

---

# THE ROLE OF LAW IN GOVERNING AUTONOMOUS VEHICLE TESTING AND DEPLOYMENT IN INDIA

---

Mahalakshmi A, Padma Prisha D & Oviya Dharshini A,  
Sathyabama University

## ABSTRACT

The study is about the law and how it deals with vehicles in India. We need to know what the law says about testing and operating these vehicles. Because intelligence and self-driving cars are getting better so fast we have to make sure the law is good enough. The goal of this study is to look at the laws we have now find out if there are any gaps and see if these laws can handle concerns about safety who's responsible keeping data private and doing the right thing. This study uses an approach looking at laws government rules and comparing them to what other countries do. What we found out is that India does not have laws to control the testing and use of autonomous vehicles. This is causing confusion, about who's responsible and how to enforce the law.

**Keywords:** Autonomous Vehicles, Artificial Intelligence, Legal Regulation, India, Road Safety, Liability.

**INTRODUCTION:**

The autonomous vehicles are. This is a big change for how we travel. This is happening because of technologies like artificial intelligence and sensor technologies. These vehicles can drive around with no help from people. They should make our roads safer and our traffic better. They should also make it easier for people to get around. However when we try to add these vehicles to our transportation systems it gets complicated. There are a lot of regulatory issues that come up. In India the roads are different. The traffic is different too. So when we talk about using vehicles in India there are both good things and bad things that can happen. The problem is that India does not have laws about how to test and use autonomous vehicles. This means we do not know what safety standards to follow who is responsible if there is an accident and how to protect peoples data. This research is about how the law can help with vehicles in India. It looks at the laws we have now finds the gaps and tries to figure out if we need laws to regulate autonomous vehicles. The research also looks at what other countries are doing and tries to find ways to improve the laws, in India regarding autonomous vehicles.

**LITERATURE REVIEW**

When we look at what has been written about this topic we can see that countries like the United States, China and the United Kingdom have made moves to control autonomous vehicles with special laws and rules for testing. The people who study this subject say that it is very important to have rules about who's responsible when something goes wrong and to make sure that autonomous vehicles are safe from cyber attacks and that they are used in a fair way. On the hand when we look at India we can see that the laws that are in place like the Motor Vehicles Act of 1988 are not good enough to deal with the complicated issues that come with autonomous vehicles. Some studies have shown that there are gaps in the law when it comes to saying who is accountable when there is no human in control of the vehicle and this is a problem for autonomous vehicles, in India.

**OBJECTIVES OF THE STUDY:**

- We want to look at the laws that control vehicles in India.
- Next we need to understand the problems in regulating self-driving cars.

- Then we have to find out where the law is unclear, about who's responsible how safe they are and how data is protected.
- Finally we will suggest changes to help govern self-driving cars.

### **RESEARCH QUESTIONS:**

- Does India have laws for regulating self-driving cars?
- In accidents involving vehicles, who is responsible?
- What changes, to laws are needed to safely use autonomous vehicles?

### **LEGAL FRAMEWORK IN INDIA:**

India does not have laws that specifically deal with vehicles. The Motor Vehicles Act from 1988 is the law but it was written with the idea that people are in control of vehicles. This means it is not good enough to regulate vehicles. The government is worried about people losing their jobs and the risks to safety so they have been slow to make policies.

There are some rules, for testing technologies but these rules are not clear and it is hard to make sure people follow them. Autonomous vehicles are still an issue and the government needs to make better laws to deal with autonomous vehicles.

### **LEVELS OF AUTOMATION AND FUNCTIONING OF AUTONOMOUS VEHICLES:**

#### **LEVELS OF AUTOMATION**

- **Level 0 (No Driving Automation)**

Most vehicles on the road today are Level 0: manually controlled. The human provides the "dynamic driving task" although there may be systems in place to help the driver. An example would be the emergency braking system—since it technically doesn't "drive" the vehicle, it does not qualify as automation.

- **Level 1 (Driver Assistance)**

This is the lowest level of automation. The vehicle features a single automated system for driver

assistance, such as steering or accelerating (cruise control). Adaptive cruise control, where the vehicle can be kept at a safe distance behind the next car, qualifies as Level 1 because the human driver monitors the other aspects of driving such as steering and braking.

- **Level 2 (Partial Driving Automation)**

This means advanced driver assistance systems or ADAS. The vehicle can control both steering and accelerating/decelerating. Here the automation falls short of self-driving because a human sits in the driver's seat and can take control of the car at any time. Tesla Autopilot and Cadillac (General Motors) Super Cruise systems both qualify as Level 2.

