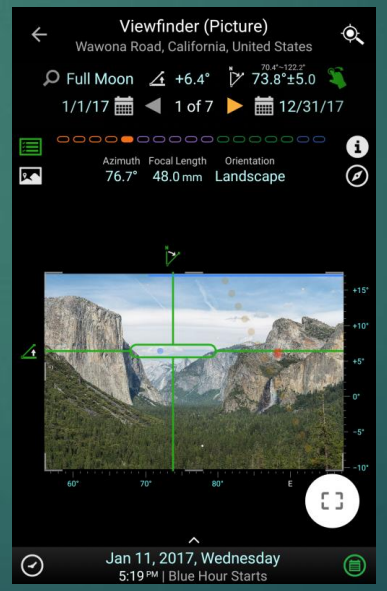
The Mode Action Button

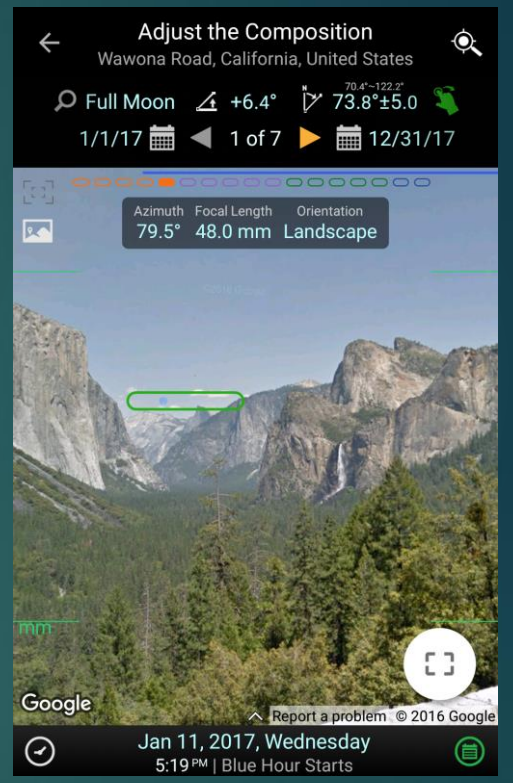


1

Tap this button to open Streetview

The Mode button





Here is the street view from Tunnel View. I set the time to be the same as the first one on the previous page. You can see the moon position is pretty accurate.