



ADVANCEMENT IN ROAD SAFETY
INTEGRATED ROAD ACCIDENT DATABASE (iRAD)
e-DETAILED ACCIDENT REPORT (eDAR)

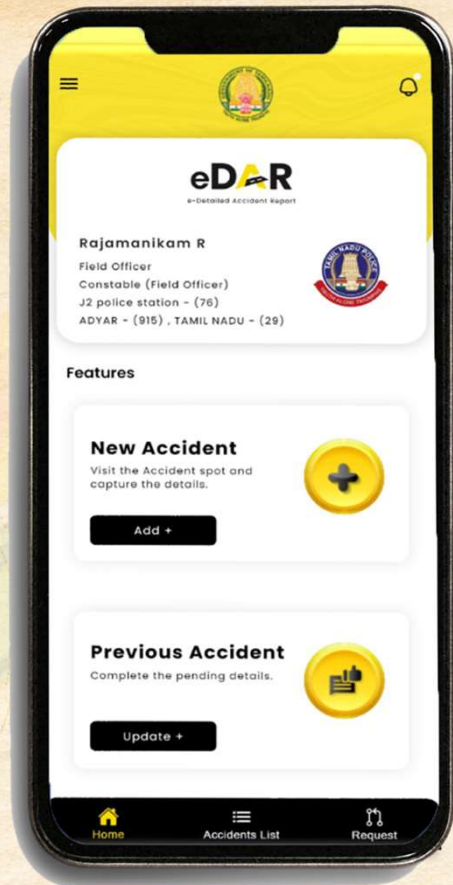
ROAD OWNING AGENCIES MODULE



APRIL, 2024



About iRAD/ eDAR



iRAD/eDAR Mobile App

iRAD/eDAR is an application to **COLLECT, STORE, MANAGE, ANALYSE, INTERPRET AND VISUALISE** the Road Accident Information



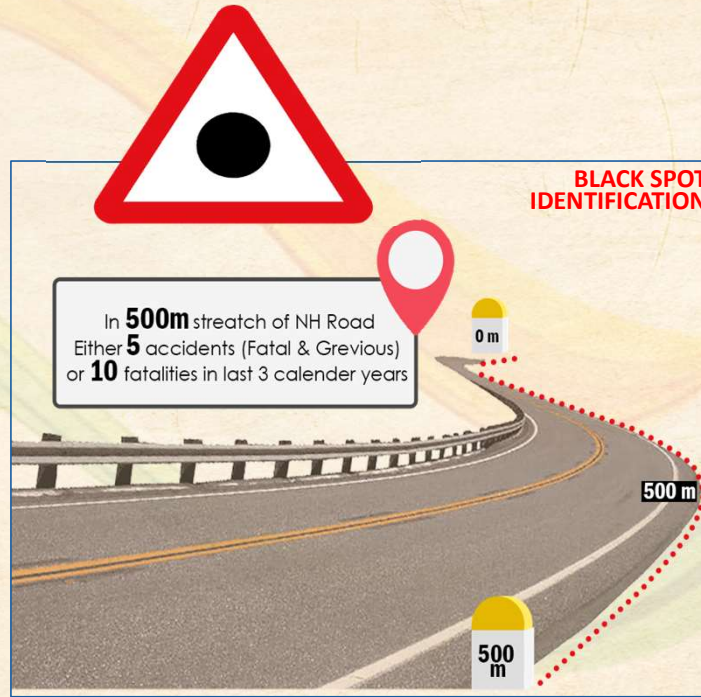
The iRAD project was launched by Union Ministry for Road Transport & Highway and MSMEs **Shri. Nitin Gadkari**, on 13th January 2020.

Objectives

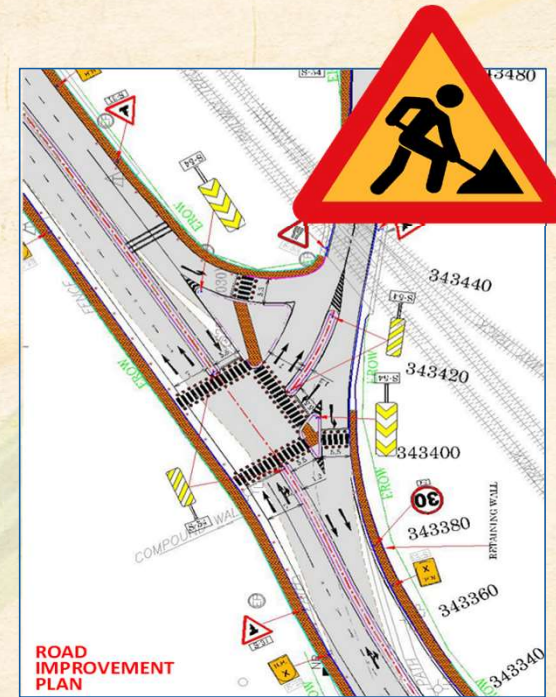
1 On-site accident data collection through Mobile based software application



