



Road Safety Solutions

Presented by – Sushaant Pahalwan



ORAFOL INDIA



\$1.2 B
Global Sales



2500+
Talented Minds

100
Countries

7
Business Groups

14
Registered Brands

€160 M
Investment in research and
expansion

ORAFOL India | www.orafol.com



ORAFOL Europe

COMPANY MILESTONES

● 1808

The founding history of ORAFOL Europe GmbH dates to the year 1808



● 1919

The company relocates to Oranienburg in Brandenburg from Berlin



● 1960

The first self-adhesive reflective vinyl for traffic signs are produced



● 1976

The first self-adhesive graphics products are manufactured



● 2005

ORAFOL USA production facility started in Black Creek



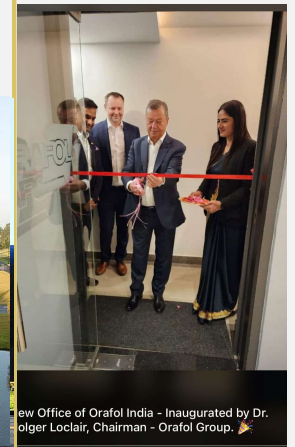
● 2011

The ORAFOL Group acquires the Reflexite Corporation, USA



● 2019

Foundation of ORAFOL India Pvt. Ltd. in Delhi, India



New Office of Orafol India - Inaugurated by Dr. Colger Loclair, Chairman - Orafol Group.



ORAFOL India

Established in 2019



Divisions of ORAFOL



Graphic Innovations



Reflective Solutions



Adhesive Tape Systems



Advanced Polymer Films



Advanced TPU Films



Automotive Graphics



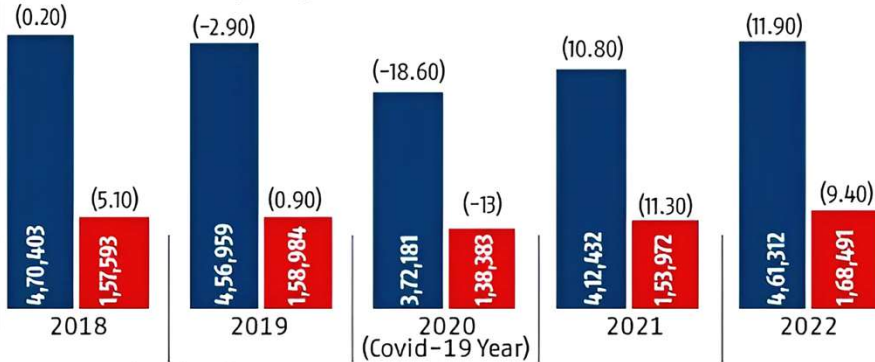
Optic Solutions

Accident Scenario on Indian Roads

Indian Road Network

Segment	Length (Kms)	%Share
National Highways	1,44,955	2%
State Highways	1,67,079	3%
Other Roads	60,19,757	95%
Total	63,31,791	100%

Road accidents in the past 5 years



Source: Road Accidents in India 2022 Report

Cops: 40% of deaths in road accidents in 18-35 age group

Murari Shetye
@timesgroup.com

Panaji: Over 40% of those who died in road accidents last year were from the 18-35 age group, according to Goa police statistics. The data also reveals that most accidents take place between noon and 5pm.

Road safety activists have flagged the worrisome consequences of so many road accident deaths in the productive age group. Goan coordinator Roland Martins said people in this age group are usually breadwinners of their families, and therefore accidents "bring a huge burden in terms of disruption in family life, new financial challenges, and mental stress on dependents, who are caregivers".

He also said that there are many in this age group who have suffered grievous injuries resulting in them facing life-long disabilities.

Of the 271 persons who died in road accidents last year, 88 died due to not-wearing of helmets. Goa police data shows, the year saw 2,011 accidents, 2,660 of them on national highways. The data also reported 38 hit and run cases.

Martins said that besides studying the behaviour of accident victims, it is also important to gather proper data on the crashes that have taken place, so that the data leads to a holistic approach to the solution.

"While the improper or non-wearing of helmets and seatbelts, undergirding, intake of alcohol or sleep deprivation may be causes, we must also look closely at road design and safety of vehicles. Besides, it is important to check how many victims of fatal accidents were locals, migrant workers, or tourists, as these inputs would help in data analysis," Martins said.

He also stressed on the need to activate the road safety & traffic management committees at the village panchayat & municipal level, so as to involve all sections of civil society. He also batted for activating police station-wise sub-committees on causes and analysis of motor accidents.

