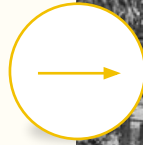


Safarilabs

**Safe and
Accessible
Future using
AI on
Roads**

150,000+

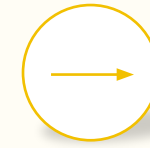


people die due to road accidents every year

**How can we
make our
Roads Safer?**

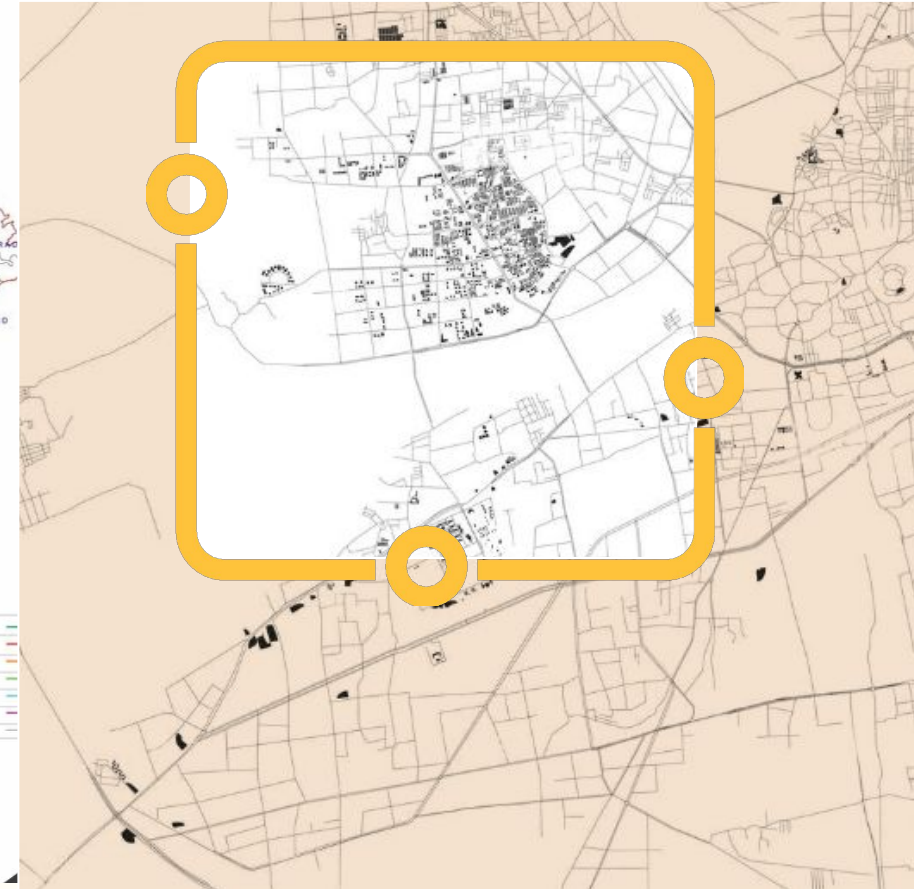
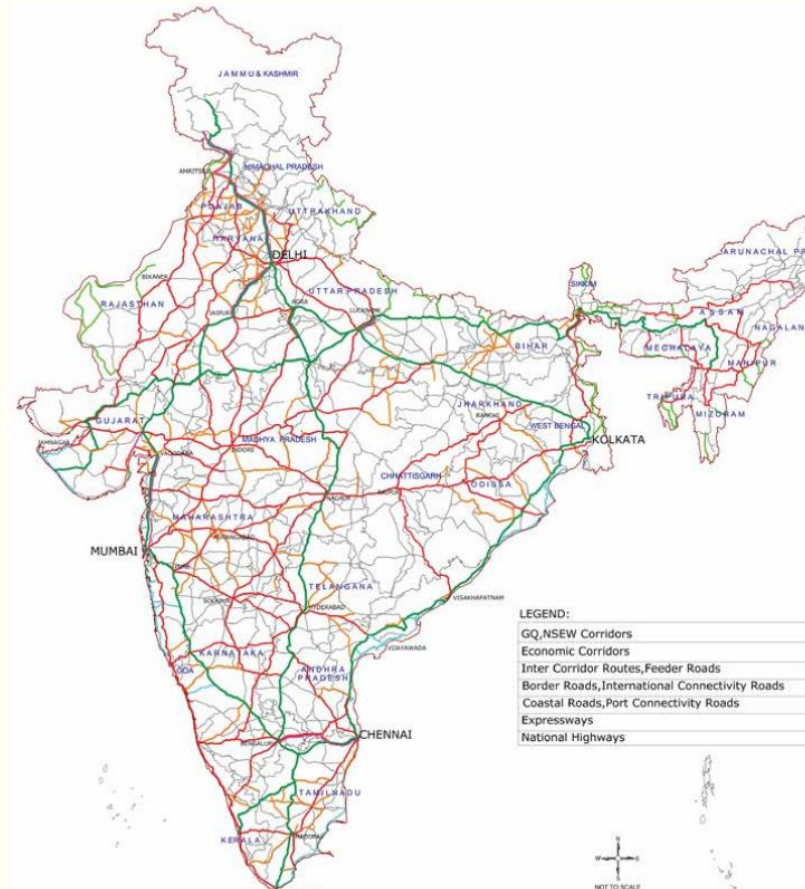


