

**“IMPACT OF MODERN TRAFFIC MANAGEMENT SYSTEMS ON CITIZENS OF RANCHI”**

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**ABSTRACT**

Modern traffic management system is very efficient way of controlling traffic in a busy roads. This research paper concentrated on the impact of modern traffic management systems on citizens of Ranchi. The study is based on the survey of citizens from different localities within the area of Ranchi.

This is a study examining both the positive and negative impacts of modern traffic management systems on citizens of Ranchi.also the ways to enhance traffic management and make people adapted to modern traffic management is given due attention in this research paper.

**INTRODUCTION**

The world we live currently is such a nice and joyful place. It is recorded that majority of the people are now moving into urban areas. This attraction is attributed to the lifestyle in these cities as well as employment opportunities. However, the technology which is the scope of everything has streamlined all fields in the cities. It's undisputed that the level of technology is increasing and this has made man's work easier. During this technological advancement period, most of our activities are covered with modern technology. The traffic in the cities has always increased with the number of vehicle owners increasing every day. In the recent days, there have been traffic problems which are brought by the congestion of many vehicles. The smart city projects have come up with sub projects in the transport industry that will see on various ways of how the traffic problems can be curbed in the cities. The traffic management systems are being employed in the roads and street in the cities to improve the traffic and flow of vehicles. However, technology has also given this sector a boost in many ways.

This study is to understand the impact of modern traffic management on citizens of Ranchi. The common technologies applied in the traffic systems include the intelligent transport systems that can promote safe transportation of both people and

good on these roads. The modern traffic management systems include the smart connected traffic solutions such as IP cameras, sensors, and mobile applications. The sensors can give alerts of the impending dangers such as collisions and accidents ahead. There can be controlled traffic signals and sensors which can help in controlling the traffic flow and give directions to the motorists. There is software that has been designed to coordinate traffic such as SCOOT. The other technology that can be used is the inbound flow control used in the outermost sets of traffic lights to help in their control.

**LITERATURE REVIEW**

The aim of the article is to investigate the impact of Modern Traffic Management systems on citizens of Ranchi. Integrated Traffic Management system is implemented in Ranchi, which includes easy detection of traffic signals and speed violation along with adaptive traffic control (based on the traffic density on a road which can glow based on dimness of daylight), CCTV Surveillance, Public announcement system, variable message signboards (informing public to traffic snarls and other important information) and environment monitoring system (display of real time environment data on air quality and weather at selected location), smart parking system and two-away zones.also E-Challan system is implemented which is electronic format of challan. It isa official text written on a piece of paper issued to a person in particular. A E-challan is usually issued for violating traffic rules and regulation. If a E-challan is issued in individual name, individual are liable to pay the traffic fine.

**How Does The e-Challan System Work**

The traffic police have introduced the CCTV-enabled e-Challan system in an attempt to eventually curb the rising number of road accidents. A CCTV camera continuously records footage of

the ongoing traffic. If a motorist breaks any traffic rule, the act will be recorded in the footage. The police will try to extract the number from the vehicle's screen-shot captured from the CCTV footage and the offense will be registered in the records.

The traffic police will be then coordinate with the Regional Transport Office (RTO) to find the details of the vehicle and its owner. Details like the name and address of the vehicle owner, make and model of the vehicle, etc. As soon as they receive the details, an SMS will be sent on the registered phone number of the violator. This SMS will contain the time, date and location of the offense.

**2 Ways To Pay e-Challan:** There are two ways in which you can pay an e-challan issued in your name.

**Online:** The most convenient way is to pay it online.

The authorities have created a dedicated website for paying the e-challan directly.

You can easily find the e-challan payment online website for your Indian state.

The e-challan issued in your name will have a unique challan number.

Enter this number in the box provided on the website and proceed to make the payment.

**Offline:** Another method is to pay the e-challan offline. You need to visit your nearest police station to make the payment against your e-challan number.

## **RESEARCH METHODOLOGY**

To study the impact of modern traffic management systems on citizens of Ranchi; both primary and secondary data are collected. Primary data are collected through observation, interview method and also through well structured questionnaire which is closed ended in structure. An informal interview was also conducted with the citizens of Ranchi.

On the other hand secondary data are collected from the various newspapers, journals and websites.

