



# ArcGIS Editor for OpenStreetMap: Contributing data

Christine White

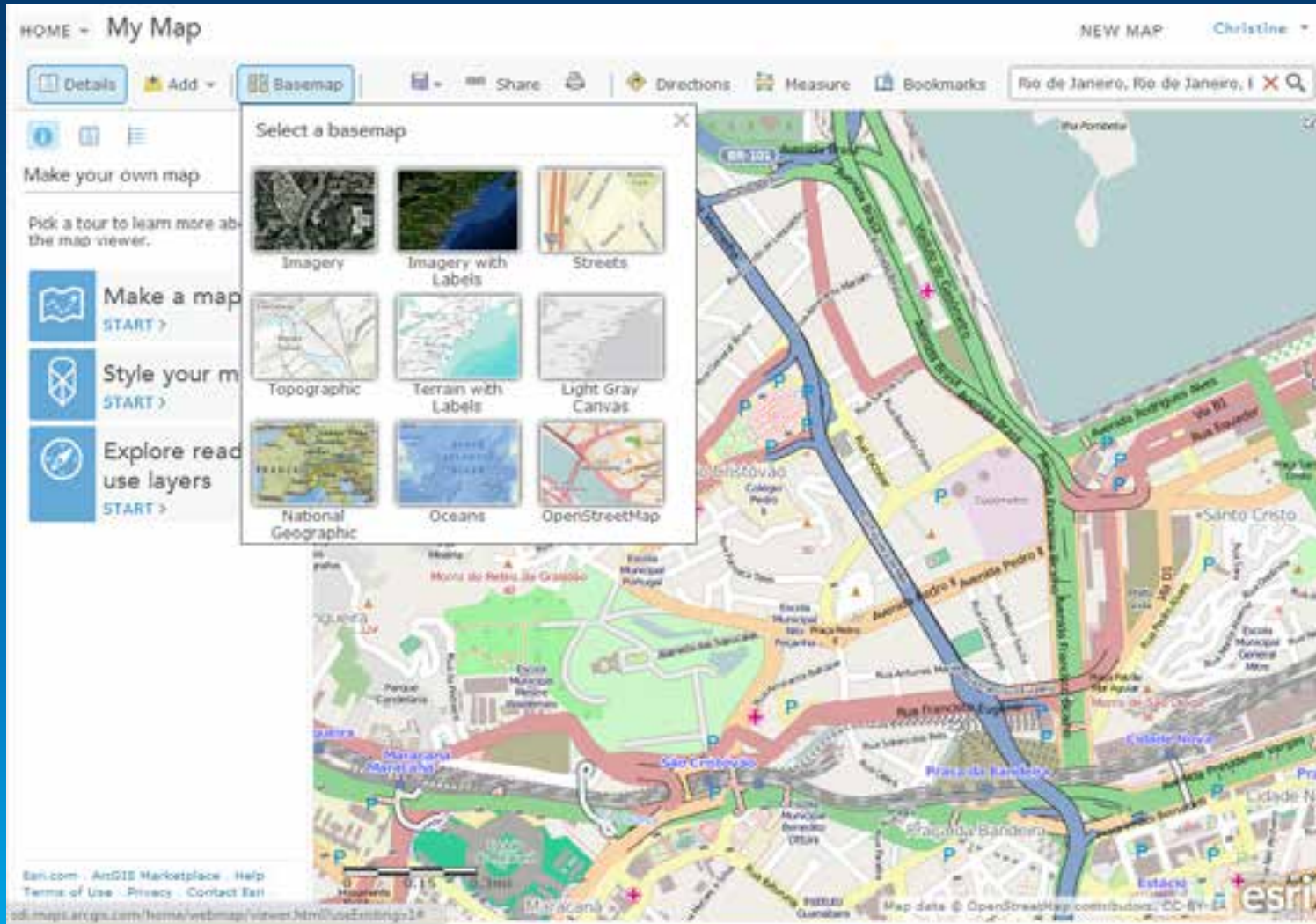
Demo Theater

# Overview

- **What is OSM**
- **OSM Data Model**
- **How it Works**
- **How You Can Contribute**

# What is OpenStreetMap?

<http://www.openstreetmap.org>



So much more than just a neat basemap layer in ArcGIS...



