

Introduction to Measuring Tools in Cyclomedia



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OVERVIEW

The District Department of Transportation (DDOT) is surveying the city’s traffic infrastructure and replacing signs, cables, and lights that do not meet the city’s new requirements or have obvious damage. We will navigate northward through 42nd street NW, Washington D.C., and determine which signs are to be removed and those that are still up to code. To complete this exercise, you will be using Street Smart’s various measuring tools to evaluate, label, and document the outdated infrastructure - the DDOT will import all of the measurements created during this exercise. We will label the measurements with one of two abbreviations: to be removed (**TBR**) or satisfactory (**SAT**).

PROCEDURE

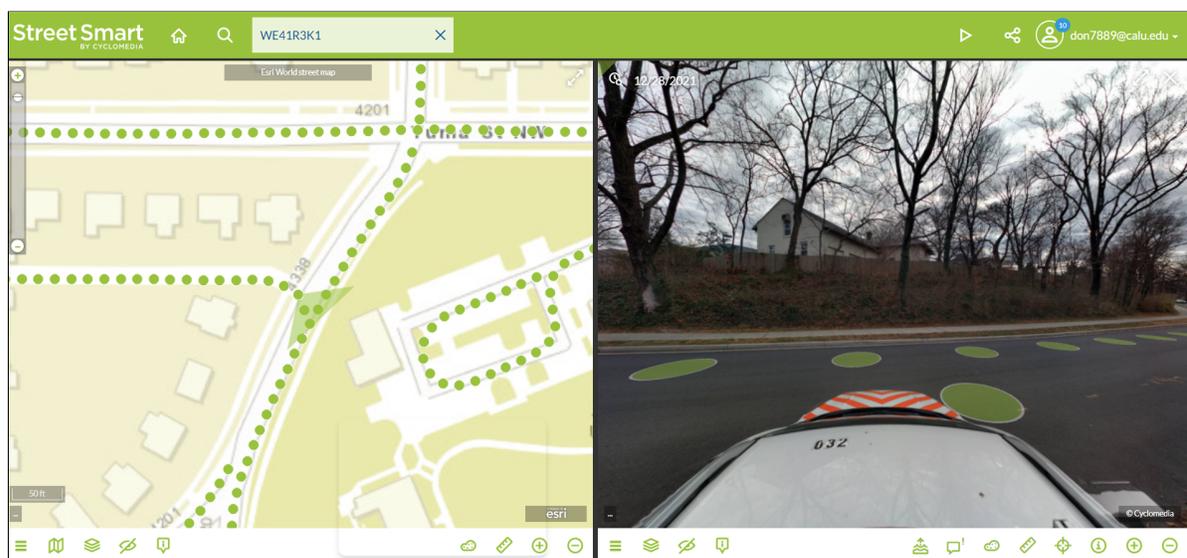
Objective 1: Measuring the Distance from No Parking Signs to the Road

Step 1: Go to Street Smart by clicking the link: <https://streetsmart.cyclomedia.com> and login using your university’s credentials.

Step 2: Once logged in, click **Go to Map**, located in the top center of the webpage.

Step 3: In the search bar type “**WE41R3K1**” and press **Enter**.

Step 4: Check that your image matches the one below:



Step 5: Click the green dots (these are called Cycloramas) to navigate North on the road.

Note: We are looking for traffic infrastructure that needs replaced

Step 6: As you travel North on 42nd St., you will find a no parking sign that is extremely slanted.

In order to make sure the sign is visible to all drivers, it will need to be replaced with a straight and stable pole.

To ensure you are at the correct location, check the **image information** by clicking on the “i” with a circle around it.



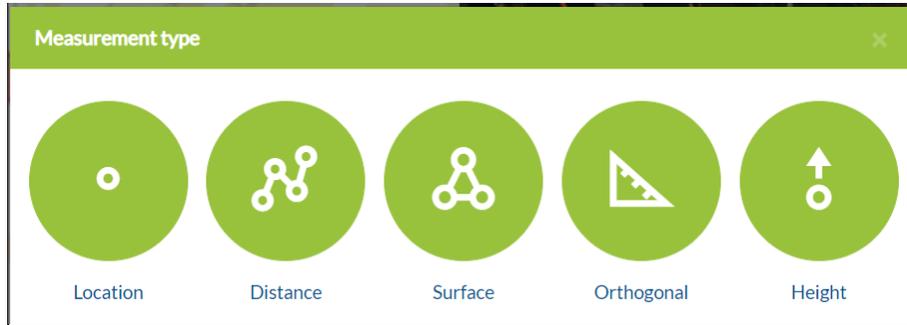
Step 7: Under **image information** check your **ID** number. It should read **WE449FAW**.

IMAGE INFORMATION	
General	Precision
Property	Value
ID	WE449FAW
Recording Type	Cyclorama
Recording Date	1/12/2022 10:01 AM

Step 8: Now that we have located the no parking sign that needs to be replaced, we need to measure how far off the road the sign is. Click the **start measuring** button on the bottom right toolbar.



Step 9: Next, you need to click on **distance**.



