



Proceedings of
National Level Webinar on
Traffic Violations
– Technologies & Enforcement

यातायात नियमों का उल्लंघन
– प्रौद्योगिकी और प्रवर्तन

Modernization Division
BUREAU OF POLICE RESEARCH AND DEVELOPMENT
Ministry of Home Affairs, New Delhi

Promoting Good Practices & Standards



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नित्यानन्द राय
NITYANAND RAI



75
आज़ादी का
अमृत महोत्सव



संदेश

मैं पुलिस अनुसंधान एवं विकास ब्यूरो के आधुनिकीकरण प्रभाग द्वारा ‘Traffic Violations – Technologies & Enforcement’ विषय पर वेबिनार आयोजित करने के प्रयासों की सराहना करता हूँ।

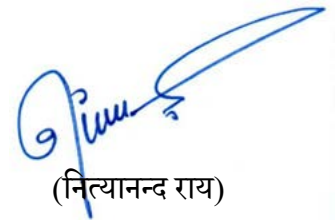
सड़कें राष्ट्र की जीवन रेखा होती हैं और भारत जैसे देशों की विकासशील अर्थव्यवस्था में मुख्य भूमिका निभाती हैं। देश में तेजी से बढ़ते सड़क नेटवर्क और यातायात के साथ, यातायात प्रबंधन में कानून प्रवर्तन एजेंसियों की भूमिका और चुनौतियाँ कई गुणा बढ़ गई हैं। इन चुनौतियों से सामना करने के लिए, यातायात प्रबंधन प्रणाली को नवीनतम तकनीक और प्रौद्योगिकी के उपयोगों के माध्यम से निरंतर आधुनिकीकरण करने की आवश्यकता होगी।

इस तरह के वेबिनार पुलिस बलों की सड़क यातायात प्रबंधन क्षमता को बढ़ाएंगे और नागरिकों के मध्य बेहतर सड़क सुरक्षा व्यवस्थाओं को बढ़ावा देंगे। यह मंच सड़क नेटवर्क प्रबंधन, यातायात प्रबंधन और कानून प्रवर्तन से जुड़े सभी पुलिस अधिकारियों को सड़क सुरक्षा और प्रवर्तन के मामलों में बेहतर जानकारी प्राप्त करने के लिए प्रोत्साहित करेगा। यह यातायात प्रबंधन और सड़क सुरक्षा को बढ़ाने की दिशा में नवीनतम तकनीकों के समावेश को भी सुनिश्चित करेगा।

मैं, श्री बालाजी श्रीवास्तव, महानिदेशक, पुलिस अनुसंधान एवं विकास ब्यूरो और उनकी सक्षम अधिकारियों की टीम का कानून प्रवर्तन एजेंसियों के ज्ञानवर्धन के लिए इस उत्कृष्ट पुस्तक के प्रकाशन के लिए हृदय से सराहना प्रकट करता हूँ।

नई दिल्ली।

05 मई, 2022



(नित्यानन्द राय)

अजय कुमार मिश्रा
AJAY KUMAR MISHRA



गृह राज्य मंत्री
भारत सरकार
MINISTER OF STATE FOR
HOME AFFAIRS
GOVERNMENT OF INDIA

संदेश

मैं बीपीआरएंडडी के आधुनिकीकरण प्रभाग द्वारा ‘Traffic Violations – Technologies & Enforcement’ विषय पर वेबिनार के आयोजन के प्रयासों की सराहना करता हूँ।

परिवहन व्यवस्था में सुधार, सड़कों पर जनता के जीवन की सुरक्षा, नागरिकों का जीवन आसान बनाने और देश के आर्थिक विकास को गति प्रदान करने के लिए यातायात नियम और कानून बनाए गए हैं। भारत जैसे बड़ी आबादी वाले देश में यह अनिवार्य है कि यातायात नियमों का सख्ती से पालन किया जाए क्योंकि भारत में दुर्घटनाओं की उच्चतम दर है जिसे कम करने की आवश्यकता है। इन दुर्घटनाओं का एक प्रमुख कारण सड़क सुरक्षा नियमों की लापरवाही है। पैदल यात्री हो या कार या मोटरसाइकिल चलाने वाला व्यक्ति, सभी को तेजी से विकसित हो रहे भारत में सख्त यातायात नियमों का पालन करना आवश्यक है।

इस तरह के वेबिनारों के आयोजन से पुलिस बलों की यातायात प्रबंधन क्षमता में वृद्धि होगी तथा इससे कानून प्रवर्तन एजेंसियों को यातायात प्रबंधन तकनीकों और उनके अनुप्रयोग का नवीनतम ज्ञान प्राप्त करने में मदद मिलेगी। यह वेबिनार ज्ञान साझा करने का एक उत्कृष्ट मंच है।

मैं, बीपीआरएंडडी की आधुनिकीकरण प्रभाग की टीम द्वारा ‘Traffic Violations – Technologies & Enforcement’ विषय पर आयोजित वेबिनार की कार्यवाही को एक सूचनात्मक पुस्तक के रूप में प्रकाशित करने के लिए हार्दिक बधाई देता हूँ। मुझे विश्वास है कि यह पुस्तक प्रभावपूर्ण रूप से ज्ञानवर्धन का कार्य करेगी तथा यातायात प्रबंधन के कर्तव्यों में तैनात हमारे पुलिस बलों के लिए उपयुक्त अनुशंसा प्रदान करेगी।



(अजय कुमार मिश्रा)

दिनांक 05.05.2022
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संदेश

यह हर्ष का विषय है कि पुलिस अनुसंधान एवं विकास ब्यूरो ने कानून प्रवर्तन एजेंसियों के लाभ हेतु ‘Traffic Violations – Technologies & Enforcement’ विषय पर एक वेबिनार का आयोजन किया।

भारत जैसे विशाल देश में लोगों के लिए यातायात नियमों और विनियमों का पालन करना अनिवार्य है। भारत का सड़क नेटवर्क बेहद तेज गति से बढ़ रहा है, जिसमें शहरी और ग्रामीण क्षेत्र, पहाड़, रेगिस्तान और तटीय क्षेत्र शामिल हैं। वाहनों की बढ़ती हुई संख्या के कारण यातायात प्रबंधन को बनाये रखने और दुर्घटनाओं के स्तर को कम करने हेतु कानून प्रवर्तन एजेंसियों को अनेक प्रकार की कठिनाईयों का सामना करना पड़ता है। इस तरह के वेबिनार क्षमता निर्माण, ज्ञान और अनुभवों के आदान-प्रदान के महत्वपूर्ण मंच हैं।

ब्यूरो द्वारा इस तरह के वेबिनार की कार्यवाही का प्रकाशन करना एक अच्छा प्रयास है। मैं इस प्रयास के लिए ब्यूरो के महानिदेशक, श्री बालाजी श्रीवास्तव और उनकी टीम की प्रशंसा करता हूँ। मैंने इस कार्यवाही का अवलोकन किया और इसे बहुत ही रोचक पाया है। मुझे यकीन है कि यह हमारी कानून प्रवर्तन एजेंसियों के लिए अत्यधिक लाभदायक सिद्ध होगी।

मुझे आशा ही नहीं पूर्ण विश्वास है कि ब्यूरो भविष्य में भी इस तरह के अच्छे कार्यों को जारी रखेगा।
जय हिंद।



(निशिथ प्रामाणिक)

बालाजी श्रीवास्तव, भा.पु.से.
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MESSAGE

The Traffic Police is one of the most visible arms of Police and plays a pivotal role in the day-to-day policing. Traffic Management has a direct impact on the lives of common citizens.

The increase in population, urbanization and rapid industrialisation has created tremendous pressure on the existing resources in terms of infrastructure, manpower & technology and has led to a manifold increase in the number of vehicles. This necessitates the need for rapid modernization of traffic management infrastructure in terms of training of personnel, enhancement of equipment profile and infusing of the latest technology.

BPR&D with its mandate to leverage technology for facilitating Law Enforcement Agencies (LEAs) has taken an initiative to showcase the latest technology and experience sharing by LEAs/ Domain experts, by organizing a webinar on 'Traffic Violation – Technologies & Enforcement' and publishing its proceedings.

The contents of the booklet 'Traffic Violations – Technologies & Enforcement' are very informative for any traffic management department. I am sure they will be benefitted immensely.


(Balaji Srivastava)

"Promoting Good Practices and Standards"

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MESSAGE

The ebb and flow of traffic on the streets, is an issue of great significance in our everyday lives. Even though road accidents have been a major cause of deaths in India, the subject has remained in the rain shadow area of our collective attention. Both in India, and around the world, road accidents have come at a significant social and economic cost. Besides preventing deaths and injury, efficient traffic management, and smooth flowing traffic, are key parameters contributing to the livability index of a city or town.

With a view to sensitizing police professionals in the country, the Bureau of Police Research & Development (BPR&D) has been organizing webinars on a whole range of contemporary concerns. The webinar on ‘**Traffic Violations – Technologies & Enforcement**’, and the publication of its proceedings, may be viewed in the backdrop of this ongoing initiative. My sincere compliments to the Traffic & Transport Wing of the Modernisation Division of the Bureau, led by Dr. Karuna Sagar, Director (Modernisation), and his team, both for the well conducted webinar, as well as the publication of these proceedings.

It is our fond hope that the publication will find favour with our field professionals, and serve as a reference point for sparking awareness across formations.



(Neeraj Sinha)

“Promoting Good Practices and Standards”

डॉ. करुणा सागर, भा.पु.से.
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EXECUTIVE SUMMARY

The Modernization Division of Bureau of Police Research & Development (BPR&D) organized a National Level Webinar on the theme ‘Traffic Violations – Technologies & Enforcement’ on February 18, 2022. The webinar was an important interactive platform for LEAs to gain knowledge on Traffic violations – Technologies & Enforcement from the domain experts.

During the webinar, Sh. Neeraj Sinha, Additional Director General of BPR&D delivered welcome address and Sh. Balaji Srivastava, Director General, BPR&D delivered the inaugural address. Sh. Rahul Alwal, IPS Senior Superintendent of Police, Puducherry shared his experience on Traffic Violations – Technologies & Enforcement from Law Enforcement Agencies Perspectives and Sh. N. Prakash Reddy, IPS DCP (Traffic), Hyderabad shared his thoughts and practices on Intelligent Traffic Management and Integrated E-challan system. Sh. Shailendra Singh, AVP. Vehant Technologies, rendered the details on latest trends & technologies for traffic enforcement being developed by his company.

More than 110 Police officers from States, Union Territories, Central Armed Police Force and Central Police Forces attended the Webinar and interacted with the speakers.

The webinar was much appreciated by senior Police officers as it was an effective platform for sharing knowledge and experience for LEAs.

The proceedings of this webinar are being circulated to all stakeholders for their benefit by sharing the knowledge of the experts on Latest Trends & Technologies for Traffic Enforcement.



(Karuna Sagar)

“Promoting Good Practices and Standards”

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Sh. N Prakash Reddy, IPS, DCP (Traffic), Hyderabad

Topic- Intelligent Traffic Management and Integrated E-challan system

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Session – 3

Sh. Shailendra Singh, AVP, Vehant Technologies, U.P.

Topic- Latest Trends & Technologies for Traffic Enforcement

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Contact List of BPR&D officers

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References



WEBINAR AGENDA

WEBINAR THEME: TRAFFIC & VIOLATIONS – TECHNOLOGIES & ENFORCEMENT

Mode of Webinar: Online (Cisco WebEx)

Objective of Webinar: To provide an interactive digital platform for LEAs to learn from the country's best experts.

Time	Sessions
15:00 Hrs -15:05 Hrs	Welcome Address - ADG, BPR&D
15:05 Hrs -15:10 Hrs	Inaugural Address - DG, BPR&D
15:10 Hrs -15:40 Hrs	<i>Session 1:</i> Sh. Rahul Alwal, IPS Senior Superintendent of Police, Puducherry <i>Topic- Traffic Violations – Technologies & Enforcement from Law Enforcement Agencies Perspectives</i>
15:40 Hrs -15:50 Hrs	<i>Q&A - Session 1</i>
15:50 Hrs -16:20 Hrs	<i>Session 2:</i> Sh. N Prakash Reddy, IPS DCP (Traffic), Hyderabad <i>Topic- Intelligent Traffic Management and Integrated Echallan system</i>
16:20 Hrs -16:30 Hrs	<i>Q&A - Session 2</i>
16:30 Hrs -17:00 Hrs	<i>Session 3:</i> Sh. Shailendra Singh AVP, Vehant Technologies, U.P. <i>Topic- Latest Trends & Technologies for Traffic Enforcement</i>
17:00 Hrs -17:10 Hrs	<i>Q&A - Session 3</i>
17:10 Hrs -17:15 Hrs	Vote of Thanks - IG (Mod)



PROCEEDINGS

The Traffic & Transport Wing is an important vertical of the Modernization Division in BPR&D to provide regular interface between Law Enforcement Agencies and Industry & Academia through Presentations / Demonstrations / Webinars / Conferences and Police Expositions to familiarise the police officers about latest technologies / equipment.

The Wing organized a National Level Webinar on theme ‘**Traffic Violations – Technologies & Enforcement**’ on 18th February, 2022.

The objective of this webinar was to provide an interactive platform for LEAs to gain knowledge on traffic violations – technologies & enforcement from the country’s best experts.

The Director General Sh. Balaji Srivastava, IPS and the Additional Director General Sh. Neeraj Sinha, IPS of the BPR&D graced the webinar with their presence; besides the Senior Police Officers more than 110 officers from States /UTs and CPOs attended the webinar through WebEx.