# Community

- Join a meetup community - [openstreetmap.meetup.com](http://openstreetmap.meetup.com)
- Humanitarian OSM Team (HOT) - [hot.openstreetmap.org](http://hot.openstreetmap.org)



[http://wiki.openstreetmap.org/wiki/File:Sotm\\_US\\_2013.jpg](http://wiki.openstreetmap.org/wiki/File:Sotm_US_2013.jpg)

# OSM XML - [http://wiki.openstreetmap.org/wiki/OSM\\_XML](http://wiki.openstreetmap.org/wiki/OSM_XML)

```
<osm version="0.6" generator="Osmosis SNAPSHOT-r26543">
  <bound box="34.01978,-117.22435,34.08958,-117.13878" origin="Osmosis SNAPSHOT-r26543"
  <node id="1487233542" version="1" timestamp="2011-10-31T22:52:01Z" uid="409545" user="
-117.1977484">
  <tag k="name" v="180 Chiropractic"/>
  <tag k="amenity" v="doctors"/>
</node>
...
<way id="138812057" version="1" timestamp="2011-11-29T00:20:18Z" uid="304970" user="Al Pascual">
  <nd ref="1522479496"/>
  <nd ref="1522479499"/>
  <nd ref="1522479502"/>
  <nd ref="1522479504"/>
  <nd ref="1522479496"/>
  <tag k="building" v="yes"/>
</way>
...
<relation id="2338186" version="2" timestamp="2012-09-11T23:31:01Z" uid="194231" user="xx" changeset="13076706">
  <member type="way" ref="172434588" role="forward"/>
  <member type="way" ref="29001116" role="forward"/>
  ...
  <tag k="ref" v="10"/>
  <tag k="symbol" v="http://upload.wikimedia.org/wikipedia/commons/c/c3/I-10_%28CA%29.svg"/>
  <tag k="direction" v="west"/>
  <tag k="route" v="road"/>
  <tag k="name" v="I 10 (CA westbound)"/>
  <tag k="is_in:state" v="CA"/>
  <tag k="wikipedia" v="en:Interstate 10 in California"/>
  <tag k="type" v="route"/>
  <tag k="network" v="US:I"/>
</relation>
```

version of the API (the features used) and the generator that distilled this file

