BEYOND BARS: ELECTRONIC MONITORING AND JUSTICE IN INDIA

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ABSTRACT

The use of electronic monitoring, especially ankle monitoring, in India's criminal justice system is the primary focus of this paper. The monitoring is proposed as a reformative replacement of the traditional incarceration process. The paper outlines the global journey of this technology from its roots in psychological behavior studies in the 1960s to the point of getting employed in multiple jurisdictions like the US and the UK. The research is centered on India's first steps towards electronic monitoring with an argument, supported by significant court cases and policy changes, for instance, the Model Prisons and Correctional Services Act, 2023 and the Supreme Court's 2024 report advising pilot projects for GPS tracking of low-risk undertrials and parolees among the developments that are actually coming through. In particular, the paper employs a constitutional method of analysis to deal with the compatibility issue of electronic monitoring with the right to life, liberty, and privacy protected by Article 21 of the Indian Constitution. The paper goes thus far as to refer to landmark cases of Maneka Gandhi v. Union of India (1978) and Justice K.S. Puttaswamy v. Union of India (2017) for the interpretation. The writers concede that electronic monitoring can serve the purpose of public safety but can also become a source of prison overcrowding hence they recommend the observance of the principles of proportionality, fairness, and judicial oversight. It also gives the suggestion of developing new technology models that are both privacy-preserving and technically up-to-date and offers for instance, RF-based curfew systems and geofencing through which ethical and operational concerns can be resolved. Finally, the paper stands by its assertion that India's ankle monitors are consistent with the country's reformative idea of punishment which not only discourages criminals but also enables them to return to society under the condition that they remain accountable. In the case of having the entire process put in place with adequate legal backing, the monitoring being electronic will change India's prison system into one that is both efficient and humane as well as compliant with the Constitution thereby meeting the requirements for public safety and human dignity side by side.

1. INTRODUCTION: WHAT ARE ANKLE MONITORS?

An ankle monitor, also known as an electronic tag or ankle bracelet, is a wearable electronic device used to track an individual's movements, typically as part of a legal or correctional supervision program. It is fastened securely around the person's ankle and uses technologies such as GPS (Global Positioning System) or radio frequency (RF) to monitor and report the wearer's location to law enforcement authorities or monitoring agencies in real time.

These devices are most often used within the criminal justice system for individuals who are granted bail, parole, or probation, or who are placed under house arrest. Instead of remaining in jail, the person can live in the community but must comply with specific movement restrictions such as staying within certain boundaries, following curfews, or avoiding restricted areas. If the wearer attempts to tamper with or remove the device, or travels beyond authorized limits, the system immediately sends an alert to the supervising authorities.

There are different types of ankle monitors, each serving a particular purpose. GPS-based monitors continuously track precise location and movement, allowing authorities to see where the person goes. RF-based monitors are generally used to verify whether someone is at a particular location, such as their home, during certain hours. Some advanced devices, like SCRAM (Secure Continuous Remote Alcohol Monitor) bracelets, can even detect the presence of alcohol through perspiration on the skin.

The use of ankle monitors provides several benefits. They help reduce overcrowding in prisons by allowing supervised freedom, enable better reintegration into society, and can be more cost-effective than incarceration. However, the practice also raises certain privacy and ethical concerns, as constant monitoring can feel intrusive and stigmatizing. Moreover, technical errors or false alerts may cause unnecessary complications for those being monitored.

2. HISTORY OF ANKLE MONITOR?

Nearly fifty years after its inception, the electronic ankle monitor has become a cornerstone of modern criminal justice systems, used to track more than a hundred thousand people in the U.S. every day and generating hundreds of millions of dollars annually. Yet, its beginnings were far humbler rooted not only in psychology labs at Harvard but also in the pages of a

Spider-Man comic strip.[1]

The concept of electronic monitoring first emerged in the 1960s, when twin brothers Robert and Kirk Gable, psychology students at Harvard University, studied under the renowned psychologists B.F. Skinner and Timothy Leary. Drawing on behavioural psychology, they developed a system to encourage positive conduct among juvenile offenders through rewards rather than punishment. Using old military radio equipment, the Gable brothers created a device that could track whether offenders attended school, work, or treatment programs rewarding them with small incentives such as pizza, haircuts, or concert tickets for compliance. Their invention was meant to inspire better behaviour through positive reinforcement, not surveillance or control.[2]

However, by the late 1970s, the idea took a surprising new turn. In 1977, a storyline in The Amazing Spider-Man newspaper comic written by Stan Lee and illustrated by John Romita featured the villain Kingpin attaching a tracking device to Spider-Man. Among the readers was Judge Jack Love from Bernalillo County, New Mexico, who later credited the comic with inspiring him to create a real-life version of such technology. Seeing potential in this fictional idea, Judge Love collaborated with Michael Goss, a Colorado engineer, to develop one of the first practical electronic monitoring systems for low-level offenders.

