

20-04-2026

Policing hotspot in crime mapping based on the criminology of place in Jakarta: Case study of crime statistics data in 2022–2024

Resa Fiardi Marasabessy

To cite this article: Marasabessy, R. F. (2026). Policing hotspot in crime mapping based on the criminology of place in Jakarta: Case study of crime statistics data in 2022–2024. *Priviet Social Sciences Journal*, 6(4), 417-432.

<https://doi.org/10.55942/pssj.v6i4.1554>

To link to this article: <https://doi.org/10.55942/pssj.v6i4.1554>



Follow this and additional works at: <https://journal.privietlab.org/index.php/PSSJ>
Priviet Social Sciences Journal is licensed under a Creative Commons Attribution 4.0 International License.

This PSSJ: Original Article is brought to you for free and open access by Privietlab. It has been accepted for inclusion in Priviet Social Sciences Journal by an authorized editor of Privietlab Journals

Full Terms & Conditions of access and use are available at: <https://journal.privietlab.org/index.php/PSSJ/about>



Policing hotspot in crime mapping based on the criminology of place in Jakarta: Case study of crime statistics data in 2022–2024

Resa Fiardi Marasabessy 

Greater Jakarta Metropolitan Regional Police, Jl. Jenderal Sudirman Kav. 55, Senayan, Kebayoran Baru, South Jakarta, Indonesia
e-mail: resafiardi.07@gmail.com

Received 19 January 2026

Revised 29 January 2026

Accepted 20 April 2026

ABSTRACT

This study initiates a geospatial-based policing hotspot model for the jurisdiction of the Metro Jaya Regional Police by integrating the criminology of place, routine activity theory, and crime pattern theory. Secondary data were obtained from the publication of BPS Jakarta Crime Statistics from 2022 to 2024. Sourced from total crime, crime cleared, and crime rate, as well as categorization of crime types, case data are treated as a point pattern and processed through two steps, namely, Kernel Density Estimation (KDE) to map hotspot density and persistence and Space-Time Scan Statistic (SaTScan) to detect space clusters statistically significant time. The results show a strong pattern of occurrence concentration in a relatively stable small number of locations over time, with a significant fluctuation in 2023 to a decline in 2024. The composition of the three-year data confirms the priority of handling focused on Non-Violent Crimes against Property Rights, Crimes related to Fraud/Embezzlement/Corruption, and Crimes related to narcotics. Interpretation through crime hotspot visualization emphasizes caution in cross-year comparisons and the importance of triangulation with internally geocoded reports and locations. Operationally, the KDE–SaTScan series produces cycles including: (i) identification of persistent crime hotspots for structural prevention, (ii) rapid response scheduling based on risky space-time dimensions, and (iii) indicator-based evaluation (crime rate priority area, total crime-cleared difference, and indication of spread). This approach focused on place and time as the main decision-making factors for the Resmob unit, while maintaining the accountability of the Polri Presisi to realize the vision of the Asta Cita Program.

Keywords: criminality; criminology of place; hotspot policing; mapping

priviet lab.
RESEARCH & PUBLISHING



1. INTRODUCTION

Technological Jakarta (now the Jakarta Special Region/DKJ) as a megapolitan faces complex and rapidly changing crime dynamics. The rampant crime pattern is not evenly spread but is concentrated micro-geographically, also known as a crime hotspot (Brantingham et al., 2020). As a center of national activity, Jakarta's jurisdiction represents the complexity of metropolitan security, encompassing high mobility, social heterogeneity, and technology-adaptive criminal dynamics. In the 2025 year-end release, Polda Metro Jaya (PMJ) recorded 74,013 police reports (LP), the highest nationally, or around 16-16.7% of the 329,120 crime reports received by Polri throughout Indonesia throughout the year (DetikNews, 2025b; Media Indonesia, 2025). This figure reflects the intensity of services and law enforcement in the PMJ jurisdiction, as well as the risk profile that demands evidence- and location-based strategies.

Beyond the service load, the spectrum of security and public order disturbances is large. Throughout 2025, PMJ will secure 2,304 rallies in Jakarta and its surroundings while maintaining the principle of balancing citizens' rights to express their aspirations and public order (TribunNews, 2025). In addition, PMJ recorded 13,184 traffic accident incidents (740 fatalities; ± 16 thousand injuries) and handled >269,000 form Call Center 110 calls with a service level of $\pm 67\%$ (DetikNews, 2025c). These indicators illustrate the city's "daily pulse" that continues to beat, as well as the need for inter-functional coordination (Samapta, Lantasi, Reserse, Binmas) to maintain public safety.

However, in the domain of law enforcement, there are prominent cases that dominate, especially narcotics, theft, and burglary. The PMJ Drug Directorate in 2025 uncovered 7,426 narcotics cases with 9,894 suspects and confiscated a total of 3,291 tons of various types of drugs, with an estimated market value of $\pm Rp1.724$ trillion (ANTARA, 2025). This condition indicates the risk of narcotics as a cross-social and economic threat in Jakarta. In street crime, curamora remains prominent, in addition to the disclosure of cross-regional syndicates (e.g., the Jakarta and Palmerah Police). The measured enforcement throughout 2025 showed a consistent pattern. Two-wheeled vehicles are relatively popular, and certain vulnerable points are the main targets of perpetrators. This indicates the risk of narcotics as a cross-social and economic threat in metropolitan Jakarta. In street crime, motorcycle theft remains prominent, in addition to the disclosure of cross-regional syndicates (e.g., the East Jakarta Metro Police and Palmerah Police). Measured enforcement throughout 2025 showed a consistent pattern, and two-wheeled vehicles that are relatively popular and certain vulnerable points are the main targets of perpetrators (DetikNews, 2025a; Gramedia Post, 2025; WartaKota, 2025). The modus operandi of these crimes includes the physical modification of vehicles, the use of sharp weapons, and specific operating hours (day-evening).

The rise of horizontal crime, especially brawls, remains rampant. Throughout 2025, PMJ recorded ± 440 incidents of group brawls/commotions, often involving young people, illegal racing, and risky behavior (DetikNews, 2025c). Prevention and countermeasures are handled using a combination of regional patrols, school coaching, and enforcement at vulnerable points. This dynamic strengthens the urgency of geospatial modeling to read the rhythm of time (hours-days-seasons) and space (road/village segments) of brawls so that preventive strikes are on target (Ahmad et al., 2024; Dau et al., 2023). In terms of thuggery, during Operation Berantas Jaya 2025 (May 9-23), PMJ secured 3,559–3,599 people, with 348 of them designated as suspects (Okezone, 2025). The majority of extortion actions are the dominant case with the findings of perpetrators under the guise of mass organizations and illegal debt collectors. Throughout the same year, the PMJ Directorate of Criminal Investigation inventoried 250 cases of thuggery with 348 suspects, while emphasizing the effect of enforcement on the city's business and investment climate.

Analytically, the 2025 crime trend emphasizes the concept of criminal concentration in the spatial aspect. The criminology literature on place shows that a small portion of the street segment produces a large portion of criminal incidents, and that this concentration is stable over time, which is formulated as the law of crime concentration (Eck & Weisburd, 1995). Biabani et al. (2023) stated that as many as $\pm 2-6\%$ of road segments accounted for $\pm 50\%$ of crime incidents. Thus, efforts are needed to concentrate resources on productive points to produce optimal prevention effects (Cho & Yuan, 2019). This requires

a strong and consistent framework for police tasks based on the evidence base of hotspot policing (including crime hotspots, crime corridors, and the journey to crime) in compiling the generation of crime concentrations (Brantingham et al., 2020), especially in the jurisdiction of the PMJ. In line with this, in a recent meta-analysis study by Braga et al. (2019), over 65 studies (78 trials) found a significant reduction in crime at treatment sites compared to controls, with the diffusion of benefits being stronger than displacement. In addition, the use of log-RIRR analysis estimated the impact of a decrease in incidents with an average of $\pm 16\%$ after police intervention (Braga & Weisburd, 2022). Therefore, at the operational level, this condition confirms that targeted patrols, selective enforcement, and problem-oriented policing in crime hotspots can reduce crime trends without triggering movement to the surrounding area (Ahmad et al., 2024; Kebede et al., 2024; Pambabay-Calero et al., 2025; Stuckey, 2023; Wan et al., 2025). Currently, the policing approach elaborates on the spatial distribution of crimes that occur (Akintunde et al., 2025), including the use of call center services (Pambudi, 2025) and QGIS software (Bate'e et al., 2025).

