

# make maps with us

Mapzen is an open, sustainable, and accessible mapping platform.  
Our tools let you display, search, and navigate your world.

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@mapzen



# Mapping with open source and open data

- Maps, data, mobility, and search
- Code is publicly available
- Only data with open licenses
- Global coverage and free service
- Developers building mobile and web mapping apps
- Tutorials and lessons



# Maps

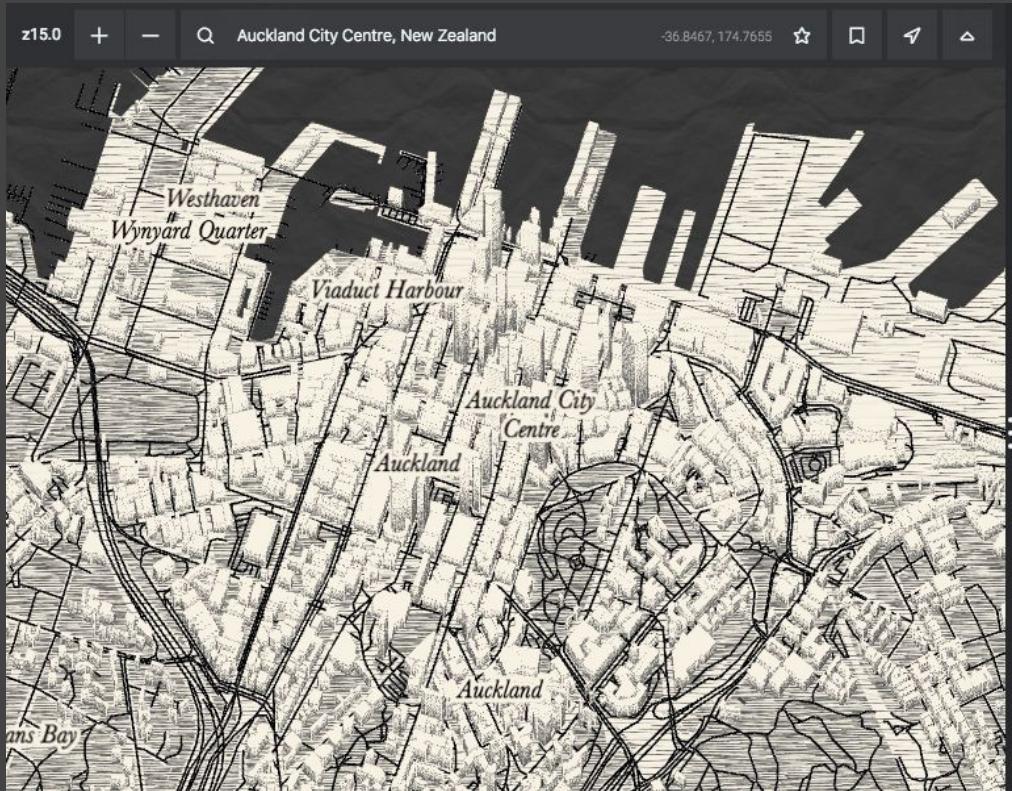
# Cartographic basemap styles

The screenshot shows a dark-themed interface for selecting a map style. At the top left is a coordinate pair: 37.7379, -122.1737. At the top right are a star icon and the word "Inspect". The main area displays five map examples:

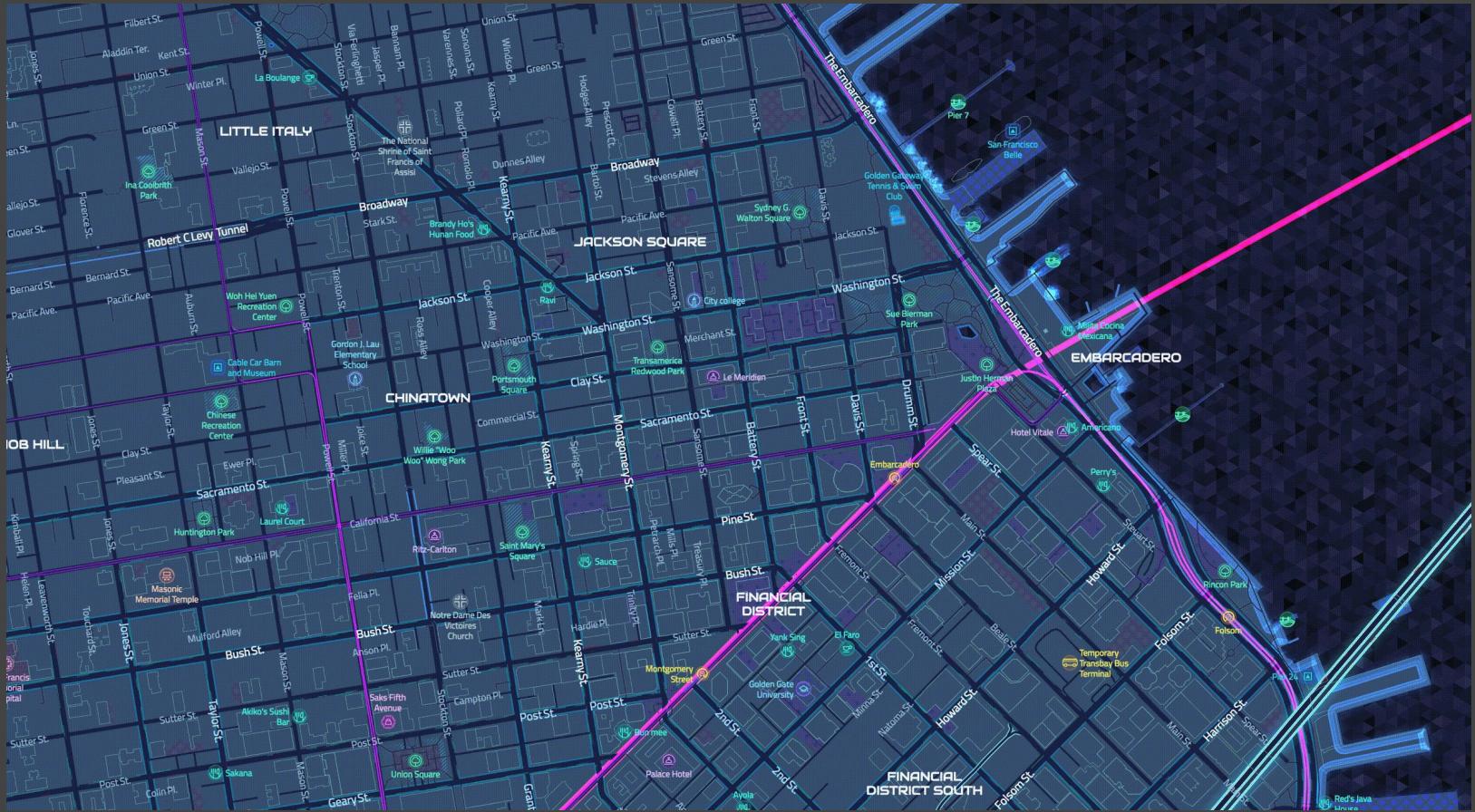
- Refill**: A grayscale map of a city area with labels like "DOWNTOWN", "LAKESIDE", and "OLD GOLDEN HISTORIC".
- Cinnabar**: A map with red and blue highlights, showing street names like "2nd St", "3rd St", and "4th St".
- Zinc**: A map with a light gray background and darker gray roads.
- Bubble Wrap**: A map where streets are highlighted in red, with labels such as "Jack London Gateway", "Old Town Antioch", "Civic Center", and "SOGO Center".
- Walkabout**: A map showing a river, hills, and paths, with labels like "Milwaukee Tr.", "Slacker", and "Hill Rd".