2 To perform data analysis and Recommendation of remedial measures



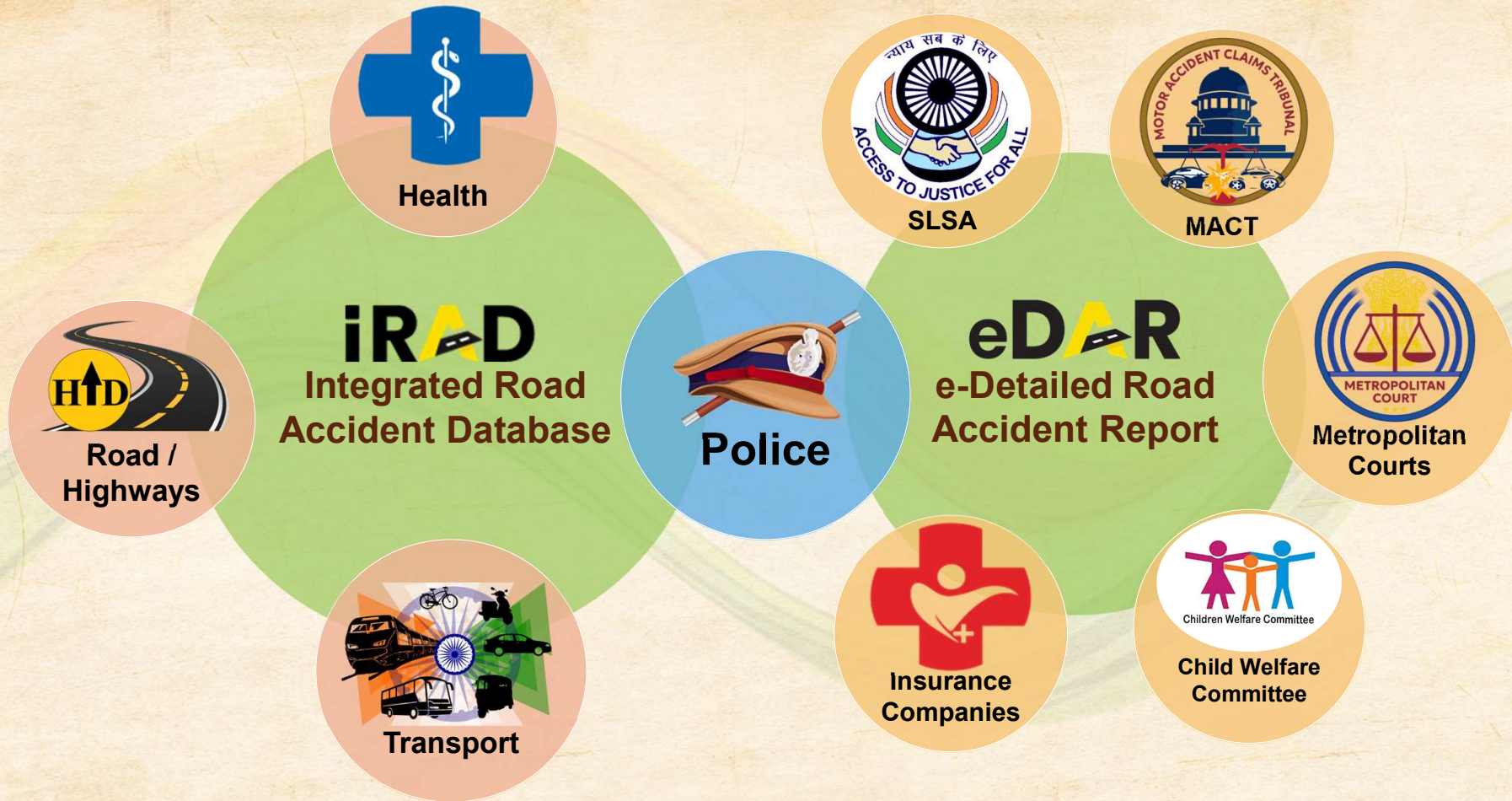
3 Improvement of the Accident prone area



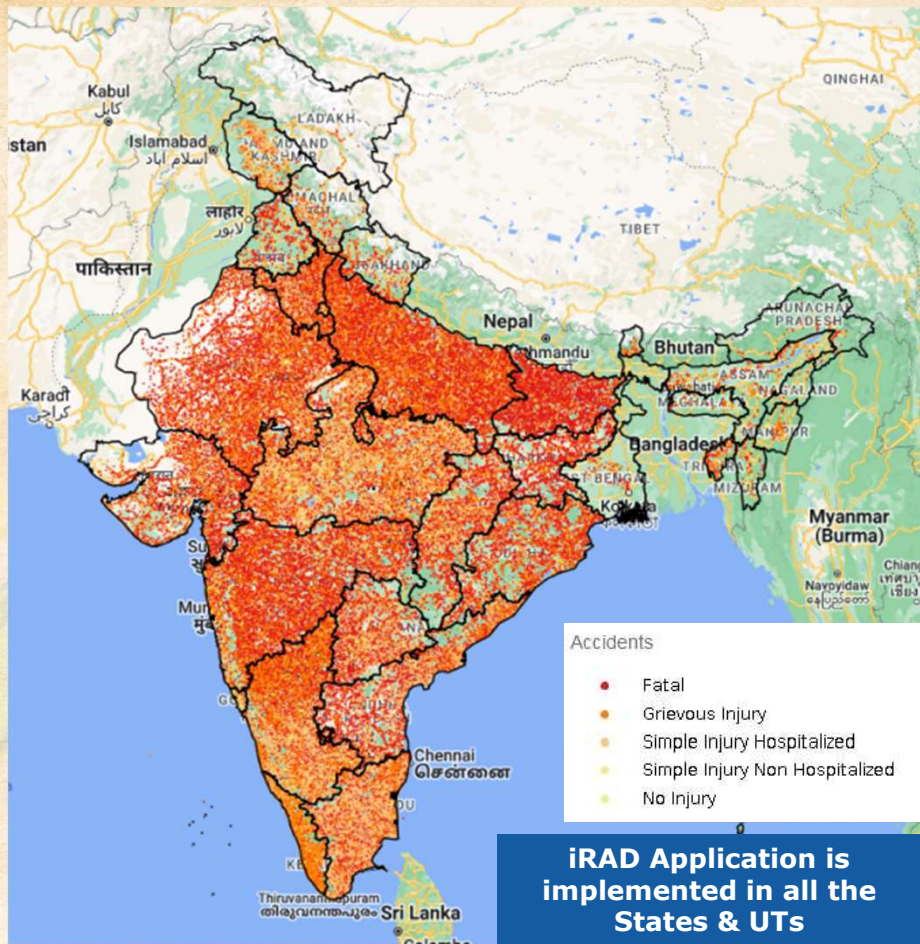
Application Features

- ❖ Available in **Mobile (Android & iOS) and Web Platform**
- ❖ **Local Language Interface** and enabling the respective State for suitable translations
- ❖ Capturing of **GPS Location** of accident site with base map reference
- ❖ **Online / Offline Data entry** option with auto-sync mechanism
- ❖ **SMS and eMail** notification alert
- ❖ Facilitates Digital Signature (**DSC**)

Project Stakeholders and Implementation Partners



Overview & Status as on 17th April 2024



Total No of Accidents – 11,15,950

Fatal
3,57,680
(32.1%)

Grievous injury
3,56,830
(32.0%)

Simple Injury
(Hospitalized)
2,68,250
(24.0%)