Jakarta has led to the strengthening of the digital policy ecosystem. The Jakarta Smart City masterplan document encourages cross-sector data integration, including strengthening public CCTV networks and data lakes that support evidence-based decision-making (Dinas Komunikasi Informatika dan Statistik Pemerintah Provinsi Daerah Jakarta, 2024). Conditions that open up space for real-time geocriminal approaches (LP, crime scene, mode, time) for the optimization of patrol routes and the placement of police posts/CCTV, in line with the needs of police prevention (Roshankar & Keyvanpour, 2025). Therefore, this study seeks to initiate the implementation of policing hotspots in mapping crime in Jakarta. The goal was to produce a geospatial picture of the distribution of crime in Jakarta's jurisdiction. Overall, this crime mapping emphasizes that a location-based strategy is not just an option but a strategic step for PMJ. With the theoretical foundation of the criminology of place and Jakarta's digital ecosystem, the implementation of geospatial-based policing hotspots plays a role in reducing crime, accelerating responses, increasing a sense of security, and playing a role in conducive harkamtibmas.

Notwithstanding this literature, four gaps justify this study. The contextual gap is that Jakarta, the most crime-loaded police jurisdiction in Indonesia, has not been systematically examined using the KDE–SaTScan framework with three consecutive years of official BPS criminal statistics. Most Southeast Asian applications of hotspot policing have focused on Kuala Lumpur (Ahmad et al., 2024), selected Indian metropolitan areas (Saravag & B., 2024), and African capitals (Wan et al., 2025; Kebede et al., 2024). The theoretical gap is that prior Indonesian studies on spatial crime mapping (Sari & Yulianto, 2024; Bate'e et al., 2025; Pambudi, 2025) have treated spatial analysis as a stand-alone technique rather than integrating it explicitly with the criminology of place, RAT, and crime pattern theory — an integration that this study performs. The methodological gap concerns the sequential combination of KDE (persistence) and SaTScan (space-time clustering); most Indonesian applications rely on a single density method, leaving temporary spikes and persistent hotspots conflated in the analysis. This study separates them using a two-stage pipeline with explicit parameter justification. Finally, there is a gap concerning contradictory findings in the community-policing literature: while Koper et al. (2022) and Kochel and Weisburd (2019) argue that partnership-based hotspot policing strengthens collective efficacy, a recent multi-country randomized field trial by Blair et al. (2026) concludes that community policing in the Global South does not reliably build citizen trust or reduce crime. This paper does not resolve that tension but positions its operational recommendations with appropriate epistemic caution, framing community partnership as a supplement, not a substitute, for targeted place-based enforcement.

Accordingly, this study pursues three objectives: (i) to identify and characterize persistent crime hotspots within the jurisdiction of Polda Metro Jaya across 2022–2024 using KDE on BPS-published incident data; (ii) to detect statistically significant space-time clusters per crime category using SaTScan with Monte Carlo inference; and (iii) to translate these results into a structured operational framework that differentiates structural prevention (for persistent hotspots) from rapid response (for space-time spikes), with explicit reference to the mandate of the Mobile Patrol (Resmob) unit. The remainder of the

paper proceeds as follows: section 2 describes the research design and analytical procedures; section 3 presents the empirical findings and discusses them through the lens of the criminology of place; and section 4 concludes with operational implications, limitations, and an agenda for further research.

2. METHOD

2.1. Research Design and Unit of Analysis

This study employs an explanatory-descriptive quantitative spatial design built on secondary administrative data complemented by a criminology-of-place interpretive frame. The design is appropriate because (a) the research questions concern the spatial and temporal distribution of observed events rather than individual-level causal inference, and (b) the data-generating process (police registration aggregated by BPS) is already established, making the study non-experimental in nature. The unit of analysis is the crime incident (*tindak pidana/laporan polisi*), aggregated at two nested levels: (i) the municipality level (*kota administrasi*) for trend comparison across the five administrative cities of Jakarta plus the Thousand Islands (Kepulauan Seribu) regency, and (ii) the micro-location level (road segment/sub-district centroid) for density surface and cluster detection. All nine crime categories defined by the BPS DKI Jakarta were retained to preserve definitional consistency across years.

2.2. Setting, Population, and Sampling

The study setting was the jurisdiction of Polda Metro Jaya, which covers the Special Region of Jakarta. The target population consists of all criminal incidents officially registered by the PMJ and its subordinate Polres units from January 1, 2022, to December 31, 2024, and subsequently published in three consecutive BPS editions ([Badan Pusat Statistik Provinsi DKI Jakarta, 2023](#); [Badan Pusat Statistik Provinsi DKI Jakarta, 2024](#); [Badan Pusat Statistik Provinsi DKI Jakarta, 2025](#)). The sampling approach is a total population (census) approach: all incidents reported in the three BPS editions are included rather than sampled because the research aim is to characterize the full spatial-temporal footprint of the jurisdiction. This yielded a census of 74,462 incidents across the three years (18,583 in 2022, 31,523 in 2023, and 24,356 in 2024). Therefore, a separate statistical sample size justification is not applicable; instead, a power check for SaTScan was conducted via Monte Carlo simulation (≥ 999 replications) to ensure adequate inferential power for cluster detection at $\alpha = 0.05$.

2.3. Inclusion and Exclusion Criteria

The following inclusion criteria were applied: (i) the incident was recorded in the published BPS Crime Statistics editions for 2022, 2023, or 2024 ([Badan Pusat Statistik Provinsi DKI Jakarta, 2023](#); [Badan Pusat Statistik Provinsi DKI Jakarta, 2024](#); [Badan Pusat Statistik Provinsi DKI Jakarta, 2025](#)); (ii) the incident carried a municipality-level identifier; and (iii) the incident was classifiable under at least one of the nine standardized crime categories. Exclusion criteria were applied to maintain cross-year comparability: (a) incidents coded as 'data not available' (*tidak tersedia*) for specific municipality–category cells in the 2022–2023 editions were excluded from the trend figure but retained in the city-level count; (b) the 2024 category of Crimes against Public and State Security (7,538 incidents) was excluded from cross-year comparisons because it had no equivalent in the 2022–2023 editions, although it was discussed separately for single-year interpretation; and (c) Crimes against the Environment (zero recorded incidents in 2024) were excluded as a study variable.

2.4. Data Collection Procedures and Timeline

Data collection was conducted in three stages between January and March 2025. Stage 1 (Extraction): The three BPS Crime Statistics editions were downloaded from the official BPS DKI Jakarta website and cross-verified against the printed PDF editions to ensure fidelity. Stage 2 (Structuring): Tabular data on total crime, crime cleared, and crime rate were transcribed into a single longitudinal spreadsheet indexed by year, municipality, and category. Stage 3 (Geocoding): Because the BPS publishes aggregated totals rather than point-level coordinates, incident counts were allocated to the

centroid of each sub-district (*kelurahan*) using the share of that sub-district's population within its municipality as the initial weighting, then refined with publicly available police post and incident-location records (DetikNews, 2025a; WartaKota, 2025; TribunNews, 2025). Where original crime scene coordinates could be recovered from public reporting, they were used directly. For sensitive categories (particularly Crimes against Morality), coordinates were jittered by a random radius of up to 250 m to prevent the re-identification of victims.

