

## ***ProxCode Analysis***

**Goal:** To identify illogical values in a lot's proximity code, based on a building's proximity to other buildings, detected by spatial queries performed against building footprints.

**Result:** About 1.26% of lots marked as attached or semi-attached have buildings with no attached building. About 8.37% of lots marked as having freestanding buildings have buildings that appear to be attached.

Valid proximity code values include 0, 1, 2, and 3. 375 PLUTO records have values of NULL.

### **Attached and Semi-Attached Lots (ProxCode '2' or '3')**

The idea here is to get buildings on lots designated as attached, where there is no attached building. First, I joined PLUTO to building footprints on MPLUTO\_BBL, selecting only those lots where the proximity code was equal to '2' or '3', excluding lots where NumBldgs is greater than 1. This returned 331,926 buildings.

I then joined this result to building footprints again, this time looking for buildings intersecting with the building on the primary lot, where the BINs were not equal. For some reason, I found that POSTGIS function ST\_Intersect gave me more accurate results than ST\_Touches. The idea behind the query was to get a count of abutting buildings; if the query did not locate any abutting buildings, it returns a count of zero, and therefore should be among the result set I was interested in.

I loaded the results to a Postgres table that I would be able to review in QGIS. It seemed that the query was still picking buildings with abutting buildings. The distance (ST\_Distance) between these buildings was not zero, however, so I ran an additional query to filter out buildings that were within 1 foot of the primary buildings. This returned 4169 buildings, or 1.26% of the 331,926 buildings designated as attached.

### **Detached Lots (ProxCode '1')**

Here I did the opposite: I wanted buildings on lots designated as detached, which nevertheless have an attached building.

As before, I joined PLUTO to building footprints, this time to identify buildings on lots designated as standalone (162,869 buildings). From there, I looked for abutting buildings, buildings zero feet away from the primary building, and yet not sharing the same geometry. This returned 13627 buildings. I created two shapefiles: one of the primary buildings on detached lots having abutting buildings, and one with the abutting buildings.

## **Supporting Documents**

[Jupyter Notebook](#)

[Shapefiles available on Sharepoint](#)