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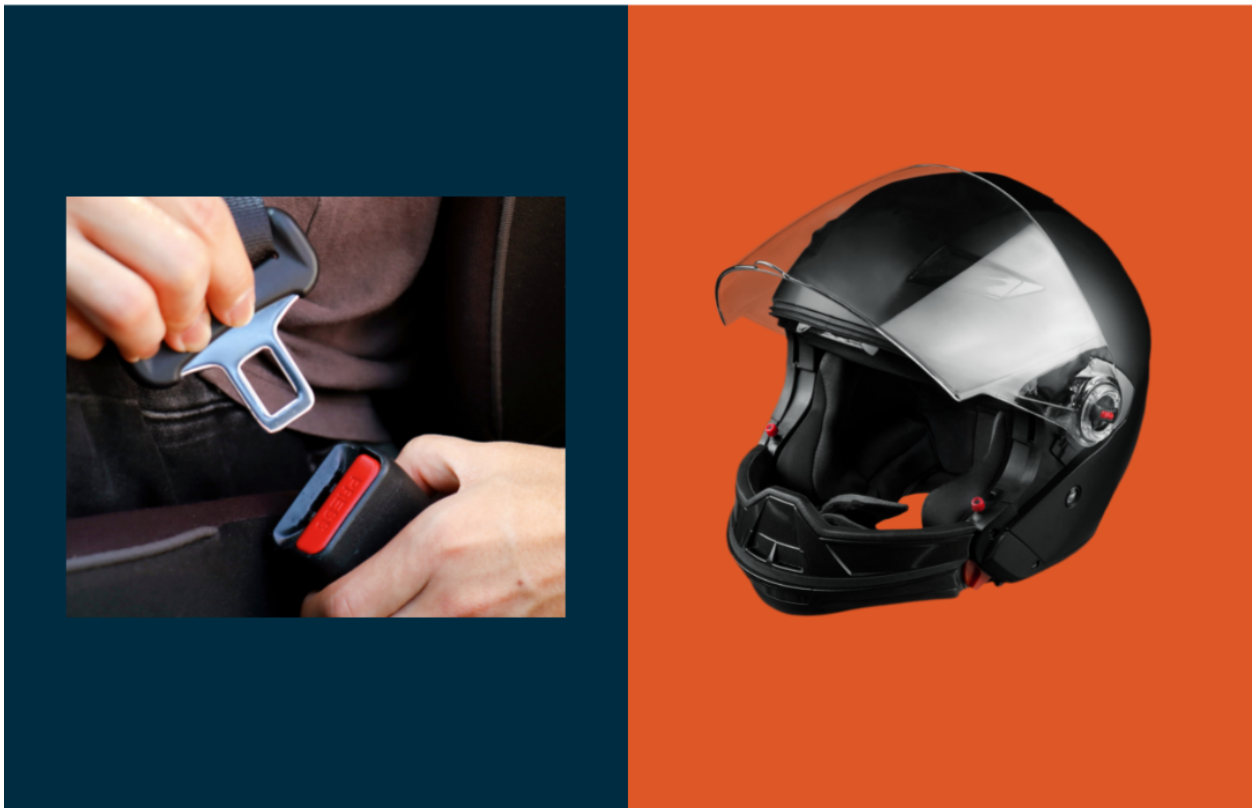

BUCKLE UP!

An assessment of helmet and seatbelt law compliance in Thiruvarur district.

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About CAG

CAG is a 36-year-old non-profit and non-political organisation that works towards protecting citizens' rights in consumer, civic and environmental issues and promoting good governance processes including transparency, accountability and participatory decision-making.

CAG has been working on road safety issues since 2015. We have conducted several training and awareness programmes for the general public in collaboration with various stakeholders including the relevant government agencies. CAG has created various IEC materials for building awareness among the public on road safety rules. CAG also regularly carries out research on road safety such as helmet and seatbelt compliance studies, the results of which are shared with enforcement agencies for their consideration.

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Executive Summary

Usage of safety gears i.e. helmets and seatbelts continue to remain at unsatisfactory levels among road users despite existing national laws that stress their significance and need. According to the Ministry of Road Transport and Highways (MoRTH), in 2020, Tamil Nadu particularly recorded 2011 and 332 fatalities that were attributed to non-wearing of helmets and seatbelts respectively. These numbers cannot be neglected. Although Tamil Nadu has shown commendable improvement in other aspects of road safety management such as post-crash care and optimising the use of technology in maintaining a crash database, there is still scope for road safety improvement through stricter enforcement. Global research evidence showing that the risk of a crash leading to a fatality reduces with the usage of a safety gear gives us solid ground to tighten enforcement through increased penalties as per sections 194B and 194D of the Motor Vehicles Amendment Act, 2019.