# Tools for custom 2D and 3D maps

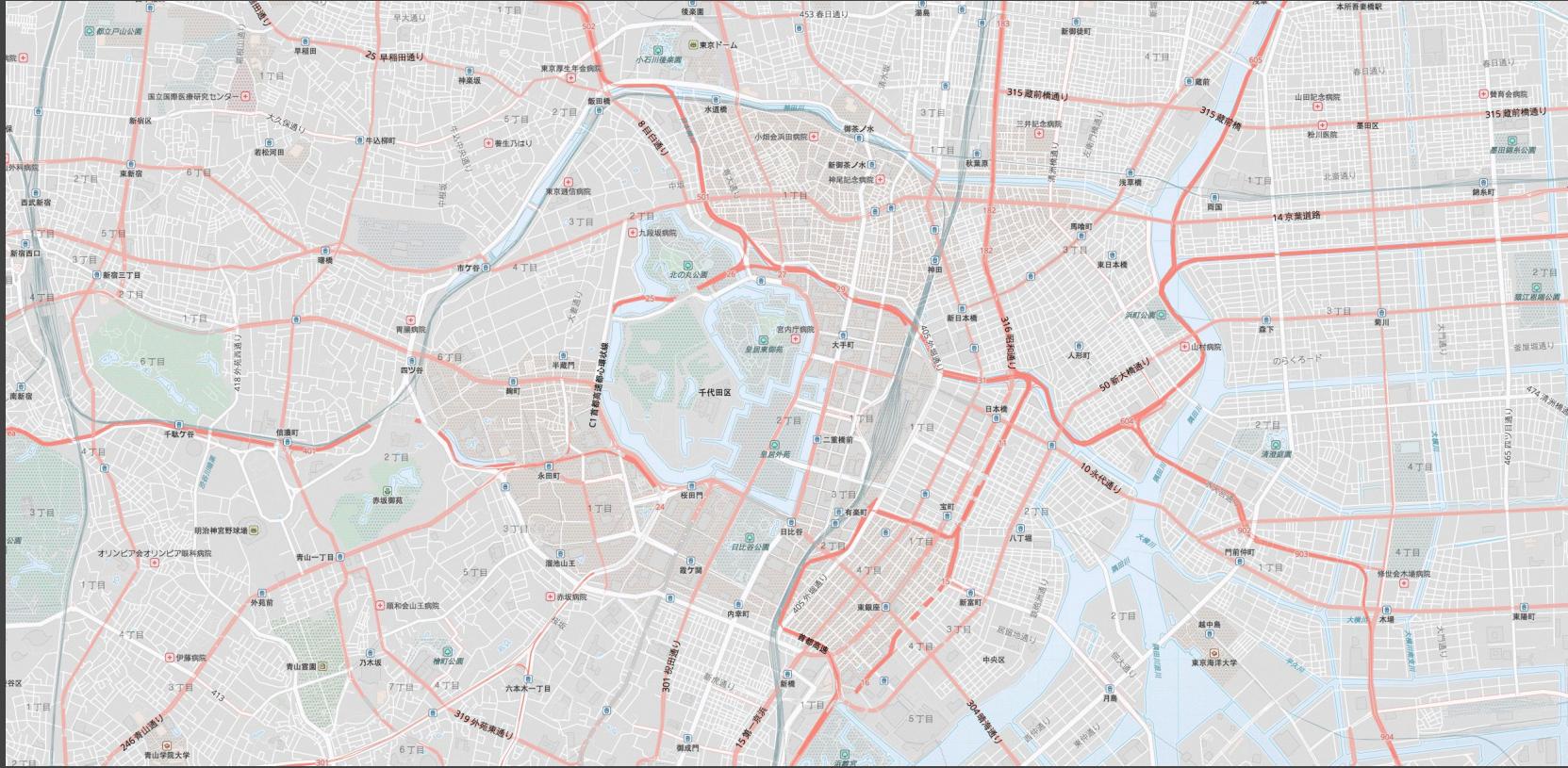


```
1 # Author @patriciogv - 2015
2
3 ▶ cameras:
4 ▶   camera1:
5     type: isometric
6
7 ▶ lights:
8 ▶   light1:
9     type: directional
10    direction: [0, 1, -.5]
11    diffuse: .5
12    ambient: .3
13 ▶   light2:
14     type: point
15     position: [0, -500px, 500px]
16     origin: ground
17     diffuse: .5
18     ambient: .3
19
20 ▶ scene:
21 ▶   background:
22     color: [0.302,0.302,0.306]
23
24 ▶ styles:
25 ▶   space-tile:
26     shaders:
27     blocks:
28       global: |
         // Variant to be add
         to both vertex and
         fragments shaders
29
```



# Data

# Flexible vector basemap data



Data © OpenStreetMap contributors

# OpenStreetMap downloads

Metro Extracts - Mapzen

<https://mapzen.com/data/metro-extracts/>

MAPZEN

## PRODUCTS

# metro extracts

Every week, Metro Extracts automatically creates snapshots of OpenStreetMap data into manageable, metro-area files in a variety of formats for you to use. Download an extract from the list of **200 most popular extracts** below to get started right away.

Can't find what you are looking for? You can get **custom extracts** of anywhere in the world! To get started, search for the place you are looking for.

Your Custom Extracts | Documentation | Tutorial | File Format Guide

SEARCH FOR A CITY OR REGION

example: Los Angeles

SEARCH

POPULAR EXTRACTS:

- ABU DHABI
- Dubai
- ALGERIA
- Algiers
- ANGOLA

A world map showing various metro extract regions highlighted in red.