- **Level 3 (Conditional Driving Automation)**

The jump from Level 2 to Level 3 is substantial from a technological perspective, but subtle if not negligible from a human perspective. Level 3 vehicles have “environmental detection” capabilities and can make informed decisions for themselves, such as accelerating past a slow-moving vehicle. But—they still require human override. The driver must remain alert and ready to take control if the system is unable to execute the task. Almost two years ago, Audi (Volkswagen) announced that the next generation of the A8—their flagship sedan—would be the world's first production Level 3 vehicle. And they delivered. The 2019 Audi A8L arrives in commercial dealerships this Fall. It features Traffic Jam Pilot, which combines a lidar scanner with advanced sensor fusion and processing power (plus built-in redundancies should a component fail). However, while Audi was developing their marvel of engineering, the regulatory process in the U.S. shifted from federal guidance to state-by-state mandates for autonomous vehicles. So for the time being, the A8L is still classified as a Level 2 vehicle in the United States and will ship without key hardware and software required to achieve Level 3 functionality. In Europe, however, Audi will roll out the full Level 3 A8L with Traffic Jam Pilot (in Germany first).

- **Level 4 (High Driving Automation)**

The key difference between Level 3 and Level 4 automation is that Level 4 vehicles can intervene if things go wrong or there is a system failure. In this sense, these cars do not require human interaction in most circumstances. However, a human still has the option to manually override. Level 4 vehicles can operate in self-driving mode. But until legislation and

infrastructure evolves, they can only do so within a limited area (usually an urban environment where top speeds reach an average of 30mph). This is known as geofencing. As such, most Level 4 vehicles in existence are geared toward ridesharing.

- **Level 5 (Full Driving Automation)**

Level 5 vehicles do not require human attention—the “dynamic driving task” is eliminated. Level 5 cars won’t even have steering wheels or acceleration/braking pedals. They will be free from geofencing, able to go anywhere and do anything that an experienced human driver can do. Fully autonomous cars are undergoing testing in several pockets of the world, but none are yet available to the general public.

## **HOW AV TECHNOLOGY WORKS?**

Autonomous vehicle (AV) technology is often described as the future of transportation, and at its core, it is a combination of advanced machines and intelligent software working together to perform tasks that were traditionally done by human drivers. These vehicles rely on a network of sensors such as cameras, radar, LiDAR, and ultrasonic devices, which constantly observe the surroundings of the vehicle. They detect road signs, traffic signals, pedestrians, and nearby vehicles, creating a real-time picture of the environment. This information is then processed by artificial intelligence (AI) systems, which act as the “brain” of the vehicle. The AI interprets the data, predicts possible movements of other road users, and makes driving decisions such as when to stop, accelerate, or change lanes. These decisions are carried out by control systems that physically operate the vehicle’s steering, brakes, and engine. In addition, many autonomous vehicles are designed to communicate with other vehicles and infrastructure through systems like Vehicle-to-Everything (V2X), which further improves safety and coordination on the road.

Based on the level of technological advancement, these vehicles are categorized into different levels of automation, ranging from no automation to fully driverless systems, where human involvement is completely eliminated. However, the introduction of such technology into public roads brings significant legal challenges, especially in a country like India where the legal system is still largely built around the idea of human drivers. The primary law governing road transport, the Motor Vehicles Act, 1988, assumes that a human being is always in control of the vehicle. This creates a clear gap when it comes to regulating fully autonomous vehicles,

as the law does not currently recognize or accommodate driverless technology. As a result, there is no comprehensive legal framework in India that clearly allows or regulates the testing and deployment of AVs. This situation highlights the urgent need for new laws or amendments that can keep pace with technological developments while ensuring safety and accountability.

### **NEED FOR LEGAL REGULATION IN AUTONOMOUS VEHICLES:**

- **Safety Concerns (with Indian legal context)**

Safety concerns remain the most compelling reason for introducing legal regulation in the field of autonomous vehicles. While these vehicles are designed to reduce accidents caused by human negligence, they introduce technological risks that cannot be overlooked. Autonomous systems rely on sensors, artificial intelligence, and algorithms to make real-time decisions, but these systems are not entirely foolproof. Errors in sensor readings, software glitches, or failure to interpret unpredictable road conditions can result in serious accidents. In India, this concern becomes even more significant due to the complexity of road conditions, including mixed traffic, lack of lane discipline, and the presence of pedestrians and animals. From a legal perspective, existing provisions under the Motor Vehicles Act, 1988—such as speed regulation under Section 112 and offences relating to dangerous driving—were framed with human drivers in mind and do not adequately address machine-driven decision-making.