Following were the three speakers from Law Enforcement Agencies, and industry who delivered their talks on their respective topics related to theme:

Sh. Rahul Alwal, IPS, Senior SP,
Puducherry

*Topic- Traffic Violations – Technologies & Enforcement
from Law Enforcement Agencies Perspectives*

Sh. N Prakash Reddy, IPS DCP (Traffic),
Hyderabad

*Topic- Intelligent Traffic Management and Integrated
E-challan system*

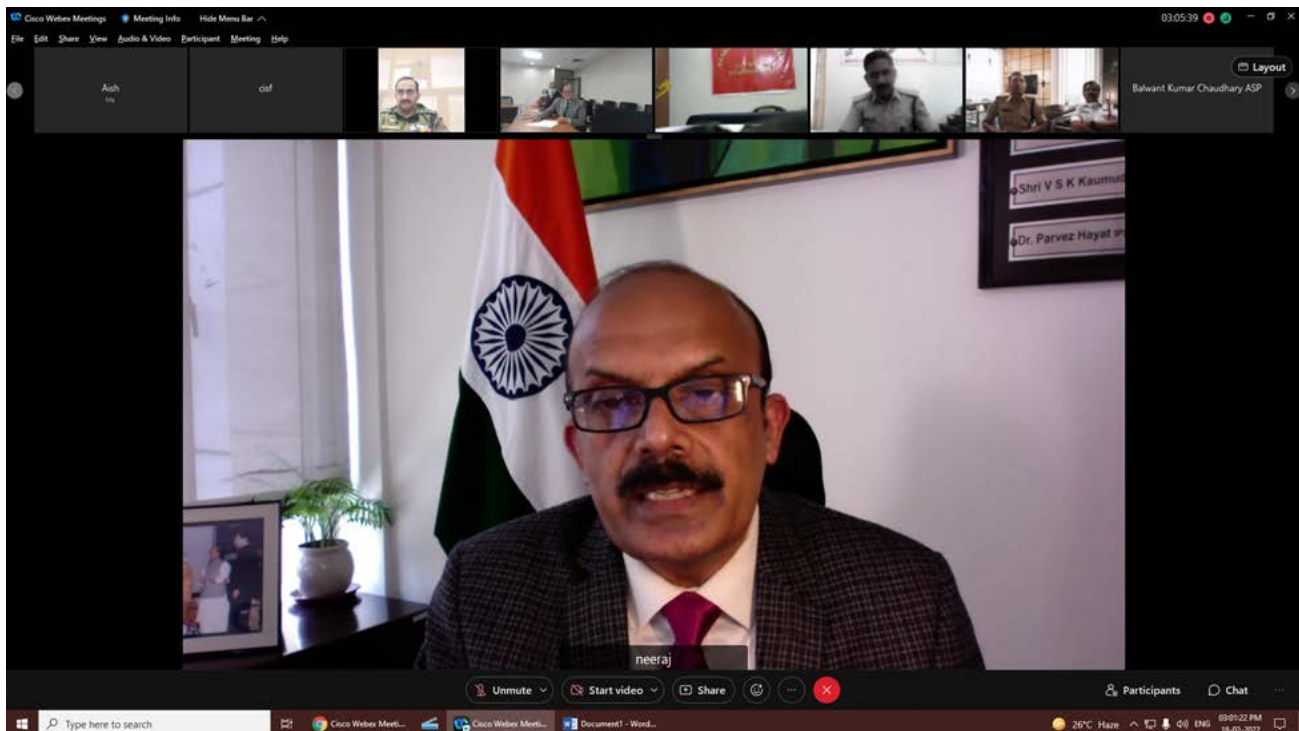
Sh. Shailendra Singh, AVP,
Vehant Technologies, UP.

*Topic- Latest Trends & Technologies for Traffic
Enforcement*

Welcome Address: At the outset, Sh. Neeraj Sinha, IPS, Additional Director General of BPR&D delivered welcome address to all participants and distinguished speakers. He expressed that the Modernization Division has conducted a series of important webinars from cryptocurrency to oral cancer for benefitting to the police personnel. Today’s webinar on ‘Traffic Violations – Technologies & Enforcement’ will increase motivation to our police personnel who are stood at the crossroads of the traffic junction. He stressed upon to solve the problem of traffic jam in urban cities mainly as



traffic jam is a challenging issue for everyone, living in an urban setting mainly who does not confront issues relating to road traffic and the associated regulatory mechanisms. Indeed, in large cities, in metropolitan setting, concerns of traffic are significant enough to warrant dedicated deliberations. In fact, it would be futile to talk about the livability index of a large city without factoring in aspects of traffic.



ADG, BPR&D further expressed that for ease of living in metro-Politian cities there is a need of physical infrastructure along with responsible traffic laws and regulations. The traffic police men and women touch all lives across of the society. A less fortunate section in our cities and towns are as impacted by this wing of the police as the rich and affluent. Given their reach and presence, the traffic police personnel can well be the brand ambassadors of the Indian police.

He gave compliments to Director (Modernization) and all officers of the modernization division for opening together such a distinguished array of panelists and participants to the webinar today. He hoped that participants will be benefiting from the deliberation of this webinar.

Inaugural address: Sh. Balaji Srivastava, IPS, DG, BPR&D during his inaugural address, brought out the significance of the webinar on the 'Traffic Violations- Technologies & Enforcement' will throw light to improve the quality of traffic law enforcement with the aid of best technology and within the available manpower.



He informed that increase in population and urbanization in India is going hand in hand and as a result many smaller cities have already become million cities and so many are in the process of becoming million cities. The increase in the number of million cities have created pressure on the existing resources in terms of infrastructure, traffic, roads, lights, housing etc. This has led to an alarming increase in the number of vehicles moving around on roads on each of these million cities. It has brought congestion and huge traffic jams resulting in increasing the commuters' journey time and reduced speed, and increasing fatalities due to road accidents. If it goes unabated, we are sure to see choked roads, frail environment leading to health problems and in a long run these cities will not be conducive for human living.

DG, BPR&D acquainted the participants that due to unexpected increased number of vehicles and speed on roads, the conditions in the cities are far from satisfactory and this is increasing tremendous pressure on Traffic Police. In most of the cities there is acute shortage of traffic police as compared to availability of police for managing traffic in the cities and maintenance of law and order.

He informed to the participants that in the compliance of the directions of the Supreme Court Committee on Road Safety, the BPR&D had prepared "Norms for the Traffic Police and Equipment" and submitted a report to the MHA in the year 2015.

He stated that the Traffic Police is one of the most visible arms of Police and plays a pivotal role in the day-to-day policing. Traffic management has a direct impact on the lives of a common



citizen. Traffic management in a city/town and effective implementation of regulations are affected by many quantifiable and non-quantifiable factors. He informed that CAPT, Bhopal under the Bureau has conducted three National Conferences on traffic related issues and also conducting regular courses and classes on Traffic related issues. The Academy is also striving to showcase their domain knowledge and expertise to the stakeholders.

He further apprized that with the surmounting traffic management problems, traffic police need a continuous support from user friendly technology as a force multiplier. Therefore, technological developments and innovations in the Traffic management be adopted by all State Police to strengthen the effective monitoring, enforcement of traffic rules thereby reducing traffic violations and fatalities. Currently, numerous vistas of technology are being utilized by traffic police like speed detectors, traffic light control, Automatic Number Plate Recognition (ANPR) devises and extensive use of CCTV cameras to prevent and reduce traffic violations and crimes.

He suggested that the LEAs should develop a system wherein they keep themselves updated with the latest technological advancements in the field of Traffic Management.

He hoped that representatives of Law Enforcement Agencies (LEAs) will actively interact with the Speakers and get benefitted to further align their requirements of cities/states from the rich experience of the speakers.

Brig. Navrattan Joshi, Principal Scientific Officer, BPR&D moderated the webinar further.

Session 1

Sh. Rahul Alwal, IPS
Senior Superintendent of Police, Puducherry

Topic- Traffic Violations – Technologies & Enforcement from Law Enforcement Agencies Perspectives



The first speaker Sh. Rahul Alwal while addressing the participants shared **his** valuable views by informing that there are many modern technologies like CCTV Cameras, speed sensors and Artificial Intelligence based technologies, due to which the violations of traffic laws can be mitigated. CCTV Cameras are an innovative and extremely functional use of video surveillance technology. Cameras can be used to enforce speed and red light laws effectively in catching moving violations. They are also useful for mitigating road accidents. Visible surveillance cameras installed at intersections can encourage safe driving habits and discourage moving violations.

The use of AI based technologies can help tackle & solve many such issues related to traffic law enforcement. I can facilitate a smooth, convenient & safer experience for commuters by improving road traffic discipline. Such a system cannot only help law enforcement agencies in penalizing the offenders but can act as a deterrent as well.

Speed Sensors installed at road-ways can detect the violators who drive vehicles speedily and generate challans automatically.



Technologies

CCTV

Monitoring of Violations at CCC.
Reference when contested by Violator.
Useful for analysis on violations, road accidents etc.



AI based

AI based model identifies the violation
Auto challan generation based on ANPR and sent to violator



Speed Sensors

For recording overspeeding and generating challans



Sh. Rahul Alwal spoke that Artificial Intelligence technologies embarks the hot spot areas where the violations happen and suggests that there can be more enforcement of laws.

The AI technique is more environments friendly and less time consuming as it reduces the paper work as it transfers the fine automatically by electronic system.

Technologies

Data Management

Software available for entering data and analysis with dashboards and reports generation.



Hot Spots

AI based model identifies areas where there is increased violation and suggests more enforcement.



e-Challan

Reduces paper work and also electronic transfer of fine.



He said that road users should follow rules laid down in various laws like MV Act and CMV Rules. He apprized that the aim of MV Act is to concentrate on the innocent people who are traveling on the road and can get affected by the drivers.

This Act majorly aims at ensuring road safety, compensation for the victims of accidents, third party insurance and the health of the vehicles.

While speaking on the main reasons for road fatalities, he told that 4 Es i.e. Education, Enforcement, Engineering and Emergency are main factors due to lack of these factors the number of road fatalities is increasing drastically. Among these four aspects, poor education and improper enforcement of laws are grassroots that are basically responsible for the road accidents that needs to be improve immediately and effectively.

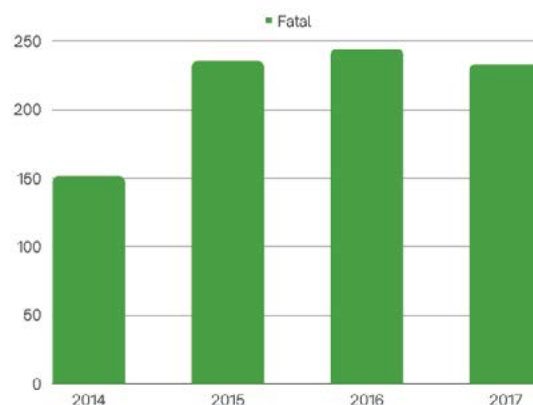
He gave data on the road fatalities for the year 2014, 2015, 2016 & 2017. In 2016 there were more death casualties in compare to 2015 & 2017. He described that in India, a total of 4,37,396 road accident cases were reported during the year 2019. Road accident cases in the country have decreased from 4,45,514 in 2018 to 4,37,396 in 2019. The fatalities in road accidents have increased by 1.3% (from 1,52,780 in 2018 to 1,54,732) in 2019.

The data regarding age wise fatalities in 2017 shows that there were more deaths between 45 to 60 age's people and from birth to 18 years, the fatalities were less in compare to any other age group.

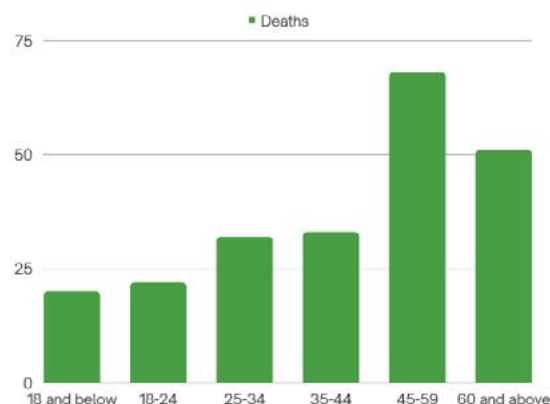
Young adults in the age group of 18 - 45 years accounted for 72.1 per cent of victims during 2017. People in working age group of 18- 60 years accounted for a share of 87.2 per cent in the total road accident fatalities

Road Fatalities

There has been a steady trend in road fatalities



Age-wise Fatalities in 2017



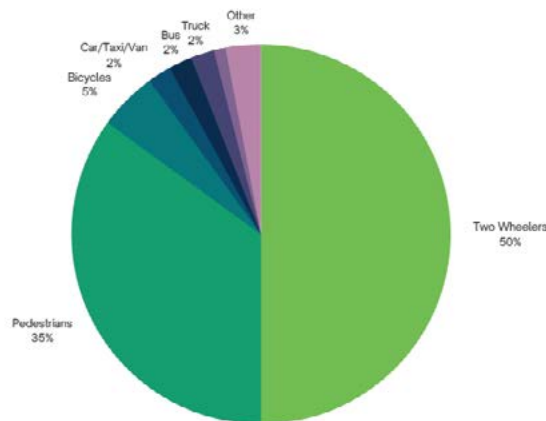
As per the Government of India's report by Ministry of Road Transport & Highways, fatal road accident victims largely constitute young people in the productive age groups.

He informed that the year 2017 has shown marked improvement over 2016. The number of road accidents in 2017 is lower by 3.3% than that of the previous year, 2016. Similarly, the number of injuries and deaths on account of road accidents has been lowered by 4.8% and 1.9% respectively.

He categorized the data of victims in road fatalities in 2017.

Victims in Road Fatalities in 2017

Majority of Victims are Two-wheelers and Pedestrians.

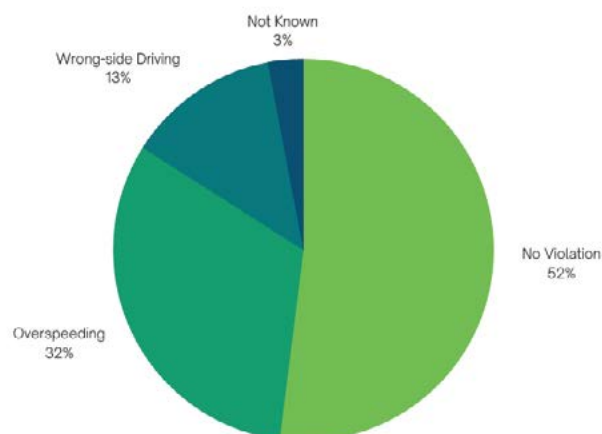


He showed that due to various types of violations including over-speeding, wrong side driving and others that are not known, the road fatalities happen. He categorized the road fatalities as per types of the vehicle like bus, car, truck, bicycle pedestrian, two-wheelers etc.

The reason 'head on collision' accounted for 18.7 per cent of total road accidents in 2017. The other major types of collision are 'hit from back' (16.7%), 'hit & run' (14%) and 'hit pedestrian' (13.4%). As compared to 2016, hit pedestrian, hit from back and hit & run have shown significant increase in 2017. Head on collision, however, came down in 2017 as compared to 2016. Hit pedestrian cases are substantially higher in 2017 over 2016.