Metro Extracts - Vienna

## Vienna

Your Custom Extracts | Documentation | Tutorial | File Format Guide

### Downloads

Datasets split by geometry type: lines, points, or polygons (OSM2PGSQL)

- SHAPEFILE 77MB
- GEOJSON 51MB

Datasets grouped into individual layers by OpenStreetMap tags (IMPOSIM)

- SHAPEFILE 52MB
- GEOJSON 68MB

Raw OpenStreetMap datasets (PBF and XML)

- OSM PBF 34MB
- OSM XML 55MB

Coastlines (Shapefile)

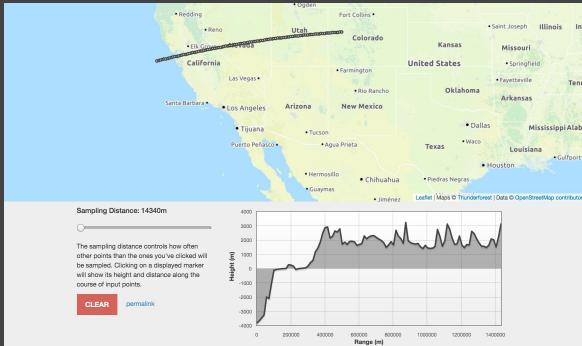
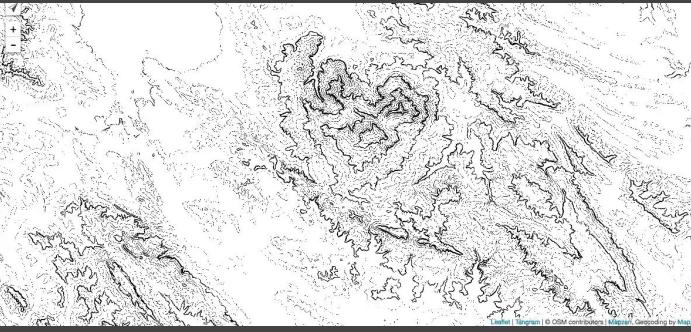
- WATER 951B
- LAND 1.0KB

If you're unsure of which file to pick, check out our [format guide](#).

A map of Vienna with a red shaded area indicating the extracted region. Labels include Wien, Leopoldstadt, Ottakring, Margareten, Alsergrund, Rudolfsheim-Fünfhaus, Hernals, Währing, Döbling, and Matzleinsdorf.

- Download shapefiles for use and analysis in desktop GIS
- Printed maps, artwork, 3D-printed models, CAD

# Terrain and elevation data



# Gazetteer data

The screenshot shows a web browser window with the URL <https://whosonfirst.mapzen.com/spelunker/search/?q=lisbon#3/41.24/-8.00>. The page displays a search result summary: "There are 2,594 places matching 'lisbon' and this is page 1 of 52". Below this is a JSON query string:

```
{"query": {"function_score": {"boost_mode": "multiply", "functions": [{"filter": {"term": {"names_preferred": "lisbon"}}, "weight": 3.0}, {"filter": {"term": {"names_all": "lisbon"}}, "weight": 1.0}, {"filter": {"term": {"wof:name": "lisbon"}}, "weight": 1.5}, {"filter": {"not": {"term": {"wof:placetype": "venue"}}}, "weight": 2.0}]}},
```

Below the query is a message: "Would you like try this query again to include records that have been deprecated?". The main content area features a world map with several blue dots representing locations matching the search term. Labels for major cities like London, Paris, Madrid, and New York are visible. A legend indicates a scale of 1000 km/500 mi. At the bottom, there's a footer with links to Leaflet, Tangram, OSM contributors, Who's On First, and Mapzen.

the map is currently centered at 41.244772, -7.998047 #3

filter by category

Category	Count
Building & Trades	293
Professional	258
Retail	179
Organizations	160
Shopping	143
Government	134
Manufacturing	131
Wholesale	120
Restaurant	111
Autos & Motor Vehicles	101
Personal	95
Social Services	86
Real Estate	82
Food & Beverages	81
Health Services	74
Home & Garden	73
Farming	72
Banks & Credit Unions	60
Insurance	43
Education	41
Freight	33
Travel	31
Recreation	30
Utilities	29
Bars & Pubs	22
Sports & Exercise	17