2.5. Analytical Procedures

Two sequential spatial procedures were applied to the data. First, Kernel Density Estimation (KDE) produced a density surface (heatmap) per crime category with the following parameters, which were pre-registered before analysis and justified against prior literature (Hart & Zandbergen, 2014; Mission, 2024): grid cell size 25–100 m; bandwidth 300–600 m for burglary and motor vehicle theft, 400–800 m for non-violent property crime, and 250–500 m for narcotics; edge correction via clipping to the Jakarta administrative polygon with a 100 m buffer; output as a quarterly and semi-annual overlay to identify persistent hotspots. Second, the Space-Time Scan Statistic (SaTScan) was applied (Kulldorff, 1997) using a discrete Poisson model with a maximum spatial radius of 500–1,500 m per crime type, time aggregation at the month level, and a minimum temporal cluster size of one month. Statistical significance was evaluated using 999 Monte Carlo replications at $\alpha = 0.05$. All spatial processing was performed in QGIS 3.34 (Bate'e et al., 2025), with KDE computed using the Heatmap plugin and SaTScan run via the official SaTScan v10.1 software.

2.6. Bias Minimization and Methodological Safeguards

Four known sources of bias were explicitly addressed. Under-reporting bias (offences not reported to police) was acknowledged and mitigated by triangulating trend interpretation with the crime rate indicator, which uses population as the denominator, rather than relying solely on absolute counts. The definitional-drift bias arising from the 2024 recategorization by BPS was managed through the explicit exclusion rules described in Section 2.3 and by footnoting any affected series. Geocoding-uncertainty bias, inherent to the centroid allocation of aggregated totals, was mitigated through a parameter-sensitivity check: KDE was re-run at bandwidths 20% above and below the baseline, and SaTScan was re-run at the minimum and maximum spatial radii. Clusters were retained only if they appeared in all three iterations. Researcher-confirmation bias was mitigated by pre-registering parameter ranges before inspecting output surfaces and limiting the interpretation to incident categories with ≥ 100 cases per year, below which density estimates become unstable. All analyses were conducted by the author between March and May 2025; no data were revised a posteriori.

3. RESULTS AND DISCUSSION

3.1. Result

This analysis departs from three publications of Jakarta Crime Statistics in 2022, 2023, and 2024. All three contain standard indicators, namely the number of incidents (total crime), the number of solved (crime cleared), and the crime rate, with incident data sourced from PMJ/Polres registration. In 2024, the BPS will also integrate the Pusiknas Polri feed (period 1 January-31 December 2024), so that the time resolution and category expansion are more comprehensive than in the previous edition. In the 2022–2023 publication, the BPS emphasized that there are differences in the coverage and availability of data according to cities for several types of crimes (for example, the record “data not available” in certain sub-chapters). Therefore, the results used in this study are presented with methodological notes, with an emphasis on provincial indicators and crime groups that are defined consistently.

Crime trends from 2022 to 2024 fluctuated, with the highest number in 2023. Figure 1 shows an overview of the provincial total crime and the number of crimes cleared in the last three years. In 2022, there were 18,583 incidents with 15,562 cases resolved; in 2023, the burden rose to 31,523 incidents with 22,453 cases resolved; and in 2024, it decreased to 24,356 incidents with 18,311 resolved. In other words,

after the 2023 surge, the number of crimes in 2024 is relatively lower than in 2023, while the settlement performance is back closer to the dynamics of the burden (the ratio of crime cleared to total improved compared to the peak year). In 2023, the crime rate was recorded at 295, lower than 574 in 2022 and 221 in 2024. The data indicate that although there was a spike in total crime in 2023, the risk indicator was relatively lower than in 2022 and continued to decline in 2024. In other words, these fluctuations are closely related to the dynamics of population denominations and data coverage for the current year. These findings confirm the importance of understanding total crime alongside crime rate and crime cleared to obtain a proportionate picture of risk.

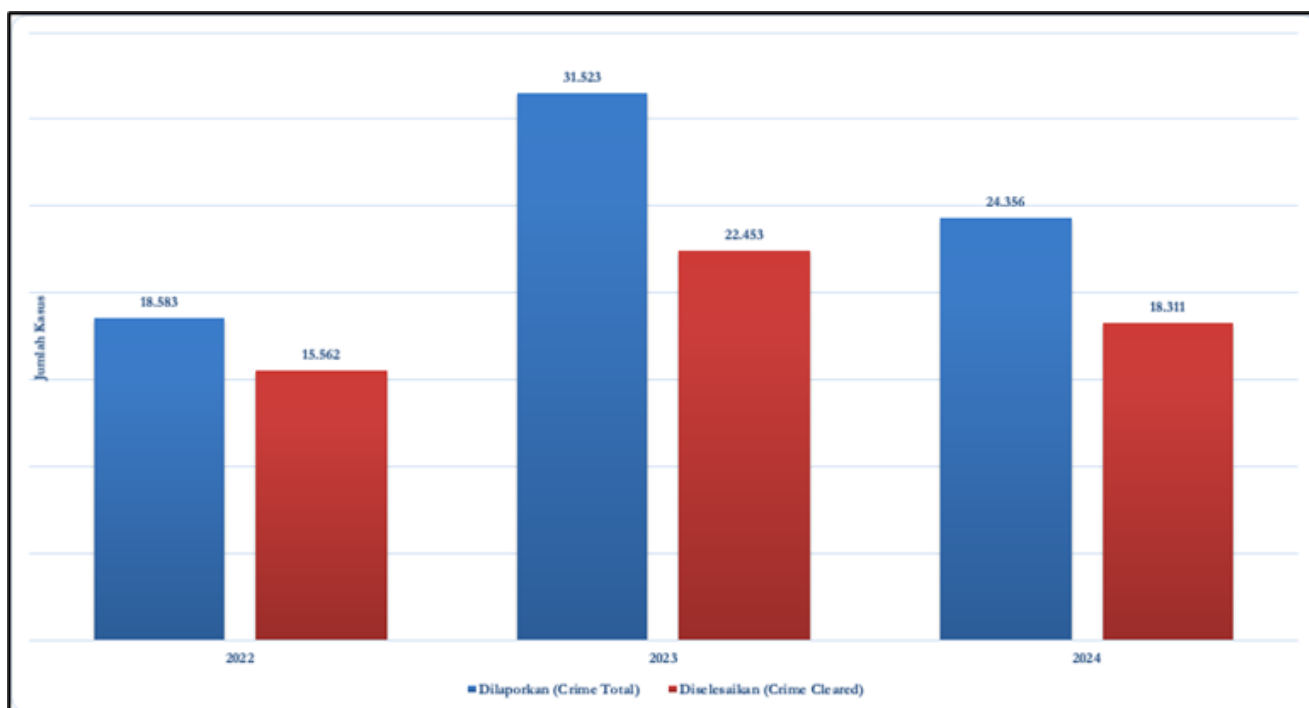


Figure 1. Comparison of *Total Crime* and *Crime Cleared* in 2022–2024

Source: Processed from [Badan Pusat Statistik Provinsi DKI Jakarta \(2023\)](#), [Badan Pusat Statistik Provinsi DKI Jakarta \(2024\)](#), and [Badan Pusat Statistik Provinsi DKI Jakarta \(2025\)](#)

Cumulatively, based on [Figure 1](#), the total crime shows two phases: increasing and decreasing. The increase phase was in 2022, with 18,583 cases, then jumped in 2023 to 31,523. Furthermore, the phase decreased in 2024 to 24,356 cases. Referring to the same data, crime cleared moved from 15,562 (2022) to 22,453 (2023) and 18,311 (2024). In other words, after the increase in 2023, 2024 marks a downward phase, although it remains above the 2022 incident. Meanwhile, the performance of crime cleared again reduced the gap between the dynamics of total crimes. The researcher examined that the crime rate indicator decreased from 574 (2022) to 295 (2023) and 221 (2024). In other words, although 2023 experienced a spike in total crime, the risk of security threats to the population decreased compared to 2022. Until it drops again in 2024, which implies that the interpretation of fluctuations should always consider the population denominator and the character of the data source (including police registration that has the potential to be under-reporting).

