
ArcGis Final Project

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Introduction Topic

Do local trails within York County pose safety risks during a pandemic such as Covid? And if so, should micro-policing be incorporated for strategic use?

- **Background:**
 - Under-resourced areas
 - Common factors of usage or under usage include, crime, (COVID) , lack of access to areas of the trails, and fear of previous occurrences along these trails.
 - Major Gap in research involves youth populations and safety concerns
 - Adults felt more fear of using trails themselves than youth, but letting their children have access to trails was a major concern
 - Is micro-policing the answer?
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Data

Main Data: Schools, Natural Areas Inventory, Municipalities, and County Boundary (Shapefiles)	York County GIS Data Portal
Analytic Data: Police Stations, and Trails (Shapefile)	York County GIS Data Portal
Crimes Comitted: Assaults as well as others including property crime, murder, and rape cases by county (Census Data)	US Census Block Centroid
Current Covid Cases and Rates	York County Government Website

Locational Reference Map

- York County (PA)
- Population: 449,058

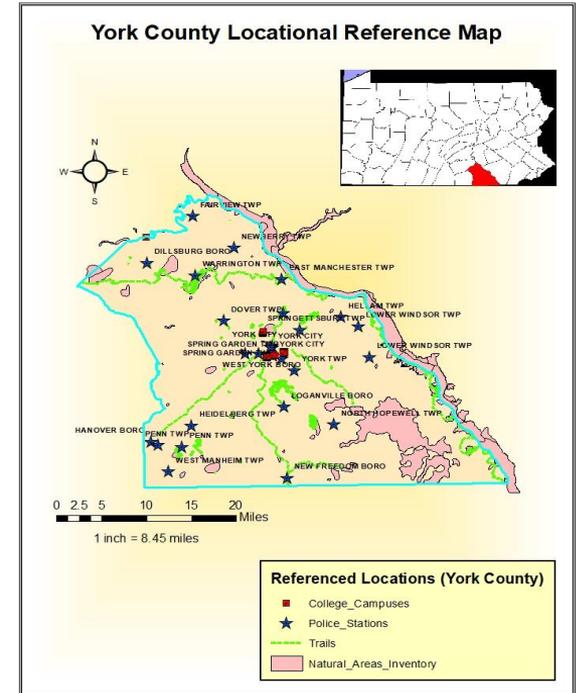
Physical Geography: Located in south central PA

-Several natural land deposits and Mild climate

-Suitable area for trails mostly

-Characteristics of both rural and urban areas

-multiple municipalities (mainly within mid-region)



Map Analysis #1

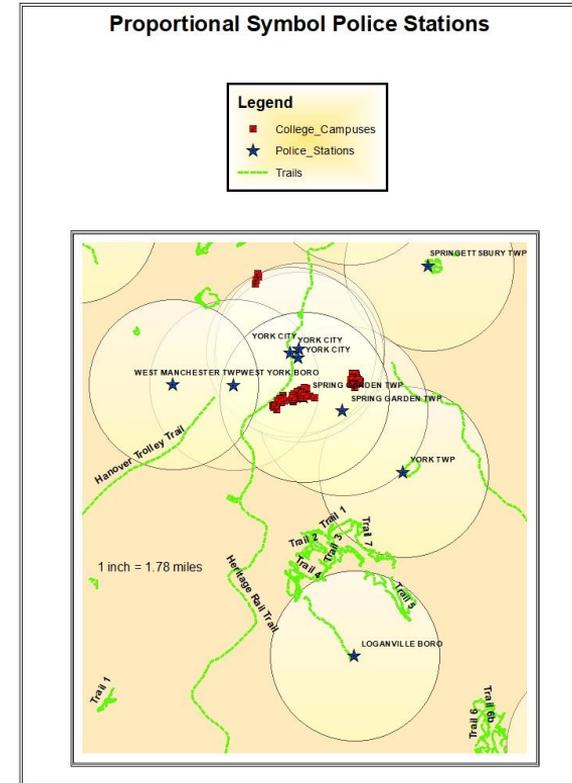
-Proportional symbol of police stations and their extent