This creates a gap where current safety laws are insufficient to regulate autonomous technology. Further, expert discussions in India have emphasized that road safety remains a “critical concern” for the adoption of autonomous vehicles, highlighting the need for strict testing standards and regulatory oversight.

- **Risk Management (with liability principles & legal doctrines)**

Autonomous vehicles introduce complex risks that go beyond traditional road accidents, making legal risk management a necessity. One of the biggest challenges is determining liability. In conventional cases, liability is usually fixed on the driver based on negligence. However, in autonomous vehicles, decision-making is carried out by software rather than a human being, which complicates the assignment of responsibility. Legal scholars in India have pointed out that criminal and civil liability frameworks—based on concepts like *mens rea* (guilty mind) and negligence—are difficult to apply when actions are performed by artificial

intelligence systems. Under the current legal framework, liability is largely governed by the Motor Vehicles Act, 1988, which follows the principle of “no-fault liability” under Section 140, where the vehicle owner is held responsible for compensation regardless of fault.

- **Importance of Government Control (with committees & policy needs)**

Government control plays a crucial role in regulating autonomous vehicles, as this technology directly impacts public safety, infrastructure, and societal welfare. Unlike other technological innovations that operate in private spaces, autonomous vehicles function on public roads, making state intervention essential. In India, there is currently no dedicated

legislation or comprehensive policy framework specifically governing autonomous vehicles. Experts and policy discussions have consistently highlighted the urgent need for the government to develop clear rules, guidelines, and standard operating procedures for testing and deployment. Various research studies and policy analyses in India emphasize that a structured regulatory framework is necessary to manage issues such as safety, liability, and infrastructure readiness.

This includes government involvement in granting testing permissions, setting safety standards, and monitoring compliance. Without such oversight, there is a risk that private companies may prioritize rapid technological advancement over safety considerations. Moreover, government control ensures uniformity and consistency in regulation across the country. It also allows for the integration of autonomous vehicles into broader policy areas such as urban planning, transportation systems, and environmental sustainability. Since existing laws like the Motor Vehicles Act, 1988 and the Indian Penal Code, 1860 do not directly address autonomous systems, government intervention is necessary to bridge this gap and modernize the legal framework. In essence, government regulation acts as a balancing mechanism that promotes innovation while safeguarding public interest. It ensures that autonomous vehicle technology develops in a controlled, ethical, and legally accountable manner, thereby preventing misuse and protecting society from potential risks.

### **WHAT IS THE INDIAN LEGAL FRAMEWORK:**

The Indian legal framework is the system of laws, institutions and processes that govern India. It is based on the Constitution of India which's the foundation for all laws in the Indian legal

framework.

- **Existing Legal Framework in India**

The existing framework in India is the current structure of laws, institutions and legal principles that regulate governance and society in the Indian legal framework. It is a combination of provisions, statutes, judicial decisions and traditional practices in the Indian legal framework.

- **Constitutional Foundation**

At the core of the legal framework lies the Constitution of India. The Constitution of India is the law of the land in the Indian legal framework. It provides the framework for governance in the legal framework. The Constitution of India ensures Fundamental Rights, Duties and Directive Principles in the legal framework. It establishes separation of powers among the Legislature, Executive and Judiciary in the legal framework.

- **Legislative Framework**

Laws enacted by Parliament and State Legislatures form a part of the Indian legal framework. Key Criminal Laws in the legal framework include the Indian Penal Code, which defines crimes and punishments in the Indian legal framework. The Criminal Procedure Code in the legal framework is the procedure for criminal trials. The Indian Evidence Act in the legal framework has rules for admissibility of evidence. Key Civil Laws in the legal framework include the Code of Civil Procedure and the Indian Contract Act. There are Reforms in the Indian legal framework, such as Modern Criminal Laws, including the Bharatiya Nyaya Sanhita, which is replacing the Indian Penal Code the Bharatiya Nagarik Suraksha Sanhita and the Bharatiya Sakshya Adhinyam.

- **Judicial Framework**

The Indian legal framework has a judiciary that interprets laws in the Indian legal framework. The Supreme Court of India is part of the framework in the Indian legal framework. High Courts at the State level are also part of the framework in the Indian legal framework.