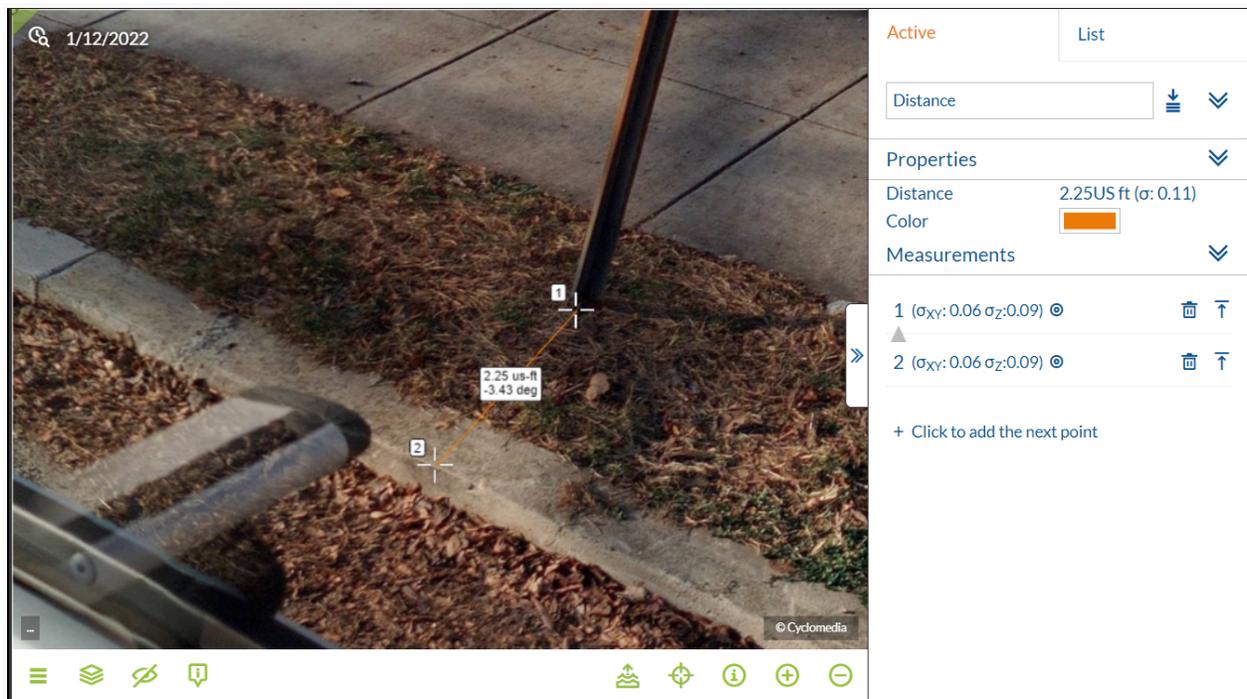
Step 10: Use the **zoom in (+)** button to look closely at the bottom of the sign. If you need to back up your view, use the **zoom out (-)** button.

Step 11: Click at the bottom of the post where it meets the ground. Try to get your point as close to the base as possible. You have added the first point.

Step 12: Click where the curb meets the road to add the second point.

Step 13: Displayed on the right side of the screen is information about the points you added.

Check your distance measurement. Your distance measurement should be around **2.25 feet**.

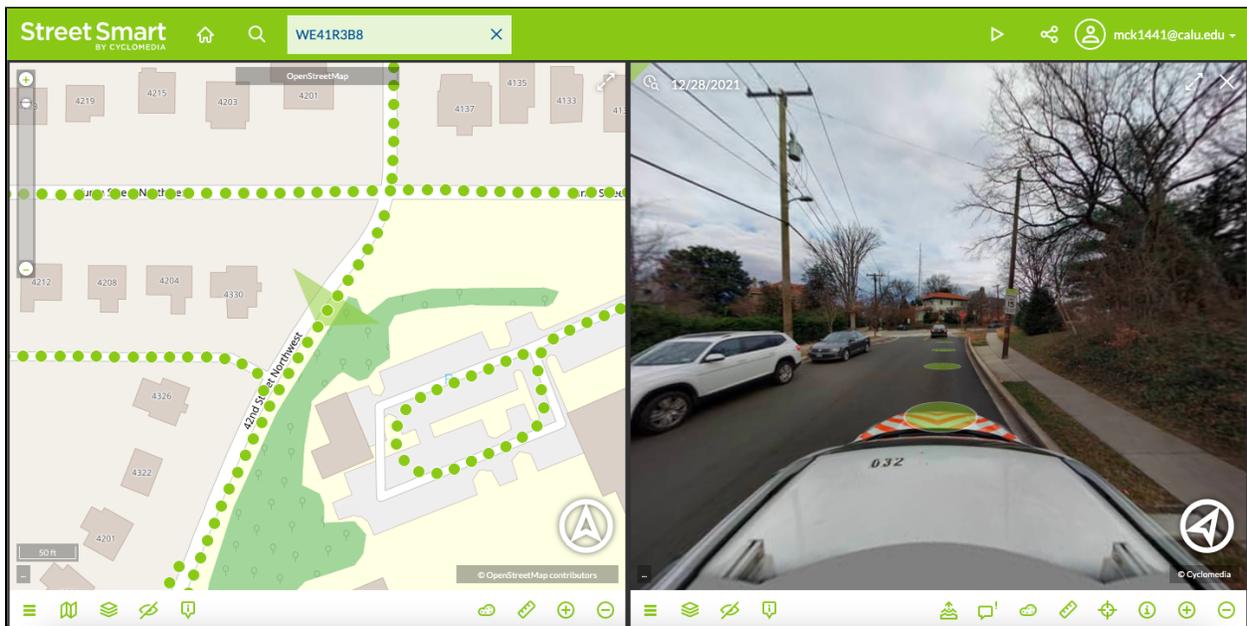


Step 14: Name the measurement "No Parking: TBR" and click **save measurement**.

