Spatial Analysis of Region Where FBI Headquarters May be Relocated

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Objectives
- Determine area of interest based off of intersecting buffer regions.
- Highlight and analyze features within AOI

Abstract
The Federal Bureau of Investigation (FBI) recently shortened their list for relocation of their operational headquarters in Washington DC to two venues. The location currently in favor is an area in Springfield, Virginia. Located between two GSA (General Services Administration) requirements, which are that this new FBI location be within 2 miles of a metro station and within 2.5 miles of the Capital Beltway (I-495). The Springfield location meets both of these requirements plus more. The relocation of the J. Edgar Hoover building to Springfield would mean a sure increase in revenue for businesses in the area, along with the obvious bump in population. Where exactly this Building would be placed is the big question, with most of the land already developed on, the FBI may have to purchase a plot of land adequate in size (50 acres) to house the building. For my project, I will produce a map showing the area that meets the distance criteria made by the GSA and conduct some spatial analysis on that region.

Study Area
Springfield, Virginia

Methodology

Procedure
1. Collect data
2. Add layers into ArcGIS
3. Select “on ramp to I95” attribute within “ROADWAYS” layer and create buffer 2.5 miles radially around it.
4. Select “Franconia-Springfield Station” attribute within “Buildings” layer and create buffer 2 miles radially around it.
5. Use Union tool to merge overlapping buffer layers and highlight overlap area.

Data Acquisition
- Fairfax County GIS Layer Metadata
  - “COUNTY BORDER” (shapefile)
  - “RAILROADS_4000” (shapefile)
  - “ROADWAYS” (shapefile)
  - “BUILDINGS” (shapefile)

Data Layers Created
- Beltway buffer
- Franconia-Springfield Station buffer

Results
After using Union tool to combine buffer layers, an area of interest (AOI) was highlighted where the two buffer layers overlap.

Selected top 8 “BUILDINGS” layer attributes within the AOI with the greatest “Shape_Area”.

Conclusions
- Better knowledge of GIS based tools like “buffer” “Clip” “Merge” etc.
- AOI is a densely developed region
- Difficulty running numerical analysis on AOI.
- Further work can be done in regards to further understanding the infrastructure and landcover within the AOI.