Introducing Cyclomedia Tools

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Narrative:

A manager of a small business in Washington D.C. called JoJo Restaurant and Bar is creating a fire safety plan in case of a fire emergency in the building. The manager would like you to use Cyclomedia and Street Smart to find vital information for the Fire Department in case of a fire. The first goal for your investigation is to find the area of a window on the second story. If the first floor is compromised due to the fire, the firefighters will need to enter and exit a second story window. If the window is too small, a person may not be able to fit through it. Once the window is located, you are also tasked with finding the diagonal height of the window from the sidewalk. This will tell the fire department what length of ladder to use. Your last task is to find the distance from the building to the nearest Fire Department building. By finding these measurements, the Fire Department will be able to conduct a safe and smooth operation. This will also allow the firefighters to know what equipment they need to extinguish the fire.

Objectives:

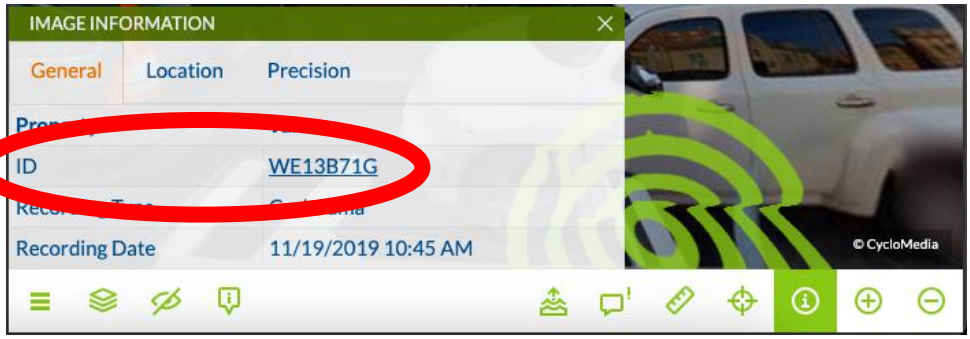
After this exercise, you should be able to:

- Navigate Street Smart
- Use the Area Tool
- Use the Orthogonal Tool
- Use the Distance Tool

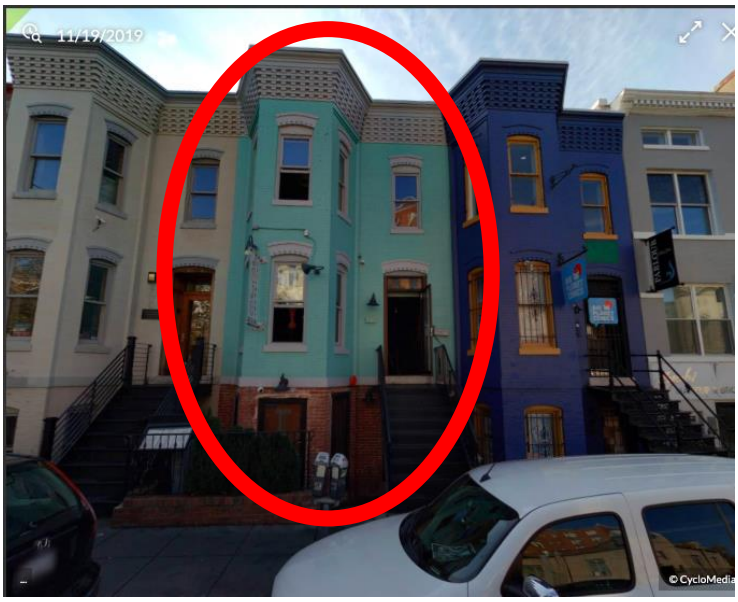
Objective 1: Find the Location of the Business

1. Open Street Smart. Login using your school account.
2. Click ***go to map*** by the search bar. The Street Smart map should appear.
3. Type in the following image ID code in the search bar "***WE13B71G***." Your OpenStreetMap pane should look like the following:

4. To double check you are in the right location, you can click the information button at the bottom right of the Cyclomedia Pane to check the Image ID.



