

Congestion Mapping of Kolkata Roads

A STUDY BASED ON VEHICLE COUNT SURVEY BETWEEN 2020 AND 2022

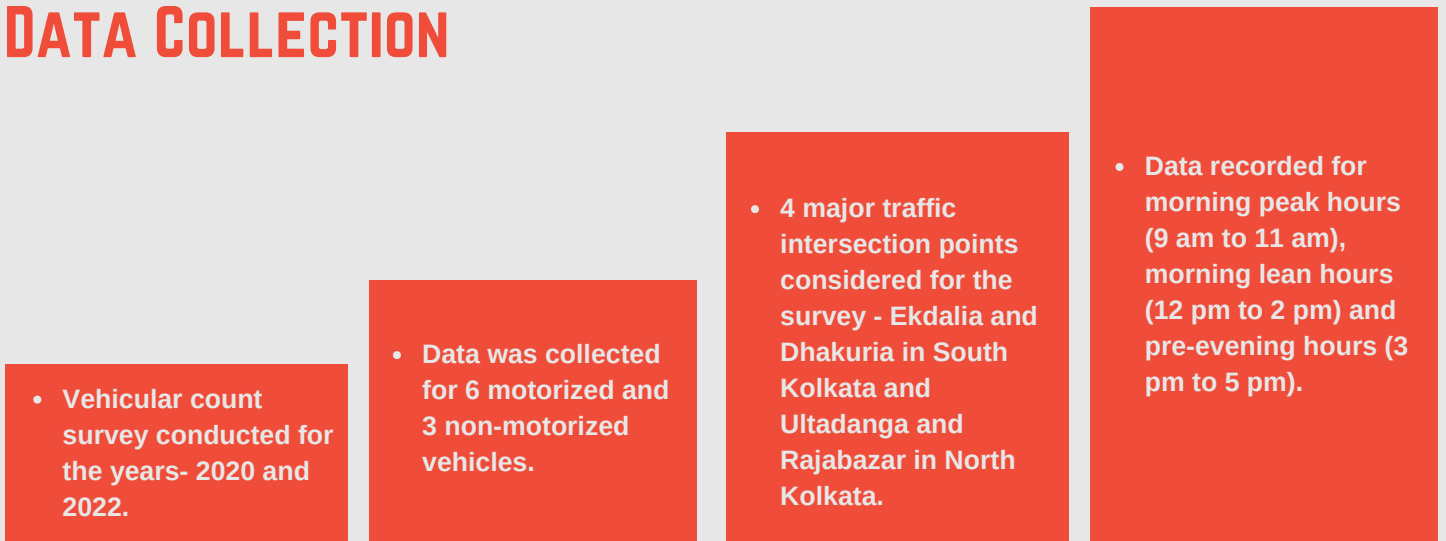


INTRODUCTION

Traffic congestion is one of the major problems in the city of Kolkata due to the constant increase in the number of motorized vehicles. Most of the busy traffic intersection points in the city are severely affected by vehicular congestion, thereby negatively impacting the economy, human lives, and the environment. This study is based on a vehicular count survey (number of vehicles passing through a major road crossing at a particular point in time) that addresses traffic congestion and advocates for a shift from pro-car urban planning to sustainable, non-motorized transportation policy. The study investigates the traffic congestion dichotomy between north and south Kolkata.

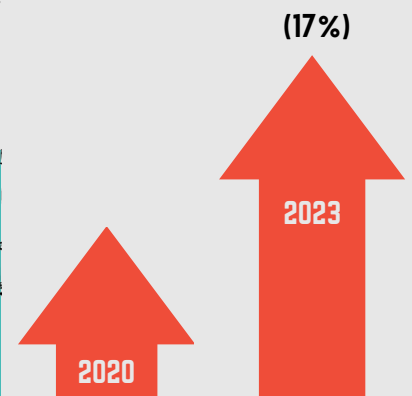


DATA COLLECTION



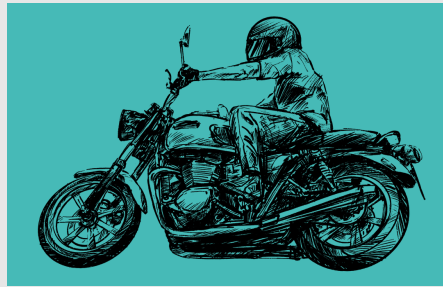
STUDY FINDINGS

- It is observed that there is an increase **(17%)** in the number of private vehicles in **2022**, since **2020**.



MOTORISED VEHICLES ON KOLKATA ROADS

- An increase in the number of two-wheelers motor vehicles is also observed during the peak hours of the day.



- Except for auto rickshaws, all other motorised vehicles tend to be lesser in numbers on the roads on weekends as compared to weekdays.

NON-MOTORISED VEHICLES ON KOLKATA ROADS

- Bicycles are spotted more frequently in the slack hours.



- In the lean hours non motorised cycle vans and rickshaws were found to have the maximum increment, recording a 72% increase.