102047475 Europe/Lisbon — this is a timezone  
404523125 Lisbon — this is a localadmin in US  
484517909 New Lisbon — this is a localadmin in US  
85867849 Lisbon North — this is a neighbourhood in US  
85804597 Barrett — this is a neighbourhood in US  
484521549 New Lisbon — this is a localadmin in US  
404515281 Lisboa — this is a localadmin in US  
404489737 Lisbon — this is a localadmin in US  
484498405 Lisbon — this is a localadmin in US  
484494259 Lisbon — this is a localadmin in US

- A big directory of places around the world
- Venues, neighborhoods, cities, states, and other administrative hierarchy data

# Transit data - transit.land

The Feed Registry lists all the transit operators and feeds included in Transitland. See what each feed's license will allow you to do with it and click through to get more details about feeds associated with each operator.

Search by operator name or location

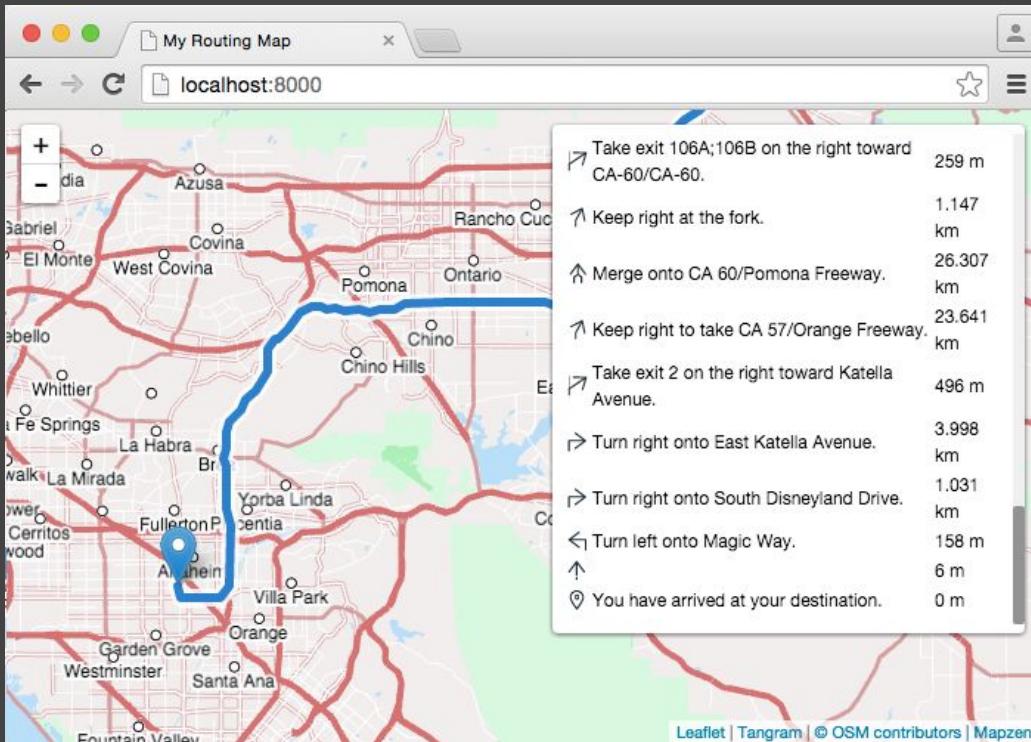
Operator Name	Region	State or Province	Country	License	License Details
Abellio Greater Anglia			England	Creative Commons 2.0	
ABOUT ME s.r.o.	Prague	Hlavní město Praha	Czech Republic		
ABQ RIDE	Albuquerque	New Mexico	United States		
Addison County Transit Resources	Addison County	Vermont	United States		
Adelaide Metro	Adelaide	South Australia	Australia	Creative Commons Attribution 4.0	
Adelaide Metro - Light-City Buses	Adelaide	South Australia	Australia	Creative Commons Attribution 4.0	
Adelaide Metro - Light-City Buses Industrial Service	Adelaide	South Australia	Australia	Creative Commons Attribution 4.0	

- Global directory of transit stops, routes, and schedules
- Community edits
- Metadata for interoperability between transit agencies



