

# OpenStreetMap Mapathon

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Leila Alderman  
NC Clear Path

# Agenda

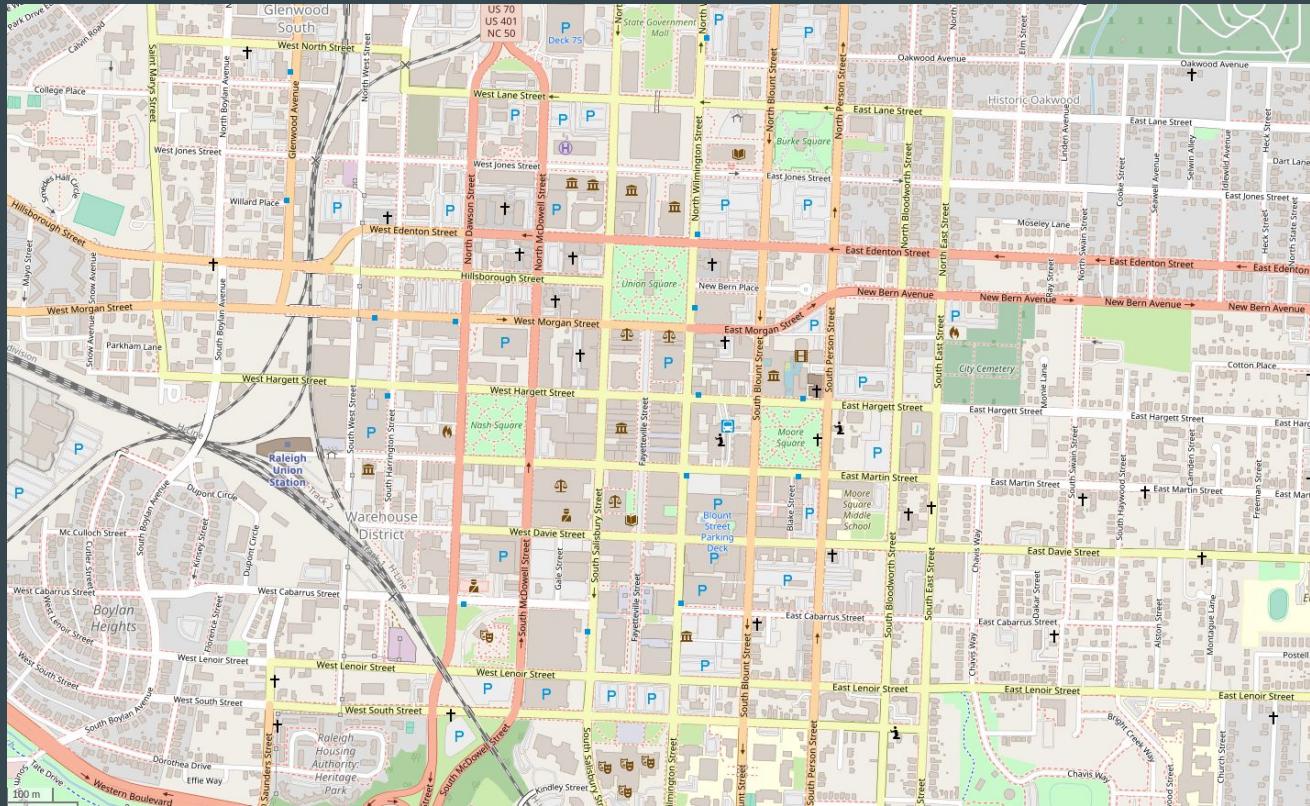
- OpenStreetMap Overview
- NC Clear Path
- OSM Mapping Tutorial
- HOT Tasking Manager Tutorial
- Mapping Sidewalks Tutorial

The presentation materials can be found at

[https://github.com/leila-alderman/mapathon\\_open\\_data\\_day](https://github.com/leila-alderman/mapathon_open_data_day)