Goss's invention, called the Goss-Link, was roughly the size of a pack of cigarettes. It sent a radio signal every 60 seconds to a receiver connected to the offender's home telephone. If the person went beyond a 150-foot range, the system would automatically alert a central computer. Judge Love himself tested the first device, calling it "a very, very short leash," and even wore it in the shower to test its durability. In 1983, he assigned the device to three offenders on work-release programs, each under nightly home curfews. Though the pilot showed mixed results one offender completed his sentence successfully, another violated his probation by drinking, and a third reoffended later, it marked the first judicial use of electronic monitoring in the U.S.

The New Mexico Supreme Court eventually halted Judge Love's experiment, not for ethical concerns, but because he had signed a private contract with Goss without approval from other judges, violating the state's Public Purchasing Act. Despite the program's abrupt end, the idea had already taken hold. Throughout the 1980s, more than a dozen companies began developing

[1] https://www.npr.org/2014/05/22/314874232/the-history-of-electronic-monitoring-devices
[2] https://gizmodo.com/spider-man-s-prisoner-ankle-monitor-1977-crime-stan-lee-1849346834

their own versions of electronic monitors, and at least 20 counties in 14 states started experimenting with the technology. Goss himself left his job at Honeywell, founded a company called NIMCOS (National Incarceration Monitoring and Control Services) with a small bank loan, and began marketing his "electronic handcuffs" nationwide.

By the mid-1980s, the ankle monitor was gaining national attention. Time magazine's 1985 article "Spider-Man's Net: An Electronic Alternative to Prison" highlighted how rapidly the concept was spreading from offenders behind on child support to those convicted of assault. Some uses were even controversial, such as placing monitors on AIDS patients to isolate them from other inmates.

Over the decades, the technology evolved from simple radio transmitters to sophisticated GPS-detecting systems, capable of continuous, real-time tracking. What began as a behavioural experiment rooted in positive reinforcement and later inspired by a comic book villain's gadget has transformed into a multi-billion-dollar industry that defines how modern societies manage offenders. Yet, as Robert Gable himself observed decades later, while the technology's evolution is remarkable, it has drifted far from its original purpose. What was once meant to motivate rehabilitation through reward has largely become a tool of punishment and control, a shift that both fascinates and troubles its earliest inventor.

3. ANKLE MONITOR IN USA?

The U.S. Courts' Location Monitoring Reference Guide describes how federal probation and pretrial services use technology to track and supervise individuals outside custody. It explains four main types of monitoring tools, ranging from least to most restrictive. Voice Recognition (VR) uses scheduled or random phone calls to confirm a person's presence at home, while Virtual Mobile (VM) apps use smartphone-based biometric and GPS check-ins. These are considered "spot-check" systems and are typically used for low-risk individuals. Radio Frequency (RF) monitoring involves an ankle transmitter that connects to a receiver in the home, confirming whether the person is within range useful for enforcing curfews or home confinement. The most advanced is Global Positioning System (GPS) monitoring, which tracks a person's movements continuously using satellites and cellular data, allowing officers to monitor compliance in real time.

The guide also defines three levels of restriction: Curfew, requiring a person to remain home

during specific hours; Home Detention, which allows only approved absences for work, medical, or legal reasons; and Home Incarceration, the strictest form, allowing departures only with court approval. In some cases, Stand-Alone Monitoring may be used to track compliance with other supervision terms without confining someone to a residence. Overall, the program aims to balance public safety, accountability, and rehabilitation by matching the level of monitoring to each individual's risk and supervision needs.[3]

Success in the criminal justice system[4]

- Cost-effectiveness: They are significantly cheaper than traditional incarceration, making them a viable option for supervising a larger number of individuals.
- Reduced recidivism: Some jurisdictions report a decrease in re-offense rates among those on electronic monitoring, which suggests they can help keep individuals from reoffending.
- Compliance: They allow authorities to supervise individuals on parole or house arrest remotely, ensuring compliance with legal conditions, such as curfew, for example.
- Wide adoption: Law enforcement agencies have increasingly relied on GPS-enabled devices for real-time tracking.

Success in the immigration system[5]

- Alternative to detention: They are a less restrictive and often more humane alternative to detention for immigrants awaiting immigration court proceedings.
- Increased supervision: They allow immigration authorities, like ICE, to supervise individuals in the community, ensuring they appear for their court dates.
- Cost-effectiveness: They can cost significantly less per day than detaining someone, which is an important factor for government funding and efficiency.