Martins said there must be road safety awareness sessions in colleges, ITIs, and industrial estates in collaboration with the directorate of higher education and technical education, CIDC, and directorate of skill development and entrepreneurship.



'DRIVER HIT BALUSTRADE TO STOP VEHICLE'



The biker was standing on the left lane of Red Road to turn into Outram Road when the bus ploughed through him. The bike, along with the rider, was dragged under the bus
—A bystander

The accident could have happened due to speeding. Or it could have been a mechanical snag as the bus was not operated for the past 45 days. The driver hit the wall intentionally to stop the vehicle. The biker unfortunately came in the way. We are probing all the angles and checking footage from CCTV cameras around. Once we interrogate the driver, the exact nature of the accident can be established
—A Lalbazar officer

3 killed & 2 injured in 4 separate road accidents

LB Nagar: 2 women hit by car, injured

In LB Nagar, two elderly women were injured when a car hit a median and overturned at LB Nagar on Wednesday evening. The victims, K. Anu, 65 and K. S. Anu, 60 are both residents of JB Colony, Saroor Nagar.



The driver, after losing control of the bus and hitting the bike, reportedly drove into the balustrade to bring the vehicle to a stop; police commissioner Soumen Mitra examines the spot

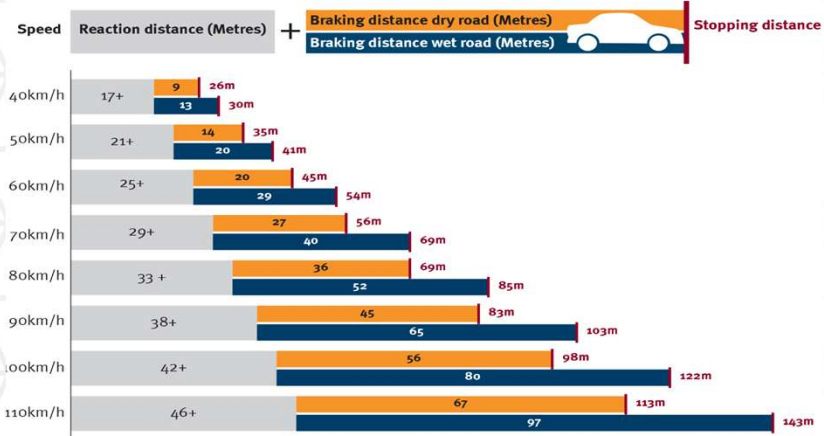
Constable Vivekananda Deb, who was run over

Major Causes

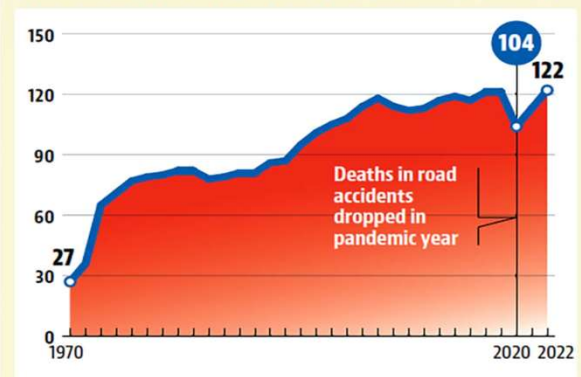
Some of the major reasons/ causes of road accidents:

- Over speeding
- Drink and drive
- **Poor Visibility**
- Traffic Rule Violations and others

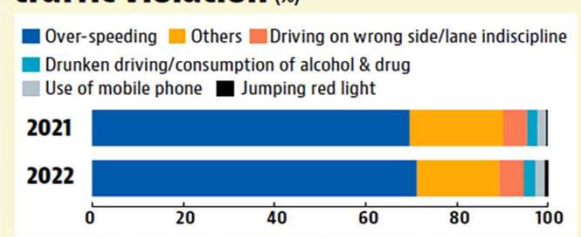
How long it takes to stop (driving an average family car)



Road accident deaths (per million population)

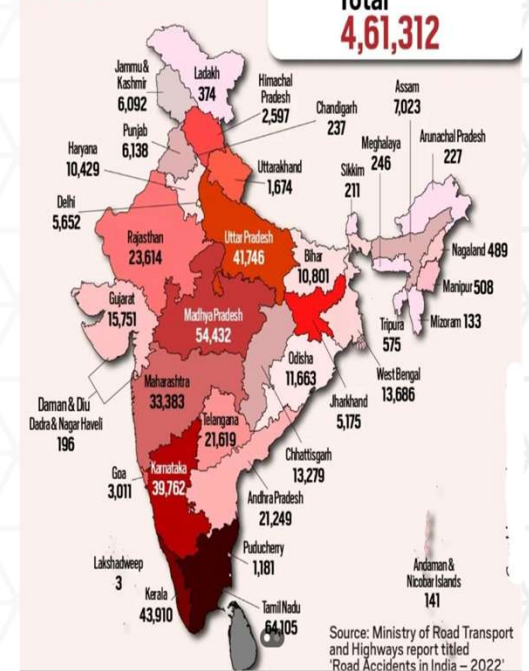


Road accident deaths by type of traffic violation (%)