Objective 2: Measuring the Height of an Overhead Cable

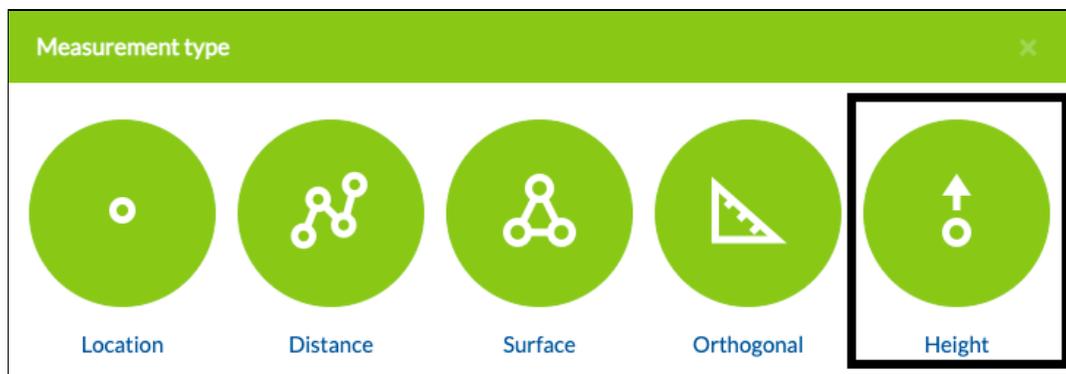
Now that the first measurement has been saved in your Street Smart account, it's time to practice using the height measurement tool. The Department of Transportation has recently changed the minimum height of overhead cables to 30 feet. Let's see if the power cable down the street from the first measurement needs to be replaced with a taller one.

Step 1: Enter the image ID “**WE41R3B8**” in the search bar and press **Enter**. Your screen should match the image below:



Step 2: Note the overhead cable hanging directly above the street - we are going to be measuring its height from the lowest point of the cable (**hint**: this is on the *right* side).

Step 3: Begin measuring by clicking “**Start Measuring**”, located on the menu bar in the bottom right and select “**Height**” as the measurement type.



Step 4: Zoom in on the part of the pole where the cable becomes connected to it.

Note: if you do not zoom in and make sure your point is on or as close to the wire as possible, your measurement will not be accurate and could cause an unnecessary removal.

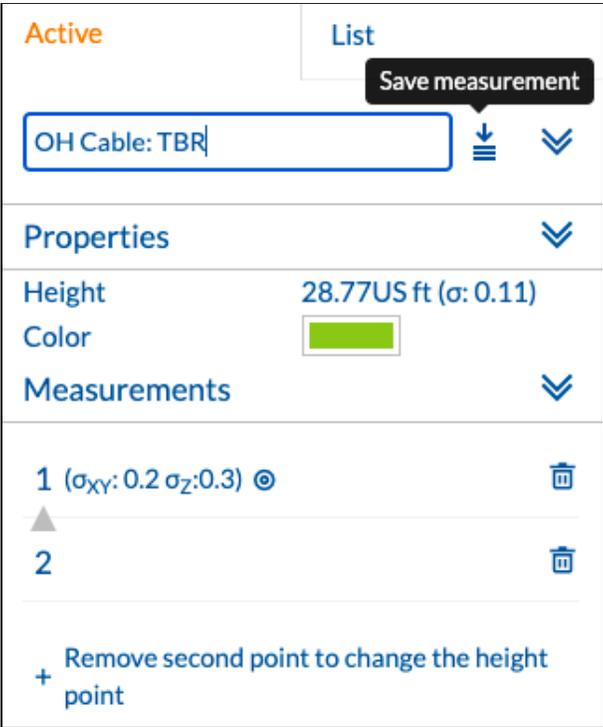
Once you have located the connection point between the base and wire, click it, and your first point has now been created.

Step 5: Zoom out so you have a clear view of the pole and the sidewalk below it. To create the second point and acquire the cable's height from the ground, you'll need to bring your cursor down to the sidewalk and carefully move your cursor until the line changes from orange to green; this indicates that the line is straight and the measurement will not be skewed by any angles. Your line should look like the image below:



Step 6: The height of the cable from its lowest point to the sidewalk is **28.77** feet. According to the new DDOT regulations, this cable does not meet the minimum height requirement, and will have to be removed and replaced.

Step 7: Name the measurement “OH Cable: TBR”. This will allow the DOT workers to quickly identify infrastructure that needs to be removed. Click the “**Save Measurement**” icon, located to the right of the measurement’s name. You have successfully measured the height of traffic infrastructure on Street Smart and assisted the DDOT with city upgrades.