[3] https://www.uscourts.gov/about-federal-courts/probation-and-pretrial-services/evidence-basedpractices/federal-location-monitoring/location-monitoring-reference-guide/how-location-monitoringworks
[4] https://www.linkedin.com/pulse/ankle-monitors-real-world-5-uses-youll-actuallyseeubdkc/#:~:text=1.,devices%20for%20real%2Dtime%20tracking.
[5]https://forumtogether.org/wp-content/uploads/2019/02/2_22_19-Electronic-Monitoring-Devices-FactSheet.pdf

- Widespread use: The number of immigrants under electronic monitoring has grown significantly as an alternative to detention program.

4. ANKLE MONITORS IN OTHER COUNTRIES?

Many countries use ankle monitors, including the United Kingdom, Australia, New Zealand, Brazil, South Africa, and Sweden. The United States uses them extensively, as does Singapore, which was an early adopter. These devices are used for various purposes, such as enforcing bail conditions, managing parole and probation, and as an alternative to prison, particularly for minor offenses.[6]

- United States: Widespread use for criminal justice and immigration purposes.
- United Kingdom: Implemented for curfews and as part of probation or release programs.
- Australia and New Zealand: Used for bail, probation, and parole conditions.
- Brazil: Uses GPS monitoring to manage early release programs.
- South Africa: Used in pilot programs to manage prison populations.
- Sweden: Introduced to allow offenders to substitute prison time with electronic monitoring for short sentences.
- Singapore: Has used electronic monitoring for decades, primarily for a long-standing drug rehabilitation program.

5. ANKLE MONITORS IN INDIA?

In a landmark case, the Special NIA Court (Third Additional Sessions Judge), Jammu, granted interim bail to Ghulam Mohammad (Ghulam Mohd) Bhat[7], an accused linked to the proscribed outfit Hizbul Mujahideen, under FIR No. 252/2007[8] registered at Udhampur Police Station for offences under Sections 17, 18, 21, 24, and 40 of the Unlawful Activities (Prevention) Act

[6] https://en.wikipedia.org/wiki/Electronic_tagging
[7] https://timesofindia.indiatimes.com/india/with-gps-anklets-jk-cops-to-monitor-terror-accused-onbail/articleshow/104975062.cms
[8] https://www.ndtv.com/india-news/jammu-and-kashmir-police-introduces-gps-anklets-to-monitor-terroraccused-out-on-bail-4546608

(UAPA). The court order dated December 27, 2023, directed that Bhat be fitted with a GPS tracker anklet as a bail condition to ensure continuous monitoring and prevent absconding. This decision, influenced by the prosecution's plea for enhanced surveillance, marks the first instance in India where such electronic monitoring has been used for a terror-accused released on bail.[9]

While Google PIN may be redundant, serving no practicable assistance to the investigation, similarly placed technological means exist, such as sharing Global Positioning System (GPS) Live location as a bail condition, which definitely tracks the sharer's real-time movements. In fact, only a couple of months earlier, in April 2024, another two-judge divisional bench of the Supreme Court comprising of Justice(s) Aniruddha Bose and Augustine George Masih in Shoma Kanti Sen v. State of Maharashtra[10], while granting bail to former Nagpur University professor Shoma Sen, booked under the UAPA for alleged Maoist links in connection with the Bhima Koregaon case, directed her to keep the location and GPS of her mobile phone active throughout and to keep it paired with the device of the investigating officer so that her location is known at all times. In the normal course of things, a judgment of a divisional bench is binding on all coordinate benches. Consequently, if a two-judge bench disagrees with another two-judge bench, judicial propriety requires a coordinate bench to refer the matter to a larger bench to settle the authoritative position of law.

Punjab and Haryana High Court in Hussain Abbas alias Tippu v. State of Haryana[11] imposed several conditions on an accused in relation to offences under the Arms Act- to procure a smartphone, always keep the GPS turned on, and not to format the mobile or delete its WhatsApp chats or call logs.[12]

This practise was discouraged strongly due to following reasons:

Legal and ethical considerations

The implementation of ankle monitors in India raises several significant issues:

[9] https://www.indiatoday.in/india/story/jammu-and-kashmir-police-first-in-india-introduces-gps-trackeranklets-to-monitor-terror-accused-out-on-bail-2458258-2023-11-05
[10] Shoma Kanti Sen v. State of Maharashtra - 2024 LawText (SC) (4) 512
[11] https://www.casemine.com/judgement/in/59db19e94a93263c4a28abde
[12] https://www.calj.in/post/the-future-of-bail-surveillance-understanding-the-implications-of-the-supremecourt-s-stance-ongoo#:~:text=State%20of%20Rajasthan%20directed%20law,matter%20to%20a%20larger%20bench.

