IRF Webinar Series:

Awareness Around Vulnerable Road Users: Biggest Lever for Enhancing Road Safety

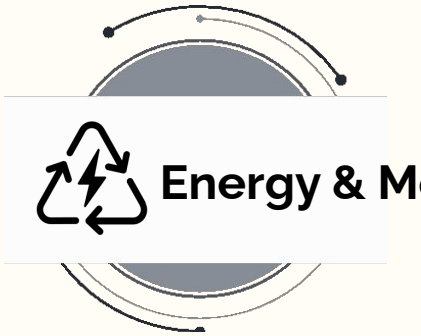
Role of Local & Central Governments: A Case Study

Aishwarya Raman, Executive Director,
OMI Foundation

October 20, 2022

About OMI Foundation

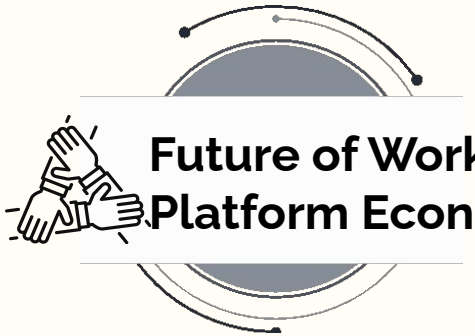
Electric Mobility



Energy & Mobility

Urban Mobility

Accessibility & Inclusion



Future of Work & Platform Economy


Ease of Moving Index
2018
India Report
Presented by:
OLA MOBILITY INSTITUTE


THE POWER OF TWO WHEELS
BIKE-TAXI: INDIA'S NEW SHARED MOBILITY FRONTIER
A STUDY BY
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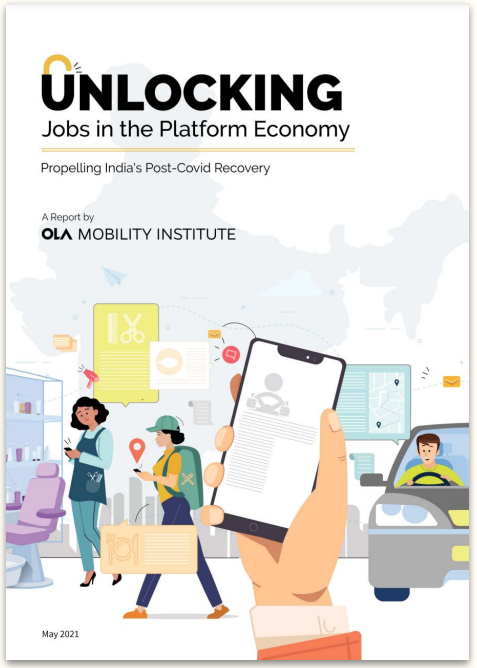
UNLOCKING
Jobs in the Platform Economy
Propelling India's Post-Covid Recovery
A Report by
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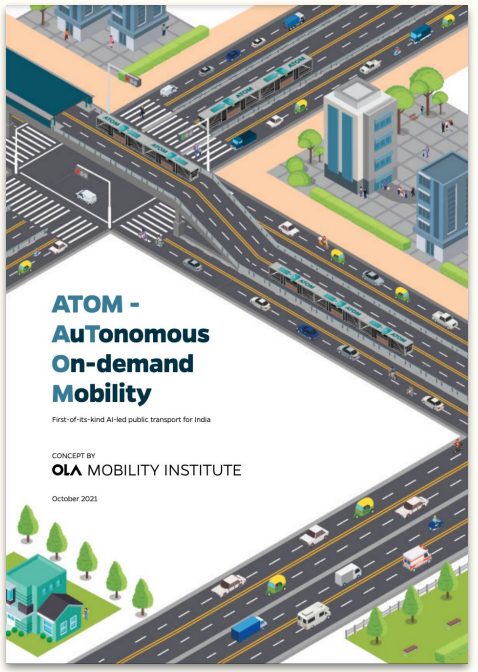
May 2021


ATOM -
AuTonomous
On-demand
Mobility
First-of-its-kind AI-led public transport for India
CONCEPT BY
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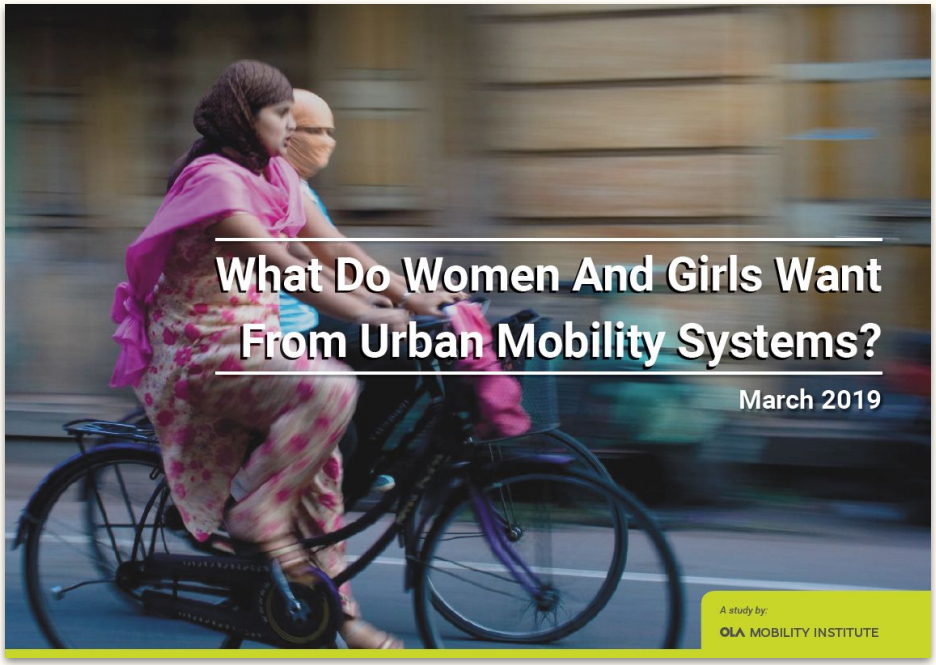
October 2021


What Do Women And Girls Want From Urban Mobility Systems?
March 2019
A study by:
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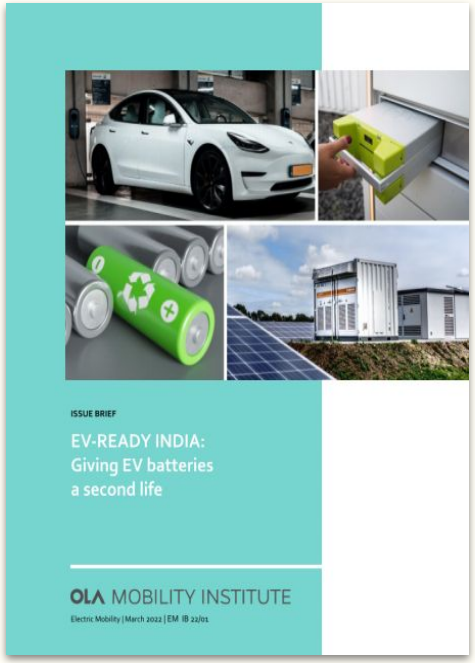
ISSUE BRIEF
EV-READY INDIA:
Giving EV batteries a second life
OLA MOBILITY INSTITUTE