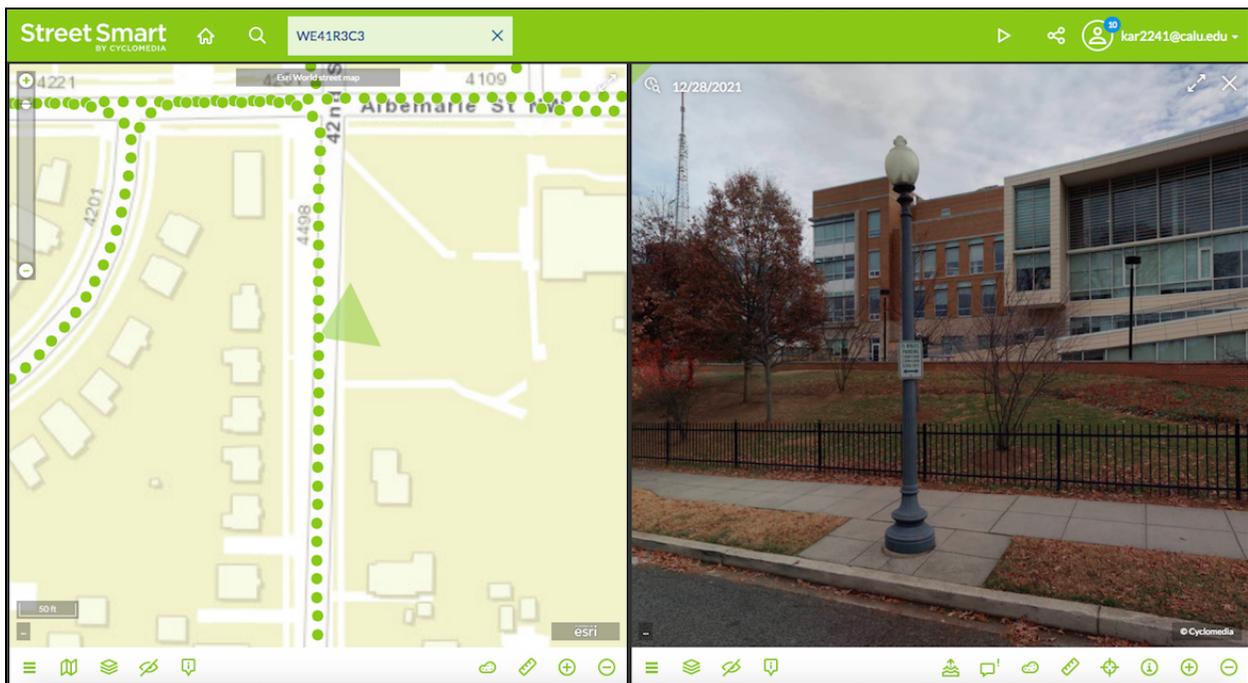


Objective 3: Measuring the Height of a Light Post

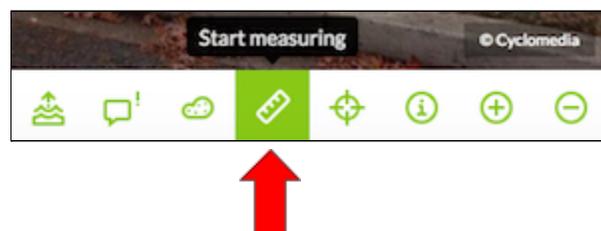
The DDOT's new regulations require all light posts to be 20 feet or higher in an effort to reduce vandalism to the light fixtures as well as to illuminate a larger area. In this part of the exercise, you will be measuring a light post to see if it meets the new requirements.

Step 1: Enter the image ID "WE41R3C4" into the search bar and press **Enter**.

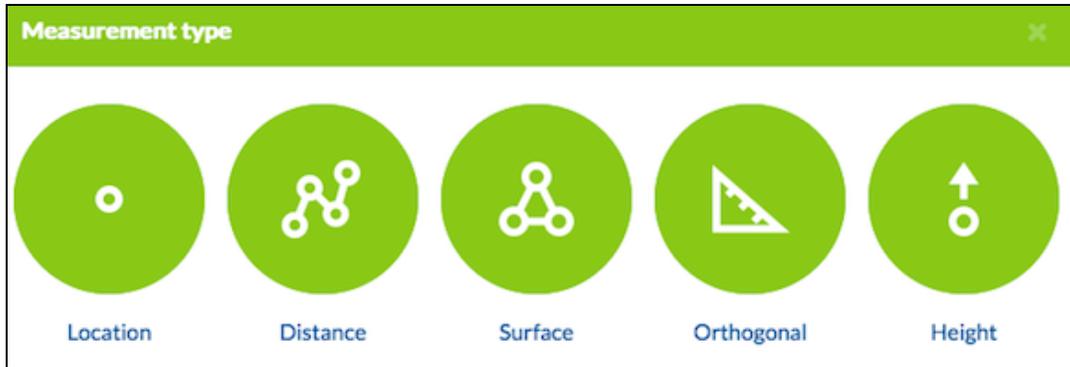
After the image loads, pan your screen slightly to the right to ensure you have a street light in the center on your screen. Zoom into the light pole using your mouse wheel or the zoom tool in the bottom right hand corner of the screen. Your screen should look similar to the image below:



Step 2: Click the **Start Measuring** tool on the bottom toolbar.



Next, click on the **Height** tool.



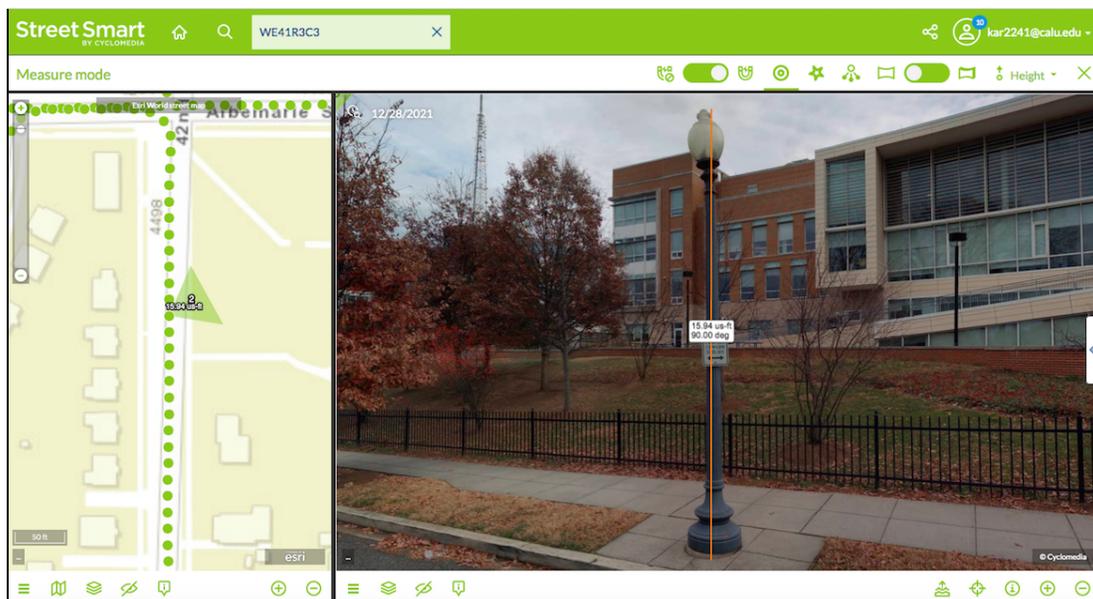
You are now ready to begin measuring.