- Right to privacy: Rights activists have raised concerns that constant GPS tracking is a violation of an individual's fundamental right to privacy and human dignity, which are protected by the Constitution. The Supreme Court has previously struck down bail conditions that involve real-time tracking, such as sharing location via Google Maps, citing privacy violations.

- Lack of specific laws: There is currently no comprehensive, specific legislation governing electronic monitoring in India. This creates a legal grey area and raises questions about the ethical standards and procedures for implementing the technology.

- Technological limitations: Issues with the technology itself, such as signal inaccuracy, short battery life, and tamper-proneness, raise concerns about false alarms and potential unjust consequences for the accused.

6. SOLUTIONS TO OVERCOME THESE DIFFICULTIES

Infringement of Article 21:

In the landmark judgment of Maneka Gandhi v. Union of India (1978)[13], the Supreme Court of India revolutionized the interpretation of Article 21 of the Constitution by holding that the "right to life and personal liberty" cannot be curtailed except through a procedure that is just, fair, and reasonable. This ruling established that any restriction imposed by the State on an individual's liberty must meet the test of fairness and reasonableness and cannot be arbitrary or excessive. Building on this constitutional foundation, any proposal to introduce electronic monitoring (EM) such as GPS-enabled ankle bracelets for parolees or undertrials must be carefully examined to ensure that it does not amount to an unconstitutional infringement of the right to privacy and personal liberty guaranteed under Article 21.

The right to privacy, now recognized as an integral part of the right to life and liberty under Article 21, was further reinforced in Justice K.S. Puttaswamy v. Union of India (2017)[14]. The Supreme Court held that any infringement of privacy by the State must satisfy the test of proportionality, which requires that

[13] Maneka Gandhi v. Union of India (1978) - AIR 1978 SC 597
[14] Justice K.S. Puttaswamy v. Union of India (2017) - AIR 2018 SC (SUPP) 1841, 2019 (1) SCC 1, (2018) 12 SCALE 1, (2018) 4 CURCC 1, (2018) 255 DLT 1, 2018 (4) KCCR SN 331 (SC), AIRONLINE 2018 SC 237

1) the measure must pursue a legitimate aim;
2) there must be a rational nexus between the means adopted and the aim sought to be achieved;
3) it must be the least restrictive measure necessary to achieve the objective (necessity); and
4) there must be a balance between the degree of infringement of the right and the importance of the public purpose being pursued.

Applying this test, any continuous electronic surveillance, such as real-time GPS tracking of an accused or parolee, would only be permissible if it meets these four conditions and does not disproportionately intrude upon individual liberty.

The Supreme Court has explicitly held that conditions allowing the police or State authorities to "constantly track the movement of the accused and virtually peep into the private life" of an individual violate the right to privacy under Article 21. This was reaffirmed in a 2023 judgment where the Court struck down a bail condition requiring an undertrial to share live Google Maps location with the police, observing that such constant surveillance is unconstitutional. The Court clarified that while constitutional rights may be reasonably curtailed as conditions for bail or parole, such curtailments must be minimal and proportionate for example, restricting travel to certain jurisdictions or requiring periodic check-ins rather than imposing continuous electronic tracking.

However, the use of electronic monitoring for convicted prisoners on parole stands on a different constitutional footing. Individuals released on parole or temporary leave are convicted offenders, whose liberty is already lawfully curtailed as a consequence of their conviction. The Model Prisons and Correctional Services Act, 2023, circulated by the Union Home Ministry, explicitly permits States to use electronic monitoring technology for such parolees. Under this framework, EM may be used as a condition of release, subject to the informed consent of the parolee. Violation of this condition such as tampering with the device or violating movement restrictions can result in immediate cancellation of parole or temporary release. The rationale is that, since these individuals have already been convicted of offenses, their right to liberty is inherently limited and subject to supervision to prevent absconding or reoffending.

This justification becomes especially compelling in the case of hard-core or high-risk criminals, such as habitual offenders, individuals convicted of serious or violent crimes, or those with a demonstrated risk of absconding or recidivism. For such offenders, continuous GPS-based monitoring serves a legitimate public interest by ensuring compliance with parole conditions, enforcing exclusion zones (e.g., preventing them from approaching victims or specific areas), and promoting public safety. Studies from jurisdictions like the United States indicate that electronic monitoring, when used for high-risk offenders as part of a comprehensive rehabilitation and supervision strategy, can significantly reduce recidivism rates and improve reintegration outcomes.