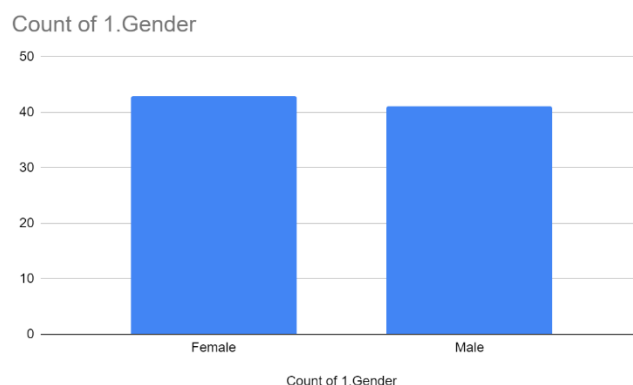
Likert's 5 point rating scale technique is used for data analysis.

- **Sample Design**

For this study we have use Probability Sampling, which is also known as random sampling or chance sampling. Under this sampling method every item of the universe has an equal chance of inclusion in the sample.

- **Sample Size**

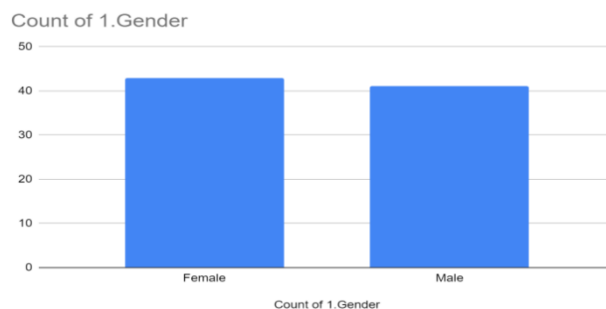
100 people were selected randomly as sample. Out of which 83 responses have come. This people were the citizens of Ranchi and drive in Ranchi for their daily activities. The sample consists of both the male and female.



The data collected is presented and analyzed with the help of ratios and charts.

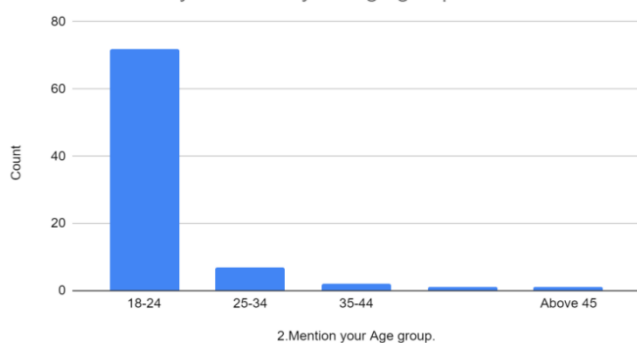
## **RESULTS AND DISCUSSION**

### **QUESTIONNAIRE INTERPRETATION**



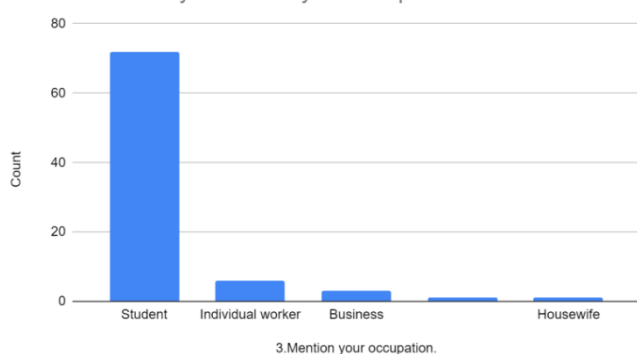
In Fig 1 represents that 51.2% are female and 48.8% are male.

Count of Name by 2.Mention your Age group.



In fig 2 total no. Of responses are 84 in which 88% are belongs to age between 18-24, 8% lies between 25-34 , and rest 5% are comes under 35-44 .

Count of Name by 3.Mention your occupation.



In fig 3 Shows that 88.1% of sample are students ,7.1% are individual workers ,5% arebusiness man and rest are housewife.

4.How many vehicles do you own?

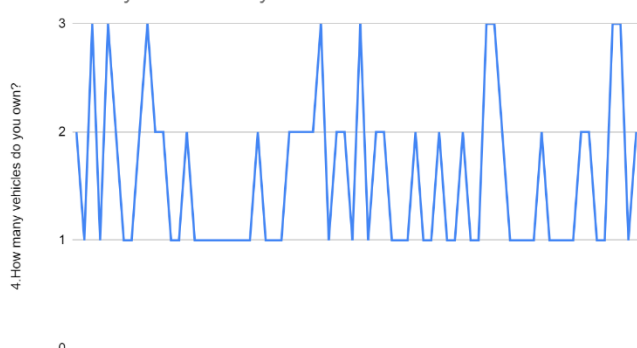


Fig 4 represents the how many vehicles do you have .it show that 27.1% respondent have two vehicles. 47.1% respondent have one vehicles. 10.6% respondent have three vehicles and 15.3% respondent have more than three vehicles.

