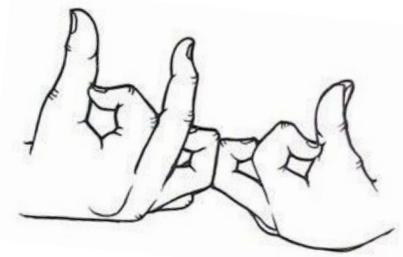


# Identifying Areas at Risk for Gang-Related Violence in Los Angeles County



## GANGS IN L.A. COUNTY



Los Angeles County is a huge area with many diverse populations. The city of Los Angeles has an interesting landscape of different neighborhoods butting up against and into each other. Over the last five years, after a long trend of declining crime rates, crime has steadily increased, and according to the Los Angeles Police Department much of this crime is gang-related.

I'm interested in identifying which areas of Los Angeles County are most susceptible to this rise in gang crime, specifically violent gang crime. I identify this risk using three indicators.

The first is increase in gang-related violent crime, the second is level of diversity within a community, and the third is gang territory. To do this analysis I asked the following questions:

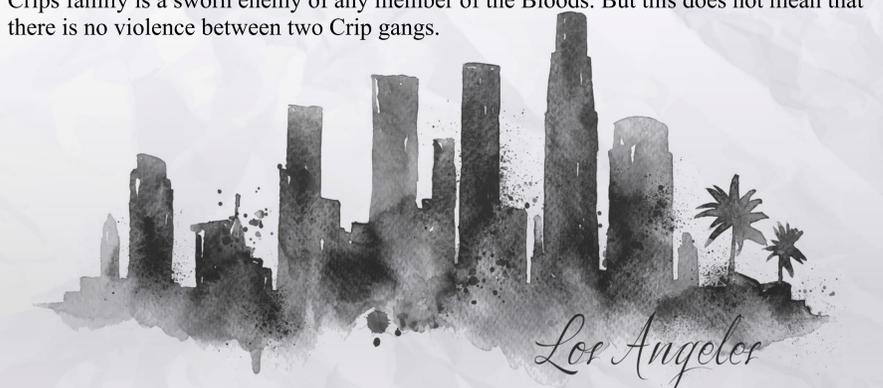
- Which areas of Los Angeles have seen an increase gang-related violence?
- Does diversity have an impact on gang-related violence? What kind of impact does it have?
- Where do gangs have territories LA? Which of these territories have the highest levels of gang-related violence?
- Lastly, based on these indicators, which areas of Los Angeles County are at the highest risk for gang-related violence?

## DATA COLLECTION

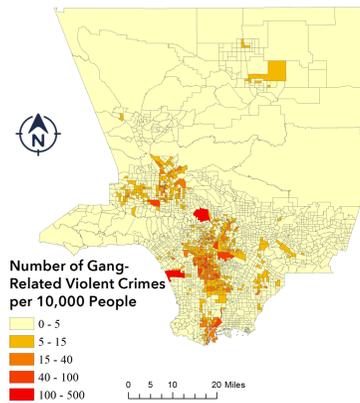
I used crime data from both the Los Angeles Police Department (LAPD) and the Los Angeles County Sheriff Department. Both organizations keep detailed records on every crime that has been committed over the last 15 years. I combined the data for 2017 and narrowed down the database to only include crimes that were both gang-related and considered violent. I also used data from 2012 to do a change detection. I use the 2010 Census for demography data and I analyze this data by census tract.

To analyze gang territories I use a dataset created by Alex Alonso, professor at Cal State University-Long Beach. He used insider knowledge and visual images of graffiti (which gangs often use to mark their territorial claims) to map out the different boundaries of the majority of gangs in Los Angeles. His data is currently limited to gangs that are primarily defined by being black or Hispanic. Because of this, I focus only on the territories of these two types of gang. White, Asian, and other gangs do exist, though they are less likely to mark out specific blocks as their personal "territory".