Road accident analysis
is done at macro level.

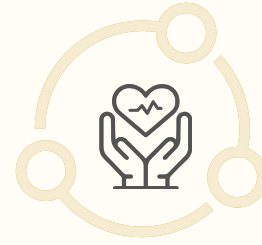


Accidents happen
at local level.

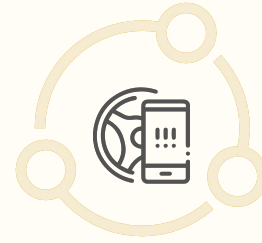
How can
we analyse
local data?



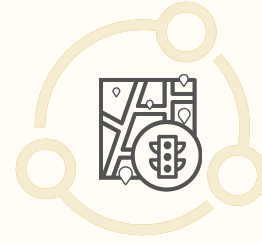
SAFAR
harnesses the power
of hyperlocal data
and AI/ML to make
our roads safer.



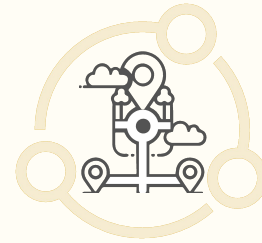
Saving Lives



Reducing socio-economic
cost of accidents



Improving productivity

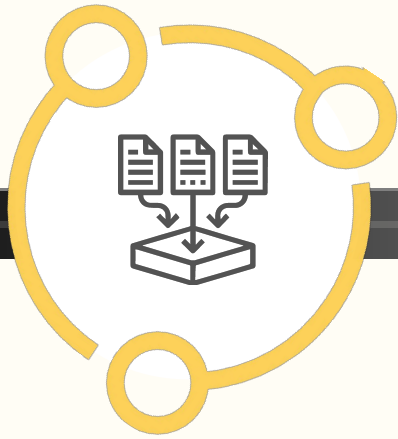


Enhancing well-being of
the entire nation

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

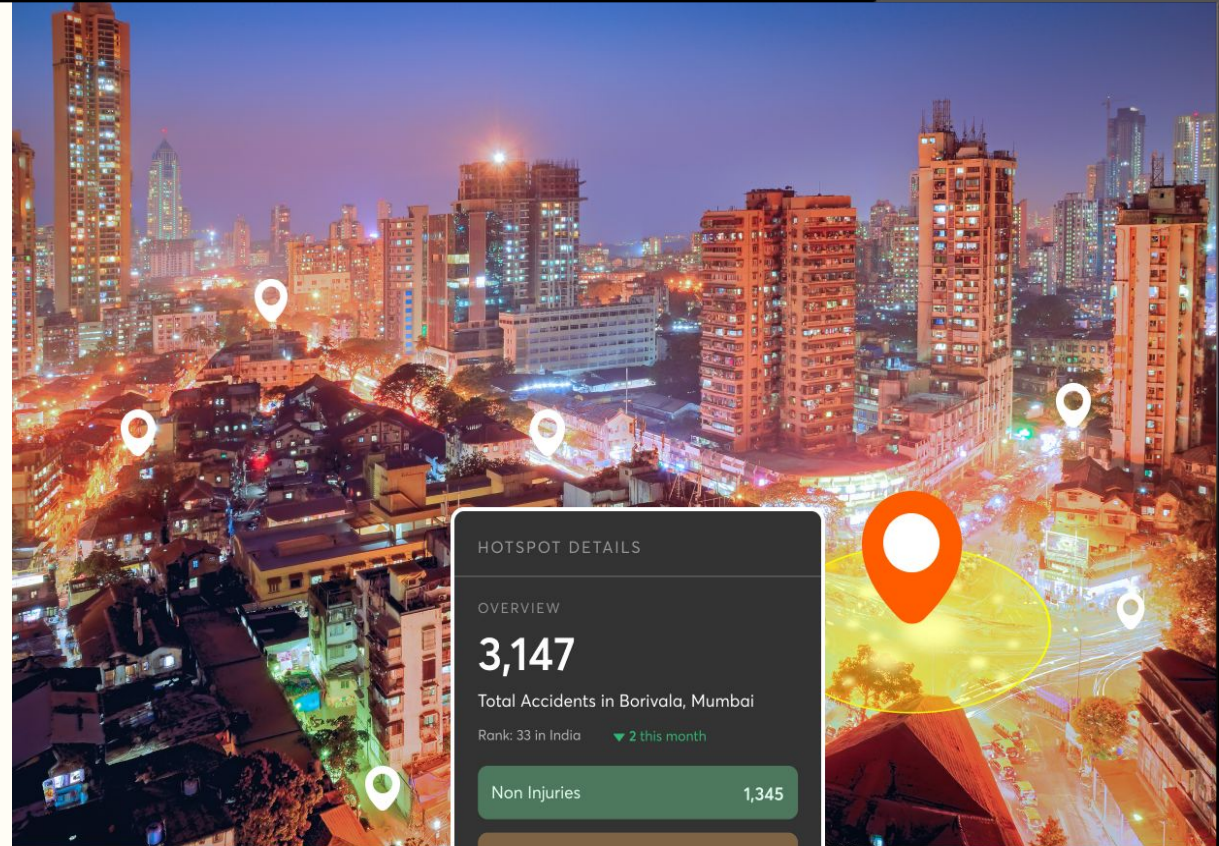
Policy insights generation at hyperlocal level

