Uber

TQH YLAC



One Less Car | Delhi-NCR

Rethinking Urban Mobility: Barriers and Opportunities for a Car-Light Future

November | 2026

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सत्यमेव जयते

D.O. No. 4465

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Foreword

Cleaner air for every resident of Delhi is among the foremost priorities of the Delhi Government. Guided by the vision of the Hon'ble Prime Minister Shri Narendra Modi and under the leadership of the Hon'ble Chief Minister Smt. Rekha Gupta, the Delhi Government is working on several fronts simultaneously. The Delhi EV Policy 2026–30 is accelerating electrification and this winter's action plan curbs older, more polluting vehicles from outside Delhi while promoting public transport, carpooling and last-mile links to the Metro. Clean air, however, is not something a Government can deliver alone. Our *Saath Nibhayein, Pradushan Ghataayein* campaign, running from September 2026 to March 2027, is an invitation to every resident to take part.

How we travel is one of the areas where residents and Government can make the greatest difference together. Cleaner vehicles reduce emissions, but the congestion and other detriments continue. It is in this spirit that I am pleased to note the experiment - *One Less Car*. By inviting 34 residents to set aside their vehicles for four weeks, Uber, Young Leaders for Active Citizenship (YLAC) and The Quantum Hub (TQH) asked a question central to Delhi's air quality: will people who own personal vehicles use alternatives if given a choice? The answer is encouraging. One week after the experiment, just 2 participants relied exclusively on personal vehicles, down from 12 at baseline. Modelled emissions from participants' travel fell by an estimated 30% during the experiment. These are early results from a small, supported group of volunteers, but they show what becomes possible when alternatives work.

Two ideas in the report deserve our attention. First, participants did not simply swap one mode for another. They combined the Metro, ride-hailing, autos and walking, according to the need of the journey. This is why reliable, safe and affordable first- and last-mile connectivity matters so much. Second, a cleaner fleet is only part of the answer. Delhi's roads also need fewer unnecessary journeys and more shared ones. The report's case for making fuller use of the vehicles already on our roads deserves careful consideration alongside electrification.

Sustainable habits take root when they are practical, affordable, reliable and within reach, and the Government is committed to making them so. *One Less* Car shows that many residents are willing to try, and that is an encouraging place to begin.

I congratulate the authors and thank the participants who volunteered for this effort. I am confident that the report will inform coordinated action to make everyday travel more dependable and less reliant on personal vehicles across Delhi-NCR.

(Sardar Manjinder Singh Sirsa)

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The Quantum Hub (TQH) is a public policy research and consulting organisation that works at the intersection of policy, research, and advocacy. It partners with businesses, governments, philanthropies, and think tanks to generate evidence, develop policy solutions, and inform decision-making on issues of public interest.

Young Leaders for Active Citizenship (YLAC) is a non-profit organisation that works to empower young people to become active citizens and drive positive social change. Through programmes, partnerships, and capacity-building initiatives, YLAC seeks to strengthen youth leadership, civic engagement, and participation in public policy and governance.

Uber India is the Indian arm of Uber, a global mobility platform that connects people with a range of transportation options, including cars, auto-rickshaws, and two-wheelers. It works to make everyday mobility more accessible, reliable, and convenient through technology-enabled transportation solutions

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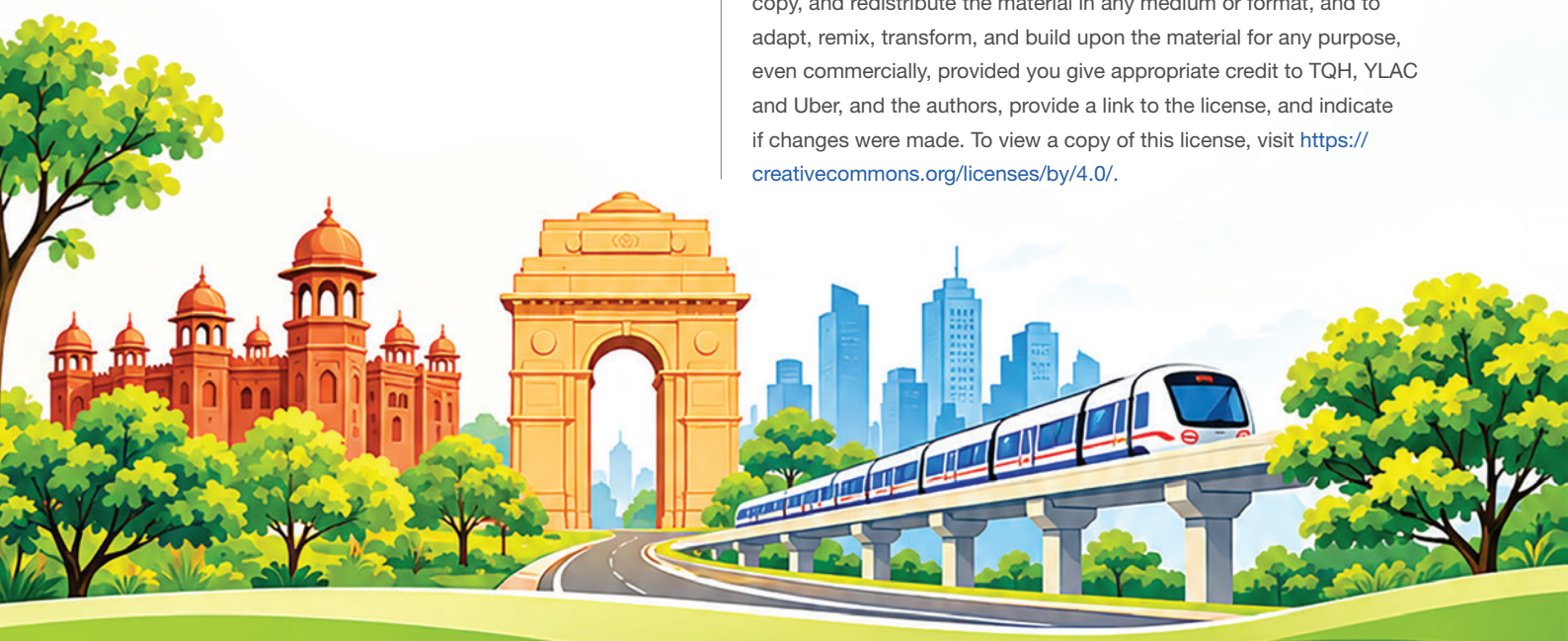



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Abbreviations Used

Abbreviation	Full form
CAQM	Commission for Air Quality Management
CCTV	Closed-Circuit Television
CNG	Compressed Natural Gas
CO_2	Carbon dioxide
CSE	Centre for Science and Environment
DTC	Delhi Transport Corporation
EMI	Equated Monthly Instalment
GHG	Greenhouse Gas
GRAP	Graded Response Action Plan
ICCT	International Council on Clean Transportation
MoHUA	Ministry of Housing and Urban Affairs
NCR	National Capital Region
PV	Personal Vehicle
SUV	Sport Utility Vehicle
WRI	World Resources Institute





Definition of Key Terms

Term	Definition
Behaviour change survey	The survey was completed about a week after the experiment ended, once participants could use their own vehicles again and the transport credits had stopped. Also called the follow-up survey.
Bike taxi	A ride on the back of a motorcycle booked through an app. Uber's version is called Uber Moto.
Car-light/ bike-light	Living with less reliance on a car or two-wheeler: keeping one where needed, using it for fewer trips and using other modes for the rest.
Endline survey	The survey that was completed at the end of the experiment weeks.
First- and last-mile connectivity	How easily people can get from their starting point to a station or stop, and from the station or stop to their destination.
Flexible transport wallet	The ₹5,000 portion of the transport bundle paid by bank transfer, which participants could spend on modes outside the Uber app.
Multimodal travel	Multimodal trips refer to trips that involve using multiple modes of travel within a single trip. For example, walking to a train station, taking the train, and then biking to the office.
Personal vehicle (PV)	A car or two-wheeler owned or regularly used by a participant's household.
PM2.5	Fine particles 2.5 micrometres across or smaller, small enough to reach deep into the lungs. The main pollutant behind Delhi's winter air quality readings.
Ride-hailing	Booking a car, auto or bike taxi through an app, such as Uber, for a single trip.
Transport bundle	The ₹20,000 given to each participant for travel during the experiment, made up of Uber credits and the flexible transport wallet.
Uber platform data	Records from Uber's systems of participants' trips booked through the app, including mode, distance and fare.

Executive Summary

Delhi has no shortage of transport options: one of the world's largest Metro networks[1], an extensive bus fleet, auto- and e-rickshaws, app-based cabs and bike taxis. Yet it has 522 vehicles for every 1,000 people and the numbers keep rising.[2] Most of these vehicles stand parked for most of the day. They take up about a tenth of Delhi's urbanised land[3]; add to the congestion that cost commuters around 104 hours annually[4] and pressure on parking space; and produce emissions that worsen the air quality. Vehicles contribute over half of locally generated PM2.5 during peak winter pollution.[5] Electrification will clean the tailpipe. But can it ease congestion or free up road and parking space if the number of vehicles keeps growing?

Delhi's transport policy framework already recognises the need to prioritise accessible mobility in addition to cleaner vehicles. The Master Plan for Delhi 2047 prioritises multimodal transport hubs, transit-oriented development and integrated parking management,[6] while the revised Graded Response Action Plan (GRAP; September 2026) retains higher parking charges to discourage private transport during periods of poor air quality.[7] The state's *Mera Bharat, Mera Yogdan*[8] campaign (May 2026) under the leadership of Chief Minister Rekha Gupta, reinforces this shift through fuel conservation initiatives such as 'Metro Monday', carpooling and a weekly no-vehicle day.[9]

Together, these priorities point to a broader shift: electrification must go hand in hand with better multimodal connectivity, smarter use of parking and road space, and greater utilisation of existing vehicles. But one behavioural question remains: **will people who own personal vehicles (PVs) actually use alternatives when they have the choice?** The One Less Car experiment was designed to test this assumption in Delhi-NCR.

522
vehicles for every 1,000 people

~1/10
of Delhi's urbanised land taken up by vehicles

104 hrs
a year lost by commuters to congestion

50%+
of locally generated PM2.5 in peak winter comes from vehicles

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1 *Diksha Modi. Delhi Metro Expansion Pushes India Into World's Top 3 For Rapid Transit Systems. March 16, 2026. https://www.news18.com/cities/new-delhi-news/delhi-metro-expansion-pushes-india-into-worlds-top-3-for-rapid-transit-systems-ws-kl-9962829.html.*

2 *Millennium Post, Delhi vehicle count up 7.9% to 87.6 lakh, 2026, https://www.millenniumpost.in/delhi/delhi-vehicle-count-up-79-to-876-lakh-653097*

3 *Nandan Dawda (Observer Research Foundation), Managing on-street parking in Indian cities, 2024, https://www.orfonline.org/expert-speak/managing-on-street-parking-in-indian-cities*

4 *TomTom, New Delhi traffic report (TomTom Traffic Index 2025), 2026, https://www.tomtom.com/traffic-index/new-delhi-traffic/*

5 *Centre for Science and Environment, Beyond the burn: Delhi's winter smog intensifies even after stubble fires fade, 2025, https://www.cseindia.org/beyond-the-burn-delhi-s-winter-smog-intensifies-even-after-stubble-fires-fade-12982*

6 *Delhi Development Authority, Master Plan for Delhi 2047 (Gazette notification), 2026, https://dda.gov.in/sites/default/files/planning%20files/mpd-2047_gazette_english.pdf*

7 *Commission for Air Quality Management, Direction No. 104: Revised GRAP schedule, 2026, https://environment.delhi.gov.in/sites/default/files/environment/universal/direction-104_revised_grap_schedule_sep_2026.pdf, p. 21*

8 *"My India, My Contribution" in English*

9 *The Tribune, Delhi govt launches 90-day 'Mera Bharat Mera Yogdan' campaign, 2026, https://www.tribuneindia.com/news/delhi/delhi-govt-launches-90-day-mera-bharat-mera-yogdan-campaign/*

The ‘One Less Car’ Experiment: Testing Whether Car-Light Travel Works

Uber, in partnership with TQH and YLAC conducted the One Less Car experiment in Delhi (August–September 2026). The study followed **34 frequent PV users from across Delhi-NCR**, who set aside their personally owned cars or two-wheelers for four weeks and relied on alternative modes for everyday journeys. Participants received a ₹20,000 transport bundle comprising Uber credits for cars, bikes, autos and Metro, alongside a flexible transport wallet, allowing them to choose how they travelled.

The experiment sought to understand three things: how setting aside PVs changes travel habits; what enables or constrains the use of alternative modes; and what could help people reduce their dependence on PVs.

The study adopted a mixed-methods approach across three phases:

1. Baseline (one week)

Established participants’ usual travel patterns, perceptions of alternative modes and reliance on PVs.

2. Experiment (four weeks)

Participants travelled without their PVs, with daily mobility logs, weekly reflections, endline surveys and Uber platform data tracking their travel behaviours.

3. Follow-up (one week later)

Assessed whether changes in travel behaviour and perceptions persisted after participants regained access to their PVs and transport incentives ended.

Key Findings

1 Before the experiment, personal vehicles were the default, often because alternatives did not consistently meet everyday needs

Before the experiment, nearly all 34 participants relied on their PVs for most journeys, with 12 using no mode other than their own vehicle for the whole week. Their reliance on PV extended beyond work commutes to social outings, errands and caregiving.

This was not simply a matter of preference. Participants valued the convenience (14 of 34 participants), reliability (10 out of 34), safety (9 out of 34) and flexibility (9 out of 34) their PVs offered. Although alternate modes of transport had distinct advantages, they were not always practical substitutes. The Metro, for instance, was rated almost as reliably as PVs at the baseline survey, yet only 9 participants used it during the baseline week. Gaps in public transport coverage and last-mile connectivity remained significant barriers. Only 14 of 34 participants expected four weeks without their vehicle to be manageable.

2 Participants who could successfully replace their PV, needed access to at least 3 different types of modes

No single mode took the vehicle's place. The participants managed their daily commute using multiple modes of transport (3 modes a week as opposed to 1.8 before the experiment). A week after the experiment, 20 of 34 participants were no longer using their PVs.

Ride-hailing cab was the most widely used alternative, followed by autos, walking and the Metro. Each served a complementary role: the Metro for longer journeys, autos and walking for shorter and connecting trips, and cabs for door-to-door travel. For 23 participants, travelling without their vehicle had become easier by the end of the trial.

3 Gaps between transport services kept personal vehicles necessary for some journeys

Having multiple transport options did not automatically make journeys seamless.

- **First- and last-mile connectivity:** 22 participants struggled to reach a station or stop, or to complete the journey from one. Metro use rose at the start of the experiment and then stopped growing.
- **Buses were difficult to find:** Buses were barely used, mainly because participants could not find routes or arrival times.
- **Safety after dark:** Women were less likely than men to purchase Metro tickets through the Uber app (7 of 16 women, compared with 11 of 18 men) and described poorly lit, thinly staffed station areas after dark as impediments.
- **Ride-hailing cabs at peak hours:** 30 of 34 participants faced a long-wait, cancellations or refusals, most often in the morning rush hour. Despite that only 5 of 94 reported disruptions led them back to PVs. What was short was not vehicles in Delhi, but vehicles available to be shared when needed, while much of the city's private fleet stood parked.

The feasibility of car-light travel also varied by journey type. Work commutes and errands were generally easier to manage than anticipated, while late-night journeys, school runs and medical appointments were harder. Late-night and early-morning journeys raised safety concerns, particularly among women.

4 Going car-light reduced the burden of driving, as well as carbon emissions

Despite the challenges, participants valued the freedom to switch between modes (31 of 34), avoiding traffic (27), not having to scout for parking space (25), and feeling less tired or stressed (25). Many also used travel time to work, read, make calls or rest rather than concentrate on driving.

The shift also had potential environmental benefits. Modelled estimates suggest that total emissions from participants' motorised travel fell by approximately 30%, from around 4.8 kg to 3.3 kg of CO_2 per participant per day. This reflected reduced personal-vehicle use, greater use of ride-hailing services and public transport, and some journeys being replaced by walking or not undertaken.

5 Broader travel choices persisted after incentives ended - but private vehicles, though more expensive, will not be given up altogether

One week after the experiment, participants continued using alternative modes, even after regaining access to their vehicles and losing the transport incentives. Compared with baseline, ride-hailing use increased from 15 to 28 participants, walking from 11 to 27, autos from 15 to 22, and Metro use from 09 to 18.

The number of participants relying exclusively on their PVs fell from 12 to just 02 in the week after the experiment ended.

For some, the most important change was questioning whether every journey required a PV. 14 participants reported combining their PV with other modes or rarely relying on it for an entire journey. However, convenience, cost, time constraints, weather, safety and caregiving needs continued to draw some participants back to their vehicles. These findings indicate early persistence, rather than evidence of lasting behavioural change.

What this means for Delhi

First, Delhi does not need a new transport system. It needs the one it already has to work as one network, so that the Metro, buses, autos, walking and ride-hailing cabs come together as working alternatives for PVs. **Second**, Delhi does not need more vehicles to meet its travel demand. It needs to get more use out of the vehicles it already has.

One Less Car provides early evidence that people can meet much of their everyday travel needs without relying on their PVs. The challenge for policy is to translate this experience into a wider mobility system: one that integrates public transport, intermediate modes and walking, while supporting more efficient use of the existing vehicle fleet. **For Delhi-NCR, the priority must go beyond cleaner vehicles: it must be to reduce dependence on private vehicles, optimise the existing fleet of vehicles in the city and make the existing mobility options already accessible and reliable for commuters.**



Recommendations

Making Delhi's existing transport system work as one requires action at the points where journeys connect, alongside measures to improve the utilisation of vehicles already on the road. The following priorities build on existing policies, regulations and institutional arrangements.

Figure 1: Five priorities for a car-light Delhi

Five priorities for a car-light Delhi

The One Less Car experiment points to practical ways to connect existing transport options and reduce reliance on private vehicles.

Recommendation 1

Connect the first and last mile

Frequent feeders, safe walking routes and clear pick-up bays around Metro stations.

Recommendation 2

Make journeys easy to plan and pay for

Reliable real-time information and integrated, open ticketing across modes.

Recommendation 3

Scale shared mobility: ride-sharing and private carpooling

Pilot ride-hailing using privately owned EVs and facilitate private carpooling for similar routes, with safety safeguards and evaluation.

Recommendation 4

Make public and shared transport safer

Improve lighting, security, driver checks and complaint response, especially after dark.

Recommendation 5

Put reduced driving on the clean-air agenda

Track private vehicle use and emissions, and strengthen public transport during GRAP restrictions.

One connected network. Better-used vehicles. Cleaner journeys.

