Notes from Geospatial/GIS Meetup

November 10, 2022

via Zoom

Attendees: Janet Reyes, facilitator;

Via Zoom: Bart Kats, Devan Velji, Edward Helderop, Greg Haessner, Jonahid Chakder, Mary A, Mike Cohen, "Pietro's iPhone," Shanjana Senthilkumar, Shanon Langlie, Shengxiao Li

<u>Announcements</u>

This meeting was recorded; video is available [here](). The passcode to view is   kS4*U9D*

[UC GIS Week](#) is returning as a virtual event from November 15 through November 17. [Registration]() is now open to attend presentations, lightning talks, and panels, and to view a map gallery..

The **[Esri Pacific User Conference](#)** for GIS users in California, Nevada and Hawaii is being held November 15 - 16 in Sacramento, CA.

UCANR IGIS offers several [training sessions]() on Zoom throughout the year; three are coming up between now and the end of 2022..

UCR Library's [Digital Scholarship meetup]() on November 22 will focus on digital mapping FAQs on topics such as copyright, privacy, and ethics.

The next Esri [GIS in Higher Education chat](), on Tuesday December 6 at 9:00 am PST, will cover "**Comparing ArcGIS Field Maps, ArcGIS Survey123, and ArcGIS QuickCapture Field Tools in Education**."

The **Inland Empire GIS User Group** (IEGIS) website features a [page with local job openings]() and links to several GIS job boards.

<u>First-time Attendees</u>

Greg Haessner and "**Pietro's iPhone**" joined us for the first time.

Welcome, and we hope to see you again!

<u>Presentation</u>

Shengxiao (Alex) Li is an urban planning researcher, transportation planning scholar, and postdoc in the School of Public Policy. He presented on **Neighborhood Deployment in Policing Activities: the Role of the Built and Social Environment in Traffic Stop Outcomes in San Diego, California**.

Alex started by providing context regarding policing activities in the US. There has been focus in recent years on over-policing in certain neighborhoods and involving people of color. A common type of interaction between police and the general public is the traffic stop.

Criminologists are researching how racial justice concerns factor into traffic stops. People of color are more likely to be stopped, although this type of targeting is difficult for criminologists to measure. Another aspect is racial bias (stereotyping) exhibited by police after making a traffic stop.

Less-studied but still significant is place-based bias - for instance, police presence is more common in crime "hot spots." Crime frequently occurs around liquor stores, transit stops, and places in disrepair (graffiti, litter, etc). There may also be a connection between traffic stops and the built environment (ecologically structured crime). This has led to studies on whether crime can be prevented through environmental design.

Alex's research combined the perspectives of criminology (racial bias in policing) and urban planning (neighborhood attributes and crime) in looking at the role of neighborhood attributes in racial bias exhibited by police in traffic stops.

To do this, Alex chose the city of San Diego as the study area. He used a variety of open source geospatial data sources regarding traffic stops, crime, socioeconomic characteristics (from the American Community Survey), transit stops, and 311 requests. Traffic stop data from RIPA was geocoded using ArcGIS StreetMap Premium.

Alex did spatial analysis using the tidycensus and sf packages in R. He used the binary logistic model to look at whether police decided to conduct a search after making a traffic stop, and whether contraband had been found in searches.

The results showed that:
- people of color are more likely to be searched.
- in neighborhoods with
  - higher crime rates,
  - greater percentages of people of color, or
  - high unemployment rates,
  people are more likely to be searched but less likely to be found carrying contraband.
- traffic stops were more likely in neighborhoods with more alcohol outlets or with a greater number of open 311 requests. Police had a higher success rate of finding contraband in the latter type of neighborhood, suggesting that crime is higher in these locations.

One implication of the findings from the urban design perspective is that it might be beneficial to use zoning to decrease alcohol outlet density. Also, there are secondary benefits in implementing citizen reporting apps such as San Diego's Get It Done system, if city governments follow through on citizen reports of problems with the physical environment in their neighborhoods and decrease crime as a result.

Regarding reducing racial bias in police activities, installation of automatic speed cameras is one possible step to consider, although other forms of racial bias were found to emerge where this was implemented in Chicago. Another action being considered in some communities is to replace a portion of armed police officers with unarmed trained individuals who would handle traffic stops.

Feel free to contact Alex at shengxil@ucr.edu with any questions or additional ideas.

Discussion

Janet asked about any examples of where some of these ideas have been implemented. For the most part, Alex is aware of the proposals but not whether they have been implemented.

Devan asked how to learn more. Alex will make the presentation slides (containing links to resources) available, and later provided this link to The Stanford Open Policing Project, which looks at the likelihood of people of color being involved in traffic stops.

Shanon asked how this research might impact policy discussions and recommendations. Alex is hopeful that such studies will at least encourage decision makers to consider new models for urban policing. Also, urban planners and city managers might be inspired to think more about the role of the social and built environments in crime and policing activities.

Janet mentioned that she had used San Diego Get It Done citizen pothole reports as a data source for a demonstration in a GIS workshop.