- Analysis
- Microsimulations
- Recommendations

Accessible on the Safar Labs Platform

Making Roads Safer

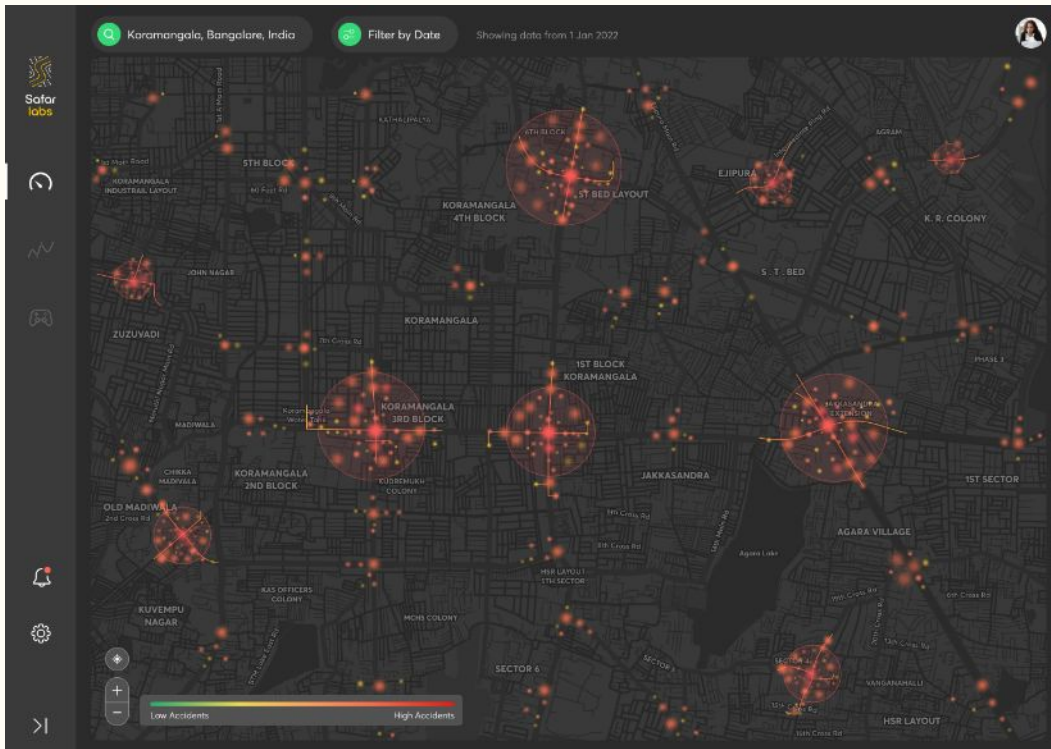