Step 3: Zoom into the light post so the extent of it fills your screen but is still all visible. Zoom in once again to the base of the light post and click, this will begin the measurement.

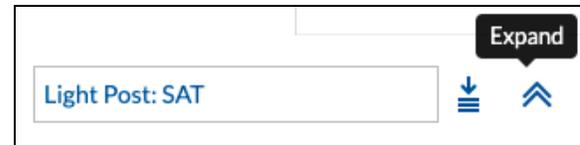
After that, navigate to the very top of the light post and click again. Pan back out so that the entirety of the object is visible. These two clicks complete your measurement and you will have a final measurement listed by the light post on your screen.

Step 4: After you find your measurement, figure out roughly how much taller the light post will have to be to meet the new regulations of 20 feet or greater (**hint**: it should be a little over 5 feet).

Since it is only a couple feet from the requirement, it can be fixed by simply adding a bigger platform to its base.



Step 5: To save the measurement, click on the blue arrow on the right hand side of your screen, then after the pop-up menu opens, click on the **Save Measurement** icon. To view the measurement's information, click on the **Expand** icon. Since this light post can be fixed to align with the DDOT regulations, we will name the measurement "Light Post: SAT" to indicate that it should not be removed.



Active
List

↓
≡

Properties
∨

Height
15.65US ft (σ: 0.07)

Color

Measurements
∨

▲
1 (σ_{XY}: 0.1 σ_Z: 0.14) Ⓞ
🗑

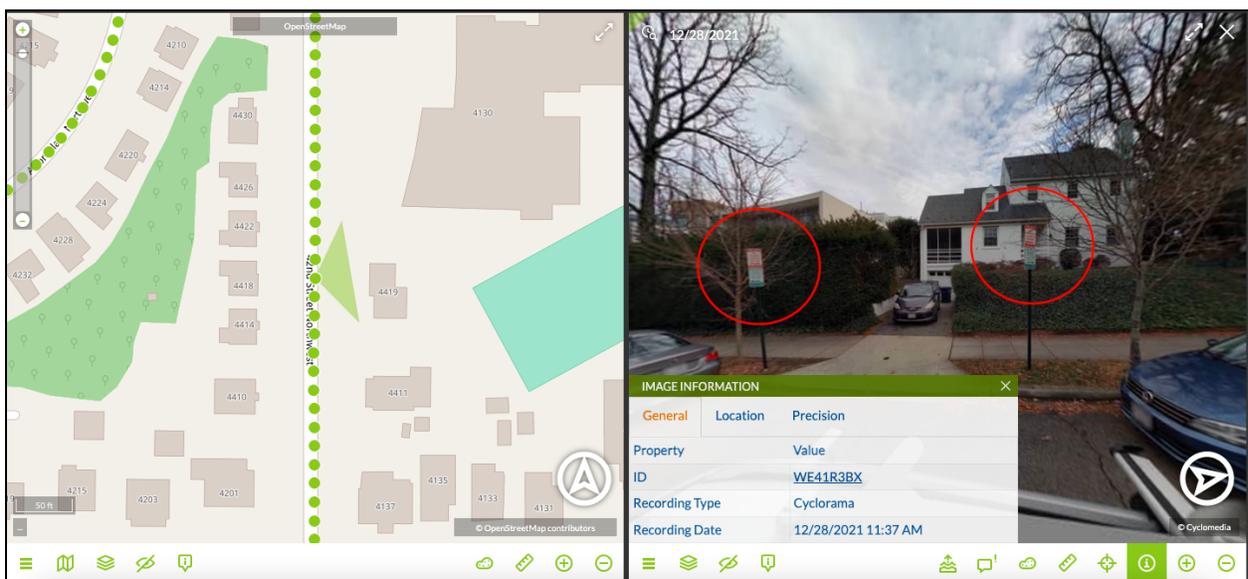
▲
2
🗑

+
Remove second point to change the height point

Objective 4: Measuring the Distance between No Parking Signs

You will be measuring the distance between these two no parking signs to determine if they are far enough apart, allowing proper spacing to prevent the driveway from being blocked. The district's new regulations require at least 20 feet between the signs to ensure the homeowner can enter or exit without hitting them.