Type of Violation

The data is routinely entered, without any proper study.



Road Safety Committee

Corpus of all Challans

A Fund is made to which all Challan amount gets credited to.

Regular Meetings

The requirement were put up before Committee and Minutes issued

Members

Stakeholders are members, under the Chairmanship of Sec, Transport

Procurement

Concerned Department will procure as per GFR rules

Utilization of Funds

Various projects under which the amount can be utilized.

Steps Taken

All SIs to Enforce

The enforcement was taken on mission mode. Even the L&O SIs were encouraged to challan.

Weekly Review

There was weekly review at the level of Hon'ble LG. Performing officials were encouraged.

Procurement

Traffic Equipment required was procured.

There were many steps like procurement of new equipment / technology, review weekly wise road fatalities and enforcement of laws like challan etc, were taken in previous years, by the Government to mitigate the road fatalities.

Other steps like identification and rectification of accident black spots, road safety audits, installation of crash barriers and training & capacity building were also taken for the same purpose.

Apart from above, other major steps include the Road Engineering Study, Accident data Recording Software, creation of digital map, training of breath analyzer and speed limit study etc.

Some others like education and awareness programme to strengthen the system of driver licensing and training to improve the competence and capability of drivers were initiated. Road fatalities can be mitigated by marking dark / black spots, road signage's, hand sign workshops etc.



Steps Taken

Road Engineering Study

Concerned Department were made part and reports shared.

Accident Data Recording Software

VIA Software (Netherland)

Interseptor Vehicle

For enhanced challaning

Creation of Digital Map

Mapping of Accidents, Black Spots, etc.

Training on Breath Analyser

New set of Breath analyzer were used.

Speed Limit Study

For stretches which didn't have define speed limits.

Steps Taken

Road Median Study

Identify unwanted median cuttings and recommend closure.

Road Signages

Complying with IRC Norms, identifying what signages are needed at a spot.

Signals Inspection

By a team from Delhi (Retd IPS) & Bangalore

Dark Spots

Identification and communication of concerned Department.

Road Markings

Suggesting markings for Pedestrian crossing, stop line, chevron markings.

Hand Signs Workshop

For effective junction management incase of non-functioning signal.

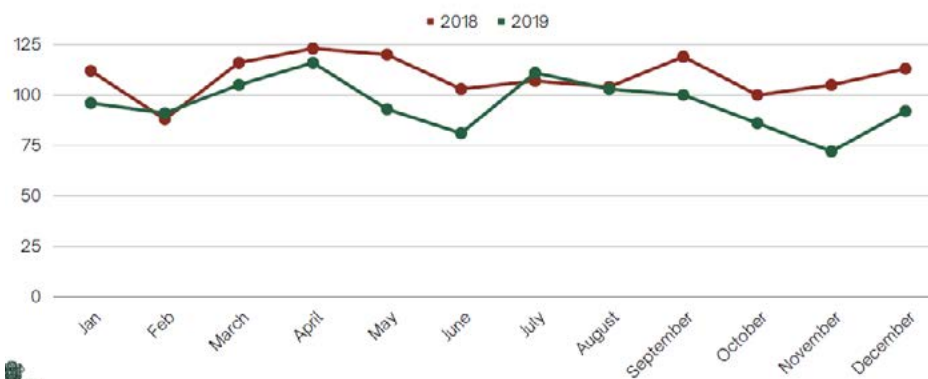
Sh. Rahul Alwal introduced the participants that in percentage terms, in 2018, the number of accidents has increased by 0.46 percent, persons killed has increased by 2.4% and injuries have decreased by 0.33 percent over that of the previous year i.e 2017. Road accident severity measured by the number of persons killed per 100 accidents, has seen an increase of 0.6 percentage points in 2018 over the previous year.

During 2018, like the previous two years, young adults in the age group of 18 - 45 years accounted for nearly 69.6 percent of road accident victims. The working age group of 18 – 60 accounted for a share of 84.7 percent in the total road accident deaths.

Fatalities (2018-2019)



Road Accidents(2018-2019)



He further revealed that there are numerous challenges in implementation of the traffic laws like late implementation of MV Act, formulation of narrow lanes, corruption, under-staffed, procurement process, infrequent utilization of equipment, influence used by violators and others as mentioned in following slides: -

Challenges in Enforcement

Notification of New MV Act

New MV Act came into force from Oct, 2020. It was notified only in Feb, 2021.

Courts

Since MV Act was not notified, we were left to issue Police Notices

Enforcing only certain violations

Priority given to major violations. Other offences doesn't get much attention.



Challenges in Enforcement

Under Staffed Affects the frequency and area covered.

Dangerous Driving by Violators Violators avoid challaning by taking u-turn, over-speeding and crashing the barricade.

Enforcing by Other Departments Other departments are understaffed and have other priorities.

Challenges in Enforcement

Support from Other Stakeholders Road Engineering Works are delayed due to various issues.

Corruption Frequent complaints.

Narrow Lanes Difficult to enforce.

Challenges in Enforcement

Non-availability of Cash Need to integrate UPI payment in e-challan equipment and daily checks of amount collected.

Violators uses Influence Reduces the vigor with which the enforcement need to be done.

Violator engages with Officer Increases the time spent in per challan and there by reduces the overall effect.

Challenges in Enforcement

Procurement Process Financial powers can be vested with DGP/ADGP/IG. Insufficient Bids, failing in Technical Specs.

Infrequent Utilization of Equipment Tend to follow status-quo, even if they realize their use. Continued monitoring necessary.

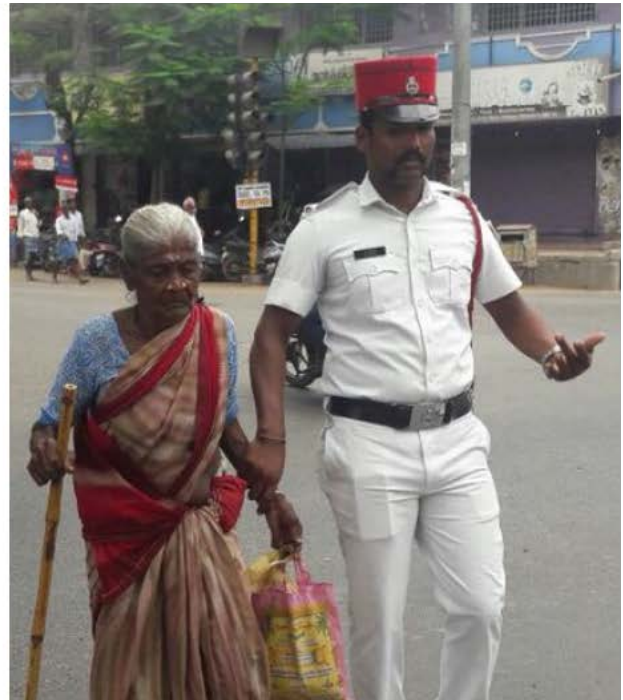
Way Forward and Conclusion

Technologies are available but they need to assimilated within the force.

For effective enforcement, support from other stakeholders is essential.

Political will matters.

Enforcement should be suitably supported by the other 3 E's. It is not sustainable in itself.



Sh. Rahul Alwal, concluded his presentation with introducing some way forwards like launch and proper implementation of road safety policies, effective use of resources to ensure high road safety, pioneer role of local government, promote road safety education, tight regulation for drunk driving, good road user behavior, improvement of road engineering, Usage of better labelling of the alcoholic content of beverages, for mitigating traffic violations etc.

He ended his talk by the end of Q&A Session.



Session 2

Sh. N Prakash Reddy, IPS
DCP (Traffic), Hyderabad

Topic- Intelligent Traffic Management and Integrated E-challan system

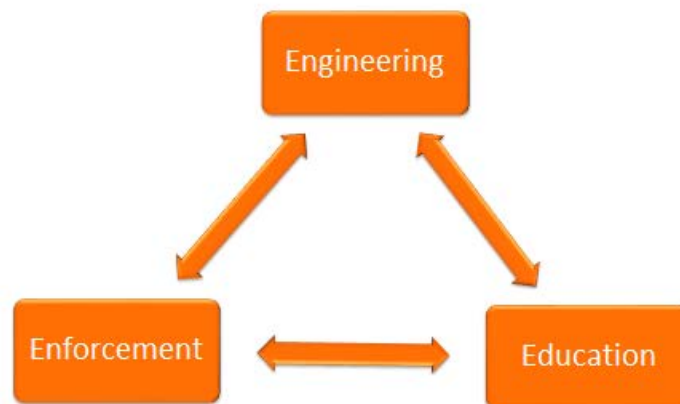


Second eminent speaker Sh. N. Prakash Reddy while delivering his talk during the webinar showed some geographical and infrastructural data like Area (625 Sq. km,) road length (9250 km and total vehicle (74 lakh) in respect of Hyderabad City by comparing the same with Mumbai and Chennai. He described the good features of intelligent traffic management and integrated e-challan system by using advanced technology used in Hyderabad City.

He stated that in Hyderabad City, some **major initiatives** like Hyderabad Traffic Integrated Management System (HTRIMS) including Advanced, Traffic Signal Management, Advanced Integrated cashless e-challan system, Automatic Red Light Violation Detection System (ARLVD), Laser Gun Cameras for detection of over speed violations, Cameras on towing cranes, Android TABs and Hyderabad Traffic Live Mobile App, Body Worn Cameras to improve the behavioural etiquettes and Integrated Traffic Management System been implemented.



GLOBAL TRAFFIC MANAGEMENT RULE



He informed that their main focused areas for traffic management are Regulation First, Enforcement Next, Adoption of best practices, Cash-less enforcement, cop-less junctions, transparency and accountability etc. According to him, the main strategic goal for traffic management and road safety is to attract global investments.

In terms of road engineering in Hyderabad City, Geometric design of road has been used; clear markings & signs, new road furniture and advanced traffic signals have been used. He said that this brings the positive impact of road engineering on driver behavior.



Sh. N Prakash Reddy introduced the features of Virtual Loop Cameras installed on the road of Hyderabad city. He told that these cameras create Virtual Loops through which it sense the presence or absence of vehicles at the junction and control green or red light time accordingly and automatically.

He described about the Hyderabad Traffic Integrated Management System that by implementation of this system following effective changes are seen in Hyderabad city:

- Advanced 32 Bit Controller
- 24/7 Traffic Signals Functioning
- Adaptive Traffic Control system (ATCS)
- Increased the TRAVEL TIME
- Separate time for pedestrians

He further explained that each junction has pre-programmed signal timing tables. This means that, depending upon the density of traffic in various directions at different timings during the day, signal timing tables be configured into the controller. Five to Nine schedules are created depending on the traffic volume at various places. Live monitoring from Traffic Command Control (TCC) and Live Dashboards for monitoring health of the system has been used.

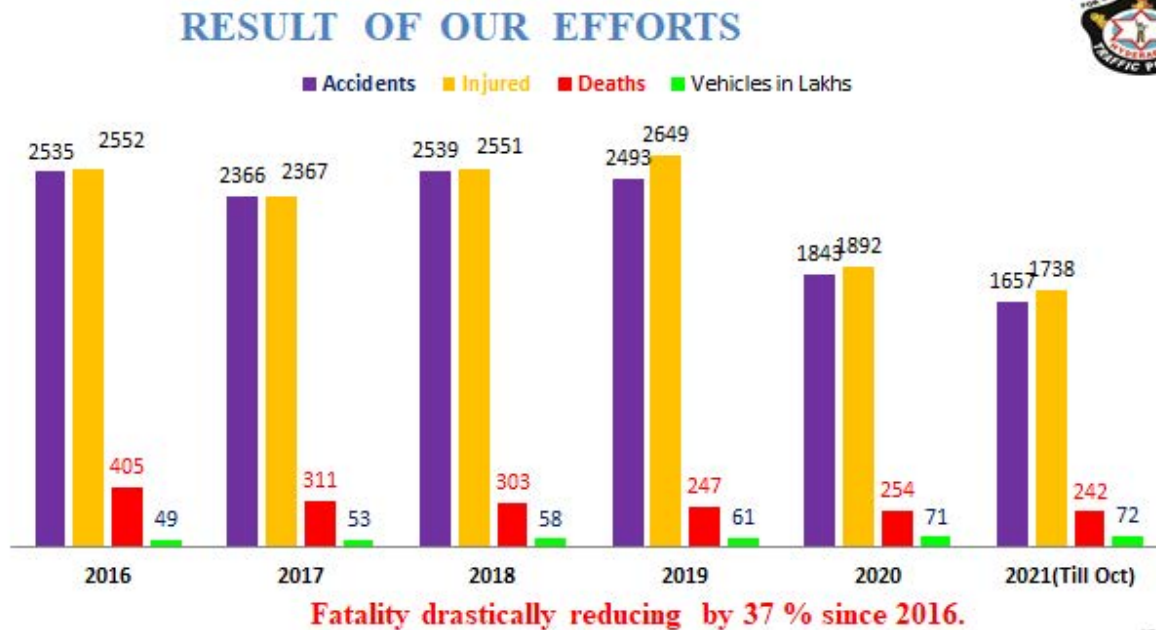
He informed that for road safety and reducing road accidents, Traffic Engineering Wing is coordinating with concerned Stake Holders for better Traffic and Road Safety Management in Hyderabad. The Hyderabad traffic Police engineering team regularly coordinates with Stakeholders i.e. **GHMC, R&B, NH, HRDCL** and Cantonment Department Engineering Wing officials. The Team has identified (85) most vulnerable Accident Prone areas in the Hyderabad City as per 2016 Accidents Data.

The team has collective study to know the cause of Road Accidents with the help of Stake holders and traffic experts and taken preventive measures as per the suggestions of the Traffic experts. Measures taken like Street lighting improved, Road edge markings, reflective studs and keeping signals **24/7** in VAC mode Road Safety signage and Zebra markings are provided. Pedestrian/ Pelican signals provided at important locations. It developed the free left carriage ways at junctions.

U-turns on roads are introduced by closing junctions which reduced the Travel time, waiting time, reduced pollution levels and power saving at traffic signals. Total 352 Nos. of electric poles and other obstructing materials, which were obstructing the carriage ways and were vulnerable for accidents, were removed with the help of Electricity Department.

He further stated that various measures taken in different police stations in Hyderabad City and due to which numbers of fatalities have been reduced.

