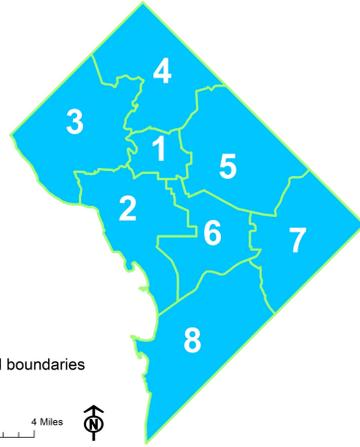


Analyzing Risk Factors for Homelessness in Washington D.C.

Background:

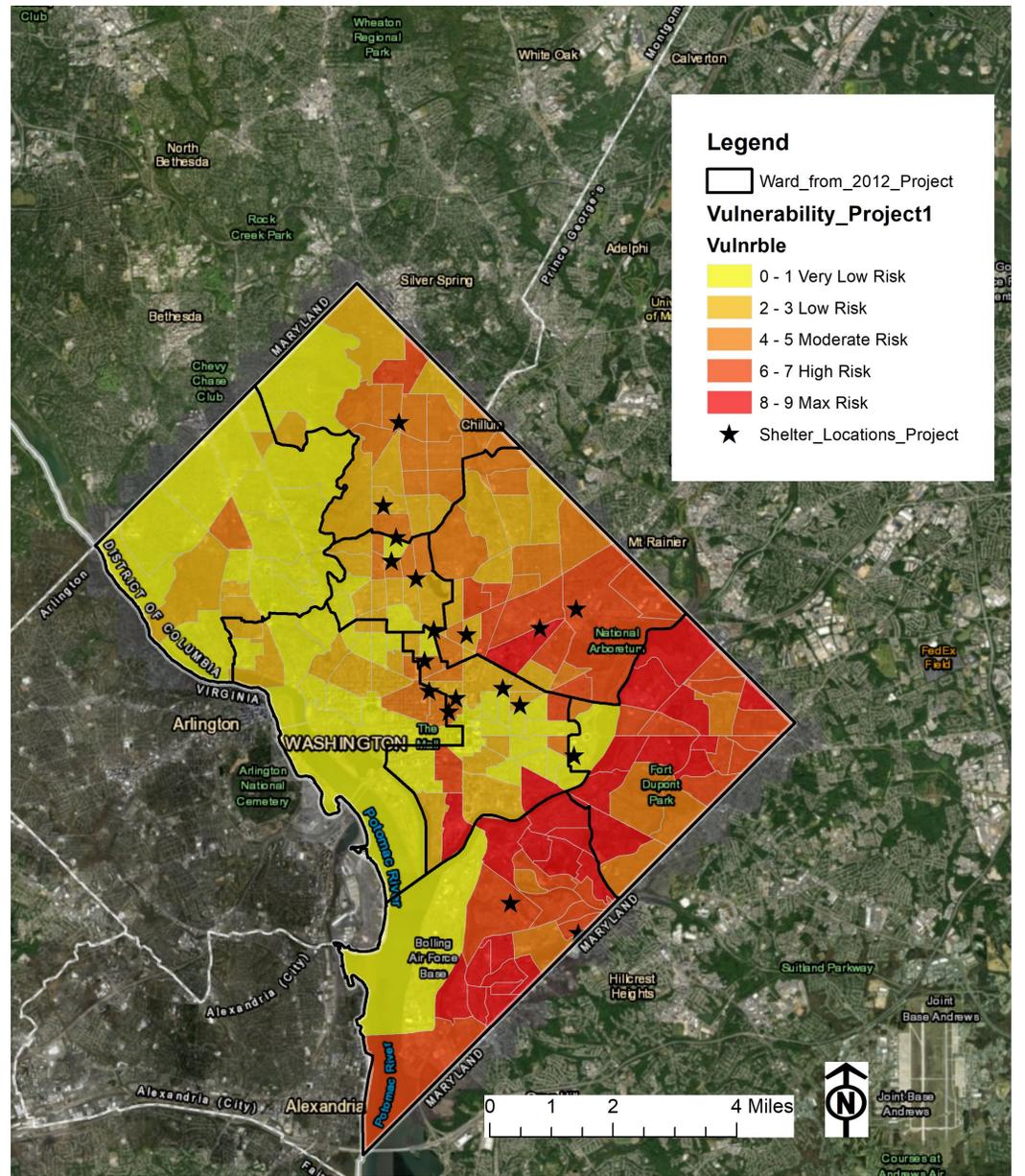
As of 2017, Washington D.C. has a population of just under 700,000 people. A Point-in-Time Count, a census that counts the homeless population every year, found that there were 6,904 homeless people as of January 2018 (DC Gov Dept. of Human Services). While this was an overall 7.6 percent decrease from 2017, there was actually a 5.2 percent increase from 2017 to 2018 in the number of unaccompanied homeless adults. D.C. does have homeless shelters and resources, but there are many areas within the city with high vulnerability of containing homeless people where shelters are not located. I examine potential risk indicators for homelessness and identify the areas of D.C. that have the highest vulnerability for homelessness.