Subordinate Courts, including District and local courts are part of the framework in the Indian legal framework. Key Functions of the judiciary in the legal framework include judicial review,

interpretation of the Constitution of India and protection of Fundamental Rights in the Indian legal framework.

- **Judicial Precedents**

The Indian legal framework is based on the doctrine of decisis, where decisions of higher courts are binding on lower courts in the Indian legal framework. This forms a source of law in the Indian legal framework.

- **Personal Laws**

Different communities are governed by their laws in family matters in the Indian legal framework. For example Hindu Law, including the Hindu Marriage Act is part of the legal framework. Muslim Personal Law is also part of the legal framework. Christian Law is part of the legal framework.

- **Administrative and Regulatory Laws**

The legal framework has laws that govern the functioning of government bodies. These include rules, regulations and delegated legislation in the legal framework. Examples include laws, tax laws and labor laws in the Indian legal framework.

- **Customary and International Law**

Customs recognized by courts can have force in the Indian legal framework. International treaties influence law, in the Indian legal framework if they are incorporated into the Indian legal framework.

## **MOTOR VEHICLES ACT, 1988**

The Motor Vehicles Act, 1988 regulates road transport in India by laying down rules for driving licences, vehicle registration, traffic control, and compulsory insurance to protect accident victims. It ensures road safety by prescribing penalties for offences such as rash and drunk driving and provides compensation through legal mechanisms like Motor Accident Claims Tribunals. Important provisions include Sections 3 and 4 on licensing, Section 146 on insurance, and Section 184 on dangerous driving, while in *\*Skandia Insurance Co. Ltd. v.*

Kokilaben Chandravadan\*, the court highlighted the importance of protecting third-party rights. The Motor Vehicles (Amendment) Act, 2019 strengthened this framework by increasing penalties, introducing e-challans, and protecting Good Samaritans, as reinforced in \*S. Rajasekaran v. Union of India\*, which emphasized road safety enforcement. The Information Technology Act, 2000 governs digital activities in India by recognizing electronic records and digital signatures and addressing cyber offences such as hacking, identity theft, and online fraud. It includes provisions like Section 66 on computer-related offences and Section 67 on obscene online content, while also regulating intermediaries such as social media platforms. In \*Shreya Singhal v. Union of India\*, the Supreme Court struck down Section 66A for violating freedom of speech, thereby balancing regulation with fundamental rights. The Digital Personal Data Protection Act, 2023 focuses on protecting personal data by requiring consent for data collection and granting individuals rights to access, correct, and erase their data, while holding companies accountable through penalties and oversight by the Data Protection Board of India.

Its foundation is linked to the right to privacy established in \*Justice K.S. Puttaswamy v. Union of India\*, which recognized privacy as a fundamental right under Article 21.

## **LIABILITY AND INSURANCE ISSUES IN AUTONOMOUS VEHICLES:**

Autonomous vehicles change who is responsible when something goes wrong. Before the driver was responsible. Now the companies that make the vehicles, like Tesla and Mercedes-Benz and the people who write the software are responsible. This changes how insurance works.

- **Shift in Responsibility**

When autonomous vehicles drive, the companies that make them are responsible if something goes wrong with the software or hardware.

- **Levels of Automation**

When vehicles are not fully automatic the person driving is still responsible. When vehicles are more automatic the companies that make them are responsible.

- **Role of Insurance**

Insurance for vehicles is changing. It is moving away from insuring drivers and more towards

insuring the vehicles themselves like a company would insure its fleet of vehicles. This could mean insurance costs because autonomous vehicles are safer.

- **Data and Cybersecurity**

There needs to be a way to figure out who is responsible when an accident happens because someone hacked into the vehicles system or messed with the data.

- **Evidence Collection**

It can be very hard to figure out what caused an accident. Was it a problem, with the technology. Did the person not do what they were supposed to do? For example if a vehicle is automatic. The person is supposed to take over in certain situations and they do not who is responsible? Autonomous vehicles make this very complicated.

## **WHO IS RESPONSIBLE IN AUTONOMOUS VEHICLE ACCIDENTS?**

One of the major problems arising from the use of autonomous vehicles concerns the question of liability in accidents. The issue of liability, however, cannot be easily solved since it depends on the type of use and who was controlling the vehicle at the moment.

- **Manufacturers & Technology Providers (Level 4/5)**

In Level 4 and Level 5 vehicles, the driver's role is minimized, and the system is expected to operate independently.