This study is a first step to understand the trends and practices of using safety gears at the district level in Tamil Nadu and help streamline an action plan to improve compliance through strategic road safety enforcement measures. It also aims to bridge the prevailing data gap on usage of safety gears at the district level. 10 identified intersections of Thiruvarur district were surveyed during morning and evening peak hours during the week. Two volunteers, stationed at each junction, recorded observations on the level of compliance among two-wheeler users and car users. Compliance levels among drivers, pillion riders and all car passengers were studied.

The findings from the district of Thiruvarur reveal an average compliance level of 20% among two wheeler drivers and a low compliance of 7.3% among pillion riders. In general, seatbelt compliance is low in Indian cities. On average only 28% car drivers in Thiruvarur comply with wearing seatbelts. Among front seat passengers, only 16% comply and an absolute lack of compliance was observed among rear seat passengers. The findings of the study strongly recommend an immediate introspection on existing enforcement measures. Optimal use of manpower that allows for monitoring and surveillance of non-compliance, increased visibility of police operations, check points at unpredictable intersections at different times of the day or week, strengthened methods of data collection of road crashes and increased severity of punishments as per MVAA 2019 are possible solutions. Road users are more likely to respond to the threat of being caught off-guard, which in turn will increase compliance rates. This data is the start to creating a safer road environment by enabling policy makers to understand road users' behaviour and match it with effective policies.

1 Background

Tamil Nadu has upheld its position as number one in India with respect to the number of road crashes, for five consecutive years until 2020.[1] Through multi-sectoral initiatives on road safety and an increased focus on post-crash care, upgraded infrastructure resonating with the increase in population and pioneering the establishment of an intelligent Road Accident Database Management System (RADMS), Tamil Nadu has come a long way in tackling its road safety challenges.[2] This helped in reducing the road crashes by over 25% in 2019 when compared to its road crash scenario in 2014. The drop in road crashes and fatalities in 2020 is largely attributable to the COVID19 lockdowns when vehicular traffic was curbed. In spite of these reductions, Tamil Nadu continues to be in the Top 5 states in terms of road crashes and fatalities. This underscores the point that road safety is a long term issue that does not allow for any relaxation in focus or attention.

Year	Total no. of road crashes	Total no. of road fatalities
2017	65262	16157
2018	63920	12216
2019	57228	10525
2020	45484	8059

Table 1: Changes in the road crash scenario in Tamil Nadu, 2017 – 2020, MoRTH

Tamil Nadu observes a high percentage of two-wheelers involved in road crashes every year. The majority of two-wheeler fatalities are attributed to non-wearing of helmets — 52% in 2017.[3] It is important to note that in spite of the Tamil Nadu government's continued efforts to improve road safety, the declining trend in road fatalities over the years has not reflected in terms of compliance with wearing helmets as 60% of two-wheeler road fatalities in Tamil Nadu was attributed to non-wearing of helmets in 2020.[4] This sheds light on the fact that though road crashes are attributed to various causes such as poor road infrastructure, rash or aggressive driving behaviour, drunken driving, violation of traffic rules such as jumping red lights, lane indiscipline, and distracted driving, one of significant factors that has been subject to a lackadaisical attitude by citizens is the use of safety gears such as helmets, seatbelts and child seats.

[1] Ministry of Road Transport and Highways (MoRTH), 2020. Road Accidents in India 2019. Transport Research Wing, Government of India, New Delhi.
Retrieved from [https://morth.nic.in/sites/default/files/RA_Uploading.pdf]

[2] Markland, J., Bose, D., Haazen, S.D., 2021. Road safety: How a state in India is leading the way to lower road crash deaths. World Bank Blogs.Retrieved from [https://bit.ly/3P2rcLM]

[3] Krishnan, S., Geetha, K., Basri, Rabiya., 2017. Road Accidents and Road Safety Measures in Tamil Nadu - An Analysis, Transport and Road Safety Commissioner, Chennai. Retrieved from [https://tnsta.gov.in/pdf/ra5.pdf]

[4] Ministry of Road Transport and Highways (MoRTH), 2022. Road Accidents in India 2020. Transport Research Wing, Government of India, New Delhi. Retrieved from [https://morth.nic.in/sites/default/files/RA_2020.pdf]

Globally, data-driven research points towards the need for legislation that encourages increased compliance with safety gear norms. Research by the World Health Organisation reveals that wearing a helmet reduces the risk of fatality by 40% and serious injury by 70% in the event of a crash. It also points out that wearing a seat belt reduces the risk of a fatal injury by up to 50% in case of front seat occupants and by up to 75% in case of rear seat occupants. Other evidence-based research studies state that efforts by governments to reduce Road Traffic Injuries may be facilitated by increasing helmet usage by motorcyclists (Liu et al, 2004). There are studies that also demonstrate the effectiveness of seatbelts in reducing the severity of road crash injuries using medical and epidemiological data (Marine et al, 1994).