SEPTEMBER 2021
WOMEN IN THE PLATFORM ECONOMY:
Breaking Barriers & Driving Inclusive Growth
A Report by OLA MOBILITY INSTITUTE
In Collaboration with
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November 2021
ON THE MOVE
Urban travel experiences of Persons with Disabilities and a path to build more inclusive transport systems
A Report by
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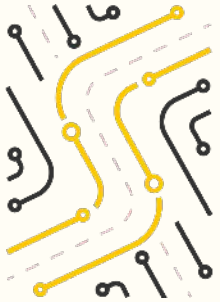
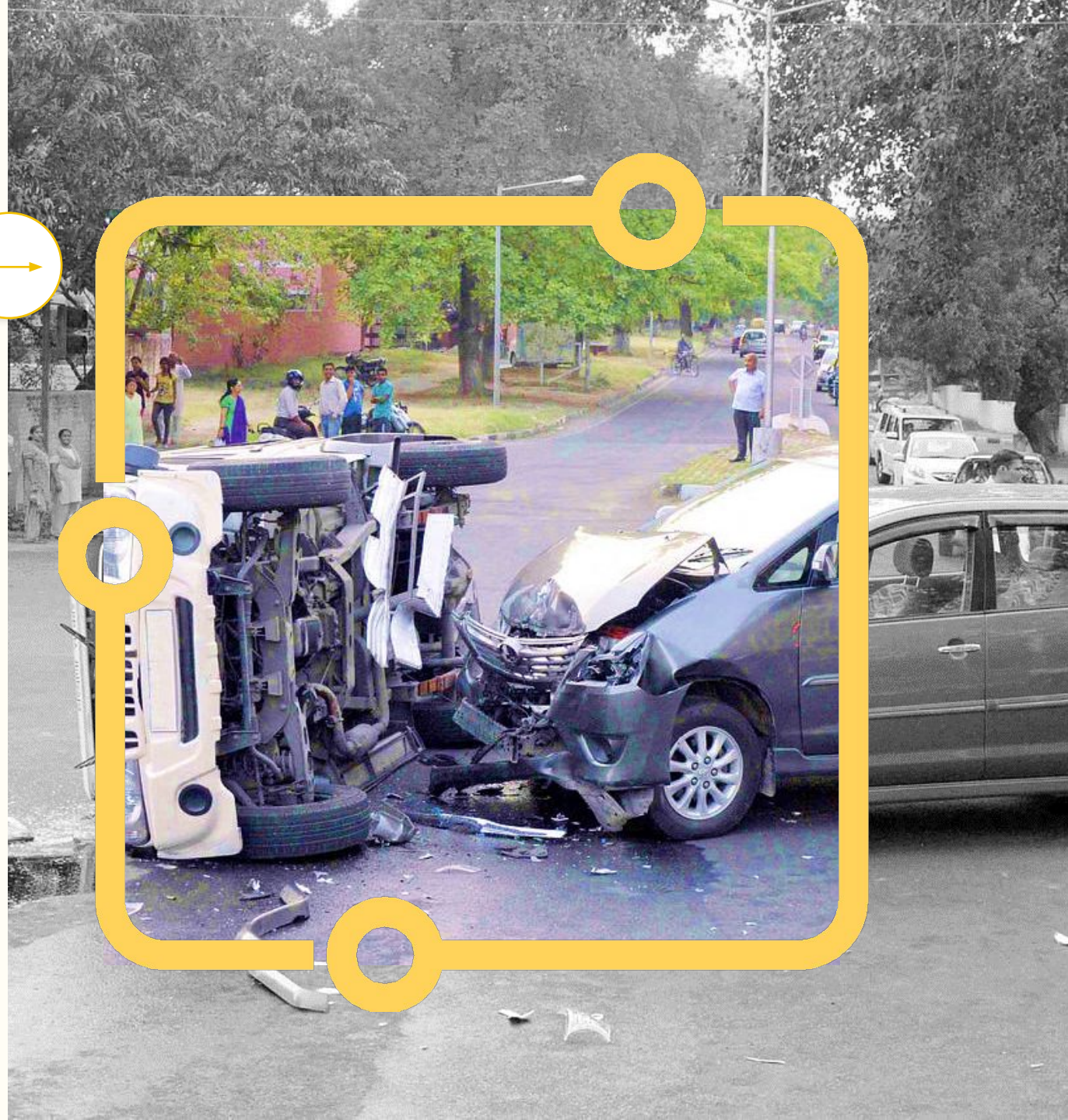


Safarlabs

Safe and
Accessible
Future using
AI on
Roads

150,000+

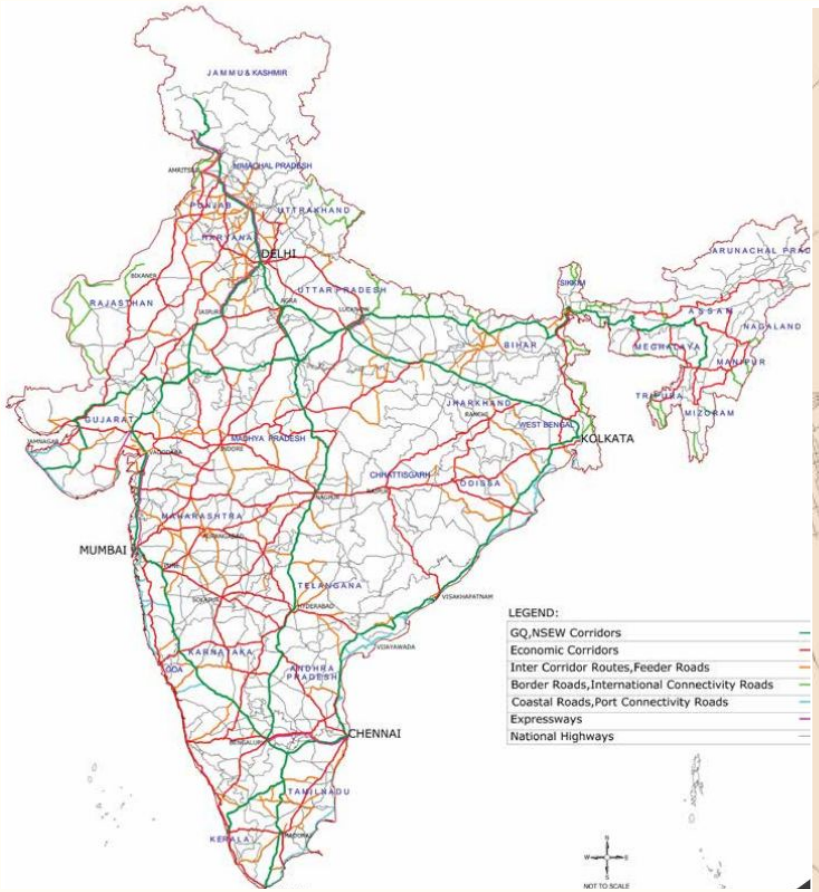
people die due to road accidents every year



How can we make our Roads Safer?

Road accident analysis is done at macro level.

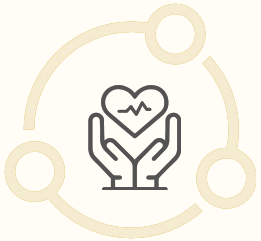
Accidents happen at local level.



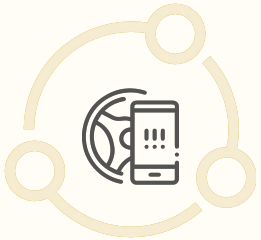
How can we analyze local data?

SAFAR

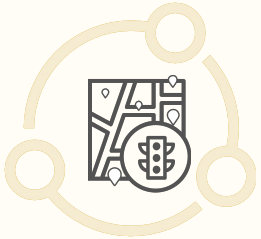
harnesses the power of hyperlocal data and AI/ML to make our roads safer.



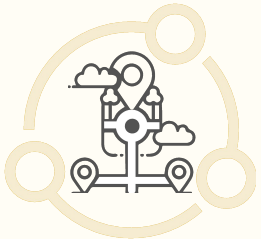
Saving Lives



Reducing socio-economic cost of accidents



Improving productivity



Enhancing well-being of the entire nation

The Team

AISHWARYA RAMAN,

Executive Director, OMI Foundation

Aishwarya holds an M.SC in Sociology from University of Oxford, and has 10+ years of professional experience in the mobility domain. She is a member of the Global Future Council on Urban Mobility Transitions at the World Economic Forum, and a Salzburg Global Fellow.

ADWAY MITRA

Asst Professor, Centre of Excellence in Artificial Intelligence, IIT Kharagpur

Adway holds a Phd in the field of machine learning from Indian Institute of Science (IISc), Bangalore. He has 6+ years of experience in the application of Machine Learning (ML) and Data Science (DS) to different scientific disciplines. Adway is a Salzburg Global Fellow.

DR AKHILESH SRIVASTAVA

Project Lead - Road Safety 2.0, World Economic Forum, Former Board Member National Highways Authority of India

Akhilesh has successfully led many e-governance projects in India like FASTag, e-Tendering platform, e-Measuring Book, multiple citizen-centric highway information mobile apps, Geo-fencing of national highways, and next-gen AI-powered NHAI Data Lake.

Supported by

SALZBURG GLOBAL SEMINAR

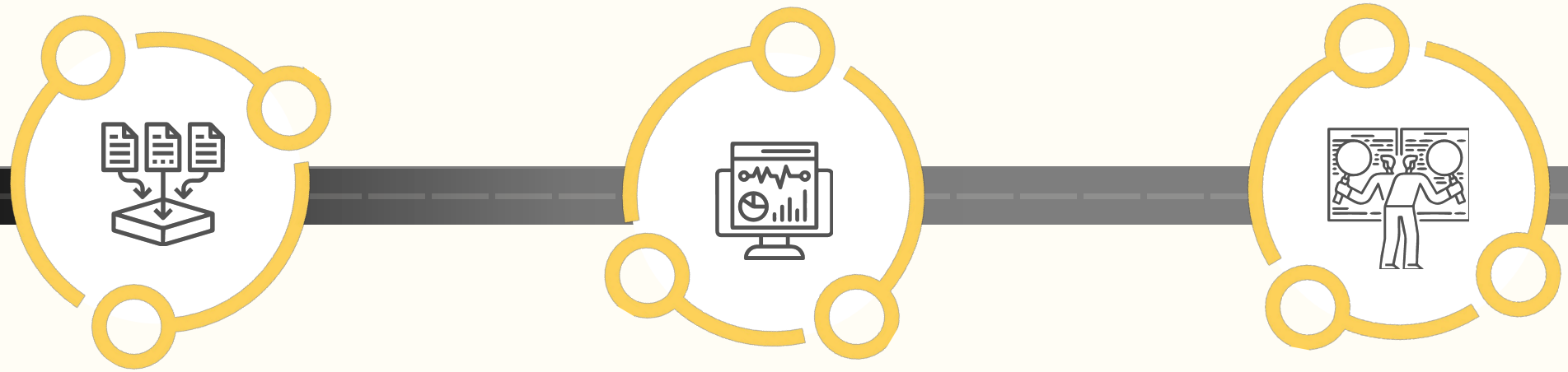
Salzburg Global Seminar is an independent non-profit organization founded in 1947 with a mission to challenge current and future leaders to shape a better world.