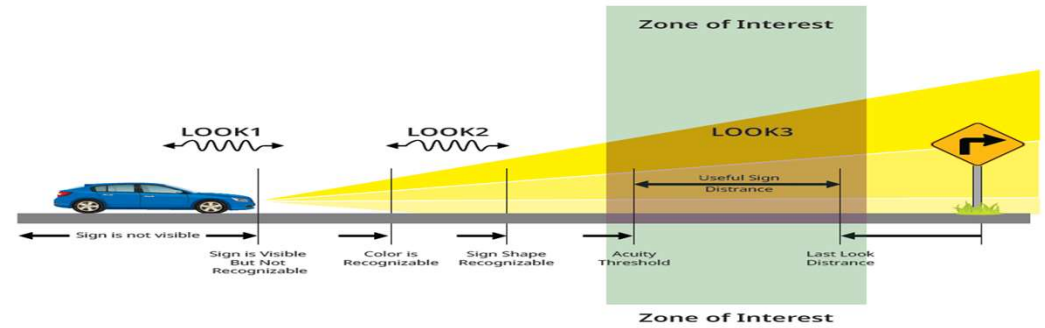
Source: Road Accidents in India 2022, Ministry of Road Transport and Highways

ROAD ACCIDENTS IN INDIA



Driving Scenario

- Visibility and Legibility of signs on the roads is utmost important
- Better visibility enhances the VRT (viewers response time)
- The identification of any Signboard or any Hazard are critical for a driver to respond to the situation
- The legibility index considered in IRC:67 2022 is 45 which is optimum for road users



LOOK 1
Is simply the recognition of a target possibility related to the driving task.

LOOK 2
The driver assesses the target to determine if it is related to the driving task.

LOOK 3
The driver actually acquires the information on the sign.

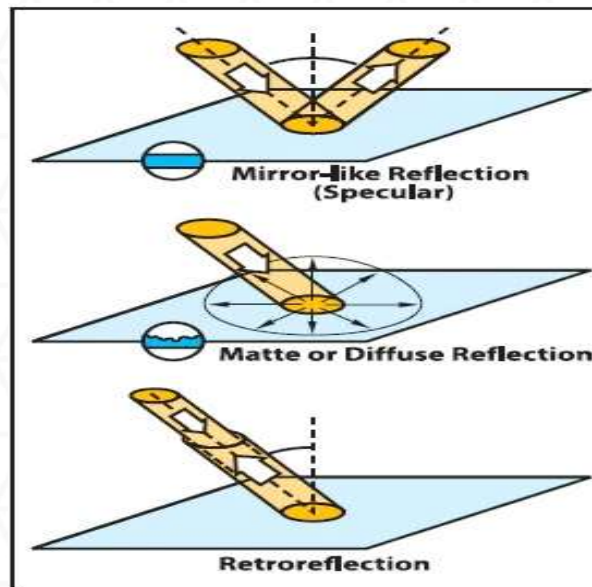


Science of Reflectivity

Traffic Sign Films

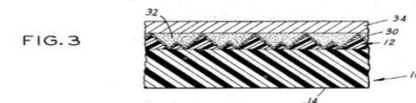
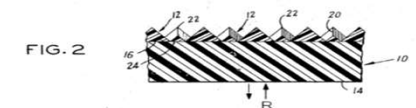
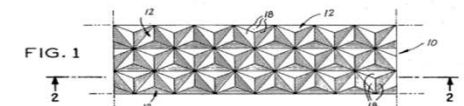


- In **1963**, brothers Hugh and Bill Rowland, bought the rights to develop a new retro-reflective technology from **Luce Reflexite** and patented the world's first micro-prismatic sheeting, a product that is as much as 20 times brighter than engineer grade films.
- This meant that signs that were formerly visible at say 300 feet away, could now be seen from over 3000 feet away.
- **Reflexite's** first patent was labelled "Retro Reflective Material", and was filed for in September of **1970**, and was granted in **1972**.