PUBLIC VEHICLES ON KOLKATA ROADS

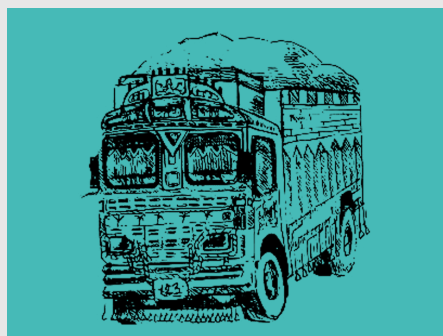
- Trams have been observed showing a declining trend both in the peak and lean hours.



- Public buses and minibusses are observed lesser in numbers in 2022 in the morning peak hours.

PRIVATE AND OTHER VEHICLES ON KOLKATA ROADS

- Trucks and goods carriages show a significant increase, from **547** to **1122** in morning peak hours and **721** to **1019** in morning lean hours.



- When comparing South vs North, it is seen that except for commercial taxis, South Kolkata has more motorised vehicles at any time during the day.

FIGURE 1: VEHICLES ON THE ROAD IN MORNING PEAK HOURS (2020 AND 2022)

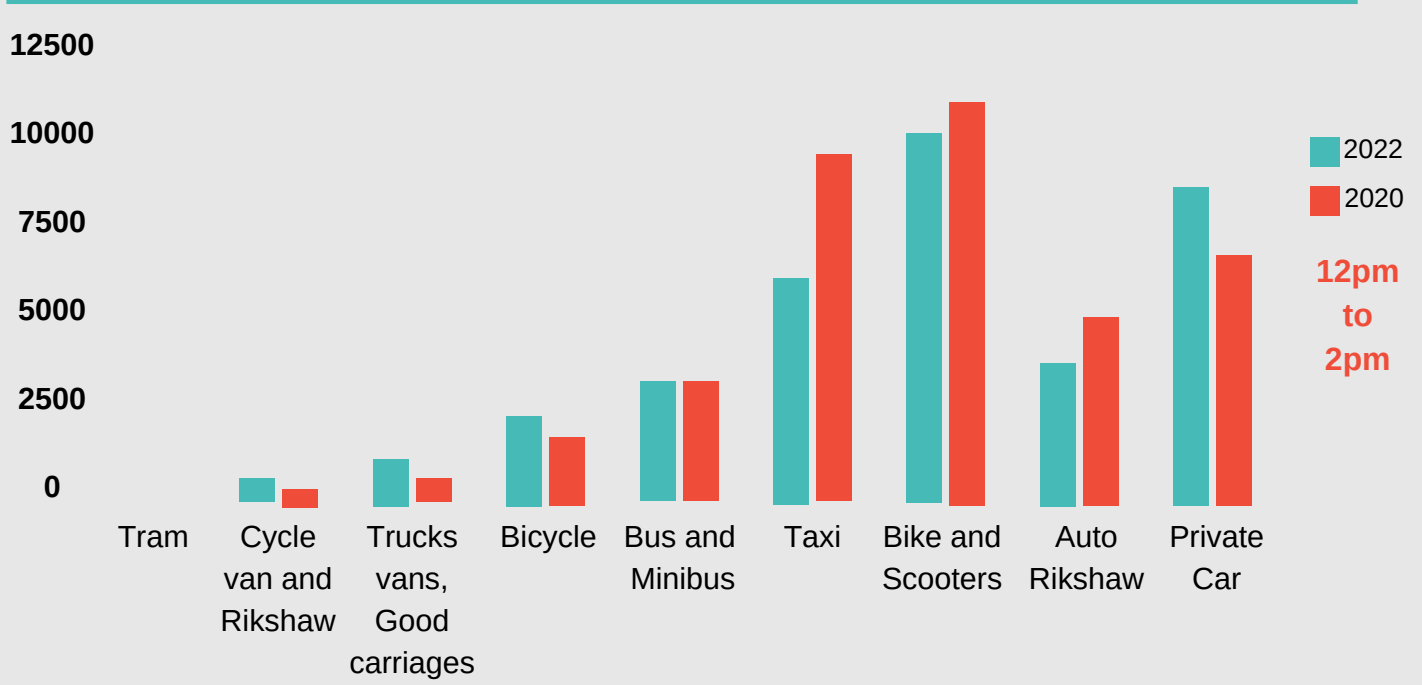
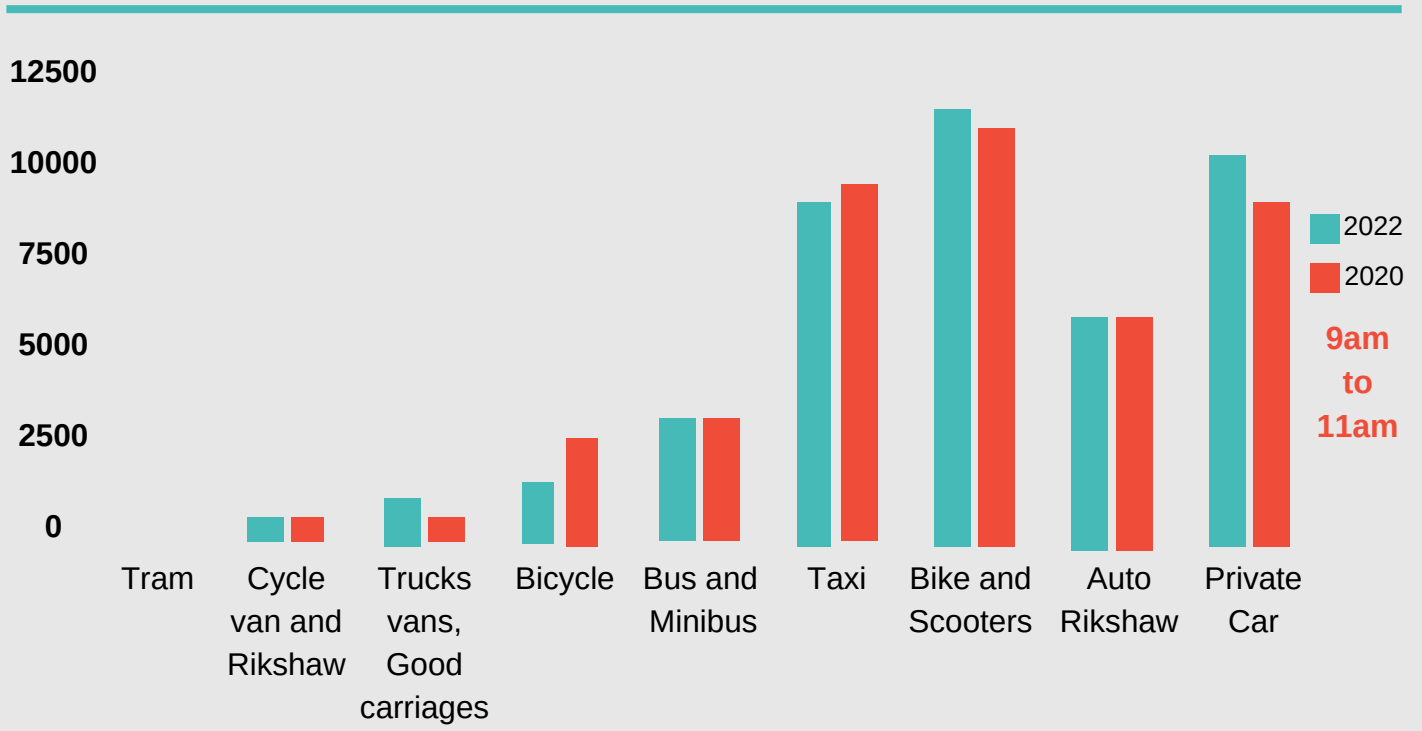