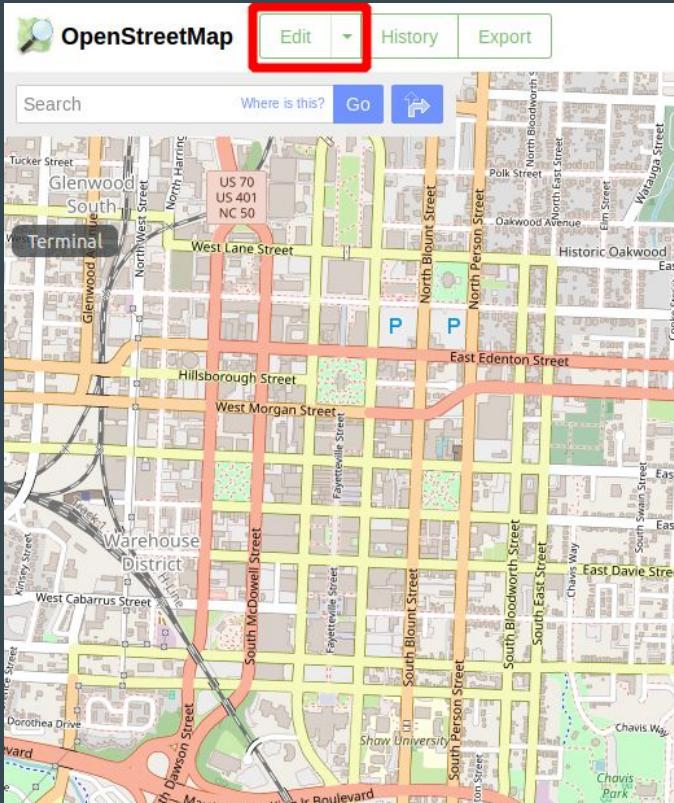
# OpenStreetMap Overview

# OpenStreetMap



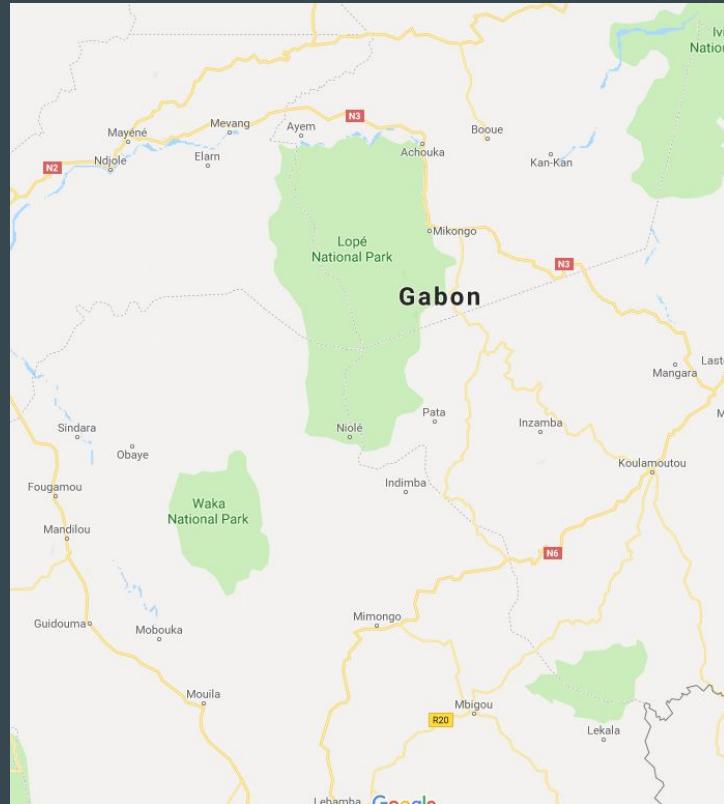
# OSM: The Wikipedia of Maps

- “OpenStreetMap is a free, editable map of the whole world that is being built by volunteers largely from scratch and released with an open-content license.”
- OSM actively encourages new and interesting uses of its map data.



# Why make OpenStreetMap?

- Maps that we think of as free often aren't.
- In many countries, you pay taxes that fund government mapping projects and then must also pay to get a copy of these maps.
- For-profit companies have little incentive to map poor areas of the world.



# Using OpenStreetMap

- OSM is best leveraged with apps
  - Maps.me
- Many sites and applications use OSM
  - Snapchat
  - Weather.com
  - TripAdvisor
  - Craigslist
- Coding with OSM
  - Leaflet default
  - Mapbox
  - switch2osm.org



# Humanitarian Mapping

- Humanitarian OpenStreetMap Team (HOT)
- International non-profit
- Supports humanitarian disaster management
- Encourages community development



# HOT Initiatives

- Create maps that enables disaster responders to reach those in need
- Create maps of high vulnerability areas where data is scarce, putting millions on the map
- Provide training, equipment, and knowledge exchange



# NC Clear Path

# Won first place at Civic Camp



# Pitched at All Things Open

A woman in a dark blazer and jeans stands at a podium on a stage, speaking into a microphone. To her left, a man in a red baseball cap and dark shirt stands with his arms crossed. A large projection screen behind them displays a slide titled "Kevin's story" with a quote and a photo of a person in a wheelchair.

**Kevin's story**

*"Using a tool like directions on Google Maps doesn't really help me get around. Actually sometimes this does more harm than good. I'm sent down streets I can't cross, or up inclines that are impossible to climb. It can be deeply frustrating."*

A photograph showing a person in a wheelchair navigating a paved path with several low, uneven steps. The path is surrounded by grass and trees.

The LEAR PATH logo, featuring a stylized purple 'L' and 'P' icon followed by the text "LEAR PATH".

# Won first place at Datapalooza



**NC Clear Path seeks to provide safe and accessible trip planning on pedestrian ways for those with limited mobility**

# Kevin's story

“Using a tool like directions on Google Maps doesn’t really help me get around. Actually sometimes this does more harm than good. I’m sent down streets I can’t cross, or up inclines that are impossible to climb. It can be deeply frustrating.”



# 54.5 million

people in the USA need assistive devices or  
have trouble walking more than a quarter mile

# What obstructs pedestrian paths?

Short-term obstacles:

- Tree branches
- Building construction

Long-term obstacles:

- Lack of curb cuts
- Broken, uneven, and/or overgrown sidewalks

Permanent obstacles:

- Steep hills (both uphill and downhill)