Furthermore, the distribution of criminal acts according to their categorization is presented in [Figure 2](#). The first category, Crimes against Life, is relatively low but raises concerns because it is stable at 24 (2022), 22 (2023), and 23 (2024). Small fluctuations indicate that these most serious crimes in hierarchical volume do not drive total dynamics but demand a strong investigative capacity and are sensitive to evidence due to the very high weight of individual security and morality ([Bunga & Sari, 2024](#)). The second category, Crimes against Physical/Bodies, showed a continuous increase from 1,088 (2022) to 1,671 (2023) and continued to increase to 1,717 (2024). This increase is consistent with the

phenomenon of non-lethal violence (such as persecution, domestic violence, rape, and threats), which is often localized in places with dense social activities and unequal supervision (Idris et al., 2023). The third category, Crimes against Morality, fell in 2023 (from 92 to 49 cases), but in 2024, it will rise again to 108. Operationally, this sensitive category requires safe reporting governance for victims and integrated service support. From a spatial perspective, incidents often intersect with private/semi-private spaces; therefore, prevention strategies rely on friendly reporting channels and strengthening institutional/community guardians (not just visible patrols). It is necessary to carefully read the change in numbers because the proportion of victims who report is greatly influenced by access to services and the reporting culture (Tuharyati & Khulaivah, 2025).

Furthermore, the fourth category is Crimes against the Independence of Persons, which recorded 20 cases and in 2023 12 cases; however, 2024 is not presented as a separate domain due to recategorization. Therefore, implicitly, the policy continues to investigate cases of kidnapping/exploitation through internal crime scene microdata (Fajar & Priscyllia, 2025). The fifth category, Crimes against Property/Property with relatively minor violence, tends to decrease in 2024 (158 cases), from 225 cases in 2023 and 208 cases in 2022. The 2024 decline can be observed as a result of a combination of sharper crackdowns on violent offenders, the effect of increased visibility of officers in vulnerable corridors, and a possible shift in the mode to non-violent theft or deception-based crime (see the increase in related categories) (Lumowa, 2024). However, this requires micro data analysis to determine the trend of the substitution mode. The sixth category is Crimes against Property Rights/Non-violent Goods as the main support for Jakarta's crime statistics. This figure rose sharply in 2023, from 3,095 to 6,114 cases, and then decreased in 2024, but remained high (4,916). The character of "non-violent" crime, in the scope of ordinary theft to theft, is related to the opportunity structure, ranging from unguarded open parking, poor lighting, quick entry-exit access, and the agglomeration of activities. From the perspective of policing, according to Piza et al. (2019), this category is closely related to policing hotspots for repetitive micro-locations as well as situational prevention (environmental engineering, CCTV, target-hardening, parking control).

The seventh category of narcotics-related crimes indicates an upward trend from 2,425 cases in 2022 to 3,017 cases in 2023, with a surge of 3,890 cases in 2024. The increase in 2024 indicates that the supply retail dimension and movements in transit/dense settlement nodes are relevant. Tactically, the shift from actor-based operations to spot control has the potential to close the environmental loopholes that facilitate circulation. This step can strengthen the results of the network action. The integration of field operations with hotspot mapping (for a specific weekly or hourly rhythm) is crucial (Curtis et al., 2016). In the eighth category, crimes related to fraud/embezzlement/corruption have a vital impact, being the largest contributor, from 3,901 cases in 2022 to 6,091 cases in 2023 to 5,820 cases in 2024. This pattern reflects the pressure of urban economic crime, which often intersects with digital channels and transaction relationships. In terms of prevention, the strategy cannot only be reactive; it needs risk education at the point of transaction, payment system security, and institutional guardians (retail/banking/service providers) (Sharif & Mohammed, 2022). In terms of enforcement, digital forensic collaboration and follow-the-money strategies are decisive. Finally, the ninth category, Crimes against Public Order, rose in 2023 to 192 cases from 2022 (83 cases) and remained relatively high in 2024 (186). Although its contribution to total crime is not significant, it has been stable since 2023, which indicates the need for consistent public space governance (enforcement of order rules or management of crowd activities) and cross-functional coordination (Satpol PP, Dishub) so that security disturbances do not shift into opportunities for other crimes (Chainey, 2013; Hart & Zandbergen, 2014).

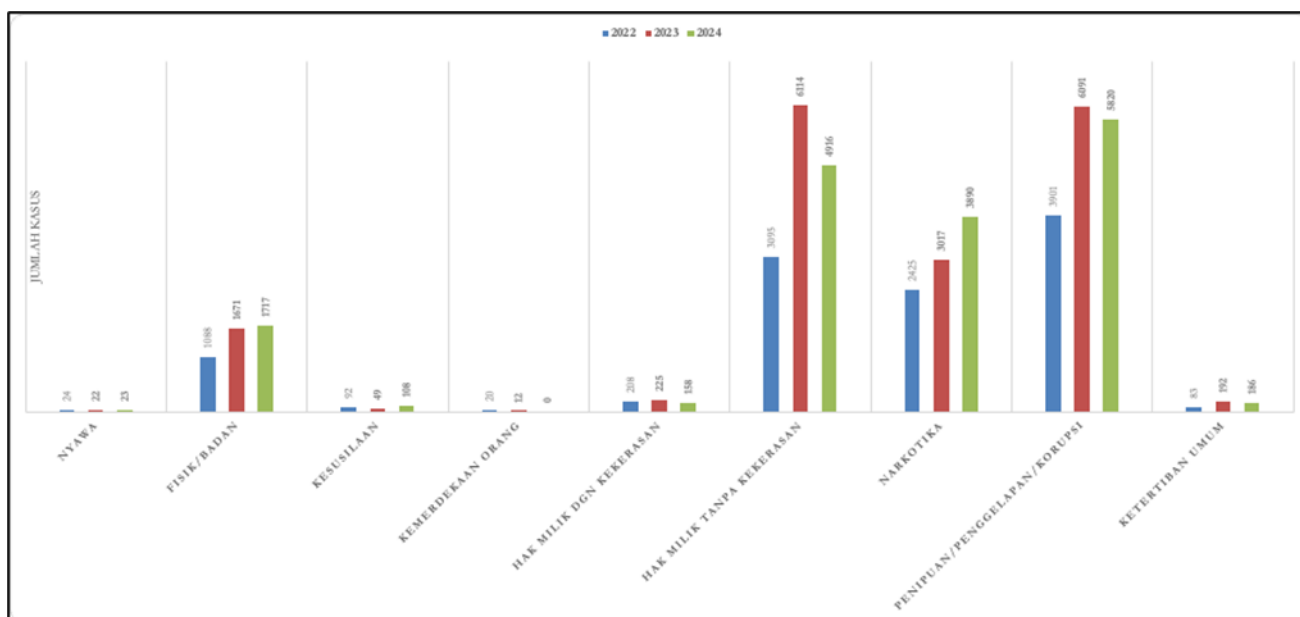


Figure 2. Comparison of Types of Crime in 2022 – 2024

Source: Processed from [Badan Pusat Statistik Provinsi DKI Jakarta \(2023\)](#), [Badan Pusat Statistik Provinsi DKI Jakarta \(2024\)](#), and [Badan Pusat Statistik Provinsi DKI Jakarta \(2025\)](#)

For the record, in the 2024 Crime Statistics, there are categories of Crimes against Public and State Security and Crimes against the Environment. Ironically, the type of crime against public and state security is relatively high (7,538 cases) because it includes incidents that endanger public safety (including traffic accidents in a certain scope). Because this category has no equivalent in the 2022–2023 Crime Statistics, the researchers did not include it in the cross-year comparison. However, for single-year analysis, this type of category is significant for the public safety agenda and coordination with urban stakeholders. Meanwhile, Crimes against the Environment will be recorded as 0 in 2024, so it will not be a variable study.