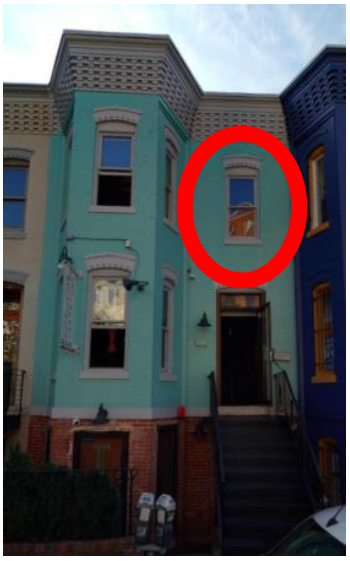
5. Move the green triangle on the OpenStreetMap pane so you can see two blue buildings, you will be focusing on the light blue building that is JoJo Restaurant and Bar.



6. You can zoom in or out on the image by clicking the little green plus or minus button on the bottom right of the Cyclomedia Pane. You can also use the wheel on a mouse.

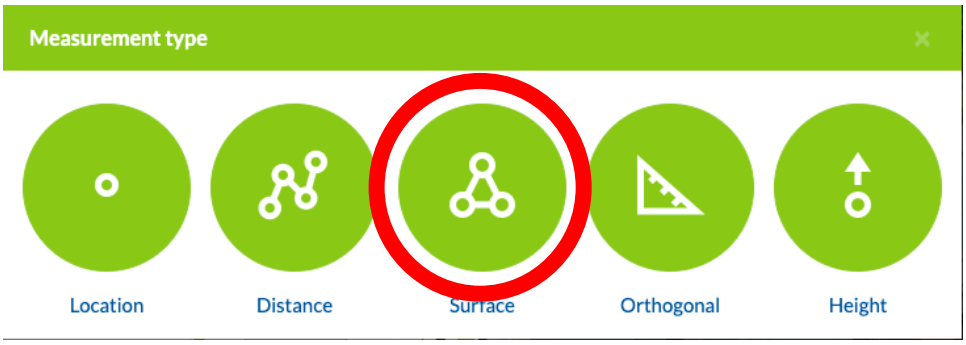
Objective 2: Finding the Area of the Windows

1. Zoom in until you can clearly see the window above the door on the second story. You will be measuring the area of this window.

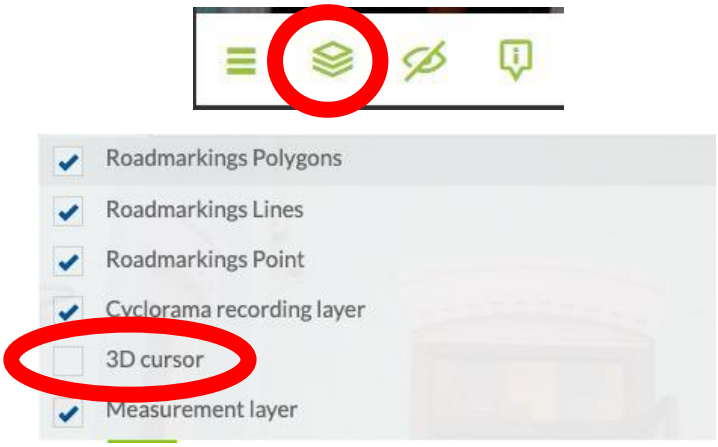


2. Click on the ***measuring*** tool at the bottom right of the Cyclomedia Pane. It looks like a ruler.

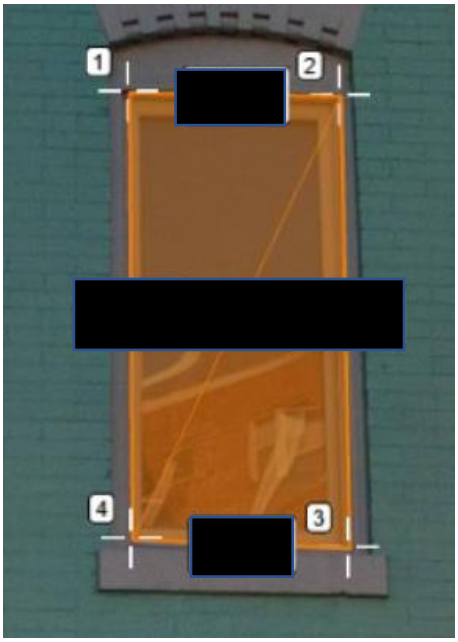
3. In the ***measurement type*** window, click on the ***surface button***, in the middle.