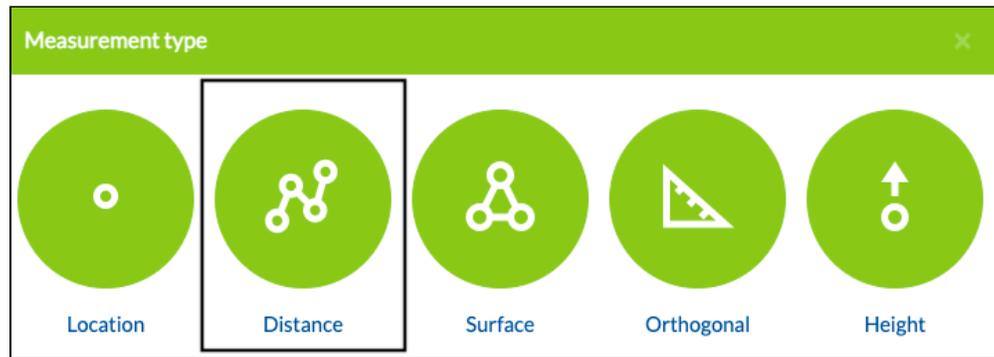
Step 1: In the search bar, type the location “WE41R3BX” and click **Enter**. Pan westward (to the left) and you will see two “no parking signs” surrounding the driveway of a home. We will be measuring the distance between them to determine whether or not they are to be scheduled for removal.



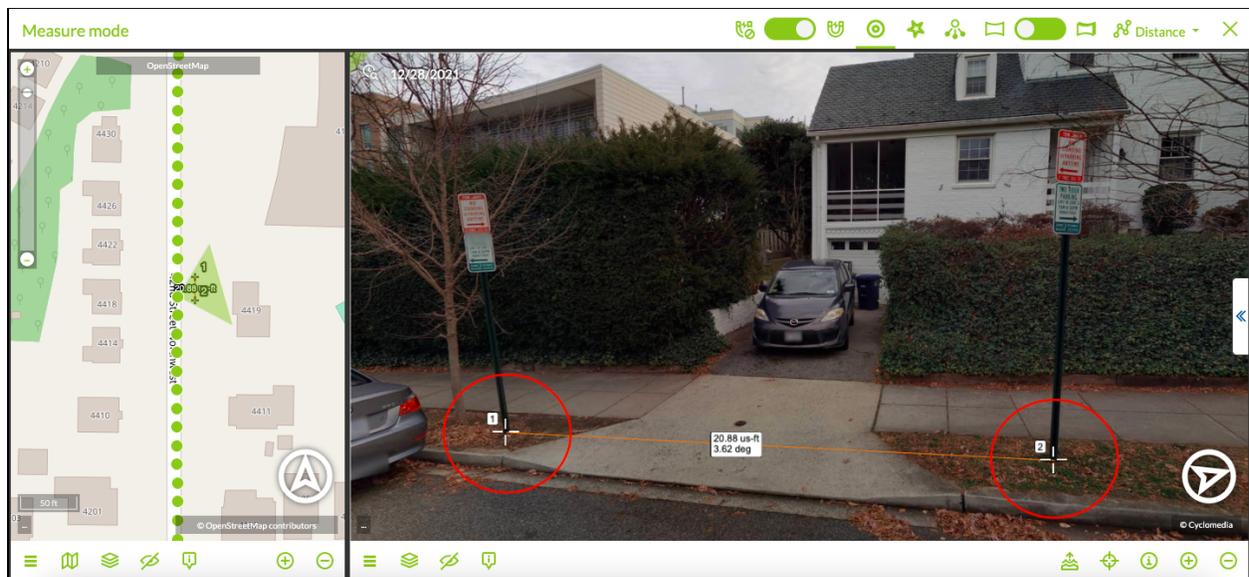
Step 2: Select the correct tool for the job. For this objective, you will need to select the distance tool so you can see if the signs are up to the new code. First, click the ruler button in the bottom right corner of the screen, this is your measurement selector.



Then select **distance** as the tool you will use.



Step 3: You are now ready to select the points you will be measuring. Select the base of both sign posts to calculate their distance. For them to comply with the new policies, they should be over 20 feet apart but no further than 23 feet apart.