1. Introduction

Delhi has more ways to get around than most Indian cities. Its Metro network now spans about 416 km and 303 stations,[10] the city has the country's largest electric bus fleet, with more than 4,000 e-buses, and residents can also travel by Delhi Transport Corporation (DTC) and cluster buses, autos, e-rickshaws, cycle-rickshaws, app-based cabs and bike taxis. Yet households keep buying their own vehicles faster than they take up these alternatives. Delhi had 87.61 lakh registered vehicles in March 2026, 7.93% more than a year earlier. Put another way, this is about 522 vehicles for every 1,000 people.[11] Two-wheelers make up about two-thirds of these vehicles. The count rose even after the city deregistered 66.2 lakh overage vehicles.[12] Over the same year average daily ridership on DTC buses fell from 25.58 lakh to 24.29 lakh,[13,14] but metro journeys grew by about 5.5% in 2025, slower than the 7.93% rise in registered vehicles.

87.61 lakh
Registered vehicles in Delhi, March 2026

7.93%
more than a year earlier

522
vehicles for every 1,000 people

These modes are run by different state agencies, priced separately and planned in isolation, so they rarely connect where one journey leg ends and the next begins. Building alternatives, in other words, has not by itself changed how households travel. To understand why, it is necessary to look at what a personal vehicle (PV) offers that the alternatives, as they stand, do not.

1.1. Why households still choose their own vehicles

Part of the answer lies in rising incomes and aspiration. People in India buy vehicles for a mix of practical and social reasons. As incomes rise, households want more freedom to travel when and where they like. The Economic Survey of Delhi (2019-20) has linked the city's vehicle growth to "rising incomes combined with a demand for greater personal mobility".[15] A vehicle is also a marker of status. A study using India Human Development Survey data found that, alongside income and household size, perceived social status was a key factor in urban households buying cars.[16] In the 2026 India Mobility Report, 46% of Indians said they wanted a vehicle even when they did not strictly need one.[17]

[10] *Delhi Metro Rail Corporation, Delhi Metro: The Lifeline Of Delhi-Ncr, 2026. https://delhimetrorail.com/pages/en/pressrelease_details/delhi-metro-the-lifeline-of-delhi-ncr-backbone-of*

[11] *Millennium Post, Delhi vehicle count up 7.9% to 87.6 lakh, 2026, https://www.millenniumpost.in/delhi/delhi-vehicle-count-up-79-to-876-lakh-653097*

[12] *In Delhi-NCR, diesel vehicles older than 10 years and petrol vehicles older than 15 years are classified as end-of-life (overage) vehicles under National Green Tribunal (NGT) and Supreme Court directives*

[13] *The Pioneer, Delhi's vehicle count hits 87.6 lakh; 8% rise in 2025-26, 2026, https://dailypioneer.com/news/delhis-vehicle-count-hits-87-6-lakh-8-rise-in-2025-26*

[14] *Planning Department, Government of NCT of Delhi, Economic Survey of Delhi 2025-26, 2026, https://delhiplanning.delhi.gov.in/sites/default/files/2026-03/economic_survey_english_0.pdf*

[15] *Planning Department, Government of NCT of Delhi, Economic Survey of Delhi 2019-20, Chapter 12: Transport, 2020, https://delhiplanning.delhi.gov.in/sites/default/files/Planning/chapter_12_0.pdf*

[16] *Ramakrishnan, Anjali, Matthias Kalkuhl, Sohail Ahmad and Felix Creutzig, Keeping up with the Patels: Conspicuous Consumption Drives the Adoption of Cars and Appliances in India, 2020, https://research-portal.uws.ac.uk/en/publications/keeping-up-with-the-patels-conspicuous-consumption-drives-the-ado/.*

[17] *Ipsos. India Mobility Report 2026. 2026. https://www.ipsos.com/sites/default/files/documents/2026-05/Ipsos%20India%20Mobility%20Report%202026.pdf*

Aspiration, however, explains the purchase better than it explains daily use. Once a household owns a vehicle, whether it reaches for it on a given day depends on whether the alternative modes of transport can get its members where they need to go, on time and safely. In Delhi, a 2024 study by Centre for Science and Environment (CSE) reports that about half of all bus stops have waiting times of more than 15 minutes, around 44% of roads have no footpath, and suggests that inadequate last-mile connectivity is a reason people avoid public transport.[18] The 2020 Economic Survey also pointed to inadequate last-mile connectivity as a reason for the rise in personal vehicles.[19] Safety matters too, especially for women: 77% of women surveyed by Greenpeace India (2024) said they felt unsafe on Delhi buses after dark.[20] As a result, over the past decade, the share of trips made by private vehicles in Delhi has risen from 38% to 49%.[21] The PV is therefore, in large part, a response to gaps in the network and infrastructure barriers rather than simply a preference. This distinction matters for policy as consumer preferences are difficult to change. However, gaps in service and infrastructure are something that can be addressed.

1.2. Bought for every trip, used for a few hours

The result of increasing PV ownership is a fleet bought to cover the trips that the alternative modes of transport cannot, and then left idle for most of the day. The Maharashtra government's 2025 draft parking policy estimates that an average car in India stays parked for about 96% of the time.[22] For the household, this means paying the full cost of a vehicle to use a small fraction of it. For the city, it means accommodating that vehicle around the clock, on land, roads and footpaths that have other uses.

96%
of the time, the average car in India sits parked.

1.3. What the idle fleet costs the city

The costs of this arrangement do not fall only on the owner. They fall on everyone who uses the city's streets, breathes its air or competes for its land, and they take four forms.



Land and public space

23–28 m² per parking space; parking demand from cars takes up about 14% of road space



Congestion

60.2% average congestion level in 2025; about 104 hours lost to traffic per commuter in a year



Air quality

Vehicles produced 51 to 53% of the PM2.5 generated within Delhi, 10-20 November of the last three winters



Household budget

EMIs, road tax, insurance and depreciation continue whether the vehicle is driven or parked

[18] *Anumita Roychowdhury, Sayan Roy, Shubham Srivastava, Sharanjeet Kaur, Richa Pandey, Caleb Phillips and Shambhavi Shukla. Mobility Crisis is Behind the Pollution in Delhi. 2024. https://www.cseindia.org/mobility-crisis-is-behind-the-pollution-in-delhi-12455.*

[19] *Economic Survey of Delhi, 2019-20, Chapter 12: Transport. 2021. https://delhiplanning.delhi.gov.in/sites/default/files/Planning/chapter_12_0.pdf*

[20] *Business Standard. 77% women feel unsafe in Delhi buses at night, reveals Greenpeace report. October 30, 2024. https://www.business-standard.com/india-news/77-women-feel-unsafe-in-delhi-buses-at-night-reveals-greenpeace-report-124103000012_1.html*

[21] *Anumita Roychowdhury, Sayan Roy, Shubham Srivastava, Sharanjeet Kaur, Richa Pandey, Caleb Phillips and Shambhavi Shukla. Mobility Crisis is Behind the Pollution in Delhi. 2024. https://www.cseindia.org/mobility-crisis-is-behind-the-pollution-in-delhi-12455.*

[22] *Motor Vehicles Department, Government of Maharashtra. Maharashtra Proof of Parking Policy: Concept Note/Discussion Paper. 2025. https://cdnbbsr.s3waas.gov.in/s3a012869311d64a44b5a0d567cd20de04/uploads/2025/05/20250501170274283.pdf.*

1.3.1. Land and public space

A fleet that idle still needs somewhere to go, and the city provides that space. A single parking space needs 23 to 28 square metres[23], and the Observer Research Foundation estimated that parking demand from cars takes up about 14% of road space.[24] When there is not enough room, cars move onto roads and footpaths. Improper or obstructive parking was the most common traffic offence in Delhi in early 2026, with 4,30,202 on-the-spot challans issued between January and March.[25] In 2019, the Supreme Court traced the city's parking crisis to the "conflict between increasing number of cars and dwindling availability of land".[26] In June 2026, the Court held that walking on demarcated footpaths is a fundamental right, stating that "pedestrians have the first claim over footpaths".[27]

The judgment reinforces the responsibility to keep footpaths clear and accessible. It also bears directly on the subject of this report. Every Metro or bus journey begins and ends on foot. When footpaths are missing or occupied by parked vehicles, the walk to a station becomes harder resultantly increasing the reliance on PVs. Reducing the space the private fleet claims is therefore a condition for making public transport usable, not only a matter of civic amenity.

1.3.2. Congestion

The space that parked cars take also shapes how the same cars move. With less room for moving traffic, congestion rises. In 2025, Delhi's average congestion level was 60.2%, and a commuter driving in rush hour lost about 104 hours to traffic over the year.[28] Congestion does not burden car users alone. Buses, autos and cabs are caught in the same traffic, so the more road space PVs occupy, the slower and less reliable the alternatives become, and the stronger the case for owning a vehicle appears.

1.3.3. Air Quality

Vehicles are also the largest local contributor to Delhi's winter air crisis. A CSE analysis of data from the Indian Institute of Tropical Meteorology found that between 10 and 20 November in each of the last three winters, vehicles produced 51 to 53% of the PM2.5 (fine particles small enough to reach deep into the lungs) generated within Delhi.[29] In January 2026, the Commission for Air Quality Management (CAQM) told the Supreme Court that vehicles were the highest contributor to air pollution in Delhi-NCR and called for structural measures rather than short-term emergency ones.[30] In November 2026, the Supreme Court again pointed to the "sharp increase in issues attributable to vehicular emissions" and directed Delhi and neighbouring states to set out short- and long-term measures to curb them.[31]

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[23] *Centre for Science and Environment (CSE). Parking Restraint Must to Reduce Car Usage and Promote Clean Commuting Practices, Says CSE Analysis. 2018. https://www.cseindia.org/parking-restraint-must-to-reduce-car-usage-and-promote-clean-commuting-practices-says-cse-analysis-6131.*

[24] *Nandan Dawda. Managing On-Street Parking in Indian Cities. 2024. https://www.orfonline.org/expert-speak/managing-on-street-parking-in-indian-cities.*

[25] *Delhi Traffic Police. Delhi Traffic Police Newsletter: February–April 2026. 2026. https://staging.parivahan.gov.in/delhitrafficpolice//sites/default/files/NEWSLETTER-April.pdf*

[26] *Business Standard. Parking Problem Blocking Prosperity of Delhi: SC. March 6, 2019. https://www.business-standard.com/article/pti-stories/parking-problem-blocking-prosperity-of-delhi-sc-119030601049_1.html.*

[27] *Deccan Chronicle. Right to Walk, But Where? SC Ruling Spotlights Delhi's Footpaths. June 27, 2026. https://www.deccanchronicle.com/nation/sc-ruling-puts-delhis-pedestrian-infrastructure-under-spotlight-1966646.*

[28] *TomTom, New Delhi Traffic Report – TomTom Traffic Index, 2025. https://www.tomtom.com/traffic-index/new-delhi-traffic/.*

[29] *Shambhavi Shukla. From episodic smog to structural pollution: Why vehicles remain Delhi's biggest challenge. Down to Earth. December 22, 2025. https://www.downtoearth.org.in/air/from-episodic-smog-to-structural-pollution-why-vehicles-remain-delhis-biggest-challenge.*

[30] *The Print. Vehicular pollution highest contributor to air pollution in Delhi-NCR: CAQM tells SC. January 21, 2026. https://theprint.in/india/vehicular-pollution-highest-contributor-to-air-pollution-in-delhi-ncr-caqm-tells-sc/2832822.*

[31] *Press Trust of India (PTI). Pollution in Delhi-NCR: Sharp increase in vehicular emissions warrant urgent intervention, says SC. https://www.ptinews.com/stories-detail/national/Pollution-in-Delhi-NCR--Sharp-increase-in-vehicular-emissions-warrant-urgent-intervention--says-SC/4246704/1*

Until such measures take hold, the burden of each winter falls on emergency restrictions under the Graded Response Action Plan (GRAP), which limit how everyone in the region travels.

1.3.4. Household Budget

Owners pay too, in a way that is easy to underestimate. EMIs, road tax, insurance and depreciation continue whether the vehicle is driven or parked, and fuel, tolls and parking are added on every trip. The more a vehicle stands idle, the more each journey it makes actually costs. Uber's One Less Car research in Australia too found that the perceived affordability of car use "appears to contradict reality", and that cars driven less than 5,000 km a year may not make financial sense for their owners.[32]

1.4. Why cleaner vehicles are necessary but not enough

Delhi's main response to vehicular pollution has been to change what its vehicles run on (electrification), and that response matters. Switching to electric vehicles helps but only in part. Of the four costs set out above, electrification addresses only the air. An electric car occupies the same parking space and the same road space as a petrol one, carries the same number of people and costs its owner the same while it stands idle. Reducing the other costs requires fewer vehicles doing more work: households that need fewer vehicles, and vehicles that are used more. Delhi already has a large stock of such vehicles standing idle for most of the day. Making better use of vehicles that already exist, rather than adding new ones, is as much a part of the answer as changing what they run on.

What would help more is a car-light way of living. This would mean that households keep a vehicle where they need one, but rely on it for fewer trips, use other modes for the rest. For instance, the Metro for longer journeys, buses and autos for medium ones, walking/auto for short trips, and a cab for the trips nothing else serves. The gain for households is mainly financial and practical. The gain for the city is land that could serve pedestrians, buses and public space, roads that move faster for everyone, and fewer emissions from the largest local source of winter pollution.

1.5. Where policy is headed, and what it relies on

Policy in India, particularly in Delhi, already looks in this direction. The National Urban Transport Policy 2006 calls for "a more equitable allocation of road space with people, rather than vehicles, as its main focus".[33] The Master Plan for Delhi 2047, notified by the Ministry of Housing and Urban Affairs (MoHUA) in August 2026, proposes multimodal transit hubs at Anand Vihar, Sarai Kale Khan and Kashmiri Gate, a transit-oriented development policy and a unified parking management system.[34] It also promises zero tolerance for parking on streets and footpaths, and links new vehicle registrations to available parking. CAQM's long-term measures, submitted to the Supreme Court in January 2026, include multimodal transport hubs, last-mile connectivity, real-time passenger information, and more metro, rail and city bus services.[35]

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[32] *Uber Australia, One Less Car Research, 2023, https://www.uber.com/au/en/newsroom/one-less-car-research*

[33] *Ministry of Urban Development, Government of India. National Urban Transport Policy, 2006. https://indiaenvironmentportal.org.in/reports-and-documents/national-urban-transport-policy-2006/*

[34] *The Print. MPD 2047 unveiled: 40 lakh homes, metro expansion, vertical growth form part of Delhi roadmap. August 20, 2026. https://theprint.in/india/mpd-2047-unveiled-40-lakh-homes-metro-expansion-vertical-growth-form-part-of-delhi-roadmap/3020586/.*

[35] *Amisha Shrivastava. Delhi AQI Crisis: CAQM Submits Report In Supreme Court Recommending Long Term Measures To Combat NCR Air Pollution. 2026. https://www.livelaw.in/amp/top-stories/delhi-aqi-crisis-caqm-submits-report-in-supreme-court-recommending-long-term-measures-to-combat-ncr-air-pollution-519953.*

All three rest on the same assumption: that households which own vehicles will use other modes once those modes are good enough. Whether these plans succeed, however, depends on that assumption holding, and Delhi's own recent experience shows it cannot be taken for granted: the city has built one of the world's largest Metro networks and has the largest state-run and electric bus fleet in India[36]. Yet, the number of PVs has still risen. What happens when people who depend on their own vehicles set them aside and rely on the alternatives instead has rarely been tested with real households in an Indian city. The One Less Car experiment was designed to test this assumption directly.

1.6. About the study

Uber India, with Young Leaders for Active Citizenship (YLAC) and The Quantum Hub (TQH), ran the Delhi edition of One Less Car. 34 participants set aside their personal vehicles for four weeks and relied on other modes. They were free to choose their own mix of modes, so the study could observe what they actually turned to without being told what to use.

The study follows two earlier One Less Car editions. In Australia in 2023, 58 participants across five cities gave up their cars for four weeks.[37] In North America in 2024, 173 participants across seven cities did the same for five weeks.[38] The North America participants cut their personal car use by 97%, and about one in five said they were likely to give up their car for good.

Delhi differs from those cities. Heat, restrictive footpaths and few cycle lanes make walking and cycling harder, but the city has options they lack, including autos, e-rickshaws, bike taxis and an extensive Metro network. Little evidence exists on how car owners in Indian cities adapt when they set their vehicles aside. This study provides some of the first such evidence for Delhi, covering which modes participants used, what made car-light travel hard and how their views changed.

The experiment had three aims. The first was to understand how participants' travel habits changed when they set aside their personal vehicles. The second was to identify what made it easier or harder for them to use other modes. The third was to use these findings to develop recommendations that help more households rely less on their own vehicles. Together, these test whether multimodal travel can lead to better use of existing vehicles, and overall, fewer of them on the road.



[36] *Piyush P. Yadav. Delhi's DTC Now Runs India's Largest Electric Bus Fleet: How Bengaluru and Mumbai Compare. EV Auto India. September 14, 2026. https://evautoindia.co.in/delhi-dtc-electric-bus-fleet-largest-india-bmtc-best-comparison-september-2026.*

[37] *Uber Australia. The keys to car-free living in Australia. Uber Newsroom. November 20, 2023. https://www.uber.com/au/en/newsroom/one-less-car-research*

[38] *Camiel Irving. The Results Are In: Car-Light Living Is Possible – and It May Surprise You. 2024. Uber Newsroom. https://www.uber.com/us/en/newsroom/one-less-car-results/.*


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2. Methodology

This study has the following objectives:

- Understand how mobility habits change in response to reduced PV use
- Identify the most significant barriers and enablers to using PV alternatives and reducing PV use
- Develop recommendations to promote reduced PV use and increase the uptake of alternative modes of transportation

The Delhi edition of the One Less Car experiment involved 34 participants who were required to give up their PVs for four weeks. In order to observe the participants' travel choices in the absence of their PVs, a sum of ₹20,000 was given to them for the duration of the experiment. The breakup of this transport bundle is as follows:

Figure 2: Experiment transport bundle

Transport Bundle Component	Amount
Uber Auto & Metro credits	₹5,000
Uber Car & Bike taxi	₹10,000
Flexible transport wallet (disbursed via bank transfer; participants could choose their preferred mode of transport)**	₹5,000
Total	**₹20,000**

***The Uber credits were loaded onto participants' Uber accounts, could be used only for Uber trips, and every trip is recorded in Uber's platform data. The flexible transport wallet was trust-based: participants reported how much they had spent and on what in their weekly reflections and daily logs.*

2.1. Why was the transport bundle set at ₹20,000?

Based on available data from auto marketplaces such as Vahan Bazaar[39] and Auto Dukan[40], the total monthly cost of owning a car in urban India, for a typical vehicle with an on-road price of ₹10 lakh, ranges between ₹15,000 and ₹20,000 when factoring in equated monthly instalments (EMIs), fuel, insurance, maintenance, parking and tolls, including resale value.

In metropolitan cities such as Delhi, where parking charges and toll costs are higher, this figure can reach ₹20,000.