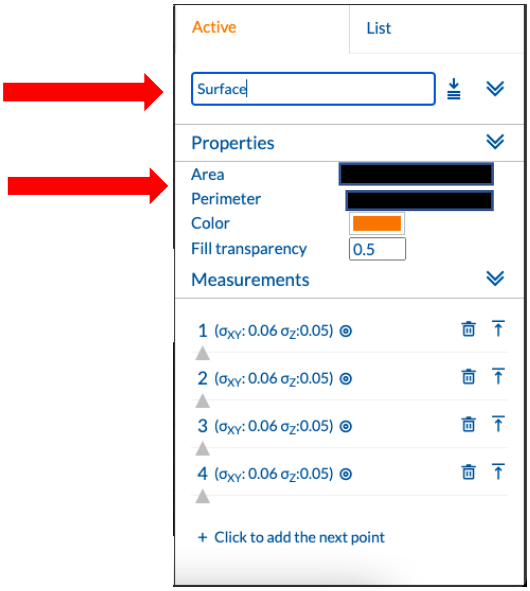
4. Your mouse will now have crosshairs and the measurement menu box will appear along the right of the screen.
5. If the green circles surrounding your pointer are distracting, click the ***overlays tool*** in the bottom left of the Cyclomedia pane. Scroll down in the box that appears and unselect the 3D cursor. This will remove the green circles surrounding your cursor and will make measuring the area of the window easier.



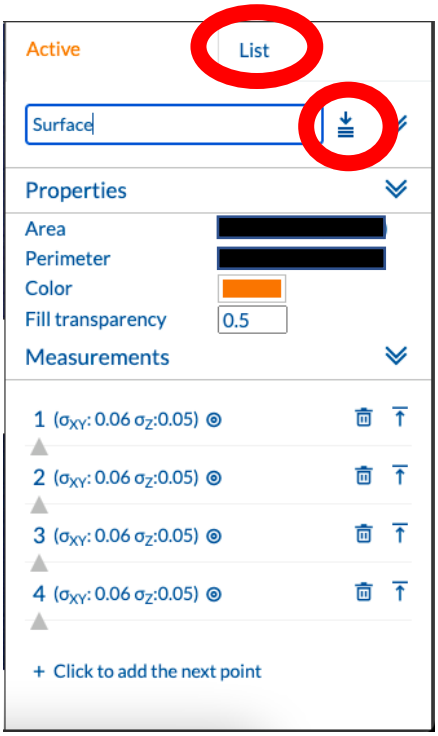
6. Click on each corner of the windowpane. The window should now be highlighted in orange. (The black boxes are to hide the measurements/answers from view.)



7. In the ***measuring menu*** under ***properties***, the ***area*** and ***perimeter*** of the window will be shown. The text box at the top can be used to change the surface name.



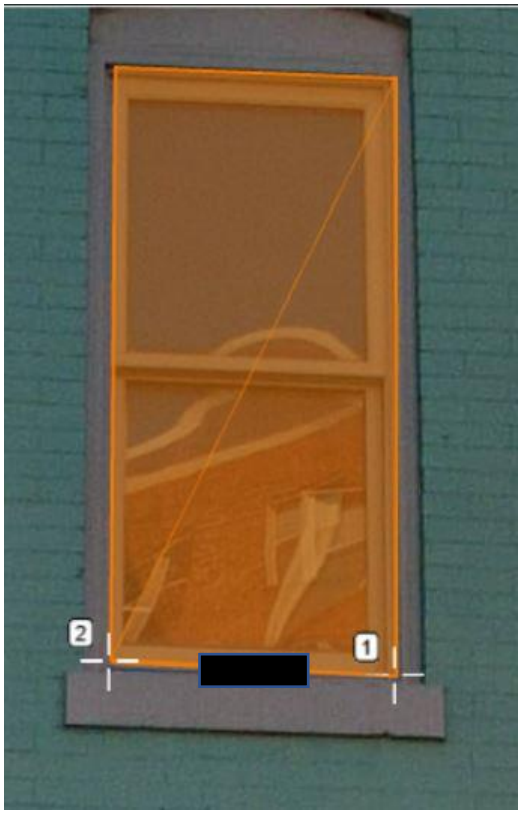
8. Record the area and perimeter of the window.
9. Be sure to save the measurement, by clicking the ***save measurement*** button next to the name of your surface. The ***list tab*** of the measuring menu will show all your saved measurements for this project.