- **The Operator/User (Level 2/3)**

Partially-automated vehicles require the driver's constant attention. Hence, even if the vehicle is taking care of driving responsibilities, the user must:

Monitor the situation, React on any requests for interference from the vehicle if the user fails to do that, he/she might be held responsible for his/her negligence. This means that in partially-automated vehicles, a person is still primarily responsible for the accident, although there exists some sort of "shared control".

- **Comparative Fault Principle**

Sometimes the cause of accidents can be attributed to several factors, both related to the technology failure and human mistake. In such cases, courts tend to allocate liability in accordance with the comparative fault principle.

## **ROLE OF MANUFACTURERS VS DRIVER IN AUTONOMOUS VEHICLES:**

Autonomous vehicles are shaking up the old rules about who's to blame when something goes wrong. For as long as people have been driving, any accident usually meant the driver was at fault. Now that cars can drive themselves, that responsibility is starting to slide away from drivers and onto the companies building the cars, developing the software, and designing the tech that actually makes the decisions.

- **Manufacturers' Role**

Car companies have a lot more riding on these new vehicles. Tesla, Waymo, and others aren't just putting out cars they're rolling out the brains that decide what to do on the road. So if the car gets into an accident because of a software error, a faulty sensor, or a bad design, the company might be on the hook. Strict liability means they can be held responsible even if no one can prove they were careless. As cars get smarter, the law is starting to treat these companies as if they're the ones actually driving.

- **Drivers and Users**

But drivers aren't totally off the hook—at least not yet. With cars that aren't completely self-driving, like Level 2 automation, you still have to pay full attention. The car might help you stay in your lane or adjust your speed, but if you tune out, ignore warnings, or stop paying attention, you'll likely be blamed if something happens. Level 3 is where things start to blur. Here, the car drives itself but sometimes asks you to take over. If you're slow to react when the car calls for your help, you could end up liable for what happens next. On the flip side, if the car doesn't give fair warning, then it's the manufacturer's problem.

- **Wrapping up**

Self-driving cars are flipping the auto insurance world on its head. Suddenly, when things go sideways, people are pointing fingers at the engineers and software developers not just at whoever's sitting in the driver's seat. That's a pretty big deal, and honestly, it throws a bunch of

new challenges into the mix. Who's really to blame the person, or the code running the car? What happens if someone manages to hack the tech? Plus, those expensive repairs when a fancy sensor or onboard computer breaks aren't just a minor headache.

- **Insurance complications**

Insurance companies are changing their playbook. They're not just worried about individual drivers anymore. Now, they're eyeing companies ride-share fleets, delivery services because those businesses are the ones snapping up self-driving cars. The landscape is shifting fast, and everyone's scrambling to figure out how to deal with it.

## **WHAT ARE AUTONOMOUS VEHICLES?**

An Autonomous Vehicle or self-driving vehicle refers to vehicles that can move themselves from one place to another without any human intervention. Instead of having drivers to drive them, these cars employ technology like sensors and cameras to navigate the vehicle.

## **THREATS FROM HACKING:**

The presence of advanced software capabilities, connectivity, and artificial intelligence increases the vulnerability of autonomous cars to cyber security risks. Hackers might take advantage of weaknesses within the car's operating system, network, or cloud computing resources to penetrate the security and take over critical operations such as accelerating, breaking, and steering. Such an intrusion will put the lives of people at great risk. Moreover, hackers can exploit flaws in sensors by employing tactics such as spoofing in order to misguide the vehicle into making wrong judgments. Autonomous cars operate in conjunction with traffic management and other components in smart cities. Therefore, there is need for cybersecurity measures.

## **LEGAL VACCUM:**

The fast-evolving technology of autonomous vehicles is not sufficiently supported by any legislation that could cover all aspects of its application. Laws currently exist with regard to regular vehicles, which means that there is uncertainty as to who should be held responsible in case an accident occurs—whether it is the producer, software maker, or driver. Additionally, there are no strong enough provisions in place to protect data gathered from AVs and used for

analysis and optimization of their performance.

## **GLOBAL PRACTICES**

- **USA**

The USA has opted for a more flexible and decentralized strategy when it comes to regulating self-driving vehicles. The federal government makes recommendations, but individual states are responsible for making their own policies and regulations. While this allows for quick advancements and innovations, it can result in problems with consistency and even issues such as cybersecurity, which might become problematic in the future.