Node: location, and tags

Way: references to its nodes for each way, and tags

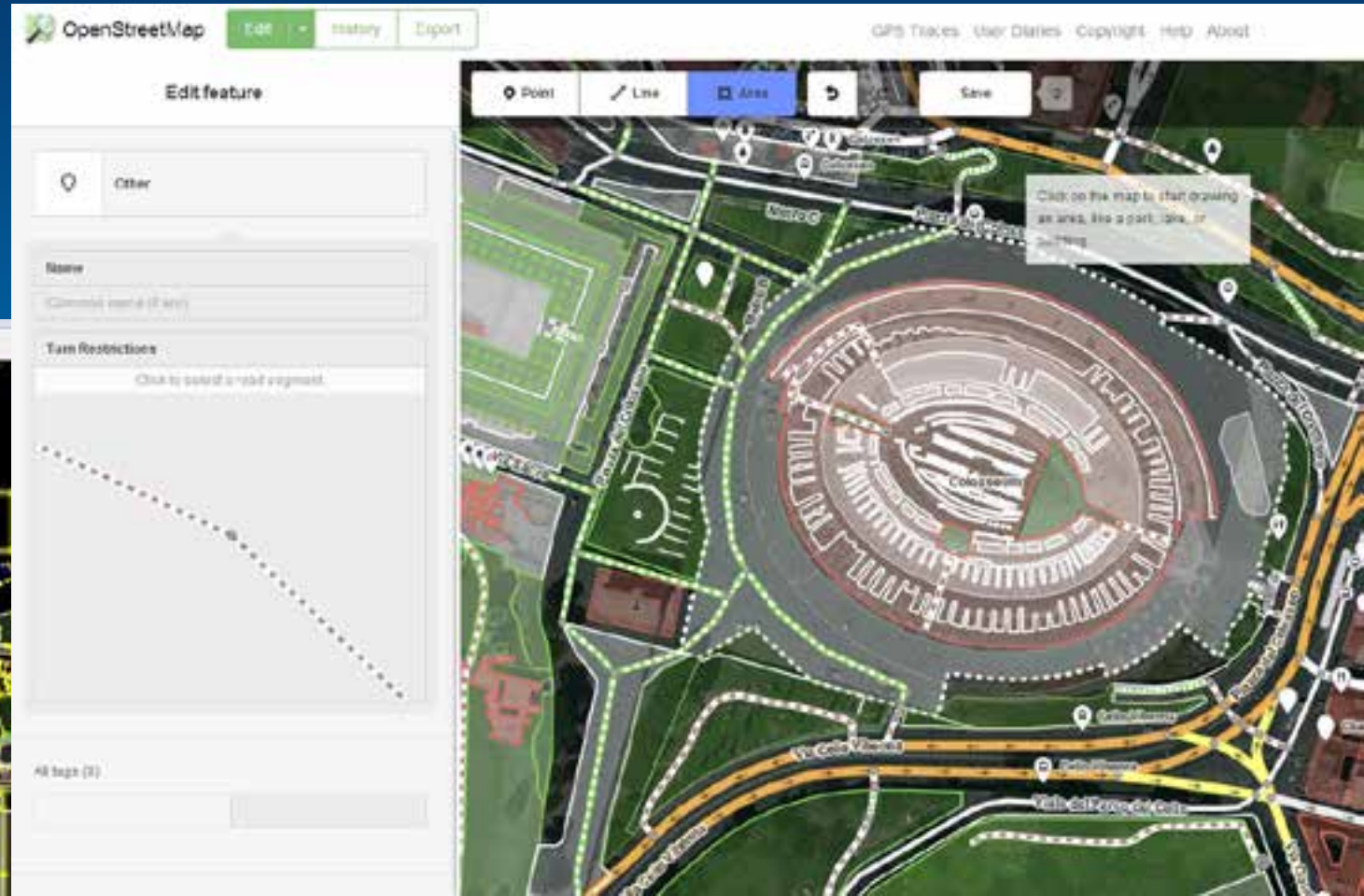
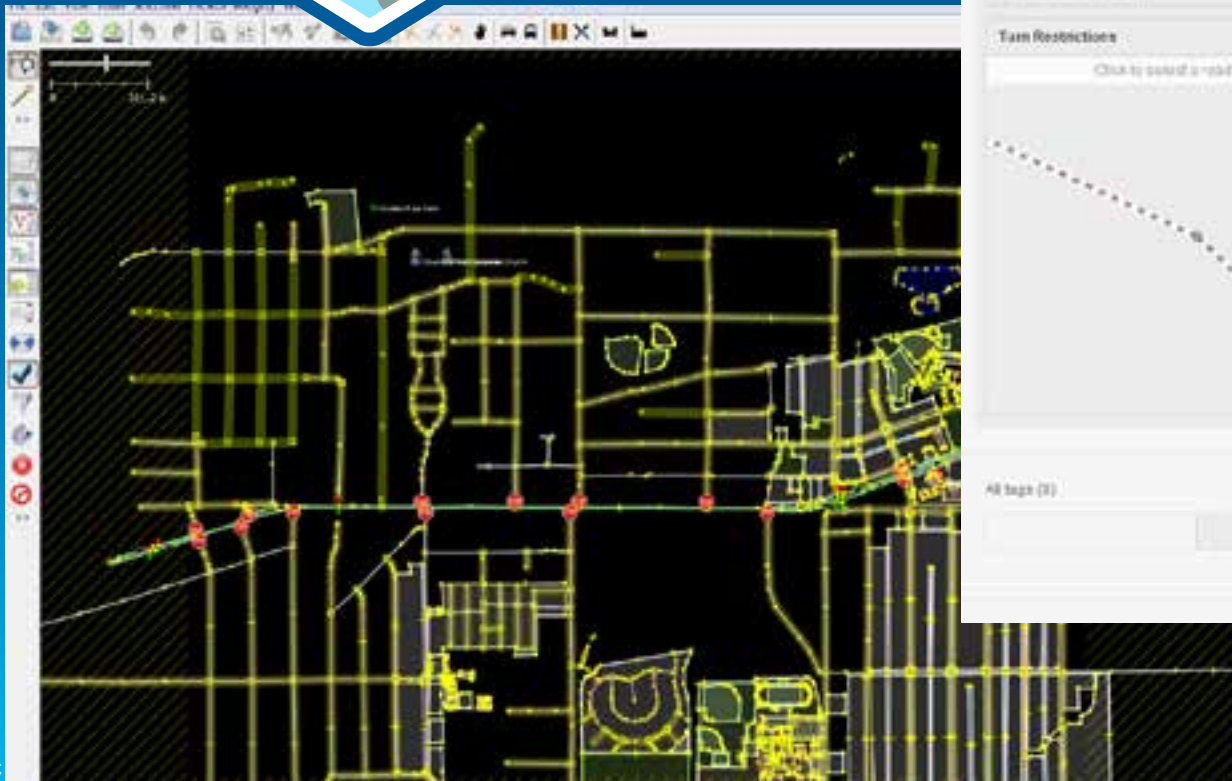
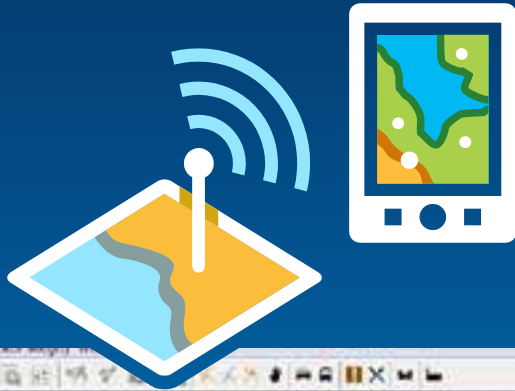
Relation: references to its members for each relation, and tags



# Contribute Data



# Many ways to contribute data to OSM



# ArcGIS Editor for OpenStreetMap

## Download free from ArcGIS Online

### ArcGIS Editor for OSM, 10.2.x Desktop



ArcGIS for Desktop tools that support using OpenStreetMap data in ArcGIS. Load .osm files, apply symbology, contribute data back to OSM, and create network datasets from OSM data.