Japan India Transformative Technology Network

The Japan India Transformative Technology Network, launched in 2020 by Salzburg Global Seminar and The Nippon Foundation, connects tech entrepreneurs from India and Japan to foster collaborations and surface creative ideas to use tech and artificial intelligence as a force for good, solving some of the pressing challenges of today: mobility, equity and access, economic development. The founders—Aishwarya and Adway are Salzburg Global Fellows participating in the JITTN fellowship programme.

How we Solve the Problem

The 3 Step Process to make our Roads Safer



STEP 1

Data collection at hyperlocal level

- FIRs
- Medical records
- Video feeds

STEP 2

Data analysis and software development

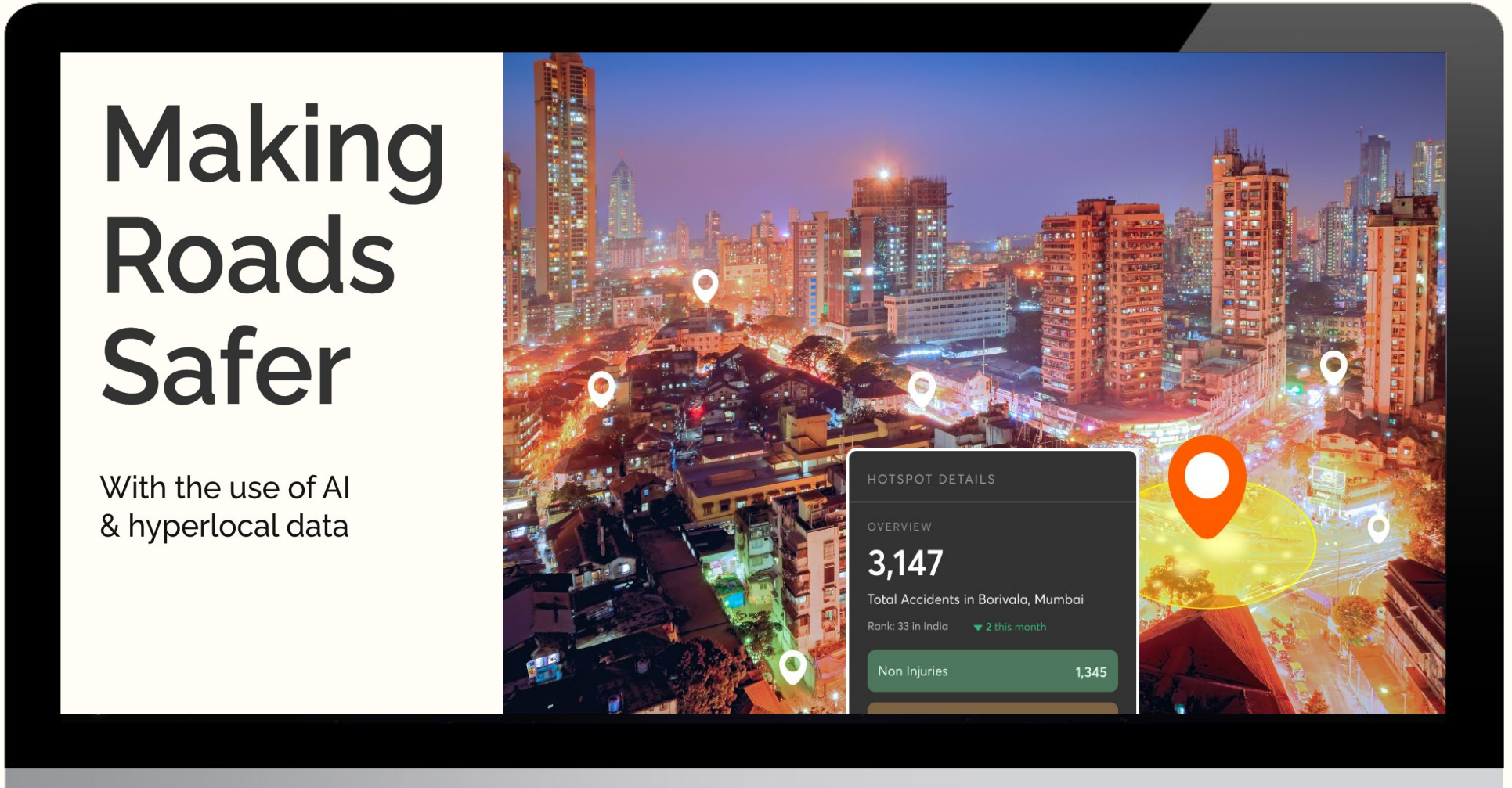
- Traffic mining
- Pattern Simulations
- Predictive modeling

STEP 3

Policy insights generation at hyperlocal level

- Analysis
- Microsimulations
- Recommendations

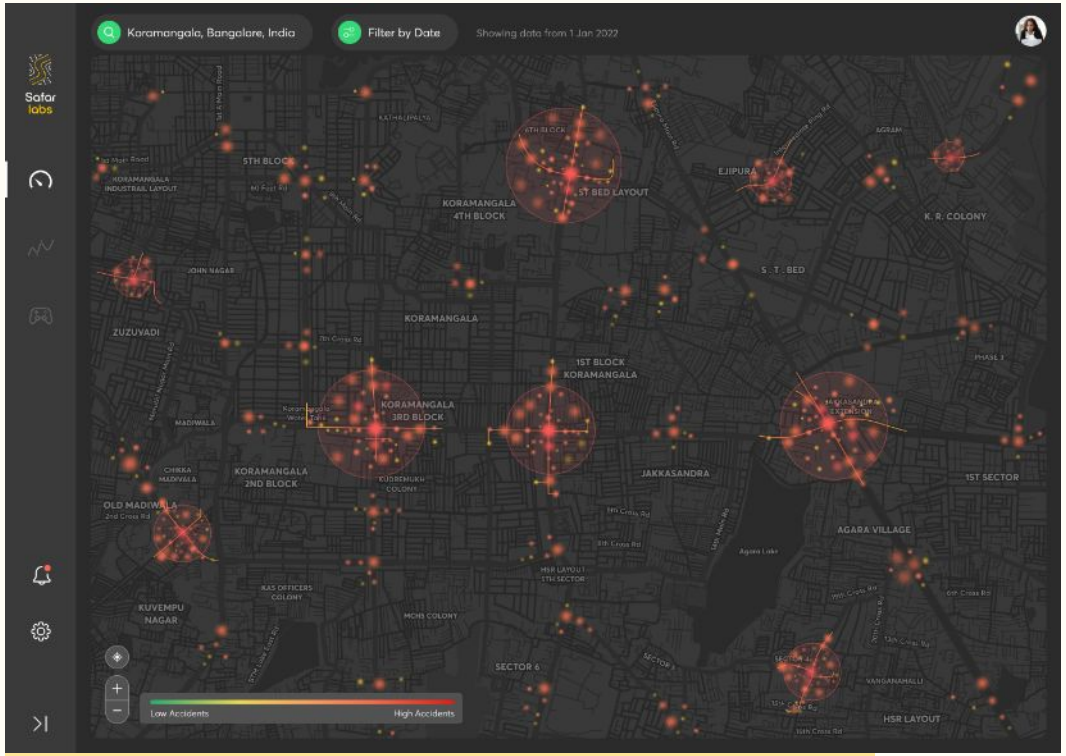
Accessible on the Safar Labs Platform



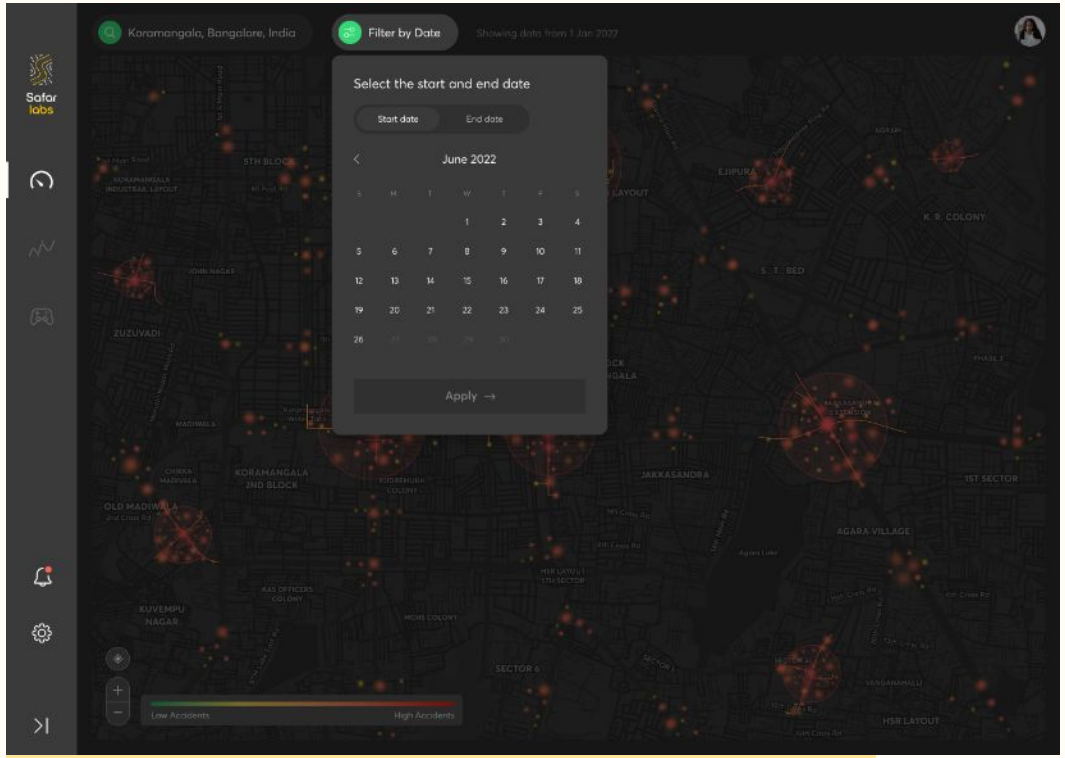
With 3 Main Modules

1 | Safar View (1/2)