He showed the results of efforts to reduce the fatality in city. In the year 2016, fatality drastically reduced by 37 %. Accidents, injuries, deaths fatalities have been reduced during 2016.



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Secondly **Education** is important factor to mitigate these fatalities and main target groups, among which the education to be set RTC drivers, Auto Drivers, Students and youths, Awareness to school children pedestrians and traffic violators.

Awareness Training programme for Students and Commuters be set among the various stake holders like students, road users, RTC, AUTO drivers and other employees at various levels, etc. Traffic Education Van is using to create the Traffic awareness for the school children by mobilizing in the van and it is being taken to various schools and colleges etc.

He informed the participants that in the year 2020, 86,890 Students covering (227) Schools & College; traffic violators; 6,279 Drunken drivers; 18,630 Parents /Guardians of drivers were imparted counselling / education on traffic rules and other violation cases 12,351 by Traffic Training Institute, Goshamahal and Begumpet.

Thirdly, enforcement of laws with the help of technology like integrated cashless e-challan system, which is very important for effective traffic management. Total 100 % cashless system is on-spot challaning system by using TAB with Bluetooth printers and cashless Enforcement that is started first time in India. Applications and software are totally web based services, connected with police and RTA servers using Android and IOSTABs on the fields. Over speed violation detected through laser gun cameras.



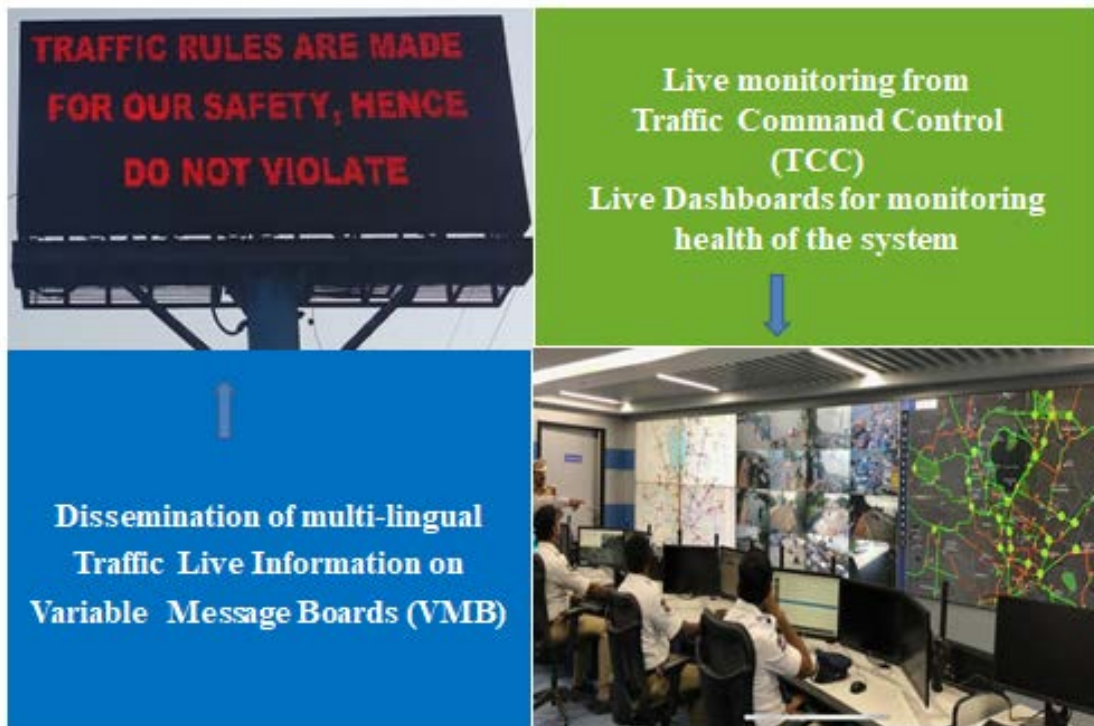
He informed that violators are given option to pay at following Payment gateways.

- E-Seva/Mee seva Centres.
- T Wallet App.
- PAYTM App.
- JIO Money App.
- Net Banking through ICICI, SBI, BillDesk.
- HTP Live Mobile App etc.

Due to above the compliance is up to 70 %.

The Integrated E-Challan System has been expanded to entire Telangana State. It is implementing in the (9) Commissionerates and (18) Districts and it is monitored by Hyderabad Traffic police. This is cashless and evidence based Echallan System.

HTRIMS Contd-2



PELICON SIGNAL - SAFETY MEASURES FOR PEDESTRIAN CROSSING AT MEHDIPATNAM - RYTHU BAZAR



He further informed about the Drunk and Drive Enforcement in Hyderabad City due with which accidents have been drastically reduced and social behaviour has been modified. In this, violators are convicted up to three months imprisonment and also they are fined and both also Some of the cases Driving License cancelled.

Repeated violator is projected in the Charge sheet for enhanced punishment.

He showed that due to Drunken Drive Enforcement, in the year 2020 total fine amount was collected is Rs. 4,93,13,650/- and total imprisonment were 4901 and total driving licensing suspended number were 09 and in 2021 upto October, the total fine collected Rs. 8,94,16,800/- and total imprisonment were 159 and number of licensed suspended were 21.

DRUNK AND DRIVE ENFORCEMENT

- Drastically reduced accidents.
- Modified social behaviors
- Compulsory Counseling classes for the DD violators.
- Violators are convicted up to Three months imprisonment and also they are fined and both also . Some of the cases Driving License canceled
- Duly taking the image of violator and Driving License particulars through TABs in the live Database.
- Repeated violator is being projected in the Charge Sheet for enhanced punishment.
- DD enforcement is being recorded through Video camera.



Breath Analyser



DD checking through
Breath Analyser



DD case E-Ticket issued through TAB



DD violators Counseling

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DRUNKEN DRIVE ENFORCEMENT - YEAR WISE



YEAR	2016	2017	2018	2019	2020	2021 (Upto Oct)
Total Cases	17,510	20,811	29,484	29,756	6593	16,581
Total Fine Amount	2,98,87,200	2,20,42,900	5,88,99,500	9,29,31,700	4,93,13,650	8,94,16,800
Total Imprisonment	7510	4015	5441	4501	4901	159
Driving Licence Suspended	0	203	1424	1106	09	21

- Effective Drunk Driving enforcement reduced the accidents and improved the road safety.
- Conviction up to 3 months imprisonment and cancellation of Driving license
- Every week issuing the Press Note and giving priority on high level publicity.
- Created awareness among the citizens and corrected social behaviors.

HTRIMS

(Hyderabad Traffic Integrated Management System)

- ♦ Advanced 32 Bit Controller
- ♦ 24/7 Traffic Signals Functioning
- ♦ Adaptive Traffic Control system (ATCS)
- ♦ Increased the TRAVEL TIME
- ♦ Separate time for pedestrians



Virtual Loop Cameras These cameras will create Virtual Loops through which it sense the presence or absence of vehicles at the junction and control green or red light time accordingly and automatically



Traffic Controller



Virtual Camera Video Clip



Adaptive Timer



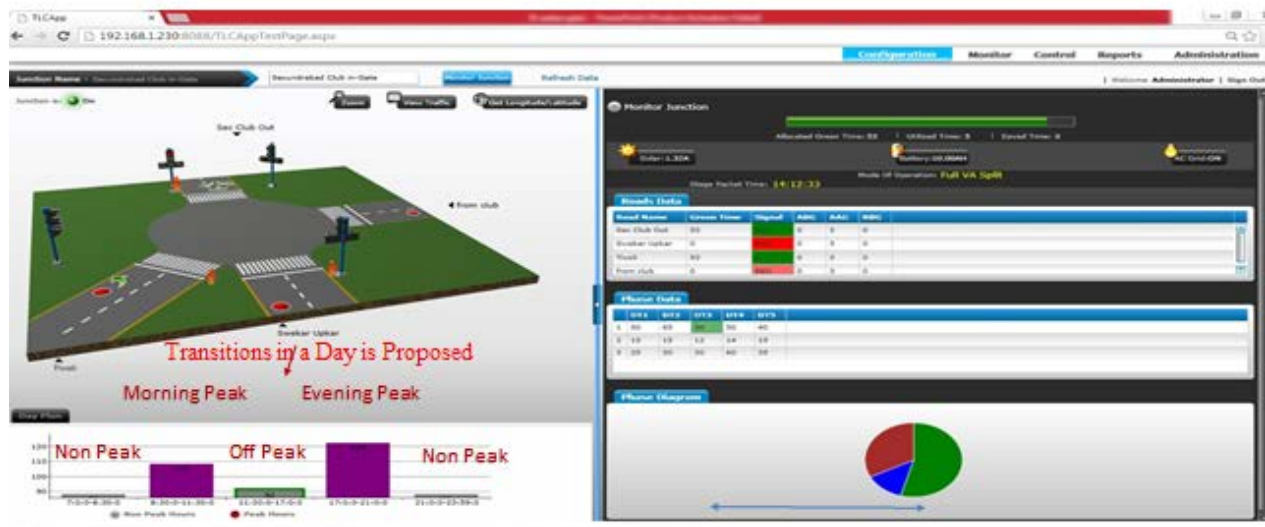
Vehicle Actuated Control



Manual Mode

SIGNAL TIMING TABLES AND SCHEDULES

- Each junction will have pre programmed signal timing tables. This means that, depending upon the density of traffic in various directions at different timings during the day, signal timing tables will be configured into the controller.
- Five to Nine schedules are created depending on the traffic volume at various places.



He explained about the Penalty Point System which is effected from August, 2017 is a driving License based **Penalty Point System (PPS)** on errant Drivers. Under this System, driving licence is suspended for one year if PPS exceeds 12 points in the block period of 24 months. Till 12 Driving licenses are suspended through PPS. PPS resulted in increase of traffic compliance and road safety.

NON CONTACT ENFORCEMENT

Use of Technology and advanced gadgets.

- Automated Red Light Violation Detection (ARLVD)
- Hand Held, Digital Cameras
- Speed Laser Guns
- The compliance is up to 70 %.

e-Challan System is the basis. TSRTA connectivity is the backbone

- ITMS ANPR Cameras
- Traffic Command Control (TCC)
- Violation Photos received through Social Media
- More than 80% is the Non Contact Enforcement
- Echallan letters are sent to owner of the vehicle



E-Challan With Violation Photograph



Captured at Traffic Command Control



Echallan Web Application



Laser Gun Camera case

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RTA M-Wallet App is an integrated with Penalty Points System. Hyderabad Traffic Police Server is connected live with the RTA Server. Traffic violation Penalty Points are generated at RTA end and shown in the traffic challan receipt. Citizens can see Penalty points if generated on their Driving License through RTA M Wallet App.

Non-Contact Cashless E-challan System...3

Traffic violations are taken using digital cameras, Speed Laser Gun and Automated Red Light Violation Cameras



Digital Cameras



Laser Gun



Automated Red Light Violation Detection System (ARLVD)



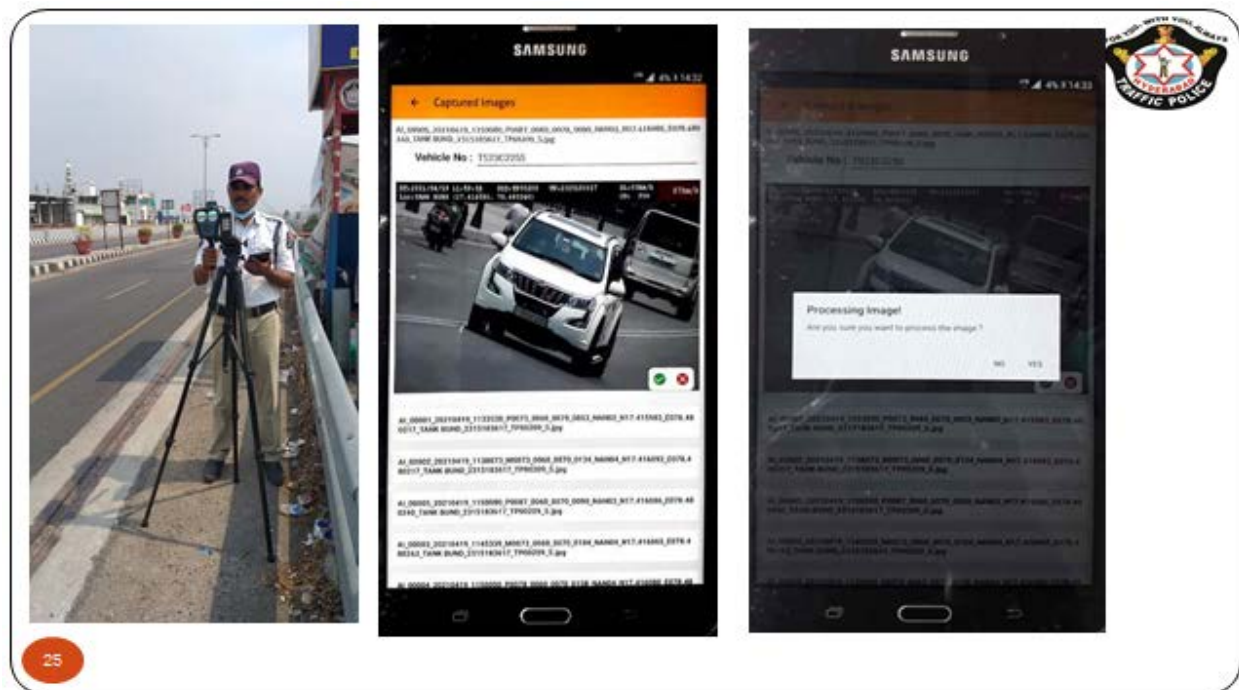
Surveillance Camera Control Room



Redlight Jumping Violation



Violation Photo



Over speed violation detected through Laser Gun Camera

Date and Time= 17-12-2014 12:44:6 Operator=ADMIN Location=BOWENPALLYCHECKPOS
Speed Zone= 60 Kmph Speed= 111 Kmph Distance= 53.4 M



While speaking on Body Worn Cameras he said that the objective of Body Worn Cameras is to improve the behavioural etiquettes of being citizen friendly approach Pioneer in India – To all frontline traffic enforcement Officers. This camera is connected to the central command center with data security through encryption mechanism. It helps in resolution of conflicts between Citizens and



enforcement officers

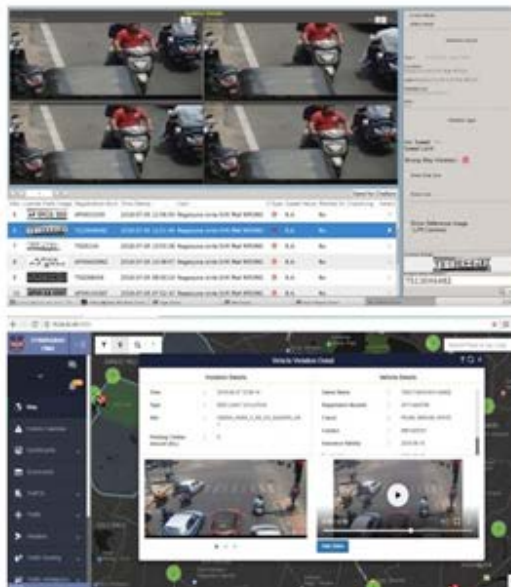
Intelligent Traffic Routing is travel time guidance to road users on alternative travel time. It is an automatic routing of road users through VMB/PAS without involvement of cops and it improved reliability and road user decision making.

