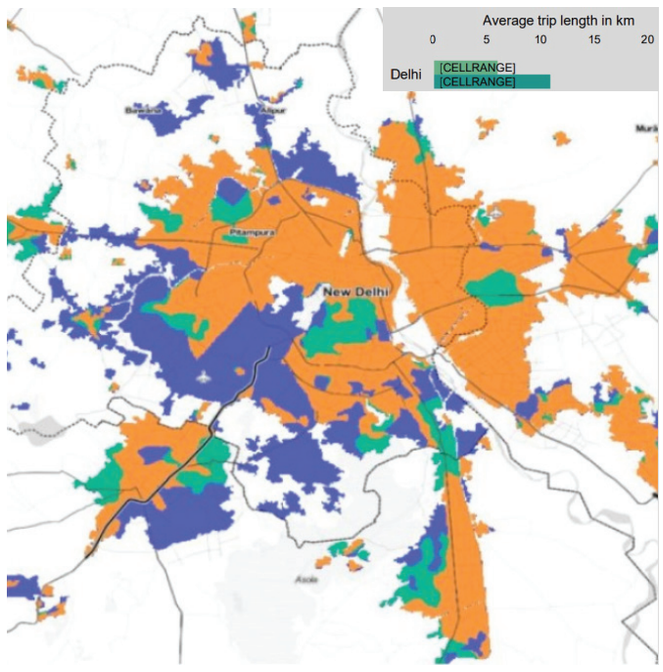
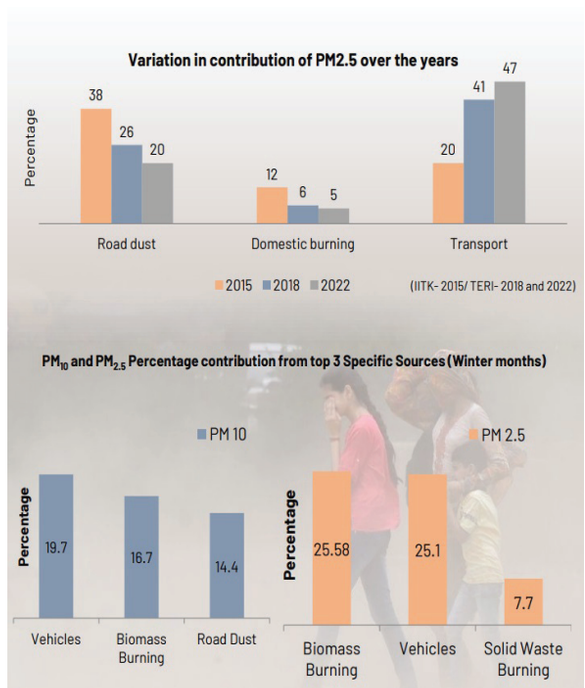
A dense blanket of fog enveloped various parts of Delhi on Monday morning, significantly reducing visibility across the city.



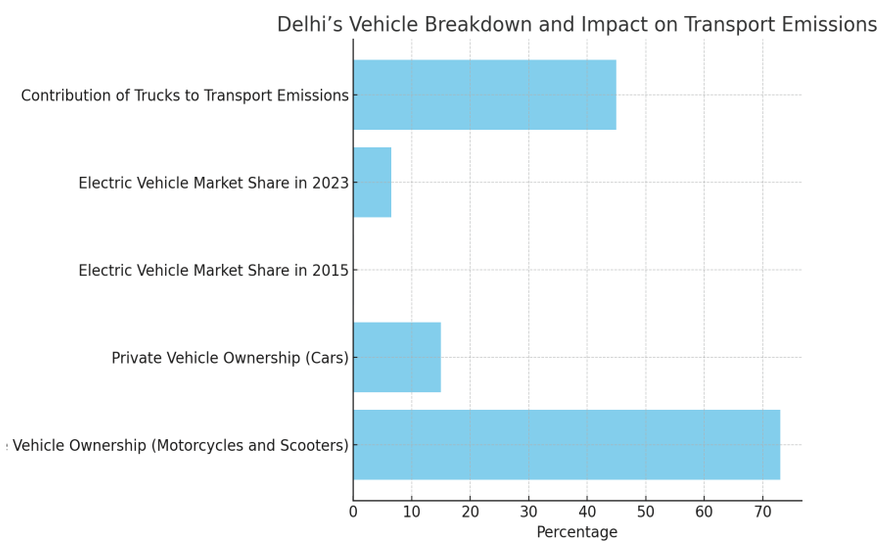
Understanding how Delhi has grown, 1985, 1995 and 2000.