The national legislation of India in this regard viz. The Motor Vehicles Act of 1988 (parent act) says that only two people are permitted on a two-wheeler; and both the driver and the pillion rider must wear helmets as per Section 129. A fine of Rs.100 was imposed for the first violation and a fine up to Rs.300 in case of repeat violations. Non-compliance with wearing seatbelts by drivers and front seat passengers also reaped similar fines. Further in 1999, the Central Motor Vehicles Rules were amended to include the rear seat passengers to comply with the rule of wearing seatbelts. However, Tamil Nadu has not enforced this amended rule yet.

Another landmark at the national level was The Motor Vehicles Amendment Act of 2019 (MVAA 2019), which came up with serious provisions under Sections 194 D and 194 B that increased the fines for non-compliance with wearing helmets and seatbelts to Rs.1000. Non wearing of helmets resulted in an additional disqualification of the driving licence for three months. The increased penalties came into effect from September 01, 2019, as a strong deterrent to careless behaviour by road users. Several states adopted the increased penalties immediately, whereas a handful of states have taken a more cautious approach. In the last two years most of the states have implemented the increased penalties. Tamil Nadu and Madhya Pradesh, however, have not yet adopted the amendments regarding increased penalties (Section 200 of MVAA 2019) and the fines as per the parent act are valid till date. In addition to Tamil Nadu's intensive measures such as strengthening post-crash care through various schemes (Innuyir Kaapom); education and enforcement through campaigns and drives with a special focus on traffic rules violations, juvenile driving and safety of school children, it is vital to improve enforcement to enable increased compliance to road rules.

City-level data on road crash injuries (fatal and non-fatal) due to non-compliance with wearing helmets and seatbelts are being duly recorded in addition to daily summaries of cases booked under each violation. It is important to acknowledge the prevailing data gap at the district level as statistics under non-compliance with wearing safety gears are not readily available in the public domain. Therefore, as a first step, two focus districts namely Tirunelveli and Thiruvarur were selected from Tamil Nadu to gauge the existing trends in the practices of wearing helmets and seatbelts. This report records the data analyses and findings for Thiruvarur district in detail.

The district of Thiruvarur with a total population of 12.6 lakhs (Census, 2011) witnesses an average of 10 road crashes per sub division. This statistic, calculated according to the

district-level data received through Right to Information (RTI) applications, underscores the need to attend to the existing road safety issues. Particularly, 23% of road crash fatalities in 2020 were attributed to non-wearing of helmets.

Indicators	Thiruvarur		
	2018	2019	2020
Total no. of road crashes	964	869	644
Total no. of fatalities	99	75	73
No. of fatalities due to non-wearing of helmets	NA	21	17

Table 2: Road crash scenario and fatalities due to non-wearing of helmets, Thiruvarur[5]

Behavioural change through effective enforcement will definitely help bring down crashes. The district has been proactive in upgrading road works, installing road safety infrastructure and engaging the public through outreach and awareness. Building on that, this study will help improve road safety management practices through streamlined enforcement strategies.

2 Aim and methodology

The study aimed to gauge compliance levels in wearing helmets and seatbelts in the district of Thiruvarur. The methodology followed was an observational audit at 10 identified intersections across the district. The intersections were selected based on the following criteria:

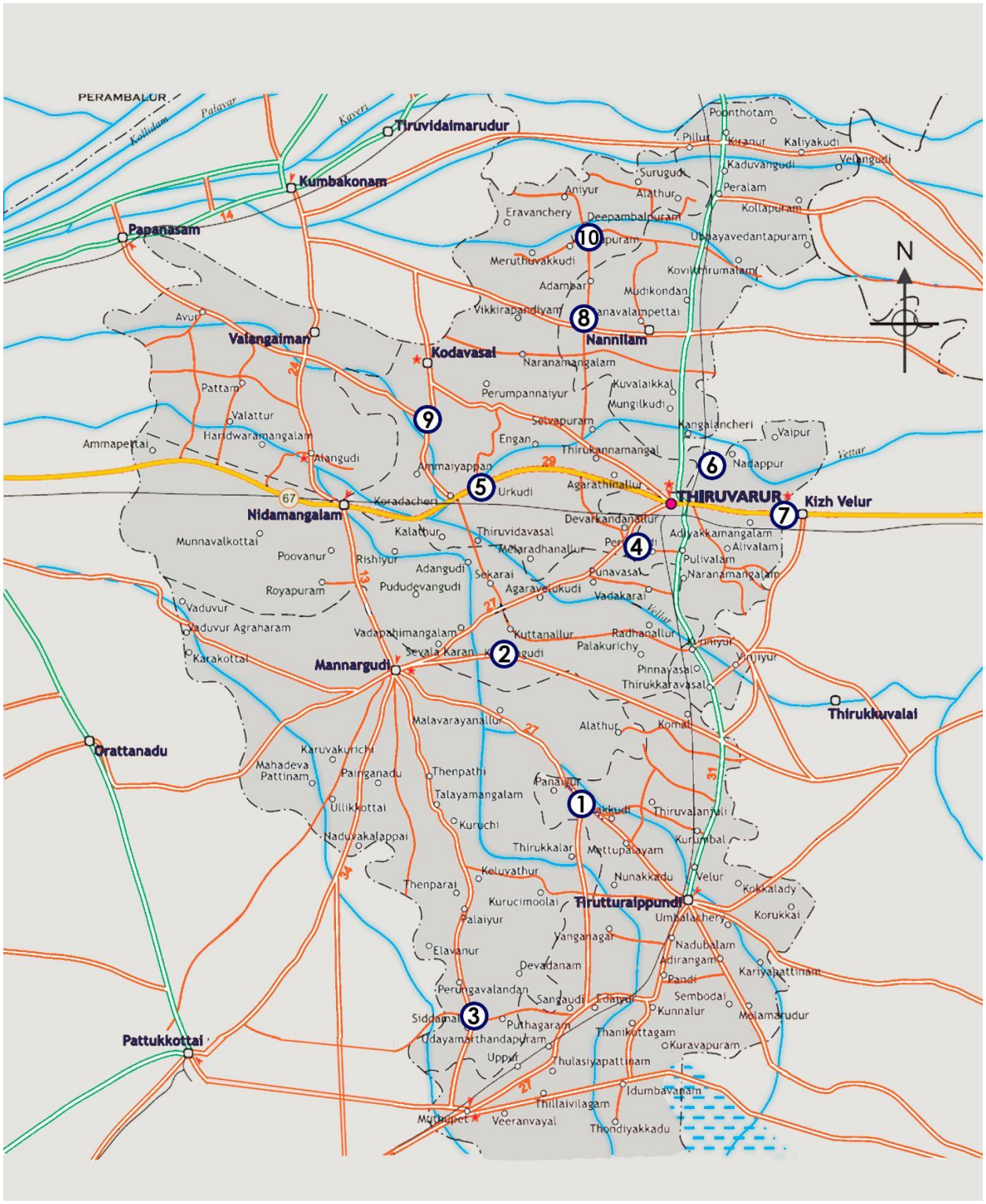
- Daily traffic volumes observed in the particular stretch
- Category of roads (Arterials, Sub-arterials, Collectors, State Highways and Rural Roads)
- Crash history or road safety concerns associated with a particular stretch.

Care was taken to ensure that there was a balanced mix of the different categories of roads in order to gauge the compliance levels across all towns of the district. The list of the 10 identified intersections in Thiruvarur are as follows:

1. Thiruthuraipoondi - Mannai Rd
2. Pulivalam-Thiruthuraipoondi Rd

[5] Government of Tamil Nadu Home (Transport) Department, 2019. Road Accident Analysis in Tamil Nadu, Transport and Road Safety Commissioner, Chennai. Retrieved from [https://tnsta.gov.in/pdf/analysis_jan2019.pdf] Government of Tamil Nadu Home (Transport) Department, 2020. Road Accident Analysis in Tamil Nadu, Transport and Road Safety Commissioner, Chennai. Retrieved from [https://tnsta.gov.in/pdf/analysis_december2019.pdf] Government of Tamil Nadu Home (Transport) Department, 2020. Road Accident Analysis in Tamil Nadu, Transport and Road Safety Commissioner, Chennai. Retrieved from [https://tnsta.gov.in/pdf/analysis_december2020.pdf]

3. Vilamal-Tanjore Byepass
4. Co Operative Nagar - Mannai
5. Muthupet Byepass-Mannai Joint
6. South Street- Thiruvarur Main
7. Kanur Check Post - Nagai Byepass
8. Aththikadai Check Post- Kudavasal Main
9. Nannilam Main Road - RI Office
10. Poonthottam - Mayiladuthurai