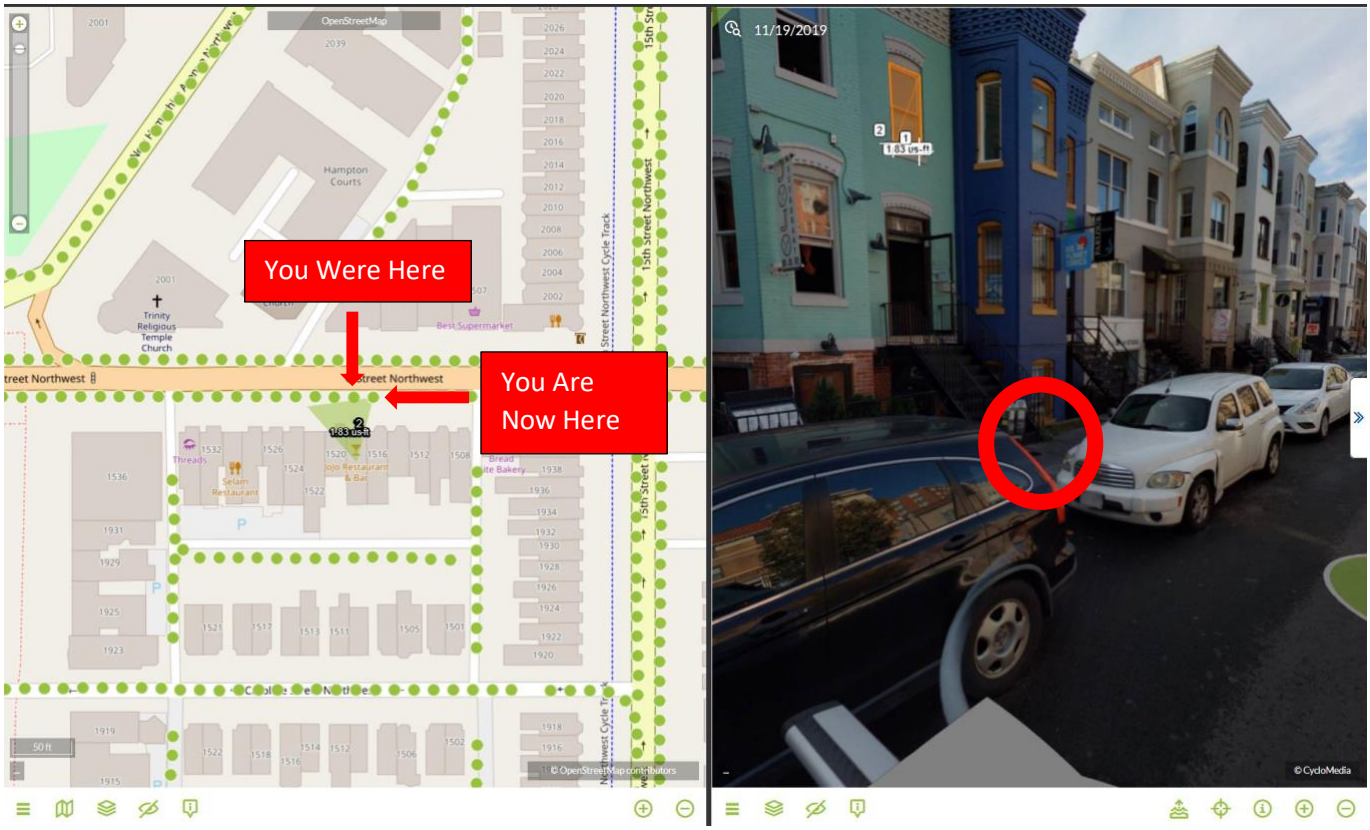
Objective 3: Finding the Orthogonal Height of the Window