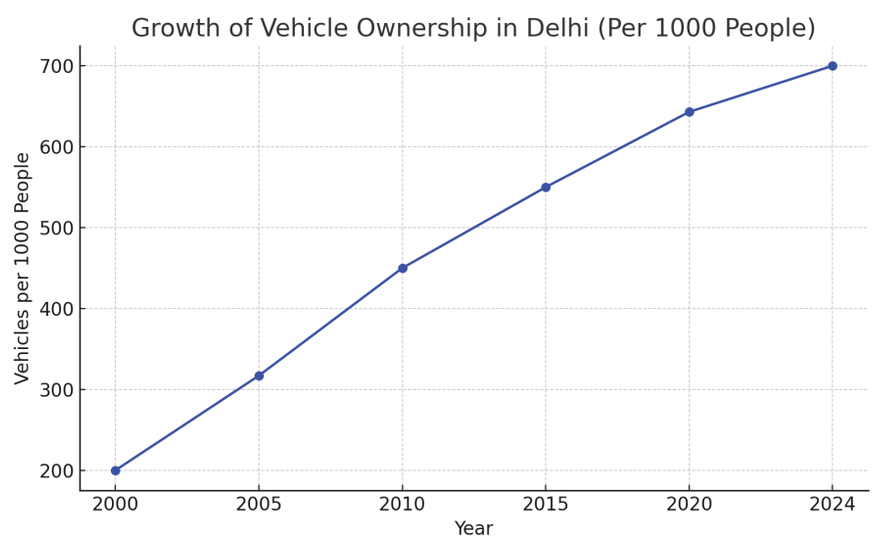
DELHI GASPING FOR BREATH AS THE PANACEA FOR POLLUTION IS ELUSIVE

Despite private vehicles accounting for 90% of Delhi's road traffic, the city's EV adoption has increased significantly, rising from 0.1% in 2015 to 6.5% by 2023.

TDG DEEP DIVE



Key data points from the analysis of Delhi's transport and pollution challenges.



Growth of vehicle ownership in Delhi, measured in vehicles per 1,000 people, over time.

Delhi, one of the busiest cities in the world, faces serious challenges when it comes to air pollution and traffic. The city's roads are packed with vehicles, and the rising number of private cars and trucks has made air pollution worse. But Delhi, like the rest of India, is trying to make changes to reduce pollution and carbon emissions from its transport sector. This is part of a larger goal to fight climate change and improve the health of its residents. Here's a closer look at how Delhi is working towards a greener, cleaner future.

WHY TRANSPORT IS A BIG PROBLEM FOR POLLUTION

Transport is one of the biggest contributors to pollution in India, and Delhi is no exception. Across the country, the transport sector contributes about 12% of all energy-related CO2 emissions. Road transport—cars, trucks, buses—plays a huge part in this. In Delhi, more people are buying cars than ever before, and the number of vehicles on the road has doubled every 5-6 years since 2000. This growing trend is bad news for both the environment and air quality.

One of the most concerning pollutants in Delhi is black carbon, a harmful substance that comes mainly from diesel vehicles like trucks and buses. Black carbon is especially dangerous because it heats up the atmosphere 1,500 times more than CO2 does, and it is also linked to severe health problems for people breathing the polluted air.

THE SURGE IN VEHICLE OWNERSHIP

In the past two decades, the number of vehicles in Delhi has skyrocketed. Today, private vehicles make up around 85-90% of the vehicles on the road. Motorcycles and scooters account for about 73%, while cars make up 15% of the total. Even worse, more people are buying larger vehicles like SUVs, which are less fuel-efficient and emit more pollutants. Between 2010 and 2021, the number of SUVs on Indian roads increased 6.5 times, making it clear that bigger cars are becoming more popular.

This increase in private vehicle ownership not only adds to the already bad traffic jams in the city but also contributes to higher fuel consumption and air pollution. While there have been some efforts to control the number of diesel vehicles, the growing demand for private transport continues to drive pollution levels up.

