

MEMORANDUM

To: Dr. Jeff LaMondia, FLUX Coordinator

From: Lan Liu

Date: March 31, 2017

RE: FLUX time-travel convention participants in Pittsburgh, PA

I. Purpose

This assignment is created to let students practice their skills on how to use geocoding, using an address locator to identify locations. By conducting this assignment, students will create a map to identify locations where the FLUX time-travel convention participants are located in Pittsburgh, PA.

II. Methods of creating a map

A large map was created from three layers and an inset map was created from a data frame with two layers. The final layout was made with following steps:

- First, the data was downloaded and exported into a folder. And three layers (Flux Attendee Street, Pittsburgh streets, and Neighborhoods) were selected to show up in ArcGIS. Using “Address Locator” button in Catalog tree, to add address locator. The style of the locator should be set as “US Address Dual Ranges”, the reference data should be set as “PghStreets.shp”.
- Second, by selecting “yes” next to “Write X and Y Coordinates” and “Write Percent Along”), the properties of “Pitt Locator” was edited. To add address locator, “Geocoding” button was clicked and “Manage Address Locators” was selected. “Options” was clicked to check if the Address Locator settings were correct, and here the minimum candidate score should be changed to 10.
- Third, to locate address individually, “Find” binocular icon was clicked and the full address including zipcode was typed into location sections, the matched address was chosen to show up in map by selection “Add Point”. And then three locations (1920 S 18th ST, 255 Atwood ST, 3527 Beechwood BLVD) would show up, respectively. And the inset map was finished with these three added points and two layers.
- Forth, the following steps were taken to perform batch geocoding. “Pitt Locator” was selected by clicking “Geocode Addresses”. In the dialog box, source was set as “sheet 1\$”, and in the process, designers should confirm if “Address” and “Zip_Code” columns matched to streets and Zip code. And then the spelling sensitivity should be changed to 75 and minimum match score should be changed to 80. After this step there would be a summary of the matching results. (548 addresses were matched to the streets but 717 were not)
- Fifth, to correct address, “Review/Rematch Addresses” was clicked to rematch address. 275 NDITHRIDGE ST (FID 463) was changed by adding a space between N and D to increase match score to 100, and match button was clicked to make a rematch. Repeating this step to edit address format of BUKER HILL S (FID 54) to increase match score to 87.6. After this step, the large map with three layers was finished to show the locations of FLUX time-travel convention participants in Pittsburgh, PA.

III. Findings

In the map, it has shown that most of people who participate the convention are living at the east of Pittsburgh. And three people who spend most in convention are living nearly the river.

IV. Caveats

During the process of correcting address, some of the records that have "Pittsburgh" in the City filed are not within the city limits actually. Due to this situation, many of the unmatched records are outside of Pittsburgh. Sometimes, the address locator will also mislead since it will take "N" as a part of street name instead of direction prefix or it will take "S" as a prefix direction instead of street, so designers need to make some space or delete something to edit the address and make interactive rematch to show a better matching map.

V. Appendice

FLUX Conference

<http://www.fluxsociety.org/>

<http://jlamondia.weebly.com/civl-5410---gis-in-civil-engineering.html>