A Seattle City Hall, 600 4th Ave, Seattle, Washington



B Seattle Central Library, 1000 4th Ave, Seattle, Washington

 Wheelchair 

Avoid uphill steepness above 8%

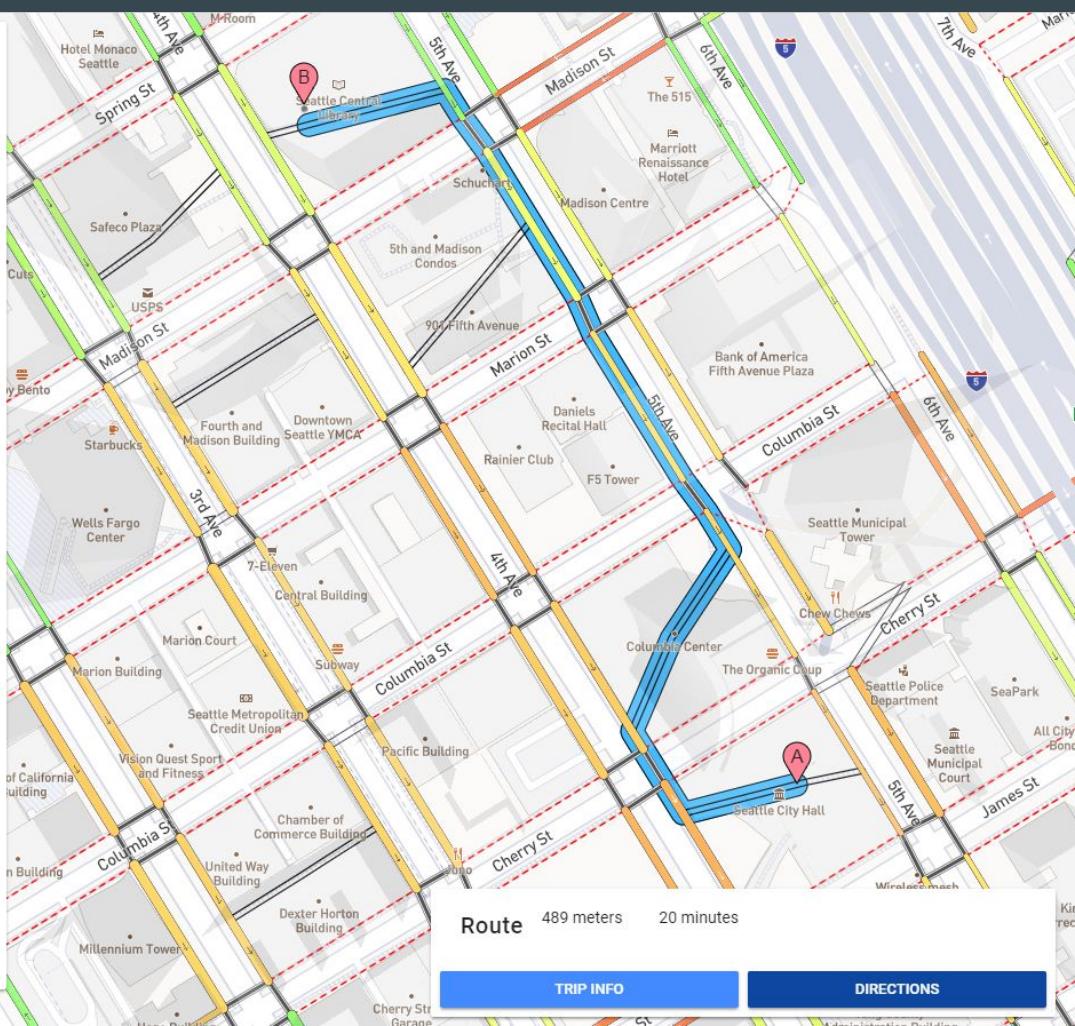


Avoid downhill steepness below 10%

 Require curb ramps[RESET TO DEFAULTS](#)

10/18/2018

8:33 PM



## Map legend

## Movement speed due to incline

- High speed (flat)
- Medium speed (moderate incline)
- Low speed (steep)
- Inaccessible

## Crossings

- Unmarked crossing
- Marked crossing
- Inaccessible

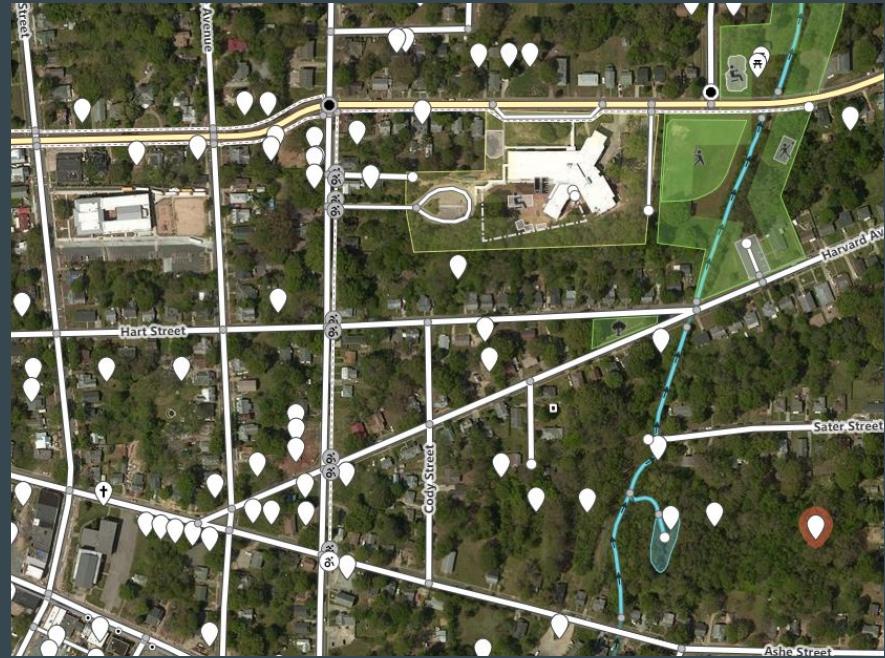


# Bringing AccessMap to NC

- OpenStreetMap is currently lacking sidewalk data for North Carolina
- We need to add this data to OSM