Module 5: Violation Management & Hotlist Tracking

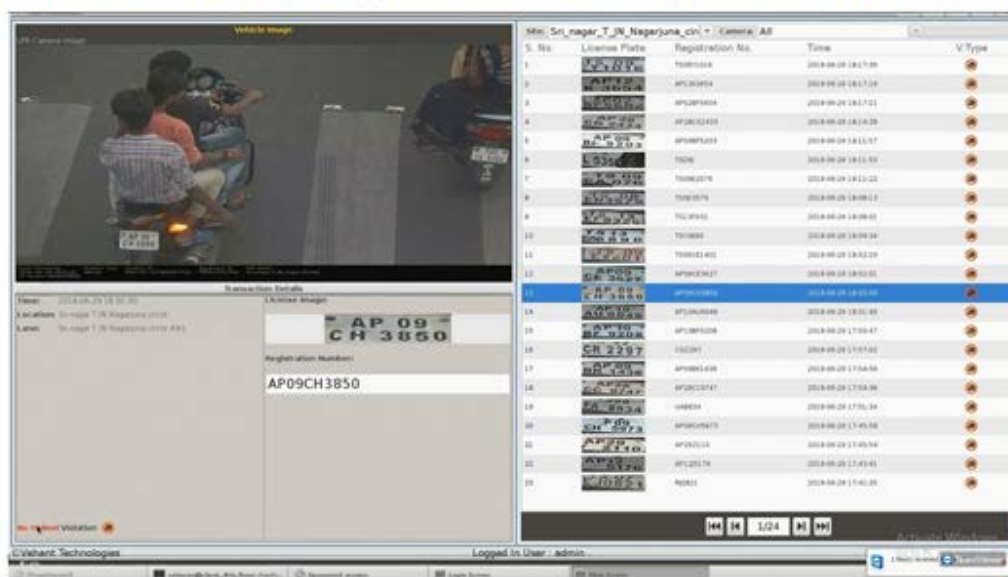
Goal 2:
Achieve
Reduce Fatalities

Goal 3:
Cop-less
Junction

- Improved compliance to traffic rules and reduction in accidents
- Automatic detection of violation and enforcement
- Tracking of Hotlist Vehicles automatically using ANPR without intervention of cops on field
- Notifying cops to catch hotlist vehicles accurately



ITMS violation capturing for not wearing Helmet /Triple Riding



Violation Management & Hotlist Tracking system improved the compliance to traffic rules and reduction in accidents. Its functions include the automatic detection of violation and enforcement, tracking of hotlist vehicles automatically using ANPR without intervention of cops on fields etc.

- **Re-Engineering of Junctions and Stretches i.e** (Closure of un wanted Junctions / Making of U turns / Creating Free Lefts)
- Increased average speed of vehicular traffic by 15 to 20 percent
- **Average Speed increased – Report of Ola Cabs & TSRTC**
- Provided Pedestrian/ Pelican Signals for safety.



Please find below details as requested by you.

Sl. No.	Route Name	Distance (K.M)	Time (Hrs)	Average Speed (K.M/Hr)
1	Hyderabad to Bangalore, Chennai	112.8	1:12	100
2	Hyderabad to Mumbai	112.8	1:12	100
3	Hyderabad to Kolkata	112.8	1:12	100
4	Hyderabad to Delhi	112.8	1:12	100
5	Hyderabad to Jaipur	112.8	1:12	100
6	Hyderabad to Lucknow	112.8	1:12	100
7	Hyderabad to Patna	112.8	1:12	100
8	Hyderabad to Ranchi	112.8	1:12	100
9	Hyderabad to Bhopal	112.8	1:12	100
10	Hyderabad to Varanasi	112.8	1:12	100
11	Hyderabad to Aizawl	112.8	1:12	100
12	Hyderabad to Dispur	112.8	1:12	100
13	Hyderabad to Kohima	112.8	1:12	100
14	Hyderabad to Imphal	112.8	1:12	100
15	Hyderabad to Gangtok	112.8	1:12	100
16	Hyderabad to Shillong	112.8	1:12	100
17	Hyderabad to Dibrugarh	112.8	1:12	100
18	Hyderabad to Jorhat	112.8	1:12	100
19	Hyderabad to Tezpur	112.8	1:12	100
20	Hyderabad to Guwahati	112.8	1:12	100
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46	Hyderabad to Tezpur	112.8	1:12	100
47	Hyderabad to Guwahati	112.8	1:12	100
48	Hyderabad to Dispur	112.8	1:12	100
49	Hyderabad to Kohima	112.8	1:12	100
50	Hyderabad to Imphal	112.8	1:12	100

Thanks & Regards,
Prasad Kumar, C.A.
Manager - Ops & BD
Hyderabad
9546163358
OLA - CAB

OLA Cabs Report



Junction closed



Opened U Turns

CONFIDENTIAL ATTENTION: DIVISION THE OFFICE OF AIRPORTS TRAVELLING TIME OF THE TRAVELLER DIVISION
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14	Hyderabad to Imphal	112.8	1:12	100
15	Hyderabad to Gangtok	112.8	1:12	100
16	Hyderabad to Shillong	112.8	1:12	100
17	Hyderabad to Dibrugarh	112.8	1:12	100
18	Hyderabad to Jorhat	112.8	1:12	100
19	Hyderabad to Tezpur	112.8	1:12	100
20	Hyderabad to Guwahati	112.8	1:12	100
21	Hyderabad to Dispur	112.8	1:12	100
22	Hyderabad to Kohima	112.8	1:12	100
23	Hyderabad to Imphal	112.8	1:12	100
24	Hyderabad to Gangtok	112.8	1:12	100
25	Hyderabad to Shillong	112.8	1:12	100
26	Hyderabad to Dibrugarh	112.8	1:12	100
27	Hyderabad to Jorhat	112.8	1:12	100
28	Hyderabad to Tezpur	112.8	1:12	100
29	Hyderabad to Guwahati	112.8	1:12	100
30	Hyderabad to Dispur	112.8	1:12	100
31	Hyderabad to Kohima	112.8	1:12	100
32	Hyderabad to Imphal	112.8	1:12	100
33	Hyderabad to Gangtok	112.8	1:12	100
34	Hyderabad to Shillong	112.8	1:12	100
35	Hyderabad to Dibrugarh	112.8	1:12	100
36	Hyderabad to Jorhat	112.8	1:12	100
37	Hyderabad to Tezpur	112.8	1:12	100
38	Hyderabad to Guwahati	112.8	1:12	100
39	Hyderabad to Dispur	112.8	1:12	100
40	Hyderabad to Kohima	112.8	1:12	100
41	Hyderabad to Imphal	112.8	1:12	100
42	Hyderabad to Gangtok	112.8	1:12	100
43	Hyderabad to Shillong	112.8	1:12	100
44	Hyderabad to Dibrugarh	112.8	1:12	100
45	Hyderabad to Jorhat	112.8	1:12	100
46	Hyderabad to Tezpur	112.8	1:12	100
47	Hyderabad to Guwahati	112.8	1:12	100
48	Hyderabad to Dispur	112.8	1:12	100
49	Hyderabad to Kohima	112.8	1:12	100
50	Hyderabad to Imphal	112.8	1:12	100

TSRTC Report

PAYMENT SYSTEM

Violators are given option to pay at following Payment gateways.

- E-Seva/Mee seva Centres.
- T Wallet App.
- PAYTM App.
- JIO Money App.
- Net Banking through ICICI, SBI, BillDesk.
- HTP Live Mobile App etc.
- **The compliance is up to 70 %.**



Hyderabad Traffic Police enforcement in a Day (01-03-2021)

Hyderabad Traffic Police enforcement in a Day (01-03-2021)

Sl. No.	Route Name	Distance (K.M)	Time (Hrs)	Average Speed (K.M/Hr)
1	Hyderabad to Bangalore, Chennai	112.8	1:12	100
2	Hyderabad to Mumbai	112.8	1:12	100
3	Hyderabad to Kolkata	112.8	1:12	100
4	Hyderabad to Delhi	112.8	1:12	100
5	Hyderabad to Jaipur	112.8	1:12	100
6	Hyderabad to Lucknow	112.8	1:12	100
7	Hyderabad to Patna	112.8	1:12	100
8	Hyderabad to Ranchi	112.8	1:12	100
9	Hyderabad to Bhopal	112.8	1:12	100
10	Hyderabad to Varanasi	112.8	1:12	100
11	Hyderabad to Aizawl	112.8	1:12	100
12	Hyderabad to Dispur	112.8	1:12	100
13	Hyderabad to Kohima	112.8	1:12	100
14	Hyderabad to Imphal	112.8	1:12	100
15	Hyderabad to Gangtok	112.8	1:12	100
16	Hyderabad to Shillong	112.8	1:12	100
17	Hyderabad to Dibrugarh	112.8	1:12	100
18	Hyderabad to Jorhat	112.8	1:12	100
19	Hyderabad to Tezpur	112.8	1:12	100
20	Hyderabad to Guwahati	112.8	1:12	100
21	Hyderabad to Dispur	112.8	1:12	100
22	Hyderabad to Kohima	112.8	1:12	100
23	Hyderabad to Imphal	112.8	1:12	100
24	Hyderabad to Gangtok	112.8	1:12	100
25	Hyderabad to Shillong	112.8	1:12	100
26	Hyderabad to Dibrugarh	112.8	1:12	100
27	Hyderabad to Jorhat	112.8	1:12	100
28	Hyderabad to Tezpur	112.8	1:12	100
29	Hyderabad to Guwahati	112.8	1:12	100
30	Hyderabad to Dispur	112.8	1:12	100
31	Hyderabad to Kohima	112.8	1:12	100
32	Hyderabad to Imphal	112.8	1:12	100
33	Hyderabad to Gangtok	112.8	1:12	100
34	Hyderabad to Shillong	112.8	1:12	100
35	Hyderabad to Dibrugarh	112.8	1:12	100
36	Hyderabad to Jorhat	112.8	1:12	100
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40	Hyderabad to Kohima	112.8	1:12	100
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43	Hyderabad to Shillong	112.8	1:12	100
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45	Hyderabad to Jorhat	112.8	1:12	100
46	Hyderabad to Tezpur	112.8	1:12	100
47	Hyderabad to Guwahati	112.8	1:12	100
48	Hyderabad to Dispur	112.8	1:12	100
49	Hyderabad to Kohima	112.8	1:12	100
50	Hyderabad to Imphal	112.8	1:12	100

Total. Booked Cases 25,212

In a day Payment made by the defaulters through various Gateways

Rs. 51,82,355

Integrated E-Challan System of Telangana State

- Expanded to entire Telangana State.
- Cashless and evidence based Echallan system.
- Implementing in the (9) Commissionerates and (18) Districts.
- Monitoring by Hyderabad Traffic Police
- Central Server At Hyderabad C.P. Office

Telangana Traffic enforcement in a Day (01-03-2021)

TS Police Traffic Management Enforcement Data - 01-MAR-2021															
Enforcement															
Click on the Unit Name for PS wise Detailed Report															
S.No	Unit Name	Camera	Lower Ban	SCMC	Social N/W	ITWB	Crime	Spot	Charge Sheet	DD	IRIS	Non Contact %	Contact %	TOTAL	% of Total Booked
1	Hyderabad	13625	375	1163	140	3389	188	2891	0	74	84	83%	17%	25212	38%
2	Cyberabad	13980	1089	1878	110	133	31	2352	105	171	0	88%	12%	18846	27%
3	Nachikonda	9740	238	0	0	136	136	0	84	12	0	88%	14%	880	1%
4	Karimnagar	3364	872	0	0	0	40	403	0	40	0	80%	14%	830	1%
5	Narayanpet	1764	474	0	0	0	124	0	30	0	0	84%	16%	384	0%
6	Khammam	1040	0	0	0	0	0	0	0	0	0	80%	4%	147	0%
7	Nalgonda	750	160	0	0	0	0	147	0	30	0	70%	30%	137	0%
8	Karimnagar	670	237	0	0	0	40	295	0	17	0	67%	33%	104	0%
9	Shudhal Kolligudem	1175	0	0	0	0	0	0	0	0	0	80%	0%	107	0%
10	Kolligudem	650	490	0	0	0	15	125	0	4	0	88%	12%	134	0%
11	Narayanpet	144	16	0	0	0	1	295	0	1	0	48%	52%	67	0%
12	Jogtla	460	16	0	0	0	1	150	0	0	0	87%	13%	34	0%
13	Narayanpet	471	46	0	0	0	0	174	0	0	0	70%	30%	70	0%
14	Kamareddy	452	46	0	0	0	1	175	0	4	0	48%	52%	68	0%
15	Nalgonda District	517	46	0	0	0	1	145	0	0	0	81%	19%	67	0%
16	Kolligudem	432	34	0	0	0	1	147	0	0	0	70%	30%	64	0%
17	Hyderabad	444	30	0	0	0	1	142	0	7	0	81%	19%	60	0%
18	Nalgonda District	240	107	0	0	0	1	110	0	14	0	74%	26%	30	0%
19	Khammam	421	20	0	0	0	0	0	0	7	0	88%	12%	40	0%
20	Madhwal	424	0	0	0	0	0	11	0	7	0	90%	10%	40	0%
21	Madhwal	321	0	0	0	0	0	0	0	4	0	70%	30%	40	0%
22	Jogtla District	138	122	0	0	0	0	0	0	0	0	70%	30%	30	0%
23	Narayanpet	100	37	0	0	0	0	16	0	1	0	81%	19%	30	0%
24	Madhwal	142	0	0	0	0	0	0	0	7	0	87%	13%	34	0%
25	Kamareddy District	84	0	0	0	0	0	107	0	4	0	27%	73%	20	0%
26	Narayanpet	764	0	0	0	0	0	42	0	0	0	70%	30%	24	0%
27	Narayanpet	80	40	0	0	0	0	16	0	0	0	83%	17%	24	0%
28	Jogtla District	14	0	0	0	0	0	0	0	1	0	48%	52%	10	0%
29	Madhwal	0	0	0	0	0	0	0	0	1	0	8%	92%	0	0%
TOTAL		8884	424	257	207	3441	161	888	101	84	86	84%	16%	12617	

