TeachOSM

GETTING STARTED WITH OPENSTREETMAP

Module x: How to Map Simple Roads

Recommended Ages/Grades

High School Students
College/University

Course Time Needed

Preparation: 30 minutes
Execution: 50-90 minutes

Materials Needed

For the educator:
Computer w/ Internet
Computer mouse
Web Browser
OSM Account

For the student(s):
Same as for the educator

Have questions or comments?
Reach out to us through email info@teachosm.org or tweet @TeachOSM

Learning Objectives

After completing this lesson, students will be able to:

1) Map simple roads, such as driveways, parking aisles, and service roads
2) Use the iD editor to realign and reconfigure the road network
3) Classify road features, where appropriate

This Lesson Meets:

National Geography Standards

Standard 1: How to use maps and other geographic representations, geospatial technologies, and spatial thinking to understand and communicate information

Advanced Placement – Human Geography

Unit 1 – Thinking Geographically:

- → Different types of maps and what they tell you
- → How geographers collect and use data

Overview

As you would expect, roads are a defining feature of OpenStreetMap. Roads are a bit trickier to map, compared to say, buildings. Here are some reasons why:

1) While buildings are often separated from one another, roads are typically connected to other roads. Connecting roads is useful for point-to-point routing and that makes good road data very useful. But it demands attention to making connections when mapping.
2) Roads have different classifications based on capacity & speed. There is a big difference between a residential road and a multilane expressway.
3) *Relations*, a special type of OSM data type, are necessary to create state and national highway routes.

Because the nature of the road network is more complex than buildings, we're starting simple: with driveways, parking aisles, and service roads. These features have the advantage of being straightforward to map, easy to classify, and offer a good measure of utility.

At the end of this project, you will be able to trace new road features in OpenStreetMap. You'll also be able to re-align and correct the existing roads in OpenStreetMap.

Preparation & Prerequisites

- Facilitators and students should be comfortable making basic edits using the iD editor.
- Successfully completed Modules 1,2, and 3. How to Map Buildings
- Have saved a minimum of 10 changesets to OpenStreetMap
- A mouse is highly recommended as it makes tracing much easier
- Tablets (iPad, etc.) are strongly discouraged as they are do not work well with OpenStreetMap

Watch: One Minute Tutorial: How to Extend an Existing Road
https://www.youtube.com/watch?v=PuAvFXxKrYY

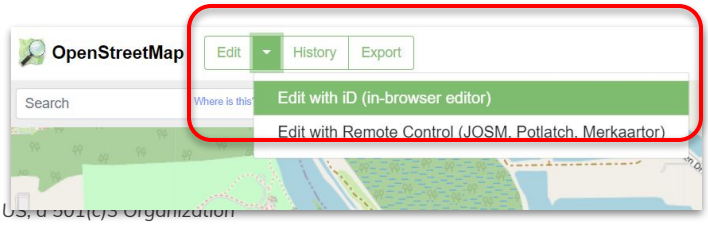
Step 1: Find Roads to Map in OpenStreetMap

Procedures for Students

1. Log in to OpenStreetMap

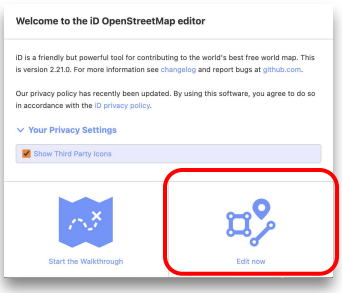
2. Navigate to a rural area, preferably one with some farms and ranches. You're looking for long driveways and/or large parking lots. Zoom in so you can clearly see the road details.

3. Click on the Edit button on the top left hand corner of the OSM map window, and choose 'iD Editor' as seen in the example below:



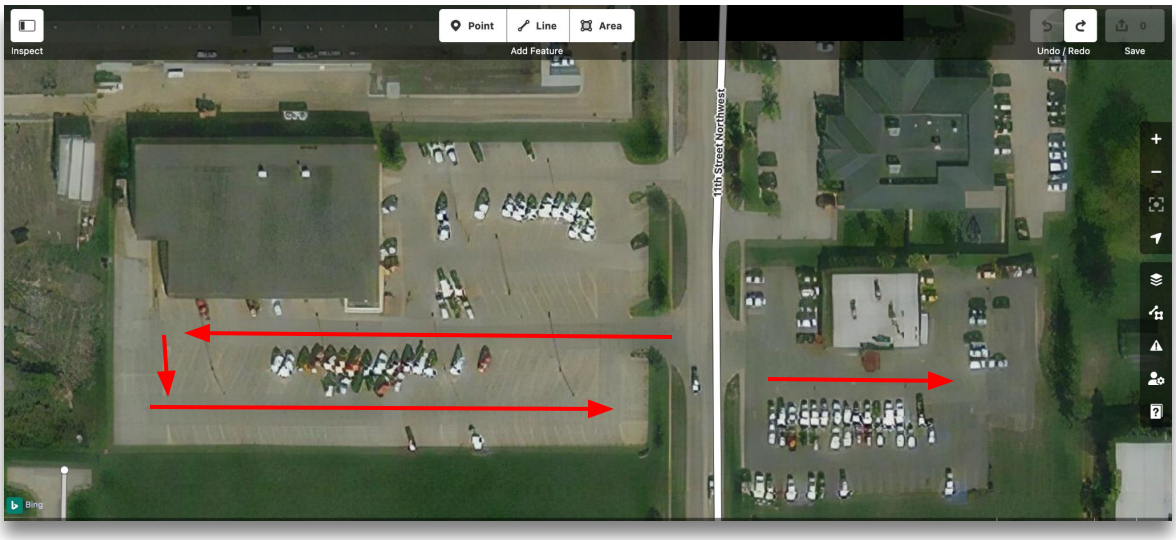
Step 1: Find Roads to Map in OpenStreetMap (cont'd)

1. When you click **'Edit'**, you'll be presented with a choice to talke the **'Walkthrough'** or **'Edit Now'**. Choose **'Edit Now'** as highlighted in red below:



2. First, We're going to use OpenStreetMap's aerial imagery to find driveways, parking aisles, and service roads to map. **Pan** across the map until you find some driveways. (To pan click, hold, and drag the map.) The images below show some driveways ready to map.

3. Here are some parking lots. The parking aisles are visible between the parked vehicles and empty into the adjacent road. The red arrows in the images below highlight some parking aisles. Pan around the map until you find driveways or parking lots similar to these examples.



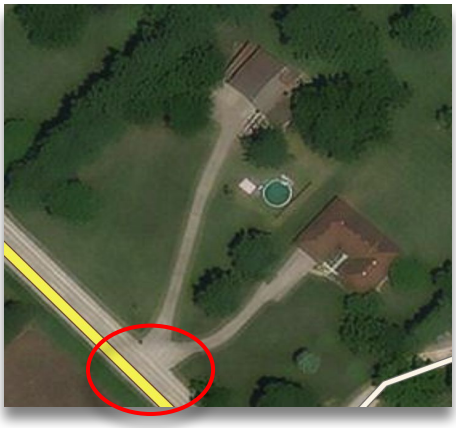
Step 2: Trace, tag, and save the road features

Once you've found some features to map, trace them.

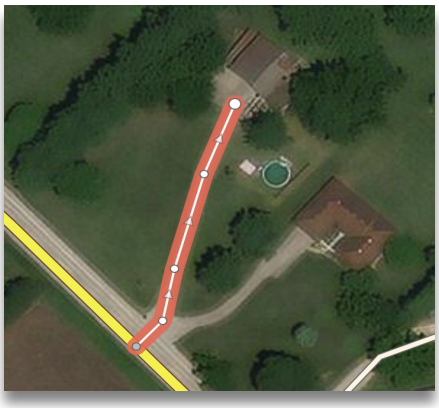
1. Like all roads, driveways and parking aisles are linear features. So click the 

'Line' button, then click on the intersecting road and trace the driveway (or parking aisle), double-clicking to end the line.