- **EU**

In contrast to China, the EU has a highly rigorous and extensive regulatory structure, especially under the General Data Protection Regulation. The regulation highlights aspects like the need for consent from individuals whose information is collected, minimizing unnecessary data gathering, and allowing people access to their information as well as the opportunity to delete it when desired. Such a system requires stringent data protection and disclosure measures on the part of AV makers.

- **UK**

The United Kingdom has taken a balanced approach by introducing the Automated Vehicles Act 2024. This law focuses on ensuring safety, establishing clear liability rules, and regulating how data is shared between stakeholders. The UK aims to promote the safe adoption of autonomous vehicles while maintaining public trust. By combining innovation-friendly policies with strong regulatory oversight, the UK is positioning itself as a leader in AV development.

## **APPROACH THAT NEEDS TO BE ADOPTED IN THE FUTURE FOR INDIA:**

It is important that India adopts an active, comprehensive and dynamic approach when it comes to regulating AVs. This will include formulating laws that focus on the aspects of privacy, ownership, and user consent when it comes to data generated by the autonomous vehicles. Robust cybersecurity norms would have to be put in place, which includes protocols for

encryption, monitoring and conducting periodic vulnerability assessment to counter any potential threat from cyberattacks. It is important for India to formulate a regulatory authority that will work across different sectors such as the transport sector, the information technology sector and law enforcement agencies. A well-established liability regime would need to be developed, to fix liability in cases of accidents and other incidents resulting from defects in the autonomous vehicles. Localization of data would also be very important in order to protect data from being misused outside of India.

### **AUTONOMOUS VEHICLES DEFINITION:**

Autonomous Vehicle, also known as self-driving car, is a term used to describe automobiles which can be able to navigate from one point to another independently, with no need for any human operation. Instead of being driven by someone, the self-driving car makes use of modern technology to operate such as sensors, cameras, and artificial intelligence, which enables the vehicle to steer, accelerate, stop, and even observe the roads. There are several features in these cars, but one major one is the Advanced Driver-Assistance System (ADAS), which is used to determine the degree of autonomy in driving. Levels are divided into zero to five. If the car is operating at Level Zero, then it shows that everything is being done by humans, while at Level Five, the car is entirely autonomous.

### **WHY DOES THE CONCEPT OF DATA PRIVACY ARISE IN AUTONOMOUS VEHICLES ?**

Despite the convenience that autonomous vehicles provide in making the trip easier, they pose several concerns regarding data privacy. The primary reason why the concept of data privacy arises in the case of autonomous vehicles is due to the collection of huge amounts of data for the functioning of these vehicles. These include personal data, location, trip, and data about the surrounding environment and the car itself. Although this leads to the provision of convenience and ensures safety to an extent, at the same time, privacy of the data is at risk too. Firstly, the risk that the data is provided by the company or any other third party can be high, thereby leading to data breach, i.e., when the data goes into wrong hands and is exploited for any malicious intentions without the knowledge of the user. Secondly, due to the constant use of cameras and sensors for monitoring in such cars, individuals can be easily tracked or spied upon.

**WHY IS THERE AN ISSUE WITH DATA PRIVACY OF AUTONOMOUS VEHICLES ?**

Despite all the advantages offered by autonomous vehicles in terms of convenience and making transportation easier, particularly in connection with ride-sharing and rentals, there is still the issue of data privacy raised in relation to autonomous vehicles. First, the collection of a significant amount of data is essential for an autonomous vehicle's optimal functioning. Data concerning the users' identity, their movements, location, as well as data about the state of the vehicle itself and the environment around it, becomes a cause for concern. Although the collection of such data improves efficiency and enhances safety, some potential risks remain. First of all, the collected data can be passed to a third party, which will result in either data leakage or misuse. Users might become victims of data collection without their permission, being unaware of what their personal data is used for. Moreover, since autonomous vehicles need constant monitoring and analysis, they may serve as tools for people's tracking and surveillance.

**CONCLUSION:**

The conclusion on the legal and technical landscape of Autonomous Vehicles (AVs) in India shows a significant shift from human-centered to technology-centered regulation. The current Motor Vehicles Act of 1988 is still based on human oversight. However, the introduction of the DPDP Act 2023 and the Consumer Protection Act 2019 begins to create a framework that tackles data privacy and accountability for algorithms. Looking ahead, India needs to connect innovation with safety by legally redefining "the driver" to include AI systems for higher levels of automation. It should also shift liability from individual negligence to strict product liability for manufacturers. In the end, a smooth transition relies on aligning technical standards with strong legal protections. This will ensure that as vehicles become more autonomous, the legal system can effectively safeguard public data and physical safety.