

The Relation of Bar Location to Crime: A Geospatial Analysis

Laura Kimlinger
Geography 421
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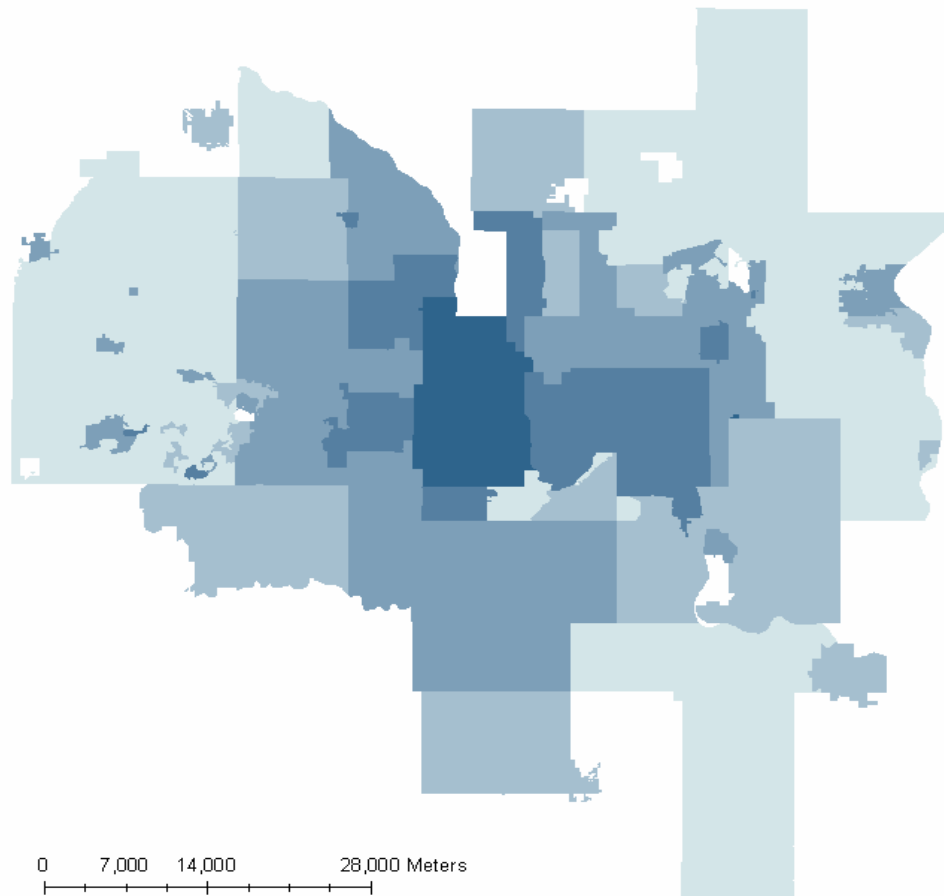
Spatial Problem

- ◆ I wanted to find out whether or not there was a correlation between bar location and crime rates in the MN metro.

Area of Study

- ◆ Ramsey, Washington, Hennepin, and Dakota counties in Minnesota
- ◆ 106 cities
- ◆ Crime data taken from State of MN crime database
- ◆ Crime data gathered for assaults, vandalism, and DUI

Population Density Minnesota Metro Area



Map created by Laura Kimlinger, 12/6/06
Depicts Ramsey, Hennepin, Washington, and Dakota counties
Projected in Transverse Mercator UTM Zone 15N
Population data from ESRI 2006

Bars

- ◆ Gathered bar locations by city
- ◆ Used Reference USA to find data
- ◆ Processed table for number of crimes and bars by city
- ◆ Joined the table to a table for city boundaries