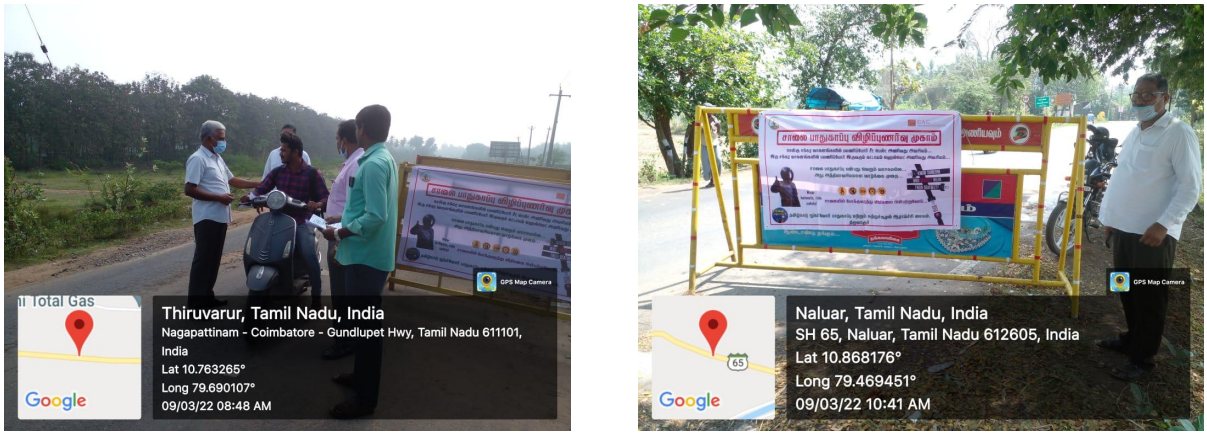


📷 **Intersections selected for the compliance audit** Photo: Road Safety | CAG

The observational audit was carried according to the following considerations:

- A small team of 2 volunteers were deployed at each location to observe incoming traffic for wearing of helmets by two-wheeler drivers and pillion riders; and seatbelts by drivers and all passengers of cars.
- Observations on helmet usage pattern **(whether the helmet was firmly fastened or not)** were also taken into consideration. If the driver or the pillion rider had an unfastened helmet on, it was considered as non-compliance with wearing helmets as only a firmly fastened helmet helps in reducing the chances of crashes resulting in grievous injuries or death.

  The study was carried out on weekdays during the morning and evening peak hours that were specific to the selected locations.



📷**Compliance audit at Thiruvarur** Photo: Road Safety | CAG

2.1 Limitations

Due to practical difficulties, gender and age characteristics of violators were not audited quantitatively.

3 Results and discussion

3.1 Helmet compliance

A total of 6455 two-wheelers were surveyed and non-compliance with wearing helmets among drivers was seen to be high across all intersections considered (ranging between 68% and 86%). A trend of greater non-compliance was observed during the morning peak hours. The average compliance levels among drivers stood at 20% and among pillion riders it hit a seriously low level of 7.3%.

