

Mumbai-Pune Expressway achieves historic milestone: Zero Fatality Corridor Initiative delivers 58% decline in Road Crash deaths

Mumbai, India, 22nd February 2024: The Zero Fatality Corridor, a joint initiative of the Maharashtra State Road Development Corporation (MSRDC), SaveLIFE Foundation, Maharashtra Highway Police (HSP), Maharashtra Motor Vehicle Department and supported by SBI General Insurance, has led to an unprecedented 58.3% reduction in road crash fatalities on the Mumbai-Pune Expressway (MPEW) since 2016, and 32% since 2022, marking a significant stride towards a safer and more secure roadway.

Guided by the Vision Zero philosophy, MSRDC and SaveLIFE Foundation embarked on a mission to create a scalable and replicable national model to reduce road crash deaths across India. The transformative initiative, supported by SBI General Insurance, focuses on comprehensive interventions spanning the 5Es of Road Safety – Enactment, Engineering, Enforcement, Emergency Care, and Engagement.

Key Impact: 58.3% Decline in Road Crash Deaths

Since the launch of the Zero Fatality Corridor initiative for the Mumbai-Pune Expressway in 2016, there has been a marked decline in road crash deaths.

Once infamous for recording 151 deaths in 2016, roughly 3 deaths every 2 km, compared to the 2016 national average of 1 death per 2 km, the expressway earned the distinction of being one of the deadliest expressways in the country.

The Zero Fatality Corridor initiative was launched soon after with a mission to drastically cut road deaths on the expressway. Under the initiative, hundreds of interventions have been undertaken across road engineering, traffic enforcement, trauma care and road-user engagement. These include:

Over 3,500 **engineering** issues were treated. Such as:

- Installation of over 176 km of crash barriers

- Implementation of 200 km of Tactile Edge Line and 3 km of Tactile Shoulder Lines
- Treatment of 29 Construction Zones
- Closure of over 80 median openings
- Treatment of 1 Emergency median opening at km 26.6 and addressing an emerging black spot at km 82.7

To enhance the traffic **enforcement measures**:

- 2 Smart Patrolling vehicles were deployed with a focus on crash prevention
- Training was provided to HSP (Highway Safety Patrol) in speed and lane enforcement
- Enforcement drives were conducted by RTO and HSP during day and night, targeting speeding, lane violation, seat belt usage, and illegal parking
- Installation of 1 Vehicle Activated Speed Sign (VASS)
- 2 Speed Traps and 3 Actively Relocatable Speed traps were placed
- Enforcement of rear seat belt usage at 2 expressway toll plazas
- 500+ Forensic Crash Investigations were undertaken
- Advocated for, and provided technical inputs towards, the deployment of an Intelligent Traffic Management System (ITMS)

To strengthen **emergency care** and medical assistance on the expressway:

- The number of ambulances was increased from 2 to 8
- 3 ambulances were upgraded for improved medical response
- Trained 1700+ police personnel and volunteers in Basic Trauma Life Support (BTLS) for enhanced emergency care skills

To address critical aspects of road safety and engage road users:

- 7 awareness campaigns focused on issues such as speeding, rear-end collisions, and the importance of rear seat-belt usage
- Played audio messages in 5 languages at Toll Plazas to effectively communicate safety messages to road users
- 2,500 truck drivers were trained in crash prevention skills, contributing to safer driving practices on the expressway

- Conducted training programs for 90 police and RTO officers, to enhance their skills in effective patrolling
- Organized training sessions for 27 engineers, police, and RTO officers, focusing on construction zone treatments to ensure safer infrastructure and road management

As a result of these interventions, the Mumbai-Pune Expressway witnessed a 58.3% decline in road crash deaths from 151 fatalities in 2016 to 63 fatalities (from 56 fatal crashes) up until 31st December, 2023.

Road Assessment Survey: Addressing Root Causes

In 2016, forensic investigation of crashes and detailed audits were commissioned by SaveLIFE Foundation and MSRDC. Consequently, 15 engineering risk factors were identified on the Mumbai Pune Expressway. Object impact due to roadside structures was the most prominent contributing factor leading to the maximum number of fatalities. This was followed by issues such as parked vehicles, leading to rear-end collisions and roadside steep slope/drop off.

During the course of the project, more than 55,000 parked or stalled vehicles were either cordoned off or moved by SaveLIFE Foundation's smart patrolling vehicle, thus preventing potential rear-end crashes on the expressway.

As a result of dedicated interventions in engineering and infrastructure, the overall fatalities have reduced on the stretch. For instance, engineering risk factors such as roadside steep slope/drop off, gaps in the median, vision obstruction, etc., that contributed to a high number of fatalities on the stretch have been completely eliminated as contributing factors in 2023.

Time of Occurrence of Fatal Crashes: Insights for Targeted Interventions

A temporal variation analysis was undertaken by SaveLIFE Foundation to gauge the time zones that were critical from a safety perspective. Understanding the time of occurrence of fatal crashes was crucial for targeted interventions. For instance, the data for 2023 revealed that the highest number of fatal crashes occurred during the early morning hours between 03:00 am and 6:00 am, accounting for approximately 25% of all fatal crashes.