Nevertheless, the adoption of EM technology must still adhere to the constitutional safeguards laid down in Maneka Gandhi and Puttaswamy. Even for parolees, the principle of proportionality requires that surveillance measures be narrowly tailored to the objective and that data collection and retention be minimized. Privacy-preserving technological designs can play a vital role in meeting these constitutional standards:

1. **Home Confinement or Curfew Enforcement:**

   Instead of continuous GPS tracking, Radio Frequency (RF) monitoring can be employed. RF devices only verify whether the individual is present or absent within the designated home perimeter during curfew hours. This method does not collect or transmit GPS location data, thereby avoiding unnecessary intrusion into privacy.

2. **Enforcing Exclusion Zones:**

   Geofencing with local processing can be used where the monitoring device is preprogrammed with specific exclusion coordinates, such as a victim's home or a school zone. The system only triggers alerts when the individual crosses the boundary and does not continuously record or store movement data unless a violation occurs.

3. **Ensuring Court Attendance or Compliance:**

   Periodic verification methods, such as voice recognition check-ins, biometric authentication, or scheduled physical appearances, can be adopted instead of continuous tracking. These non-intrusive alternatives ensure compliance with bail or parole conditions while safeguarding privacy.

By integrating these privacy-preserving technologies and applying the principles of necessity, proportionality, and fairness, electronic monitoring can be made consistent with the constitutional ethos of Maneka Gandhi v. Union of India. The objective should always be to strike a balance between the legitimate needs of criminal justice administration and the fundamental rights of individuals. Thus, electronic monitoring may be necessary and justified for hard-core criminals on parole to ensure public safety and prevent reoffending.

Lack of Legal Enforcement:

The most effective solution to address the absence of specific legislation governing electronic monitoring (EM) in India is the enactment of a dedicated, comprehensive, and constitutionally sound law. This law should be designed to ensure that EM operates within the framework of natural justice, proportionality, and the fundamental rights to liberty and privacy guaranteed under the Constitution.

Firstly, judicial oversight must be made mandatory EM should only be ordered by a court based on clear, evidence-based criteria such as risk of absconding, likelihood of reoffending, or threat to public safety.[15]

Secondly, the law should provide for the targeted and proportionate use of EM, restricting it to grave or repeated offenses and ensuring it remains the least restrictive alternative to detention. It must prescribe maximum duration limits, periodic judicial reviews, and grant the monitored person the right to appeal or seek removal of the device.

Thirdly, robust data protection provisions are essential. The legislation should clearly define what data can be collected (such as location only), how long it may be retained, who can access it, and establish strict penalties for unauthorized use or data breaches. This will ensure that technological surveillance does not compromise the individual's right to privacy.

Additionally, to uphold due process, the law must address issues of technical reliability ensuring that errors, such as device malfunction or signal loss, do not result in unfair punitive actions. The government should bear the cost of the devices to prevent economic exploitation, and policies must be introduced to reduce the social stigma and psychological impact of

[15] Law Commission of India, Report No. 268 (May 2017)- https://taxguru.in/wpcontent/uploads/2017/06/Report-No.268.pdf

wearing a monitoring device.

While the e-Courts initiative has successfully demonstrated India's capacity for digital transformation in judicial procedures, its scope is procedural. In contrast, EM requires substantive legislation that provides legal authority for real-time monitoring within constitutional boundaries. Hence, a new law supported by judicial oversight, privacy safeguards, and procedural fairness will not only legitimize the use of EM but also strengthen public confidence in the criminal justice system by balancing state security interests with individual rights and human dignity.[16]

Technological Imparities

1. Immediate Accused-Initiated Verification

The most direct solution for technical malfunctions is to establish a mandatory immediate reporting procedure. In case an ankle monitor indicates a malfunction such as a low battery warning, loss of signal alert, or a tamper alert that the accused knows to be false or raises a genuine alarm for being in a non-authorized location, the accused must immediately report to the nearest police station or designated Reporting Police Station[17] [18]. This enables an immediate, physical, and human-verified location check, serving as proof of a genuine malfunction rather than a deliberate violation. Prompt reporting thus provides reliable evidence to counter any inaccurate monitor signal and upholds fairness in enforcement.

2. Establishing a Centralized Verification and Reporting Cell

To manage the volume of alarms and ensure judicial oversight, a Centralized Alarm Reporting Cell should be established, preferably within a Cyber Cell[19] or a designated Police Station unit or Cyber Crime Unit. This specialized cell would maintain an unalterable, time-stamped real-time alarm log of all alerts generated by ankle monitors, including technical malfunctions, low battery warnings, signal loss, and alleged zone violations. Serving as the central verification interface, the cell would link ankle monitor data with police stations receiving notifications of alarms and verifying them when an accused reports to a station. It would also generate a

[16] Frank Vitus v. Narcotics Control Bureau (2024, Supreme Court of India) - (SLP (Crl.) No. 6339-6340/2023)
[17] Section 480 of the BNSS - attend at such place and on such date as is specified in the order.
[18] 18 Section 483 of the BNSS - Conditions can be established by the Judge while granting Bail.
[19] Section 78 of IT Act 2000 – Establishment of the Cyber cell or Unit

comprehensive report containing the electronic alarm record, the time of the accused's physical report, and the corresponding Police Station log, thereby ensuring transparency, accountability, and accuracy in monitoring.

