

# Mapping of Sexual Harassment Incidents in Delhi, India

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- Spatial relationship of harassment
  - Puzzle (1) : Why is there variation in reported incidents of sexual harassment in different public spaces?

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- Harassment types
  - Puzzle (2) : Are there any patterns of variations in types of sexual harassment in public spaces?

# Presentation Layout

- Literature review
- Research questions
- Data and methods
- Future direction

- Feminist Literature on Sexual Harassment
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- Crime and Space
  - Crime pattern theory, relation between "built environment" (urban planning, buildings, vegetation, lighting etc...) on crimes and crime types (Jacobs 1961, Perkins et al. 1993, Sherman, Gartin, and Buerger 1989.)

# Research Question

## Research Questions:

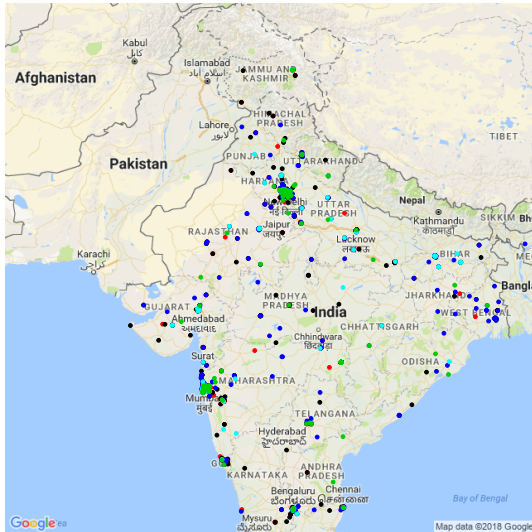
Based on Safecity, an online platform that uses crowdsourced data to collect geospatial locations of sexual harassment incidents in public spaces, why is there variation in occurrence? Is socially constructed gender power dynamics flexible in different spaces? What aspects of public spaces promote more sexual harassment in one place and why are these aspects absent in other places?

In the physical measurements of space, is there a relationship between the type of space and the type of sexual harassment more prevalence in that space? Does distance, layout of space, traffic, transient bodies, or other physical factors influence type of sexual harassment prevalent in those spaces?

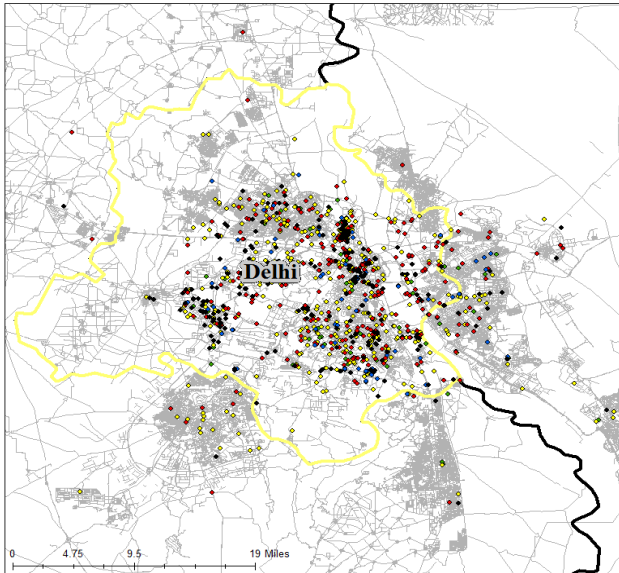


- Safecity
  - Point data variables
    - Non-Interactive: Indecent Exposure (329), Staring (1,369), Taking Picture (543)
    - Direct Verbal: Catcall (1,449), Comment (2,396) , Sexual Invite (495)
    - Direct Physical: Sexual Assault (158), Touch (1,492)
    - Stalking (488)
    - Other (529)
- DIVA-GIS
  - Polylines and polygons: India administrative boundaries, roads, rails
- MapCruzin
  - Polylines and polygons: Delhi roads, buildings, waterways