The per-participant transport bundle was therefore pegged at ₹20,000, at the higher end of the estimated monthly cost of vehicle ownership, for the four-week experiment. This approach was consistent with the methodology used in North America and Australia while being calibrated to the Indian cost of vehicle ownership.

[39] *VahanBazaar Editorial. Total Cost of Ownership for an Indian Family Car — The Honest Math Over 5 Years. 2026. https://vahanbazaar.in/tips/total-cost-ownership-indian-family-car-vahanbazaar*

[40] *Auto Dukan. How Much Does It Really Cost to Own a Car in India for 10 Years? 2025. https://autodukan.com/blog/how-much-does-it-really-cost-to-own-a-car-in-india-for-10-years/.*

Because participants received transport credits, their travel during the experiment may not reflect what they would choose when paying from their own pocket. The credits made alternatives cheaper and easier to try, so some use of cabs, autos and the metro may have been driven by the incentive. But, to see what lasted once the credits ended, all 34 participants answered a follow-up survey about a week after their experiment finished, and the findings are reported in Chapter 5. The purpose of this survey was to understand how participants' behaviour changes after the tangible incentive was no longer present.

2.2. Rationale for selecting Delhi and the timeline for the experiment

Delhi has a comprehensive multimodal transport ecosystem, including the Delhi Metro (416 km and 303 stations, with 6.46 million daily riders[41]), an extensive Delhi Transport Corporation (DTC) and cluster bus network, auto-rickshaws, e-rickshaws, cycle-rickshaws, app-based bike taxis, micromobility services such as Yulu, and Uber's Auto and Moto products. This range of transport options provided participants with multiple alternatives to choose from during the experiment.

The study was conducted from August to September, beginning with a one-week baseline period in early September, followed by four weeks of PV-light living. This period was deliberately chosen as it falls within Delhi's pre-Diwali peak pollution season, when public and policy attention to vehicle emissions and air quality is particularly high.

2.3. Participants recruitment and selection

Participants were recruited through a structured selection process comprising three stages: screening through an expression-of-interest form circulated on social media platforms, telephonic interviews to understand applicants' motivations, and a signed acceptance form formalising their agreement to the experiment's terms. A total of 258 applications were screened, 70 telephonic interviews were conducted, and a final cohort of 34 participants was selected.

258 applications screened

70 telephonic interviews

34 participants selected

The expression of interest form collected information on applicants' demographics, household composition, employment, commute patterns and availability during the study period, and concluded with a short statement of interest. Applicants were screened against four criteria:

1. Commutes by PV within Delhi-NCR at least 3-4 days a week.
2. PV accounts for at least 60% of weekly trips.
3. Has the Uber app installed.
4. Is available for the full study window.

Applicants who met the above criteria progressed to telephonic interviews and, if selected, enrolled through a signed acceptance form. The final selection also sought to balance representation across Delhi and NCR, age brackets and gender.

2.3.1 Cohort Profile

The One Less Car Delhi experiment brought together 34 frequent PV users from across Delhi-NCR, representing varied household structures, professional backgrounds and vehicle ownership arrangements (detailed cohort profile is provided in Annexure 1). This diversity allows the study to explore how different personal circumstances shape the feasibility of reducing dependence on PV.

Household composition and vehicle ownership are particularly relevant to understanding

[41] *Press Release. Delhi Metro: The lifeline of Delhi-NCR, backbone of India's urban mass transit network handled record 235.8 crore passenger journeys in 2025. Delhi Metro Rail Corporation (DMRC). March 16, 2026. https://delhimetrorail.com/pages/en/pressrelease_details/delhi-metro-the-lifeline-of-delhi-ncr-backbone-of*

participants' experiences. Nearly two-thirds of the cohort live with children or older dependents, potentially creating mobility needs that are more difficult to accommodate through public transport or ride-hailing services. Similarly, participants from multiple-vehicle households may have greater flexibility in adjusting their travel routines than those dependent on a single car or bike.

Taken together, these characteristics provide important context for interpreting the experiment's findings, particularly which journeys participants found most challenging, which alternatives they considered viable, and how their willingness to reduce PV use evolved.

2.4. Research approach and tools

The study employs a mixed-methods research design, combining quantitative and qualitative data to understand changes in participants' travel behaviour, as well as the motivations, experiences and constraints underlying those changes. Using multiple research tools allows the study to examine mobility patterns from different perspectives and compare reported experiences with observed travel behaviour.

Figure 3: Research tools employed

Research Tool	What is it?	Why is it employed?
Baseline & Endline Survey	20-minute survey administered at the beginning and end of the experiment	To study participants' attitudes, behaviours and perceptions about car or bike-light travel pre and post experiment
Daily Mobility Log	5-minute daily survey recording the number of trips, transport modes used, trip purpose, distance, travel time and expenditure, alongside rotating qualitative questions.	To track changes in everyday travel behaviour across five weeks, including PV dependence, multimodal adoption, travel patterns and the practical barriers and benefits experienced when using alternative modes.
Weekly Reflections	Short, open-ended reflections completed at the end of each week, with questions evolving throughout the experiment.	To capture participants' lived experiences, adjustments to routines, challenges and unexpected benefits, and understand how their confidence, perceptions and travel habits evolve over time.
Uber Backend Data	Platform-generated records of participants' Uber trips during the experiment, including booking and trip information for cars, bikes, auto and metro bookings using the App.	To validate and complement self-reported travel behaviour, assess the role of Uber services, and examine patterns in ride-hailing usage during the experiment.
Behaviour Change Survey	Brief follow-up survey administered approximately one week after the experiment concludes, once participants regain access to their PVs and transport incentives have ended.	To assess whether changes in transport choices, perceptions and intentions persist beyond the experiment, and identify which newly adopted mobility behaviours participants are likely to sustain.

Additionally, all participants were organised together in a WhatsApp group for ease of coordination and were also assigned a point of contact from the study team, who was in touch with them to get further details or answer questions.

2.5. Research limitations

The study has the following limitations:

- **Small sample size**: The sample is not representative of Delhi's wider population. The data and insights collected from the cohort and resultant findings show patterns and mechanisms but cannot be generalised statistically. The findings should be interpreted as indicative of participants' experiences and mobility choices.
- **Potential platform bias**: Participants could primarily use Uber services, which offer multiple mobility options through a single app. Although participants also received ₹5,000 in a flexible transport wallet to spend on their preferred modes of transport, their reliance on Uber's services may have limited their use of other mobility platforms and providers.
- **Selection bias**: Participants voluntarily applied to participate in the experiment and were selected based on their existing reliance on PVs, availability for the study period, and familiarity with Uber. They may therefore have been more motivated or willing to experiment with alternative modes of transport than the general population. The cohort also predominantly comprised working-age adults, limiting the applicability of findings to other demographic groups.
- **Reliance on self-reported data**: Part of the study's travel data was collected through daily logs, weekly reflections and surveys completed by participants themselves. These responses may be subject to recall errors, inconsistent reporting or social desirability bias, particularly as participants were aware of the experiment's objectives. Uber backend data was used to provide an additional means of validation. However, it does not capture journeys completed through other transport providers, such as Metro, Auto, or Bus trips taken outside the Uber app or walking trips.
- **Possible overuse of cabs**: Cab rides were paid for using participants' Uber credits, which may have encouraged greater use than if participants had paid out of pocket. Cabs accounted for the majority of all trips booked through Uber. The findings may therefore overstate participants' everyday reliance on cabs and understate their use of cheaper modes. The follow-up survey (Chapter 5) partly addresses this by showing which modes participants continued to use after the experiment.



3. Findings from the Baseline Week: Daily Commute with PV, Expectations from a Car-Light Lifestyle (Week 1)

Before giving up their PV, participants spent a baseline week travelling exactly as they normally would. During baseline week (Week 1), all 34 participants logged where they went, why, how far, for how long and by which modes. At the end of the week they reflected on how it had gone. In addition, participants were asked about their perceptions of alternative modes of transportation, to establish a reference point for understanding how these perceptions may have changed after four weeks of using alternatives. The data collected during the baseline week thus provided a basis for assessing changes in participants' travel patterns and experiences during the car- or bike-light experiment weeks, discussed in the following chapter.

This chapter draws on three data sources: (a) the baseline survey, completed before the experiment began; (b) daily travel logs maintained throughout the baseline week; and (c) a weekly reflection log completed at the end of the week.

Box A:
What the baseline week shows

- Participants' days were long and centred on work: an average day out covered about 42 km and 91 minutes, and work was the main purpose on nearly two-thirds of travel days.
- The PV did almost everything. Nearly all relied on it for most of their travel during the baseline week[42]. For most individuals (26 of 34), it was usually the only mode used for a journey.
- Participants relied on their PV for four things: door-to-door convenience, reliability, safety and flexibility. Many described the PV less as a preference than as a response to gaps in public transport.
- The alternatives were not rated poorly. The Metro was rated almost as reliable as participants' PVs, and safer and faster, yet only 5 of 34 used it weekly. The difficulty lay in reaching it.
- Only 14 of 34 participants expected four weeks without their PV to be feasible. Extreme weather[43] and late-night trips were expected to be hardest.

[42] *One participant was an exception, using a PV on only one day during the baseline week. For the rest of their travel, including the work commute, this participant mostly used autos, with occasional ride-hailing trips.*

[43] *Defined as heat, humidity, rain or poor air quality.*

3.1. What did everyday travel look like?

Most participants went out every weekday (26 of 34), while 21 went out on both weekend days. This means that all participants travelled regularly on an everyday basis.

3.1.1. How far and for how long did participants travel

On an average day when they travelled, participants covered approximately 42 km and spent 91 minutes travelling.[44] These substantial distances, particularly for work-related journeys, highlight the need to consider how different modes can meet participants' diverse travel needs across the day, rather than treating any single mode as a direct substitute for a PV as a whole.

3.1.2. Work was the primary purpose of travel, followed by social and leisure outings

For the cohort of 34 individuals, the baseline week comprised 272 participant-days.[45] Of these, participants travelled on 244 days, with work being the most common primary purpose for going out. Social or leisure outings were the next most common purpose, reported by 24 participants, followed by errands and caregiving, reported by 11 and 10 participants, respectively.[46]

The purpose of travel differed between weekdays and weekends, but the frequency of travel remained high in both. Weekday travel was largely driven by routine work trips, whereas weekend outings were more often social or one-off in nature.

3.2. To what extent did participants rely on personal vehicles?

3.2.1. Personal vehicles were the default for nearly all participants

The PV was the main mode of travel for 33 of the 34 participants. Nearly all relied on it for most of their travel during the baseline week[47], and about half (16 of 34) used it every time they left home. For most individuals (26 of 34), it was usually the only mode used for a journey.[48]

Irrespective of the purpose of the journey, PVs remained the primary mode of travel. They were used across all major journey purposes, including work, social and leisure outings, errands and caregiving. Mode choice varied little by purpose, suggesting that participants' reliance on their PVs extended beyond the daily commute.

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[44] *Based on baseline-week daily logs. Distance and travel time were self-reported in bands and converted at the midpoint of each band.*

[45] *Calculated as 34 participants over 8 days, totalling 272 participant-days.*

[46] *The main purpose of travel was determined using self-reported data. The daily log asked participants to identify the purpose of the day's longest trip, with four response options: work, social or leisure, errands, and caregiving.*

[47] *One participant was an exception, using a PV on only one day during the baseline week. For the rest of their travel, including the work commute, this participant mostly used autos, with occasional ride-hailing trips.*

[48] *Based on baseline-week daily logs, covering 272 days (34 participants over 8 days), participants went out on 244 of these days. The PV was used on 84% (204) of those days, and was the only mode used on 66% (162). 33 participants used the PV on at least half of the days they travelled on; the remaining participant used it on fewer than half. 16 used it every day they went out. 26 used the PV alone, with no other mode, on at least half their days out, and 12 did so on every day they went out.*

Box B:

Personal vehicles emitted an estimated 4.2 kg of CO_2 per participant per day

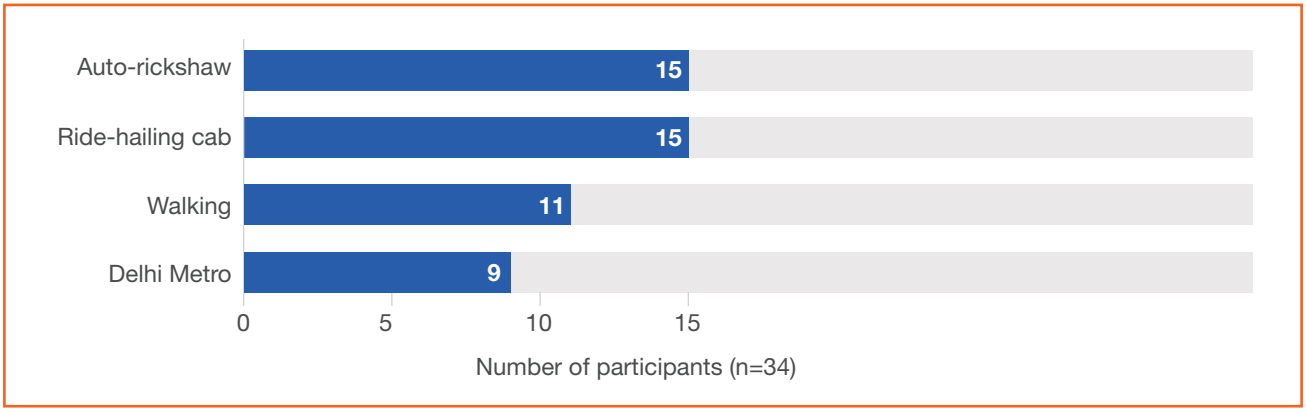
Participants' own vehicles, mostly compact SUVs and hatchbacks[49], produced an estimated 4-4.43 kg of CO_2[50] per participant per day during the baseline week, averaging approximately 4.2 kg.[51]

This estimate covers participants' own vehicles only and excludes emissions from autos, cabs and other motorised modes they also used during the baseline week. It provides a reference point for assessing the potential emissions implications of reducing personal vehicle use during the experiment.

3.2.2. Alternatives were used occasionally, rather than as part of a regular travel routine

While PVs remained the dominant mode of travel, participants did use alternatives during the baseline week, with auto-rickshaws and ride-hailing cabs being the most common.

Figure 4: Participants who used each mode other than their PV in the baseline week (n = 34)



- Most participants (30 of 34) used only one mode on most days they went out, while 12 relied exclusively on their PV throughout the baseline week.
- On an average, the cohort used 1.32 modes per day, including their PVs. When the PV is excluded, the average number of modes dropped to 0.49 per day, indicating a near absence of multimodality from participants' travel routines.
- However, the use of these alternatives was often tied to particular journeys or needs.

Of the 11 participants who ran errands, five walked on at least one errand day, while four of the 10 participants who made caregiving trips used an auto-rickshaw. Metro use was relatively rare (9 participants across 13 days) and was recorded only on days when participants travelled 30 km or more.

3.2.3. PV reliance was high across participant groups

Regardless of gender, age or caregiving responsibilities, all but one participant relied on their PV for most of their travel.[52] While

[49] *Vehicle type and fuel were collected at the endline. Vehicle age was not collected.*

[50] *(Distance x emissions factor)/ no. of days*

[51] *Emissions were estimated as distance × emission factor, per participant per calendar day (including days at home): 272 logged days in the baseline week and 922 participant-days in the experiment. PV factors were assigned per vehicle by type, engine size and fuel from the India GHG Program's India Specific Road Transport Emission Factors (2015); the distance-weighted average was 0.139 kg CO_2 per km. Most participants' PV ran on petrol (27 of 34). PV distance, at baseline and during the experiment, and baseline cab and auto use, come from participants' daily logs (self-reported distance bands); ranges reflect how the distance of mixed-mode days was attributed.*

[52] *Women and men used PV on a similar share of days out (86% and 81%), as did participants aged 35 and under and those aged 36 and over (85% and 79%). Participants with children under 18 relied less on PV (77% of days out) than those without dependents (89%).*

women and men relied on PVs to a similar degree, they differed in the alternatives they used. During the baseline week, 10 of 16 women used a cab at least once, compared with 5 of 18 men. Men used some modes more frequently than women - the Metro (7 of 18, compared with 2 of 16 women) and autos (9 of 18, compared with 6 of 16 women). These differences suggest variation in how participants used alternatives, rather than a substantial difference in their overall reliance on PVs.

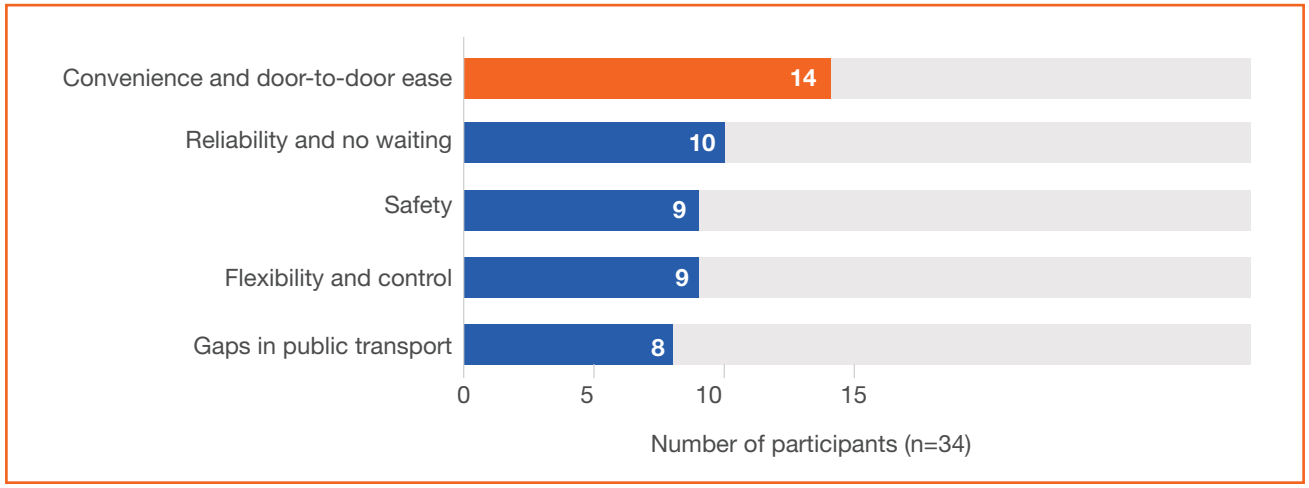
Taken together, the findings of this section highlight that PVs were the default mode for participants' everyday travel irrespective of journey purposes, gender, household circumstances, etc. Multimodal travel was largely absent from their baseline routines. Understanding what it would take to shift away from this pattern therefore requires examining why participants relied so heavily on their PVs.

3.3. Why did participants rely on private vehicles?

Asked why they relied on their PV for most trips, participants rarely described a simple preference. They described what the PV did for them that other modes, in their experience, did not.