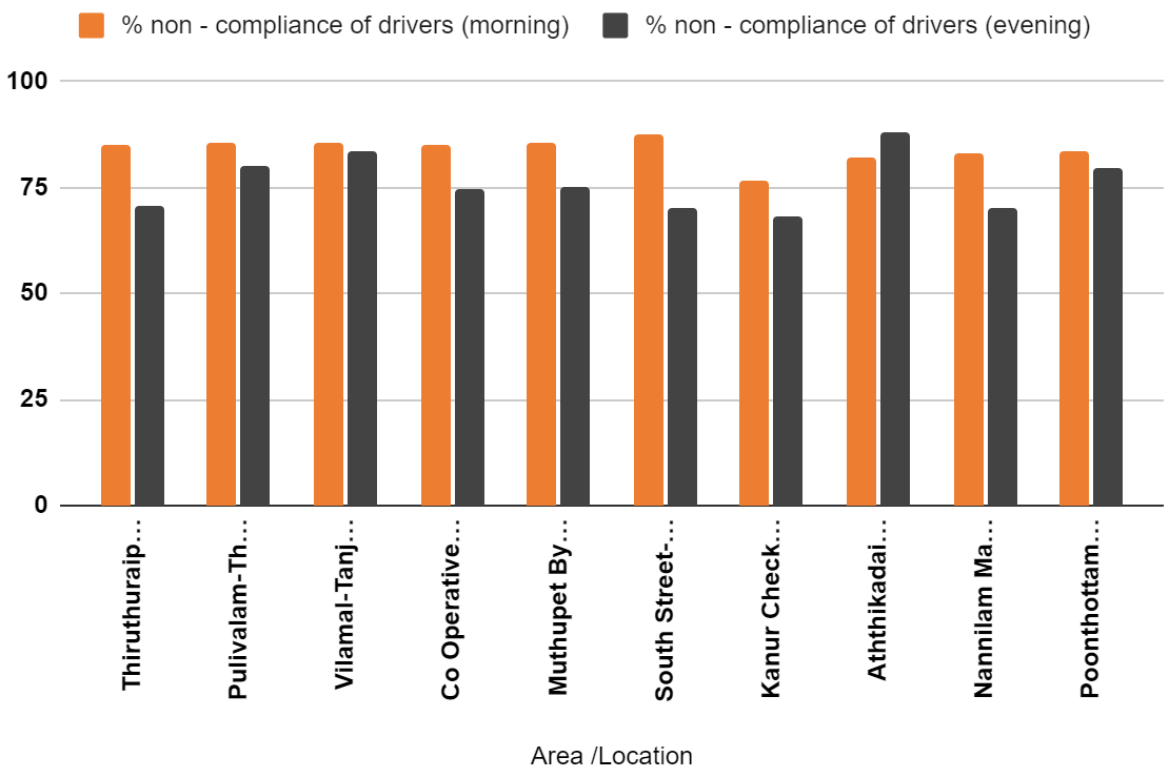


Figure 1: % Non-compliance with wearing helmets by two-wheeler drivers

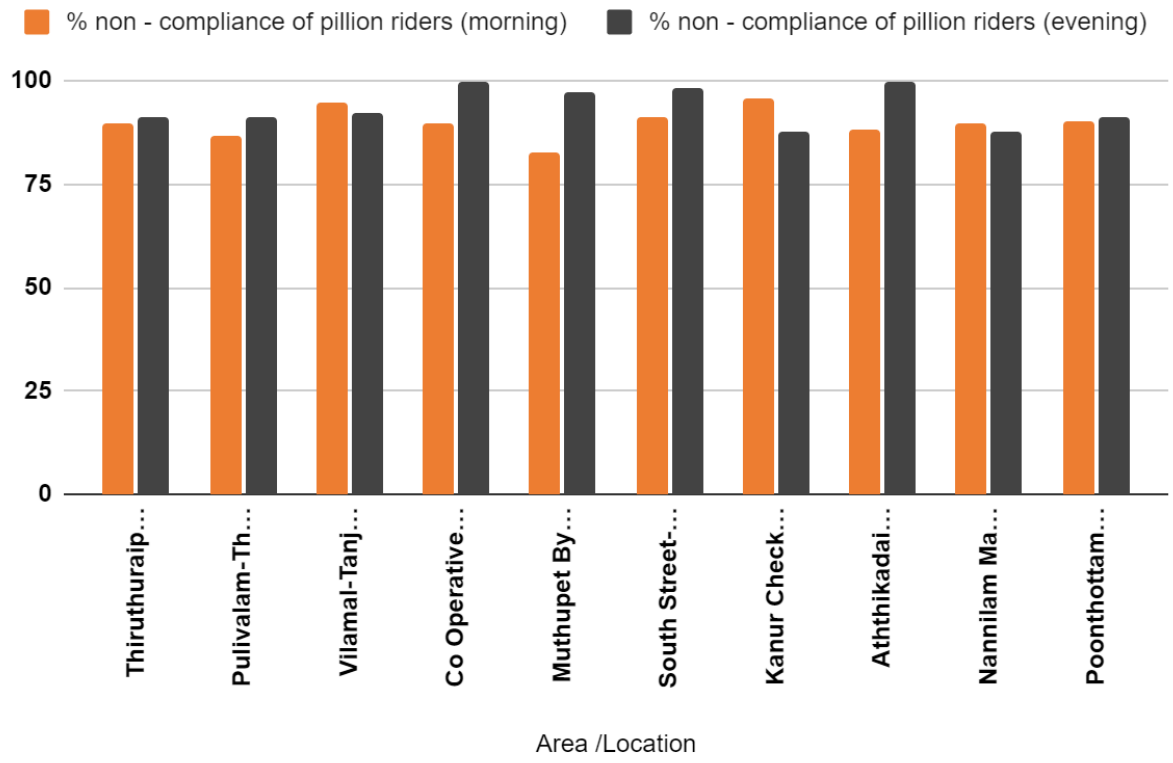


Figure 2: % Non-compliance with wearing helmets by pillion riders

3.2 Seatbelt compliance

A total of 1479 cars were surveyed and the findings reveal an acute lack of compliance with wearing seatbelts by drivers. On an average only 28% drivers comply. This compliance rate is slightly higher when compared to drivers wearing helmets, more likely due to higher monitoring and enforcement mechanisms including vehicle check points across district roads and highways that are prevalent in the district. This can be further verified through observations from the ground and discussions with police officials.