PATENTED AUG 15 1972

3,684,348



Inventor
William F. Rowland
By
Peter L. Coakley
Attorney

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ORAFOL India Product Range

Leveraging ORAFOL Reflective Technology for improving Road Safety

For better Navigation

Retroreflective Sign Sheeting



- ORALITE High Intensity Prismatic Sheeting
- ORALITE Diamond Grade Sheeting

Whether it's retro-reflective sheeting for road signs, guide signs or informational signs, ORAFOL materials meet the requirements of today's complex and demanding traffic environment.

Raised Pavement Markers and other Road Furnitures



- ORAFOL Raised Pavement Markers
- ORAFOL Delineators
- ORAFOL Flexible Median Marker

Designed for the best performance and made in India products like Raised Pavement Markers, Flexible Median Marker and Delineators complete the entire portfolio of Road Safety.

Solar Raised Pavement Markers



- ORAFOL Solar RPMs

In both rainy & foggy conditions, ORAFOL Solar RPMs provide excellent visibility to the drivers. Major application areas are the roundabouts, median openings, along the median and sharp turns.

For improved Visibility

Vehicle Conspicuity



- ORAFOL Conspicuity Markings

Improve the visibility of emergency and other vehicles to help reduce accidents. NOTE: Emergency vehicle markings are different than the typical red/white truck product. Need to clarify what we are proposing here.

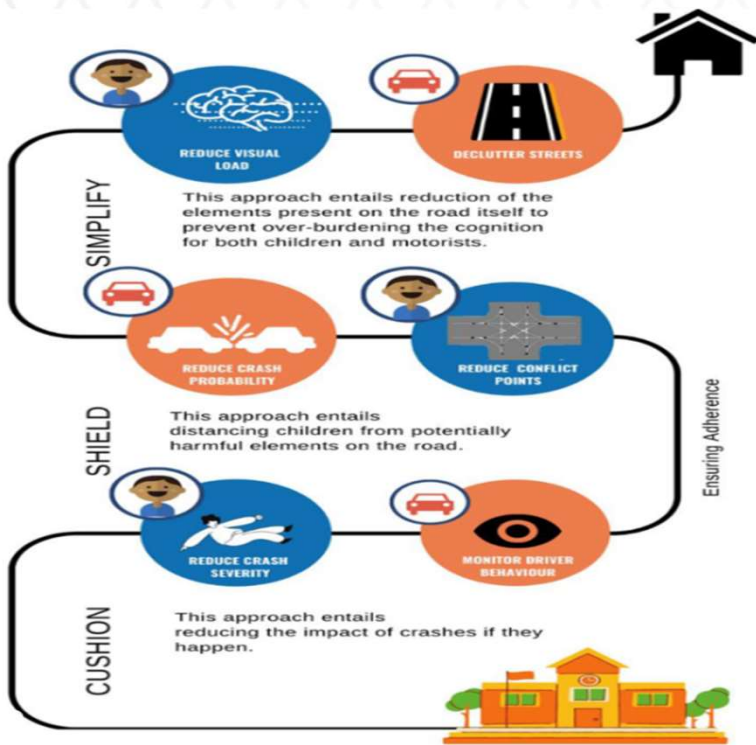
Retroreflective Rear Marking Plates



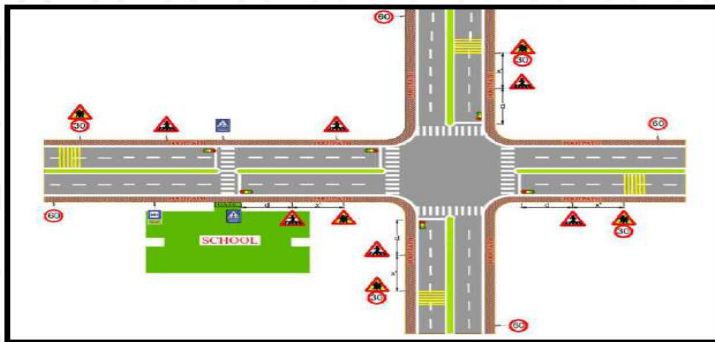
- ORAFOL C3 Rear Marking Plate
- ORAFOL C4 Rear Marking Plate

Provide enhanced visibility and safety for automobiles with ORAFOL C3 & C4 high performance materials applied as the rear marking plates on the commercial vehicles

