

Open Street Map Case Study

Area Chosen: Bartlett, TN

<https://www.openstreetmap.org/search?query=Bartlett%20TN#map=13/35.2317/-89.8160>

This is a map of the city that I am currently living in.

Size of File: 94001 KB

Number of Users: 544

Number of Nodes: 935436

Number of Ways: 86832

Problems Encountered in the Data

There was very little that was wrong with the data in terms of street names. These were found by running an audit file on the data and corrected by using mapping to change the incorrect names to the correct names. There was only one name that was truly an outlier. "Deermont" was the name of the street and I had to take to Google Maps to determine what was the proper name for the street. Below is the erroneous code that was found and changed.

Deermont => Deermont Drive

Ridgemont Avenus => Ridgemont Avenue

Beecham Pl N => Beecham Place North

Davies Plantation Rd => Davies Plantation Road

Billy Maher Rd => Billy Maher Road

US-70 => US-70

Highway 64 => Highway 64

U.S. 64 => U.S. 64

US 64 => US 64

US 70 => US 70

The code I used to find the street names was:

```
def audit_street_type(street_types, street_name):  
    m = street_type_re.search(street_name)
```

```

if m:
    street_type = m.group()
    if street_type not in expected:
        street_types[street_type].add(street_name)

```

The code that corrected the street types was:

```

def update_street_name(name, mapping):
    for ma in mapping.keys():
        if name.endswith(ma):
            name=name.replace(ma,mapping[ma])
    return name.

```

Exploring the Data

Living in Tennessee, which is part of the “Bible Belt” I was curious exactly how many churches were in the Bartlett. I’ve been told that churches in the bible belt were like Starbucks in Seattle; there is one on every street corner. So I decided to see just how many churches were in Bartlett:

```

Openstreetmap.nodes_tags-find({"value" : {"$regex":"[Cc]hurch"}})

```

I was surprised to find that there are 120 churches just in Bartlett, which is a suburb of Memphis. By comparison there are only 12 McDonald’s and 4 Starbucks in Bartlett.

42 of the Churches were Baptist (Or had Baptist in the Name)

One was Catholic (Had Catholic in the Name)

One was Latter-Day Saints

Five were Methodist

Improving the Dataset

It was difficult to sort through this dataset to find things of interest. Most of the tags that were produced in the nodes_tags.csv file only had partial names and there were only four fields that I could look through and the Key and Values did not have much descriptive text. Per my earlier example I searched to determine if there were more McDonald’s than Burger Kings and

received the same results. I have doubts that there are an equal number of Burger King and McDonald's in the area.

The other part I found interesting was when I went to determine what Faith had the highest number of churches. I found 42 Baptist Churches which, knowing the area, seems about right but I only turned up one Catholic Church, "[Catholic Church of the Ascension](#)" but I know of at least two more, Saint Ann's and Saint James. They appeared when I searched for 'Saint' but not for catholic.

This dataset also has a 'type' field that is filled out as 'regular' in 6469 records. I have no idea what 'regular' means and would have assumed that a 'type' field would have been 'Restaurant', 'Church', 'Gas Station' etcetera showing the type of establishment.