Participants' reliance on PV was largely shaped by the convenience, reliability and flexibility they offered. Convenience and door-to-door ease were the most commonly cited reasons for PV use,. This was followed by reliability, including not having to wait for or depend on a cab Safety and flexibility, including the ability to make several stops in one outing were other reasons cited by participants.

Figure 5: Reasons participants relied on their PV (n = 34)



3.3.1. A response to gaps, not only a preference

For a substantial share of participants, the PV was less a choice than a workaround. Participants rated different transportation modes across 12 factors. PVs received the highest ratings on 7 of these, including reliability (4.82) and convenience (4.59), their two strongest-rated attributes. They also scored highest on personal safety (4.59), flexibility (4.56), ease of use (4.47) and comfort (4.53). These perceptions help explain participants' reliance on PVs, which were viewed as a dependable and convenient option for everyday travel. While the ratings reflect participants' perceptions rather than objective differences in performance, they offer insight into why PVs may remain the default choice.

Alternatives, however, were perceived to offer advantages on particular dimensions. The Metro received the highest rating for road safety (4.88) and time efficiency (4.26), and was perceived as considerably cheaper than a PV (2.41 compared with 3.68, where a lower cost score indicates lower perceived cost). App-based cabs were rated highest for ability to multitask (4), while walking received the highest rating for health benefits (4.89).

Yet these strengths did not necessarily make alternatives suitable for every journey.

For some participants, the choice of a PV was also shaped by the limited availability of viable alternatives. 8 participants cited gaps in public transport as a reason for relying on their PVs (Figure 5). When discussing alternatives, limited public transport coverage was raised by 16 participants, while 11 pointed to gaps in last-mile connectivity.[53]

> *"Cars are not a luxury thing today but a necessity, especially if you are living in NCR. Here, public transport and last mile connectivity just doesn't exist in many areas." (34, Male)*

3.3.2. How reasons differed across participants

Beyond these broader considerations, certain factors were particularly salient for specific groups. Personal safety was cited more often by women than men (5 of 16 women, compared with 2 of 18 men), with women linking the use of PVs to feeling safe and independent, particularly at night. This aligns with another nationwide study that found that women across income groups in Delhi adjusted and carefully planned their journeys to manage personal safety risks.[54] This safety perception is a strong predictor of public transport usage intentions. Although the study focuses on regular public transport users, its findings stress on the relevance of safety concerns in shaping women's mobility choices.[55]

Household needs also shaped travel choices - of the 8 participants with children under 18, 3 cited family needs as a reason for using a PV. Weather was another common consideration: 21 participants said that heat, humidity, rain or poor air quality would make walking or waiting for transport more difficult.

While practical considerations were the primary reasons participants gave for relying on their PVs, vehicle ownership also carried some personal value. Most participants did not describe social status as their main reason for driving, although a few acknowledged a sense of pride in owning a vehicle.

> *"I would be lying if I say that stepping out of a cab doesn't feel half as good as stepping out of my own vehicle." (25, Female)*

Overall, participants' reliance on PVs appeared to reflect both their perceived advantages of PVs and the limitations of available alternatives. PVs were rated highly on several attributes central to everyday travel, while other modes were seen to offer specific advantages, such as the Metro's perceived time efficiency and lower cost, or walking's health benefits. These findings suggest that shifting away from PVs may depend not only on the availability of alternatives, but also on whether those alternatives can meet the needs and expectations that participants associate with their PVs.

3.4. What did participants expect from setting aside their private vehicles?

3.4.1. Fewer than half expected the experiment to be manageable without PV

Only 14 participants expected going without their PV for four weeks to be feasible, indicating limited confidence in their ability to sustain a car- or bike-light routine.[56] Their longer-term expectations were also modest: 16 said they were likely to meaningfully reduce their PV use in the six months after the experiment, while 5 said they were likely to give it up entirely.[57]

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[53] *Based on baseline-week daily logs and the end-of-week reflection*

[54] *Ankita Sil, Subeh Chowdhury and Roselle Thoreau. How do you travel? A holistic evaluation of public transport journeys of women: A case study of Delhi, India. Journal of Public Transportation, Vol. 26. 2024. https://www.sciencedirect.com/science/article/pii/S1077291X24000262.*

[55] *Singh, Jayati, and Ankit Kumar Yadav. (2026). "Secure Journeys or Perceived Peril? Examining Gender Differences in Day-Night Public Transport Decision-Making in India Using PLS-SEM Multi-Group Analysis." Transport Policy, 183. https://www.sciencedirect.com/science/article/pii/S0967070X26001484*

[56] *Based on the baseline survey question "How feasible do you think going without your PV for four weeks will be for you?" (1 = not at all feasible, 5 = completely feasible).*

[57] *Based on the baseline survey questions "How likely are you to meaningfully reduce your PV use in the next six months, after the experiment ends?" and "How likely are you to give up your PV entirely after the experiment ends?" (1 = very unlikely, 5 = very likely). "Likely" means a rating of 4 or 5.*

These doubts appeared to centre less on knowing how to travel without a PV than on whether the alternatives were adequate. While 20 individuals agreed that they knew how to make most of their journeys without a PV, only 13 agreed that they had access to safe and reliable alternatives in their area. Just 11 participants felt safe using public transport in Delhi-NCR after dark, and 24 disagreed that they could easily walk or cycle more of their journeys.[58]

3.4.2. Anticipated difficulties without a PV

Participants anticipated travel in extreme weather (29 of 34) and late-night return trips (27 of 34) to be the hardest without their PVs. This concern about late-night trips matches the low confidence in public transport after dark, as in Section 3.4.1 above.

About half expected the daily work commute (18 of 32) and long-distance trips within Delhi-NCR (17 of 34) to be challenging. Airport trips were expected to be the easiest: 20 of 32 rated them not challenging.[59]

The daily logs added detail. Participants most often described the work commute as difficult because of traffic and the extra time and planning involved. Others mentioned days with site visits or several meetings, long waits to book a ride, uncertainty over whether a ride would arrive in bad weather, loss of flexibility, and getting to and from stations. On the last day of the baseline, their worries were specific:

> ***"I was concerned as it's likely to rain in the coming week and travelling without a personal car may pose challenges." (34, Male)***

> ***"I'm just a little worried about the time it'll take to do the same commute everyday." (28, Female)***

3.4.3. Anticipated gains without a PV - Relief from traffic

Despite their concerns, participants anticipated benefits from setting aside their PVs, most commonly relief from traffic. Traffic was the most frequently cited cause of a stressful trip during the baseline week (mentioned by 15 of 31 participants).[60] In addition, 31 individuals agreed that traffic congestion in Delhi-NCR makes driving stressful.[61]

> ***"I don't have to drive in this traffic, and it feels like a relief." (28, Male)***

> ***"I'm feeling relieved that I don't have to drive in scorching heat from tomorrow." (23, Female)***

In their end-of-week reflections, participants most often hoped that using the Metro would help them avoid traffic (Fig. 3.4). Others looked forward to using travel time productively, a break from driving, saving on petrol, walking more, the environmental benefits of not using their PV, and the chance to reflect on how much they depended on it.

Taken together, participants' expectations reflected both apprehension and a degree of optimism. They anticipated that alternatives could help them avoid traffic and offer other benefits, but were uncertain whether these modes could meet the demands of everyday travel.

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[58] *Based on the baseline survey question "Please indicate how much you agree or disagree with the following statements" (1 = strongly disagree, 5 = strongly agree). Agreement means a rating of 4 or 5 and disagreement 1 or 2. "Not sure" answers are excluded: n = 34 (32 for knowing how to make most journeys without a PV).*

[59] *Based on the baseline survey question "How challenging would it be to make the following trips without using a PV?" (1 = not at all challenging, 5 = extremely challenging). "Challenging" means a rating of 4 or 5 and "not challenging" 1 or 2. Participants who answered "Not applicable" are excluded: n = 34 for extreme weather, late-night trips and long-distance trips, and 32 for the daily work commute and airport trips.*

[60] *n=31 (participants who answered this question are included)*

[61] *Traffic as a source of stress is from the baseline-week daily logs. Congestion is from the baseline survey statement "Traffic congestion in Delhi-NCR makes driving stressful for me" (n = 34; agreement means a rating of 4 or 5 out of 5).*

3.5. From baseline to experiment

Participants began the experiment travelling long distances, mostly for work, almost always by their PV and usually by that alone. They relied on it because it did four jobs well: it took them door to door, it was always available, it felt safe, and it let them change plans. They did not think poorly of the alternatives. They doubted that they could reach them, depend on them and feel safe using them, particularly after dark. These are the tests the next chapter applies. When their PVs were set aside, could the alternatives available in Delhi-NCR, taken together, serve them the same way? And were participants' expectations, about the commute, the weather and the night, borne out?




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4. Findings from the Experiment Weeks: Enablers and Barriers to a Car or Bike-Light Lifestyle (Weeks 2-5)

In the baseline week, participants relied on their PVs for most of their everyday travel. They valued four things about them: the PV was always available, it took them from door to door, it made them feel safe, particularly women and after dark, and it let them change plans or make several stops in one outing. For the next four weeks, participants set their PVs aside and travelled using the transport bundle described in Chapter 2. This chapter examines whether the alternatives available in Delhi-NCR, taken together, could offer the same. The findings in this chapter draw on participants' daily travel logs and weekly reflections from Weeks 2 to 5, the endline survey and Uber's platform data.[62]

Box C:
What the experiment weeks show

- All 34 used their PV in the baseline week; and by the week after the experiment, 20 did not use it at all.
- They replaced the PV with a mix of modes rather than a single one. On average, participants used three different modes a week.
- Getting to work and running errands without a PV turned out easier than participants expected. Late-night trips, school runs and medical appointments were the hardest to manage.
- Unreliable cab bookings were a common frustration, with 30 of the 34 participants facing at least one such instance. However, a failed booking rarely sent anyone back to their PV.
- Compared to the baseline week, total emissions by participants' vehicle usage fell by about 30%, based on a modelled estimate.

[62] *Because participants recorded the modes they used each day rather than for each trip, findings are reported as the number of participants (for trends across weeks, including the baseline), as shares of trips where trip counts are available (Weeks 3 to 5), and from Uber's platform data for trips booked on Uber.*

4.1. How did participants travel when they set aside their PVs?

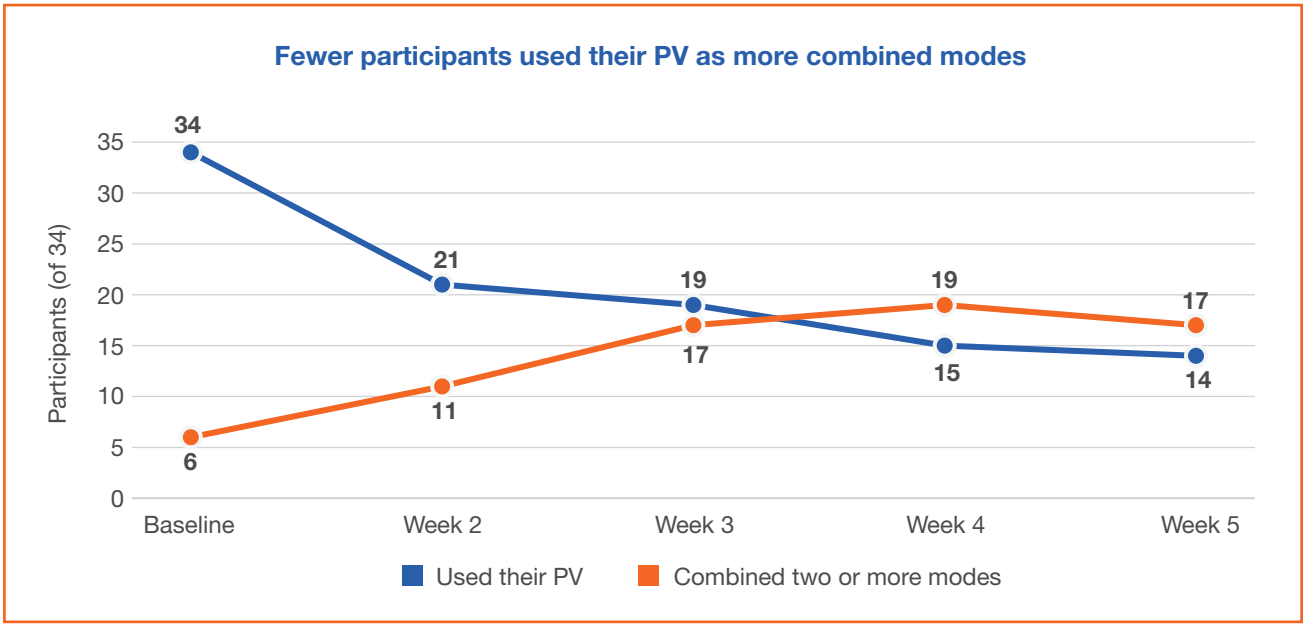
4.1.1. The shift away from PV - Towards multimodal travel

In the first week of the experiment, 13 of the 34 participants did not use their PV at all. By the week after the four-week experiment (Week 6), that number had risen to 20. 6 participants went the full four-week experiment without using their PV even once.[63] What replaced the PV was not one mode but a wider combination of modes. At baseline, participants used an average of 1.8 different modes other than their PV over the week. During the experiment this rose to about 3 a week, and to 4.5 across the four weeks taken together. Uber's platform data show the same shift: 32 of 34 participants used at least two of the four modes available on the app (cab, auto-rickshaw, Metro ticketing and bike taxi), and 11 used all four. The four main alternatives were ride-hailing cabs, auto-rickshaws, walking and the Metro.

> *"I took an Uber to [work]site in the morning since it was raining, then took an auto back to office in the afternoon. In the evening I took a Metro and got down at a mall, then took an auto back home" (34, Male)*

Before the experiment, only 6 participants regularly used more than one mode in a day; by Week 4, 19 did. From then on, more participants were regularly combining modes than were using their PV at all (Figure 6).

Figure 6: Participants who used their PV, and participants who combined two or more modes on at least half their travel days, by week (n = 34)



Source: Daily Travel Logs

The change took time. The rise in multi-mode days was gradual rather than immediate. Only 4 participants found it manageable in the first week of the experiment; most needed 2-3 weeks to reach that point. For 4 participants, it never became manageable. By the end of the experiment, 23 of the 34 participants said travelling without their PV was easier than it had been in the first week.[64]

The question this raises is therefore not which mode replaced the PV, but how participants assembled a day from several modes.

[63] *Participants were asked to use the transport bundle but were not barred from using their PV. They could drive in an emergency or when no alternative worked, without penalty, as long as they recorded it in their logs.*

[64] *Source: Endline survey.*

4.2. How a car light day/ week was built

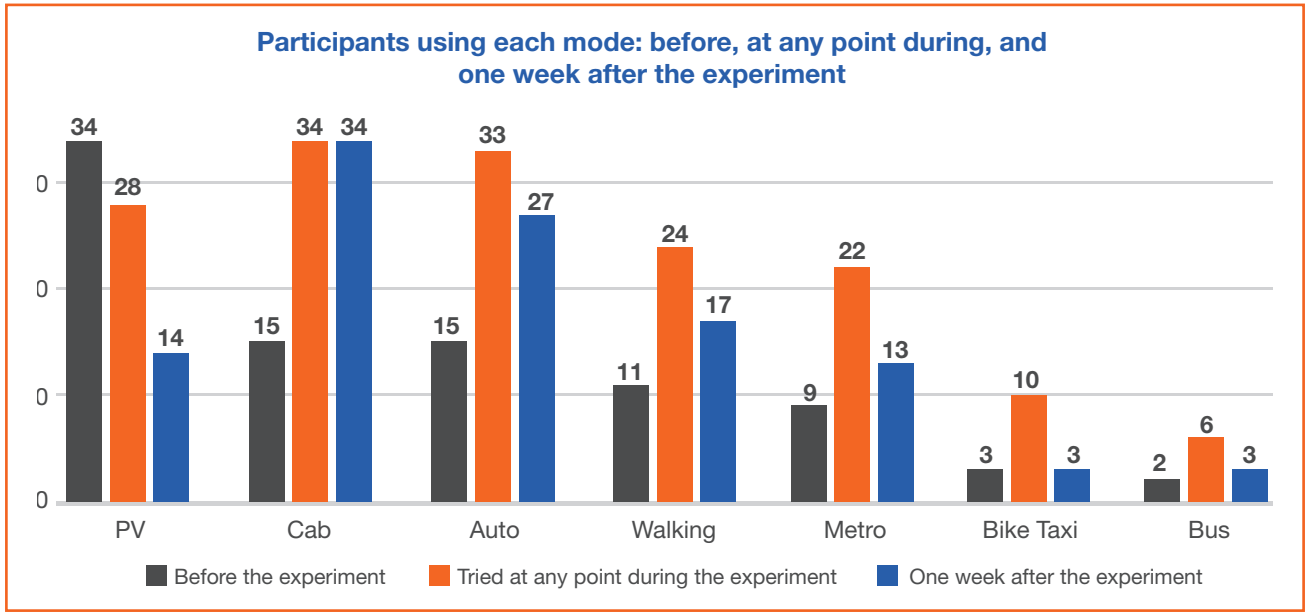
Daily distances explain much of the pattern. Chapter 3 found that an average travel day covered about 42 km and took 91 minutes. At that scale, no single alternative suits the whole day: walking can serve only the ends of a journey, and the bulk of the distance would ideally be carried by the Metro, a bus or a hired cab. During the experiment, participants divided their travel among modes according to the length and purpose of each journey.

4.2.1. Ride-hailing cabs, auto-rickshaws, Metro, and walking emerged as main alternatives to PVs

Ride-hailing cabs were the most widely used alternative during the experiment. As Figure 8 shows, all 34 participants used ride-hailing cabs during the experiment, and each person used cabs in the week after the experiment. Auto-rickshaws were almost as widespread: 33 participants tried them in the course of the experiment and 27 were still using them after the experiment. Walking (24 participants) and the Metro (22) were also widely tried, though fewer kept them up in the week after the experiment (17 and 13). Bike taxis (10 participants) and buses were used by far fewer. Buses were the least used: no more than 3 participants took one in any week. Participants pointed to unfamiliar routes, a lack of information on arrival times, and the need for feeder buses, shuttles and regulated e-rickshaws to get to and from stops.

Meanwhile, the number of participants using their PV fell from all 34 before the experiment to 14 in the week after the experiment.

Figure 7: Participants using each mode before the experiment, at any point during it, and one week after the experiment (n = 34)



Source: Daily Travel Logs

4.2.2. The Metro carried the distance

Metro use increased at the start of the experiment, then levelled off. The number of participants using it rose from 9 before the experiment to 14 in the first week of the experiment, with little further change over the remaining weeks. This suggests that participants for whom the Metro was a practical option took it up early, while few others began using it later.

Ticket purchases through the Uber app also showed a gender gap. 11 of the 18 men bought Metro tickets, compared with 7 of the 16 women. Metro tickets accounted for 15% of men's bookings on the app, compared with 5% of women's.