With the use of AI
& hyperlocal data



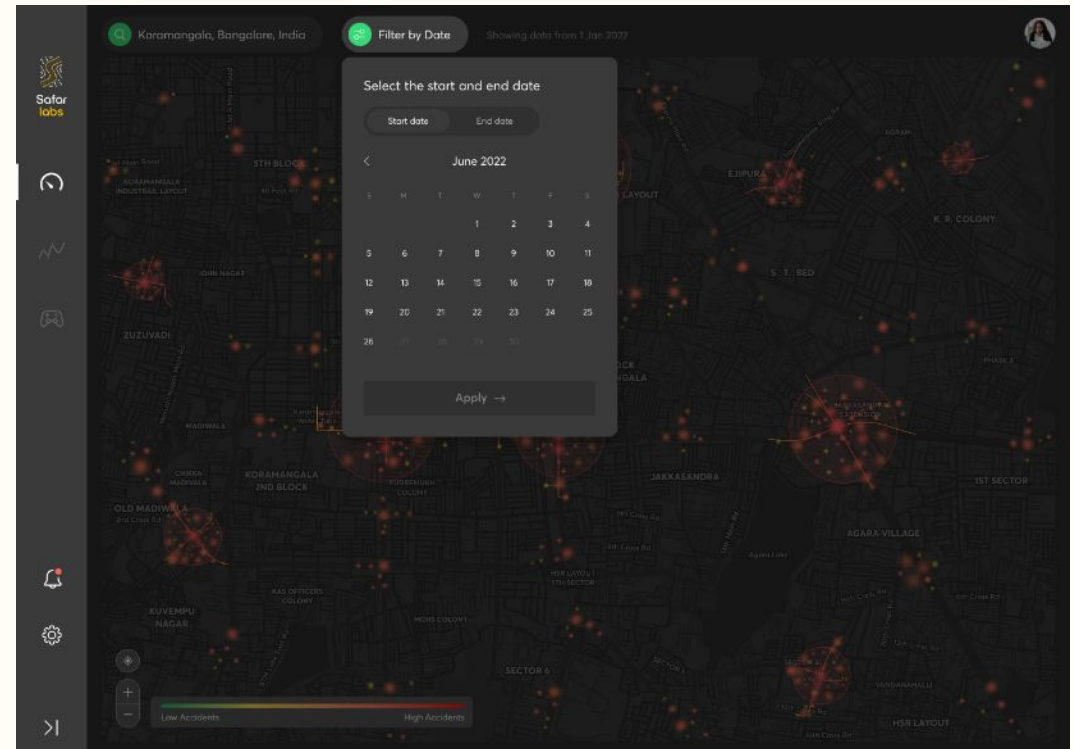
With 3 Main Modules

1 | Safar View (1/2)

