Crime In Montgomery

\*Note: Sub-titles are not captured in Xplore and should not be used

line 1: 1st Given Name Surname   
line 2: *dept. name of organization (of Affiliation)*  
line 3: *name of organization (of Affiliation)*line 4: City, Country  
line 5: email address or ORCID  
  
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line 5: email address or ORCID  
  
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line 2: *dept. name of organization (of Affiliation)*  
line 3: *name of organization (of Affiliation)*line 4: City, Country  
line 5: email address or ORCID  
  
line 1: 4th Given Name Surname  
line 2: *dept. name of organization (of Affiliation)*  
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line 5: email address or ORCID

line 1: 5th Given Name Surname  
line 2: *dept. name of organization (of Affiliation)*  
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line 5: email address or ORCID

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line 5: email address or ORCID

*Abstract*—This paper examines the reported crime incidents in Montgomery County, Maryland, utilizing open data provided via the dataMontgomery portal. The dataset spans from July 1, 2016, to the present and includes comprehensive variables such as incident time, crime type, location, and number of victims. Through data analysis, we identify patterns in crime types, geographic hotspots, and temporal fluctuations, contributing to a broader understanding of community safety and law enforcement transparency. Our findings aim to support policy development, inform the public, and foster community-driven safety initiatives.

Keywords—Montgomery County, crime statistics, open data, dataMontgomery, public safety, NIBRS

# Introduction (*Heading 1*)

Updated daily postings on Montgomery County’s open data website, “dataMontgomery”, provide the public with direct access to crime statistic databases - including raw data and search functions – of reported County crime. The data presented is derived from reported crimes classified according to the National Incident-Based Reporting System (NIBRS) of the Criminal Justice Information Services (CJIS) Division Uniform Crime Reporting (UCR) Program and documented by approved police incident reports. The data is compiled by “EJustice”, a respected law enforcement records-management system used by the Montgomery County Police Department and many other law enforcement agencies. To protect victims’ privacy, no names or other personal information are released. All data is refreshed on a quarterly basis to reflect any changes in status due to on-going police investigation.

# Literature Review

Open data in public safety contexts has become increasingly relevant as municipalities seek to enhance transparency and public trust. According to Janssen et al. (2012), open government data fosters civic engagement and supports data-driven decision-making. The Montgomery County Police Department employs the EJustice system, aligning its practices with the National Incident-Based Reporting System (NIBRS) protocols, which improves the granularity and consistency of crime records (FBI, 2021). Similar efforts in other jurisdictions have shown that open-access crime data helps identify trends, inform policing strategies, and support academic research (Brantingham & Brantingham, 2004). The integration of GIS mapping with open crime data, as demonstrated in Chicago and Los Angeles, provides additional spatial insight for understanding crime distribution.

# Methodology

This study analyzes crime data sourced from dataMontgomery, filtered for founded crimes reported between July 1, 2016, and April 2025. The dataset, managed via the EJustice system, contains over 441,000 records and includes structured fields such as NIBRS crime code, time and location of offense, number of victims, and police district.

Steps taken:

* Data Cleaning: Null values in address and location-related fields were identified and handled using pandas and NumPy tools.
* Descriptive Statistics: Frequencies of crime types were computed. The top five recurring categories included "Larceny/Theft", "Assault Offenses", and "Drug/Narcotic Violations".
* Spatial Analysis: Police district and ZIP code data were used to plot high-density crime areas.
* Temporal Analysis: Dispatch and incident times were converted to datetime objects for monthly and seasonal trend analysis.
* Ethical Considerations: To respect privacy, no personally identifiable information was used. All analysis adhered to dataMontgomery’s usage guidelines.

# Conclusion

Our findings from Montgomery County's open crime data demonstrate clear spatial and temporal crime patterns. Property crimes dominate the dataset, particularly in commercial zones and urban districts. Analysis reveals seasonal increases in specific offenses, such as larceny during the holiday season. The transparency offered through public access to these records is a valuable resource for residents, policymakers, and researchers alike. Continued refinement of data accuracy and classification, alongside enhanced geographic tagging, could improve future utility. The study supports the ongoing value of open data in promoting public safety and accountability.

##### References

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