Visualize road accident data at a street/hyperlocal level. Identify black spots, plot causes of accidents or accidents by vehicle type and other charts



View accident-prone areas at localized level

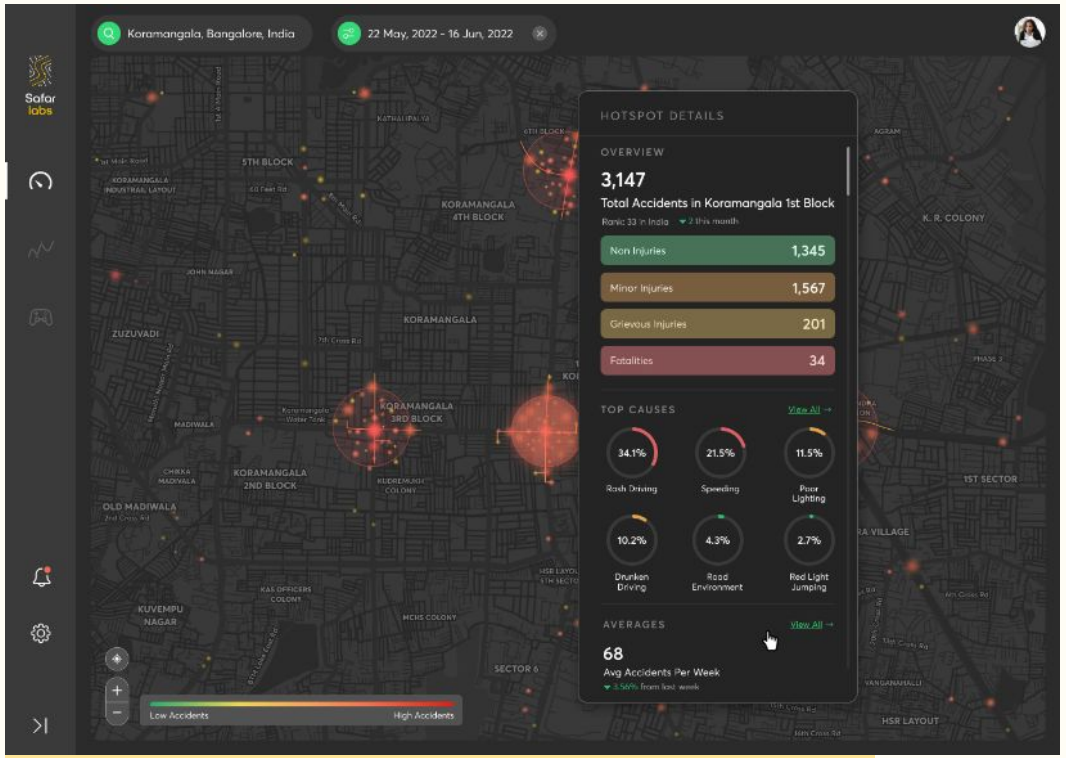


Filter for specific dates

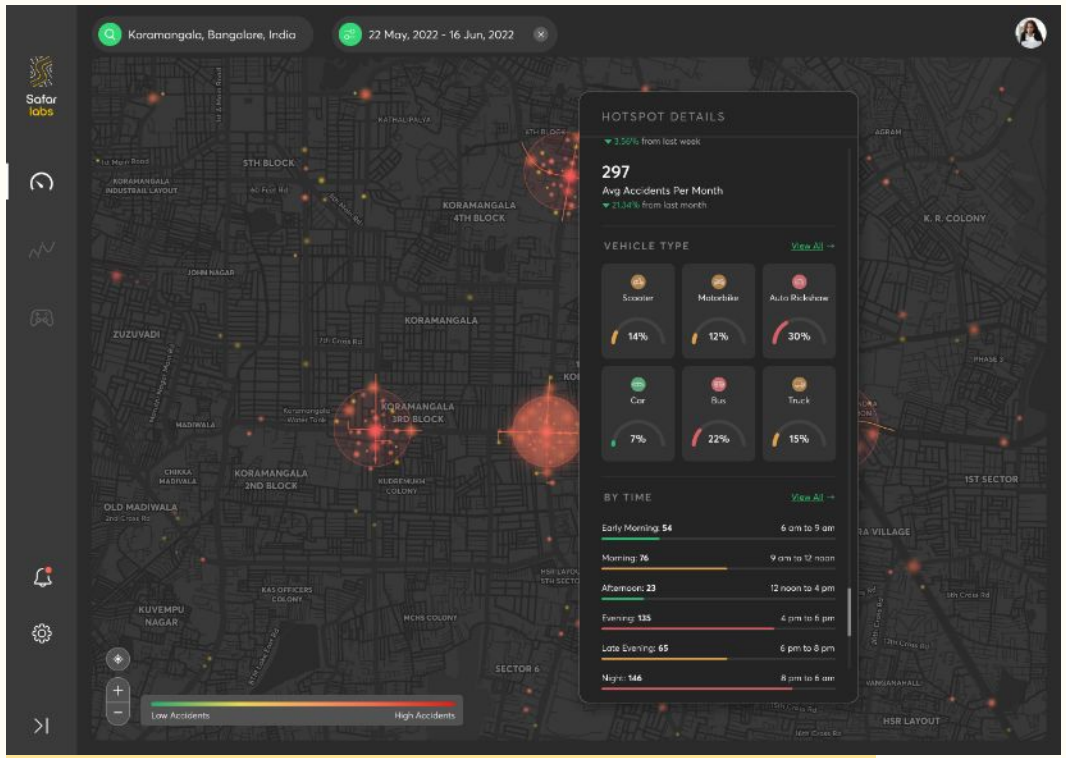
With 3 Main Modules

1 | Safar View (2/2)

Visualize road accident data at a street/hyperlocal level. Identify black spots, plot causes of accidents or accidents by vehicle type and other charts