3. Judicial and Police Access for Decision Making

To ensure fair and just outcomes, the collected data must be accessible to key authorities. Both the Reporting Police Station and the Centralized Alarm Reporting Cell should have real-time access to the alarm logs and the accused's history of prior alerts and subsequent reports, enabling informed decisions on immediate detention or investigation. For judicial review, the presiding judge must be able to access the complete dual-source report combining the electronic alarm data with police station verification when determining bail, parole, or violations. A consistent record of technical alarms promptly followed by physical reporting would demonstrate the accused's good faith and compliance, support bail or parole continuation and indicating a lower flight risk. Conversely, a failure to report after an alert would indicate noncompliance, justifying potential revocation of bail or parole. This hybrid model effectively integrates India's existing system of mandatory police reporting with technological monitoring, providing a human-verified safeguard against errors and ensuring that no individual suffers unjust consequences due to false or inaccurate data.

4. Reduction of Manpower and Operational Costs

The proposed system, which integrates ankle monitors with a mandatory immediate reporting mechanism through existing police stations, offers a major advantage by significantly reducing the need for continuous police accompaniment of accused individuals. Under the traditional method, high-risk or specific categories of accused released on bail or parole often require constant physical surveillance, consuming substantial police manpower and resources. In contrast, the hybrid ankle monitors system functions as an automated, 24/7 surveillance tool, requiring police intervention only when the Centralized Alarm Reporting Cell registers a high-priority, unverified violation or when the accused physically reports to a station task manageable by onduty officers without additional deployment. This event-driven approach replaces continuous physical shadowing with targeted, technology-assisted oversight, resulting in a leaner, more efficient use of law enforcement personnel and substantial savings for the criminal justice system.

7. INDIA AND REFORMATORY THEORY OF PUNISHMENT

India's criminal justice philosophy, rooted in the reformative theory of punishment, emphasizes rehabilitation over retribution aiming to reintegrate offenders into society as responsible citizens rather than alienating them through excessive incarceration.[20] The introduction of ankle monitors as an alternative to traditional imprisonment aligns closely with this reformative approach, offering a balanced mechanism that upholds public safety while preserving the offender's dignity and liberty under Article 21 of the Constitution.

Under the reformative theory, punishment is viewed as a means of correction and transformation, not mere retaliation. The Supreme Court of India, in cases like Mohd. Giasuddin v. State of A.P. (1977)[21] and State of Haryana v. Jagdish (2010)[22], emphasized the need to humanize criminal justice and to prefer rehabilitation over retribution wherever possible. Ankle monitors operationalize this vision by allowing certain categories of offenders particularly those on bail, parole, or probation to remain within their social and familial environments while ensuring accountability and compliance through real-time tracking. This technological integration serves as a modern reformative tool, it enables offenders to pursue education, employment, and community life, which are crucial for reintegration and reducing recidivism. At the same time, it reassures society and the judiciary that the offender's movement is being lawfully monitored. Unlike incarceration, which often leads to overcrowding, stigmatization, and loss of livelihood, ankle monitoring strikes a humane balance between freedom and supervision, reinforcing the rehabilitative spirit of India's penal philosophy.

Furthermore, incorporating ankle monitors with a mandatory reporting and centralized monitoring system ensures judicial oversight and human verification, preventing misuse and respecting the principles of natural justice. It transforms punishment from a purely custodial model to a community-based corrective mechanism, aligning with global best practices while remaining consistent with India's constitutional and moral commitment to the reformative theory of crime.

In essence, the use of ankle monitors represents a technologically progressive embodiment of

[20] Article 72 and 161 of Indian Constitution suggest the principles of reformative theory of Punishment
[21] Mohd. Giasuddin v. State of A.P. (1977) - AIR 1977 SC 1926
[22] State of Haryana v. Jagdish (2010) - 4 SCC 216: (2010) 2 SCC (Cri) 806.

India's reformative justice ideals where punishment serves not to destroy the offender but to rebuild a law-abiding citizen within society's fold.