## How?

- Import GIS sidewalk data from city open data sources
- Host mapathons to create additional sidewalk data



# Mapathons

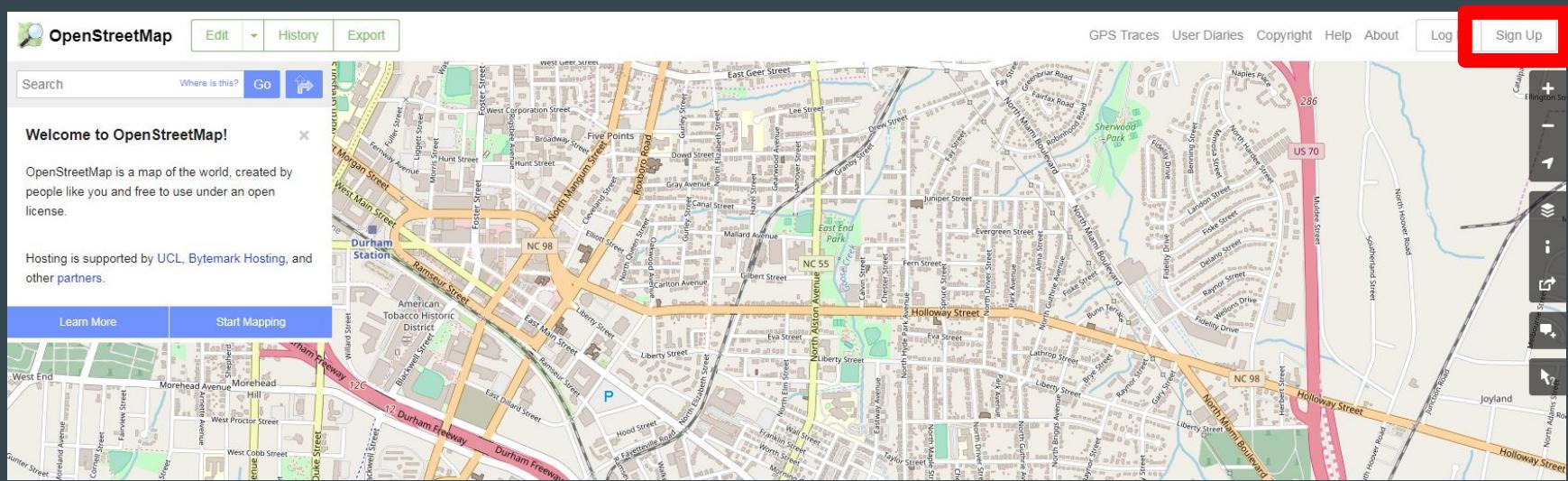
- No coding or mapping knowledge required!
- Raise awareness of this issue while crowd-sourcing the solution
- Increase exposure to open-source mapping



Let's get mapping!

# OpenStreetMap

- Go to <https://openstreetmap.org>
- Click the “Sign Up” button in the upper right corner



# Create an OpenStreetMap account

- Enter your email address
- Select a username and password
- Agreement page: select “Rest of the world”
- Please check the box at the bottom of this page to consider your contributions to OpenStreetMap to be public domain
  - This ensures that the mapping data you add will be open and available to everyone
- Go to your email and click on the confirmation link
- Click on “Start Mapping”

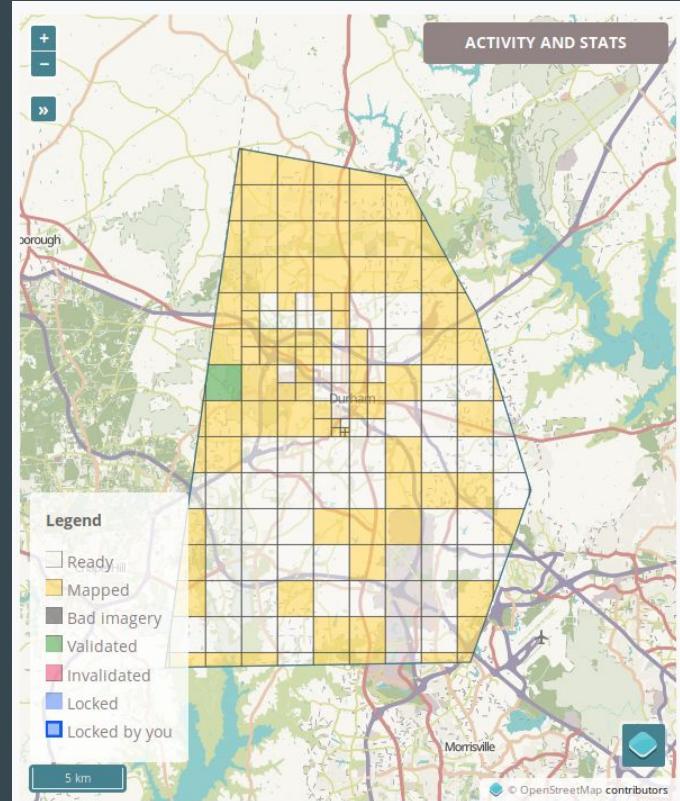
# iD Editor mapping tutorial

- Once you've confirmed your email address, select "Start the Walkthrough"
- Let's all work through this together!