 Geoprocessing Sample by ceggers

Last Modified: March 7, 2014

★★★★☆ (1 rating, 5,851 downloads)

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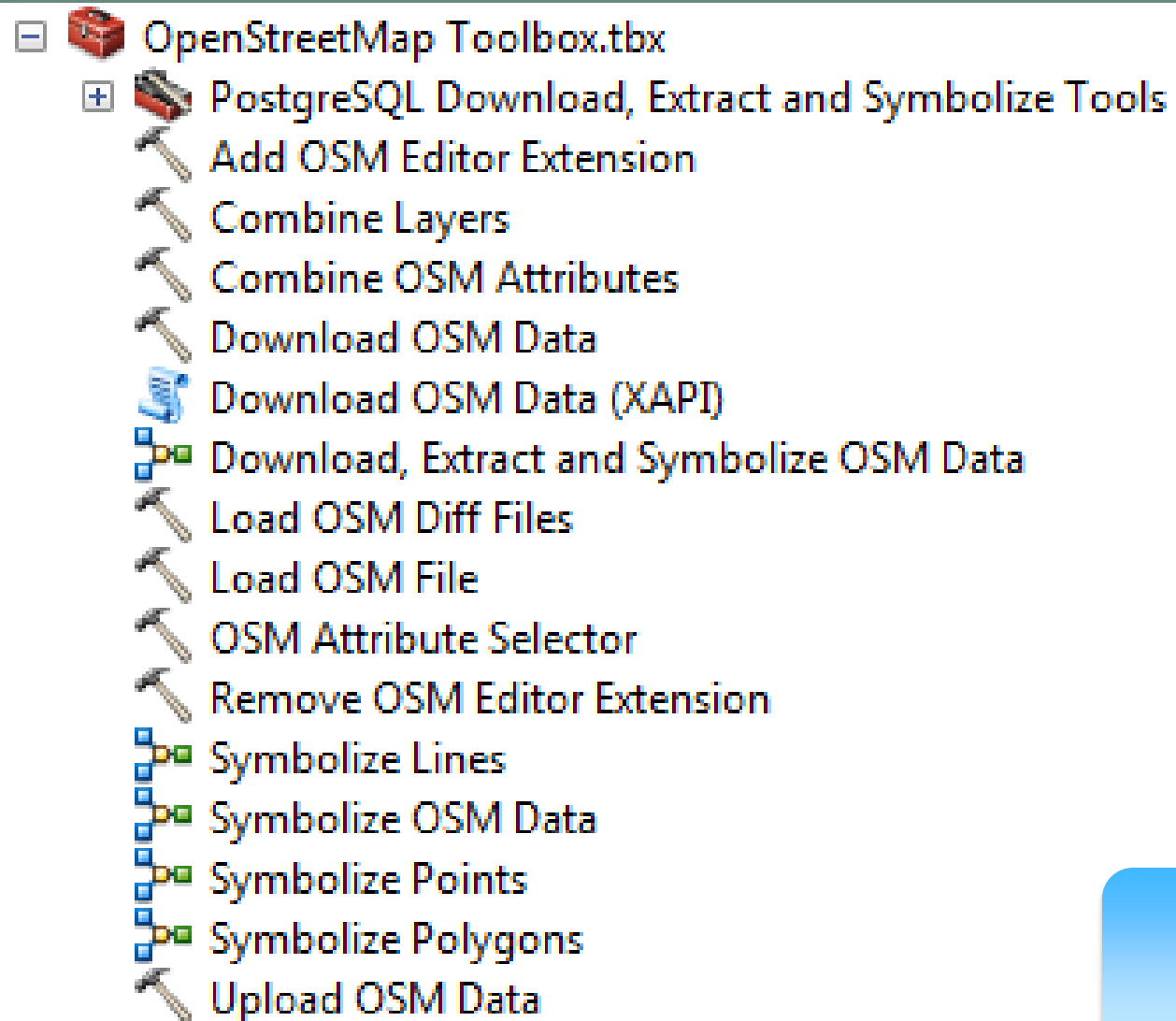
OPEN ▾

#### Description

The ArcGIS Editor for OpenStreetMap allows you to use ArcGIS tools for working with OpenStreetMap data. This desktop toolset for ArcGIS 10.2 allows you to load data from [OpenStreetMap](#) and store it in a geodatabase. You can then use the familiar editing environment of ArcGIS Desktop to create, modify, do network analysis, or update data. Once you are done editing, you can post back the edit changes to OSM to make them available to all OSM users.