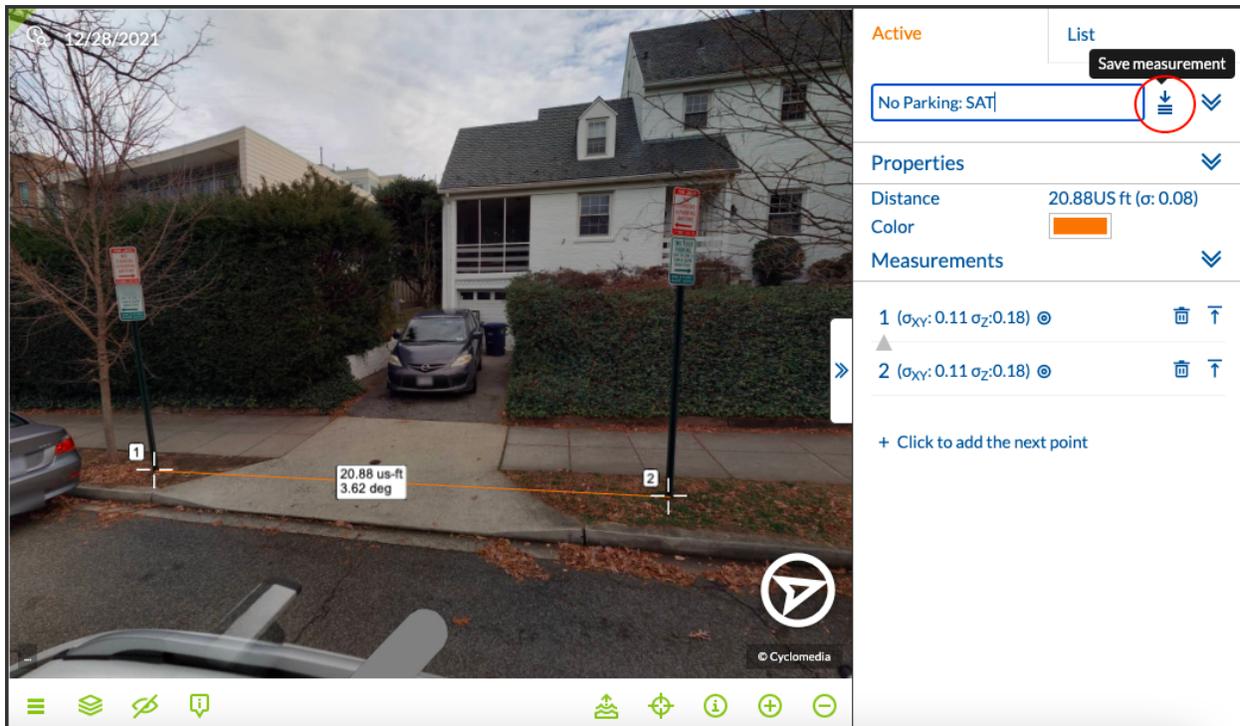


Once you click both of the sign's bases, you can observe the signs are **20.88 feet** apart, therefore meeting the requirement and do not need to be adjusted or removed.

Step 4: Now you must save this measurement for future use and documentation for the department of transportation. In order to do this, change the name of the measurement to "No

Parking: SAT” to represent that the infrastructure is satisfactory in terms of the new regulations.

Once you change the name, click **Save Measurement** to the right of the text box.

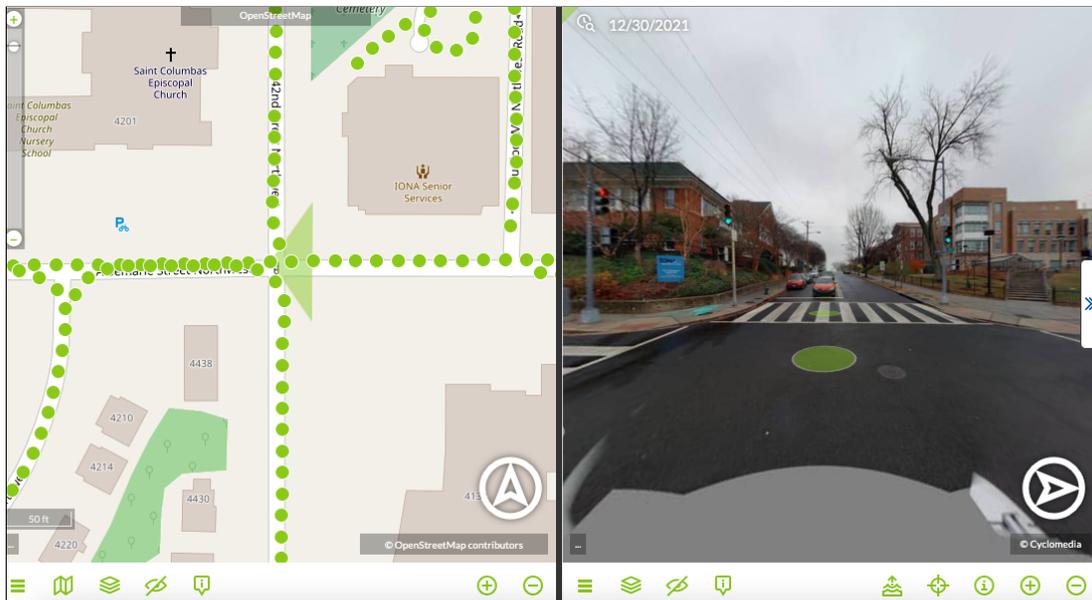


At this point, you should have four measurements saved in your Street Smart account, two height and two distance. For the last objective, you will be using the surface tool in Cyclomedia.

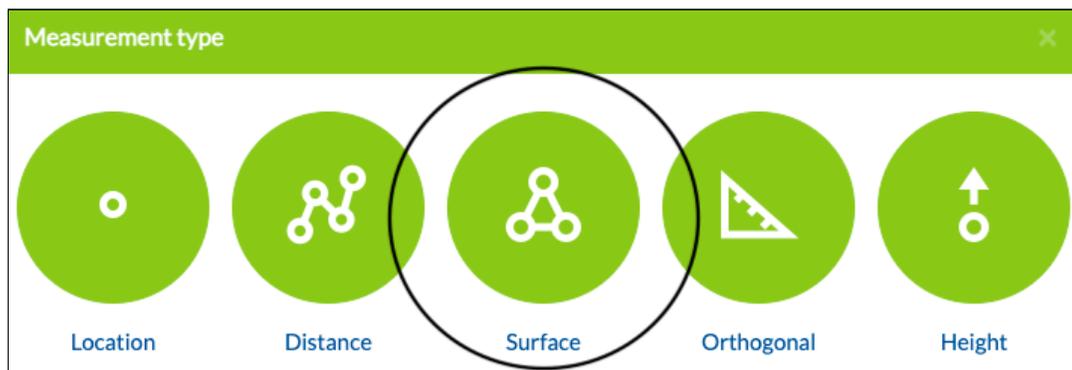
Objective 5: Measuring Surface Area of a Crosswalk

In the fifth and final objective, you will be calculating the approximate surface area of a pedestrian crosswalk. The DDOT regulations state that crosswalks are to have a minimum surface area of 600 feet.