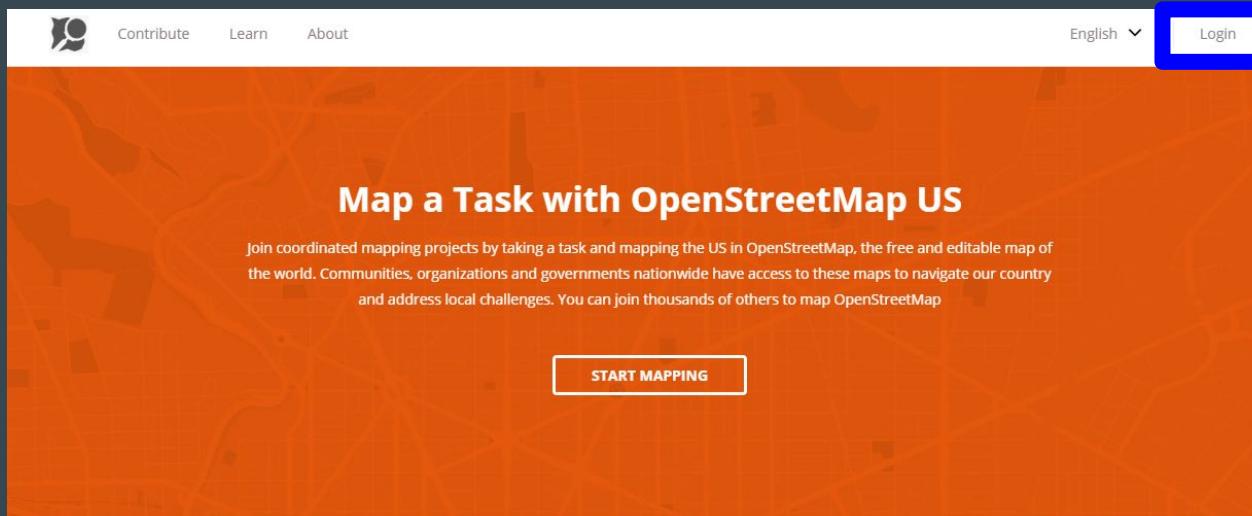
# Tasking Manager

- Used for collaborative mapping efforts
- Divides up the area to be mapped into small squares
- Tracks project progress and prevents duplicate work



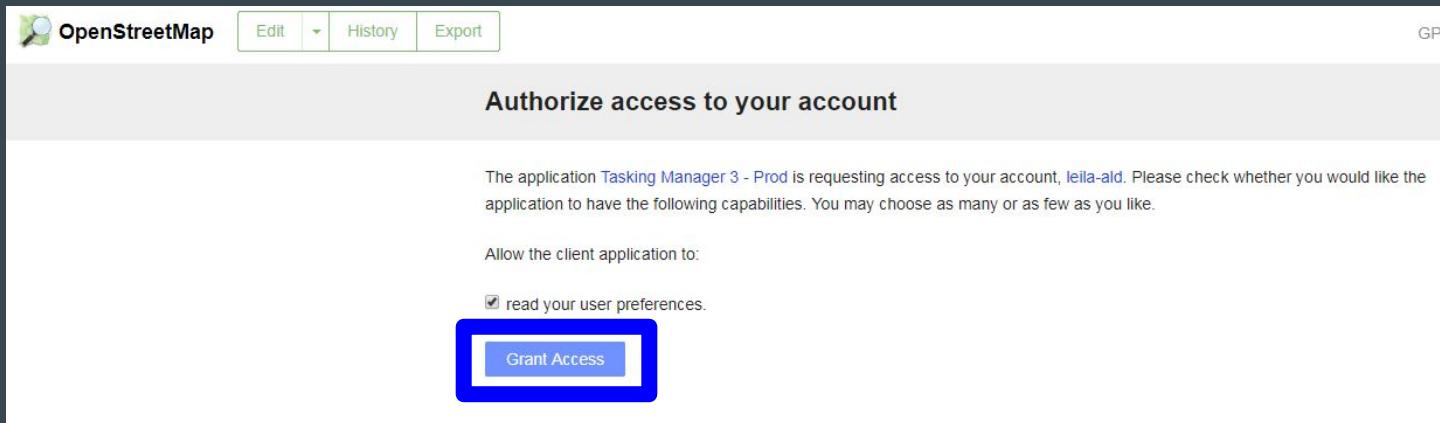
# Login to US HOT Tasking Manager

- Go to <https://tasks.openstreetmap.us/>
- In the upper right corner, click “Login”