Simple Injury (Non Hospitalized)
50,242
(4.5%)

No Injury
82,948
(7.4%)

Total No of Persons involved – 17,75,339

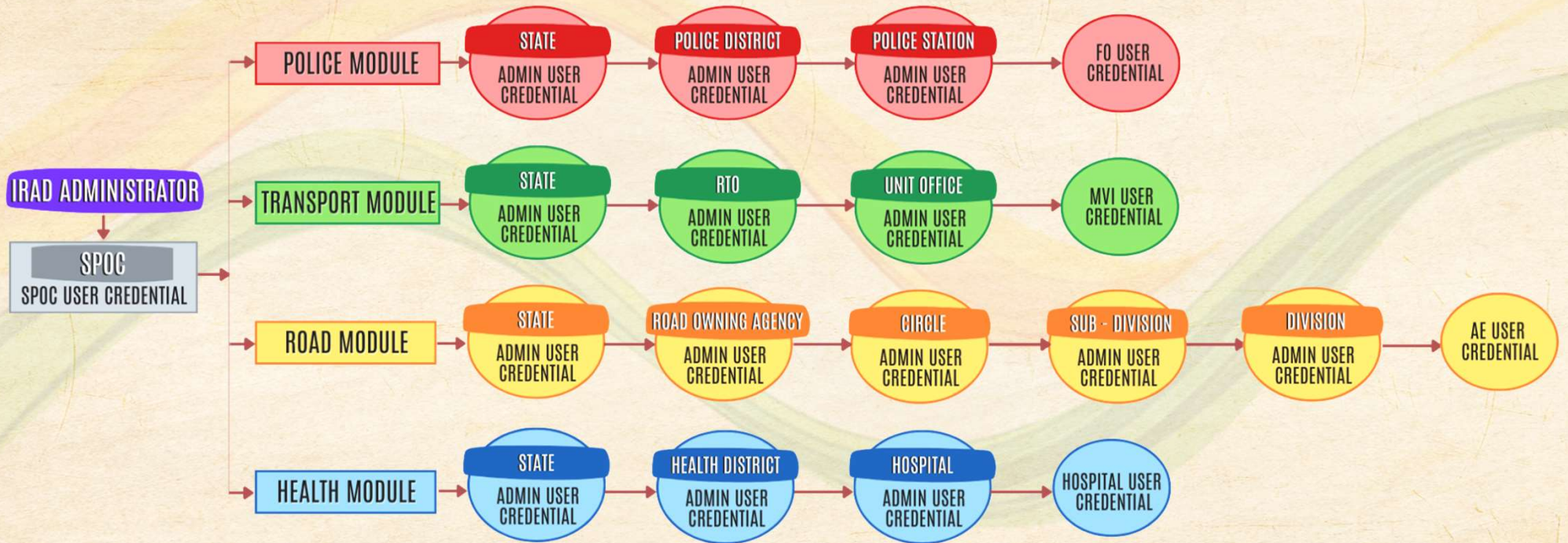
Killed
4,16,555
(23.3%)

Grievous injury
4,89,651
(25.7%)

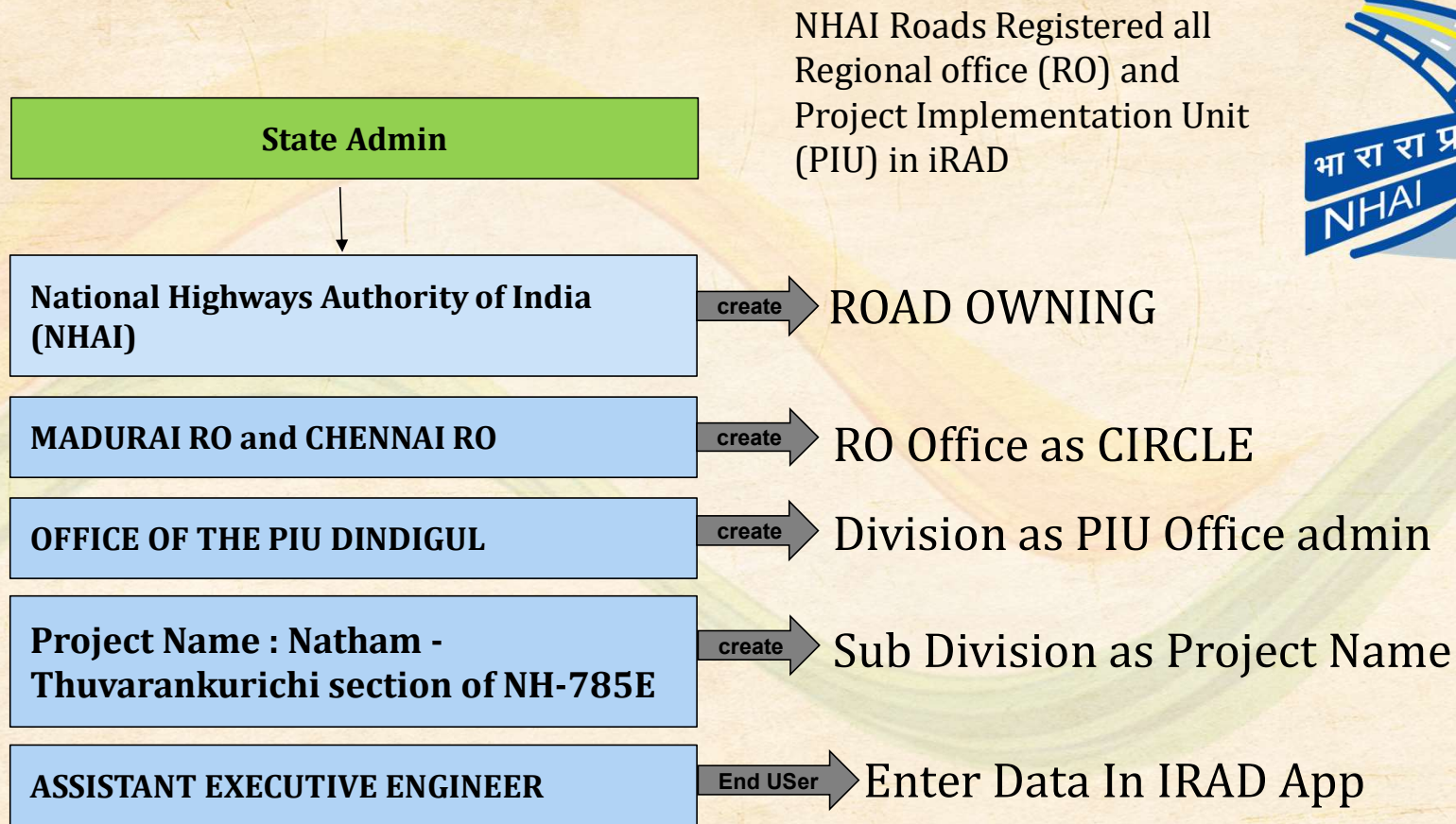
Minor
8,69,133
(49.0%)

User Management (Role based Data Access)

User Management is designed based on the **stakeholders administrative structure** and the access to the data is given with respect to the Role of the User.