Total. Booked Cases 72,631

In a day Payment made by the defaulters through various Gateways in the Telangana on 01-03-2021

S.No.	Unit Name	Tollfree		Viva		Bilbo		Rg/W		KDD		BB		Other Gateways		TOTAL	% of Total Paid
		Case	Amount	Case	Amount	Case	Amount	Case	Amount	Case	Amount	Case	Amount	Case	Amount		
1	Hyderabad	13625	28189	284	2844	436	11014	824	22470	329	2188	1076	45133	285	11136	2844	38%
2	Cyberabad	13980	1688	1688	62710	307	17514	484	18471	144	17148	164	47136	22	1244	1678	23%
3	Nachikonda	9740	714	0	0	0	0	0	0	0	0	0	0	12	234	474	5%
4	Karimnagar	3364	24	0	0	0	0	0	0	0	0	0	0	12	107	140	2%
5	Narayanpet	1764	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
6	Khammam	1040	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
7	Nalgonda	750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
8	Karimnagar	670	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
9	Madhwal Kolligudem	1175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
10	Kolligudem	650	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
11	Narayanpet	144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
12	Jogtla	460	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
13	Narayanpet	471	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
14	Kamareddy	452	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
15	Nalgonda District	517	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
16	Kolligudem	432	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
17	Hyderabad	444	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
18	Nalgonda District	240	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
19	Khammam	421	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
20	Madhwal	424	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
21	Madhwal	321	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
22	Jogtla District	138	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
23	Narayanpet	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
24	Madhwal	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
25	Kamareddy District	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
26	Narayanpet	764	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
27	Narayanpet	80	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
28	Jogtla District	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
29	Madhwal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0%
TOTAL		8884	16189	747	2844	1678	17148	1678	47136	329	2188	1076	45133	285	11136	2844	38%

Rs. 1,95,46,470

On 01-03-2021 Charge sheets filed against DD Cases and Other Cases and Court Disposal in the Telangana

S.No.	Unit Name	Only Fine		Fine & Imprison		Only Imprison		Fine & Bailing		Fine, Bailing & Social Service		D. Suspension & Fine		D. Cancel & Fine		D. Suspension & Imprison		TOTAL
		Case	Amount	Case	Amount	Case	Amount	Case	Amount	Case	Amount	Case	Amount	Case	Amount	Case	Amount	
1	Nachikonda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	Narayanpet	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Kamareddy District	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Nalgonda	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	Kamareddy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6	Kolligudem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Madhwal Kolligudem	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Totalcases 102

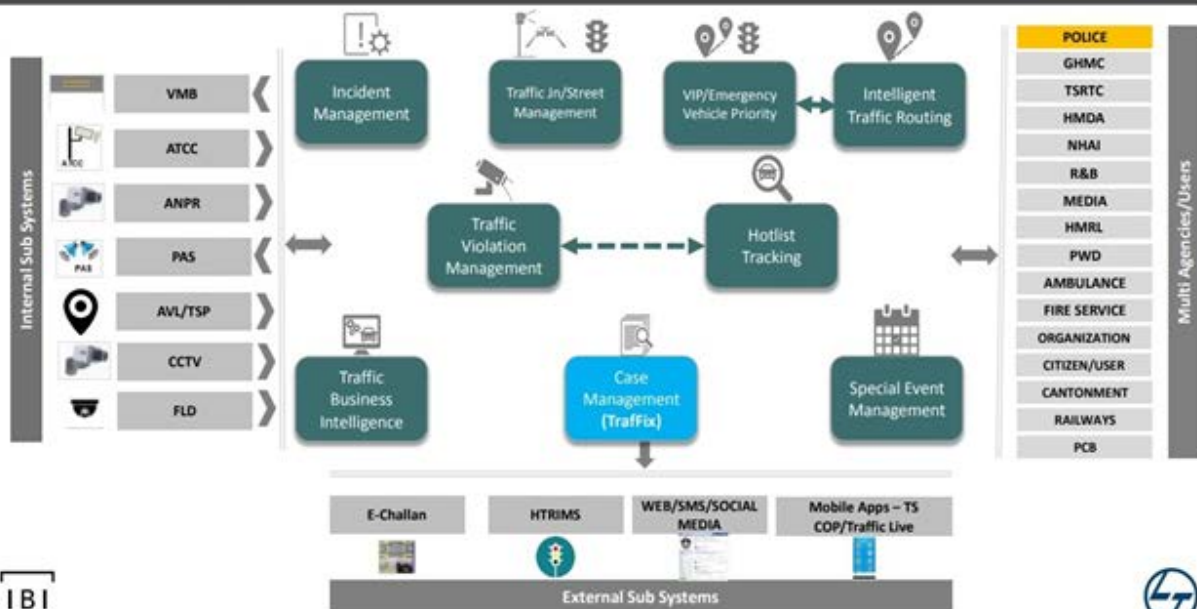
ITMS Objectives



IBI

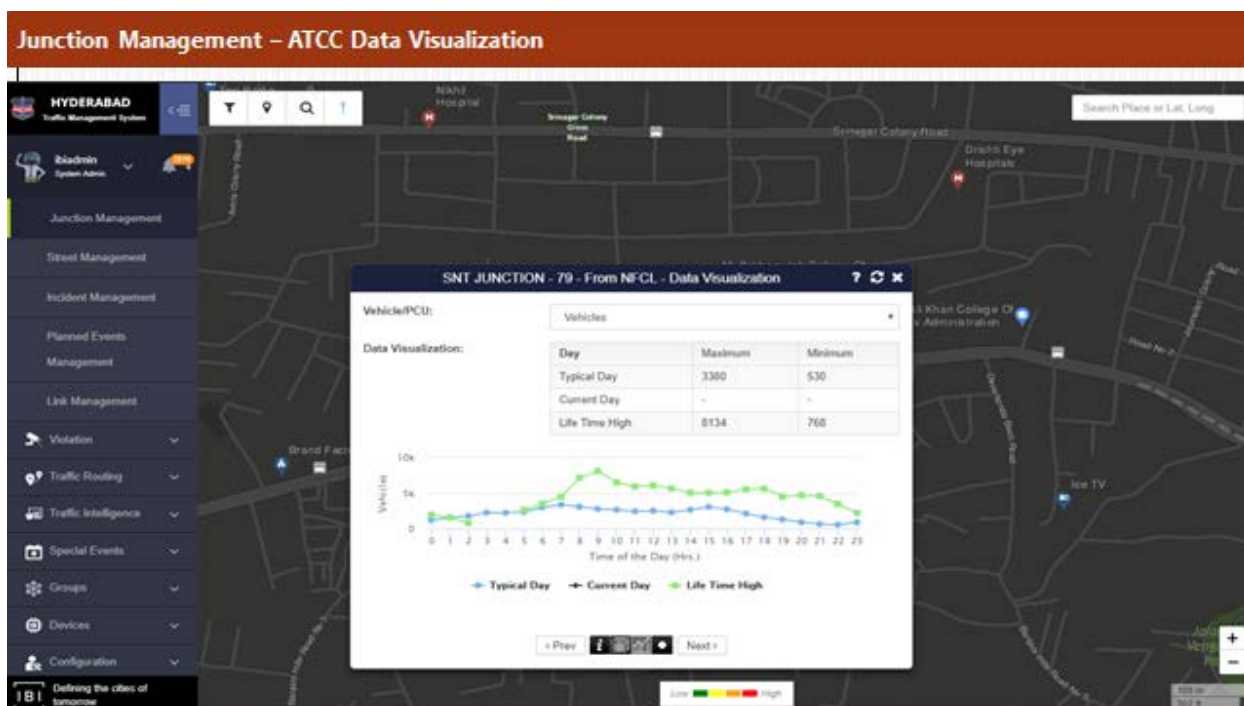


ITMS Architecture



IBI





Module 4: Intelligent Traffic Routing

Goal 1: Reliable & Best Travel Time

- Travel time guidance to road users on alternative Travel Time
- VIP/Emergency Vehicle Priority

Goal 3: Cop-less Junction

- Automatic routing of road users through VMB/PAS without involvement of cops

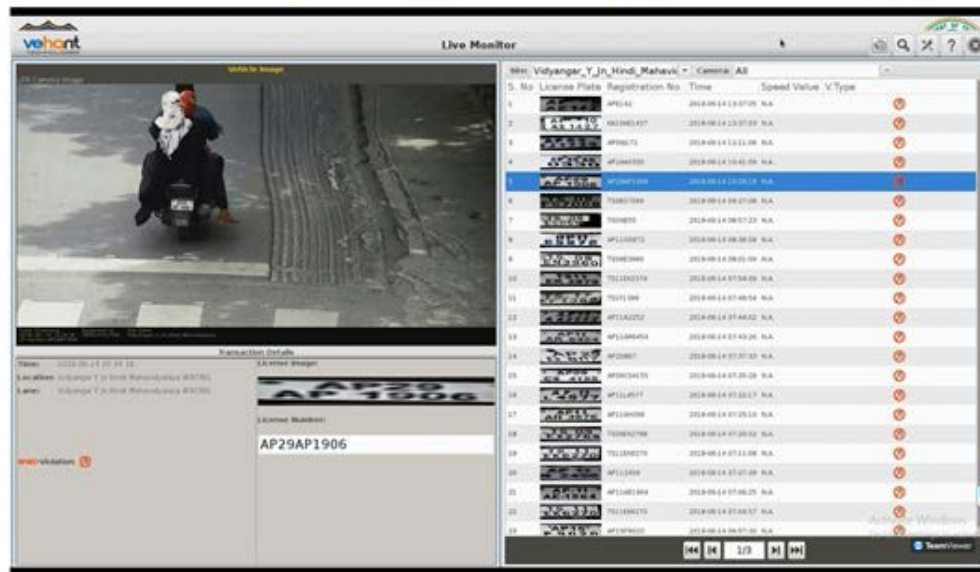
Goal 4: Road User Engagement

- Improved reliability and road user decision making



Suggested Messages		
Sign	Current	Response Message
VMS-17	No message	Accident on [Empty] at [Empty] expect [Empty]

ITMS violation capturing for Wrong Side Driving



42

TRAFFIC COMMAND CONTROL (TCC)

HYDERABAD TRAFFIC POLICE
Enforcement & Payments Report
for the Day :02-AUG-2018

CAMERA : 8728
LASERGUN : 116
SCMC : 1661
SOCIAL N/W : 2
TAB CASES : 2077
CRANE : 772
SPOT CHARGESHEET : 93
DRUNK DRIVE : 98
39(b) CP-ACT : 36
GHMC : 1

Total Imposed Cases : 13584

E-SEVA : 2999
PAYTM : 2441
BILL DESK : 1929
TSOLINE : 1718
ICICI TECH PROCESS : 509
T-WALLET : 108
CMPD BOOTH : 106
COURT : 84
TAB PAYMENT : 11
MOBILE PAYMENTS : 3

Total Paid Cases : 9908
Collected Amount : 2064045



- Surveillance Camera Monitoring Center (SCMC)
- Automated Traffic Management.
- Non Contact Enforcement.
- Traffic Live Updates to the Commuters.

43

Sh. Reddy concludes his presentation by describing that technology is the revolution and it changed the Positive Approach and Feedback by the Citizens. Reduced the Travel Time and achieved the Goal, Improved more Compliance and Road Discipline. It changed the behaviour of Police with the Commuters and drastically reduced the Accidents.

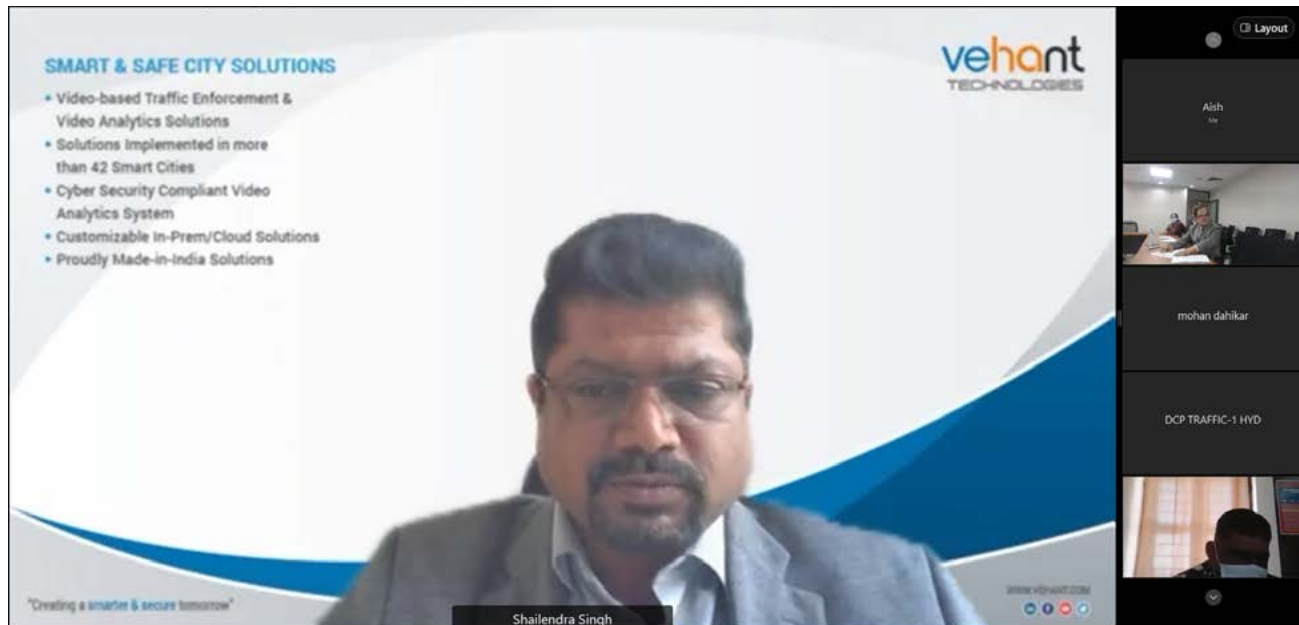
He ended his talk by Q&A session.