-Extent of 3 miles was used for all stations

-Micro- policing would evaluate hot spots of crime

-Advantages include:

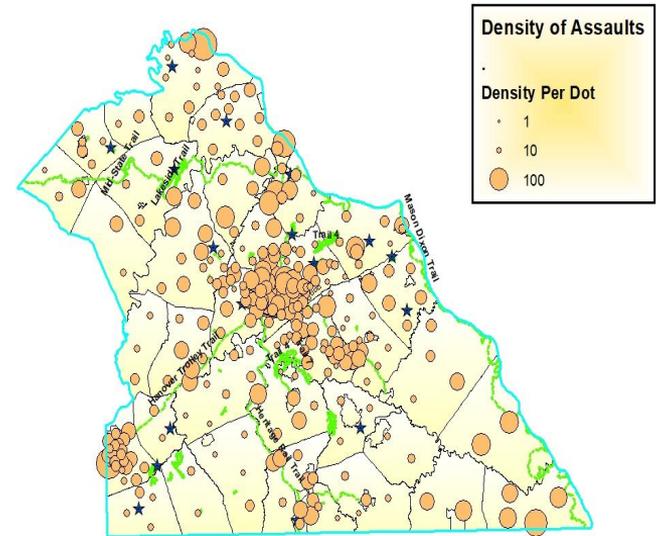
- Joint effort for comparison
- Trail enforcement coalition?
- Addition of new unfound hot spots
- General data in relation to mapping and safety



Map Analysis #2

- Dot Density map showing assaults
- Assaults happened with higher frequency
- Appear to be close or along trails of use
- What is to blame? Covid? Higher use?
- Suggests that under-resourced areas are of concern
- Why Assaults versus other crimes?

Dot Density Map of Assaults (York County)



Summary Table

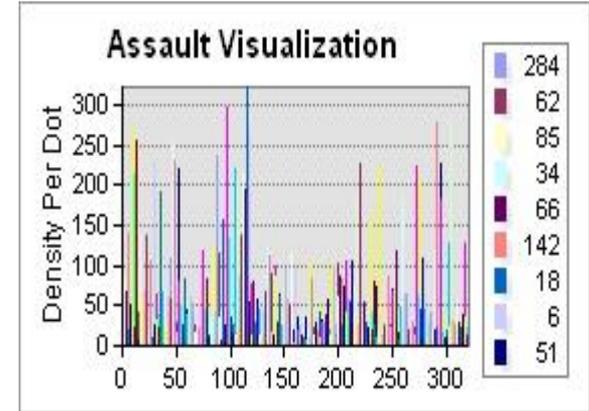
-Assaults used for density (highest recorded crime)

-Display of Graph for visualization

-Lowest of 6 in areas and highest of 284

-Though placement of crimes is dispersed, there are areas that would improve with Micro-policing

-Areas Include **Heritage Rail Trail and Hanover Trolley Trail**



SUM LEV	STAT E	COU NTY	STN AME	CTY NAM E	YEA R	POP ESTI MAT E	POP EST_ MAL E	POP EST_ FEM	AGE 1417_ TOT	AGE 1824_ TOT
50	42	133	Pennsylvani a	York Coun ty	10	44548 4	22014 9	22533 5	23169	36277
50	42	133	Pennsylvani a	York Coun ty	11	44784 7	22130 9	22653 8	23205	36010
50	42	133	Pennsylvani a	York Coun ty	12	44905 8	22197 9	22707 9	23342	35773

References

Reed, J. A., Ballard, R. M., Hill, M., & Berrigan, D. (2020). Identification of Effective Programs to Improve Access to and Use of Trails among Youth from Under-Resourced Communities: A Review. *International Journal of Environmental Research and Public Health*, 1-333.

Dominski, F. and Brandt, R., 2020. Do the benefits of exercise in indoor and outdoor environments during the COVID-19 pandemic outweigh the risks of infection?. *Sport Sciences for Health*, [online] pp.583-588.