Methodology:

The spatial question I asked is: which areas of Washington D.C. have the highest risk for homelessness? Adding data points indicating where current homeless shelters are in the city, show where creating new shelters could be most needed. I calculated a homelessness vulnerability index based on the following three variables from the 2017 census: rates of people with a disability, rates of unemployed people, and rates of people below the poverty line. Data sets for these variables were found in the DC GIS database. These rates are based on the percentage of the total population of D.C.

Each indicator was assigned a score from zero to three based on natural breaks. A score of three represents the most vulnerable areas and zero represents the least vulnerable areas. I then aggregated the vulnerability score for each area. The aggregated vulnerability scores range from zero to nine, with nine being the highest vulnerability score. The areas with the highest score are considered the most vulnerable to homelessness.



Conclusion:

After examining the combined risks of disability, unemployment, and below poverty level, it is evident that the wards with the highest vulnerability are the 5th, 7th, and 8th wards of the city. The census tracts in deep red on the map show these areas. Ward 5 has three current homeless shelter, but Ward 7 only has one shelter just on it's boundary, and Ward 8 has two shelters, but not in the most vulnerable spots of the Ward.

Limitations:

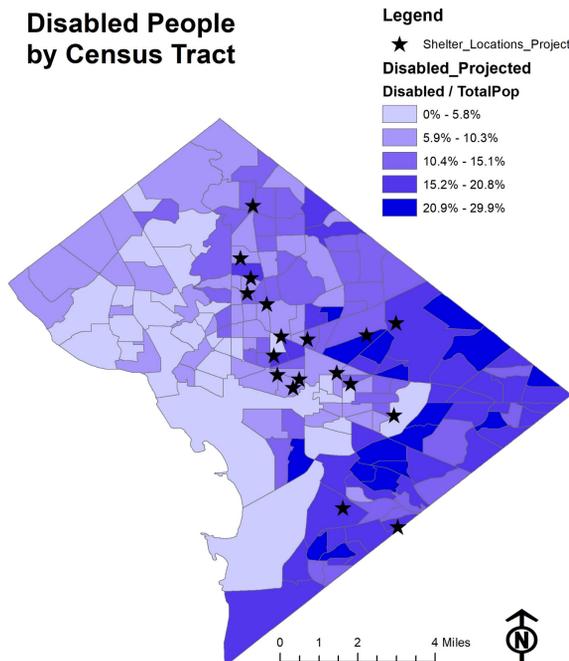
The project used data from the 2017 American Community Survey (ACS), which can have margins of error, so maps may contain statistical inaccuracies. The three criteria used to determine at-risk areas of homelessness are not all-inclusive, nor do they absolutely determine homelessness.

Sources:

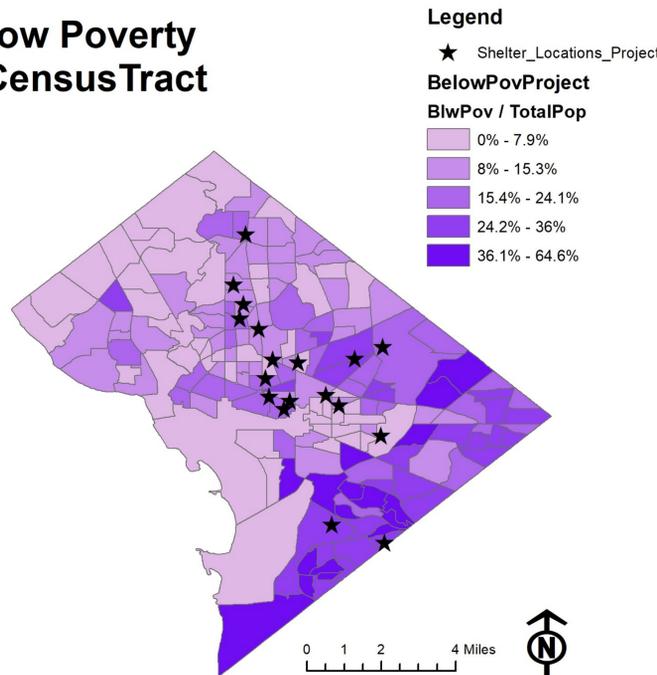
Data Sources - U.S. Census Bureau 2017 TIGER/Line Shapefile, American FactFinder 2013-2017 American Community Survey 5-Year Estimates, DCGIS Opendata
 Projected Coordinate System—NAD_1983_2011_StatePlane_Maryland_FIPS_1900
 Cartography - Hannah Uebele, GIS-0101-Fall 2018, 12/15/18

Homelessness Risk Factors

Disabled People by Census Tract



Below Poverty by Census Tract



Unemployed by Census Tract