# What does ArcGIS Editor for OSM do?



- Translate OSM data into a feature dataset you can use in ArcGIS
- Make a Network Dataset from OSM data
- Support users to contribute data to OSM through ArcMap Editing workflows

Open Source and on github:  
<http://github.com/Esri/arccgis-osm-editor>

# ArcGIS Editor for OSM Architecture



**ArcGIS Editor for OSM**  
Tools, models, scripts  
to translate OSM XML  
to file GDB

**ArcGIS for Desktop**

Desktop



Web



Device

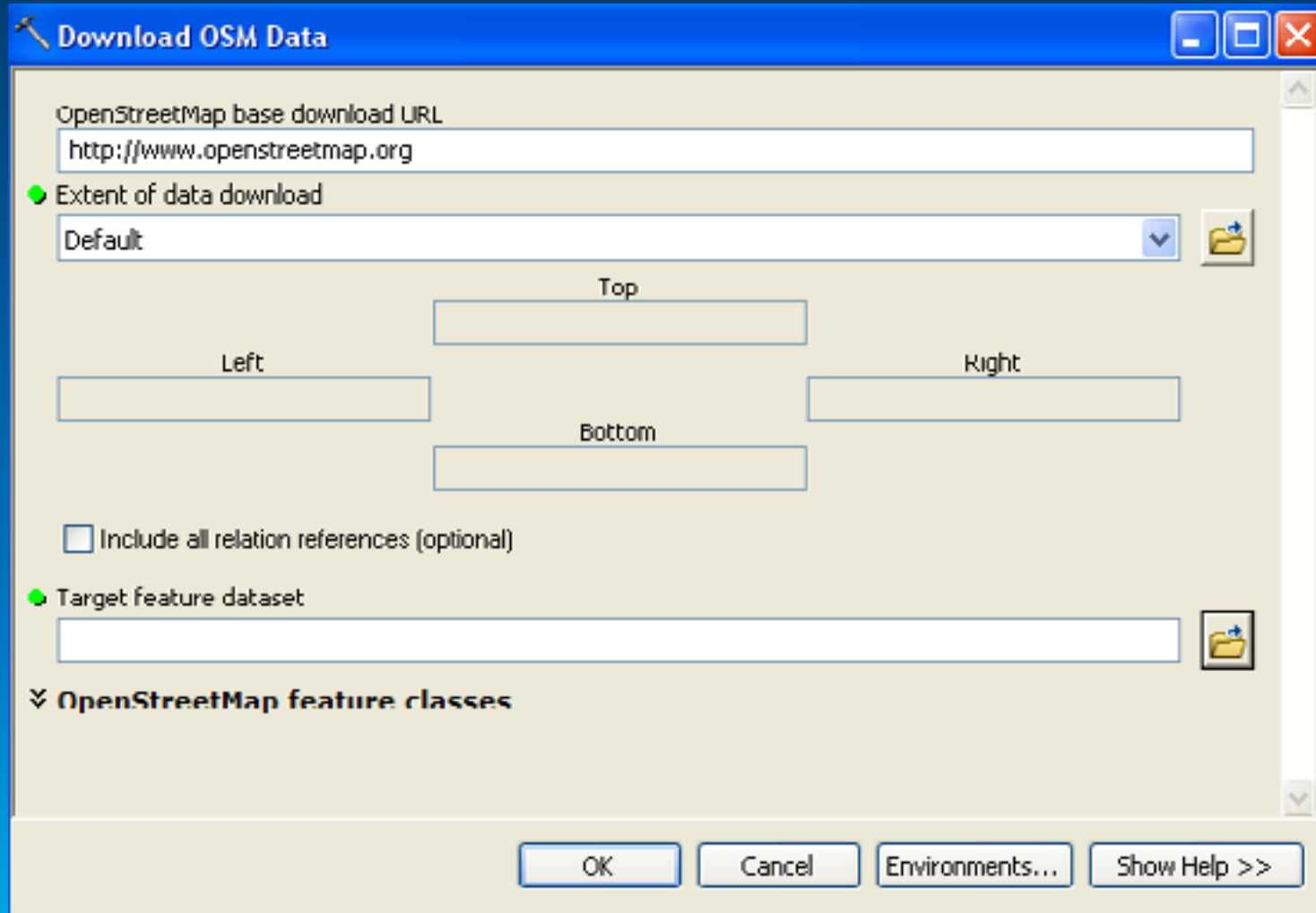


Server

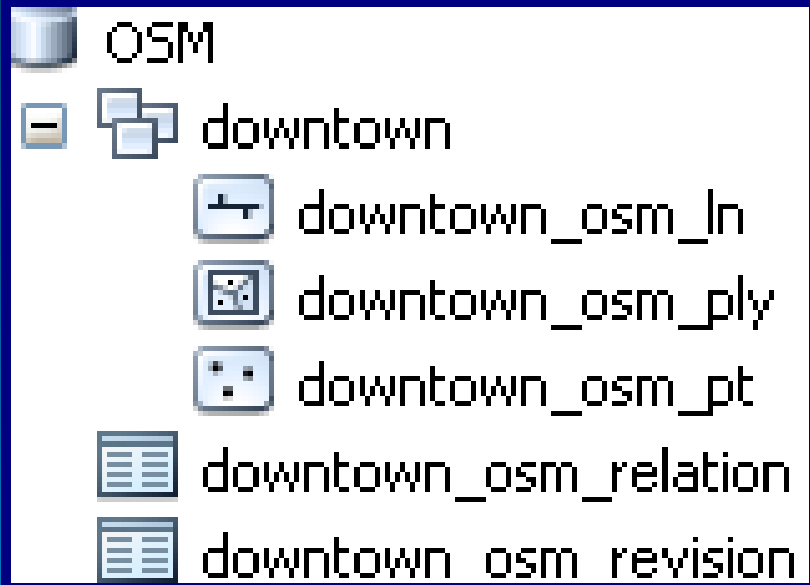