3.2. Discussion

Crimes against Property/Property, non-violent (e.g., theft/theft) are consistently the largest crime rate in Jakarta in 2022–2024, especially in South and East Jakarta. This pattern is common in metropolitan areas where crime opportunities form in micro-locations that offer viable targets, quick exits, and weak guarding (e.g., open parking, driveways, and retail pockets); therefore, prevention strategies that focus on place management tend to have the greatest impact. To identify areas that are consistently persistent hotspots, this study emphasized the use of KDE. KDE converts a set of crime scene points into an easy-to-read density surface to determine the priority of an area at the scale of a road segment. Methodologically, bandwidth selection is key because it affects predictive accuracy to ensure that density maps capture repetitive patterns and not just visual imagery ([Hart & Zandbergen, 2014](#)). Based on the KDE map, the intervention was directed at repetitive short-duration patrols (to improve capable guardianship) and environmental engineering. The addition of lighting, parking arrangements, closure of access gaps/lanes, and installation of CCTV are aimed at reducing the chances and increasing the probability of security at the most productive point of producing incidents ([Senna et al., 2025](#)) (see [Figure 3](#)).

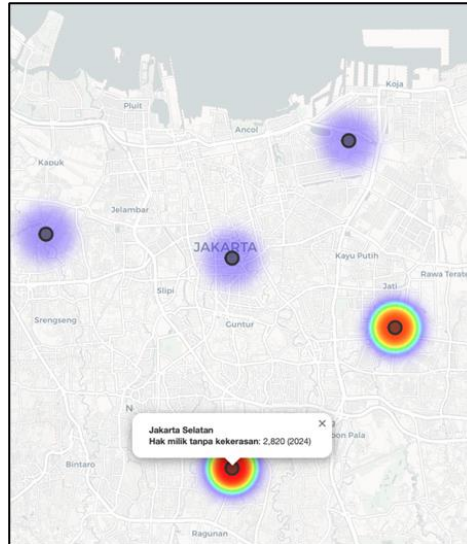


Figure 3. Crime Hotspot Category Crimes against Property/Property Rights

Source: Processed from [Badan Pusat Statistik Provinsi DKI Jakarta \(2024\)](#) with KDE and SaTScan methods

The next discussion is related to the category of crimes related to fraud/embezzlement/corruption, which is classified as very high compared to other types. Given its nature, which often intersects with economic transactions and digital channels, prevention policies cannot rely solely on the physical presence of PMJ personnel. In the digital era, capable guardians are needed who work as “place guards,” such as shopping center managers, banks, or payment service providers, to strengthen know-your-customer procedures, fraud risk education, and transaction security standards at vulnerable points (counters, ATMs, merchants at risk) ([Dwinugroho, 2024](#)). Aligning with the study of [Kolhe and Bhat \(2024\)](#), cyber investigation and digital forensics must be integrated with field operations to trace the mode and flow of funds across regions. Geospatially, the KDE remains useful for marking corridors of economic activity with a high concentration of cases as a priority. For brief spikes on certain days/hours (e.g., during peak transactions), space-time scanning with SaTScan can uncover significant clusters that require simultaneous reinforcement of surveillance and thematic operations at multiple transaction points in a single corridor to integrate situational prevention-based enforcement ([Makarenkov & Kosa, 2024](#)) (see [Figure 4](#)).

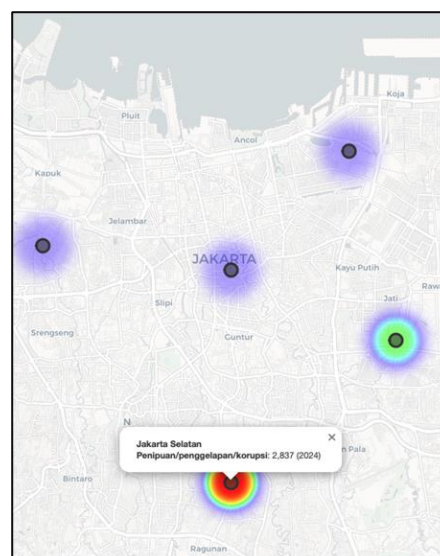


Figure 4. Crime Hotspot Category Crimes related to Fraud/Embezzlement/Corruption

Source: Processed from [Badan Pusat Statistik Provinsi DKI Jakarta \(2024\)](#) with KDE and SaTScan methods

The other highest type of crime categorization is Narcotics-related Crimes, which shows an upward trend. Spatially, occurrences tend to be associated with transit nodes (terminals, stations, modal exchange areas) and dense settlements that provide shelter and a flow of people. In this context, the KDE is used to map the axis of vulnerability (repetitive corridors/road segments appear), while SaTScan can be aimed at reading the rhythm of space-time—peak days and hours in a given corridor—so that the schedule of operations and personnel allocation can be adapted ([Santana-Arias et al., 2021](#)). This combination helps to separate crime hotspots by strengthening place management, which is effectively handled with scheduled quick operations (sweeping, sting operations, or random hotspot policing) ([Lin et al., 2023](#)).

Criminological research in the last two decades has shown that crime is highly concentrated in a small fraction of micro-locations (e.g., street segments) and that this degree of concentration tends to be stable over time. [Jones and Pridemore \(2019\)](#) formulated this condition as "The Law of Crime Concentration" in many big cities, namely around 2-6% of the road segment accounts for $\pm 50\%$ of incidents, while 0.4-1.6% of the segment accounts for $\pm 25\%$ of incidents. This stability makes prevention that focuses on micro-locations much more efficient than an evenly spread approach. Conceptually, criminology of place seeks to focus on the analysis and resources on the dimension of location as the main empirical unit for understanding and controlling crime ([Stutzenberger, 2016](#)). The stability of such micro-locations can be read as an expression of the routine activity theory (RAT) of crime occurring when motivated perpetrators, decent targets, and the absence of effective guards meet at the same time and place. Changes in daily routines, working hours, mobility, and shopping patterns play a role in changing certain types of crime ([Flores & Cuevas, 2023](#)). According to [Benson \(2021\)](#), based on the opportunity situation, RAT explains the vulnerability of retail locations, open parking lots, through lanes, transit nodes, and certain hours that repeatedly appear as crime hotspots, even though the perpetrators and victims change. In other words, managing the place and time means managing opportunities. This spatial dimension is further detailed in the crime pattern theory. The structure of a city (node–path–edge) creates an awareness space for the perpetrator. Understanding nodes, paths, and edges creates crime generators/attractors that increase the chances of crime occurrence in certain regions ([Wickremasinghe & Kaluthanthri, 2021](#)). Thus, it can be understood that hotspot policing becomes a concrete spatial intervention in strengthening guarding at nodes, slowing or rerouting movement in paths, and closing gaps at edges.