NHAI Road Department Hierarchy of Tamil Nadu State



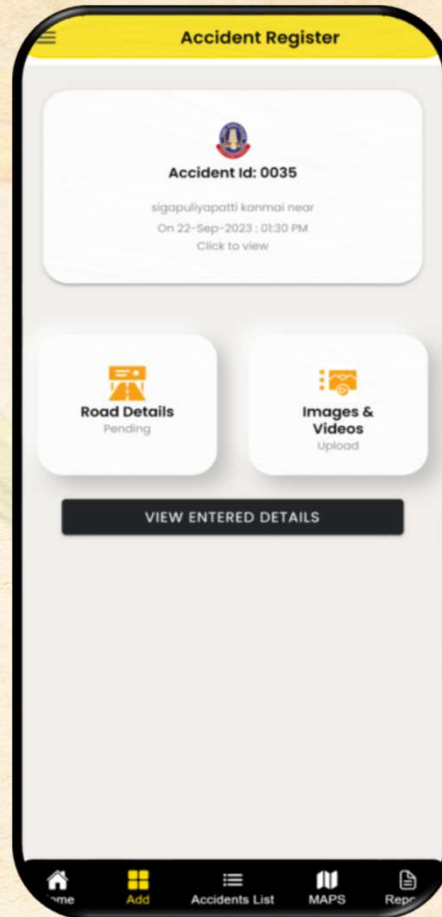
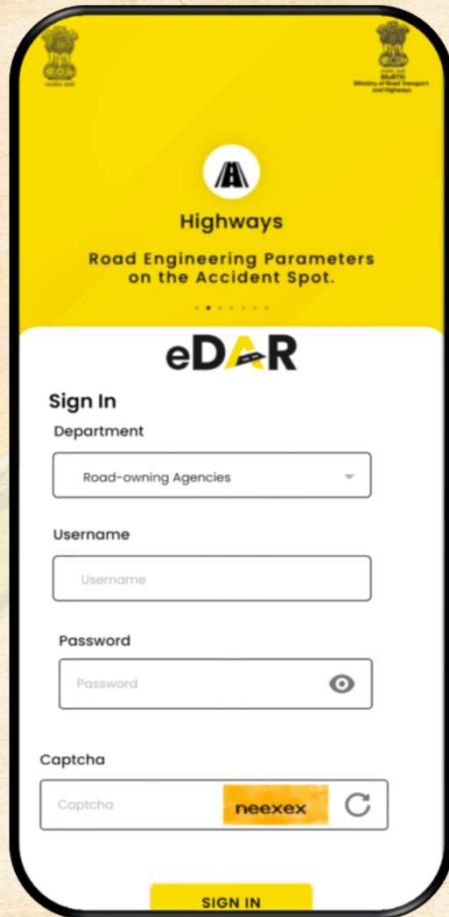
Road Agencies wise Accident Request Details

This Report provides Road inspection requests received from Police Department for the period of **2021-2024**

- Received
- Pending
- Inspected
- Completed

S.No	Road Name	Received	Pending	Inspected	Completed
1	National Highway under NHAI	12185	10	1100	11075
2	National Highway under State PWD/ R&B	8518	3	1118	739
3	National Highway under Other Departments	1247	0	135	11
4	State Public Works Department / R&B	20421	2	2327	18092

Road Owning Agencies



All Road Owning Agencies Successfully Registered in iRAD

- State Highways (SH)
- National Highways (NH)
- National Highway Authority Of India (NHAI)
- National Highways Infrastructure Development Corporation Limited (NHIDCL)
- Border Roads organization (BRO)
- Major District Roads (MDR)
- Other District Roads (ODR)
- Municipal Corporation Roads
- Village Panchayat Raj Roads
- Rural Development Roads

Road Owning Agencies - Parameters

- Area Type
- Road Classification
- Road Owning Agency
- Road Name/Street Name
- Road Number
- Type of Structure
- Type of Road Surface
- surface Condition
- Type of Carriageway
- Road Width(in metre)
- Accident Location
- Road Chainage
- Horizontal Curve
- Vertical Curve
- Road Width at Curve(in metre)