I built on Alex Alonso's data by adding gang "family", the broader gang affiliations that many gangs lay claim to, and by looking at the amount of gang-related violence by territory. The Westside 83 Gangster Crips, for example, are part of the greater "Crip" family. These wider affiliations define many relationships between gangs. Any member of the Crips family is a sworn enemy of any member of the Bloods. But this does not mean that there is no violence between two Crip gangs.



## RISK INDICATORS FOR VIOLENCE



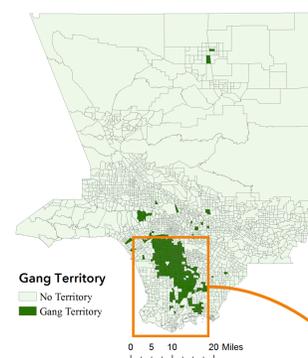
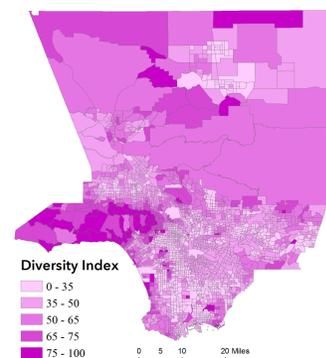
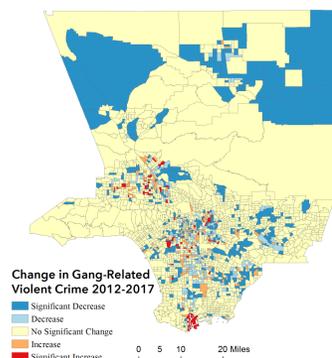
First I simply looked at which areas in LA County experienced gang-related violence in 2017. I then expanded that to find change in violence between 2012 and 2017. I isolated this to measure the increase in gang-related violence.

I used census data to measure the relationship between diversity and gang violence. I first had to figure out if diversity has an impact on gang violence at all. Using 2010 Census Data, I created a Diversity Index, for each census tract, based on the USA TODAY measure of diversity. This formula measures the probability that two people chosen from a group will be of two different races.

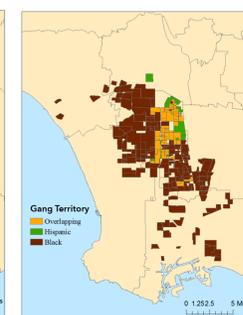
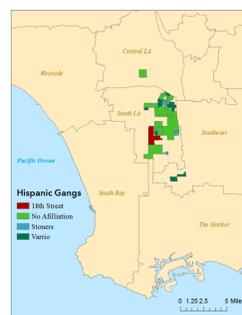
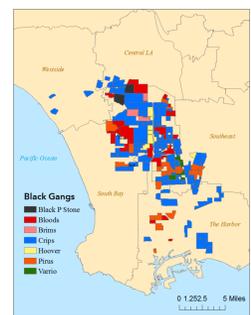
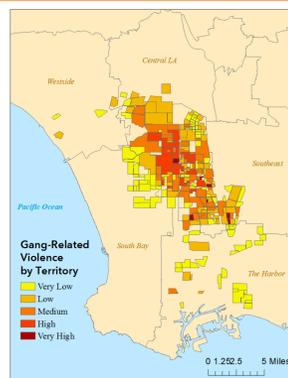
I then ran an OLS regression while controlling for my other two risk indicators (increase in violence and gang territory). I found that there is a relationship between diversity and crime density and it is statistically significant. Therefore, higher diversity actually correlates to a lower rate of violent gang-related crime. This correlation is contradictory to what many people believe about gang violence.



Lastly, I used my crime data to analyze which gang territories have the highest rates of gang-related violence. I included the intersections as separate territories. The territory with the highest rate of violence is actually an intersection between the Westside 83 Hoover Criminal Gang (also known as "The Rascals") and the Westside 18<sup>th</sup> Street Barrio. This is not surprising; these two gangs are known for their propensity for violence. The Westside 83 Hoover Criminal Gang is thought to be the most active by the LAPD and its territory alone is the second highest on the list. I also looked at different attributes about the gangs to see if this correlated in higher rates of violence (see below).