Visualise 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

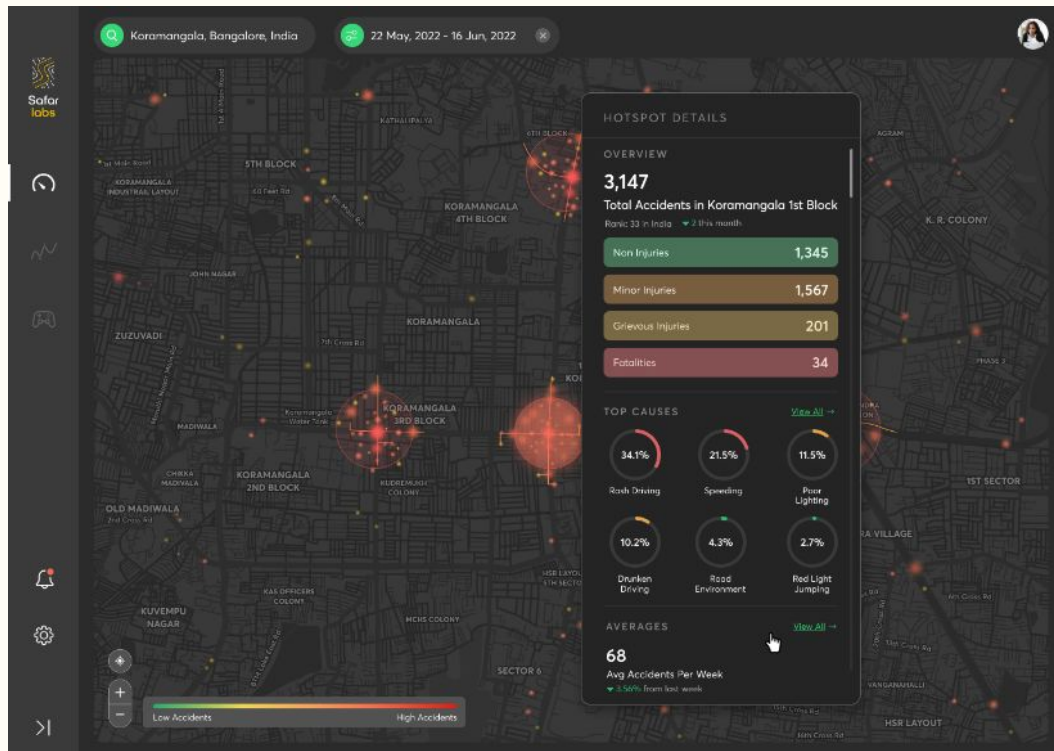


Filter for specific dates

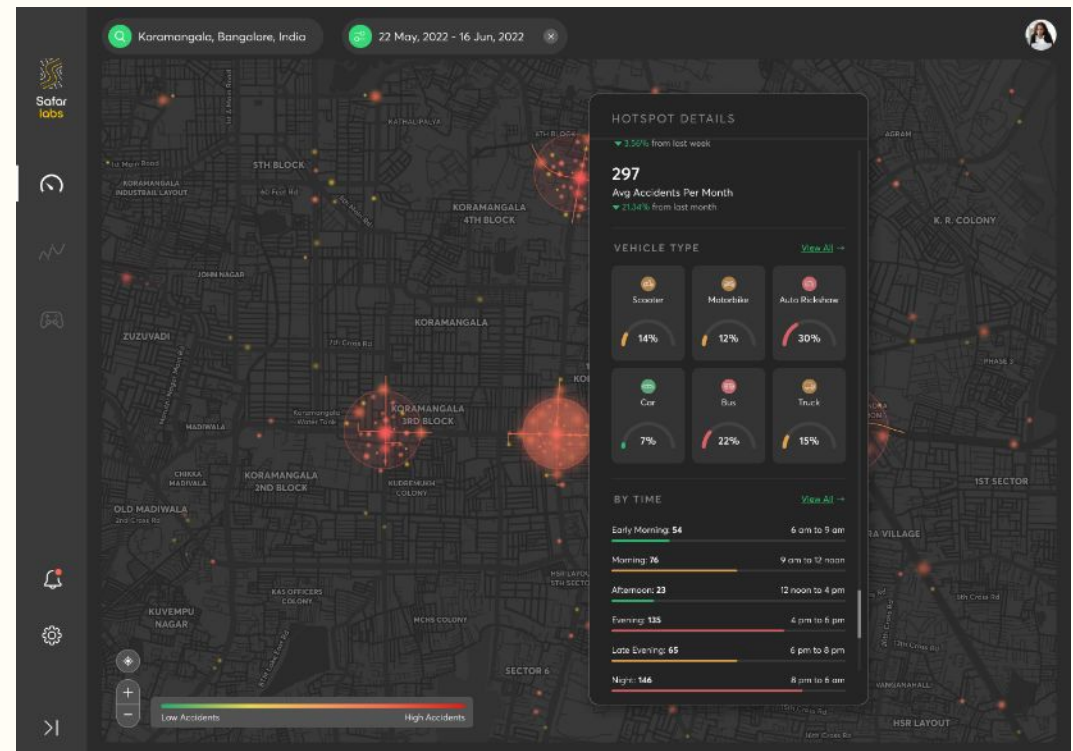
