

## Autumnal Equinox

The date of the autumnal equinox was September 22, 2025. The Sun sets nearly perfectly in the West on this day. I practiced finding West by marking maps and taking pictures during this event.

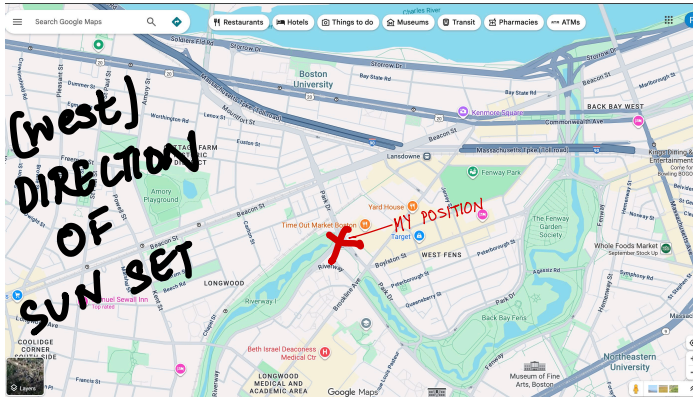
### Experimental procedure (data collection)

Week 2 data:



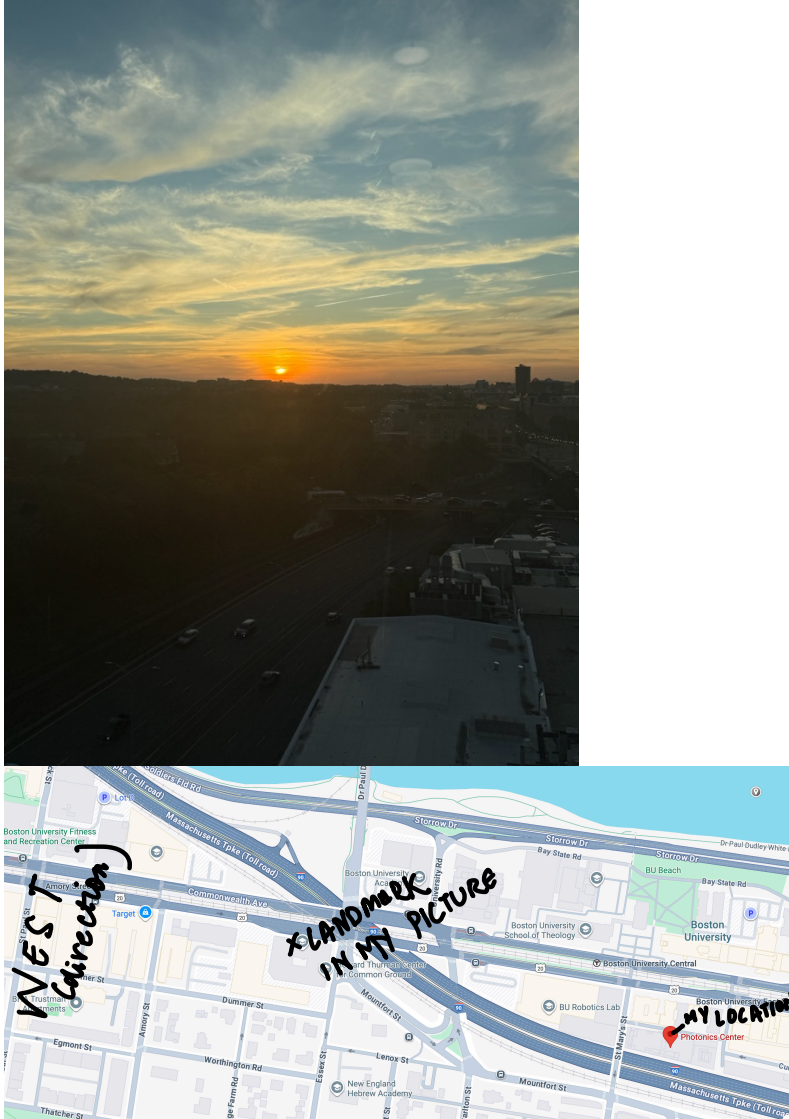
I took this picture on September 8 at 7:10PM. It is during the time when the sun was setting and the colors in the sky do indicate that. This photo did not show the sun setting clearly and for the later parts of this fieldwork, I decided to pick another spot where I could see the sun set properly without any buildings blocking the view.

Week 3 data:



The markings on the map indicate my location and the direction of the sun set. I took a westerly picture but the problem lied with the lack of height and blockage from the buildings near me.

Week 4 data:



I took this picture on September 22 around 6:31PM. This is the autumnal equinox day and I made sure that I got a good view of the sun on this day to make my findings as accurate as possible. The sun set is defining true west. The map shows my location, the landmark and West as I checked with a compass while I was taking a picture and tried to mark it as accurately as I could.

## Results

Week 2 data: showed no sun but the colors in the sky helped indicating that it was sunset time.

Week 3 data: map markings (tried to be as accurate as possible)

Week 4 data: Improved the location to take the sunset picture from and it helped define true West.

## **Discussion**

The experiment demonstrated that a reliable indicator of the true West is the autumn equinox. Because the Sun was obscured, the Week 2 shot was not very helpful. By Week 4's equinox day, I had located a better spot and verified the direction.

Accuracy: Although the results were nearly perfect, some inaccuracies may have been caused by map marking or camera angle.

- Improvements to take into consideration if the experiment was to be repeated next year:
- Selecting a location where the horizon is unobstructed by trees or tall structures.
- Utilizing a tripod to maintain the camera's steadiness and focus.
- To better track the Sun's movement, take pictures every minute as it sets.
- Use an astronomy app to determine the precise moment of sunset and being prepared beforehand.
- Confirming the direction by comparing my pictures to a planetarium app or star chart.

## **Conclusion**

This fieldwork demonstrated that the true West may be reliably located by watching the sunset on the autumn equinox. To verify that the Sun was setting in the west, I practiced shooting an early photo, marked my location on maps, and then took a clear equinox photo. The procedure gave me precise results that I may build upon going forward and assisted me in refining my approach.