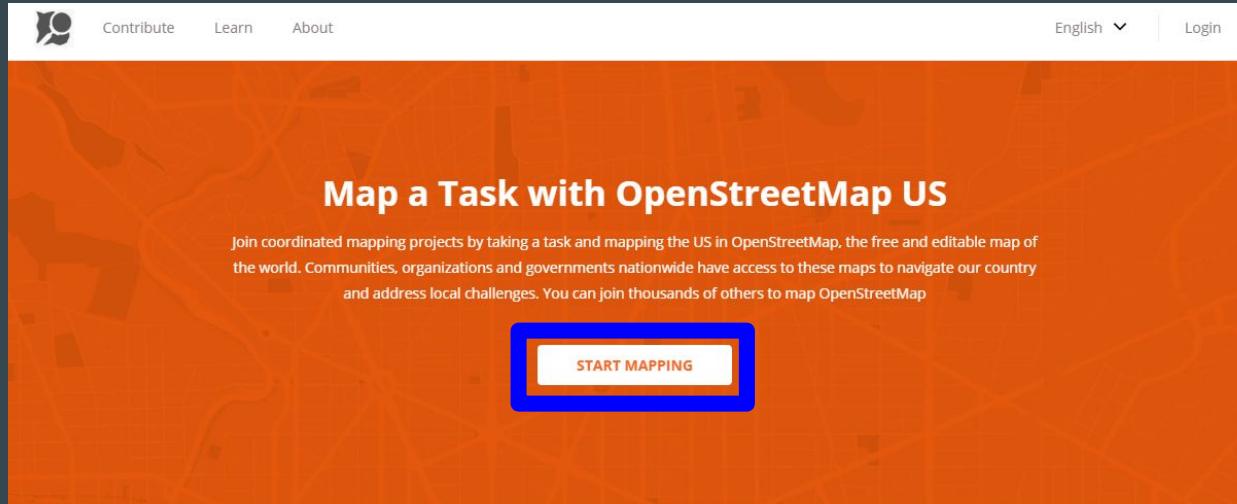
# Authorize your OpenStreetMap account

- On the authorize screen, click “Grant Access” to connect to your OpenStreetMap account



# Start mapping

- Navigate back to the main page
- Click “Start Mapping”
- Go to <https://tasks.openstreetmap.us/project/117>



# Project map

- The map shows the current project area with color coded squares indicating progress
- Locked squares are currently being worked on
- Select “Map” to get started

The screenshot shows the Osmus project map interface. At the top, there is a navigation bar with links for "Contribute", "Learn", and "About". Below the navigation bar, there are tabs for "Instructions", "Map", "Validate", and "Questions and Comments", with "Instructions" being the active tab. Under the "Instructions" tab, there is a section titled "Changeset Comment" with the text "#osmus-tasks-92". Below this, there is a large button labeled "Ready to get started? Contribute by mapping or validating work that has already been done." with two buttons: "MAP" and "VALIDATE". To the right of this button, there is a map of an area in Boroough, Durham, showing various geographical features and a grid overlay. The map includes zoom controls (+, -, >>) and location labels like "Boroough" and "Durham".

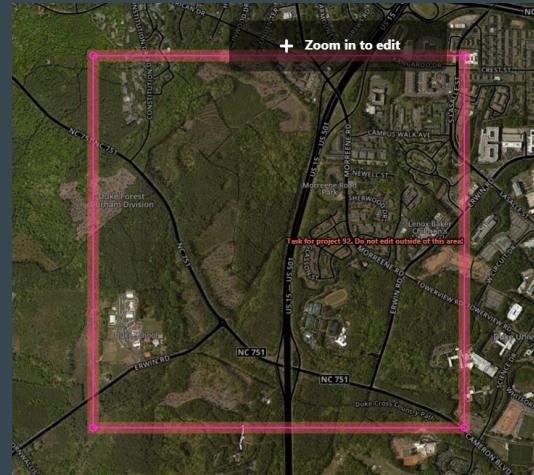
# NC Clear Path - Raleigh project

- Select an area to map
  - click on an available square on the map or
  - click “Select a random task”
- Click “Start Mapping” to lock this area for editing

The screenshot shows a user interface for a mapping task. At the top, there are four tabs: "Instructions", "Map" (which is highlighted with a red underline), "Validate", and "Questions and Comm". Below the tabs, the main content area is divided into sections. The first section, titled "Mapping", contains the text "This task is available for mapping" and two buttons: a blue-bordered "START MAPPING" button and an orange "SELECT ANOTHER TASK" button. The second section, titled "History", contains the text "Nothing has happened yet.". The third section, titled "Advanced", contains the text "Advanced task information and editing options".

# Select an area to map

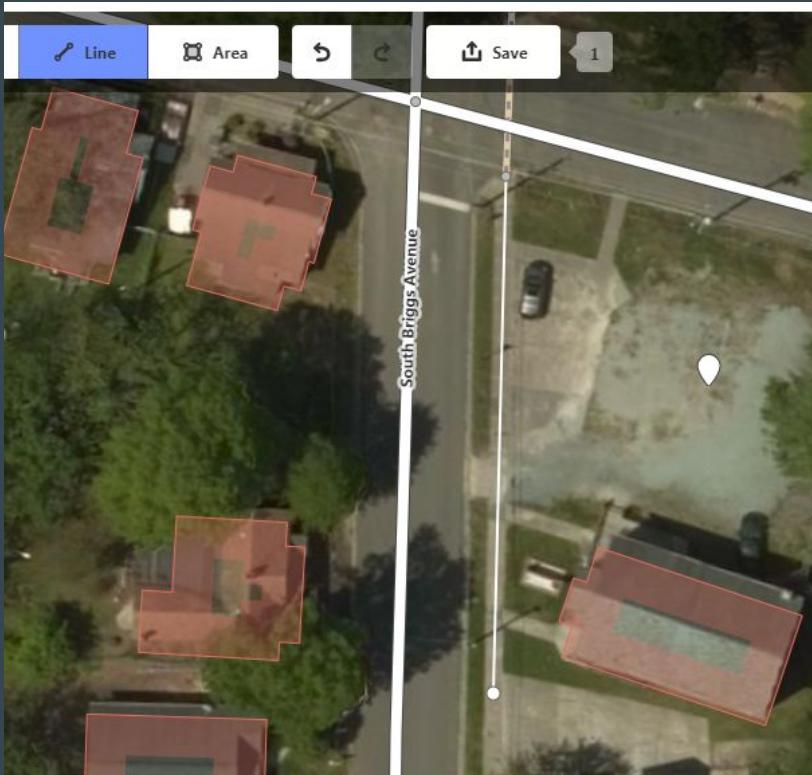
- Click “Start Editor”
- The map editor will open in a new window with a pink square overlay
- This square indicates the mapping area that you have checked out
- Don’t map outside of this square!