Seatbelt compliance levels are very poor among car passengers in general. The compliance levels do not drastically differ across locations or with time of the day. In terms of compliance with wearing seatbelts among front seat passengers, only 16% comply. An absolute lack of compliance was observed among rear seat passengers.

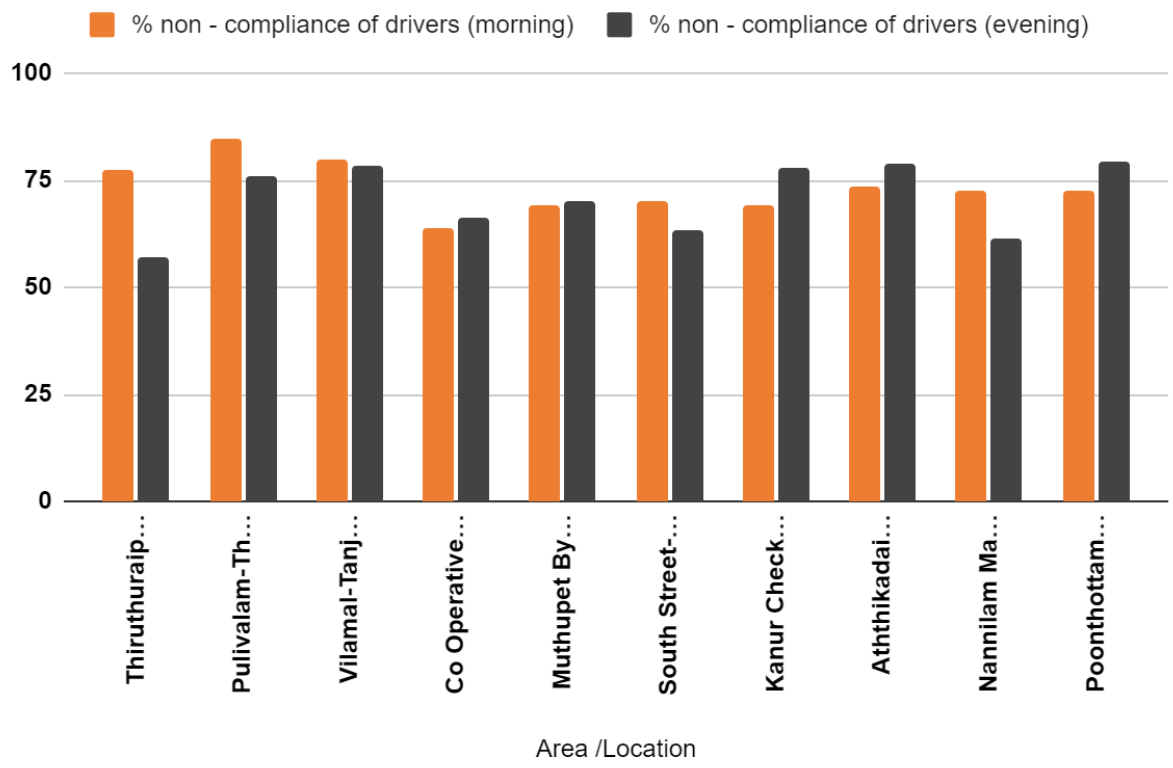


Figure 3: % Non-compliance in wearing seatbelts by car drivers

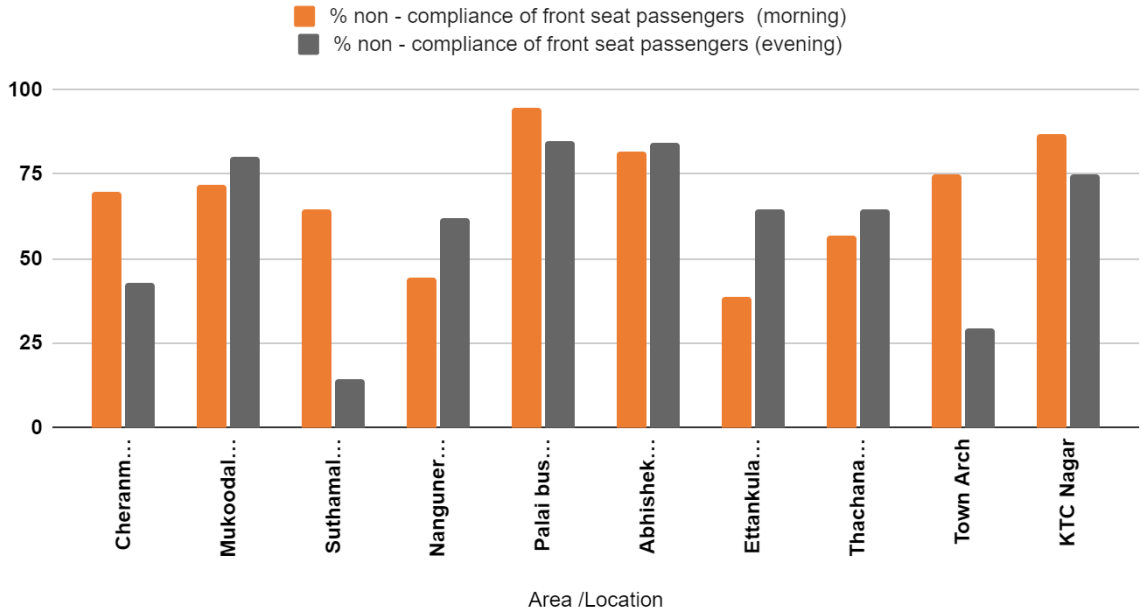


Figure 4: % Non-compliance with wearing seatbelts by front seat passengers

4 Recommendations

Statistics indicating high non-compliance levels with respect to wearing helmets and seatbelts puts into spotlight both the heedlessness of drivers, pillion riders and car passengers; and a strong reason to review and evaluate the existing road safety measures. It's crucial to evaluate the impact of each enforcement measure on ground so that existing resources, capacity and manpower can be optimally channelised to further enable effective enforcement.

Anecdotal evidence also suggests that enforcement on ground has not been effective in terms of collection of fines. This has led to the continuation of poor behaviour among road users in terms of not using safety gears. To combat this behaviour and to reap a visible increase in the compliance levels and a reduction in road crash deaths and injuries due to non-wearing of helmets/seatbelts the following recommendations may be considered by the district authorities:

4.1 Enforcement

The “anytime anywhere” approach of enforcement has been lauded globally to instil a sense of discipline among road users. Random selection of intersections for daily checks are effective as chances of getting caught are higher. This in turn encourages compliance. A daily exercise of drawing lots to select a particular junction for the day can be brought into practice to avoid bias. Enforcement drives can also be conducted targeting a selective cohort of high risk drivers such as youth drivers. In addition to this, the frequency of enforcement drives should be strategized in a way to sustain impact among road users to comply with using safety gears.

4.2 Road crash database system