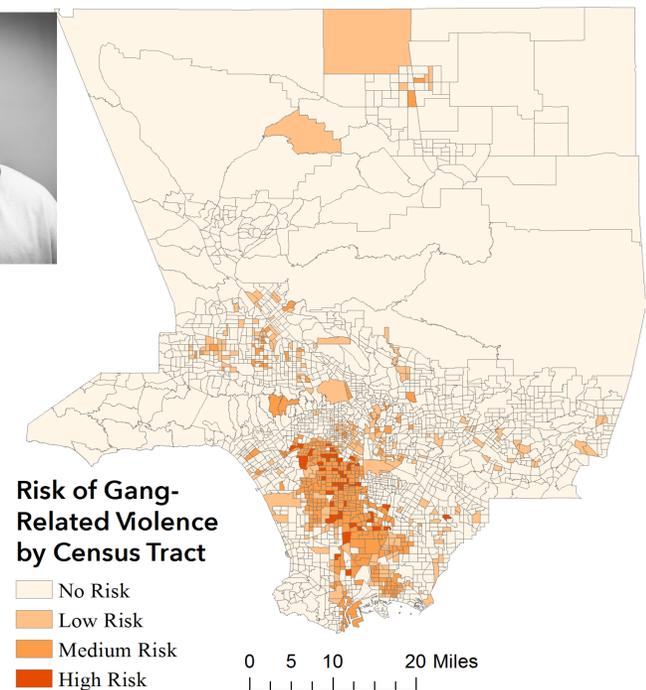
## GANG TERRITORIES



Top Five Most Violent Gang Territories	Crimes/10,000
W/S Barrio 18th Street & W/S 83 Hoover Criminal Gang	63.85
W/S 83 Hoover Criminal Gang	62.49
E/S Project Watts Crips	46.53
N/S Anzac Grape Compton Crips	45.11
W/S Barrio 18th Street & W/S 94 Hoover Criminal Gang	39.08

These maps focus on the area where most of the gang territories are congregated. In my analysis, I found that 14.7% of census tracts in LA lay within specific "gang territories". I mapped these groupings by gang family. I found that Crips gangs tend to have more violent territory than Bloods. I also looked at the intersection between Black and Hispanic gangs but found no relationship between intersecting gangs and higher levels of violence. I then found which territories had the most gang-related violence to better weight my risk score for gang territory.

## RESULTS

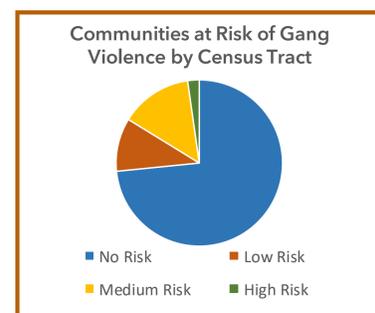


Risk of Gang-Related Violence by Census Tract

To determine which areas of Los Angeles County are at the highest risk for gang-related violence, each attribute was given a score with 5 representing the highest risk and 1 representing the lowest risk.

- Change in violence was scored by Standard Deviation with no increase getting a 1 and highest increase receiving a score of 5.
- Diversity was scored by the USA Today's diversity ranking, with a low diversity index (0-15) receiving a score of 5, and high diversity index (55-100) receiving a score of 1.
- Gang territory was scored by Natural Breaks based on violence (2-5) and tracts with no territory were given a score of 1.

The risk scores for each attribute were weighted (with diversity having half the weight as increase in violence and gang territory) then aggregated, and a final map was created to show the totals. Census tracts with the highest score are the neighborhoods that are currently at a much higher risk for experiencing gang-



### Poster Design and Cartography: Callie Burke

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Data Sources: City of LA, Los Angeles County, Los Angeles Police Department, Los Angeles County Sheriff, Alex Alonso (LA\_Hood\_StrikeUps and West\_Coast\_Gang\_Graffiti)

Map Projections: ETRS\_1989\_UTM\_Zone\_33N; Locator Map: ESRI

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