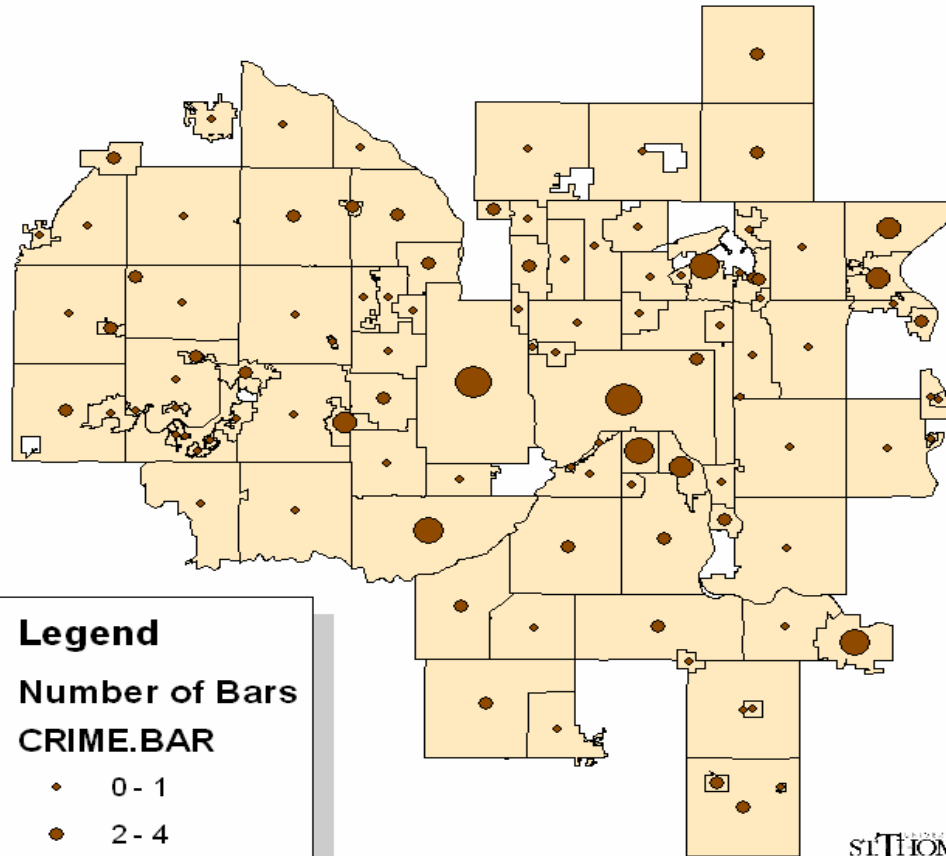
Methodology

- ◆ Gathered crime data city by city
- ◆ Gathered bar data city by city
- ◆ Created table and processed it
- ◆ Joined table to city boundaries shapefile
- ◆ Deleted cities not included in study
- ◆ Organized data to create cartographic displays

Cartographic Displays

- ◆ Map showing population density as reference
- ◆ Map showing assaults
- ◆ Map showing DUIs
- ◆ Map showing vandalism

Bars in the Minnesota Metro Area 2006



Legend

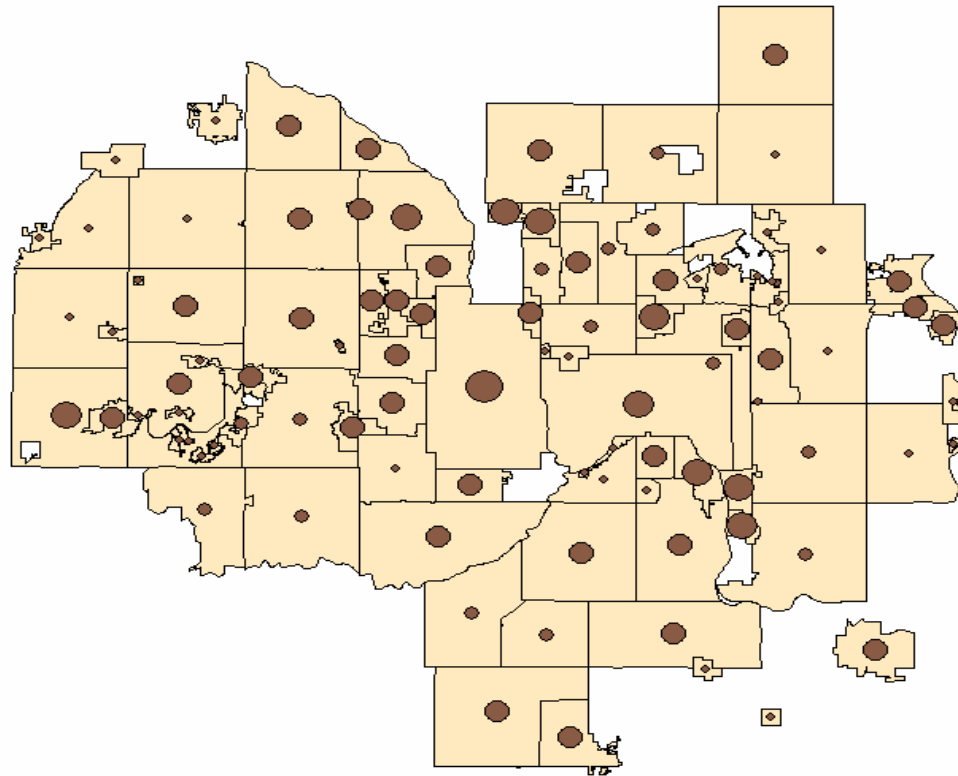
Number of Bars

CRIME.BAR

- 0 - 1
- 2 - 4
- 5 - 7
- 8 - 10
- 11 - 112

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Assaults Normalized by Population Minnesota Metro Area 2000