Online Content  
and Services

# Download OSM Data tool



# Resulting feature classes and tables



- **osm\_relation**

- Maintains relations between features as described in OSM as the user works with the OSM data in ArcGIS
- E.g., primary, secondary, and residential types of road line features may have a relation to describe how these define a bus route

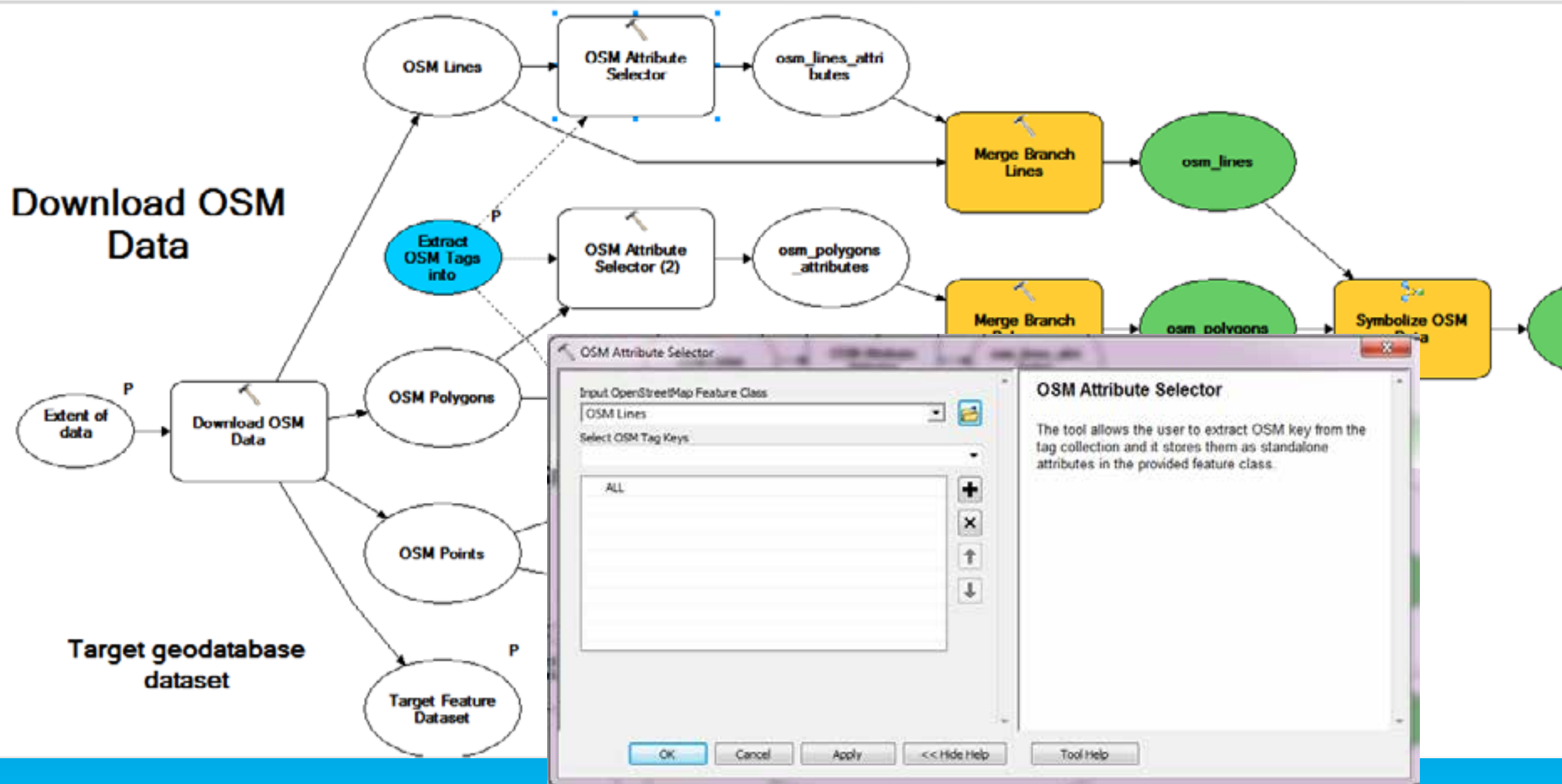
- **osm\_revision**

- Track edits to the downloaded OSM dataset that are made by you as you edit it
- Used if you choose to upload data back to OSM





