Human Trafficking in NC:

What Geospatial factors are most important to the facilitation of human trafficking, and what areas are potentially most at risk in North Carolina?

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What Is Human Trafficking?

◊ Seizure, transportation, coercion, abduction, and overall control of other humans and their movements for the purpose of various monetary exploitations (MDP, 2021)

◊ Steps of Human Trafficking:
   1. Obtaining of Victim
   2. Transportation/storage
   3. Exploitation

Image Source: ABC News
Statistics

- 169 new victim cases per state, per year.
- 20,000 victims under the age of 18 currently operating in sex trade. (Polaris, 2022)
- App. 85% of victims are women and children. (Garcia, 2021)
- Statistics are based on known data which is small percentage of actual trafficking activity.
Project Objectives

- Supplement lacking human trafficking data

- Examine geospatial factors for the facilitation of human trafficking, rather than known data trafficking alone.

- Smaller scale / neighborhood level risk assessment vs typical large scale city / state level analysis.

- Focus on state of North Carolina. Consistent top 15 state for human trafficking incidents annually.
Geospatial Factors to Consider

- Initial phases of human trafficking tend to take place under similar environmental conditions.
- Low income- Neglected areas, low education, easier coercion and less publicity.
- High crime- Well organized human trafficking organizations remain hidden and go unnoticed in environment with high amount of general crime.
- Immigrant population- Cultural differences and language barriers disguise activities and create vulnerable targets via lack of social integration.
- Population- Cover/ Blending
- Interstates/ transportation hubs- Easy access to transportation of victims in and out of targeted areas.
Geospatial Analysis of Counties with Known Incidents

- Analysis of counties with known human trafficking cases for facilitating factors.
- Factors to then be applied to risk assessment at community/neighborhood level.
## Results of HT County Analysis

<table>
<thead>
<tr>
<th>Variable</th>
<th>Human Trafficking Counties</th>
<th>All Other Counties</th>
<th>HT Counties High: Number of Cases</th>
<th>HT Counties: All Other Number of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median Income</td>
<td>$49,504</td>
<td>$49,703</td>
<td>$52,419</td>
<td>$45,860</td>
</tr>
<tr>
<td>Population (Factors of Rank by Population)</td>
<td>Only 4 Counties with HT Cases Rank in top 10 Pop. - Avg. Rank 29th.</td>
<td>6 of top 10 Ranked counties by pop- No rec. HT cases including #1 Wake County.</td>
<td>N/A Based on demonstrated Pop. Rankings.</td>
<td>N/A Based on demonstrated Pop. Rankings.</td>
</tr>
<tr>
<td>Crime Index</td>
<td>7,447.9</td>
<td>1,963.9</td>
<td>20,685.8</td>
<td>4,138.4</td>
</tr>
<tr>
<td>Interstate Access (% Counties Within 10mi of Interstate)</td>
<td>90%</td>
<td>48%</td>
<td>100%</td>
<td>80%</td>
</tr>
<tr>
<td>Immigrant Population (Avg. Per County)</td>
<td>19,855</td>
<td>5,444</td>
<td>66,701</td>
<td>8,142</td>
</tr>
<tr>
<td>Percent of Counties with Direct Access to Transportation Hubs-Shipping Ports and Airports</td>
<td>95%</td>
<td>91%</td>
<td>100%</td>
<td>93%</td>
</tr>
</tbody>
</table>
Criteria derived from county analysis applied to community/neighborhood level in NC.

ArcGIS Pro used for analysis.

Census block layer added, these are the study units - small scale neighborhood level.

Layers and tables added containing necessary demographic and location datasets, joined to census block layer for analysis.

Results analyzed in Geoda for clustering and removal of outliers.

ArcGIS Pro used for deliverable using dot density for enhanced view of neighborhood clustering for at risk areas.
NC Risk Assessment Results
Florida Assessment

- Applied to Florida to predict results of human trafficking cases.
- Assess different state in order to test methodology through other locations.
- Florida chosen for data availability and frequency of travel.
- Consistently ranked top 5 in HT cases.
- Same methodology applied to Florida as NC.
Florid Risk Assessment Results vs Known Data
Conclusions

➢ County Analysis results showed crime, immigrant population, interstate access have highest positive relationship to Human Trafficking.

➢ NC results coincided with known county cases. No direct common factors effecting integrity of results.

➢ Successfully predicted county results in Florida Study.

➢ Successful starting point for future analysis on human trafficking factors and good risk assessment for current NC conditions.
What’s Next?

- More analyses on other variables not tested in this project to further accuracy of methodology.
- Investigations into at-risk areas derived from analysis to confirm human trafficking activity.
- Public awareness and future enhanced law enforcement and resource centers in at-risk locations.
Thank you
Sources

- Blue Campaign. “What is Human Trafficking?” dhs.gov, 2022
- Greenburg, Pierce. “Human Trafficking Cases Across the United States,” Feature service. 2021
Sources


OSBM. “Crime Index.” Office of State Budget and Management. 2020. Derived from https://linc.osbm.nc.gov/explore/dataset/crime-index/table/esjxjunctive.area_name&disjunctive.year&disjunctive.variable&dataChart-tv/id=512696776673778477&selectedTab=0&selectedZoom=0&selectedRow=0&isLimit=true&isLimitAlert=true&isOverlay=true&isShareable=false&isMap=true&isTable=false&isChart=false&isWeighted=false&isInteractive=false&isMenuLoading=false


Sources


- Various Datasets obtained from data portal North Carolina County GIS Data. From https://www.lib.ncsu.edu/gis/counties.html

- Various datasets pertaining to Florida Demographics and Interstates obtained from ArcGIS hub. Derived from https://hub.arcgis.com/maps/FDACS::demographics/about