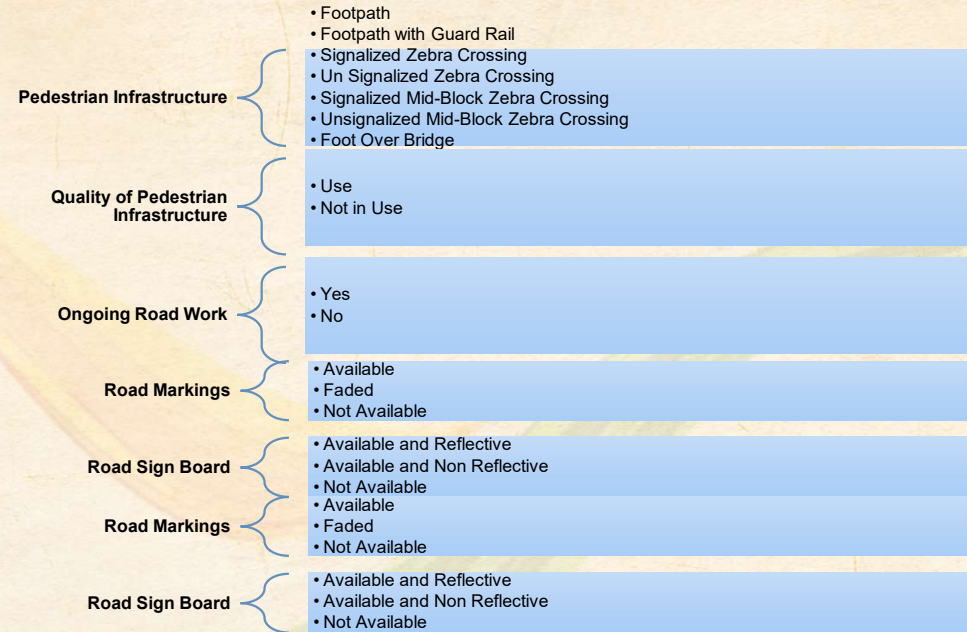
Road Owning Agencies - Parameters

- **Junction Type**
- **Junction Control**
- **Sight Distance**
- **Speed Limit(in KMPH)**
- **Road Margins**
- **Type of Terrain**
- **Type of Surface Gradient**
- **Physical divider / Barrier**
- **Type of Median**

- Junction Type**
 - Round about
 - Staggered
 - Y-Junction
 - Four-arm Square Junction
 - More than Four-arm
 - Elevated Junction (3-arm/4-arm)
 - Four-arm Cross Junction
 - Guarded Level Crossing
 - Unguarded Level Crossing
- Junction Control**
 - Uncontrolled
 - Flashing Signal/Blinker
 - Give Way Sign
 - Stop Sign
 - Traffic Light Signal
 - Manned Control
- Sight Distance**
 - Available to Junction
 - Available to Curve
 - Straight Reach
- Speed Limit(in KMPH)**
 - Below 40
 - 40-60
 - 60-80
 - 80-90
 - Above 90
- Road Margins**
 - Shoulders
 - Pedestrian / Cycle Track
 - Bus Bay
 - Guard Rails / Crash Barriers
 - Service Lane
 - Parking Lane
- Type of Terrain**
 - Plain Terrain (0 to 10%)
 - Rolling Terrain (10 to 25%)
 - Mountainous Terrain (25% to 60%)
 - Sleep Terrain(Above 65%)
- Type of Surface Gradient**
 - Rulling Gradient
 - Limiting Gradient
 - Minimum Gradient
 - Floting Gradient
 - Exceptional Gradient
 - Average Gradient

Road Owning Agencies - Parameters

- Pedestrian Infrastructure
- Quality of Pedestrian Infrastructure
- Ongoing Road Work
- Road Markings
- Road Sign Board
- Contributing Factors of Road Accident
- Remedial Measures



Remedial Measures on ROAD

Remedial Measures

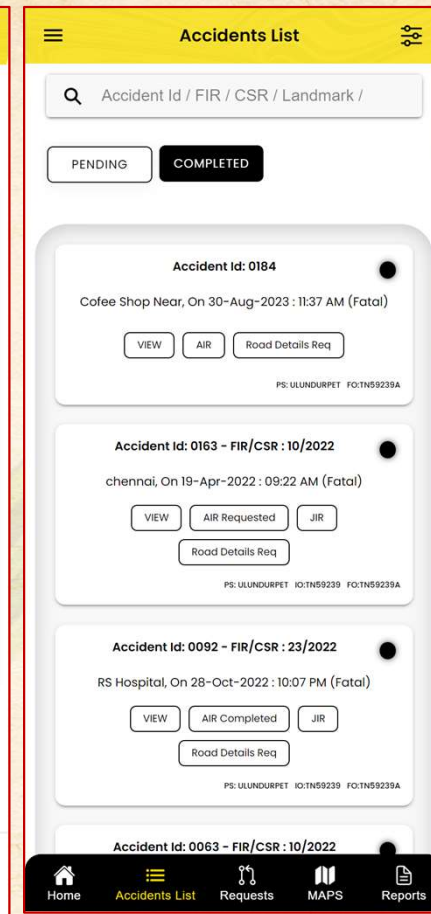
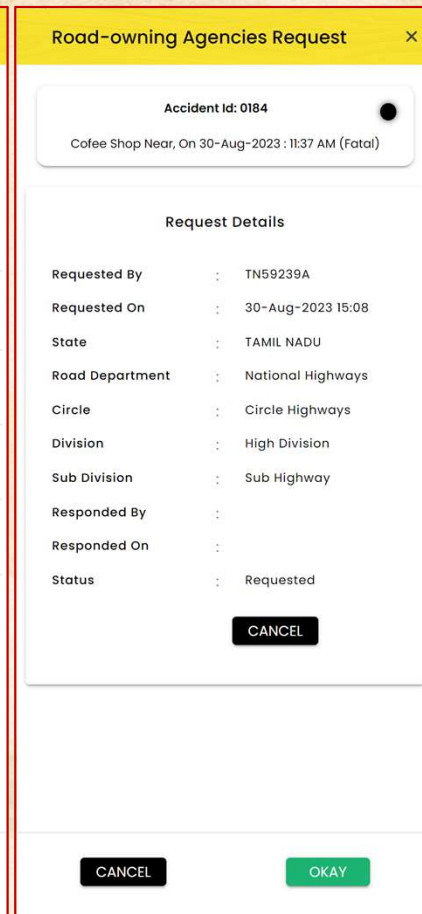
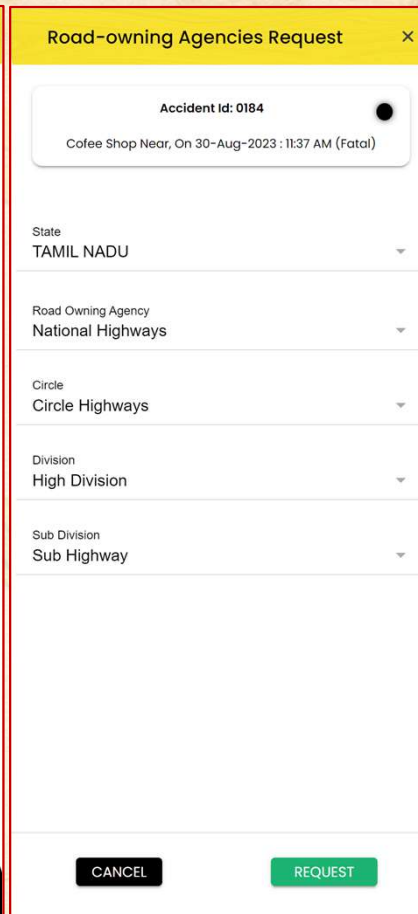
- Geometric improvement required at carriageway
- Geometric improvement required at Superelavation
- Geometric improvement required at Gardient
- Geometric improvement required at Sight Distance
- Geometric improvement required at Curve
- Geometric improvement required at Curve Radius
- Geometric improvement required at width of road at curve
- Geometric improvement required at the Junction / Intersection
- Road lane marking to be provided
- Transverse bar markings to be provided at the junction / Curve
- Reflective studs to be provided
- Required improvement in the bus stop or bus bay markings
- Potholes to be required
- Footpath needs to be repaired
- Debris / Garbage to be removed
- Channelization of traffic at junction / intersection is required
- Encroachment along the road / footpath to be removed
- Guide posts are provided to senrate footpath from the road