Additionally, the night-time period from 9:00 pm to 6:00 am, spanning 9 hours, accounted for 52.7% of fatal crashes.

Multi-Stakeholder Meetings: A Collaborative Approach

A cornerstone of the Zero Fatality Corridor initiative has been the creation of a steering mechanism that convened all concerned agencies on a single platform. The multi-stakeholder meetings undertaken were attended by the leadership of various departments, including MSRDC, HSP, and the Transport Department. 12 such meetings were conducted in 2023. These meetings facilitated critical discussions, decisions, and action plans, leading to impactful commitments such as achieving a 'Zero Fatality Month' in February 2023.

“The Mumbai-Pune Expressway has seen a 58% reduction in road crash fatalities since 2016 and 32% since 2022. This is the result of the multi-agency collaborative approach of the programme. The success seen on this expressway has encouraged authorities across India to replicate this effort to save lives.” said Piyush Tewari, Founder and CEO, SaveLIFE Foundation.

“By scientifically understanding the causes of road crash fatalities, over 3,500 road engineering issues were fixed, enforcement was strengthened by police and RTOs, ambulance placement was optimized, and extensive campaigns were undertaken to educate road users commuting on the expressway,” said Tewari.

“Most importantly, monthly reviews of the programme were undertaken by MSRDC, the Maharashtra Highway Police, and the Transport Department along with SaveLIFE Foundation to ensure complete alignment and synergy in ensuring that lives can be saved. The result is a testament to the fact that road crash fatalities can be significantly reduced across the state of Maharashtra and the country by taking a concerted and coordinated approach to understanding and resolving road safety issues,” said Tewari.

MSRDC Vice Chairman and Managing Director, Dr Anil Kumar Gaikwad said, “Every fatality on the expressway is a matter of grave concern for MSRDC. We will leave no stone unturned to ensure we achieve zero deaths on this crucial link between Mumbai and Pune. MSRDC has implemented various safety

measures on the Mumbai-Pune Expressway and this has resulted in the elimination of various types of crashes like run-off crashes, object impact crashes, head-on crashes, and poor visibility related crashes. Effort to achieve zero fatalities on the expressway is ongoing and MSRDC is fully committed to achieve this ambitious goal."

"At SBI General Insurance, we have consistently undertaken initiatives with a focus on road safety, as it has been one of our key focus areas under our CSR projects. Through our partnership with SaveLIFE Foundation on the 'Surakshit Sadakein, Surakshit Bharat' initiative, the project has resulted in a remarkable 58.3% reduction in road crash fatalities on Mumbai-Pune Expressway. Road Safety has always been of utmost importance to us, and we are committed towards making a significant impact on it. With the zero fatality corridor model, we are witnessing transformative changes on the roads, and we are honored to play a role in this journey. Together, we can transform these crash-prone highways into safer, Zero-Fatality Corridors." said Mr. Kishore Kumar Poludasu, MD & CEO, SBI General Insurance.

Combating Violations Effectively

The Zero Fatality Corridor initiative employed a focused enforcement action plan, speed cameras, and vehicle-activated speed signs to combat violations that led to road crash fatalities. Speed traps on the Mumbai-Pune Expressway have issued 13,16,512 challans since their installation in July 2020. In 2023 alone, 2,17,089 challans were issued.

Timely Response for Increased Survival Rates

Since the inception of the project, the expressway's ambulance fleet has expanded from 2 to 8, resulting in faster response times. Optimized ambulance placement, guided by crash and fatality data, has further contributed to improved emergency response on the expressway.

Fostering Awareness and Safe Practices

To raise awareness among the public, more than 5 public awareness and education campaigns have been conducted via outdoor and radio on the Mumbai-Pune Expressway since 2018. Outdoor campaigns, including billboards, bridge boards and unipoles, addressed issues such as speed limits

in ghat sections, improper stoppages, driving in gear and wrong-side overtaking. Radio campaigns on issues related to the expressway were aired by FM channels (RedFM 93.5 and BigFM 92.7).

SaveLIFE Foundation organized extensive training initiatives, including Basic Trauma Life Support (BTLS), for more than 851 personnel. The aim was to equip them with the skills needed to deliver prompt emergency care following a crash. In addition, the program included anticipatory driver training (ADAPT), benefiting over 241 truck drivers. Drivers who underwent this training reported zero fatal crashes, underscoring the effectiveness of the program in enhancing road safety.

A Blueprint for National Road Safety

The success of the Zero Fatality Corridor initiative on the Mumbai-Pune Expressway would not have been possible without the steadfast support of SBI General Insurance, Maharashtra State Road Development Corporation (MSRDC) and Maharashtra Highway Police (HSP). Their commitment to road safety and collaborative efforts have played a pivotal role in achieving these remarkable results.

The Mumbai-Pune Expressway's transformation into a Zero Fatality Corridor stands as a testament to the efficacy of a holistic and collaborative approach to road safety. The success of this initiative provides a replicable model for enhancing road safety across India, saving lives, and ensuring safer journeys for all road users.