# Mapping Sidewalks

# Sidewalk elements

- Trace sidewalks using the Line tool
  - Select “Sidewalk”
- 
- *Optional:* tag the sidewalk surface  
(i.e., concrete, gravel, grass)
  - *Optional:* tag the smoothness



# Smoothness guidelines

**Good:** Racing bike



**Bad:** Normal cars



**Intermediate:** Wheelchair



**Very bad:** Light-duty off-road vehicles



# Footpaths

- For any walkways not adjacent to a roadway, use “Footpath” instead of “Sidewalk”

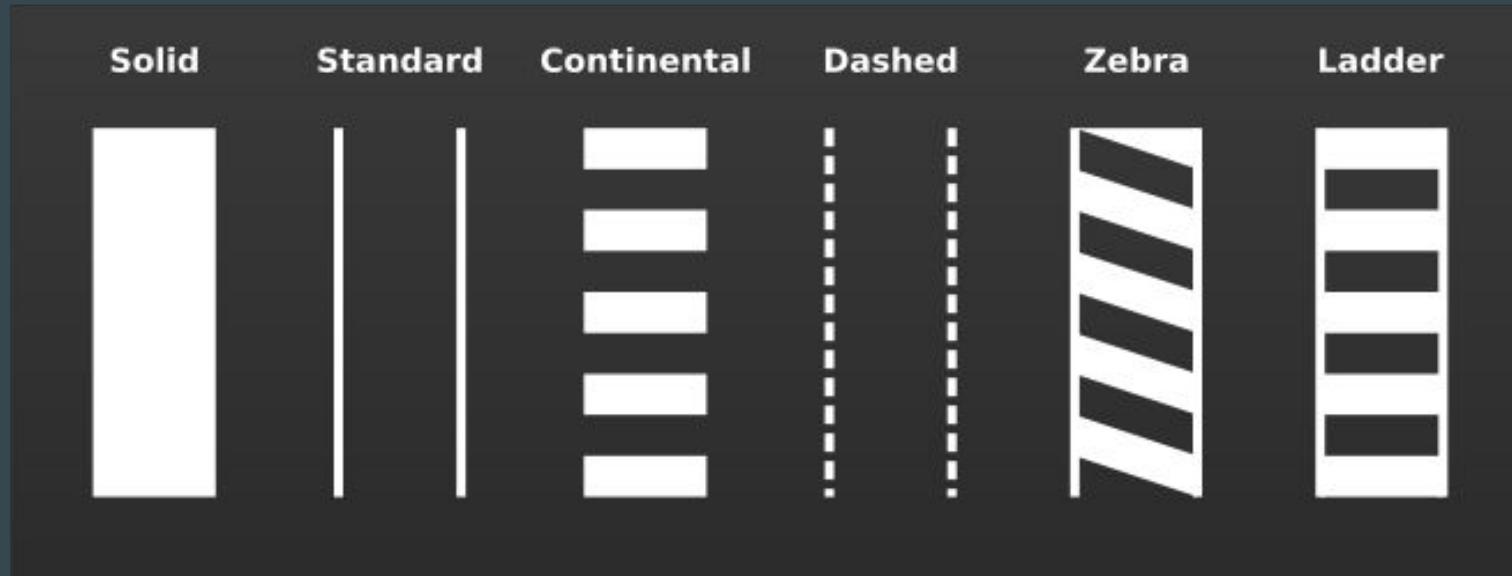


# Street crossings

- Draw sidewalks up to where they intersect the road
- Using the Line tool, draw a new line across the road for the pedestrian crossing
- Select “Street Crossing”
- Select the type of crossing:
  - For any type of marked crossing, use “marked”.
  - For a crossing that is not marked at all, use “unmarked”.