While metro users valued the time it saved, women also described difficulties along the journey: crowding and pushing at interchange stations, poor lighting, and too few security staff around stations in the evening. These accounts suggest that comfort and safety concerns may help explain the lower uptake among women, despite the Metro's time-saving benefits reported by participants. These concerns echo findings by Gopal and Shin (2019) using in-depth interviews with female metro passengers. They found that although the Delhi Metro offered women a comparatively safe and empowering travel experience, harassment remained a concern.[65] This suggests that, even where the Metro offers time-saving benefits, concerns about safety and comfort may influence women's willingness to use it.

4.2.3. Autos and walking grew week on week

Unlike the Metro, autos and walking grew throughout the experiment rather than levelling off. Auto-rickshaws and walking uptake grew the most during the experiment (Figure 8). The number of participants using autos rose from 15 before the experiment to 27 in the week after the experiment, and autos went from 15% of all Uber rides in Week 2 to 30% in Week 6. The number of participants who walked as part of their journeys rose from 11 to 17.

Many said they would walk more if footpaths were shaded and unbroken, crossings were safer and streets were better lit, especially on the short walk between home and a Metro station. These observations align with research on pedestrian access to Delhi Metro stations. Chidambara (2019) found that the quality of the wider pedestrian environment was more strongly associated with walking share than the availability of pedestrian infrastructure alone.[66] Similarly, a walkability assessment of 15 Delhi Metro station catchment areas by Gupta, Bivina and Parida (2025) identified shaded, clean, good-quality and sufficiently wide footpaths as important factors influencing people's willingness to walk to Metro stations.[67]

Both modes — walking and auto-rickshaws — serve the short and medium distances that link homes, stations and local destinations. Their steady growth indicates that participants were learning to use them as connecting pieces of a longer journey, not only as stand-alone options.

4.2.4. Ride-hailing cabs filled the gaps

Ride-hailing cabs were the widely relied mode. Every participant booked a ride-hailing cab in every week of the experiment. In total, 34 participants took 1,435 Uber rides: 74% (1,059) were cabs, 21% (299) were auto-rickshaws and 5% (77) were bike taxis. They also bought 152 Metro tickets through the Uber app. Participants used Uber more as the weeks went on, rising from about 8 rides each in Week 2 to about 12 each in Weeks 4 and 5 (Figure 8).

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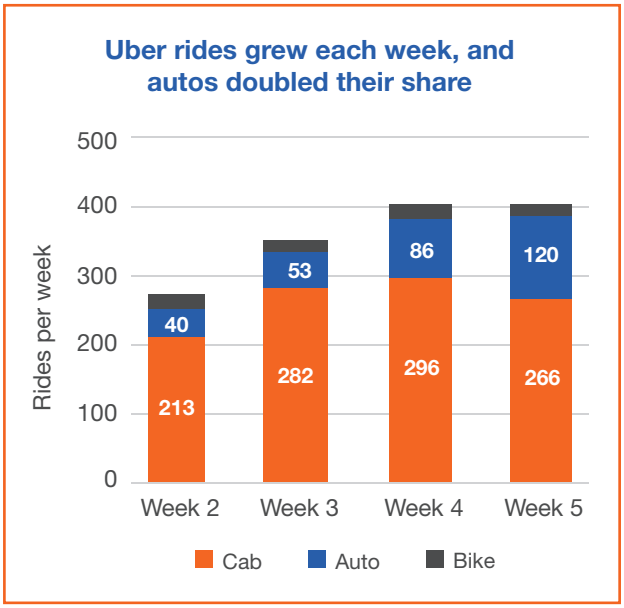
[65] *Kavya Gopal and Eun Jin Shin, The impacts of rail transit on the lives and travel experiences of women in the developing world: Evidence from the Delhi Metro (Cities, vol. 88), 2019, https://www.sciencedirect.com/science/article/abs/pii/S0264275118307728*

[66] *Chidambara, Walking the first/last mile to/from transit: Placemaking a key determinant (Urban Planning, vol. 4, no. 2), 2019, https://www.cogitatiopress.com/urbanplanning/article/view/2017*

[67] *Akshay Gupta, G. R. Bivina and Manoranjan Parida, Prioritising pedestrian's needs around transit stations through walkability assessment: A walk audit tool approach (Transportation Research Procedia, vol. 82), 2025, https://www.sciencedirect.com/science/article/pii/S2352146524004204*

Figure 8: Uber rides per week, by type



Source: Uber platform data

That said, the heavy use of cabs should be read in context. Participants received financial support for their travel during the experiment, which made cabs more affordable than they would usually be. As vehicle owners with a relatively higher socioeconomic profile, their choices may also not reflect the constraints faced by lower-income commuters. The experiment, thus, cannot reliably indicate whether participants would have chosen cabs as often without financial support.

In addition, the high use of cabs does not necessarily mean that participants simply substituted their privately owned vehicles with another car; the distinction lies in how these vehicles are utilised. Generally, a PV remains idle 90% of the time, equivalent to 21.6 hours daily[68]; participants drove their PVs about 30 km a day at baseline. A ride-hailing car in Delhi or Hyderabad travels about 200 km a day, against about 12,000 km a year for a personal car.[69] Each cab trip a participant took was therefore served by a vehicle already in service through the day and shared across many users, not by a vehicle bought for one household and parked for most of the day.

Overall, multimodality made travel with a PV manageable and resilient

Beyond diversifying their daily journeys, combining modes gave participants greater flexibility when individual options were unavailable or impractical.

The booking record shows how this worked. Of 94 reported incidents in which a cab could not be booked, arrived late or was cancelled, only 5 ended with the participant using their PV. In the rest, participants waited, rebooked, took an auto or e-rickshaw, switched to the Metro or walked.

This resilience was not free. The more common costs were lost time, extra planning and stress, etc. (discussed in Section 4.3). But it changed how participants saw the options around them. Agreement with the statement that they had access to safe and reliable alternatives in their area rose from an average of 2.94 to 3.26 out of 5, and the number who agreed rose from 13 of 34 before the experiment to 18 after.

Evidence from other contexts supports the potential of multimodal travel to reduce reliance on PVs. Drawing on the Sydney Mobility-as-a-Service trial, Militão, Ho and Nelson (2025) found that multimodal transport bundles offered an appealing alternative to users and helped reduce private car use.[70] The findings from this experiment add to this evidence by illustrating how access to multiple modes can help people navigate journeys without their PVs, adapt to disruptions, and complete trips when their preferred mode is unavailable.

[68] *Zoomcar, India's Self Drive Shift Report, 2025. https://press.zoomcar.com/wp-content/uploads/2025/12/Travel-Trends-New-1-1.pdf*

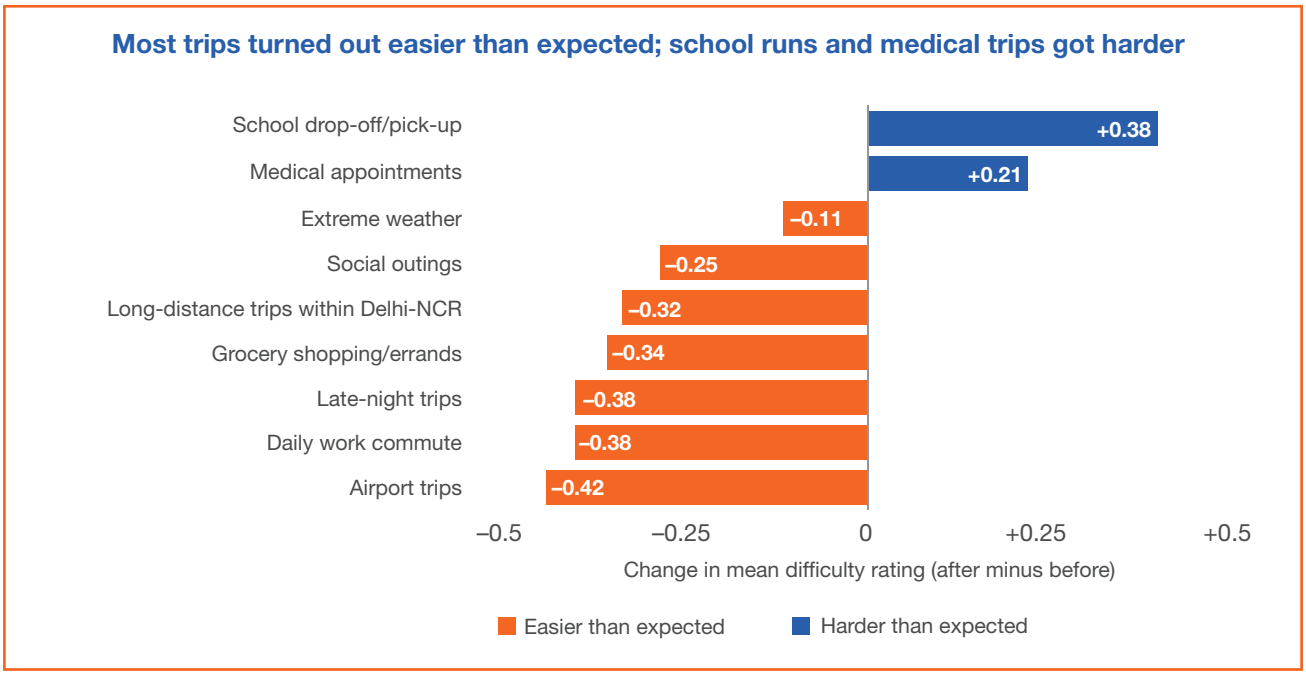
[69] *Shikha Rokadiya, Sandra Wappelhorst, Nikita Pavlenko and Anup Bandivadekar (ICCT), Near-term incentives for electrifying ride-hailing vehicles in India, 2019, https://theicct.org/wp-content/uploads/2021/06/India-Ridehailing-Working-Paper-21.FINAL__1.pdf*

[70] *Aitan M. Militão, Chinh Q. Ho and John D. Nelson, Mobility-as-a-service and travel behaviour change: How multimodal bundles reshape our travel choices (Transportation Research Part A, vol. 191), 2025, https://www.sciencedirect.com/science/article/pii/S0965856424003586*

4.3. How did participants replace the functions of their PVs by trip types?

How easy it was to manage travel without a PV depended on the journey type. Before the experiment, participants rated how hard they expected different trips to be without their PVs; at the end, they rated them again. Most trips turned out easier than expected, but trips involving children or medical visits became harder (Figure 9).

Figure 9: Change in how challenging participants rated each type of trip without a PV, before and after the experiment (1 = not at all challenging, 5 = extremely challenging)



Source: Baseline and endline surveys. Values represent the change in mean difficulty rating (endline minus baseline). Negative values indicate that trips became easier to make without a PV, while positive values indicate that they became more challenging.

4.3.1. Routine journeys were easier to complete without a PV

The daily work commute and errands were relatively easy to shift away from PVs.[71] Fixed work schedules allowed participants to plan Metro journeys or book cabs in advance, although morning rush-hour shortages remained a challenge.[72] Errands, being shorter and closer to home, were often managed through walking and auto-rickshaws, particularly for grocery shopping and market visits.[73] Alternatives were therefore most workable for predictable, local journeys that could be planned around mode availability.

4.3.2. Late-night and caregiving journeys were harder to replace

School runs and medical appointments became harder than participants expected (Figure 10). Since these journeys often involve children or older relatives, several stops or a time crunch made these journeys less flexible, particularly when cabs were delayed or cancelled.

[71] *Errands are days on which the longest trip was for errands, from participants' daily travel logs. 16 of the 29 participants who rated walking in the endline survey rated walking helpful (4 or 5 out of 5) for grocery shopping and market errands in the endline survey. Trip counts were collected from Week 3: in Weeks 3 to 5, 87–93% of trips on work days and 78–90% on errand days were made without a PV.*

[72] *Average difficulty rating for daily work commute fell from 3.4 to 3.0 out of 5, and 17 participants found it easier than they had expected.*

[73] *Of the 25 participants who ran errands during the experiment, 15 walked for at least some of them, and 16 never used their PV for errands at all. Most of those who walked found it helpful for grocery shopping and market errands.*

Late-night trips stayed among the hardest, and safety was a large part of why. Safety came up for 14 participants, seven women and seven men, but in different ways. Both raised concerns about how cabs were driven, such as speeding or drivers using their phones. However, worries about personal security came almost entirely from women: feeling unsafe alone in a cab late at night or before dawn, and fear of harassment. These concerns shaped their choices: two women drove themselves for very late or early trips, and one relied on her husband to pick her up rather than travel home alone by cab.

> *"Cab/auto doesn't feel safe at that hour (late night)." (29, Female)*

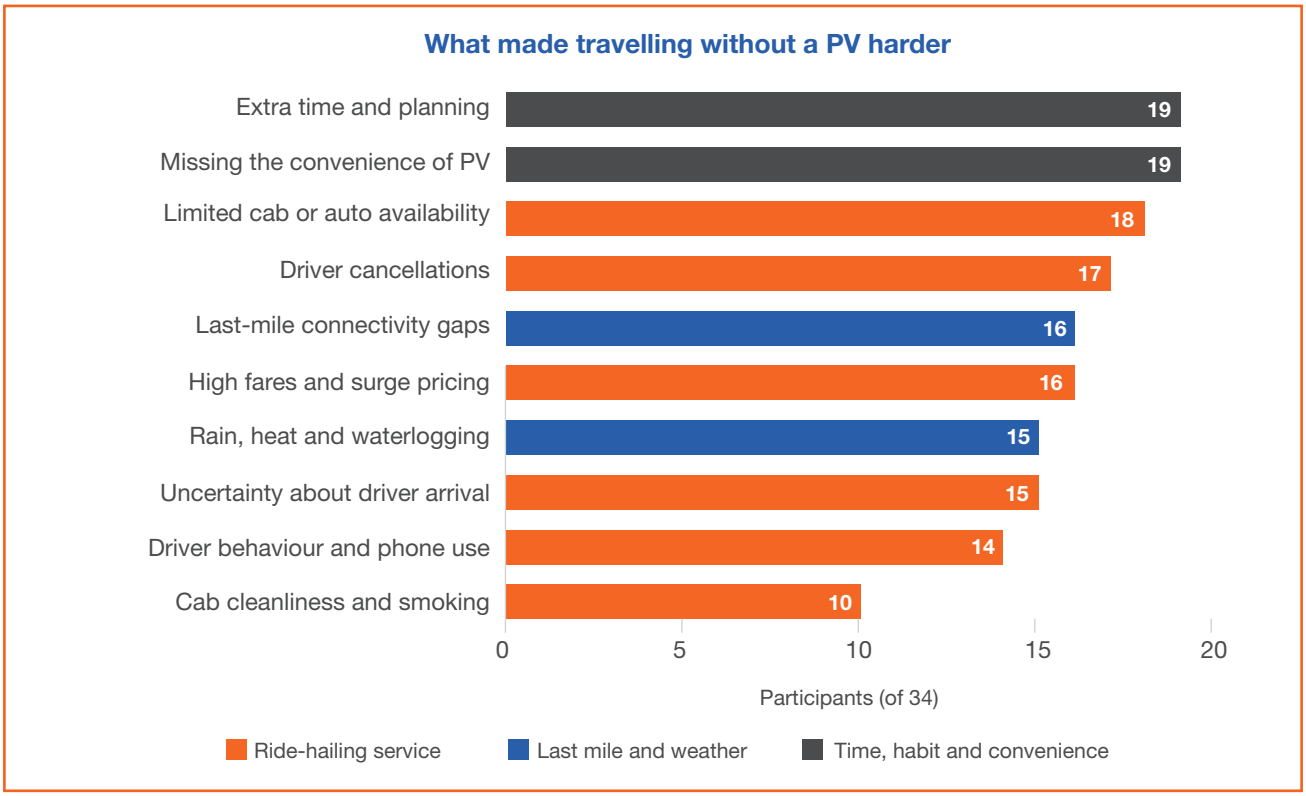
The findings show that alternatives could serve different functions, but no single mode replicated all the advantages of a PV. Cabs offered door-to-door convenience and comfort, but waiting times, cancellations and surge pricing remained drawbacks. The Metro offered more predictable journey times in heavy traffic, although reaching stations remained a challenge. Walking suited shorter trips but was limited by gaps in pedestrian infrastructure, and auto-rickshaws by gaps in service.

Combining modes helped participants meet different travel needs, but depended on convenient connections and reliable alternatives throughout the journey.

4.4. What made alternative journeys easier or harder without a PV?

Having alternatives available was only part of the picture. What mattered just as much was whether participants could rely on them and use them conveniently. Figure 10 shows the challenges participants raised most often. Extra time and planning, and missing the convenience of their PV, came up most, followed by a cluster of problems with ride-hailing: cabs being unavailable, cancellations, fares and uncertainty about when a driver would arrive. Gaps in the first and last stretch of journeys, and the weather, also made travel harder.

Figure 10: What made travelling without a PV harder (participants who raised each challenge, n = 34)



Source: Daily and weekly logs, Weeks 2 to 5

4.4.1. Public transport access and information gaps: First-mile Last-mile connectivity was one of the biggest barriers

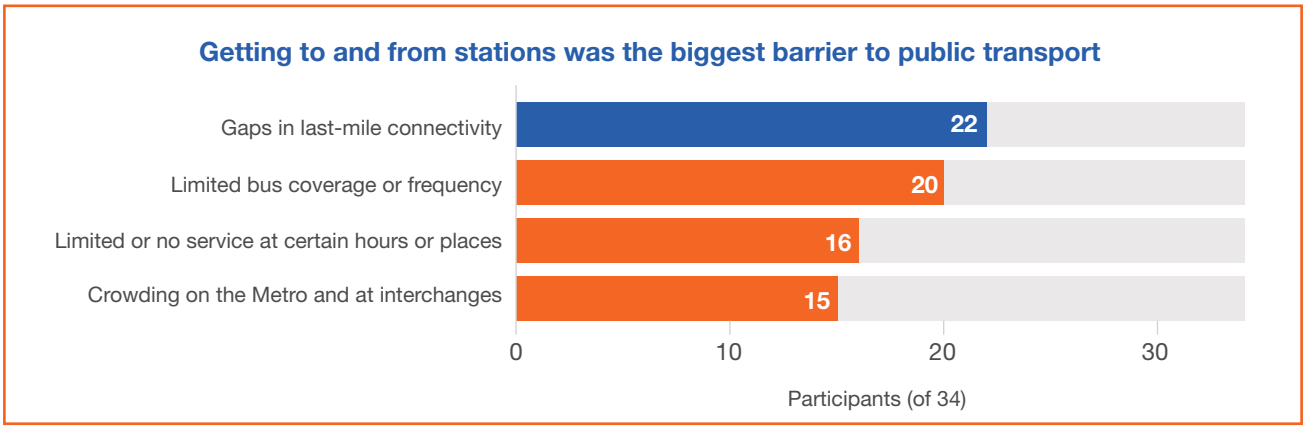
The biggest barrier to using public transport was not the metro or buses themselves, but getting to and from them. In their daily and weekly logs, 22 participants described difficulty reaching a station or stop, or completing the journey from a station to their destination (Figure 12).[74] Others pointed to limited bus coverage, no service at certain hours or places, and crowding on the Metro and at interchanges.