Click on any area to get accident details

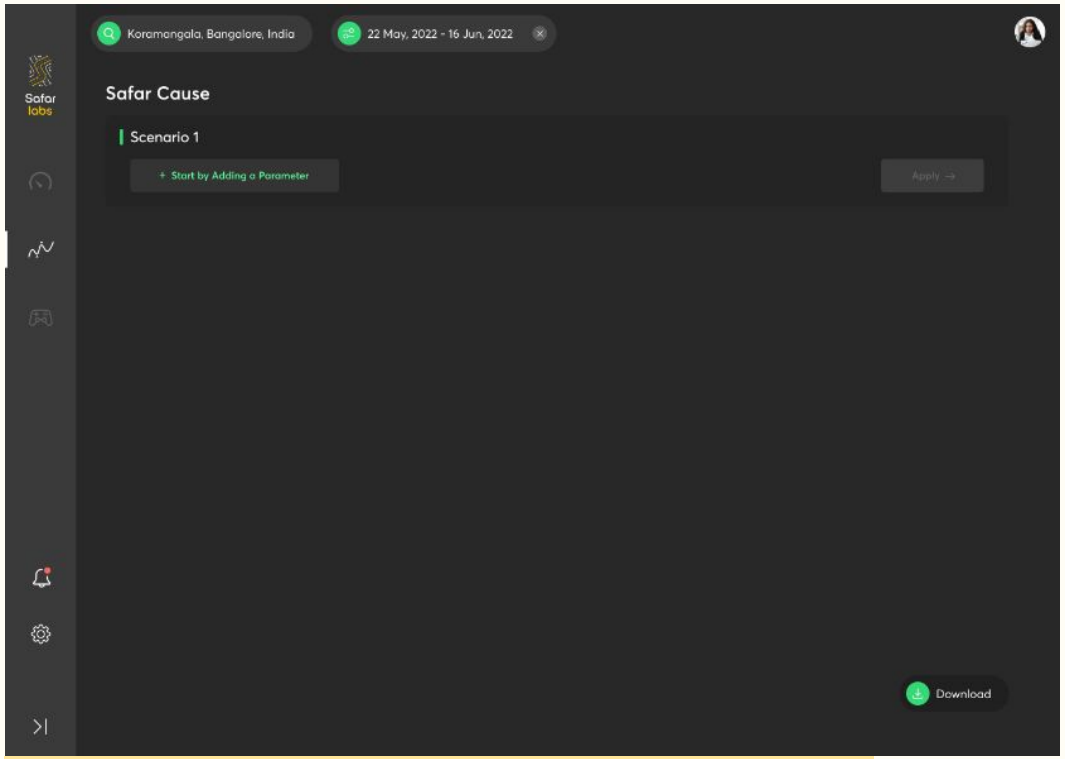


Scroll to get additional details

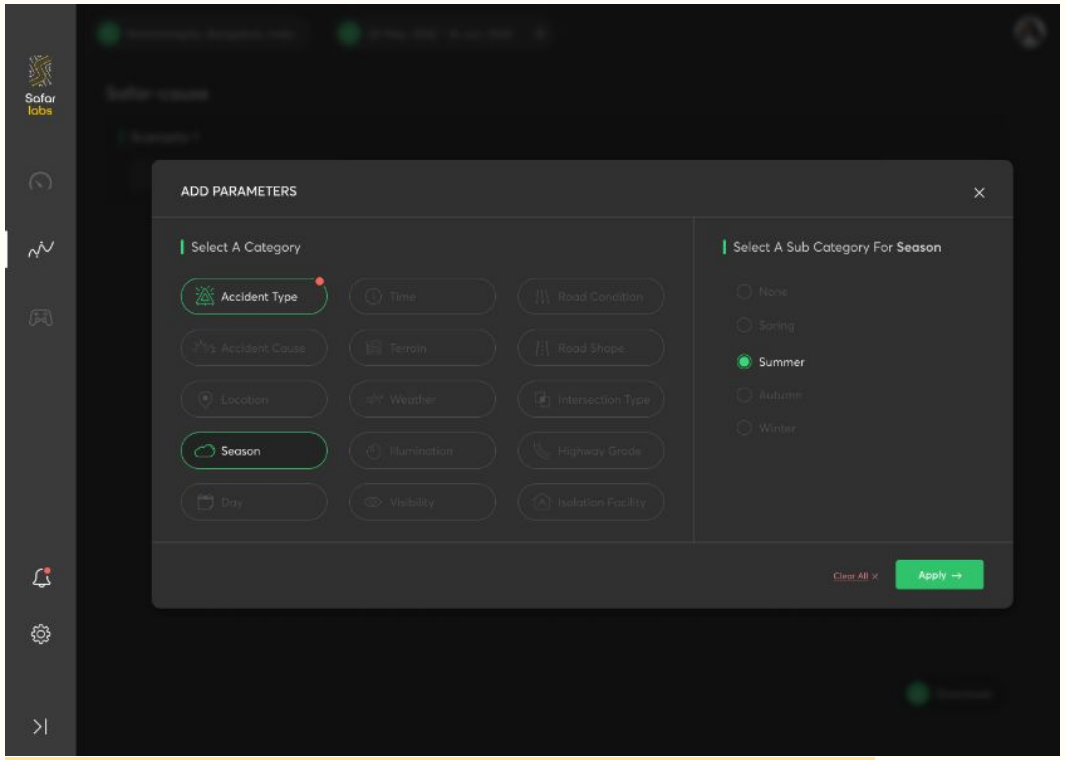
With 3 Main Modules

2 | Safar Cause (1/2)

Analyze if there's a strong causation between antecedent and precedent, with confidence and lift scores.



Create scenarios by adding parameters

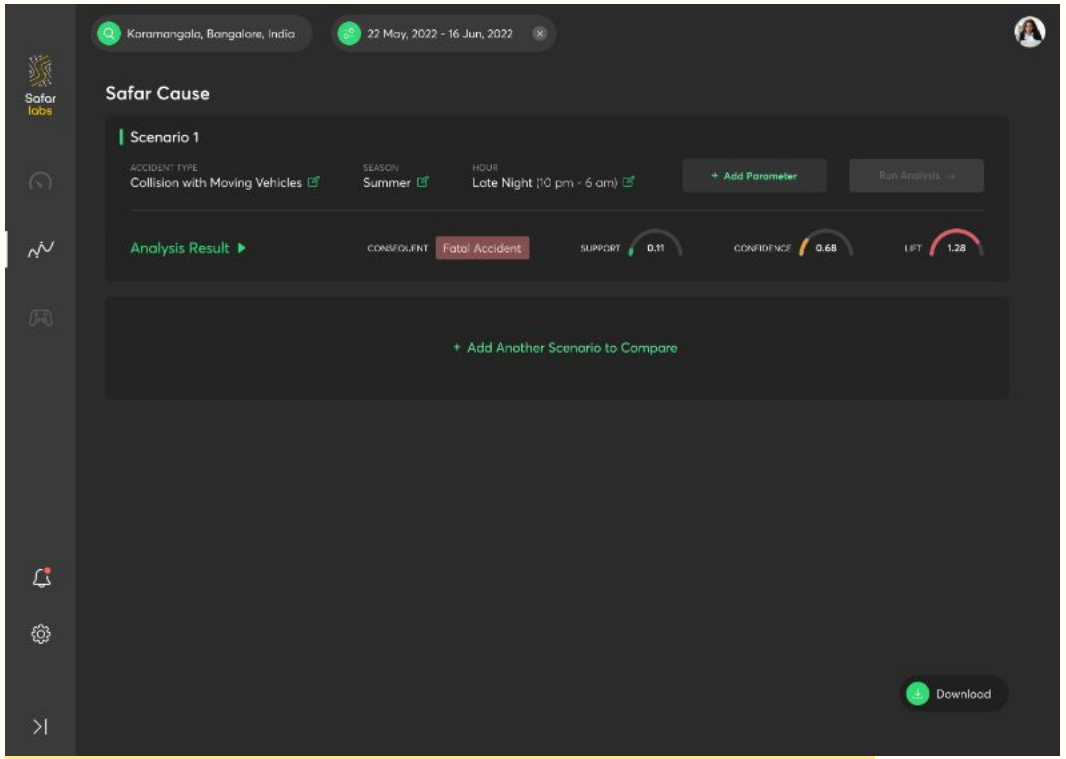


Select from multiple categories and sub-categories

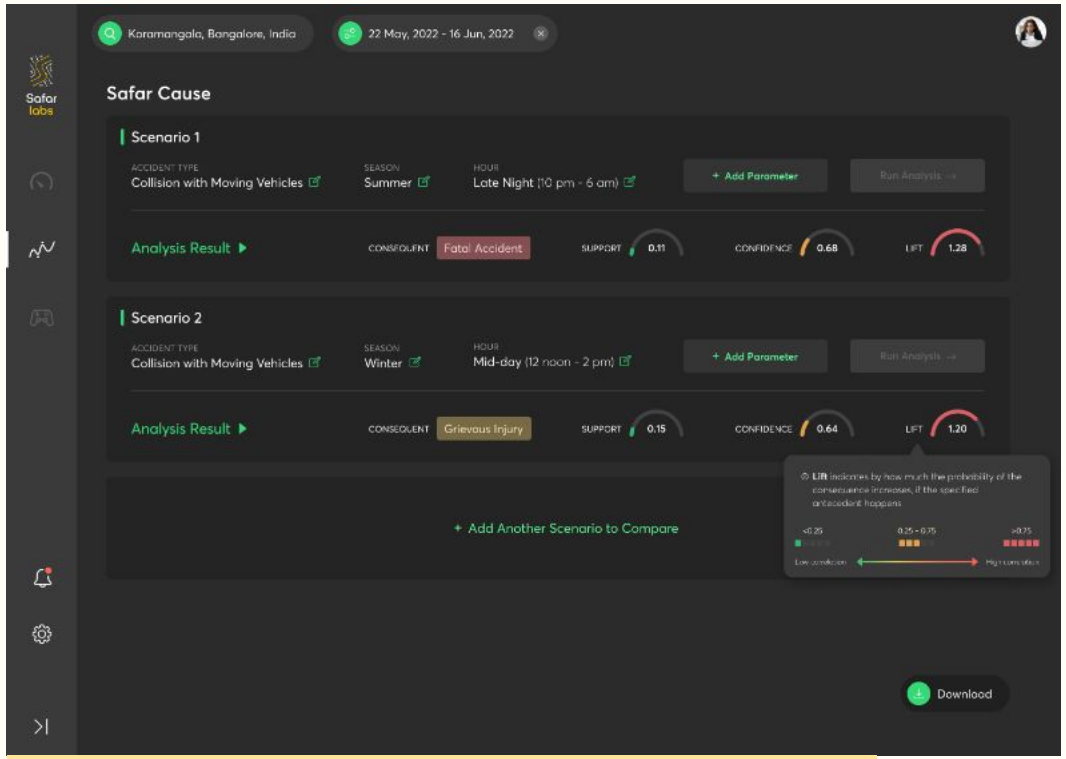
With 3 Main Modules

2 | Safar Cause (2/2)

Analyze if there's a strong causation between antecedent and precedent, with confidence and lift scores.