Download OSM Data



**OSM Attribute Selector**

Input OpenStreetMap Feature Class: OSM Lines

Select OSM Tag Keys:

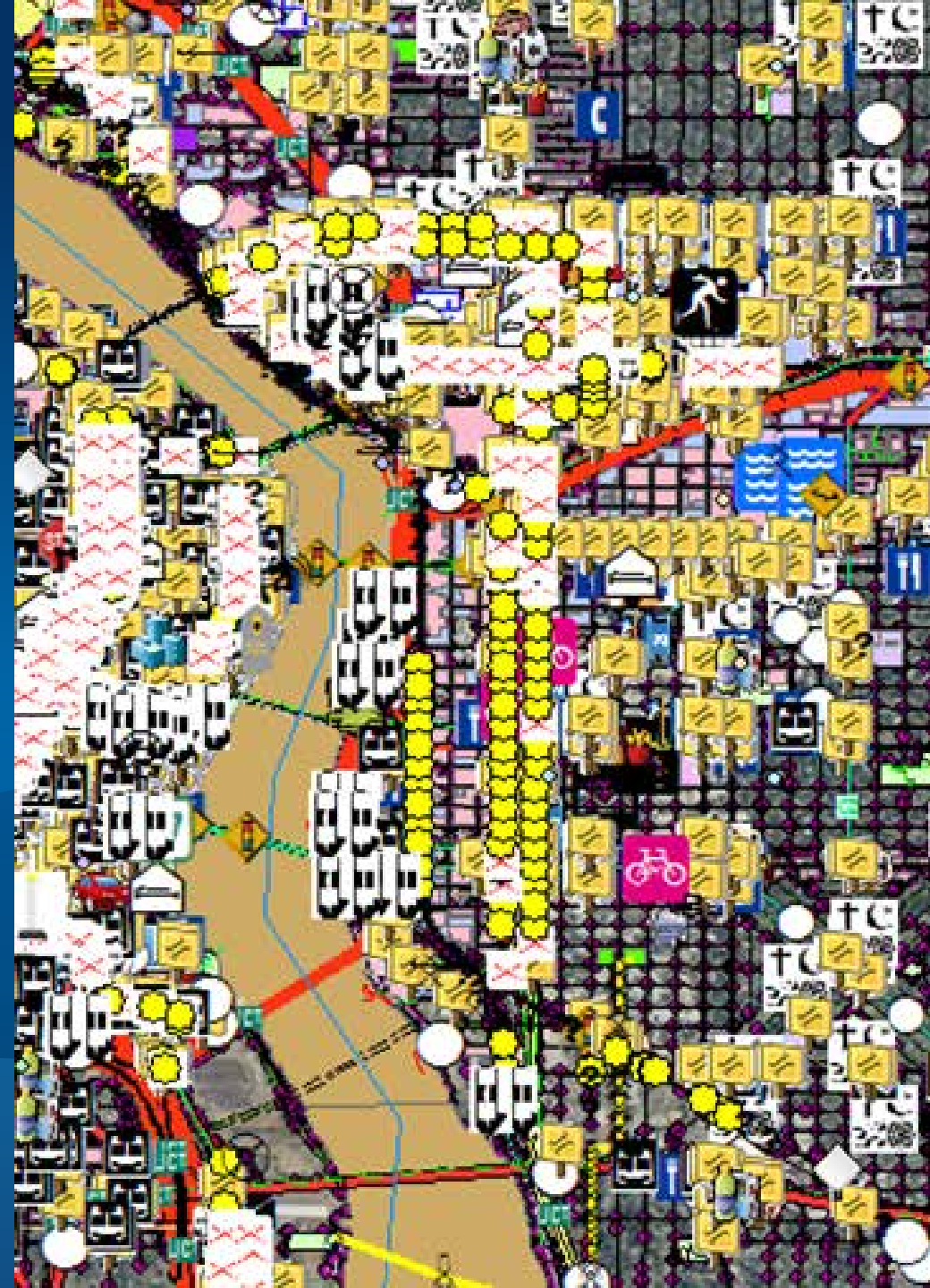
- ALL

The tool allows the user to extract OSM key from the tag collection and it stores them as standalone attributes in the provided feature class.