Count of 5.Are you aware of new traffic management systems in Ranchi?

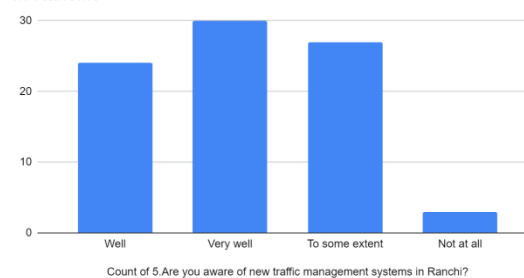


Fig 5 shows that 35.7% of respondent are very well aware of new traffic management system. 32.1% are aware to some extent. 28.6% respondent are well aware and rest are not aware about the new traffic management system.

Count of 6.Are you satisfied with new traffic management systems in Ranchi?

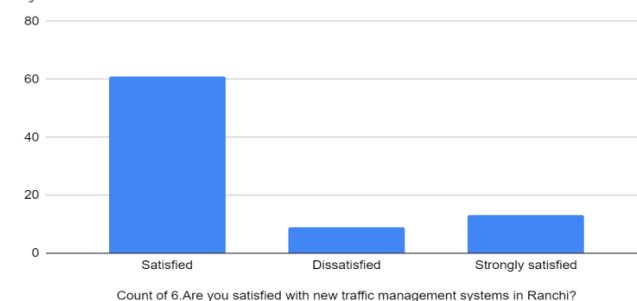


Fig 6 shows that 73.5% respondents are satisfied with the new traffic management system in Ranchi. 15.7% are strongly satisfied with this and 10.8% respondents are dissatisfied.

Count of 7.Do you think time taken by you to reach your destination has reduced due to modern traffic management s...

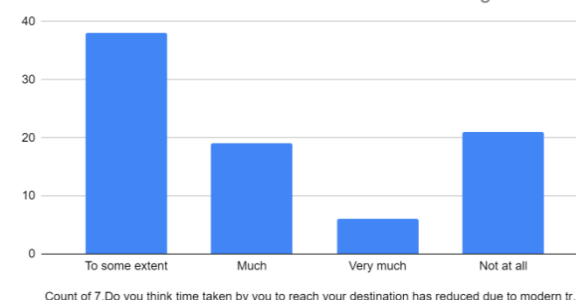
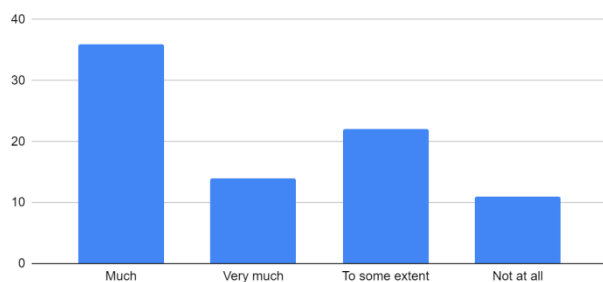


Fig 7 shows that 45.2% of respondent think by new traffic management system time has been reduced to some extent. 25% of respondent think it has not be reduced at all. 22.6% of respondent think it has reduced to much extent and 7.1% of respondent think it has reduced to very much.

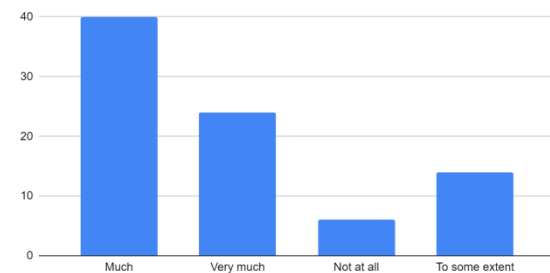
Count of 8. Do you think your driving behaviour or driving concern has changed due to new traffic management system...



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Fig 8 shows that 43.4% of respondent think driving behaviour has changed much due to new traffic management system in Ranchi. 26.5% think changed to some extent. 16.9% of respondent think it has changed very much and 13.3% think it has not been changed at all.

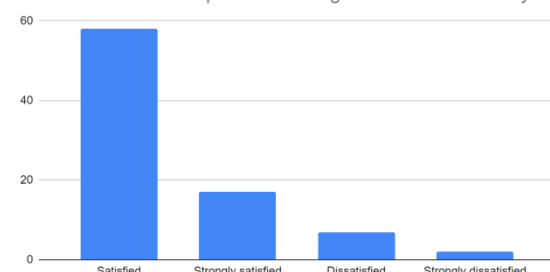
Count of 11. Do traffic police make effort for traffic awareness?