The optimization of policing hotspots is strengthened by decentralized and problem-solving community partnership programs and the PMJ. The goal is to reduce the trend of crime and fear of crime when priorities are set together, communication channels are opened, and cross-agency collaboration is strengthened. Within the framework of hotspot policing, this partnership presents crime prevention for retail managers, transit operators, and building management with the presence of police through transaction security, early warning, and venue surveillance ([Koper et al., 2022](#)). As a result, effective guardianship is not just a patrol product but a co-production with the party who manages the risky place ([Blair et al., 2026](#)).

To turn event data into operational priority, the researcher uses KDE and SaTScan. The goal is to distinguish persistent hotspots (for structural prevention) from temporary spikes (for a rapid response). Empirically, [Kochel and Weisburd \(2019\)](#) found that policing hotspots can significantly reduce crime. Instead of moving the problem by generating diffusion of benefits around the target location, hotspot policing can reduce the potential for crime by optimizing the role of mobile reserves. Therefore, hotspot policing based on the criminology of place, RAT, and crime pattern theory, with the support of community policing, can produce a strategy formulation for action paths that are right on target, measurable, and accountable for Resmob PMJ. With KDE for persistence and SaTScan for space-time spikes, this strategy is not just "pattern reading," but systematically closes opportunities right where and when they matter most.

However, it should be emphasized that the effectiveness of risk maps is highly dependent on the quality of geocoding and the choice of parameters (especially bandwidth in KDE). Thus, the details of the policing hotspots must be tested for parameter sensitivity in each batch of analyses. In addition, sensitive categories, such as Crimes against Morality, require disguised coordinates (small jitters), and the results are published at the segment/corridor resolution. This is intended so that SaTScan results can be presented in a fairly general time span to prevent secondary harm to the victim/community.

4. CONCLUSION

Crime in Jakarta during 2022–2024 shows a highly concentrated pattern based on municipality type and location and tends to be stable across certain time periods. Thus, concentrating resources on crime hotspots is more scientifically efficient than an evenly spread approach. As in the criminology of place and law of crime concentration approaches, the role of Resmob is to target priority locations, not uniform large areas. The dynamics of crime trends spiked in 2023 and were corrected in 2024, but still showed trends in three categories: Crimes against Non-Violent Property Rights, Crimes related to Fraud/embezzlement/corruption, and Crimes related to narcotics at the highest level. On the other hand, the recategorization of 2024 requires prudence of comparability and making BPS crime data as a policy baseline, which is further concentrated in internal geocoded policing hotspots for micro-location decisions (segments/hours) in supporting the Precision Police program. At the level of strategic analysis, it is emphasized that managing vulnerable locations and time rhythms is as important as taking action against perpetrators.

Therefore, in the implementation aspect, this plays a vital role for Resmob PMJ to have two tactical lenses, namely structural prevention at fixed spectral points and rapid response to temporary spikes. Studies have shown that policing hotspots significantly reduces crime. The implementation of the Resmob PMJ policing hotspot strategy is formulated based on the type per category, following the logic of the perpetrator's opportunities. This is strengthened by community policing, which places the collaboration of residents and PMJ personnel to maintain the legitimacy and effectiveness of public security and order. Finally, by combining BPS data as a baseline and LP/TKP geocoded internally (operational), the comprehensive implementation of KDE-SaTScan has the potential to improve the performance of Resmob PMJ through pattern mapping to close opportunities at the most decisive time and place. Conditions that indicate the synergy of the Asta Cita program pillar 7 in “Political, Legal, and Bureaucratic Reform and Corruption and Drug Eradication The government is committed to reforms in the political, legal, and bureaucratic fields to increase transparency and accountability. In addition, efforts to eradicate corruption and drugs will be strengthened through firm and collaborative law enforcement” as a scalable, accountable, and sustainable architecture of Polri Presisi.

Ethical Approval

Not Applicable

Informed Consent Statement

Not Applicable

Contributions of Authors

Not Applicable

Disclosure Statement

The Author declares no conflict of interest.

Data Availability Statement

The data presented in this study are available on request from the corresponding author due to privacy reasons.

Funding

This study did not receive any external funding.

Notes on Contributors

Resa Fiardi Marasabessy

<https://orcid.org/0009-0006-6337-9929>

Resa Fiardi Marasabessy, B.S.C., S.I.K., M.Si. is a Police Officer (AKBP) who currently serves as the Head of the Sub-Directorate of Resmob Ditreskrim Polda Metro Jaya, Jakarta. Having a comprehensive educational background in the field of Police Science and Science, he focuses on the integration of Scientific Crime Investigation (SCI) in handling violent and street crimes. As a practitioner who leads tactical units in metropolitan areas, Resa has a deep interest in Forensic Criminology and Investigation Management. Currently, he is actively developing research related to the transformation of the National Police's investigation culture towards an evidence-based policing approach to support precise and humanist law enforcement. One of his publications is titled "Implementasi Intelligence-Led Policing dalam Penanggulangan Kejahatan Urban: Studi Kasus Subdit Resmob Direskrim Polda Metro Jaya" accessible through <https://doi.org/10.37817/ikraith-humaniora.v9i3>.

REFERENCES

- Ahmad, A., Masron, T., Junaini, S. N., Barawi, M. H., Redzuan, M. S., Kimura, Y., Jubit, N., Bismelah, L. H., & Ali, A. S. M. (2024). Criminological insights: A comprehensive spatial analysis of crime hot spots of property offenses in Malaysia's urban centers. *Forum Geografi*, 38(1), 94–109. <https://doi.org/10.23917/forgeo.v38i1.4306>
- Akintunde, E. A., Magnus, C. I., Akintunde, C. A., & Akintunde, J. A. (2025). Spatial distribution of crime incidence and prevalence within students' residential areas: A hotspot analysis. *African Journal of Geographical Sciences (AJGS)*, 6(2), 27–38. <https://doi.org/10.5281/zenodo.15726650>
- ANTARA. (2025, December 31). Polda Metro Jaya ungkap 3,291 ton narkoba. <https://www.antaranews.com/berita/5328514/polda-metro-jaya-ungkap-3291-ton-narkoba>
- Badan Pusat Statistik Provinsi DKI Jakarta. (2023). *Statistik kriminalitas Provinsi DKI Jakarta 2022 (Crime statistics of DKI Jakarta Province 2022)*. <https://jakarta.bps.go.id/id/publication/2023/09/20/0584f8688e0f27279794c8d2/statistik-kriminalitas-provinsi-dki-jakarta-2022.html>
- Badan Pusat Statistik Provinsi DKI Jakarta. (2024). *Statistik kriminalitas Provinsi DKI Jakarta 2023 (Crime statistics of DKI Jakarta Province 2023)*. <https://jakarta.bps.go.id/id/publication/2024/09/30/45a0b7f6a6430b037f9f8817/statistik-kriminalitas-provinsi-dki-jakarta-2023.html>
- Badan Pusat Statistik Provinsi DKI Jakarta. (2025). *Statistik kriminalitas Provinsi DKI Jakarta 2024 (Crime statistics of DKI Jakarta Province 2024)*. <https://jakarta.bps.go.id/id/publication/2025/09/29/242c35e5fbc101c92cf46f14/statistik-kriminalitas-provinsi-dki-jakarta-2024.html>
- Bate'e, W. E., Marbun, S. F., Damanik, M. R. S., & Astuti, A. J. D. (2025). Pemetaan daerah rawan kriminalitas di Kota Medan menggunakan perangkat lunak QGIS (Mapping crime-prone areas in Medan using QGIS software). *Mudabbir: Journal Research and Education Studies*, 5(2), 3244–3251. <https://doi.org/10.56832/mudabbir.v5i2.1911>