FIGURE 2: VEHICLES ON THE ROAD IN LEAN HOURS (2020 AND 2022)



OBSERVATIONS










- The study clearly indicates that personal use of vehicles (four and two-wheelers) has risen from 2020 to 2022. With the average vehicular speed going down in Kolkata, this definitely signifies congestion in the city
- With the number of public buses declining, it becomes evident that it is private cars along with taxis that account for most of the traffic.
- Non-motorized forms of transportation such as bicycles are seen less in the peak hours and more in the lean hours. This could be associated with the fact that there is not enough road space for cycles during busy hours accompanied by fear among riders about safety hazards.

TABLE 1: DROP PERCENTAGE OF VEHICLES IN MORNING PEAK HOURS

9am to 11am		2022	2020	Drop %
Public (motorised) vehicles				
Tram		3	7	57.14
Bus and Minibus		4185	4232	1.11
Taxi		7506	7714	2.69
Auto Rickshaw		6270	6210	-0.96
Non-motorised vehicles				
Cycle van and Rikshaw		990	961	-3.01
Bicycle		3137	3960	20.78
Other motorised vehicles				
Trucks, Vans, Goods carriages		1122	547	-105.11
Private vehicles				
Bike and Scooters		11451	11070	-3.44
Private Car		10740	9815	-9.42








TALBE 2: DROP PERCENTAGE OF VEHICLES IN LEAN HOURS

9am to 11am		2022	2020	Drop %
Public (motorised) vehicles				
Tram		3	7	57.14
Bus and Minibus		4185	4232	1.11
Taxi		7506	7714	2.69
Auto Rickshaw		6270	6210	-0.96
Non-motorised vehicles				
Cycle van and Rikshaw		990	961	-3.01
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Other motorised vehicles				
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WAY FORWARD

- There is a need to re-look at the city's arterial plan to maintain a balance between motorized and non-motorized transportation.
- Non-motorized forms of commute such as cycles should be promoted both from the perspectives of reducing congestion and improving health. The cycle bans from the existing roads should be lifted.
- For increased usage of public transport, citizens need to be made aware of the negative consequences related to health, the environment, and the economy arising from congestion.
- Hiking up the parking fees that will prohibit users from unnecessary trips.
- Encouraging carpooling amongst commuters and creating necessary support mechanisms for the same.
- Corporates can provide free shuttle services from major junctions like stations and bus stands to office premises for last-mile connectivity.

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