Count of 11. Do traffic police make effort for traffic awareness?

Fig 11 shows that 47.6% of respondent think traffic police make effort much for traffic awareness. 28.6% think they make effort very much for the awareness. 16.7% think they make effort to some extent and 7.1% think they do not make any effort at all.

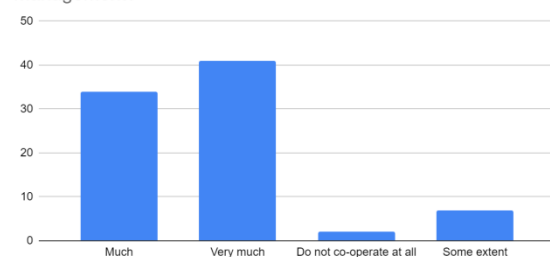
Count of 12. Are traffic police enforcing traffic rules effectively?



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Fig 12 shows that 69% of respondents are satisfied with the traffic police enforcing traffic rules effectively. 20.2% are strongly satisfied .8.3% are dissatisfied.

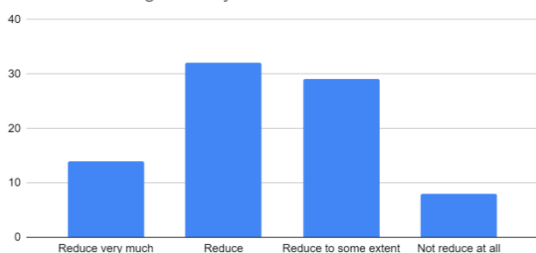
Count of 13. Do you co-operate traffic police action in traffic management?



Count of 13. Do you co-operate traffic police action in traffic management?

Fig 13 shows that 48.8% of respondents are very much co-operate the traffic police. 40.5% of respondents are much co-operate. 8.3% are co-operate to some extent.

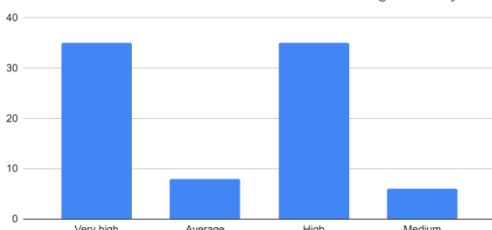
Count of 9. Do you think number of accidents had reduce due to New traffic management systems in Ranchi?



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Fig 9 shows that 38.6% of respondents think number of accidents had been reduce due to new traffic management system in Ranchi. 34.9% respondents think it had been reduce to some extent. 16.9% respondents think it had been reduce very much and 9.6% think it had not been reduce at all.

Count of 10. Do you think number of people wearing helmet and seat belts has increased due to new traffic management syst...



Count of 10. Do you think number of people wearing helmet and seat belts has increased due to ne...

Fig 10 shows that 41.7% of respondent think number of people wearing helmet increased high due to new traffic management system in Ranchi. 41.7% think it increased very high. 9.5% of respondent think it increased on average and 7.1% think increased on medium.

Count of 14. Do you think modern traffic management over charge fines for breaking rules?

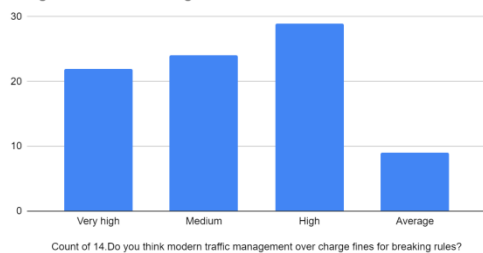


Fig 14 shows that 34.5% of respondent think traffic police charge high fines for breaking rules. 28.6% think they charge on medium. 26.2% respondents think they charge very high fines and 10.7% think they charge on average.

Count of 17. Do you agree there is more number of vehicles having PUC (Pollution Under Control) certificate in roads of Ranchi?

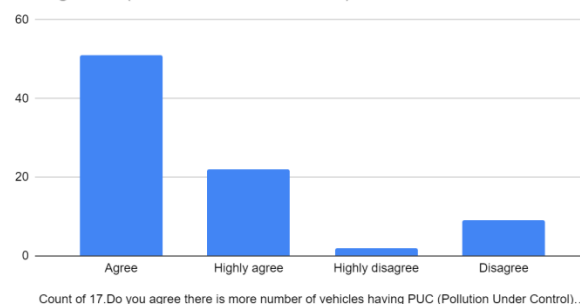


Fig 17 shows that 60.7% of respondents agree there is more number of vehicles having PUC certificate in roads of Ranchi. 26.2% are highly agree. 10.7% are disagree.