Remedial Measures

- Visual Guidance: zebra cross marking to be provided
- Obstacles like trees,pole,on-street parking or ribbon development to be remove
- Unauthorized parking on the road to be removed
- Tabletop pedestrian crossing to be provided
- Signage before the approaching curve to be provide
- Hazard zone /Signage marks to be provided
- Proper sight distance to be maintained at the junction / curve
- Median opening to be closed
- Crash barrier to be provided at the embankment
- Guard rail to be provide at the edge of the road
- Guideposts with or without reflector to be provided
- Plastic bollards required for separating main road and bus stop
- Speed brakers to be provided
- Movable divider / Median /Separator to be provided
- Speed limitations to be provided
- Restriction on turning movements to be provided
- Street lighting to be provided
- Bus stop to be shifted 75m away from the present junction / curve

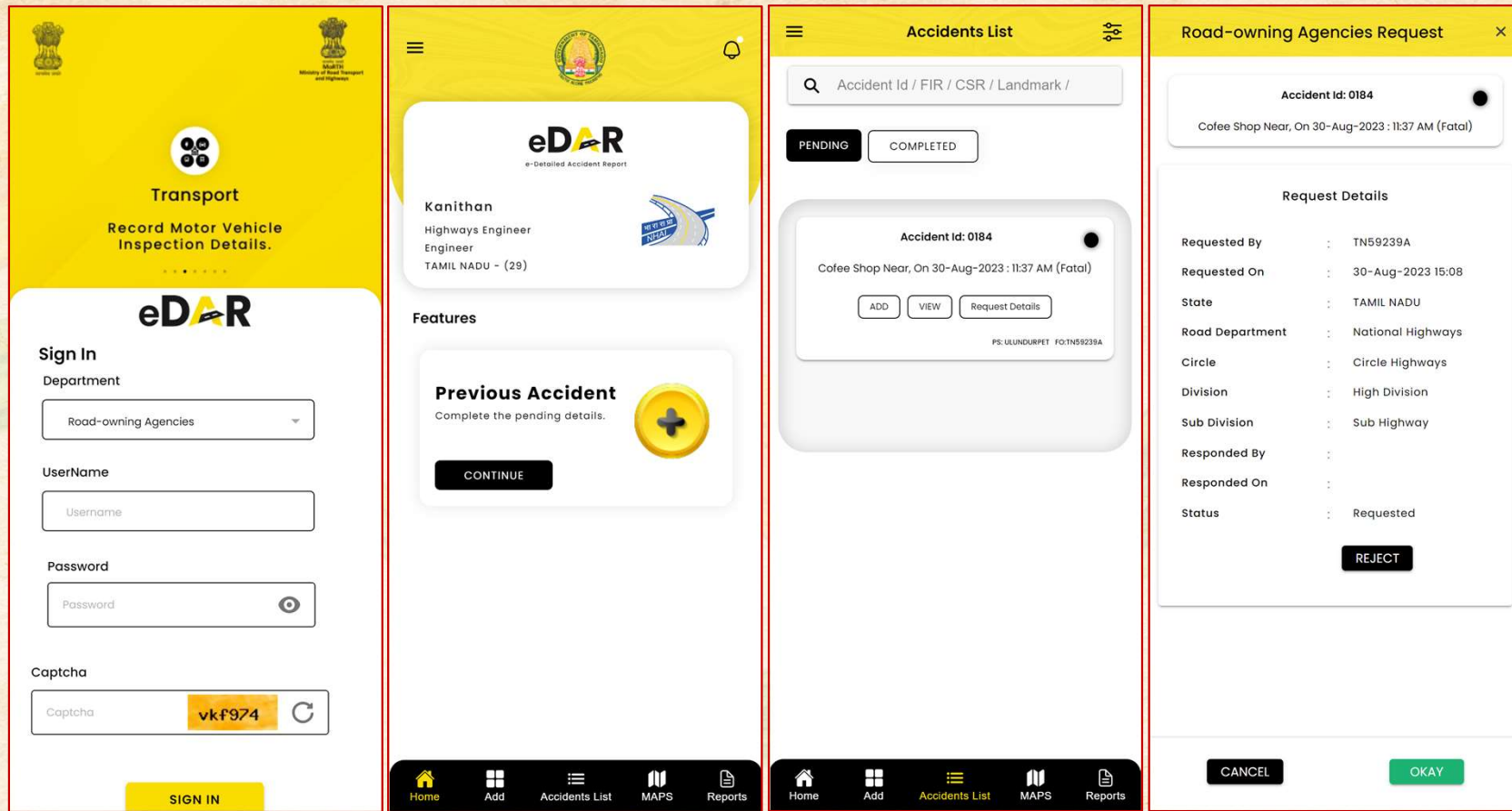
Police SHO to Road Owning Agency Request

- A request to examine the Accident Spot/Road can be sent to the concerned Highways department.
- If the sent request has to be cancelled, then "Cancel" button has to be clicked.
- Once the request is sent, the colour of "Road Details" in the Accident List is changed.



Road Owning Module Home Page

- The Highways user logs in to his/her profile in order to enter the Road Details relating to the accident and a Report for the same can be generated.
- JIR can also be generated in necessary cases. The Pending list can be viewed under "Pending" in Accident List and the Police Request Details can be viewed under each Accident Cases.