ELECTRIFYING DELHI'S TRANSPORT: A KEY SOLUTION

One of the most important steps Delhi is taking to reduce transport-related pollution is encouraging the use of electric vehicles (EVs). EVs don't burn fuel and therefore don't release harmful emissions into the air, making them a much cleaner option for the environment.

The adoption of electric vehicles in Delhi has been growing steadily over the past few years. In 2015, the market share of electric vehicles was just 0.1%. By 2023, that figure had increased to 6.5%. Most of these electric vehicles are two-wheelers and electric rickshaws, which are a popular mode of transport in the city.

Delhi is also working to bring more electric buses onto the streets. There are already around 8,000 e-buses operating in Indian cities, and the government has plans to add thousands more. The introduction of these electric buses will reduce the number of polluting diesel buses and improve air quality. However, there's still a long way to go. Delhi's public bus system is under pressure, with too few buses to meet the needs of the city's growing population. As a result, many people turn to private cars, which worsens traffic and pollution.

HEAVY IMPACT OF FREIGHT TRUCKS

Freight trucks, which transport goods across Delhi and other cities, are another major source of pollution. Even though trucks make up only about 2% of the vehicles on Delhi's roads, they contribute to 45% of transport emissions. This is because trucks burn a lot of diesel, which produces more CO2 and black carbon than other fuels.

In the future, the number of trucks on the road is expected to increase dramatically, and this could further worsen pollution levels. To address this, Delhi is looking to introduce more electric freight trucks and improve the efficiency of those that still run on fossil fuels. The government has also set aside funds to support the electrification of trucks and build charging stations for them, making it easier for businesses to switch to cleaner vehicles.

PUBLIC TRANSPORT: NEED FOR MORE BUSES AND TRAINS

While private vehicle ownership is on the rise, Delhi is also working to improve its public transport system, which includes buses and the Metro rail. Public transport is a critical part of reducing the city's reliance on cars. Currently, around 30% of all trips made in Indian cities, including Delhi, are by public transport.

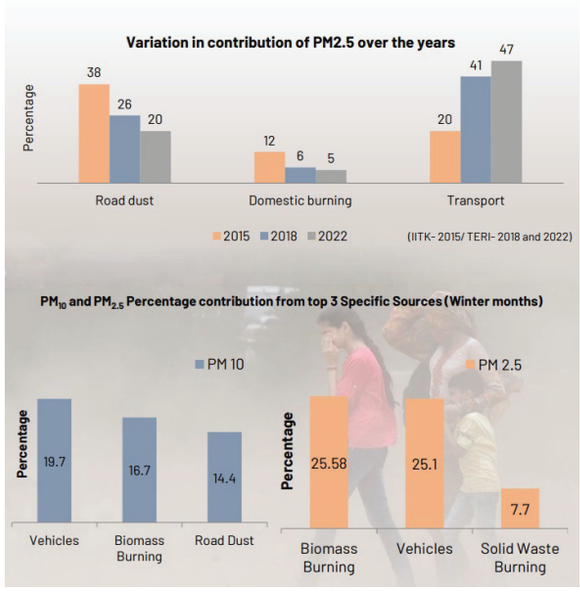
However, Delhi's public transport system is struggling to keep up with demand. The city needs more buses—an estimated 60,000 buses are required across major cities like Delhi, but there is currently a huge shortfall. Public buses in Delhi also suffer from long waiting times, which makes them less appealing to commuters. For example, only 1% of bus stops in the city have waiting times of less than 10 minutes, while 50% of bus stops experience waits of over 15 minutes.

Expanding the number of electric buses and improving the frequency and reliability of bus services will be crucial for convincing more people to use public transport instead of private cars. The Delhi Metro is another important part of the solution, but it too needs to expand to cover more of the city.

IMPORTANCE OF WALKING, CYCLING, AND CLEANER FREIGHT

For Delhi to truly become a sustainable city, it's not enough to just focus on electric vehicles and public transport. The city also needs to make walking and cycling safer and more convenient. While there are efforts to improve cycling infrastructure and create pedestrian-friendly zones, these initiatives are still small in scale and lack proper funding.

Another important area is urban freight—this refers to the trucks that deliver goods within the city. Urban freight is responsible for up to 40% of all transport-related CO2 emissions. To tackle this, the city is working with delivery companies like Amazon and Flipkart to introduce electric delivery vehicles. By switching to electric trucks and vans, these companies can help reduce pollution and set an example for other businesses.