Get support, confidence and lift for the scenario

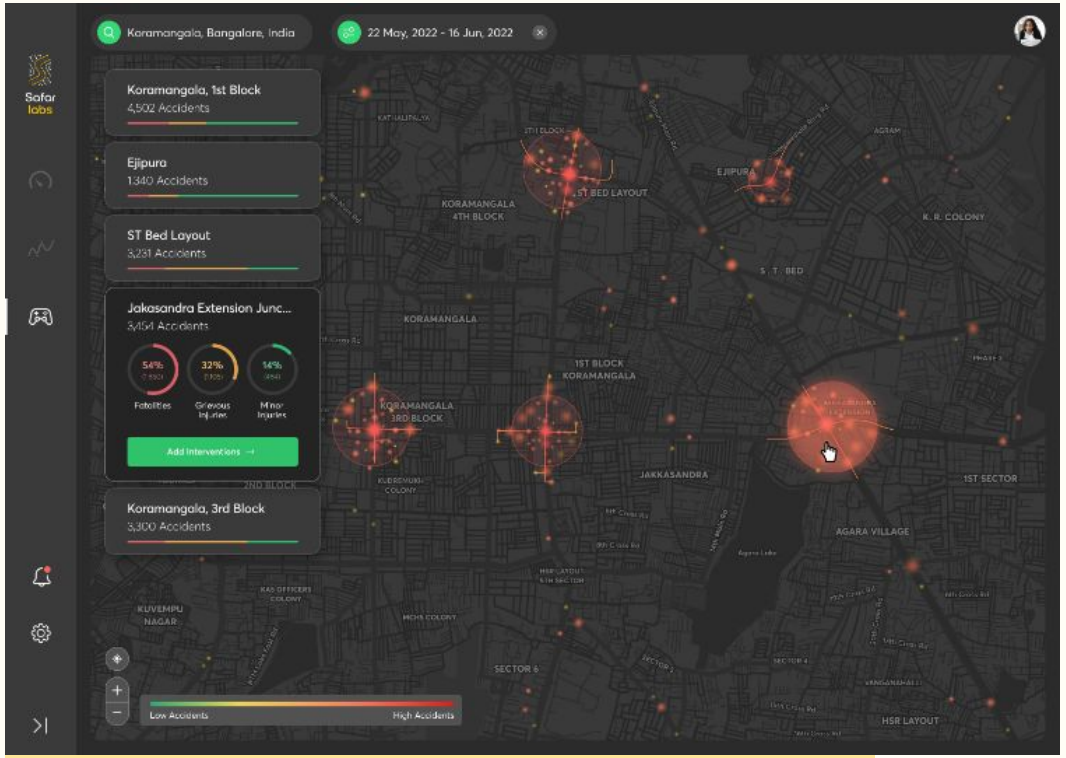


Compare with multiple scenarios, as required

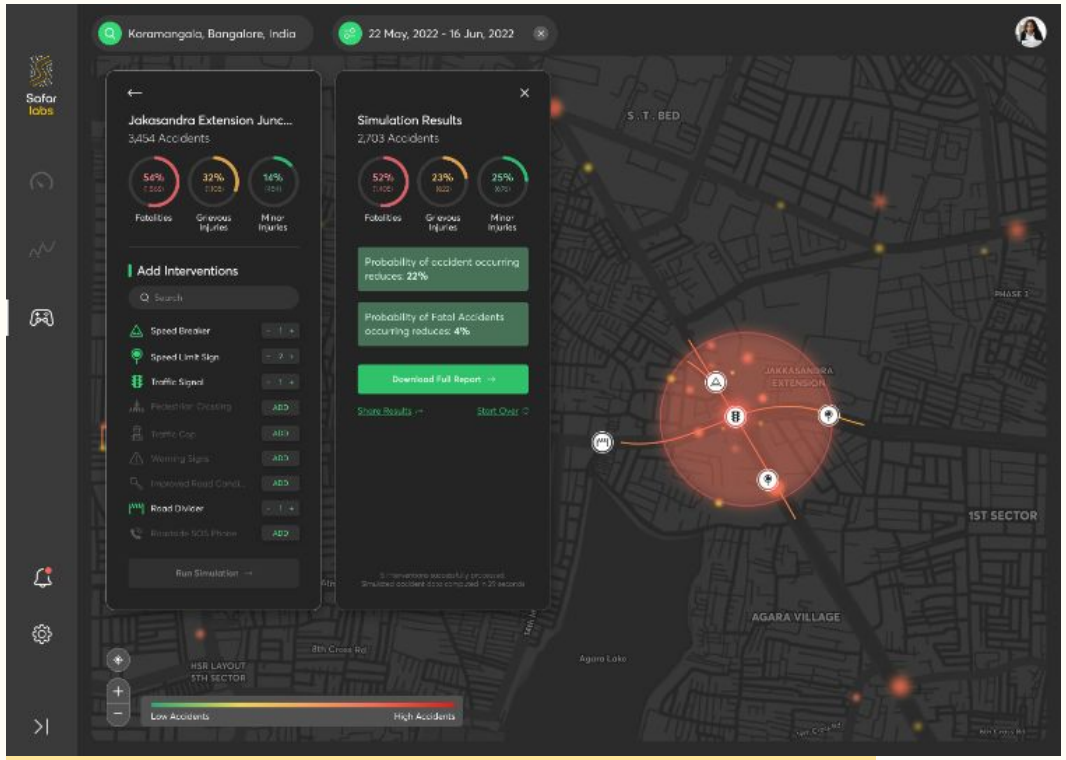
With 3 Main Modules

3 | Safar SIM (1/2)

Measure the impact of any intervention on the precedents. Add multiple parameters and understand which intervention will give the best result.



Simulate interventions at specific areas



Compare before-after to see effect of interventions

How will cities benefit from Safar Labs

- Improved quality of crash data analysis
- Provide insights at street or locality level to avoid collisions
- Improve responses after crash
- Create better regulatory frameworks for road safety
- Contributing to SDG Goals 11
- Know black spots and take additional precaution

Piloting
Proof of Concept

Analysis of Accidents in **Purba Bardhaman district, West Bengal**

Accidents in the period 2018-2021 were analysed in East Bardhaman district to identify accident prone areas..

In the pipeline

- **Agra–Lucknow Expressway**
- **Chandigarh (Union Territory)**
- **Hyderabad**
- **Chennai**
- **Delhi**

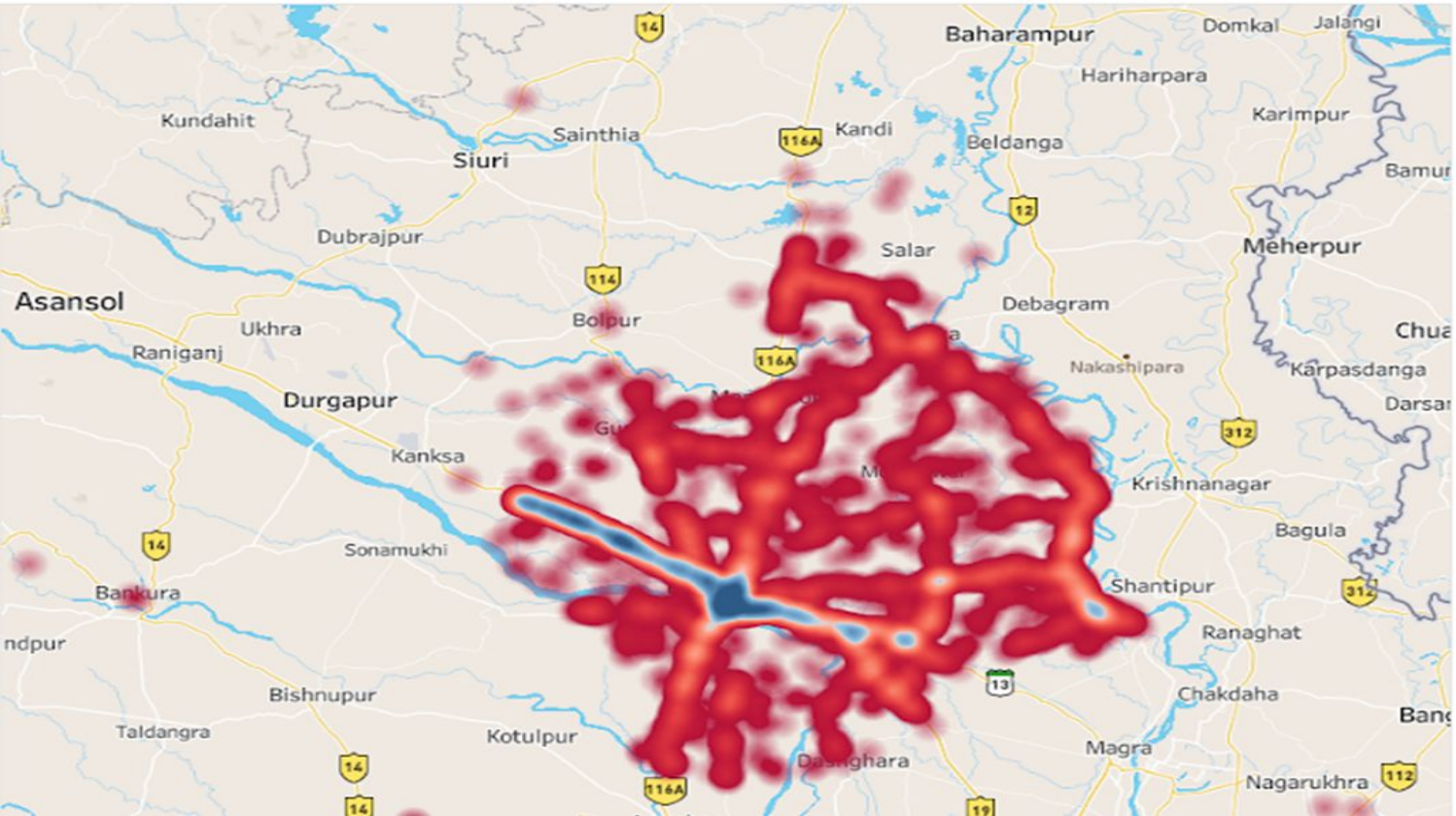
Proof of Concept

5a | Hotspot Analysis

An unsafe improvised vehicle on a highway

Hotspot map | based on speed limit | weather type | area type and traffic control | speed limit and type of collision | road type and no. of lanes | road type a