DATA ENTRY – PAGE 1

- “Road Details” tile can be selected in order to start the data entry.
- 99% of the data entry in the module are done using the Radio Button / Check Box.

The image displays three screenshots of a mobile application interface for accident registration and road details.

Accident Register Screenshot: Shows an accident entry with the ID 0184, location 'Cofee Shop Near', and date 'On 30-Aug-2023 : 11:37 AM'. Below the entry are two tiles: 'Road Details Pending' and 'Images & Videos Upload'. A 'VIEW ENTERED DETAILS' button is at the bottom.

Road Details Screenshot (Left): Shows a form with the following fields:

- Area Type: Rural
- Road Classification: National Highway
- Road Owning Agency: National Highway under NHAI
- Road Name / Street Name: National Highway 3
- Road Number: 132/150
- Type of Structure: Normal Road
- Type of Road Surface: Bituminous / Asphalt
- Surface Condition: Good
- Type of Carriageway: 2 Lane (2 Way)
- Road Width (in metre): 12

Road Details Screenshot (Right): Shows a form with the following fields:

- Accident Location: Straight Road
- Road Chainage: 125
- Sight Distance: Straight Reach
- Speed Limit (In KMPH): 40-60
- Road Margins: Shoulders
- Road Shoulder Type: Paved
- Type of Terrain: Plain Terrain (0 to 10%)
- Type of Surface Gradient: Ruling Gradient
- Physical Divider / Barrier: No
- Type of Median: Not Available

DATA ENTRY – PAGE 2

- Once all the details are entered, the details can be Saved.

Road Details

Pedestrian Infrastructure
Select pedestrian infrastructure

Quality of Pedestrian Infrastructure
Select quality of pedestrian infrastructure

Ongoing Road Work
Select ongoing road work

Road Markings
Select road markings

Road Sign Board
Select road sign board

Contributing Factors of Road Accident
Factors of road accident

Remedial Measures
Select remedial measures

DRAFT SAVE

Road Details

Pedestrian Infrastructure
On-street Footpath

Quality of Pedestrian Infrastructure
Use

Ongoing Road Work
Yes

Road Markings
Not Available

Road Sign Board
Not Available

Contributing Factors of Road Accident
Uneven road surface , Slippery road surface

Remedial Measures
Geometric improvement required at Gradient
Geometric improvement required at Camber
Geometric improvement required at Sight Distan...

DRAFT SAVE

Accident Register

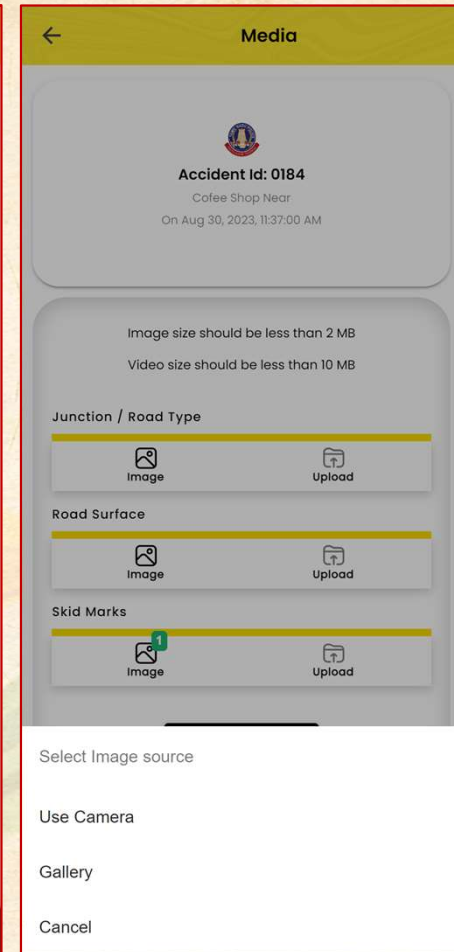
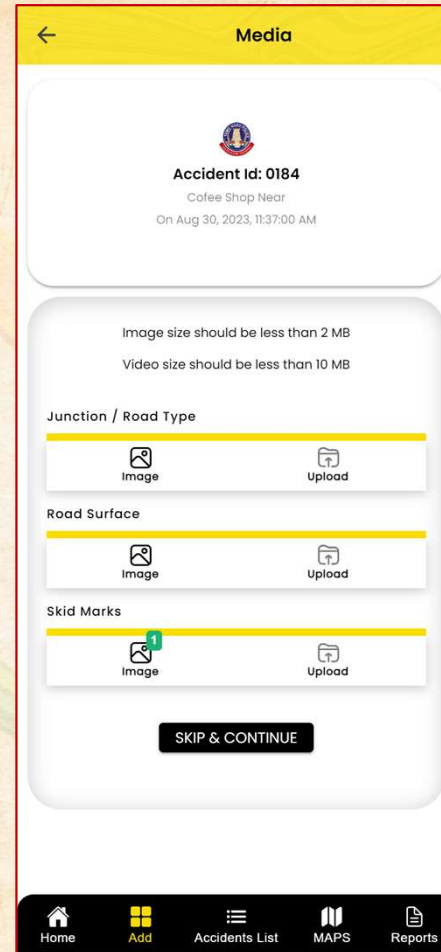
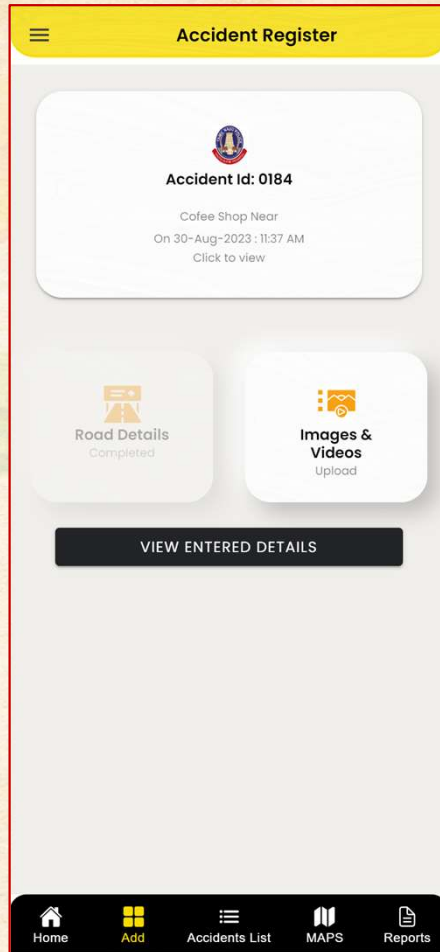
Accident Id: 0184

Coffee Shop Near
On 30-Aug-2023 : 11:37 AM
Click to view

iRAD
Road Details
Road Details added successfully
OK

MEDIA SECTION

- "Images & Videos" tile can be clicked in order to attach the media file.
- The media file can either be uploaded from the gallery or captured in live environment.