In the context of Metro, this becomes particularly relevant. As stated earlier, at baseline, participants rated the Metro almost as reliable as their PV. Yet only 5 of 34 used it weekly. During the experiment its use plateaued with 15 of 34 participants using it.

A 2023 WRI India survey of 7,200 metro users in Delhi, Bengaluru and Nagpur found that no Indian metro had reached its projected ridership as of December 2022. It identified poor station access as a major cause, and found that commuters will spend no more than about 20 minutes, including waiting, to reach a station. The same study found that women are more averse to waiting, pay more than men for shorter access trips, and in Delhi 42% reported harassment while waiting at bus stops.[75]

> ***"If I use the Metro, I will eventually have to book an Uber to get back home from the metro station. In Noida, there's no bus!" (36, Male).***

Figure 11: Barriers to using public transport (participants who raised each, n = 34)



Source: Daily and weekly logs

Planning a journey across several modes was also harder than it needed to be. For instance, participants described bus routes missing from official sources but listed on Google Maps, and incorrect Metro routes shown in an app. Without reliable, interoperable information, each change of mode added effort.[76]

However, once on the Metro, participants rated it highly. Those who used it rated it well ahead of their PV for saving time (4.5 against 3.9 out of 5) and as cheaper to use (2.2 against 3.6 on cost, where lower means cheaper). Most also found it helpful in extreme weather such as heavy rain and heat: 16 of the 22 who rated it gave it 4 or 5 out of 5. The Metro's limits lay less in the service itself than in the journey to and from it.[77]

[74] *Figure 12 counts all mentions across all five weeks. Figure 11 counts only mentions made without being asked, during the experiment weeks, so the last-mile figure there is lower (16).*

[75] *Aloke Mukherjee, Sowmya M, Archana Balachandran, Sudeept Maiti and Prasanna Kumar Ganesh (WRI India), Improving metro access in India: Evidence from three cities, 2023, https://wri-india.org/sites/default/files/Improving%20metro%20access%20in%20India_%20Working%20Paper.pdf*

[76] *Daily and weekly logs, Weeks 2 to 5.*

[77] *Mean endline ratings among the 24 participants who rated both the Metro and their PV (scale: 1 = very low, 5 = very high). On cost, a lower rating means lower perceived cost.*

4.4.2. Uncertainty about finding a ride made journeys harder to plan

For ride-hailing, the main difficulty was the uncertainty of finding a ride when needed. In Weeks 4 and 5, participants were asked every day whether they had faced a long wait, a cancellation or a driver refusing the trip. Over those two weeks, 118 such instances were reported. 30 of the 34 participants faced at least one such incident, and 12 faced five or more. These problems had an aggravated impact when participants had to reach work on time, especially during the morning rush, or get their children to school.

To cope, many participants built extra time into their routines:

> ***"I now have to wake up at least 15 to 30 minutes earlier to build in that mandatory buffer time for booking rides and dealing with rides cancelled and driver delays." (30, Male)***

Reliable availability, especially at peak hours, therefore appears central to making car-light travel feasible. This barrier, flagged by participants, sits within wider constraints on cab supply. When demand outstrips the number of idle vehicles nearby, platforms dispatch cars/match drivers to passengers from further away. Pickup times then lengthen, drivers spend more time driving empty, and fewer vehicles are free for the next request. Building on the principle of optimal vehicle utilisation, Chapter 6 explores whether permitting privately registered vehicles to be listed on ride-aggregator apps and private carpooling, would allow vehicles that would otherwise remain parked for much of the day to serve additional mobility needs thereby reducing the unreliable availability.

4.4.3. Safety concerns limited when and how participants travelled

Safety shaped which alternatives participants were willing to use, particularly for women and after dark (Section 4.3.2). Across all modes, 18 participants raised safety concerns during the experiment: 10 of the 16 women and 8 of the 18 men. Their concerns fell into three kinds. 7 participants (4 women, 3 men) worried about road safety: speeding or distracted drivers, missing footpaths and unsafe crossings. 9 (4 women, 5 men) raised general security, such as poor lighting near stations, too few guards on platforms in the evening, phone snatching and being stranded late at night. 5 women, and no men, described risks of harassment, or being alone in a cab late at night or before dawn. These last two kinds changed behaviour. 4 participants, three of them women, drove themselves or relied on family for very late or early trips. 7 of the 16 women asked for safety measures such as better lighting, CCTV and security staff, against 4 of the 18 men.[78] This aligns with a 2024 study in the Journal of Public Transportation, auditing 45 public transport journeys, that found that women across income groups in Delhi adjusted and carefully planned their journeys to manage personal safety risks.[79] This makes safety a key decision-making factor for travel choices, especially for women.

4.4.4. Attachment to private vehicles remained a consideration

Not every challenge was practical. 19 participants wrote in their logs, without being asked, that they missed the convenience of their PV: being able to leave whenever they wanted, keep things in the car or make several stops without planning ahead (Figure 11). This reflects findings from Van Eenoo and Boussauw's 2023 study of car owners in Ghent, Belgium, which found that even where alternatives to driving were readily available, everyday practices remained predisposed towards car use because of the flexibility, autonomy and comfort it offered.[80] In this way, participants' willingness to change their travel routines depended only partly on the alternatives on offer, and was also related to habits built over years of having a vehicle at the door.

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[78] *Daily and weekly logs, Weeks 2 to 5. All safety-related answers were read and grouped into three types; participants can appear in more than one. Section 4.3.2 counts concerns about cabs only (14 participants).*

[79] *Ankita Sil, Subeh Chowdhury and Roselle Thoreau, How do you travel? A holistic evaluation of public transport journeys of women: A case study of Delhi, India (Journal of Public Transportation, vol. 26), 2024, https://www.sciencedirect.com/science/article/pii/S1077291X24000262*

[80] *Eva Van Eenoo and Kobe Boussauw, "That's not feasible without a car": An exploration of car-dependent practices (Transport Policy, vol. 144), 2023, https://www.sciencedirect.com/science/article/abs/pii/S0967070X23002597*

4.4.5. The Cost trade off: Owning v/s using

Across their daily logs, participants often said ride-hailing cost more than driving (46% of responses). While this has been reported as a barrier, it needs to be studied in a wider context. Cabs can appear expensive at the outset, but counted against the full cost of owning a car, they are not.

During the experiment, a cab cost participants about ₹23.5 per km, according to Uber's platform data. A car owner deciding whether to take a cab or drive tends to compare this with the cost of fuel alone, which, at 2026 petrol prices, comes to about ₹6 to ₹7.5 per km.[81] In that comparison, a cab can look three to four times as expensive. Uber's Australian One Less Car study found a similar disconnect between perceived and actual costs: participants tended to overestimate the affordability of owning and using a private car, overlooking the fact that many vehicles were significantly underutilised, making their effective cost of ownership higher.[82]

This comparison leaves out most of what a car costs. Fuel is only a small part. The average new car in India sells for about ₹11.64 lakh[83], and about nine in ten are bought on a loan, which means a fixed EMI every month for several years.[84] Insurance, tax, servicing and depreciation add to this whether or not the car is driven.[85] Counting all of these, Amaron estimates that a petrol car driven 12,000 km a year costs about ₹18 per km for a hatchback, ₹25 for a sedan and ₹37 for an SUV, before parking and tolls.[86]

Over ten years, WRI India put the full cost of owning a petrol car at about ₹14.65 per km, but that was with 2020 prices when petrol cost ₹72 a litre.[87] Petrol in Delhi now costs about ₹102 a litre.[88] Now, measured against the full cost of owning a car, a cab costs less per km than a sedan, and auto-rickshaws and bike taxis still cost less (Figure 12). These estimates do not include road tax, parking or tolls, so the real cost of owning a car is higher.

Figure 12: Cost per km of owning a car compared with Uber services[89]

Option	Cost per km
Owning a sedan	₹25
Uber cab	₹23.5
Uber auto	₹18.8
Uber bike taxi	₹10.8

For many participants, the trial made these costs visible. Over two-thirds said it changed how they think about the financial cost of owning and maintaining a vehicle. Several said they had not realised how much their vehicle cost them until they had to pay for each journey separately.

> *"Personal vehicles cost a lot. If only I knew the economics of it…" (32, Female)*

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[81] *Amaron, Car ownership & running costs in India: a complete financial guide for car owners, 2026, https://www.amaron.com/blog/car-ownership-running-costs-india-complete-financial-guide-car-owners*

[82] *Uber Australia. The keys to car-free living in Australia. November 20, 2023. https://www.uber.com/au/en/newsroom/one-less-car-research/.*

[83] *NewsBytes, Average car selling prices in India to hit `14.7L by 2029, 2025, https://www.newsbytesapp.com/news/auto/average-car-selling-prices-in-india-to-hit-rs-14-7l-by-2029/story*

[84] *Autocar Professional, Inside India's Rs 20 lakh crore auto loan boom, 2026, https://www.autocarpro.in/feature/inside-indias-rs-20-lakh-crore-auto-loan-boom-135316*

[85] *For a sedan, for example, Amaron estimates these at about ₹18,000 a year for insurance, ₹25,000 for servicing and ₹1.4 lakh in lost value.*

[86] *Amaron, Car ownership & running costs in India: a complete financial guide for car owners, 2026, https://www.amaron.com/blog/car-ownership-running-costs-india-complete-financial-guide-car-owners*

[87] *WRI India, Electric car adoption in India: understanding personal and commercial e-car viability, 2020, https://wri-india.org/perspectives/electric-car-adoption-india-understanding-personal-and-commercial-e-car-viability*

[88] *NDTV, Petrol price in Delhi, 2026, https://www.ndtv.com/fuel-prices/petrol-price-in-delhi-state*

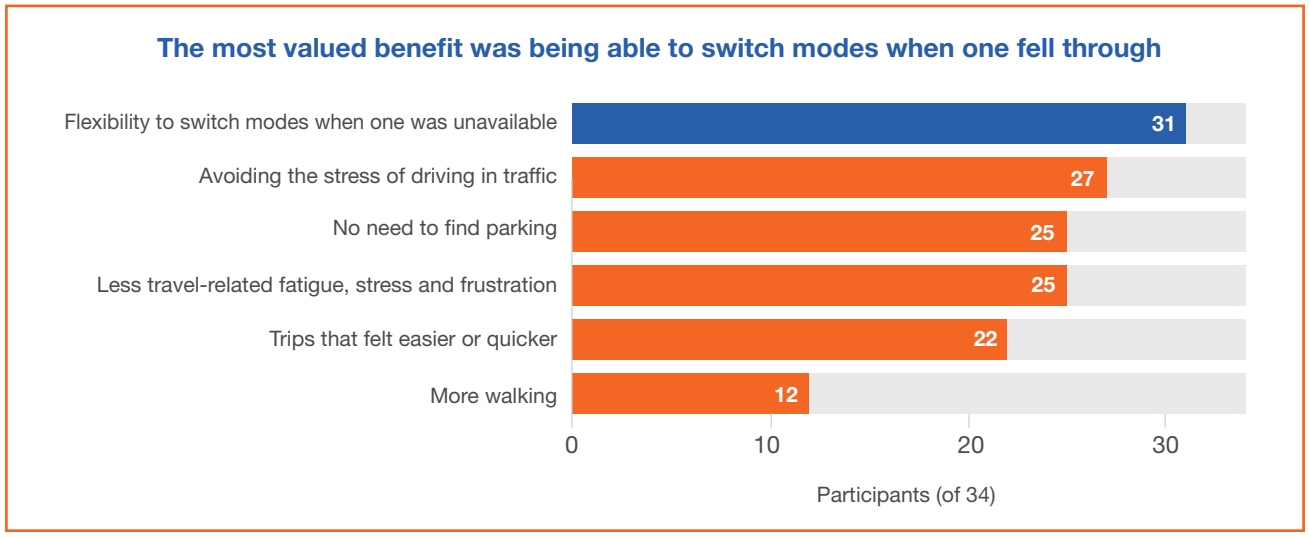
[89] *Source: Uber fares per km are based on analysis of Uber platform data, August to September 2026. Car costs are estimated by Amaron (2026) for a petrol car driven 12,000 km a year, including depreciation, loan interest, fuel, insurance and servicing: https://www.amaron.com/blog/car-ownership-running-costs-india-complete-financial-guide-car-owners*

Despite these practical and behavioural challenges, participants also identified several benefits of going car-light, suggesting that the experience was not defined by inconvenience alone.

4.5. What benefits did participants experience?

Participants identified several benefits of setting their PVs aside over the four experiment weeks (Figure 14). The one raised most often, by 31 of the 34, was the freedom to switch to another mode when one was unavailable or inconvenient. Twenty-seven valued not having to drive in Delhi's traffic, and 25 were glad not to have to look for parking, which for some also meant saving up to ₹200 a day in parking fees. Twenty-five said they felt less tired, stressed or angry on the road.

Figure 13: Benefits of going car-light (participants who raised each benefit, n = 34)



Source: Daily and weekly logs, Weeks 2 to 5

Not driving also freed up time. Participants used their journeys to work, make calls, read or rest:

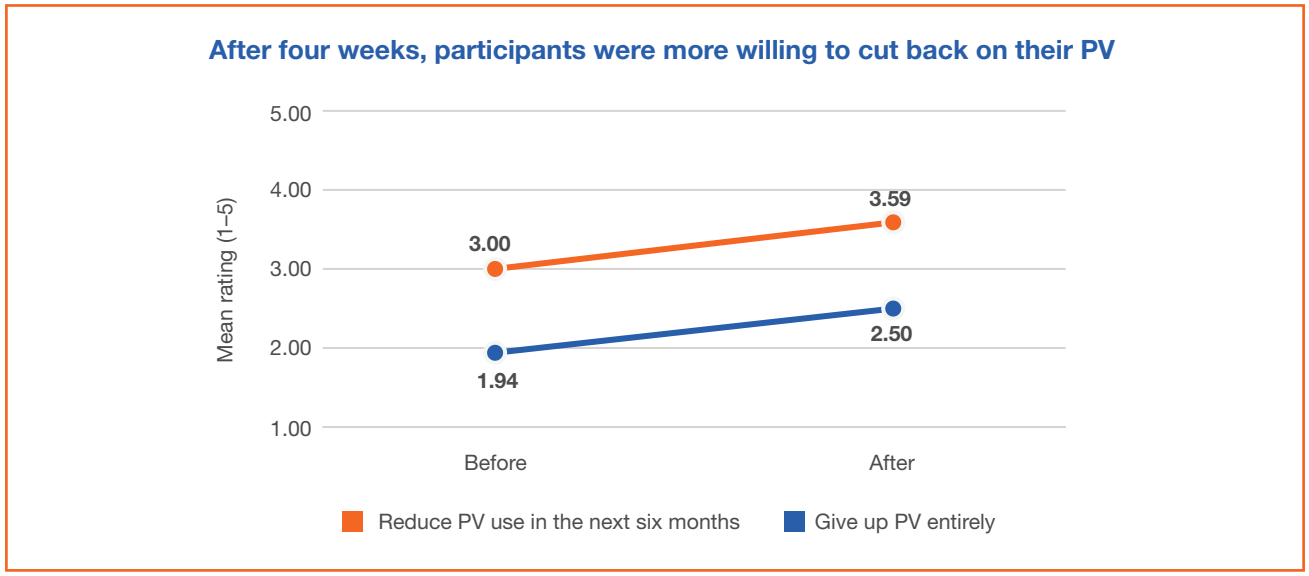
> ***"I have really started enjoying my trips to work as I am no longer behind the steering wheel. The efforts and time required for driving is now getting utilised in playing geography quizzes." (31, Female)***

For some, the experiment changed how they planned their days, not just how they travelled:

> ***"I've started planning my day around fewer trips and grouping errands together. I waste less time commuting, walk more, and feel less rushed. It's made my routine more deliberate." (25, Male)***

These experiences made participants more open to cutting back. On a scale of 1 to 5, their willingness to reduce PV use over the next six months rose from 3.0 before the experiment to 3.6 after it (Figure 15). Willingness to give up their PV entirely also rose, from 1.9 to 2.5, but stayed low: most participants saw themselves using their PVs less, not getting rid of it.

Figure 14: Willingness to go car- or bike-light, before and after the experiment (mean rating, 1 = very unlikely, 5 = very likely)



Source: baseline and endline surveys

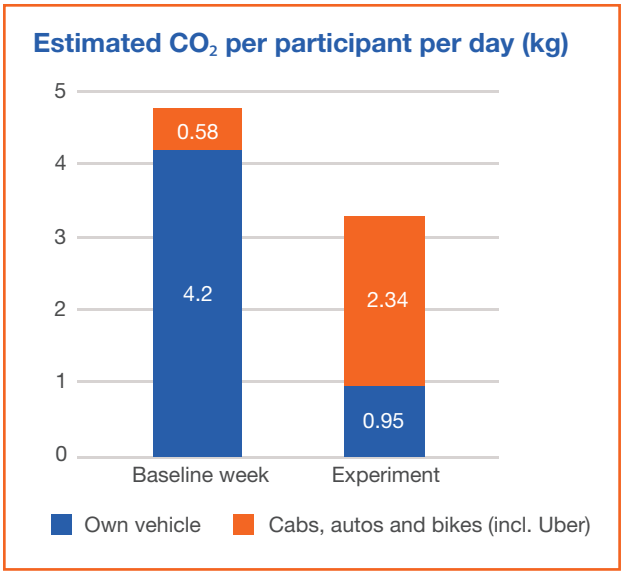
4.6. How did reducing PV use affect emissions?

The experiment was designed to study travel choices, but it also gives an indication of how a shift away from PVs might affect emissions. The figures below are estimates; the method is set out in the Annexure.

In the baseline week, participants' PVs produced an estimated 4.0 to 4.4 kg of CO_2 per participant per day. During the experiment, the PV use that continued produced 0.8 to 1.1 kg a day, a fall of 75–80%.[90]

That figure covers participants' PVs only. Much of their travel moved to ride-hailing cabs, autos and bikes, which produced an estimated 2.28 kg of CO_2 per participant per day. Counting all motorised travel in both periods, emissions fell from about 4.8 kg to about 3.3 kg per participant per day, a reduction of roughly 30% (Figure 16). The total fell for three reasons: Uber's cabs and autos run largely on CNG and emit less per kilometre than participants' PVs, some travel moved to the Metro and walking, and some trips were not made at all.