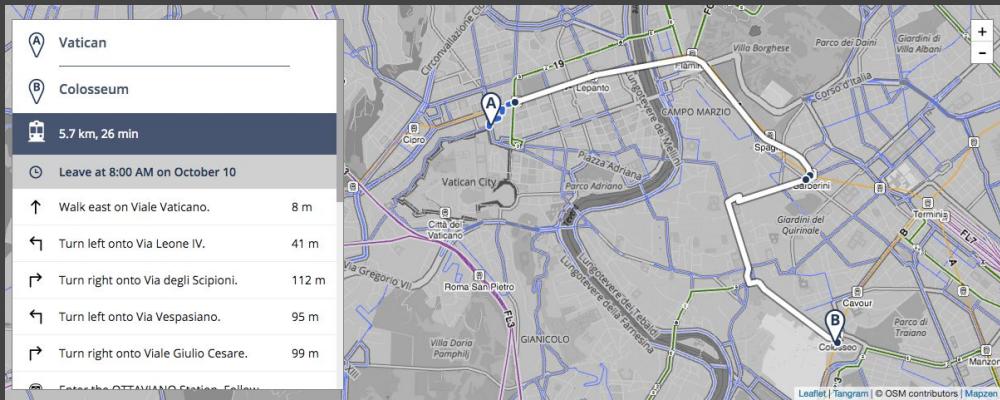
# Mobility

# Routing and turn-by-turn navigation



```
- maneuvers: [
  - {
    travel_mode: "drive",
    begin_shape_index: 0,
    length: 0.109,
    time: 21,
    type: 1,
    end_shape_index: 1,
    instruction: "Drive south on Appleton.",
    verbal_pre_transition_instruction: "Drive south on Appleton for 1 tenth of a mile.",
    travel_type: "car",
    - street_names: [
      "Appleton"
    ],
  },
  - {
    travel_type: "car",
    travel_mode: "drive",
    verbal_pre_transition_instruction: "Turn left onto Joy Road.",
    verbal_transition_alert_instruction: "Turn left onto Joy Road.",
    length: 2.828,
    instruction: "Turn left onto Joy Road.",
    end_shape_index: 85,
    type: 15,
    time: 328,
    verbal_post_transition_instruction: "Continue for 2.8 miles.",
    - street_names: [
      "Joy Road"
    ],
    begin_shape_index: 1
  },
}
```

- Flexible pedestrian, car, bicycle, and multimodal transit options
- Optimized routing
- Add routing to web or mobile apps



 dgearhart	Fixed the plural category usage for Hindi	Latest commit b3e067d 8 days ago
..		
 img	Added Images	6 months ago
 README	Add locales README.md	6 months ago
 README.md	Update README.md	26 days ago
 cs-CZ.json	add aliases, maybe should add 3 letter codes as well?	3 months ago
 de-DE.json	add aliases, maybe should add 3 letter codes as well?	3 months ago
 en-US-x-pirate.json	Updated exit roundabout	26 days ago
 en-US.json	add aliases, maybe should add 3 letter codes as well?	3 months ago
 es-ES.json	fixed missing translation of 'Enter'	2 months ago
 fr-FR.json	add aliases, maybe should add 3 letter codes as well?	3 months ago
 hi-IN.json	Fixed the plural category usage for Hindi	8 days ago
 it-IT.json	add aliases, maybe should add 3 letter codes as well?	3 months ago
 make_locales.sh	use less sed to unbreak macs builds (#362)	a month ago
 README.md		

## How to contribute a new narrative language file

1. Copy the en-US.json to <NEW\_LANGUAGE\_TAG>.json Using IETF BCP 47 as reference - the typical format for the <NEW\_LANGUAGE\_TAG> is:  
<ISO 639 two-letter language code>-<ISO 3166 two-letter country code>  
Czech/Czech Republic example:  
cs-CZ
  2. Update the `posix_locale` value in your new file. The character encoding must be UTF-8. The typical format is:  
<ISO 639 two-letter language code>\_<ISO 3166 two-letter country code>.UTF-8  
Czech/Czech Republic `posix_locale` example:



92%



4:36 PM

100.9 mi ◆ 30 West 26th Street



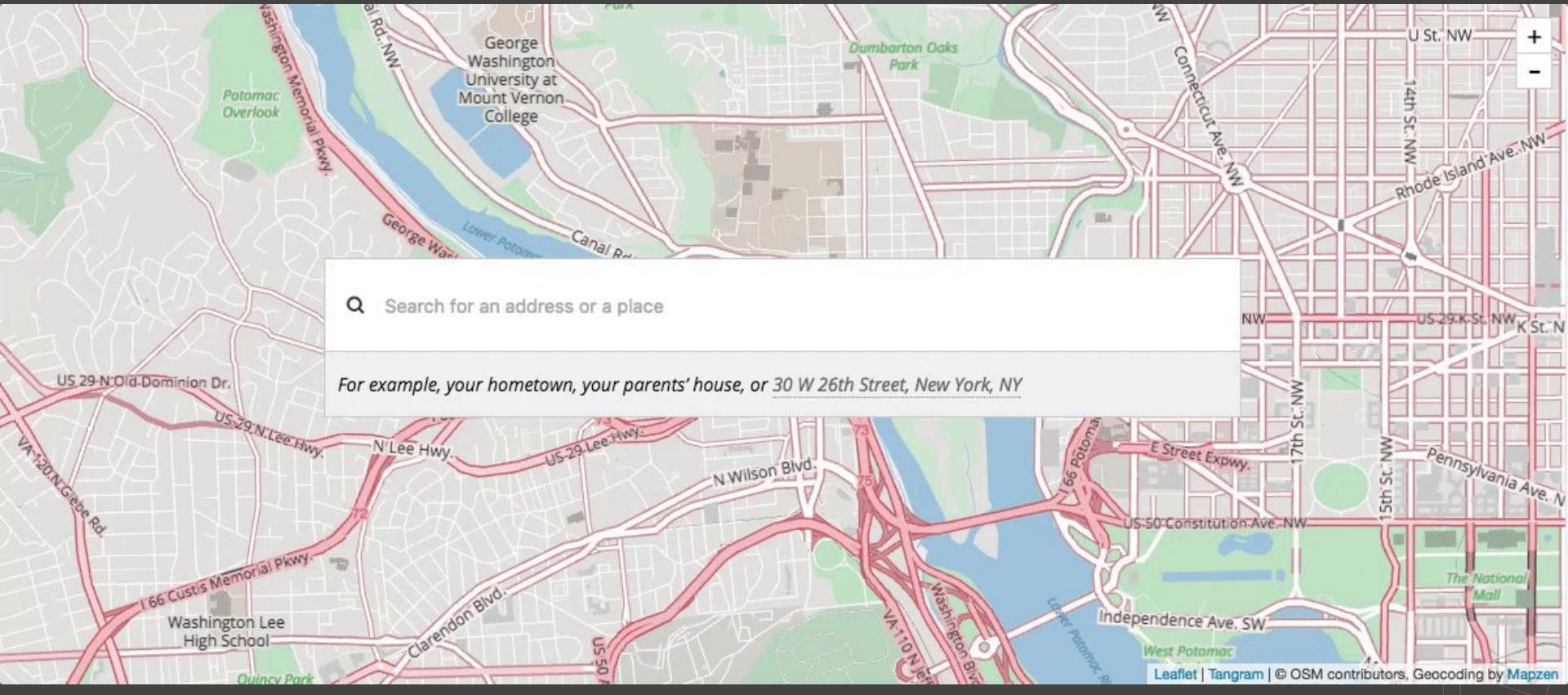
← 0.5 mi

5th Avenue



# Search

# Geocoding and place search



## Tutorial

[Add the Mapzen Search geocoder to a map](#)[Get ready for the tutorial](#)[Create an HTML page](#)[Add references to CSS and JavaScript files](#)[Add a map to the page](#)[Add the Search box](#)[Search for places on the map](#)[Customize the geocoder](#)[Choose which data sources to search](#)[Prioritize nearby places and filter search results](#)[Filter the results by type of place](#)[Tutorial summary](#)[Completed HTML for this tutorial](#)[API keys and rate limits](#)[Release notes](#)