Hotspot map



Year
- (All)
- 2018
- 2019
- 2020
- 2021

Date
9/6/2016 12/31/2021

Time
12:11:54 AM 11:43:05 PM

BLUE: High Density
WHITE: Moderate Density
RED: Low Density

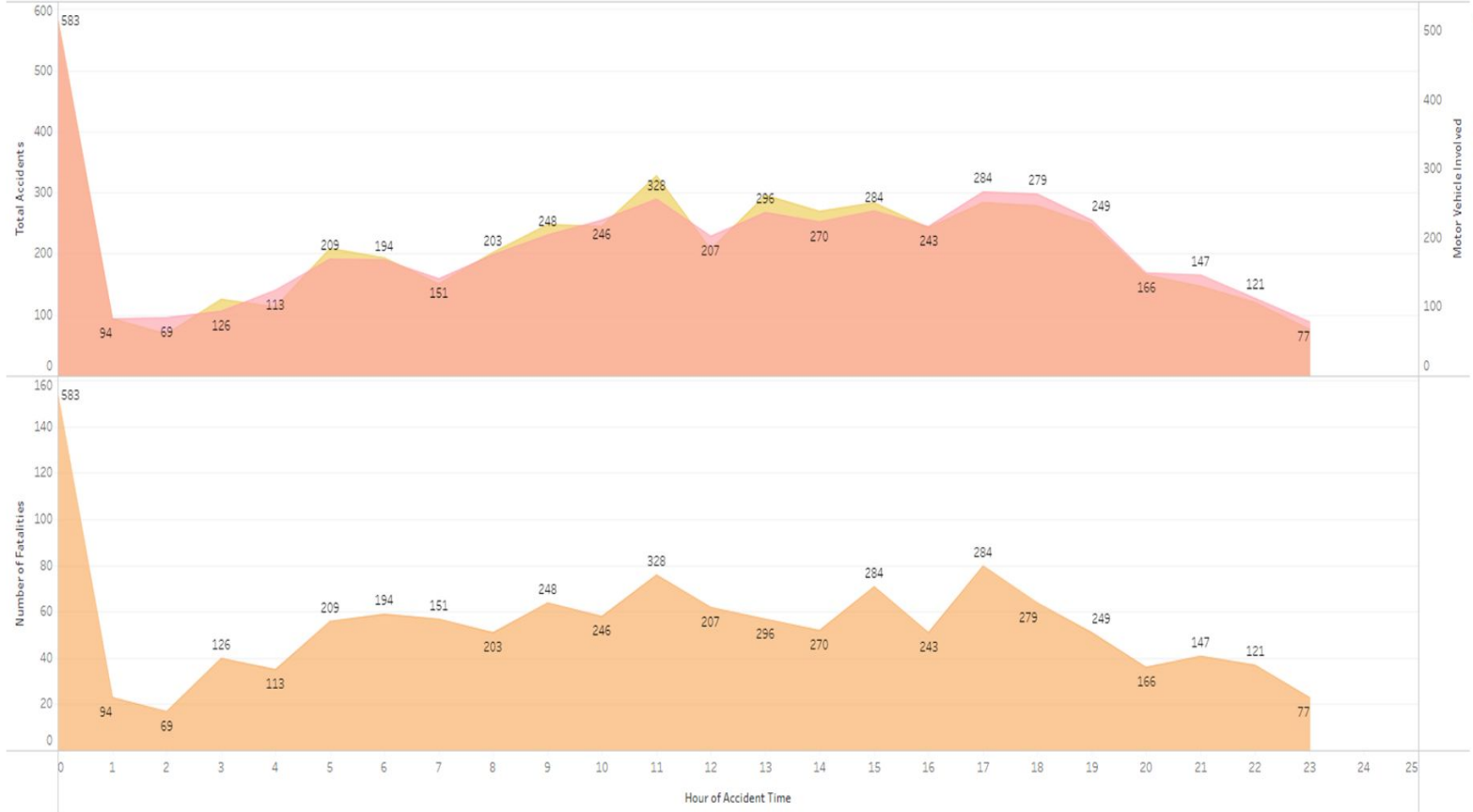
Proof of Concept

People riding motorbike without helmet on highway

5b.1 | Interactive Dashboard

Hotspot map | based on speed limit | weather type | area type and traffic control | speed limit and type of collision | road type and no. of lanes | road type and accidens | based on time | accident reported in police sta... | Dashboard 1

based on time



Hour of Accident Time
(All)

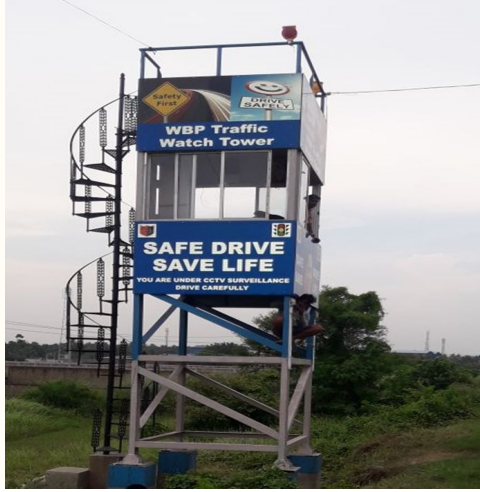
Year
2018 2021

Measure Names
Motor Vehicle Involved
Total Accidents

Proof of Concept

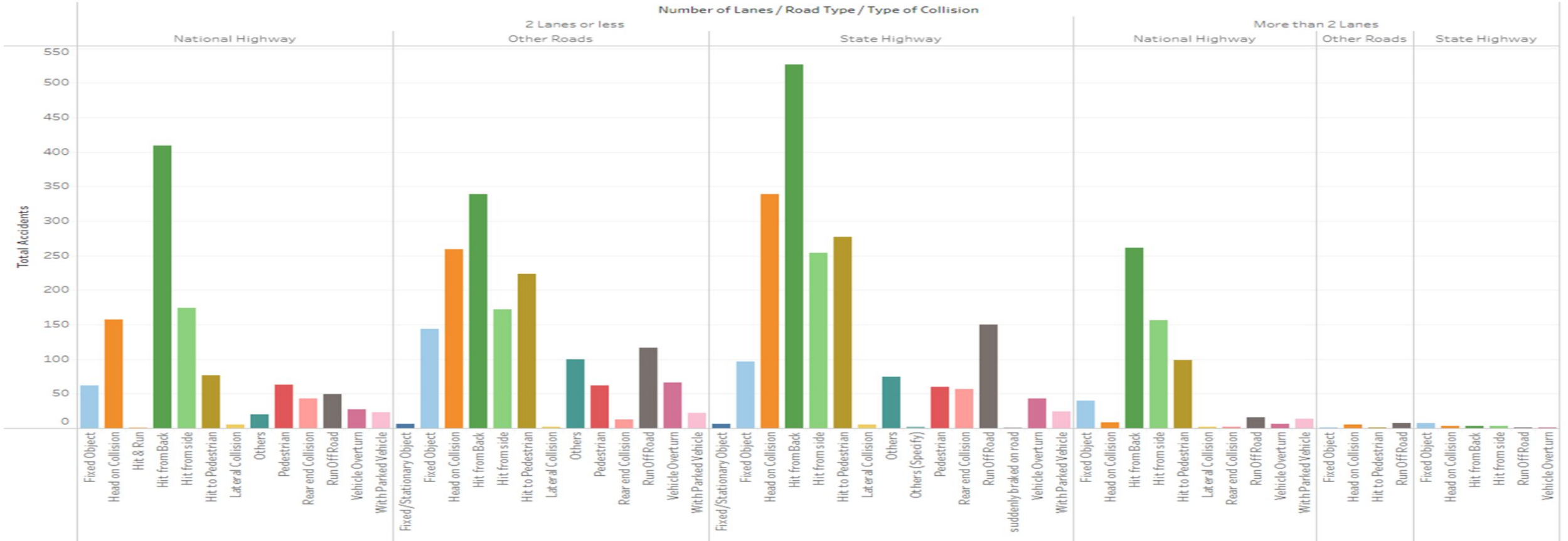
5b.2 | Interactive Dashboard

A traffic watch tower along a highway in Purba Bardhaman



Hotspot map | based on speed limit | weather type | area type and traffic control | speed limit and type of collision | road type and no. of lanes | road type and accidens | based on time | accident reported i

road type and no. of lanes



Proof of Concept

5c | Data Collection

Mr. Kamanasish Sen, Superintendent of Police, Purba Bardhaman has been an active stakeholder in the Safar Labs initiative.