1. For this objective, you will be finding the diagonal height from the sidewalk of the window you previously measured. This measurement will be used to determine the length of the ladder needed to reach the window from the sidewalk.
2. If the measurement menu is not open, click the measurement tool again. If the measurement menu is still open, look to the top right of the screen to see the ***surface dropdown menu.***

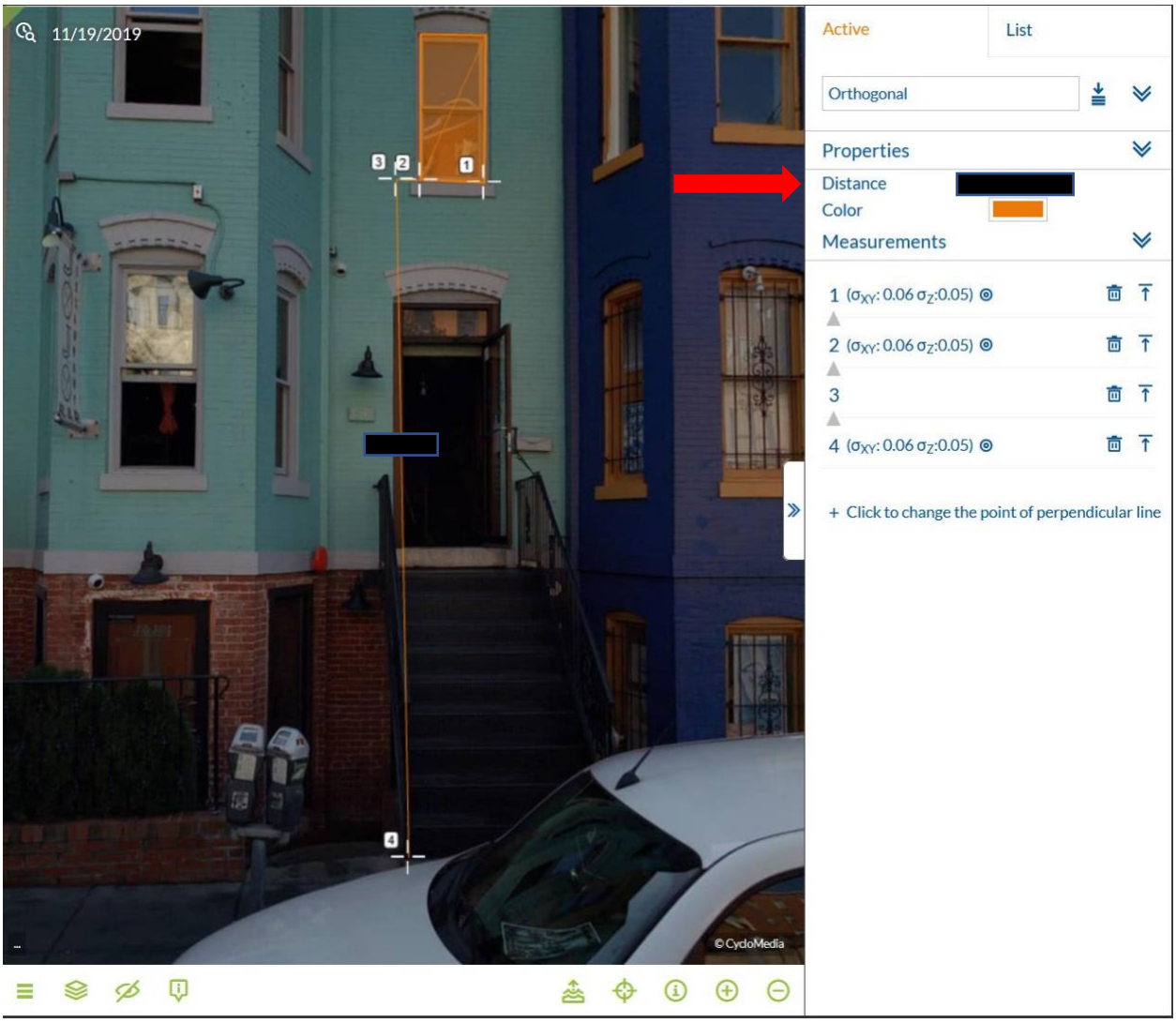
3. Click the dropdown arrow and select ***orthogonal.*** The ***orthogonal*** measuring tool is used when you need a straight 90-degree measurement, but you are not sure if your line is set at exactly 90 degrees. We need this tool because there is a car blocking our view of the sidewalk directly in front of the window we are measuring.
4. Select the two bottom corners of the window, two points will be placed here. These points tell Street Smart that the line created from these two points is horizontal.