8. RECOMMENDATION AND REPORTS

1. Official Reports and Judicial Recommendations (2023–2024)

(a) Supreme Court of India Report (2024)[23]

Title: Prisons in India: Mapping Prison Manuals and Measures for Reformation and Decongestion

Released by: Hon'ble President of India, Smt. Draupadi Murmu

Date: November 5, 2024

Prepared by: Centre for Research and Planning, Supreme Court of India

Key Findings:

- The report recommends launching a pilot project for the use of electronic tracking devices (e.g., GPS ankle monitors) for low-risk undertrial prisoners (UTPs) and those released on parole or furlough, to mitigate the persistent issue of prison overcrowding.
- The report identifies electronic monitoring as a reformative and cost-effective alternative to custodial detention.

(b) Cost-Effectiveness Data:

The report cites data indicating that maintaining one undertrial prisoner in Odisha costs approximately ₹1,00,000 per year, whereas the use of an electronic tracking device would cost ₹10,000–₹15,000 per individual annually.

2. Indian Legislature

(a) Model Prisons and Correctional Services Act, 2023[24]

[23] https://cdnbbsr.s3waas.gov.in/s3ec0490f1f4972d133619a60c30f3559e/uploads/2024/11/2024110677.pdf
[24] https://www.mha.gov.in/sites/default/files/2024-12/ModelPrisonsCorrectionalServicesAct_20122024.pdf

- This legislation, introduced by the Government of India, includes provisions for the use of electronic tracking devices as a condition for granting parole, furlough, or other forms of temporary release.

- The Model Act marks the first legislative step toward institutionalizing electronic monitoring within India's correctional framework.

3. Prison Overcrowding Data National Crime Records Bureau (NCRB) - Prison Statistics India (PSI) 2023[25]

Occupancy Rate:

- As of December 31, 2023, India's overall prison occupancy rate was 120.8%, reflecting a slight improvement from 131.4% in 2022.

Total Prison Population (2023):

- 5,30,333 inmates were recorded across the country.

Undertrial Prisoners (UTPs):

- 73.5% of the total prison population were undertrials, making them the primary contributors to prison overcrowding.

Regional Data:

- Delhi reported the highest occupancy rate at approximately 200%, followed by states like Uttar Pradesh and Madhya Pradesh.

4. Legal and Policy Context Supreme Court Jurisprudence

- The Supreme Court of India has, in select bail and parole cases, permitted locationtracking as a condition for release, recognizing its potential in ensuring compliance.

[25] https://visionias.in/current-affairs/news-today/2025-09-30/social-issues/national-crime-records-bureausncrb-prison-statistics-india-psi-2023-report

- However, the Court has also cautioned against excessive surveillance, emphasizing that continuous real-time tracking may infringe the fundamental right to privacy and human dignity guaranteed under Article 21 of the Constitution of India.

- The Court's position underscores the need for clear legislative and procedural safeguards governing the use of electronic monitoring.

5. Law Commission of India (2017)[26]

- The Law Commission's 2017[27] report acknowledged the cost-saving potential and security benefits of electronic tagging as a modern correctional tool.

- It recommended caution and strict regulatory frameworks, highlighting possible ethical and privacy concerns.

9. ADVANTAGES OF ANKLE MONTIORS

1) Strengthening Judicial Oversight and Compliance

That is a well-articulated list of the benefits of ankle monitors in the justice system. The continuous, real-time GPS tracking capabilities fundamentally transform how courts can enforce bail and parole conditions, such as adhering to jurisdictional limits or maintaining mandated distances from victims. This technology significantly reduces the risk of absconding and missing court dates, providing an effective layer of electronic supervision. Furthermore, the reliable, detailed digital data collected by these devices offers verifiable evidence of an offender's movements and compliance, streamlining court proceedings and reducing the reliance on traditional, less reliable manual reporting methods.

2) Enhancing Law Enforcement Efficiency

Building on the previous points, the use of ankle monitors also offers substantial operational and logistical efficiencies for law enforcement. Specifically, these systems reduce the manpower burden by replacing costly and time-consuming physical police

[26] https://lawcommissionofindia.nic.in/report_twentyfirst/
[27] https://cdnbbsr.s3waas.gov.in/s3ca0daec69b5adc880fb464895726dbdf/uploads/2022/08/2022081637-1.pdf

surveillance with efficient, centralized monitoring via digital dashboards. This digital approach ensures a quick response to violations, as immediate alerts are triggered for issues like device tampering, curfew breaks, or unauthorized geographical movements, enabling swift police intervention. Moreover, the utility is enhanced by its potential to be an integrated system, linking seamlessly with police databases, e-courts, and prison management software to ensure comprehensive and well-coordinated offender management.