ROAD DETAILS

➤ Once the entered details are saved successfully, the case under Pending list moves to the Completed list.

➤ A report on the Road Details can be generated with the entered details.

The screenshot displays the iRAD mobile application interface. The top screen is the 'Accidents List' with a search bar and filters for 'PENDING' and 'COMPLETED'. It lists three accidents with their IDs, locations, and dates. The bottom screen shows 'ACCIDENT DETAILS' for a specific case, including FIR/CSR Number, Act, Sections, FIR Date Time, Investigating Officer, and Field Officer. A 'Road Details Report' button is visible.

iRAD Integrated Road Accident Database

FIR/CSR Number : 125/2023CS **FIR Date & Time** : 30-Aug-2023 : 11:37 AM

Act : Indian Penal Code, 1860, Motor Vehicles Act, 1988 **Section** : Section 337, Causing hurt by act endangering life or personal safety of others , Section 427, Causes loss/damage to Property

State Rule : NA **Accident Id** : 20230992390184

Station Name : ULUNDURPET **Investigating Officer** : TN59239

Station Address : NA **Field Officer** : TN59239A

District code : 592 **District Name** : VILLUPURAM

Accident Details

Accident Date and Time	30-Aug-2023 : 11:37 AM
Reporting Date and Time	30-Aug-2023 : 12:34 PM
Geolocation	Lat : 12.999362 Lon : 80.268924
Landmark Name	Coffee Shop Near
Location Details	Besant Nagar 24th Cross Street, GOCHS Colony, CMWSSB Division 176, Zone 13 Adyar, Chennai, Chennai District, Tamil Nadu, 600001, India
Severity	Fatal
Road Classification	National Highway
Road Name / Street Name	NH 12 Highway
Local Body	Municipal Corporation (Nagar Nigam)
Collision Type	Vehicle to Pedestrian, Vehicle to Bicycle, Vehicle to Tricycle
Collision Nature	Landslide, Skidding / Overrun, Vehicle fell in Gorge/Ditch/Well
Initial observation of accident scene	Accident due to Road condition, Accident due to Heavy traffic
Weather Condition	Cloudy, Light Rain
Light Condition	Night
Accident Spot	Commercial Zone
Visibility	25
Remedial Measures	Channelization of Traffic at Junction/ Intersection is required, Footpath needs to be repaired
Property Damage	Yes

JIR REPORT GENERATION/ DSC or SIGN & UPLOAD REPORT

Accidents List

Search: Accident Id / FIR / CSR / Landmark /

PENDING COMPLETED

Accident Id: 0184
Cofee Shop Near, On 30-Aug-2023 : 11:37 AM (Fatal)
VIEW AIR Road Details Req
PS: ULUNDURPET FO:TN59239A

Accident Id: 0163 - FIR/CSR : 10/2022
chennai, On 19-Apr-2022 : 09:22 AM (Fatal)
VIEW AIR Requested JIR Road Details Req
PS: ULUNDURPET IO:TN59239 FO:TN59239A

Accident Id: 0092 - FIR/CSR : 23/2022
RS Hospital, On 28-Oct-2022 : 10:07 PM (Fatal)
VIEW AIR Completed JIR Road Details Req
PS: ULUNDURPET IO:TN59239 FO:TN59239A

Accident Id: 0063 - FIR/CSR : 10/2022

Home Accidents List Requests MAPS Reports

JIR

Accident Id: 0184 - FIR/CSR : 125/2023/CS
Cofee Shop Near, On 30-Aug-2023 : 11:37 AM (Fatal)
JIR

Highway

Road-owning Agencies ...

Accident Id: 0184 - FIR/CSR : 125/2023/CS
Cofee Shop Near, On 30-Aug-2023 : 11:37 AM (Fatal)

Highway Request Generate

Digital Signature Document Sign &
(OR)
Physical Signature Document Upload

REQUEST DETAILS

Requested By : TN59239A
Requested On : 30-Aug-2023 15:08
State : TAMIL NADU
Road Department : National Highways
Circle : Circle Highways
Division : High Division
Sub Division : Sub Highway
Responded By : TNSDH
Responded On : 30-Aug-2023 15:08

Cancel Okay

Road-owning Agencies Request

Accident Id: 0184 - FIR/CSR : 125/2023/CS
Cofee Shop Near, On 30-Aug-2023 : 11:37 AM (Fatal)

Highway Request Generate

Digital Signature Document Sign &
(OR)
Physical Signature Document Upload

Choose File No file chosen

Requested By : TN59239A
Requested On : 30-Aug-2023 15:08
State : TAMIL NADU
Road Department : National Highways
Circle : Circle Highways
Division : High Division
Sub Division : Sub Highway
Responded By : TNSDH
Responded On : 30-Aug-2023 15:08

CANCEL OKAY

Usage of iRAD data in Road Safety Committee- Rajasthan & Madhya Pradesh



District level task force constituted under chairmanship of DM, to execute road safety audits with the use of iRAD DATA, REPORTS and MAPS

On account of its importance, **Advantages on usage of iRAD application** was included in **Road Safety Training program** officially, and hereby road safety training, awareness campaign, seminar will included a session for iRAD



iRAD data like ACCIDENT SPOT, ACCIDENT FACTORS AND REMEDIES suggested has been considered in the discussion of **District Road safety Committee** earlier known as DTMC

Maharashtra - Central Institute of Road Transport



CIRT for Transport Department included Importance of **iRAD** in their **Syllabus** as topic to the trainees of newly joined AMVIs & ARTOs and the **SRM** of the state was chosen to provide insight and training.



THANK YOU