HOW DELHI CAN MOVE FORWARD

To successfully reduce its transport emissions and clean up its air, Delhi needs to focus on several key areas:

Encouraging electric vehicles: The city must continue to support the growth of electric vehicles, especially electric buses and trucks, which are key to reducing pollution from both passenger transport and freight.

Improving public transport: Expanding the electric bus fleet, increasing the frequency of services, and expanding the Metro network will make public transport more reliable and attractive to commuters.

Supporting walking and cycling: Building safe, pedestrian-friendly zones and cycling paths will reduce the need for short car trips, which contribute heavily to urban pollution.

Cleaner freight solutions: Introducing more electric freight vehicles and improving the efficiency of existing trucks will help tackle the large share of emissions that come from transporting goods within the city.

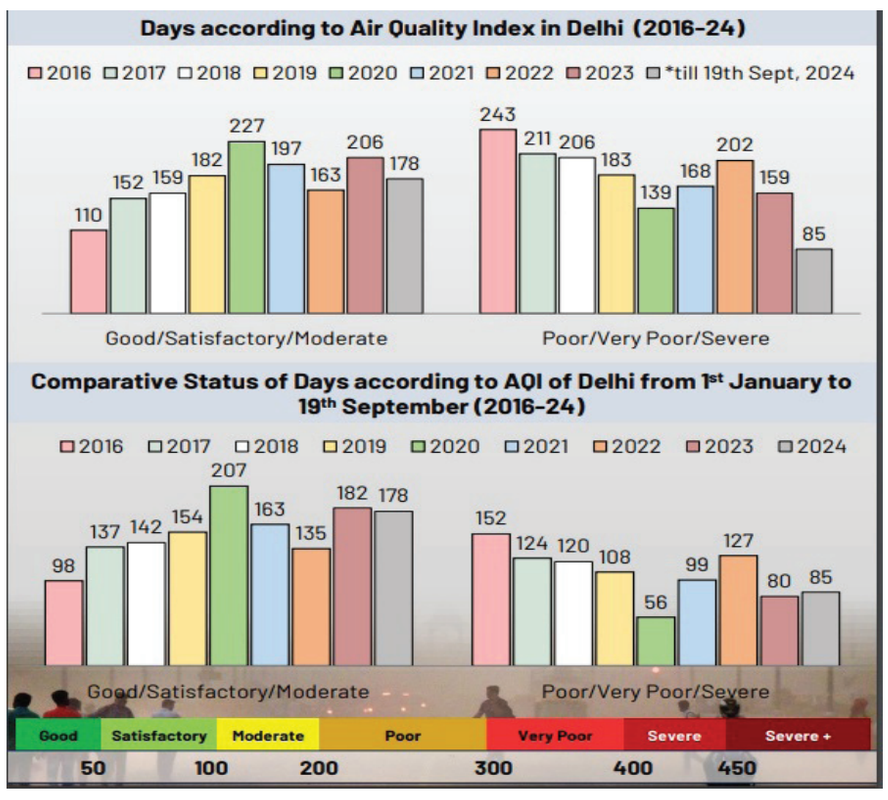
Strong policies and regulations: The government needs to set clear, binding targets for reducing emissions and supporting electric vehicles. This includes creating a roadmap for electrifying transport and ensuring that businesses and individuals have access to the necessary infrastructure, like charging stations.

THE GREENER FUTURE

Delhi is at a critical point in its journey toward cleaner, more sustainable transport. With its growing population and rising vehicle ownership, the city faces immense challenges in reducing air pollution and cutting down carbon emissions. However, through a combination of electrification, improved public transport, and better urban planning, Delhi has the potential to lead the way in creating a healthier, greener future for its residents.

The steps that Delhi takes now to clean up its transport sector will not only improve the air quality and health of its citizens but also contribute to India's larger goal of combating climate change. By investing in cleaner technologies and sustainable transport solutions, Delhi can reduce its carbon footprint and set an example for other cities in India and around the world.

Data is provided by Centre for Science and Environment (CSE) and Delhi Pollution Control Committee (DPCC).



DPCC air monitoring station data is being utilized by CPCB for analyzing the AQI of the city.

Monitoring 8 Parameters	
1	$PM_{2.5}$
2	PM_{10}
3	Sulphur dioxide
4	Nitrogen dioxide
5	Ozone
6	Ammonia
7	Benzene
8	Carbon monoxide