3) Promoting Reformative and Humanitarian Justice

Adding a socio-legal perspective, the deployment of ankle monitors strongly supports the reformative theory of crime, which is central to India's justice principles. This technology enables offenders to begin reintegration into society under structured, controlled conditions, offering a productive alternative to prolonged incarceration. This community-based supervision significantly reduces the stigma and psychological harm associated with jail time, allowing individuals to work, study, or maintain family life, thereby facilitating genuine rehabilitation and social reintegration. Crucially, the system acts as a viable alternative to incarceration, directly helping to alleviate India's chronic problem of prison overcrowding by reducing unnecessary detention.

4) Economic and Administrative Efficiency

From a fiscal standpoint, electronic monitoring provides significant economic advantages over traditional incarceration. Serving as a cost-effective alternative to imprisonment, the system immediately saves the state substantial money, as the cost of electronic supervision is dramatically lower than the expense of housing, feeding, and providing healthcare for an inmate. This mechanism, by keeping low-risk offenders in the community, effectively reduces congestion-related expenditure in jails and alleviates the severe problem of prison overcrowding. This strategic reduction in the prison population also achieves public resource optimization, freeing up police, judicial time, and financial capital to be redirected toward tackling more serious criminal activities.

5) Technological Integration with Digital Judiciary

The final critical advantage of electronic monitoring lies in its contribution to the

modernization and efficiency of the justice system. The technology perfectly aligns with the digital transformation of the judiciary in India, acting as a logical and necessary extension of existing initiatives like e-Courts and digital case records. This integration allows for data-driven decision-making, as the reliable, real-time data collected can be analysed to improve risk assessment models, inform judicial policy design, and enhance the accuracy of parole and bail evaluations. Furthermore, the inherent interoperability of the system means it can seamlessly function under the same legislative and technological frameworks as other digital evidence and court management systems, ensuring comprehensive coordination across the entire criminal justice pipeline.

6) Public Safety and Victim Protection

In addition to the operational and fiscal benefits, electronic monitoring significantly enhances public safety and trust in the justice system. The presence of real-time tracking deters offenders from engaging in criminal activity while under supervision, directly helping to prevent repeat offenses. Crucially, the system offers targeted protection for vulnerable individuals by allowing authorities to establish exclusion zones, triggering immediate alerts if an offender approaches victims' residences or restricted areas. Finally, the visible effectiveness and proactive nature of this technology help improve public confidence, demonstrating that judicial leniency, such as granting bail or parole, can be safely administered alongside robust and effective community safety mechanisms.

7) Legislative and Ethical Safeguards

Building on the legal and ethical requirements, the successful implementation of ankle monitors demands a strong foundation of judicial oversight and accountability. Operating strictly under judicial authorization and proper legislation ensures that the system respects the fundamental right to privacy affirmed in the Puttaswamy v. Union of India (2017) judgment. This legal framework mandates transparent data handling, guaranteeing that GPS data is used exclusively for the purpose of offender supervision and is not converted into a tool for arbitrary surveillance. Finally, establishing clear accountability mechanisms, including statutory reporting and grievance redressal procedures, is essential to promptly address device malfunctions, prevent misuse, and ensure that the technology is used fairly and lawfully.

10. CONCLUSIONS

The introduction of ankle monitors (electronic monitoring) represents a transformative step toward a more reformative, humane, and efficient criminal justice system in India. As prison overcrowding, high undertrial populations, and mounting correctional costs continue to strain resources, electronic monitoring offers a balanced alternative ensuring public safety without excessive deprivation of liberty.

While countries like the U.S., U.K., Australia, and Brazil have successfully integrated electronic monitoring for bail, parole, and probation, India is only beginning to explore this technology through judicial precedents and policy recommendations, such as the Supreme Court's 2024 report and the Model Prisons and Correctional Services Act, 2023. These developments can signify India's growing readiness to adopt such tools within a structured, rights-based legal framework.

However, vital constitutional safeguards under Article 21 and the Puttaswamy (2017) privacy judgment, which require that any electronic surveillance be just, fair, reasonable, and proportionate. The implementation must thus be guided by judicial oversight, legislative clarity, and privacy-preserving technologies (like RF-based curfew verification or geofencing with minimal data retention).

Operationally, ankle monitors can:

- Reduce manpower dependency and cut state expenditure,
- Lower recidivism by promoting accountability,
- Enable rehabilitation through community-based correction, and
- Strengthen judicial confidence in granting bail or parole safely.

Most importantly, ankle monitoring within India's reformative theory of punishment, emphasizing rehabilitation over retribution. It allows offenders to maintain social and familial ties, pursue work or education, and rebuild their lives while remaining under lawful supervision.

In essence, the adoption of ankle monitors under a constitutionally compliant, transparent, and

well-regulated framework can mark a pivotal evolution in India's correctional philosophy. It harmonizes technology with justice, ensuring that punishment reforms the individual while upholding human dignity, public safety, and the rule of law.