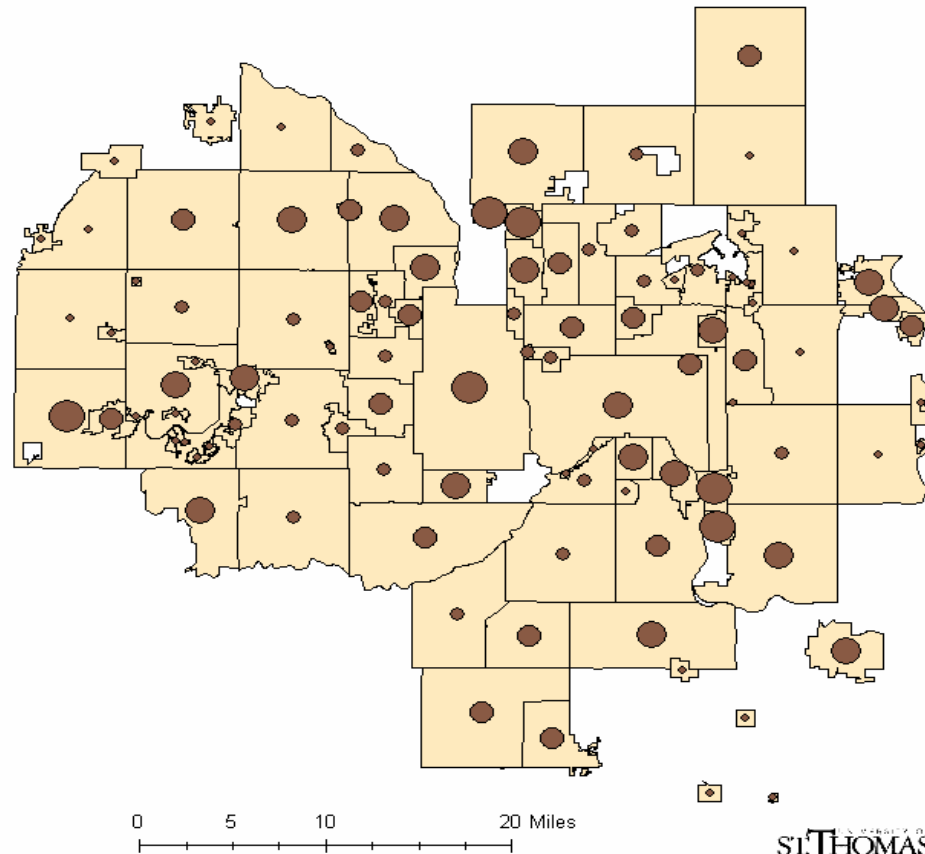


0 5 10 20 Miles



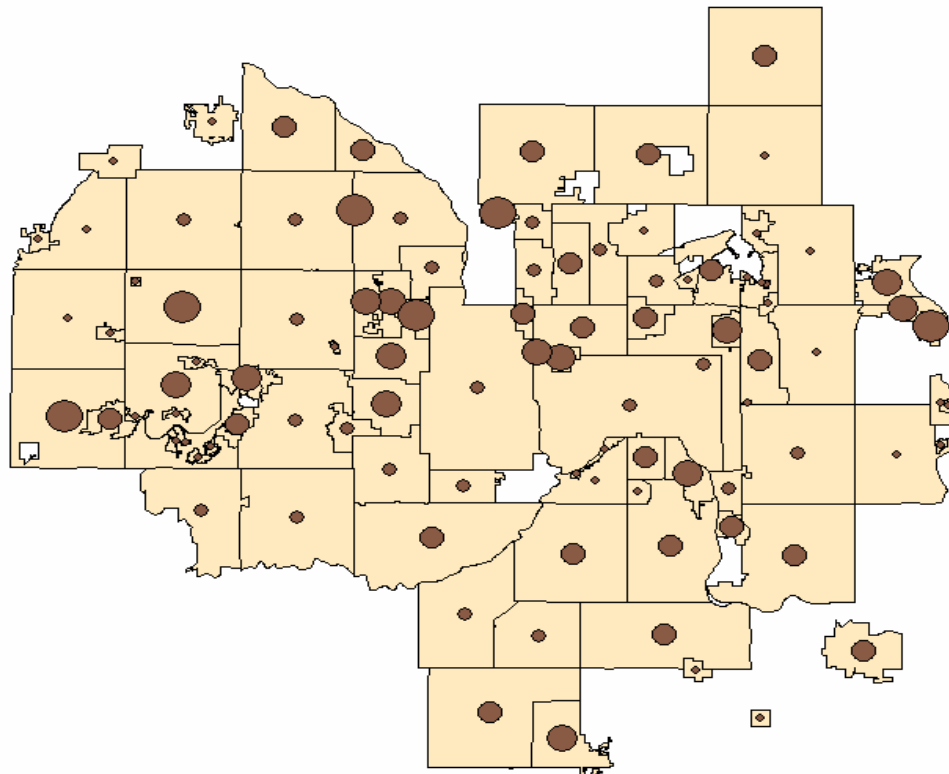
Map created by Laura Kimlinger, 12/6/06
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Vandalism Normalized by Population Minnesota Metro Area 2000



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Population data from ESRI 2006
Crime data from State of MN

DUIs Normalized by Population Minnesota Metro Area 2000



0 5 10 20 Miles



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Population data from ESRI 2006
Crime data from State of MN

Results

- ◆ Maps show on broad scale that there is a positive correlation between amount of crime and number of bars in a city
- ◆ Outside research implies a link between alcohol use and violent crime
- ◆ Other factors are at play, including population and other demographics

Lessons Learned

- ◆ ReferenceUSA accuracy issues
- ◆ Pre-existing data sets with addresses to geocode would have been more interesting and easier to work with
- ◆ Wider geographic area might have been easier to visualize