Figure 15: Estimated CO_2 per participant per day (kg), baseline week and experiment, split into PVs and cabs, autos and bikes



Source: Participants' logs and Uber platform data; see Annexure for method[91]

Public transport was part of this reduction. Participants travelled 4,517 km by Metro and bus during the experiment (4,436 km by Metro and 81 km by bus). Made in their PVs, those

[90] *Estimates are tailpipe CO_2 only. Participants' PVs: distances from the daily travel logs, with emission factors by vehicle type, engine size and fuel from the India GHG Program (2015), averaging 0.139 kg of CO_2 per km across the cohort. Ride-hailing cabs, autos and bikes: distances from Uber's platform data, with factors of 0.114 kg/km for CNG cars, 0.108 kg/km for autos and 0.039 kg/km for bike taxis. Commercial taxis and autos in Delhi are required to run on CNG. Full method in the Annexure.*

[91] *Midpoints of the estimated ranges. Excludes Metro and bus*

journeys would have produced an estimated 628 kg of CO_2. The Metro and buses also produce emissions, but far less per passenger. These results are an indication rather than a measurement. They suggest that relying less on PVs can lower transport emissions, and that the gains are largest when journeys shift to public transport and walking.

In sum, multimodality offer complementary alternatives to PV and removal of barriers could ensure sustained reliance on such alternate modes of transport

The experiment demonstrates that participants could manage much of their daily travel without relying on a PV, not by switching to one alternative, but by combining multiple modes. By the week after the experiment, more participants were regularly combining modes than using their PVs at all. The findings suggest that the value of alternatives lies not only in the availability of individual modes, but in how they complement one another and offer reliability.

However, this shift was not without friction: first- and last-mile connectivity, additional time and planning, and uncertainty around ride-hailing availability were among the most commonly reported barriers. At the same time, participants valued the flexibility to switch between modes, avoiding the stress of driving in traffic and the hassle of finding parking.

The experiment also highlights the role of ride-hailing services in supporting this shift. Ride-hailing cabs were the most widely used alternative, with all 34 participants using them throughout the experiment. This reliance, however, coexisted with frequent booking difficulties. Both these findings point to a distinction between the availability of vehicles and their optimal utilisation. Together, these findings establish the potential of multimodal travel and more efficient use of existing vehicle capacity as complementary ways of reducing dependence on PVs, explored further in Chapter 6.




Uber
Uber

5. Behavioural Insights: What Changed After the Experiment

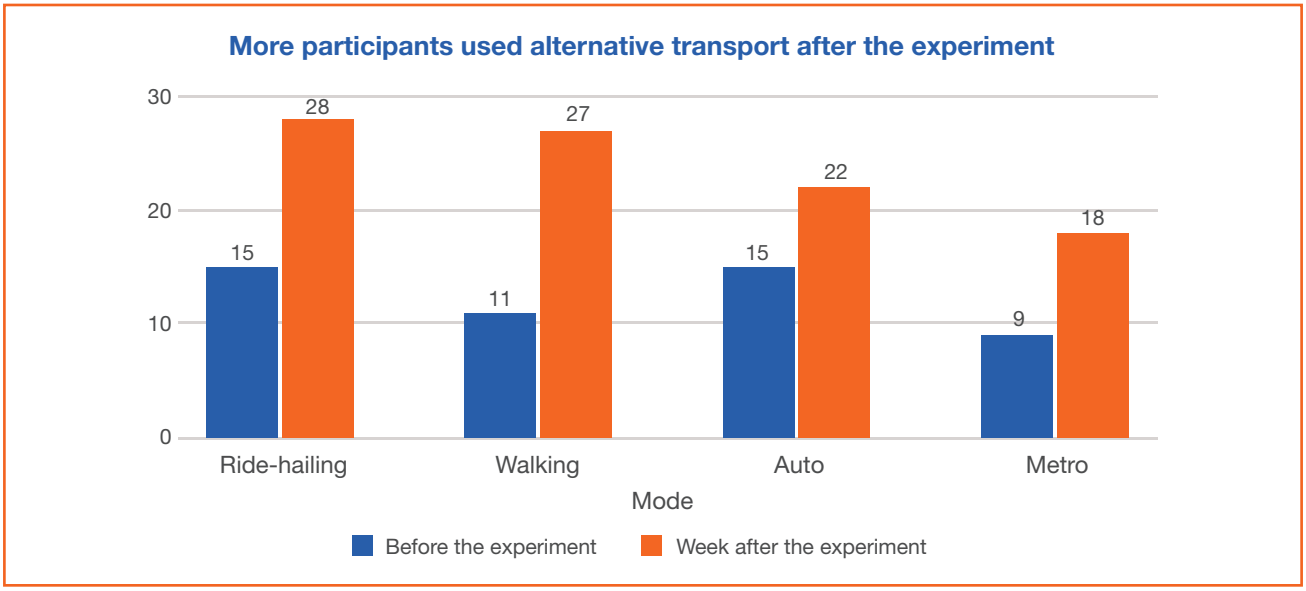
The four-week One Less Car experiment showed how participants travelled when they set aside their PVs and had access to a dedicated transport bundle. But would they continue to use alternatives once they could drive again? One week after the experiment ended, all 34 participants completed a follow-up survey on their travel behaviour to assess whether the changes observed during the experiment were sustained or reversed. This chapter examines how many participants went back to PV as primary mode, which changes held and what the evidence from all three phases of the study suggests about the behaviour behind them. The results describe early persistence rather than lasting change and they rest on what participants reported about their own travel.

In the baseline week, 15 of 34 of participants used a ride-hailing cab at least once, 15 took an auto, 11 walked and 9 used the Metro[92] (Chapter 3). In the week after the experiment, more people were using each of these modes: 28 had used ride-hailing, 27 had walked, 22 had taken an auto and 18 had used the Metro.[93]

The follow-up findings suggest that the experiment expanded participants' travel choices, even where it did not fundamentally displace PV use. For some, alternative modes had become part of their regular routines; for others, they remained supplementary options used alongside their PVs.

In the baseline week, 12 of 34 participants used no mode other than their PV (Chapter 3).[94] A week after the experiment ended, only 2 of 34 still travelled this way; the other 32 used at least one alternative, such as ride-hailing, autos, walking or the Metro, suggesting the experiment had introduced participants to new ways of getting around the city.

Figure 16: Participants using each mode, baseline week vs week after the experiment



Source: Baseline week daily logs (Chapter 3) and follow-up behaviour change survey

[92] *Baseline survey, (Chapter 3, 3.2.2).*

[93] *The survey asked: "How often have you used each mode in the past week, i.e. since the experiment ended?" For each mode, we counted everyone who answered anything other than "Didn't use", so Most days + A few times + Rarely are added to get these numbers.*

[94] *Baseline-week daily logs (3.2.2)*

5.1. Ride-hailing, autos, walking and the Metro continued to serve different needs

Ride-hailing was the alternative that carried over most strongly. 21 of 34 kept using Uber or other ride-hailing services a few times in the week after the experiment. Participants described it as easy, reliable and stress-free (See quote below). Autos also found a new place in people's routines, with 18 of 34 using them regularly. One participant who used to see autos as a hassle said, *"now it's super easy… I keep taking them for short commutes too."* Many also kept walking (20 of 34) and using the Metro (14 of 34). These responses point to an expanded repertoire of travel options, rather than complete replacement of the PV by any one mode. Participants valued the relative ease of arranging a cab and the usefulness of autos for shorter journeys.

> ***"One small win was realizing that I could get through most regular days without automatically needing a car. Booking a clean cab, getting picked up on time and simply sitting back while someone else drove felt surprisingly convenient. It made me realise that car-free living can work for everyday travel when the cab service is reliable." (35, Female)***

5.2. Change in travel habits

Beyond what they used, participants described a shift in how they approached an ordinary journey. The most lasting change was in how participants decide to travel. 14 of 34 now combine their car with other modes for some trips, or rarely use their PV for the whole journey.

Many now stop to ask whether a trip needs the car at all:

> ***"Since the end of the experiment, I have started cross-questioning if I need the personal vehicle for that particular trip." (31, Female)***
>
> ***"My first thoughts changed to if I can walk the distance or take an auto." (32, Female)***
>
> ***"The biggest win was realizing that I didn't miss driving my car." (32, Female)***
>
> ***"The four weeks completely broke my autopilot dependency on driving. I no longer view taking my car as a mandatory default for every single journey." (30, Male)***

5.3. Benefits participants didn't expect

When asked for one moment or win that had stayed with them, few participants talked about the journey itself. Most talked about what not driving gave back to them: headspace, time, physical activity and a clearer view of their money.

- **Freedom from parking.** Several participants singled out parking as the burden that no longer bothered them. *"Not worrying about the parking has been the most relieving thing,"* said one. For many, the stress of driving in Delhi-NCR starts before the trip and ends after it: finding a space to park PV, arriving early to secure one, walking back to the car. Not driving removed that whole layer of planning. It also suggests parking pressure is one of the strongest everyday reasons to leave the car at home.
- **Travel time became personal time.** Participants also reported reclaiming their time back. Driving takes full attention, while being driven frees it up. Participants used that time to reply to emails, call friends, listen to music, read or simply rest. One described the commute changing from *"a stressful driving chore" into "a relaxed personal break".* Another said, *"I started reading a lot more because I am not stuck driving. And I don't want to give that up."*

- **More movement, without trying.** Walking to a Metro station, an auto stand or a pickup point added activity to the day without any planned exercise. *"My average steps and active energy during the 4 weeks is higher than regular,"* noted one participant.
- **A clearer view of money.** Paying for each trip made the cost of daily travel visible in a way that fuel and maintenance spending rarely does. One participant said they now know how much they spend on transport each month and how to optimise it. Another found that by not using their PV, they could finally set money aside.

Together, these responses show that the case for travelling by car or bike-light goes beyond getting from A to B. Participants experienced it as less stressful, more productive and healthier, and those are the benefits most likely to keep people from going back to driving by default.

5.4. Early persistence varied across participants

Participants who continued using alternatives cited the availability and convenience of cabs, auto-rickshaws and the Metro, along with relief from driving-related stress and the ability to use travel time differently. These reported enablers are consistent with the benefits recorded during the experiment. As one participant put it: *"Now I 100% don't feel like driving. If I don't have the driver available, I book the cab."*

The following groups carried the change forward most consistently:

Figure 17: Persistence across participant groups

Group	Said travel was still similar to the experiment	Used own vehicle rarely or not at all
Women	11 of 16	8 of 16
Car-only households	10 of 13	8 of 13
Aged under 36	16 of 26	12 of 26

Women held on to the change more than men. 11 of 16 women said their travel was still similar to the experiment, half (8 of 16) used their PV rarely or not at all, and 11 of 16 kept using ride-hailing frequently across the week.

Participants in car-only households reported relatively strong carry-over: 10 of 13 said their travel was still similar to the experiment, 8 of 13 used their car rarely or not at all, and 10 of 13 kept using ride-hailing along with using their car, indicating that their PV was not the only automatic choice.

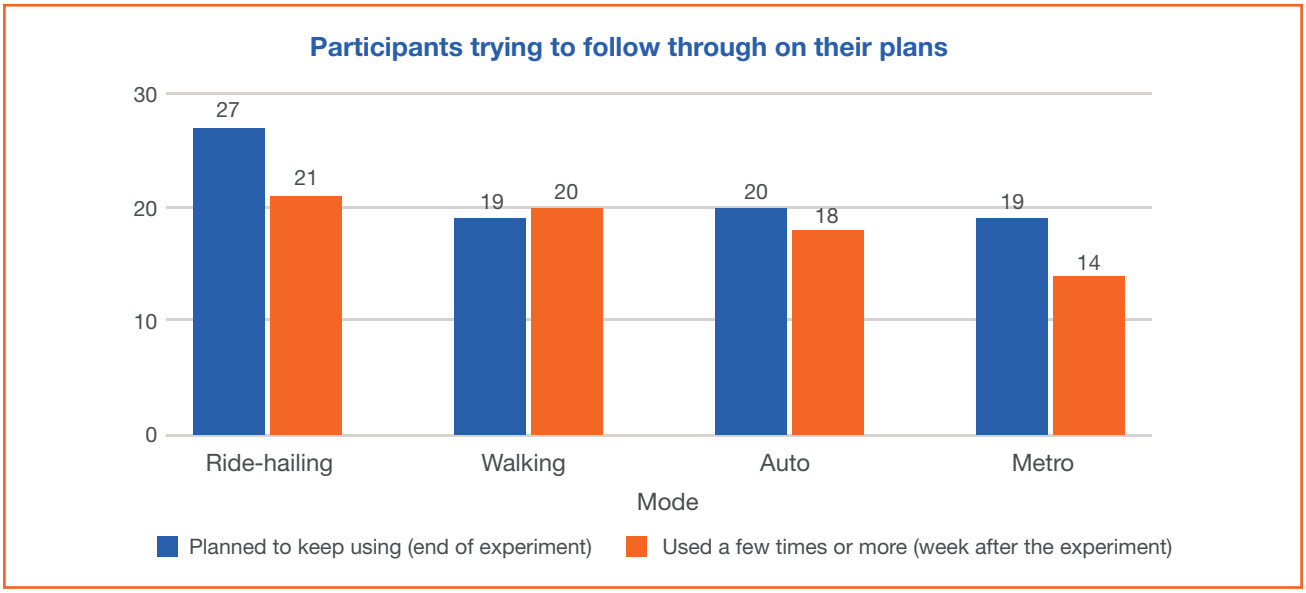
Younger participants kept up the change more. Of the 26 participants who were aged under 36, 16 said their travel a week later was still similar to the experiment, and 12 used their PV rarely or not at all.

The more important insight is not which small subgroup appears to have changed most, but that different household and journey requirements may alter the practical value of an alternative. The policy implications therefore turn on whether services can accommodate varied needs and not on assuming a single behavioural response across Delhi-NCR.

5.5. Did plans become practice?

At the end of the experiment, participants reported which modes they planned to keep using. A week later, most of them had stuck to those plans. Walking held up best: 19 of 34 participants planned to keep walking, and 20 did so regularly. Ride-hailing and autos also carried over well. Of the 27 who planned to keep using cabs, 21 did so regularly, and 18 used autos regularly against 20 who had planned to.

Figure 18: Participants planned travel v/s follow through



Source: Endline survey and behaviour change survey

Convenience and cost drew some participants back to their vehicles: When participants explained why they had returned to their PV, the most common reasons were convenience and the freedom to leave whenever needed, followed by cost, saving time, and carrying people or things. Others mentioned long waits for rides, weather, an office entry pass linked to their car, and personal safety as reasons that prevented them from leaving their PVs.

Most of these reasons echo what participants reported earlier in the baseline and experiment weeks. During the experiment, late-night trips, school runs and medical appointments were the hardest to manage without a PV (Chapter 4). Afterwards, the trips that drew participants back to their PVs were those with several stops, family members or things to carry.

The common thread across the baseline, the experiment and the follow-up is that reducing PV dependence requires alternatives to meet the practical needs the PV serves, i.e., dependable access, flexibility, safety and manageable costs. The experiment helped participants discover alternatives and reconsider familiar routines, with some changes continuing into the following week. The recommendations therefore focus on making those choices easier to retain once the support ends and the PV is available again.

Nevertheless, a change one week after the experiment is promising. The first week after the experiment therefore presents a qualified but useful result. The experiment has left participants with a car or bike-light mindset, a habit of reaching for ride-hailing and other modes, and first-hand experience that everyday life in Delhi-NCR is possible without driving every trip. As one participant summed it up, hybrid commuting *"is both practical and much better for day-to-day peace of mind" (29, Male).*

The central question for Delhi-NCR is not only whether PV users can try other modes, but whether those modes can be made dependable, accessible and affordable enough to remain attractive when their PVs are available. The recommendations that follow address these conditions for a more practical shift towards car-light, multimodal travel.

6. Recommendations: Making Delhi's Existing System Work as One

6.1. What the experiment showed

For four weeks, 34 residents of Delhi and the NCR who depended on their own cars and two-wheelers set them aside. By the week after the experiment, 20 of them did not use their PV at all, and more participants were regularly combining modes than were using their PV. They did not replace the PV with any single mode and instead combined the Metro for longer cross-city journeys, autos and ride-hailing for medium distances and the first and last mile, and walking for short trips. Buses were used the least, not because participants rejected the service, but because they could not readily find routes or arrival times.

A week after support ended, only 2 of the 34 relied on their PV for every trip, against 12 before the experiment.

The switch was not seamless. It strained at the points where one part of the system had to hand over to the next. Followed from door to door, a car-light journey in Delhi broke down in four places:

GAP 1

Getting to and from the station

22 of the 34 participants described difficulty reaching a station or stop, or completing the journey from one. Metro use rose at the start of the experiment and then plateaued.

GAP 2

Knowing what is coming, and paying for it

Buses barely featured, because participants could not find routes or arrival times, and planning across several modes was one of the challenges they raised most often.

GAP 3

Feeling safe

18 participants raised safety concerns, among them 10 of the 16 women. For some, these concerns decided whether they travelled late at night at all.

GAP 4

Finding a ride-hailing vehicle when it is needed

30 of the 34 participants faced at least one long wait, cancellation or refusal, most often in the morning peak.

A **fifth gap** lies not in the journey but in how the city measures progress. Participants' estimated emissions fell by about 30% with no change in the vehicles they owned, yet Delhi's clean-air planning counts progress mainly by what vehicles run on.

The recommendations that follow take these gaps in the order a traveller meets them. Together they aim at two outcomes: a transport system that works as one network, and lesser vehicles on Delhi's roads. They rest on three principles.

6.2. Three principles

01

Multimodality, not a single mode. No single mode replaced the PV, and no single improvement will. Participants managed without PVs when the Metro, buses, autos, walking and ride-hailing cabs connected. The recommendations therefore focus on the connections between modes as much as on the modes themselves.

02

Better use of existing vehicles, alongside electrification. Electric vehicles remove exhaust emissions and in turn substantially contribute to cleaner air. While the benefits are numerous, these do not reduce the space PVs occupy, the congestion they cause or the hours they stand idle. Getting more use out of vehicles that already exist is as much a part of the answer as changing what they run on.

03

Existing instruments, not new laws. Each recommendation works through a rule, plan or agency already in place: the 2019 Parking Rules, the Master Plan for Delhi 2047, the city's open transit data, the Delhi aggregator scheme, the Delhi Electric Vehicles Policy, 2026 and the Graded Response Action Plan (GRAP). None requires new legislation.



6.3. Recommendations

6.3.1. Efficient first-mile-last-mile connectivity

Once on the Metro, participants rated it highly: those who used it rated it well ahead of their own PVs on saving time (4.5 against 3.9 out of 5) and as cheaper to use (2.2 against 3.6, where lower means cheaper). What held it back was the journey to and from the station. Getting there was the barrier to public transport that participants raised most often, and Metro use rose from 9 participants to 14 in the first experiment week and then stopped growing. Walking grew from 11 to 17 participants, and many said they would walk more if footpaths were shaded and unbroken, crossings safer and streets better lit.