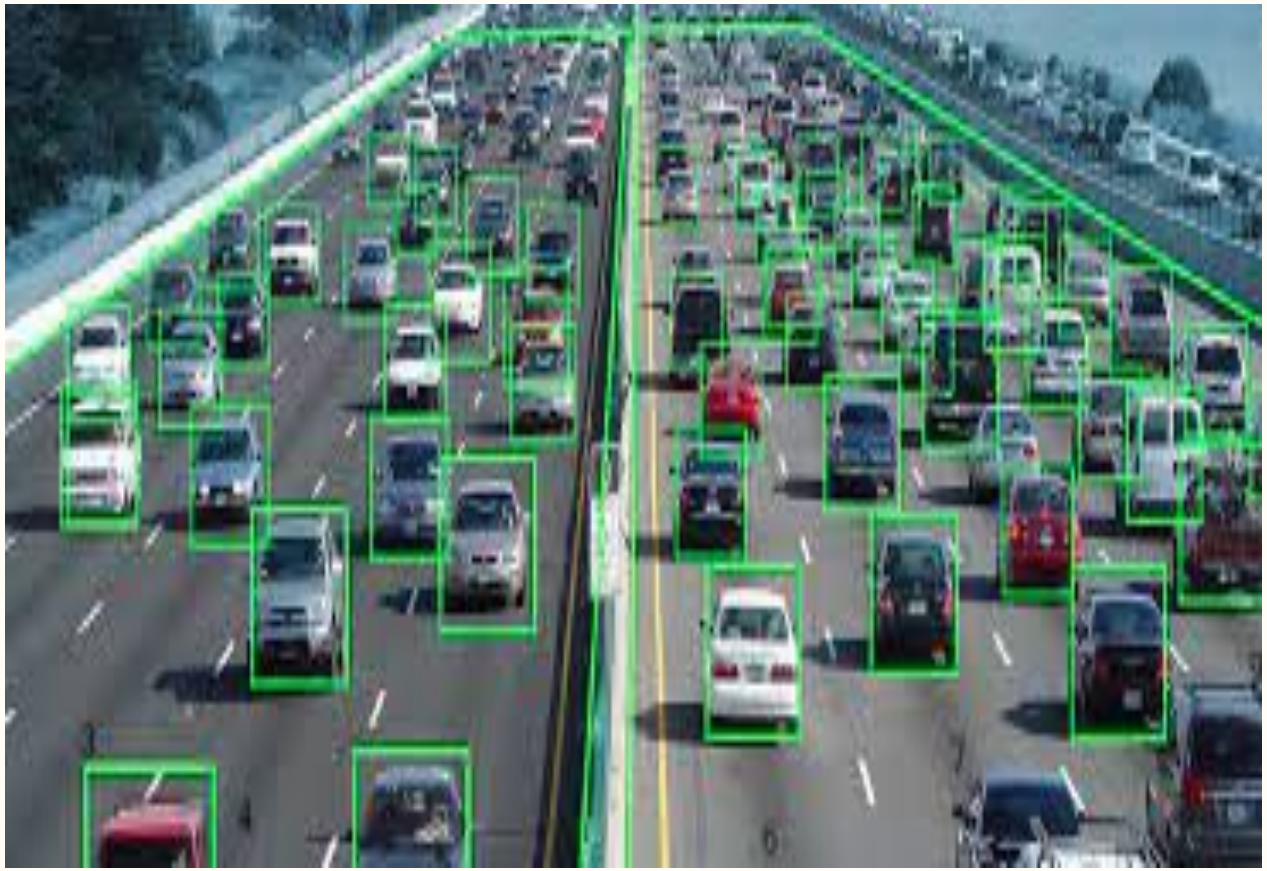
The Data Collection Team led by Adway in Purba Bardhaman

The Data Collection Team with Superintendent of Police, Purba Bardhaman

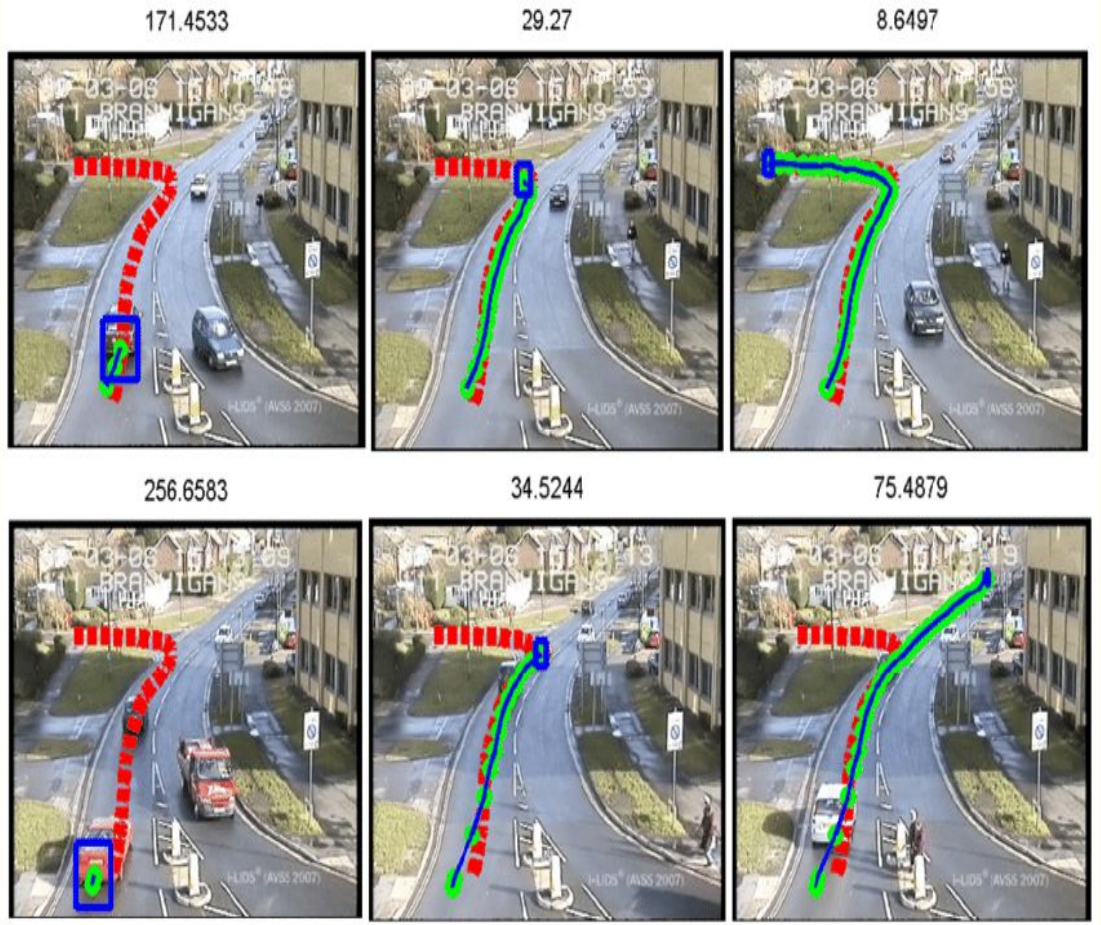
Proof of Concept

5d | Ongoing: Traffic Feed Analytics

Computer vision to analyse number of vehicles of different types, their speeds and trajectories



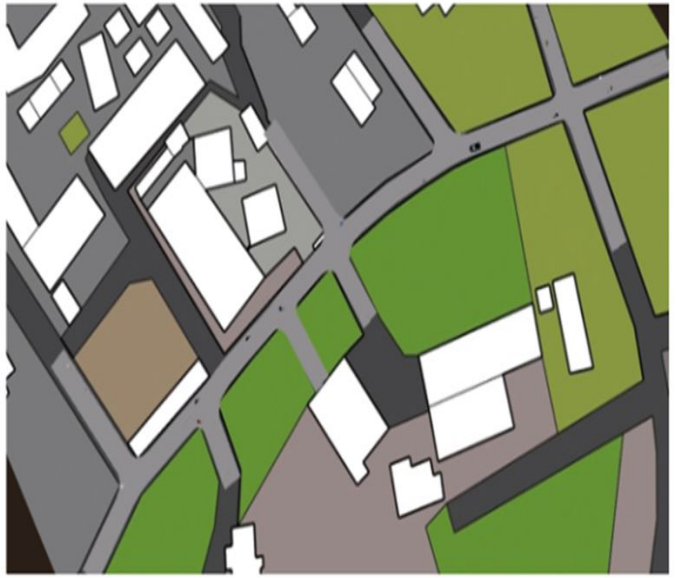
https://www.traffictechnologytoday.com/



Credits: Adam Nowosielski

Proof of Concept

5e | Upcoming: Traffic Simulation



Let's make our ROADS SAFER

www.safarlabs.org

https://ola.institute/

aishwarya.raman1@olacabs.com