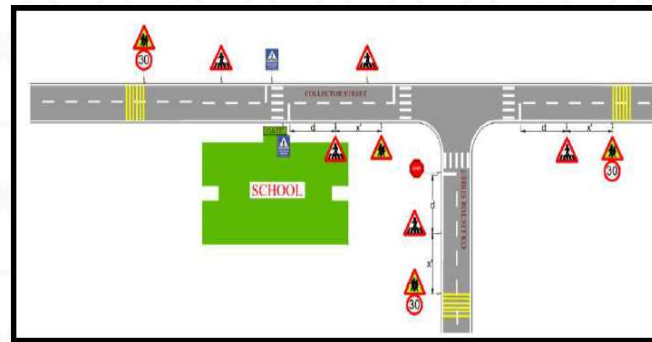
School Zone Safety- IRC:SP32



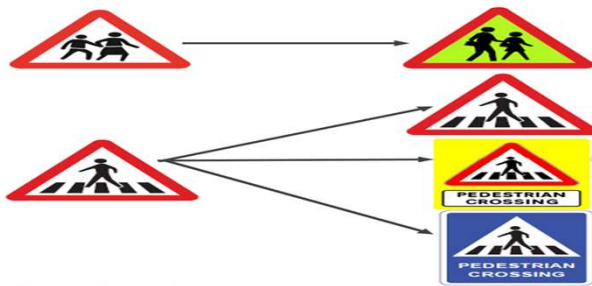
School Zone Safety- IRC:SP32



School Gate located on Midblock Section of a four lane divided road



Typical Illustration of Various measures required for the School Gate located on the Midblock Location of Two-Lane Bidirectional Road

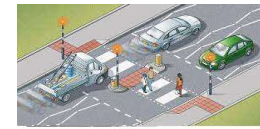


Conducting awareness program for School Zone Safety

Black Spot Rectification



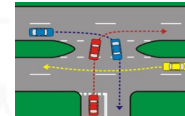
Junctions



Pedestrian Crossing



Gas Stations



Median Openings

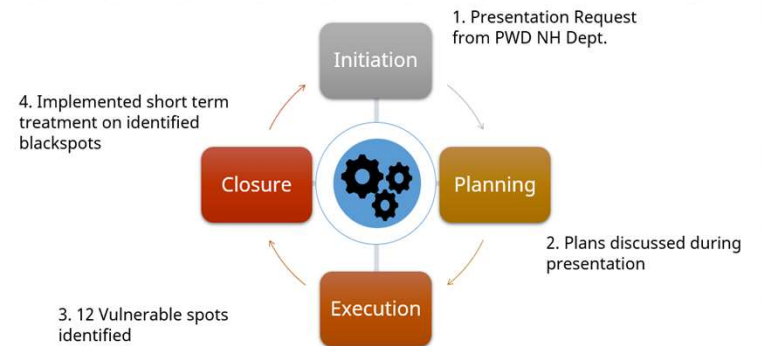


Flyovers/ Bridges



Curves

ORAFOL Solution

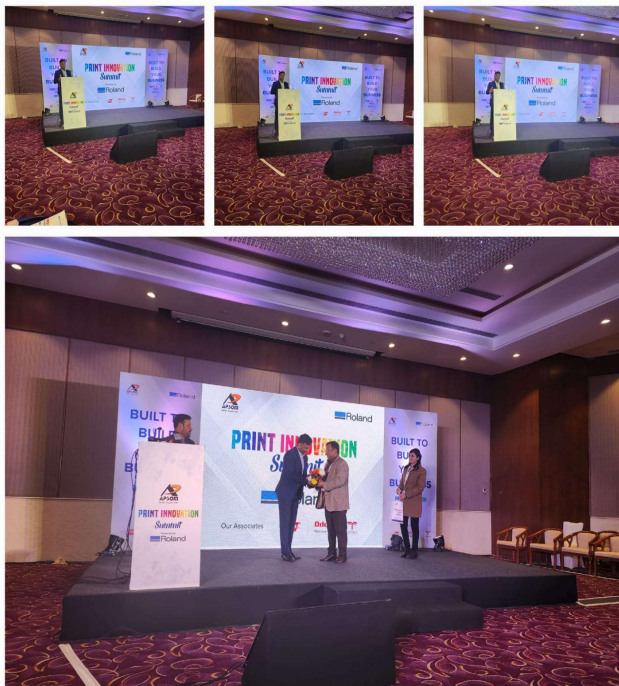


Creating Visibility in various segments



Training/ Presentation Activities 2024

Print Innovation Summit



UP PWD Road Safety Event



RSRDC Rajasthan



Training/ Presentation Activities 2023

JDA Presentation



iSOL Event ICAT



ASSOCHAM 2023



Training/ Presentation Activities 2023

IRF Event



1 Week 1 Lab CRRI



CRRI Foundation Day



Training/ Presentation Activities 2023

Customer Event Kerala

Coalition Signing

IRC 2023





Thank You !!

ORAFOL INDIA