Towards ensuring seamless first-mile-last-mile connectivity, the Delhi Transport Department and the Delhi Metro Rail Corporation (DMRC) could consider selecting 15 to 20 stations with large residential or employment catchments and, at each:

- designate marked pick-up and drop-off bays near station exits for autos, e-rickshaws, feeder services and app-based rides, the kind of "drop and go" zones the Supreme Court suggested for transport hubs in 2019[95]
- align feeder buses and e-rickshaws with Metro operating hours, at intervals short enough to be worth waiting for (services that run less often than every 10 minutes are unlikely to be used, and every 5 minutes is the peak-hour benchmark), and display fares for connecting services at station exits
- provide continuous, shaded and well-lit footpaths with safe crossings within about 500 metres of the station, on the routes pedestrians actually use, and secure cycle parking at the station itself as enhancing walking environment around Metro stations is essential for the success of the metro service (Gupta, Bivina and Parida, 2025)[96]
- manage kerbside parking in the station catchment through area parking plans under the Delhi Maintenance and Management of Parking Places Rules, 2019, so that footpaths, bus stops and boarding bays stay clear of parked vehicles.

Each of these builds on commitments already made. The Master Plan for Delhi 2047 provides for multimodal transit hubs and unified parking management, and the Supreme Court's June 2026 judgment places a duty on municipal bodies to "demarcate, construct, maintain and safeguard" footpaths.[97] Delivering them as one programme at a limited number of stations, rather than as a city-wide commitment, makes the work deliverable within existing budgets and its results measurable.

[95] *M.C. Mehta v. Union of India, 2019 (10) SCC 614.*

[96] *Akshay Gupta, G. R. Bivina and Manoranjan Parida, Prioritising pedestrian's needs around transit stations through walkability assessment: A walk audit tool approach (Transportation Research Procedia, vol. 82), 2025, https://www.sciencedirect.com/science/article/pii/S2352146524004204*

[97] *Maniyar Iliyaz Shaik Riyaz v. P. Ayyappan, 2026 INSC 647*

6.3.2. Make every mode easy to find and pay for

Put buses on the apps commuters already use, and let one booking cover a whole journey.

Once a station can be reached, the next barrier is access to information on that mode of transport. Extra time and planning was among the challenges participants raised most often, and each change of mode added effort: participants described bus routes missing from official sources but listed on Google Maps, and incorrect Metro routes shown in apps. Buses barely featured in the alternatives participants used. No more than 3 participants took one in any week, and they pointed to unfamiliar routes and a lack of arrival information rather than to the quality of the service. Evidence from Sydney's Mobility-as-a-Service trial suggests that bundling modes into one product can reduce private car use.[98]

- **Make buses visible in the tools commuters already use**: The experiment highlighted the need for participants to plan their journeys in advance when relying on alternative modes. Access to accurate, real-time information on routes, arrivals, disruptions and ticketing could make journeys more predictable and reduce uncertainty. Strengthening existing tools, such as the One Delhi app, and integrating information across modes would help commuters plan end-to-end journeys more easily. London's TfL Go app offers a useful example of how digital tools can simplify journey planning.[99] It provides real-time arrival information, service disruption updates and alternative routes across public transport networks. It also offers walking and cycling routes, helping users plan journeys that combine different modes of transport. These features reflect elements of the UK's Mobility as a Service (MaaS) approach, which aims to integrate different transport modes with journey-planning information and payment functions into a single service.[100]

  Delhi already publishes real-time data for DTC and cluster buses through its Open Transit Data (last updated in 2023) platform. The Transport Department could consider closing the gaps in the coverage and accuracy of that data and make it accessible to ensure interoperability following the model of Transport for London.

[98] *Aitan M. Militão, Chinh Q. Ho and John D. Nelson, Mobility-as-a-service and travel behaviour change: How multimodal bundles reshape our travel choices (Transportation Research Part A, vol. 191), 2025, https://www.sciencedirect.com/science/article/pii/S0965856424003586*

[99] *Transport in London, 2026. https://government.london/topics/transport/*

[100] *Department for Transport (UK), Mobility as a Service (MaaS) code of practice, 2023, https://www.gov.uk/government/publications/mobility-as-a-service-maas-code-of-practice/mobility-as-a-service-code-of-practice*

- **Optimise Bus Frequency and Capacity Based on Passenger Demand**: While Delhi has a vast network of buses, commuters have often raised overcrowding and long waiting times as major impediments to their journeys.[101] Increasing bus frequency and deploying higher-capacity buses on routes experiencing sustained high demand, particularly during peak hours, could help address these concerns. Singapore's Land Transport Authority uses fare-card data to assess passenger loads and works with bus operators to add capacity when loading remains above 80-85% of capacity during the busiest hour.[102, 103] Delhi could adopt a similar data-driven approach, using passenger counts and commuter feedback to identify overcrowded routes and stops and adjust services accordingly.

- **Allow multimodal ticketing through commuters' preferred apps**: Commuters can already buy Delhi Metro tickets through several third-party applications. DMRC and DTC could consider extending this into open, non-exclusive ticketing interfaces covering both Metro and bus, which any mobility application, including ride-hailing platforms, can integrate on equal terms. Neither agency should be required to build a proprietary integration for a private platform, and no platform should be required to route its users through a public operator's application. The aim is that a commuter can plan, book and pay for an auto to the station, the metro journey and the onward ride in a single transaction, with a clear fare breakdown.

[101] *Hindustan Times, As Delhi pushes public transport use, commuters flag overcrowding, poor connectivity, 2026, https://www.hindustantimes.com/cities/delhi-news/as-delhi-pushes-public-transport-use-commuters-flag-overcrowding-poor-connectivity-101779130430044.html*

[102] *Ministry of Transport, Singapore, Written reply by Minister for Transport Khaw Boon Wan to parliamentary question on improvement of quality of standards for buses under bus contracting model, 2019, https://www.mot.gov.sg/news-resources/newsroom/written-reply-by-minister-for-transport-khaw-boon-wan-to-parliamentary-question-on-improvement-of-quality-of-standards-for-buses-under-bus-contracting-model/*

[103] *Ministry of Transport, Singapore, Written reply to parliamentary question on average passenger load on trunk and feeder bus services during peak hours, 2022, https://www.mot.gov.sg/news-resources/newsroom/written-reply-to-parliamentary-question-on-average-passenger-load-on-trunk-and-feeder-bus-services-during-peak-hours/*

6.3.3. Get more use out of the vehicles already on Delhi's roads

Allow privately owned cars, beginning with electric vehicles, to be listed on licensed ride-hailing platforms, and enable ridesharing/carpooling in private cars, through a capped pilot with independent evaluation.

Ride-hailing cabs were the part of the network participants relied on most. Every participant booked a cab in every week of the experiment, and cabs covered the trips nothing else could: late at night, with children or older relatives, or with several stops. However, cabs were also less predictable for the participants.

Reliable ride-hailing depends on vehicles being available where and when demand arises. Underused private cars including EVs represent existing capacity, while expanding the vehicle fleet can increase pressure on roads and parking. Expanding the vehicle fleet, by contrast, can increase pressure on roads and parking. A 2018 study by the Boston Consulting Group, modelled a scenario in which ridesharing (carpooling) carries half of all motorised kilometres in Delhi, with half of those rides pooled. It estimated that peak-hour congestion would fall by 19% under that scenario. The same study found that over 79% of commuters in Delhi and Mumbai who planned to buy a car would consider not doing so if ridesharing matched car ownership on availability and timeliness.[104] Better utilisation of existing capacity is therefore relevant to both service availability and the efficient use of urban space.

To test the hypothesis of better asset utilisation, The Transport Department should consider running a capped, time-bound pilot under which privately registered cars/EVs to be listed on ride-aggregator platforms for passenger rides, with each vehicle mapped to a specific, verified driver. The same pilot could allow ridesharing/carpooling, in which car owners offer empty seats on trips they are already making, booked through licensed platforms. The Delhi Government's *Mera Bharat, Mera Yogdan* campaign already encourages residents to carpool. The pilot should rest on clear safeguards:

- **One car, one verified driver.** Each listed car is mapped to a single driver, either the owner or a named nominee, who is onboarded on the same basis as a ridesharing driver: licence, vehicle registration, identity documents and a background check by the platform.

[104] *Boston Consulting Group, Unlocking cities: The impact of ridesharing in India, 2018, https://web-assets.bcg.com/img-src/BCG-Unlocking-Cities-Ridesharing-India_tcm9-185213.pdf*

- **Safety through the platform.** Safety is assured through the platform's verification, a declaration by the driver on the app, insurance cover for passengers, and in-app trip sharing and emergency buttons linked to 112.
- **Vehicle Caps.** Eligibility begins with limited white plate vehicles ~1000 in Delhi
- **Independent evaluation.** The pilot runs until the 2027–28 winter, and an independent evaluation measures its effect on waiting times at peak hours, vehicle utilisation, electric kilometres, total vehicle-kilometres and safety compliance. Any decision on wider adoption follows that evaluation.

Assam offers a relevant precedent for enabling privately registered vehicles to operate through ride-hailing platforms under a regulated framework. In February 2025, Uber launched Uber Saarthi, a private-car ridesharing service in the state, initially onboarding women and veterans as drivers. Assam's regulatory framework provides for capped ridesharing using non-commercial vehicles, with safeguards including driver verification and insurance requirements. While the initiative is not specific to EVs, it demonstrates a potential pathway for allowing PVs to serve additional mobility needs without requiring owners to become full-time commercial drivers.[105]

6.3.4. Make the whole journey safe, particularly after dark

Before the experiment, only 11 of 34 participants felt safe using public transport in Delhi-NCR after dark, and safety was one of the four reasons they relied on their PVs. During the experiment, 18 participants raised safety concerns. 7 of the 16 women asked for better lighting, CCTV and security staff, against 4 of the 18 men.

Making alternative modes more accessible also requires ensuring that commuters feel safe using them, particularly women travelling in the evening. Integrating ride-hailing with 112 helpline; regular safety audits of public spaces, station areas and access routes; addressing gaps in lighting, surveillance and security personnel, are some of the ways in which commuters are not just ensured safety but they also are made to feel safe. Transport operators and ride-hailing platforms should strengthen driver background checks, sensitisation on women's safety and protocols for responding to complaints. Platforms should also provide accessible human-assisted grievance redressal, communicate the action taken on complaints, and establish clear escalation mechanisms for serious incidents.

[105] *The Economic Times, Uber's private car ride-share service starts from Assam. 2025 https://economictimes.indiatimes.com/tech/startups/uber-to-launch-private-car-ride-sharing-service-in-india-roll-out-to-start-from-assam/articleshow/118585217.cms*

6.3.5. Count what changes the air, and use the pollution season to strengthen the alternatives

Measure progress by how much private vehicles are driven, not only by what they run on, and make GRAP strengthen public transport and ride-hailing services as well as restrict private vehicles.

Estimated carbon dioxide from participants' PVs fell by 77% (from 4.2 kg to 0.95 kg per participant per day) during the experiment, and from all their motorised travel by about 31% (from 4.78 kg to 3.29 kg), with no change in the PVs they owned. The gains were largest where journeys moved to the Metro and walking. Participants travelled 4,517 km by Metro and bus, which in their PVs would have produced an estimated 628 kg of CO_2. Delhi's clean-air planning, however, measures transport progress mainly through fleet electrification and fuel standards.

- **Indicators:** CAQM and the Delhi Environment Department could consider adding private vehicle-kilometres and mode share as indicators in Delhi's clean-air action plan, and estimate the emissions avoided through shifts between modes using a common, published method.
- **GRAP.** Whenever Stage II of GRAP is invoked, CAQM could report whether the increases in bus and Metro services it provides for are delivered, and should add feeder services at Metro stations to the measures. Where GRAP restricts the use of PVs, it should also ensure that the public alternatives and ride-hailing services that kept participants out of their PVs are available in greater supply, not less.

6.4. Summary of recommendations

- **Improve first and last-mile connectivity:** Connect Metro stations with nearby residential areas and work/tech-parks through frequent feeder services, safe walking routes and designated pick-up bays. Enforce parking restrictions around station exits to keep footpaths and boarding areas clear.
- **Make journeys easier to plan and pay for:** Enable commuters to plan, book and pay for Metro, bus and connecting rides through their preferred apps, with accurate route and arrival information. Match bus frequency and capacity to passenger demand.
- **Pilot ride-sharing using privately registered electric cars:** Through a capped, time-bound pilot, allow privately owned cars, including EVs, to be listed on licensed ride-aggregator platforms for passenger rides, and to offer ridesharing (carpooling) on trips their owners are already making.
- **Make public transport safer, particularly after dark:** Improve lighting and surveillance at stations, stops and access routes; strengthen driver checks, emergency response through 112 and accessible complaint handling.
- **Make reduced private-vehicle use part of clean-air planning:** Track how much PVs are driven, shifts to other modes and associated emissions. Ensure additional bus, Metro and feeder services accompany restrictions under GRAP.



Annexures

Annexure 1. The One Less Car Delhi-NCR participants

Thirty-four frequent personal-vehicle users from Delhi and the wider NCR set aside their vehicles for four weeks as part of One Less Car Delhi. They were selected to reflect a mix of ages, genders, locations, household situations and professions.

34 **participants**	**32.5** **average age** ranging from 23 to 47; 25 were aged 25 to 35	**18 : 16** **men : women**
17 : 17 **Delhi : NCR**	**31** **owned a car** 18 also owned a two-wheeler; 3 owned only a two-wheeler	**22** **had caregiving duties** 14 cared for older relatives, 8 for children under 18

Participants by field of work

Social sector and policy (7)

Adit Kaur, Senior Educator
Bhawna Jha, Senior Project Associate
Damini, Policy Consultant
Meghna Joshi, Founder, livelihoods organisation
Mouazam Ali Hakim, Diversity and Inclusion Consultant
Nikita Ahuja, Senior Project Associate
Rupendra Chahar, Operations Manager

Corporate (7)

Kajal Gupta, Data Analyst
Kaushal Yadav, Product Manager
Manish Gupta, Vice President, technology company
Mehak Chauhan, Human Resources Professional
Nandini Yadav, Accounts Manager
Shubham Thakur, Key Account Manager
Umang Aggarwal, Senior Content Manager

Legal and regulatory (3)

Mohit Gaurav, Advocate
Nikhil Thakur, Legal Expert
Nishant Beniwal, Climate Change Lawyer

Government and public institutions (7)

Akshay Mattas, Consultant, Government of India
Harika Nelli, Deputy Controller of Accounts
Himmat Singh Pannu, Registrar
Jayant Singhal, Consultant, Government of India
Salil Mohan, Deputy Director (Architecture)
Sawna Gupta, Court Officer
Vishu Manav, Online Reputation Management Executive

Media and content (6)

Abhishek Kamboj, Radio Jockey
Debashis Sarkar, Technology Editor
Kriti Kambiri, Print Journalist
P Sai Sathvik, Video Editor
Siffat Kaur, Content Creator
Sudhanshu Shubham, Chief Sub-editor

Founders and entrepreneurs (2)

Aanchal Saini, Founder
Pranjal Gautam, Event Curator and Founder

Healthcare (2)

Konnpal Anil, Doctor
Samridhi Sharma, Dietician

Annexure 2. Methodology used for estimating emissions

Emissions from all motorised travel were estimated for the baseline week and the experiment weeks, per participant per calendar day. Calendar days include days participants stayed at home: 272 logged days in the baseline week, and 922 participant-days in the experiment (30 Cohort I participants over 27 days and 4 Cohort II participants over 28 days). Own-vehicle emissions are also reported separately for both periods.

Method: For each trip or day, the distance travelled in kilometres was multiplied by an emission factor for the vehicle used: the kilograms of CO_2 it gives off per kilometre. Totals were then divided by the number of participant-days.

Emission factors: Factors come from the India GHG Program's India Specific Road Transport Emission Factors (2015, version 1.0)[106], including its real-world uplift (8% for cars, 10% for two-wheelers), with a TERI Delhi average for CNG cars.

Figure 19: kg CO_2 per km across travel types

Vehicle	kg CO_2 per km
Participants' own vehicles (distance-weighted average)	0.139
Uber car, and cabs at baseline (CNG)	0.114
Uber auto, and autos at baseline (CNG)	0.108
Uber bike and bike taxis (petrol two-wheeler)	0.039

Each participant's own vehicle was assigned its own factor by type, engine size and fuel, ranging from 0 for electric cars to 0.216 for a diesel MUV. Most vehicles ran on petrol (27 of 34); the rest were diesel, electric, CNG or dual-fuel. Uber does not record each vehicle's fuel, so all Uber cars and autos were assumed to run on CNG. Lifts in other private cars used the 0.139 average.

Distances

1. **Baseline week:** Participants reported their total distance each day in bands (for example, 30 to 50 km), and the midpoint of each band was used. On days when a participant used more than one mode, the logs do not show how the distance was divided, so two cases were calculated. The lower estimate splits the day's distance equally across the motorised modes used. The upper estimate counts the whole distance as own-vehicle travel on any day the own vehicle was used.

2. **Experiment weeks**

   - **Uber cars, autos and bikes:** Uber's trip data for all 34 participants, 1,435 trips covering about 19,000 km. Trips outside each cohort's experiment dates, trips by riders who were not participants, and one out-of-city trip were excluded.
   - **Continued own-vehicle use:** participants' daily logs, using the same distance bands and the same lower and upper cases as the baseline week. This gives 5,300 to 7,400 km across 149 days out by 28 participants.

[106] *WRI India (India GHG Program), India Specific Road Transport Emission Factors, version 1.0, 2015, https://shaktifoundation.in/wp-content/uploads/2017/06/WRI-2015-India-Specific-Road-Transport-Emission-Factors.pdf*

Results

Figure 20: Change in emissions

kg CO_2 per participant per day	Baseline week	Experiment weeks	Change
Own vehicles	4.00 to 4.43	0.80 to 1.12	75 to 80% lower
Cabs, autos, bike taxis and lifts	0.41 to 0.71	2.33 (Uber 2.28, lifts 0.05)	
All motorised travel	**4.71 to 4.84 (about 4.8)**	**3.13 to 3.45 (about 3.3)**	**about 30% lower**

Ranges pair the lower estimates for both periods and the upper estimates for both periods.

Uber trips by mode. Cars made up 74% of Uber trips, 83% of distance and 85% of Uber emissions (1.95 kg per participant per day). Autos made up 21% of trips, 14% of distance and 13% of emissions (0.30 kg). Bikes made up 5% of trips, 4% of distance and about 1% of emissions (0.03 kg).

Metro and bus. Participants travelled 4,436 km by metro and 81 km by bus during the experiment. These trips are not counted as emissions in the totals above. They do produce emissions, but far less per passenger than private vehicles. As an illustration, the same 4,517 km in participants' own vehicles would have produced about 628 kg of CO_2.

Scope and limitations

- Only tailpipe CO_2 is counted. Emissions from producing fuel or electricity, other greenhouse gases and vehicle manufacture are excluded.
- Walking, metro and bus are not counted as emissions.
- Baseline distances, and own-vehicle distance during the experiment, are self-reported in bands, while Uber distances are measured, so the results show the size of the change rather than exact values.



Notes

Uber

TQH

YLAC