- Benson, B. (2021). The use of routine activities theory on policing informal settlements in the Global South. *South African Geographical Journal*, 103(4), 425–442. <https://doi.org/10.1080/03736245.2020.1835702>
- Biabani, M., Behzadpour, M., Kalantari, M., & Jalali, M. R. (2023). A theoretical analysis of the concept of place and place management in a new approach to criminology of place. *The Monthly Scientific Journal of Bagh-e Nazar*, 20(122), 81–96. <https://doi.org/10.22034/bagh.2023.350104.5223>
- Blair, G., Weinstein, J. M., Christia, F., Arias, E., Badran, E., Blair, R. A., Cheema, A., Farooqui, A., Fetzer, T., Grossman, G., Haim, D., Hameed, Z., Hanson, R., Hasanain, A., Kronick, D., Morse, B. S., Muggah, R., Nadeem, F., Tsai, L. L., & Wilke, A. M. (2021). Community policing does not build citizen trust in police or reduce crime in the Global South. *Science*, 374(6571), Article eabd3446. <https://doi.org/10.1126/science.abd3446>
- Braga, A. A., Turchan, B. S., Papachristos, A. V., & Hureau, D. M. (2019). Hot spots policing and crime reduction: An update of an ongoing systematic review and meta-analysis. *Journal of Experimental Criminology*, 15(3), 289–311. <https://doi.org/10.1007/s11292-019-09372-3>
- Braga, A. A., & Weisburd, D. L. (2022). Does hot spots policing have meaningful impacts on crime? Findings from an alternative approach to estimating effect sizes from place-based program evaluations. *Journal of Quantitative Criminology*, 38(1), 1–22. <https://doi.org/10.1007/s10940-020-09481-7>
- Brantingham, P. J., Brantingham, P. L., Song, J., & Spicer, V. (2020). Crime hot spots, crime corridors and the journey to crime: An expanded theoretical model of the generation of crime concentrations. In K. M. Lersch & J. Chakraborty (Eds.), *Geographies of behavioural health, crime, and disorder: The intersection of social problems and place* (pp. 61–86). Springer. https://doi.org/10.1007/978-3-030-33467-3_4
- Bunga, D., & Sari, N. P. D. (2024). Tindak pidana pembunuhan dalam delik kejahatan terhadap nyawa (kajian terhadap unsur kesengajaan dengan alasan pembelaan diri) (The criminal act of murder as an offense against life: A study of intent and self-defense). *Satya Dharma: Jurnal Ilmu Hukum*, 7(1), 311–331. <https://doi.org/10.33363/sd.v7i1.1242>
- Chainey, S., & Ratcliffe, J. (2005). *GIS and crime mapping*. John Wiley & Sons. <https://doi.org/10.1002/9781118685181>
- Cho, S., & Yuan, M. (2019). Placial analysis of events: A case study on criminological places. *Cartography and Geographic Information Science*, 46(6), 547–566. <https://doi.org/10.1080/15230406.2019.1578265>
- Curtis, A., Curtis, J. W., Porter, L. C., Jefferis, E., & Shook, E. (2016). Context and spatial nuance inside a neighborhood's drug hotspot: Implications for the crime–health nexus. *Annals of the American Association of Geographers*, 106(4), 819–836. <https://doi.org/10.1080/24694452.2016.1164582>
- Dau, P. M., Vandeviver, C., Dewinter, M., Witlox, F., & Vander Beken, T. (2023). Policing directions: A systematic review on the effectiveness of police presence. *European Journal on Criminal Policy and Research*, 29(2), 191–225. <https://doi.org/10.1007/s10610-021-09500-8>
- DetikNews. (2025a, September 14). Polisi tangkap 5 sindikat curanmor di Jakarta, 12 motor dan senpi diamankan. <https://news.detik.com/berita/d-8110941/polisi-tangkap-5-sindikata-curanmor-di-jakarta-12-motor-senpi-diamankan>
- DetikNews. (2025b, December 31). Polda Metro terima 74 ribu laporan polisi di 2025, tertinggi se-Indonesia. <https://news.detik.com/berita/d-8285604/polda-metro-terima-74-ribu-laporan-polisi-di-2025-tertinggi-se-indonesia>
- DetikNews. (2025c, December 31). Ratusan tawuran terjadi di 2025, Polda Metro optimalkan layanan 110. <https://news.detik.com/berita/d-8285630/ratusan-tawuran-terjadi-di-2025-polda-metro-optimalkan-layanan-110>
- Dinas Komunikasi, Informatika dan Statistik Pemerintah Provinsi DKI Jakarta. (2024). *Master plan buku 2: Rencana pembangunan Jakarta sebagai kota cerdas berskala global 2025–2029 (Master Plan Book 2: Development plan for Jakarta as a global-scale smart city 2025–2029)*. <https://smartcity.jakarta.go.id/id/dokumen/>

- Dwinugroho, Y. B. (2024). Transformation strategy: Indonesian National Police in coordinating crime in the digital era. *International Journal of Integrated Science and Technology*, 2(5), 374–383. <https://doi.org/10.59890/ijist.v2i5.1904>
- Eck, J. E., & Weisburd, D. L. (1995). Crime places in crime theory. In J. E. Eck & D. L. Weisburd (Eds.), *Crime and place* (Crime Prevention Studies, Vol. 4, pp. 1–33). Willow Tree Press. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2629856
- Fajar, N. M. A. P., & Priscyllia, F. (2025). Kebijakan hukum nasional dalam mengatasi eksploitasi anak di bidang perdagangan dan jasa (National legal policy in overcoming child exploitation in trade and services). *Jurnal Yustitia*, 20(1), 59–66. <https://doi.org/10.62279/yustitia.v20i1.1458>
- Flores, V. D. J., & Cuevas, U. V. J. G. (2023). El robo de autos en Reynosa: análisis espacial desde la teoría de las actividades rutinarias y del patrón del crimen. *Frontera Norte*, 35, Article e2324. <https://doi.org/10.33679/rfn.v1i1.2324>
- Gramedia Post. (2025, September 17). Polisi bongkar sindikat curanmor di Matraman, puluhan motor diamankan. <https://www.gramediapost.com/2025/09/polisi-gerak-cepat-bongkar-sindikaturanmor-di-matraman-puluhan-motor-diamankan/>
- Hart, T. C., & Zandbergen, P. A. (2014). Kernel density estimation and hotspot mapping: Examining the influence of interpolation method, grid cell size, and bandwidth on crime forecasting. *Policing: An International Journal of Police Strategies & Management*, 37(2), 305–323. <https://doi.org/10.1108/PIJPSM-04-2013-0039>
- Idris, I., Ridwan, A., Purwanti, N., Nikmatul Ula, S. N., & Nurjannah, S. (2023). Analisis upaya perlindungan terhadap korban kekerasan dalam rumah tangga khususnya perempuan dan anak (Analysis of protection efforts for victims of domestic violence, especially women and children). *Jurnal Sains dan Teknologi*, 5(1), 489–492. <https://doi.org/10.55338/saintek.v5i1.1651>
- Jones, R. W., & Pridemore, W. A. (2019). Toward an integrated multilevel theory of crime at place: Routine activities, social disorganization, and the law of crime concentration. *Journal of Quantitative Criminology*, 35(3), 543–572. <https://doi.org/10.1007/s10940-018-9397-6>
- Kebede, H. A., Assen, M. M., & Sharew, M. A. (2024). *Crime hotspot analysis and mapping using geospatial technology in Dessie City, Ethiopia*. arXiv. <https://arxiv.org/abs/2501.00036>
- Kochel, T. R. & Weisburd, D. (2019). The impact of hot spots policing on collective efficacy: Findings from a randomized field trial. *Justice Quarterly*, 36(5), 900–928. <https://doi.org/10.1080/07418825.2018.1465579>
- Kolhe, D., & Bhat, A. (2024). Crime and fraud at the community level: Social networking understanding into economic crimes and psychology motivations. *Journal of Social Sciences and Economics*, 3(2), 109–128. <https://doi.org/10.61363/g0kb2s44>
- Koper, C. S., Taylor, B. G., Liu, W., & Wu, X. (2022). Police activities and community views of police in crime hot spots. *Justice Quarterly*, 39(7), 1400–1427. <https://doi.org/10.1080/07418825.2022.2111325>
- Kulldorff, M. (1997). A spatial scan statistic. *Communications in Statistics - Theory and Methods*, 26(6), 1481–1496. <https://doi.org/10.1080/03610929708831995>
- Lin, Q., Aguilera, J. A. R., Williams, L. D., Mackesy-Amiti, M. E., Latkin, C., Pineros, J., Kolak, M., & Boodram, B. (2023). Social-spatial network structures among young urban and suburban persons who inject drugs in a large metropolitan area. *International Journal of Drug Policy*, 122, Article 104217. <https://doi.org/10.1016/j.drugpo.2023.104217>
- Lumowa, S. A. D. (2024). Perlindungan hukum terhadap korban tindak pidana pencurian dengan kekerasan dalam perspektif Undang-Undang Nomor 39 Tahun 1999 tentang hak asasi manusia (Legal protection for victims of violent theft from the perspective of Law Number 39 of 1999 on human rights). *Lex Privatum*, 14(1), 1–13. <https://ejournal.unsrat.ac.id/v3/index.php/lexprivatum/article/view/58155>
- Makarenkov, O., & Kosa, V. (2024). Forensic technique for identifying corruption challenges to national security through digital technologies. *Baltic Journal of Economic Studies*, 10(4), 288–300. <https://doi.org/10.30525/2256-0742/2024-10-4-288-300>