Session 3

Sh. Shailendra Singh
AVP, Vehant Technologies, U.P.

Topic- Latest Trends & Technologies for Traffic Enforcement



The last speaker Sh. Shailendra Singh while delivering the talk to the participants during the webinar described the importance of Traffic Enforcement and why it is required?

He informed that in India, 17 deaths are recorded in every hour and in many mega cities like Chennai and Delhi, the situation is more concerning. Over speeding driving is most common cause of road fatality in India and wrong side driving is not less reason of road fatalities behind it.

In every 100 crashes in Indian cities, 37 deaths are recorded. The instances of road accidents and deaths increased in 2018 in compare to 2017. Over-speeding is the major reason for the maximum road accidents fatalities. There are other main reasons of fatalities including driving wrong side, no seat belt, no helmet, driving while using phones, drunken driving etc. This data has been drastically increased since 2015.

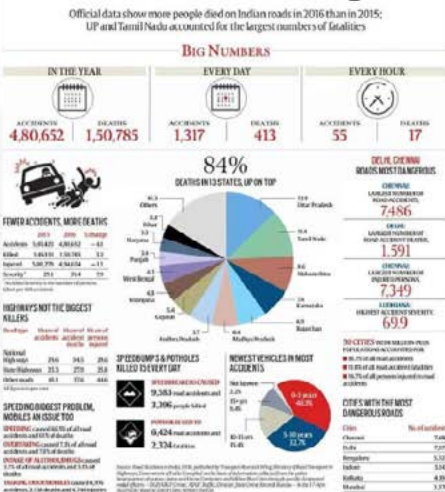
As per the report published by the Road Safety Lead Agency (RSLA) of the state transport department in collaboration with the Bloomberg Philanthropies Initiative for Global Road Safety (BIGRS), Studies and road redesign efforts taken up in the past have proven that crashes are preventable and such evidence based reports will help us take corrective steps to reduce crashes on Delhi roads, 51%

of all fatal accidents in 2020 were hit-and-run cases Pedestrians, motorcyclists and cyclists accounted for 89% deaths.

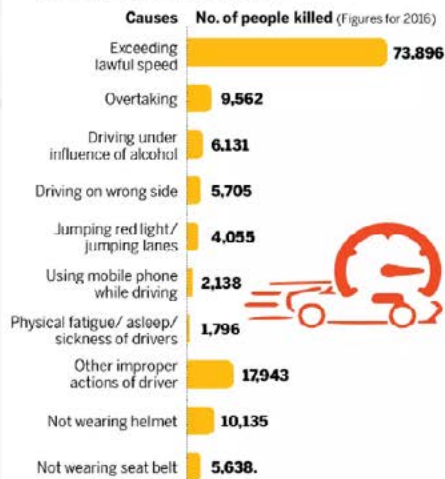
Traffic Law Enforcement, Road Accidents & Challenges

ROAD ACCIDENTS IN INDIA, 2016

17 deaths on India's roads every hour, Chennai and Delhi most dangerous



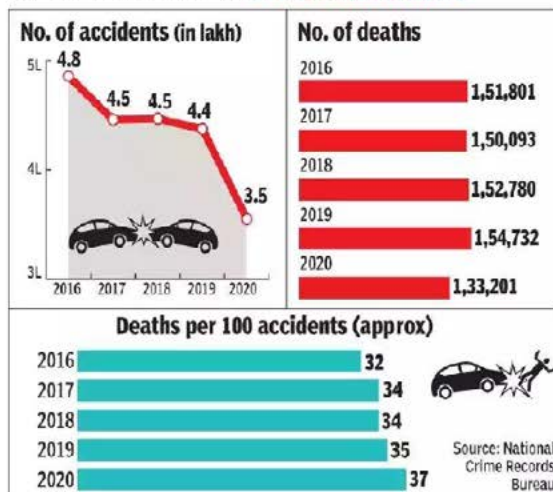
OVERSPEEDING THE LEADING KILLER ON INDIAN ROADS



Source: Ministry of Road Transport and Highways

Traffic Law Enforcement, Road Accidents & Challenges

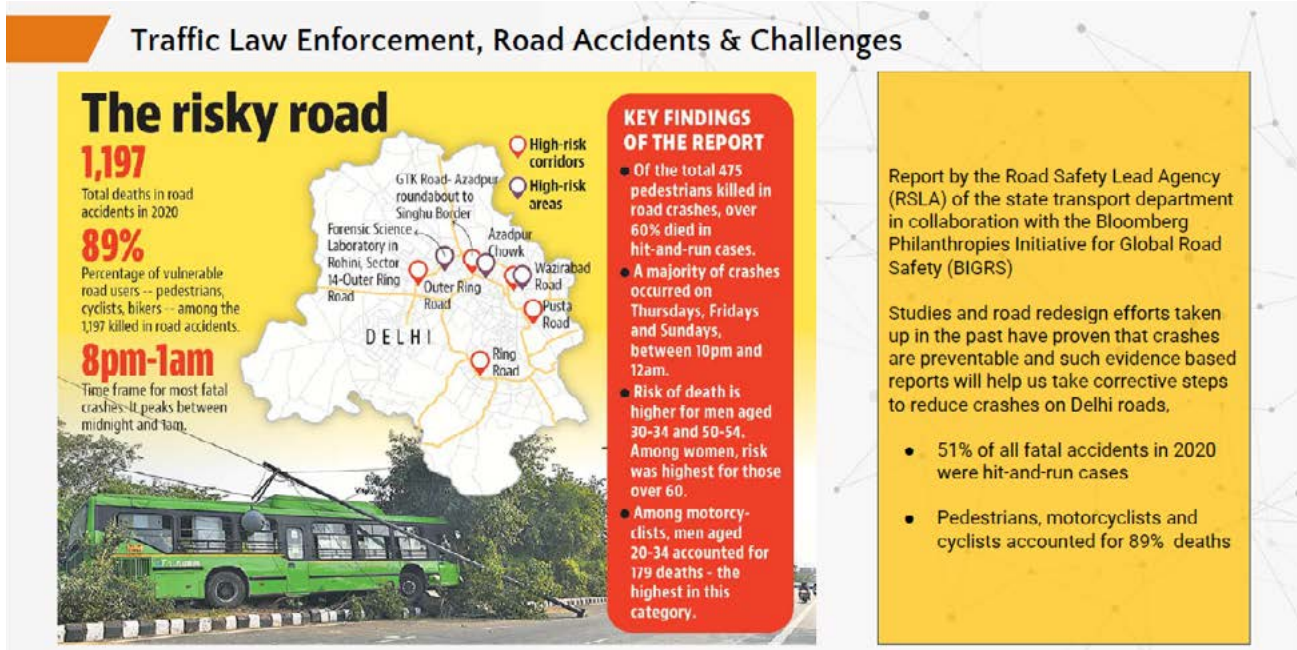
37 DEATHS PER 100 CRASHES



Speed hazards

Instances of road accidents and deaths increased in 2018 compared to 2017. Over-speeding was the reason for the maximum road-accident fatalities





Sh. Shailendra Singh further described that there are numerous challenges to mitigate these fatalities. The first one is Functional Challenge that covers following: -

- Road Accidents
- Ignorant & Indiscipline Driving
- Willful violation of traffic laws
- Traffic Congestion
- Increased Pollution Level due to slower & stopped traffic
- Increased Fuel wastage & Travel Time

Second one is Operational Challenge that includes: -

- Manual methods for law enforcement
- Huge Human resources required for traffic enforcement as well as management
- Lack of evidences in case of manual challaning to offenders
- Decentralized System
- 3rdparty Database/ Application Integration

There is a requirement of AI based Intelligent Traffic Enforcement System.



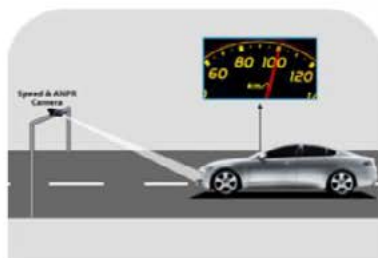
The use of Artificial Intelligence (AI) and Intelligent Traffic Management System (ITMS) can help tackle & solve many such issues related to traffic law enforcement. It can facilitate a smooth, convenient & safer experience for commuters by improving road traffic discipline. Such a system cannot only help law enforcement agencies in penalizing the offenders but can act as a deterrent as well.

ITMS is an AI based application coupled with cameras installed at the traffic junctions, which provide a tool to detect and recognize vehicles disobeying traffic regulations and generate real-time alerts at the Central Command Center. It can automatically generate the challan for the traffic offenders as per law of particular area and can send it electronically to the violators.

Each e-challan is associated with supporting evidence data in terms of snapshots & videos. This system can also track the flow and pace of traffic movement to give real-time traffic management.

Also, based on the data received from these installed cameras, an adaptive traffic-control system alters traffic signal cycles in real-time to respond to changing traffic conditions. Also, by combining new communications technology with the power of artificial intelligence (AI) to crunch vast amounts of data in real-time it may be possible to ease our clogged roads so they can cope with the growing number of cars.