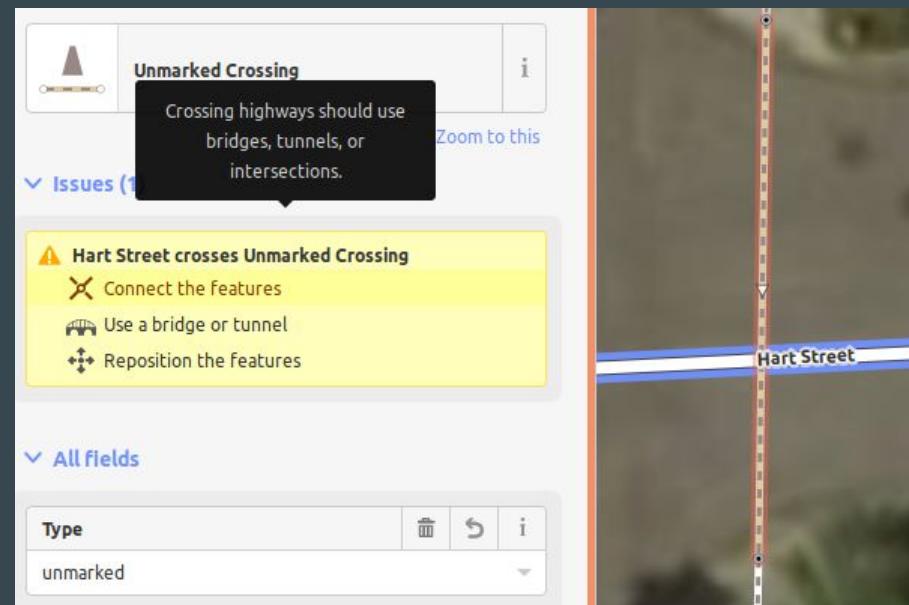


# Street crossings: “Marked” examples



# Street crossings: Connect to streets

- All street crossings should connect to the streets they cross
  - Create a node at the street as you draw the crossing;
  - Split the crossing at the street after you've drawn the crossing; or
  - Select "Connect the features" on the warning that pops up on the crossing



# Curbs

- Curbs are nodes where a sidewalk and crossing meet
- In OSM, called “kerb”
- Feature type is “Other”
  - Not “Kerb” type

The screenshot shows the node editor interface for an OSM node. At the top, there's a circular icon, the text "Other", and an information icon (i). Below this is a button labeled "Zoom to this".

Underneath, a section titled "All fields" is expanded, showing an "Add field" dropdown menu with options like "Description, Elevation, Fix Me...".

Further down, another section titled "All tags (2)" is expanded, showing two tags:

kerb	lowered		
tactile_paving	no		

A large gray "+" button is located at the bottom of the tag list.

# Curb types

**Raised:** > 1"



**Lowered:** ~ 1"



**Flush:** ~ 0"



# Curb: Tactile paving

- Optionally, tag “Tactile Paving”
- Textured surfaces that indicate lowered curbs at street crossings
- Helpful for providing tactile sensation as a warning to blind users



# Mapping obstructions

- Add a node to the sidewalk
- Tag as “barrier=\*
- Add “wheelchair=no” attribute
- Add “foot=yes” attribute



# Don't use Google Maps street view!!

- Although it's tempting, don't do it!
- All of the data in Google Maps is copyrighted
- It's **not** free, open data
- That's why we have OSM!

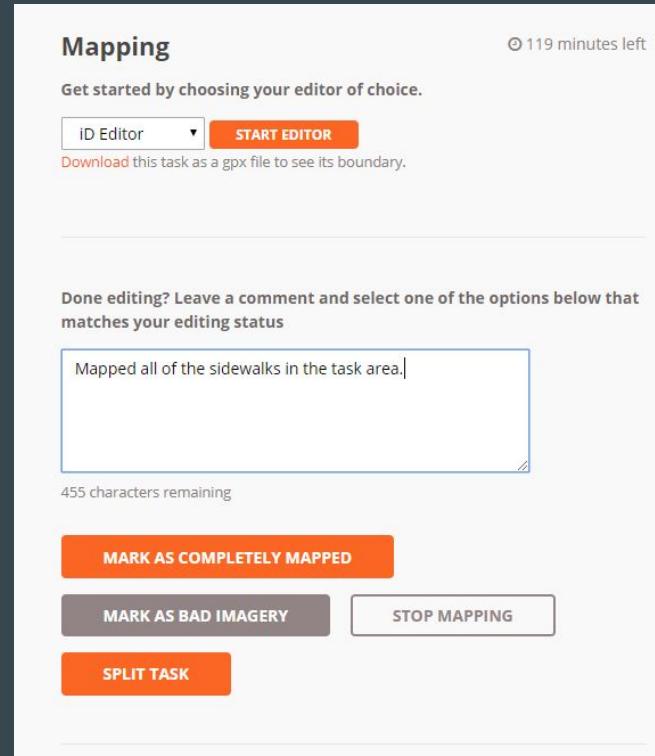


# Save in iD Editor

- To save your changes, click on “Save” along the top of the screen
- Add Changeset Comments
  - Include a summary of the work you did
- Include hashtags:
  - #osmus-tasks-117
  - #nc-clear-path
  - #mapathon
- Select “Sources: aerial imagery”
- Optional: Click the check box to request that someone review your edits
- Upload!

# Close out of Tasking Manager

- After you've finished editing the map and you've saved your edits, go back to the HOT Tasking Manager screen
- Add a note to describe your work
- If you finished mapping the entire task area, click “Mark as completely mapped”
- Otherwise, click “Stop mapping” so that someone else can pick this up later



Thank you!

Contact info:  
leila.alderman@gmail.com

<https://nc-clear-path.github.io/>

Open NC Slack channel

# Additional Resources

- <http://learnosm.org>
  - great beginner's guide
- <https://labs.mapbox.com/mapping/>
  - OSM mapping guides, from beginner to advanced
- [https://wiki.openstreetmap.org/wiki/Main\\_Page](https://wiki.openstreetmap.org/wiki/Main_Page)
  - OSM's wiki, which has lots of great information
  - It may not be the best resource for how to map sidewalks, though.
- <https://osmus-slack.herokuapp.com/>
  - OSM US-based Slack chat
  - Amazing resource for asking questions!
- <http://vespucci.io/>
  - Vespucci is a mobile app that lets you map on the go