Count of 15. Earlier traffic police used to charge fine according to their own will do you think it is reduced due to new traffic...

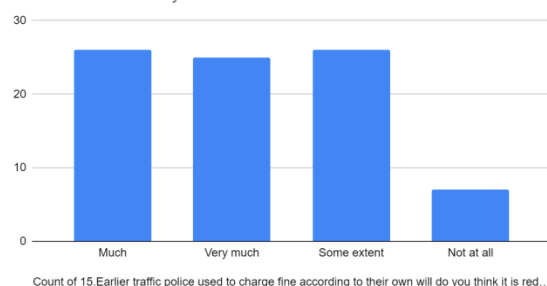


Fig 15 shows that 31% of respondents think police used to charge fine according to their own will and it reduced much due to new traffic management system in Ranchi. 31% think it reduced to some extent. 29.8% think it reduced very much and 8.3% of respondents think it has not been reduced at all.

Count of 18. Do you think pollution has reduced due to new traffic management system?

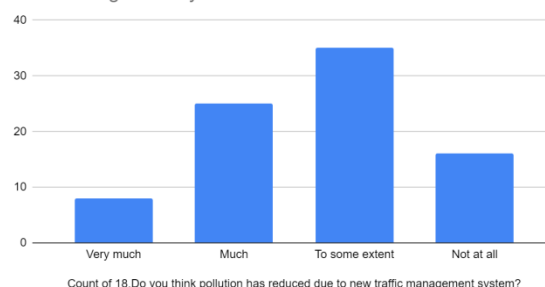


Fig 18 shows that 41.7% of respondents think pollution has reduced to some extent. 29.8% think it has been reduced much. 19% of respondents think not at all reduced and 9.5% think it reduced very much.

## RESULT DISCUSSION

- Research survey shows that citizens of Ranchi are well aware of new traffic management systems in Ranchi.
- Research survey shows that citizens of Ranchi are satisfied with modern traffic management systems in Ranchi.
- Research survey shows that modern traffic management system has reduced the time taken to reach the destination.
- Research survey shows that driving concerned has changed due to modern traffic management systems.
- Research survey shows that number of accidents has reduced due to modern traffic management system.
- Research survey shows that number of people wearing helmet and seat belts has increased due to modern traffic management systems.

Count of 16. Is it convenient for you to pay the fines through the services provided by modern traffic management system?

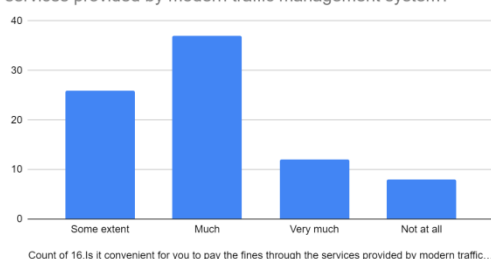


Fig 16 shows that 44.6% of respondents think it is much convenient to pay fines through the services provided by modern traffic management system. 31.3% think convenient to some extent. 14.5% think very much convenient and 9.6% do not think it is convenient at all.



- Research survey shows that traffic police make effort for traffic awareness.
- Research survey shows that traffic police are enforcing traffic rules effectively.
- Research survey shows that citizens of Ranchi co-operates with traffic police action in traffic management.
- Research survey shows that modern traffic management over charge fines for breaking rules.
- Research survey shows that charge fine by traffic police according to their own will has reduced to some extent due to new traffic management system in Ranchi.
- Research survey shows that it is convenient for citizens of Ranchi to pay fines through the services provided by modern traffic management system.
- Research survey shows that there is more number of vehicles having PUC certificate in roads of Ranchi now.
- Research survey shows that pollution has reduced to some extent in Ranchi now.

## **CONCLUSION AND FUTURE SCOPE**

Improving transportation efficiency is still an active and challenging research area due to the criticality of the transportation infrastructure being monitored by such systems. This article conclude that citizens of Ranchi are well aware and satisfied with the modern traffic management systems. Through this research we found that modern traffic management system has various positive impact on citizens like number of accidents has reduced, people driving behaviour has changed they are now wearing helmet and seat belts while driving also they are following all the traffic rules. It has become more convenient for citizens of Ranchi to pay fines through e-challan, pollution has also reduced to some extent as number of PUC certificate vehicles has increased now from earlier. There are also some negative impact of modern traffic management systems as people of Ranchi think the modern traffic system over charge fines for breaking traffic rules. The improvement of city traffic condition is largely dependent on the modern ways of traffic management and control. Advanced traffic signal controllers and control system contribute

to the improvement of the urban traffic problem so, more and more modern and effective system should be implemented and managed.

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