# Map 1. All Incidents in India



## Map 2. Delhi Incidents by Type of Sexual Harassment

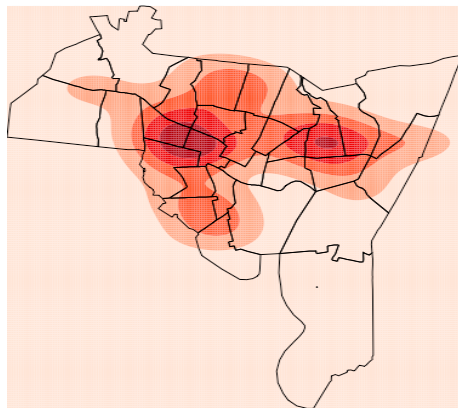


### Legend

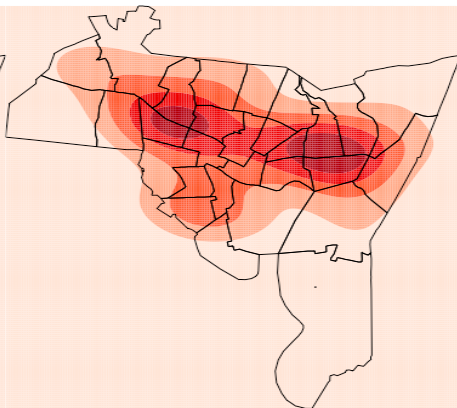
- Others
- Stalking
- Physical
- DirectVerbal
- NonInteractive

# Map 3. Kernel Density Comparison

**Forced Burlaries**



**Non-Forced Burglaries**



# Moving Forward...

- Problems to solve: data types in R
  - SpatialPoints, SpatialPointsDataFrame
  - SpatialLines, SpatialLinesDataFrame
  - SpatialPolygon, SpatialPolygonDataFrame
- Geographically Weighted Regression
- Mental Mapping (Wong et al. 2012)

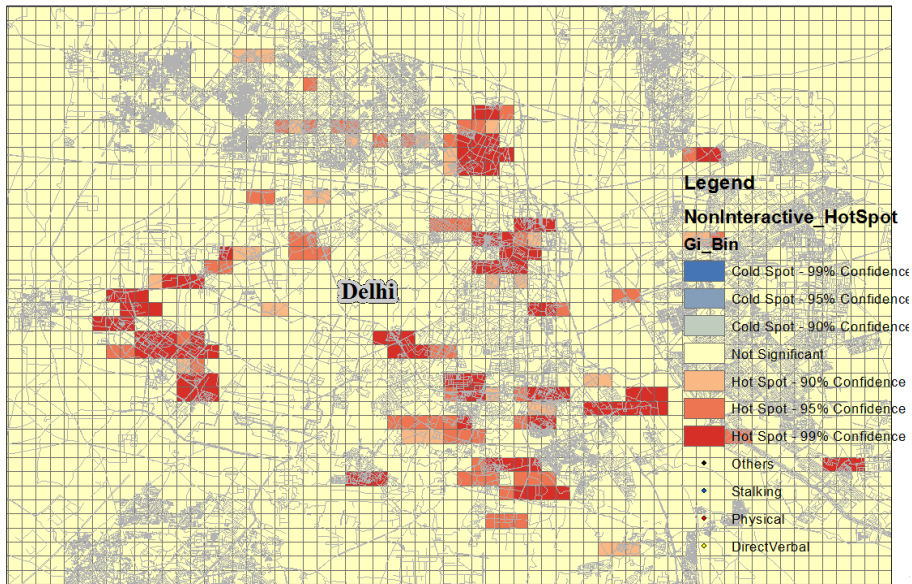
# Thank You

Question, comments, and suggestions welcomed.  
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# Appendix I. ArcGIS Hot Spot of NonInteractive





# Appendix II. ArcGIS Hot Spot of Direct Verbal