Solution Portfolio | Traffic Enforcement & Management Systems

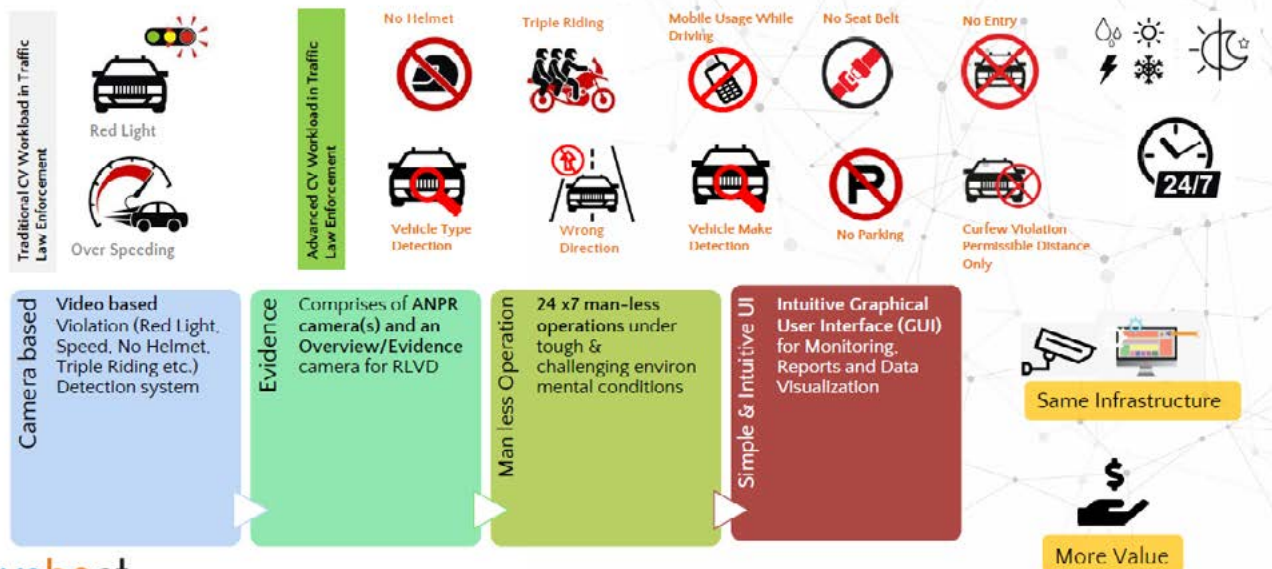


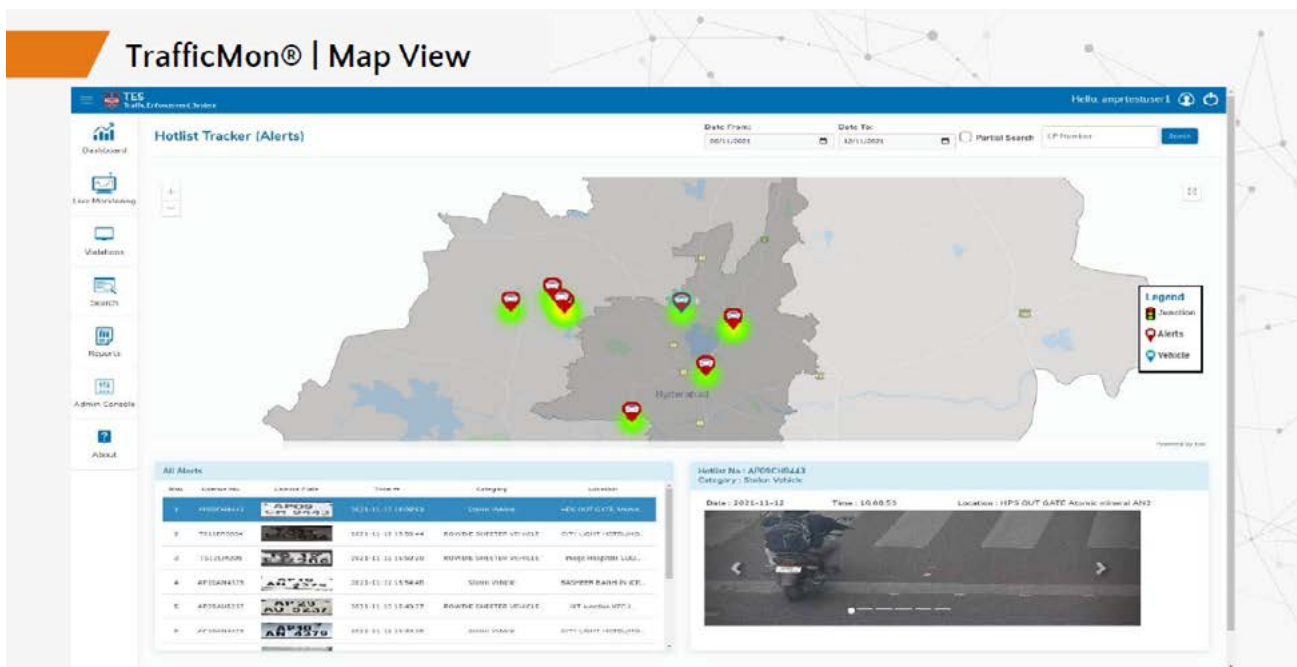
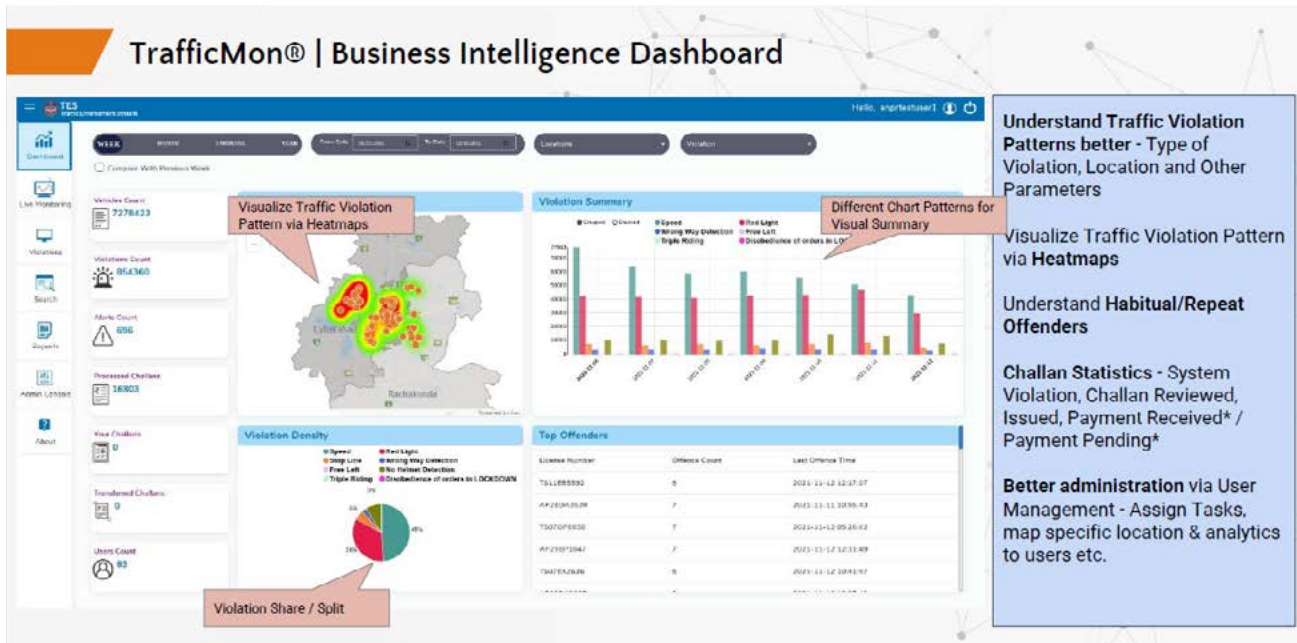
TrafficMon®
AI based Traffic Enforcement System



TrafScan®
AI based Vehicle Detection System

TrafficMon® | Intelligent Traffic Enforcement Solutions







Traffic Violation – Technologies and Enforcement

TrafficMon® | Violation Detailed View

Violation ID	Plate No.	Time	Location	Violation Type	Status
47126	AP 28 U 8689	2021-09-04 17:11:55	Gandhinagar Road Mayapuri, New Delhi	Wrong Way Driving	New
47127	DL 25 AB 1234	2021-09-04 17:11:59	Mehra Road, Connaught Place, New Delhi	Wrong Way Driving	New
47128	DL 25 AB 1234	2021-09-04 17:12:01	Kirti Nagar, Mayapuri, New Delhi	Red Light	New
47129	DL 25 AB 1234	2021-09-04 17:12:01	Kirti Nagar, Mayapuri, New Delhi	Red Light	New
47130	DL 25 AB 1234	2021-09-04 17:12:04	Gandhinagar Road Mayapuri, New Delhi	Wrong Way Driving	New
47131	DL 25 AB 1234	2021-09-04 17:12:04	Kirti Nagar, Mayapuri, New Delhi	Red Light	New
47132	DL 25 AB 1234	2021-09-04 17:12:04	Kirti Nagar, Mayapuri, New Delhi	Red Light	New
47133	DL 25 AB 1234	2021-09-04 17:12:05	CITY LIGHT HOTEL (MIDNIGHT MARKET), New Delhi	Red Light	New

In addition to improving traffic conditions, ITMS also contributes in making smart and safe city goals like environmental sustainability. To improve traffic behavior & avoid jams in a city, Traffic management & enforcement system can be deployed to solve traffic-related issues, including but not limited to – Automated Number Plate Reading, Red Light Violation Detection, Speed Violation Detection, Triple Riding & No Helmet Detection, Free Left Turn Obstruction, Wrong-Way Driving, No Seat Belt & Mobile phone usage while driving, Hot listed vehicle detection, Traffic Flow & Congestion detection etc.

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Zone Configuration

- Site Name : Delhi South
 - Junction - 1 : Govindpuri Metro
 - Camera - 1 : 192.168.2.10
 - Zone 1 : 2001
 - Zone 2 : 2002
 - Zone 3 : 2003
 - Camera - 2 : 192.168.2.18
 - Zone 1 : 2001
 - Zone 2 : 2002
 - Camera - 3 : 192.168.2.04
 - Zone 1 : 2001
 - Zone 2 : 2002
 - Camera - 4 : 192.168.2.04
 - Zone 1 : 2001
 - Zone 2 : 2002
- Site Name : Delhi North

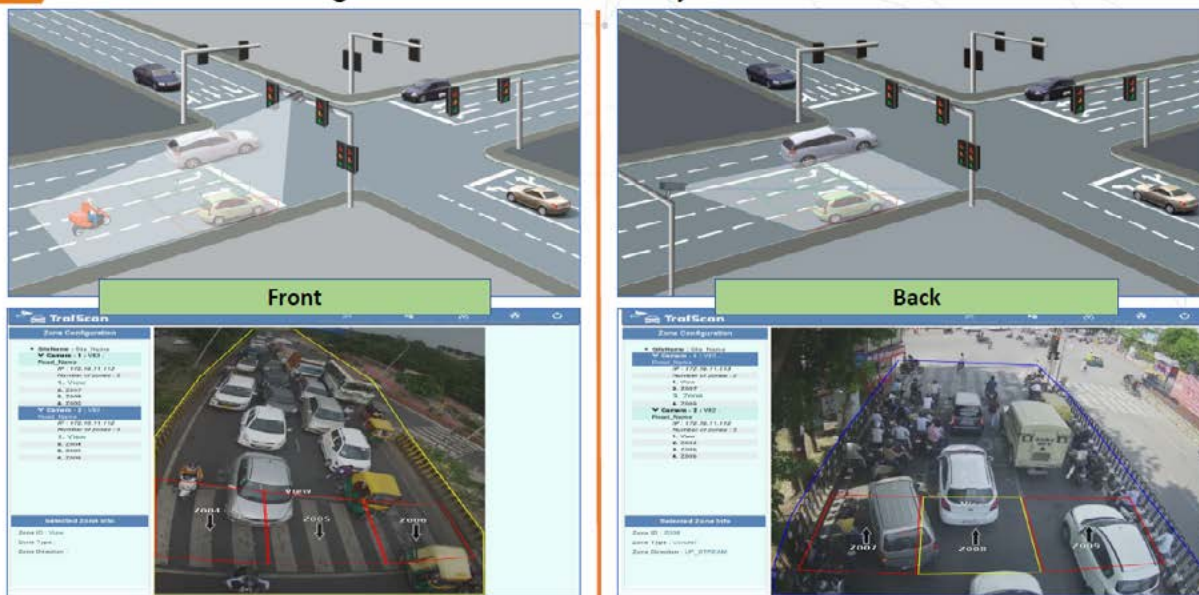
Selected Zone info

Site Name : Delhi South
Junction : Govindpuri Metro
Camera : 192.168.2.10
Zone ID : 2001
Zone Type : Vehicle Presence Detection
Zone Direction : Up-stream

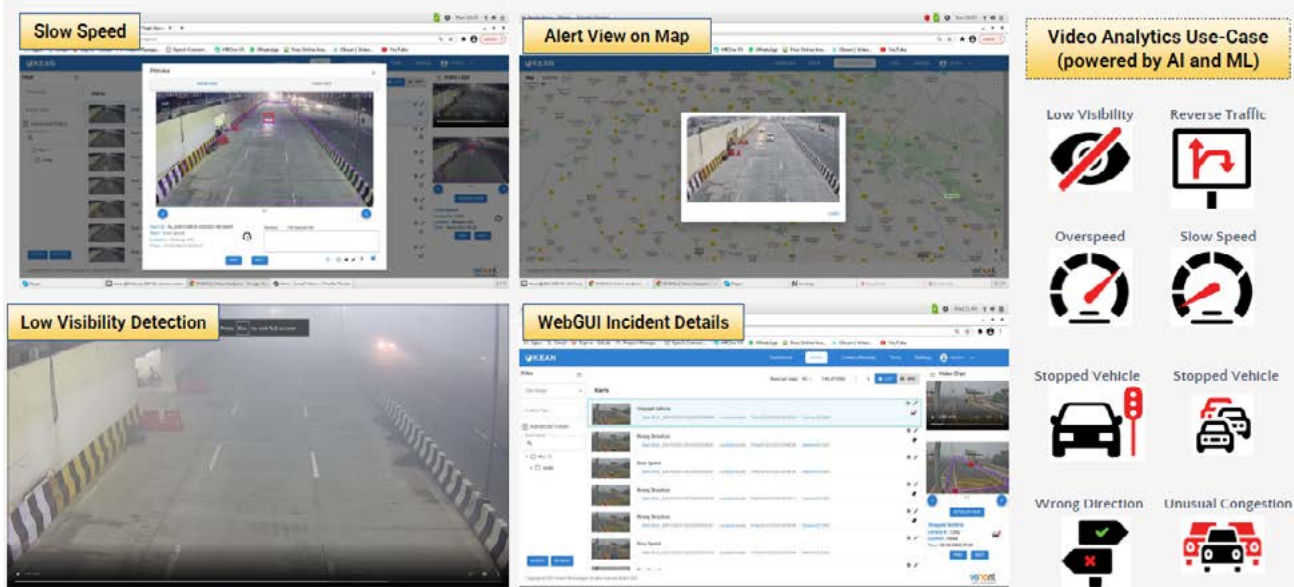
ID: 2001 Type: ☒ Vehicle Presence Detection ☒ Vehicle Count Direction: Up-stream Save

Add Zone Edit Zone Delete Zone

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Video Incident Detection System



Such an ITMS system can be integrated with the existing CCTV & Traffic Control system to provide a holistic solution to prevent the current traffic menace. Not only this, various AI-based traffic analytics can be deployed over existing Traffic enforcement and surveillance system also, with minor tweaking & adjustments, resulting in a highly optimized solution at a lower cost to the public exchequer.

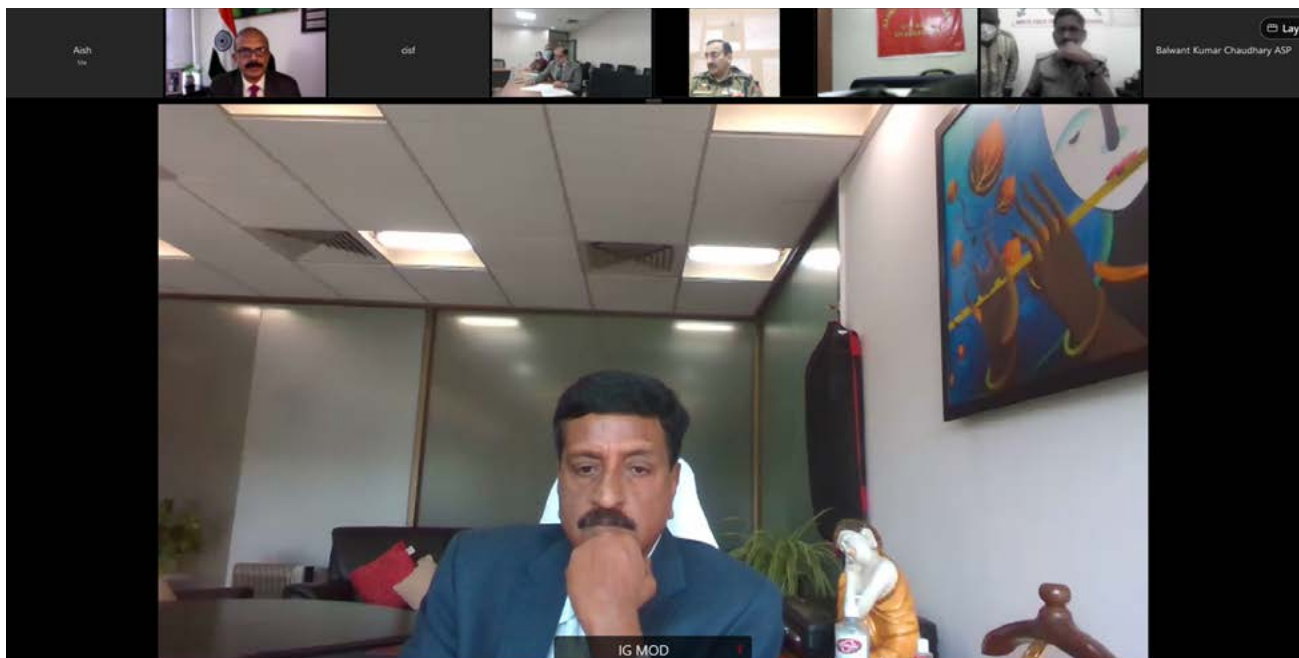


Impact of Traffic Enforcement & Management Solutions include smooth & disciplined traffic movement, improve traffic regulations compliance, reduce road accidents, fatalities & injuries, reduce fuel wastage on roads due to heavy traffic jams & congestion, reduce air & noise pollution and support LEAs.

Hence, in today's scenario, an Integrated & Intelligent Traffic Management system is surely a big idea, for not only improving traffic on urban roads & reduce mental agony of commuters but also save human lives due to road fatalities.

Sh. Shailendra Singh's talk ended with a brief session of open Q&A.

Dr. Karuna Sagar, IPS Director of the Modernization Division gave vote of thanks to DG, ADG, Speakers and to all the participants for the Webinar.



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