5. You then want to place the third point at the bottom of the stairs below the window. One way to do this is to zoom in to the bottom left of the stairs. There is a small section of the stairs that is visible above the car. A second way is to change the vantage point location of the image. To do this, you must select a different ***green circle*** in the OpenStreetMap pane. The circle to the east of the one you are currently at will give you the best view. At this vantage point, you can see the bottom of the stairs in front of the white car.



6. Place a third point where the stairs meet the sidewalk. Street Smart can then extend your horizontal line by creating a third point on the horizontal line until a perfect 90-degree distance can be found between the window and the ground.

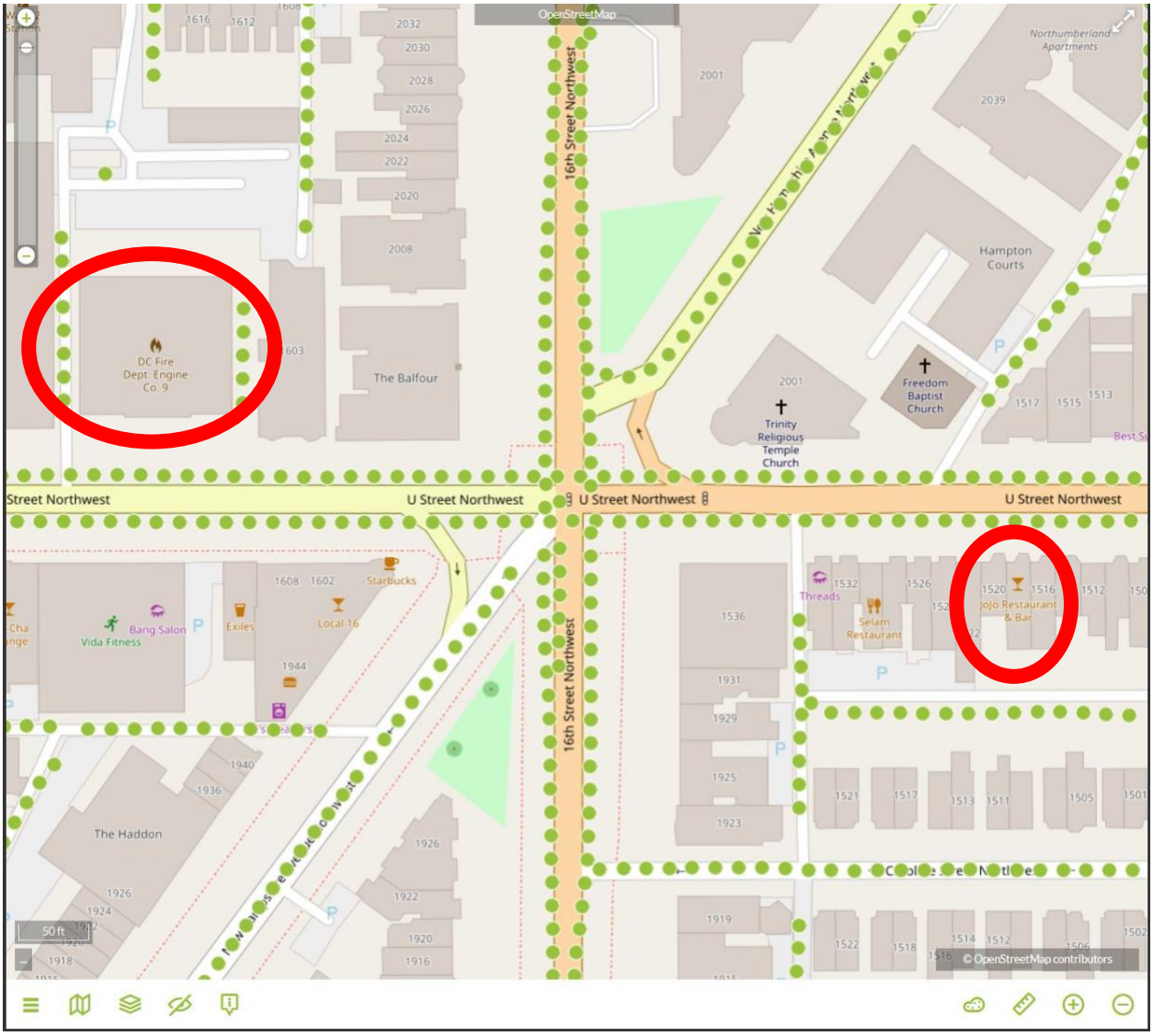


7. Record the given diagonal distance between the window (point 3) and the sidewalk (point 4).
8. You can save or rename this measurement in the same way that you did for the area measurement in Objective 2.

Objective 4: Finding the Distance to the Fire Department

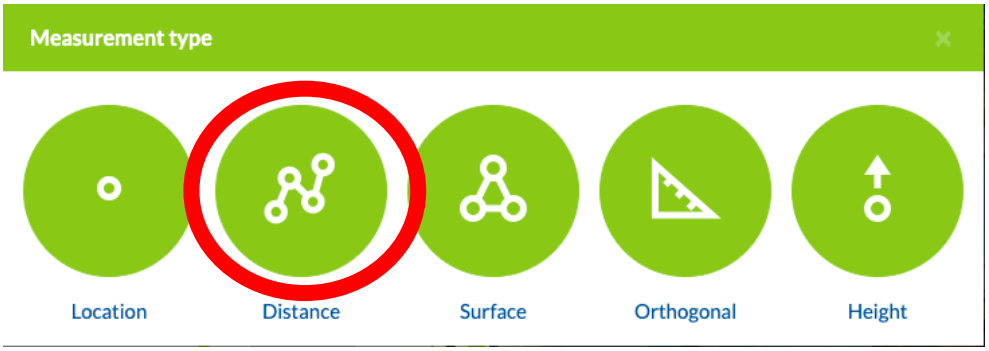
1. Luckily for the owner of JoJo Restaurant and Bar, the nearest fire department is only a block away. For this objective, you will be finding the distance between the business and the fire department.
2. Click the ***X*** at the top right of the Cyclomedia pane to exit that pane. Only the OpenStreetMap will need to be showing.

3. The fire department is located a block to the west of the restaurant. Zoom out until you can see both buildings.



4. Like in the Cyclomedia pane, measurements can be taken in the OpenStreetMap pane. Click the ***measurement tool*** in the OpenStreetMap pane at the bottom right of the screen.

5. Select the ***Distance tool.***



6. We want to find the distance on the street between the two buildings. Place a point on the street that lines up with the southeastern corner of the fire department. The point can be on the edge of the street or in the middle.
7. Place a second point by ***double clicking*** your mouse in front of JoJo Restaurant and Bar. By double clicking, Street Smart recognizes the second point as the end of the measurement. Make sure to place the second point on the same area of the street you placed the first point.

8. Record the distance to the nearest 10 feet. If the fire truck travelled at 50 ft/sec, how long would it take the truck to get to the restaurant?