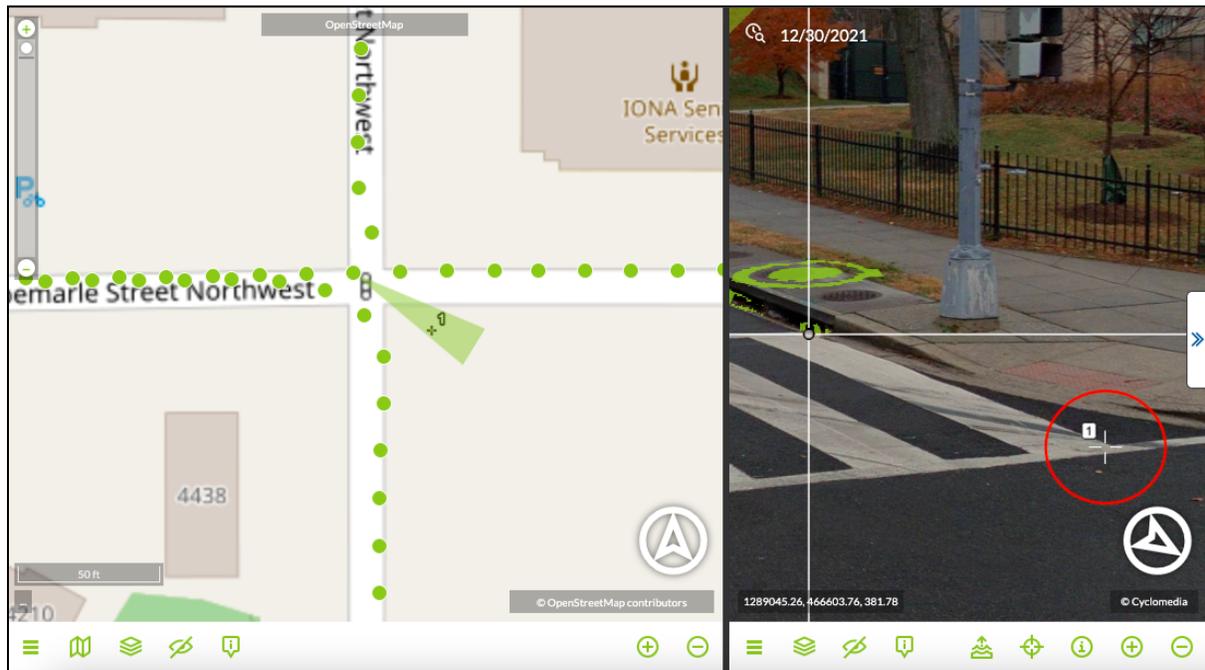
Step 1: In the search bar, type “WE41LS4J” and click **Enter**. In front of you, there should be a white crosswalk painted on the road and behind it are two red vehicles. Make sure your screen looks like the image below:



Step 2: Select the **Start Measuring** icon on the bottom of the screen and select **Surface** as the measurement type.

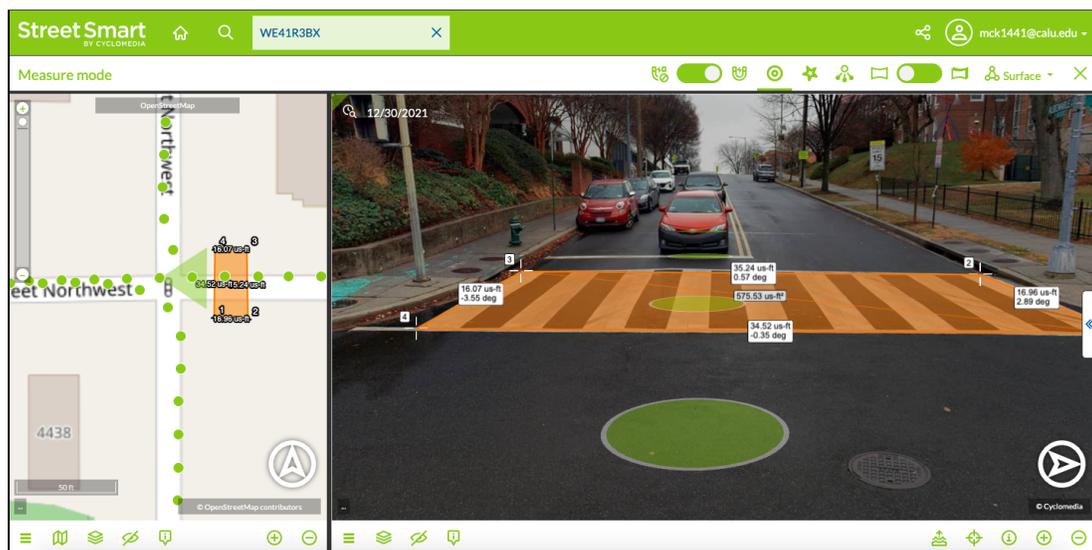


Step 3: Zoom in as much as possible to the closer point of the crosswalk on the right side of the road (examine the figure below for reference). Click on the corner of the crosswalk where the white paint ends. This is the first of four points you will create to calculate the area.



Step 4: Create the second point by clicking at the farther end of the crosswalk on the right side of the road. These two points give you the width of the crosswalk, but we still need two more points to complete the surface area calculation.

Step 5: Create the third and fourth points by zooming out and repeating step 4 on the left side of the road. After all four points are plotted, your screen should look similar to the following:



Step 6: Now that the area of the crosswalk has been calculated, we need to determine whether or not it meets the new area requirement for the District of Columbia's department of transportation. Recall that the minimum area for all crosswalks in DC is now at least 600 square feet. The surface area of this crosswalk is **575.53 feet**. Since it does not meet the 600 feet minimum, it is going to need to be removed and replaced with a larger one.

Step 7: Change the name of the measurement to "Crosswalk: TBR" and click **save measurement**.

Congratulations! You've practiced measuring using a variety of tools in Street Smart. Along with this, you have also assisted the District of Columbia's Department of Transportation in removing outdated traffic infrastructure along 42nd street NW.