## Filter the results by type of place

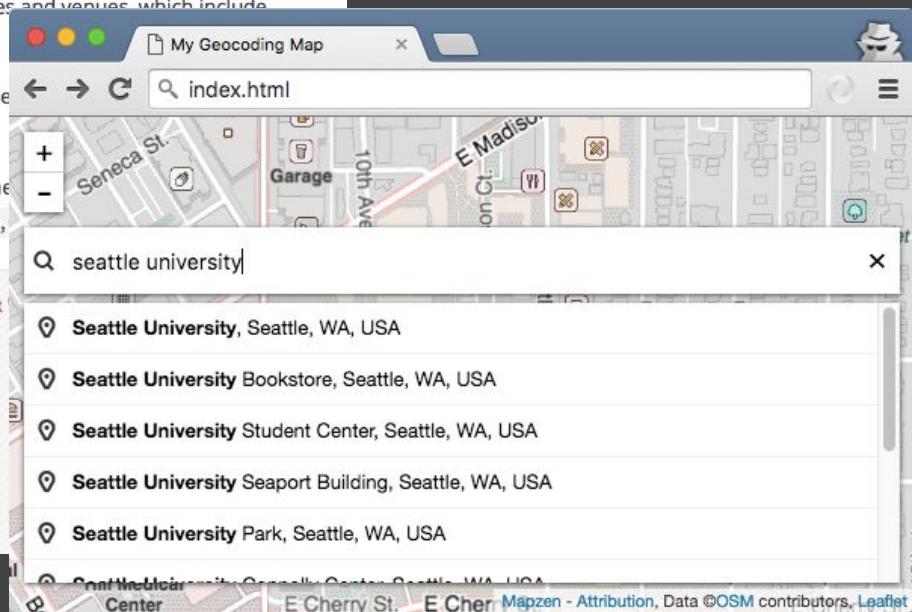
In Mapzen Search, types of places are referred to as `layers`, and you can use these to filter your results. For example, if your app has an input form where your users should only be able to enter a city, you can use Mapzen Search to limit the results to show only matching city names. This is common in travel apps, such as searching for a hotel or flight, where you enter a destination city.

In this section, you will filter the results to search only addresses and venues, which include point of interest, landmarks, and businesses.

You can review the [Mapzen Search documentation](#) to learn the layers you can use in a search.

1. Within the geocoder block, add `add a , at the end of the 'USA'` line and then a parameter for `layers: 'address,`

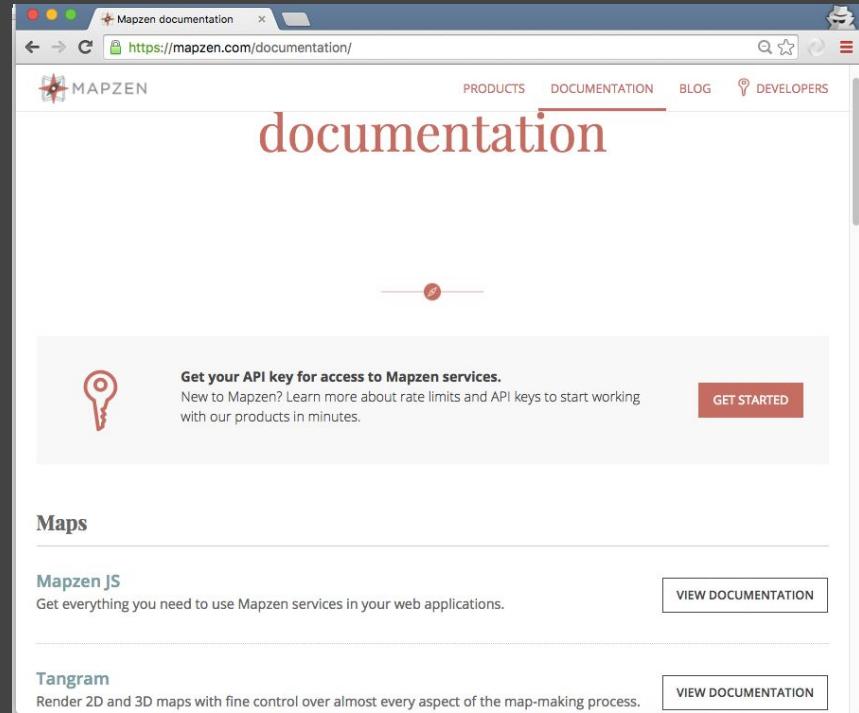
```
var geocoder = L.Mapzen.geocoder('mapzen-xxxxxx')
  .autocomplete(false)
  .params({
    sources: 'osm',
    'boundary.country': 'USA',
    layers: 'address,venue'
  });
geocoder.addTo(map);
```



- Search for addresses, venues, points of interest, place names, and more
- Reverse geocoding
- Autocomplete while typing

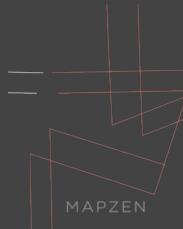
# Get started at mapzen.com

- Blog posts, documentation, tutorials, and demos
- Documentation is free and open, too!
- Sign up for a free Mapzen account



# Career opportunities at Mapzen

- New York City, San Francisco, Lancaster (PA)
- Commitment to open development and collaboration
- Programming skills: JavaScript, Python, Rails, C++
- Maps and geography knowledge
- Full-time and summer intern roles
- <https://mapzen.com/jobs>





MAPZEN

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