Buttons: OK, Cancel, Apply, << Hide Help, Tool Help

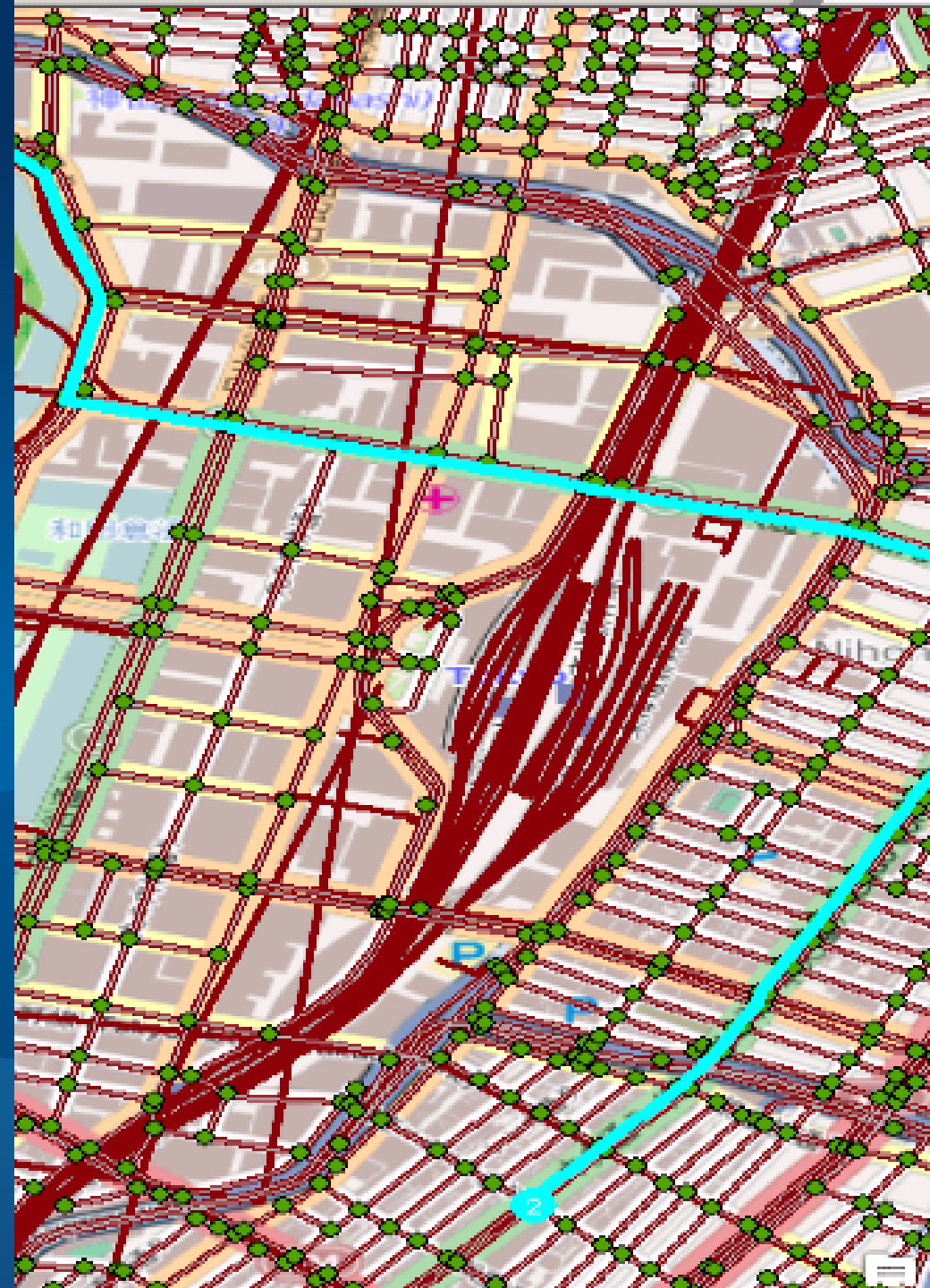
# Loading and symbolizing OSM data in ArcGIS

Demo



# Contribute an Existing Dataset to OSM

Demo





# What can you do to improve OSM?



The screenshot shows a GIS application interface. On the left is a map of Ouagadougou, Burkina Faso, with a red line representing a road. On the right is an 'Identify' window. The 'Identify from:' dropdown is set to '<Top-most layer>'. A checkbox for 'burkina\_osm\_in' is checked, with 'primary' selected below it. The 'Location:' field contains the coordinates '-1.377968 12.150815 Decimal Degrees'. Below this is a table of attributes for the selected feature:

Field	Value
man_made	<null>
maxspeed(tag value)	<null>
military	<null>
motorcar(tag value)	<null>
motorcycle(tag value)	<null>
name(tag value)	<null>
name:de(tag value)	<null>
name:en(tag value)	<null>
name:fr(tag value)	<null>
natural	<null>
natural(tag value)	<null>
note(tag value)	<null>

The 'name' fields (name, name:de, name:en, name:fr) are highlighted with a red border.



**Thank you!**

**Session ID: is 1049**

**<http://esriurl.com/osmeditor>**

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Understanding our world.