- Media Indonesia. (2025, December 31). Polda Metro Jaya terima 74.013 laporan sepanjang 2025, tertinggi nasional. <https://mediaindonesia.com/megapolitan/845502/polda-metro-jaya-terima-74013-laporan-sepanjang-2025-tertinggi-nasional>
- Mission, R. S. (2024). Spatial analysis leveraging geographic information system and kernel density estimation for crime prediction. *Journal of Innovative Technology Convergence*, 6(1), 95–104. <https://doi.org/10.69478/JITC2024v6n2a10>
- Okezone. (2025, December 31). Polda Metro tangkap 348 tersangka premanisme sepanjang 2025. <https://news.okezone.com/read/2025/12/31/338/3192898/polda-metro-tangkap-348-tersangka-premanisme-sepanjang-2025>
- Pambabay-Calero, J., Bauz-Olvera, S., Scott-Macías, O., Luzuriaga Cedeño, P., Galindo-Villardón, P., & Galindo-, P. (2025). Urban shadows in Latin America: Detection of crime hotspots using multivariate, geospatial, and Neutrosophic Analytic Hierarchy Process (NAHP) analytical techniques. *Neutrosophic Sets and Systems*, 92, 235–251. https://digitalrepository.unm.edu/nss_journal/vol92/iss1/20/
- Pambudi, R. W. A. (2025). Optimalisasi kontribusi data Call Center 110 dalam mendukung pemolisian prediktif pada era Police 4.0 di wilayah hukum Polda Metro Jaya (Optimizing the contribution of Call Center 110 data in supporting predictive policing in the Police 4.0 era in the jurisdiction of Polda Metro Jaya). *Brand Communication*, 4(1), 106–121. <https://jurnalprisanicendekia.com/index.php/jbc/issue/view/33>
- Piza, E. L., Welsh, B. C., Farrington, D. P., & Thomas, A. L. (2019). CCTV surveillance for crime prevention. *Criminology & Public Policy*, 18(1), 135–159. <https://doi.org/10.1111/1745-9133.12419>
- Roshankar, R., & Keyvanpour, M. R. (2025). GeoCrime analytic framework (G.C.A.F.): A comprehensive framework for dynamic spatial temporal crime analysis. *Applied Spatial Analysis and Policy*, 18(1), Article 33. <https://doi.org/10.1007/s12061-025-09640-y>
- Santana-Arias, R., George, T. S., Padrón-Salas, A., Sanjuan-Meza, X. S., Landeros-Olvera, E. A., & Cossío-Torres, P. E. (2021). The relationship between density of drug outlets, crime hot spots and family factors on the consumption of drugs and delinquent behaviour of male adolescent Mexican students. *Social Science & Medicine*, 279, Article 113985. <https://doi.org/10.1016/j.socscimed.2021.113985>
- Saravag, P. K., & B., R. K. (2024). An application of scan statistics in identification and analysis of hotspot of crime against women in Rajasthan, India. *Applied Spatial Analysis and Policy*, 17(3), 963–982. <https://doi.org/10.1007/s12061-024-09572-z>
- Sari, T. N. S., & Yulianto, S. (2024). Analisis metode spasial untuk menentukan faktor-faktor yang mempengaruhi kriminalitas pada Provinsi Jawa Timur tahun 2022 (Spatial method analysis to determine factors affecting crime in East Java Province in 2022). *Jurnal Ilmiah Dinamika Sosial*, 8(2), 289–301. <https://doi.org/10.38043/jids.v8i2.5326>
- Senna, I., Iglesias, F., & Matsunaga, L. H. (2025). Measuring the effects of Crime Prevention Through Environmental Design (CPTED) on fear of crime in public spaces. *Crime Prevention and Community Safety*, 27(1–2), 1–17. <https://doi.org/10.1057/s41300-025-00223-0>
- Sharif, M. H. U. & Mohammed, M. A.. (2022). A literature review of financial losses statistics for cyber security and future trend. *World Journal of Advanced Research and Reviews*, 15(1), 138–156. <https://doi.org/10.30574/wjarr.2022.15.1.0573>
- Stuckey, R. (2023). *A geospatial analysis of crime hotspots, campus safety measures, and the campus community's perceived safety at Murray State University* [Master's thesis, Murray State University]. Murray State Theses and Dissertations. <https://digitalcommons.murraystate.edu/etd/311/>
- Stutzenberger, A. (2016). The criminology of place: Street segments and our understanding of the crime problem. *Security Journal*, 29(2), e4–e7. <https://doi.org/10.1057/sj.2013.27>
- Tribunnews. (2025, December 31). Sepanjang 2025, Polda Metro Jaya terbitkan 74.013 laporan polisi. <https://www.tribunnews.com/metropolitan/7773291/sepanjang-2025-polda-metro-jaya-terbitkan-74013-laporan-polisi>

- Tuharyati, Y., & Khulaivah, A. (2025). Perlindungan hukum perempuan korban kekerasan seksual dalam sistem peradilan pidana: Tinjauan perspektif HAM (Legal protection for women victims of sexual violence in the criminal justice system: A human rights perspective). *National Multidisciplinary Sciences*, 4(3), 58–64. <https://doi.org/10.32528/nms.v4i3.747>
- Wan, S. A., Isah, U., Ibrahim, A., Umar, M., & Yunusa, A. (2025). Using geospatial technologies for enhancing policing and crime prevention in Kano Metropolis, Nigeria. *Kogi Journal of Education and Pedagogy (KOJEP)*, 4(2), 120–126. <https://kojep.org.ng/index.php/journal/article/view/51>
- WartaKota. (2025, February 11). Polsek Palmerah tangkap komplotan curanmor, 3 orang berstatus residivis beraksi sejak 2023. <https://wartakota.tribunnews.com/2025/02/11/polsek-palmerah-tangkap-komplotan-curanmor-3-orang-berstatus-residivis-beraksi-sejak-2023>
- Wickremasinghe, H. T., & Kaluthanthri, P. C. (2021). Spatial distribution of crimes in urban areas: An insight from Sri Lanka. *Malaysian Journal of Society and Space*, 17(4), 207–220. <https://doi.org/10.17576/geo-2021-1704-15>