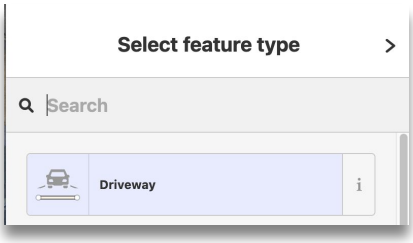
a. Start at the intersecting road

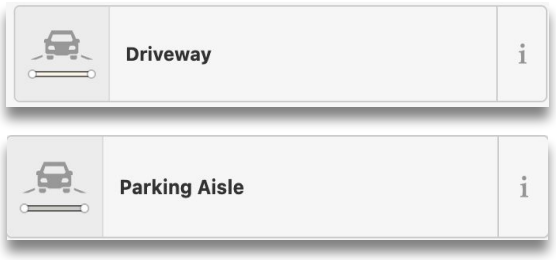


b. Trace and double-click to end

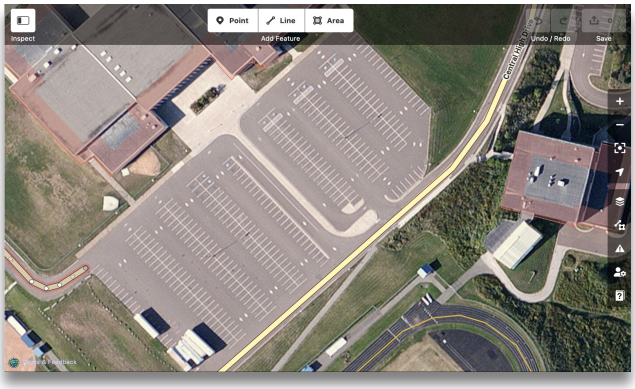


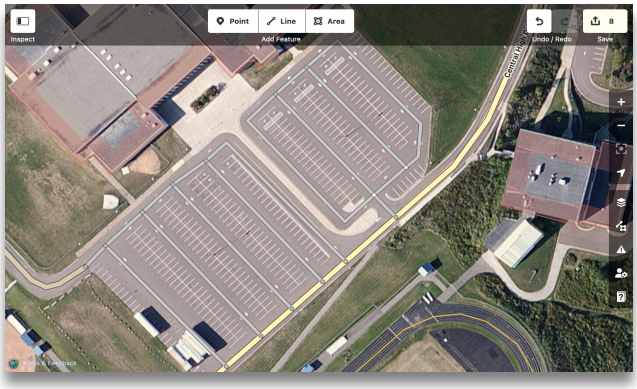
2. Now, **tag** the driveway. From the search pane on the left type, **'Driveway',** or '**Parking'.** Select the appropriate tag from the list. Then **SAVE** your changes.





3. Here's an example of an unmapped parking lot and the same lot completely mapped.



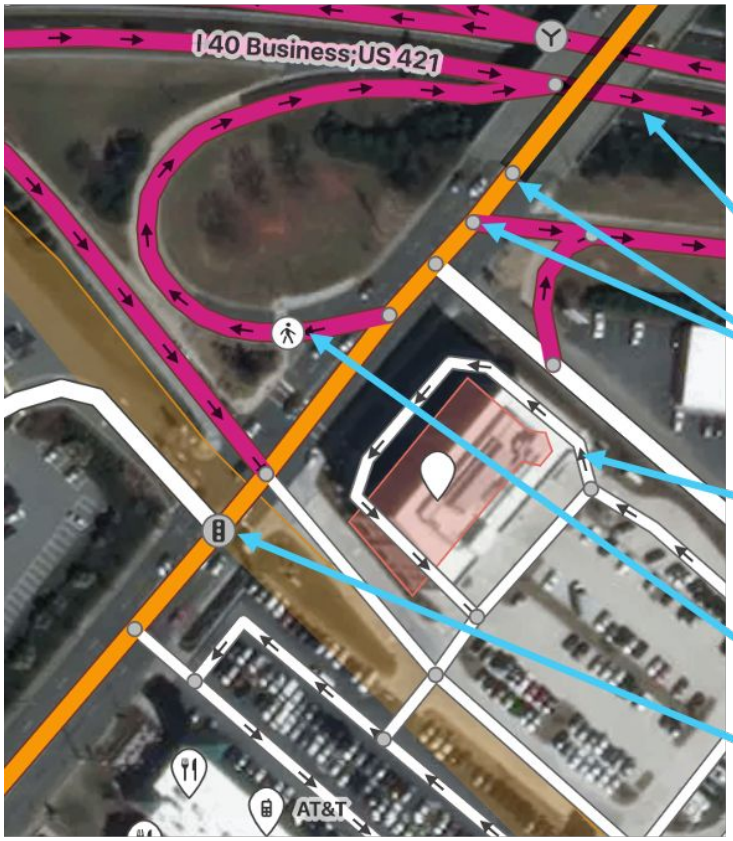


Extras: Working with linear features in iD:

1. You can **extend** an existing line by right-clicking on the last point and selecting the plus '+' sign, as shown here:

2. You can **disconnect** two intersecting lines by right-clicking on the intersection and selecting the disconnect symbol, highlighted here:

3. For reference, shown below are some common road features and how they are tagged.



Shown at left is a typical road intersection as it might appear in the iD editor.

Colors indicate road classification

Arrows indicate directionality, if one-way

Nodes, or points in the road

One-way Service Road (parking aisle)

A Pedestrian Crosswalk

Traffic signals

Discussion Questions

a. What challenges did you have in mapping driveways and parking aisles?

b. Who might find driveway and parking aisle information useful to have on their map?

c. Why do you suppose it is necessary to connect all road segments on the map?

d. How does this road mapping exercise help you to understand the different types of roads and their uses?

e. How does this road mapping exercise help you understand the transportation network?

Share your photos and experiences from this lesson with other educators by tweeting **@TeachOSM**

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