To address the prevailing data gap at the district level, it is important that daily situational summaries of cases booked for not wearing safety gears (two-wheelers and cars), total number of people checked for compliance, road crash injuries and fatalities due to non-wearing of safety gears segregated by category i.e drivers and pillion riders, be recorded. This will help in identifying repeat offenders, help track visible outcomes and road crash trends, enable data-driven decision making, and identify areas that require improvement.

4.3 Visibility of enforcement

Increase in capacity and the number of police personnel employed and the number of hours of surveillance, coupled with increased visibility of police operations through the use of physical infrastructure such as warning signs, check points, barricades will also nudge road users to use safety gears and thus induce a behavioural change.

4.5 Improving enforcement capacity

Firstly, the number of police personnel employed on ground to carry out monitoring and surveillance of compliance with wearing safety gears should be increased. Adding onto this, the

police personnel should also be furnished with a Standard Operating Procedure to collect data regarding non-compliance. This should also include a standard method of investigating road crash injuries and fatalities attributed to non-usage of helmets and seatbelts depending upon factors such as crash severity and injury tolerance in addition to other primary causal factors.

4.5 Penalties and ticketing

From various global best practices practised in the Scandinavian countries and the UK, for example, it is inferred that legal punishments such as fines, impounding vehicles, and licence suspensions (virtual courts/roadside suspensions) act as significant deterrents. Global experience suggests that increasing fines is a deterrent and encourages the public to think before breaking the law. Awareness should be built among road users to break the common misconception that fines/penalties are a means of harassment by the police. Tamil Nadu has not notified the increased penalties under MVAA 2019 yet, and fines are collected as per the parent act (Motor Vehicles Act, 1988). It is important that the MVAA 2019 and the increased penalties as per sections 194 D and 194 B are implemented.

Another important aspect that would improve compliance would be the immediacy of these legal punishments, the follow-up systems to be put in place by the district to ensure timely collection of penalties and a reasonably faster completion of other legal procedures that are deemed necessary.

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