With 3 Main Modules

1 | Safar View (2/2)

Visualise 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

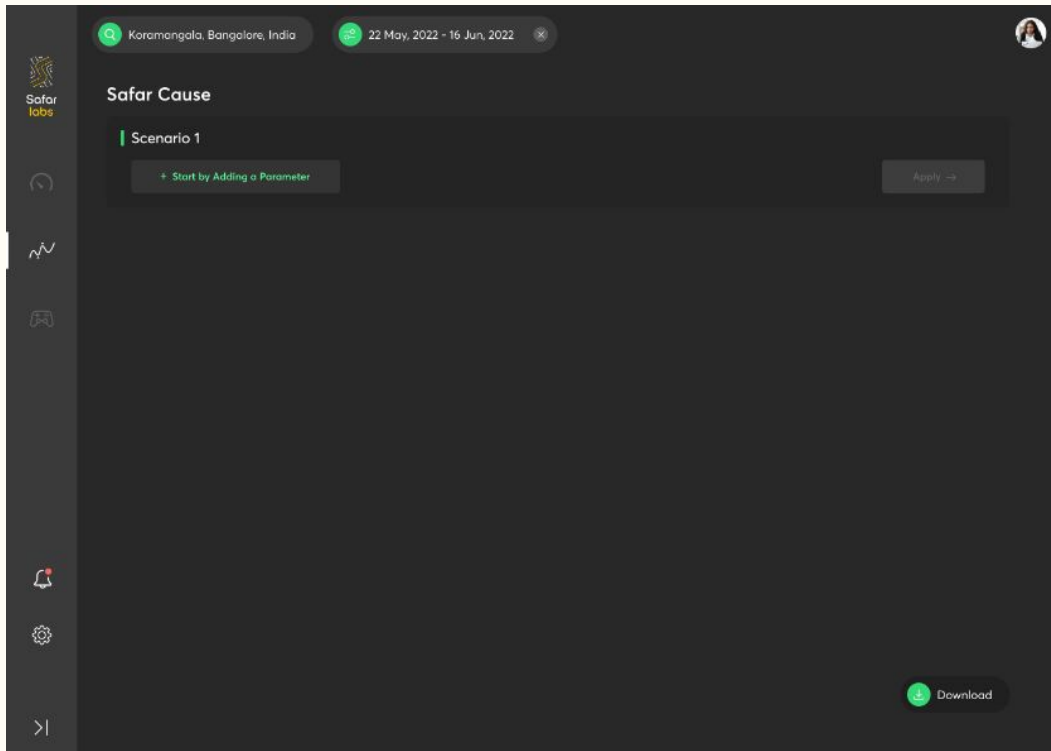


Scroll to get additional information

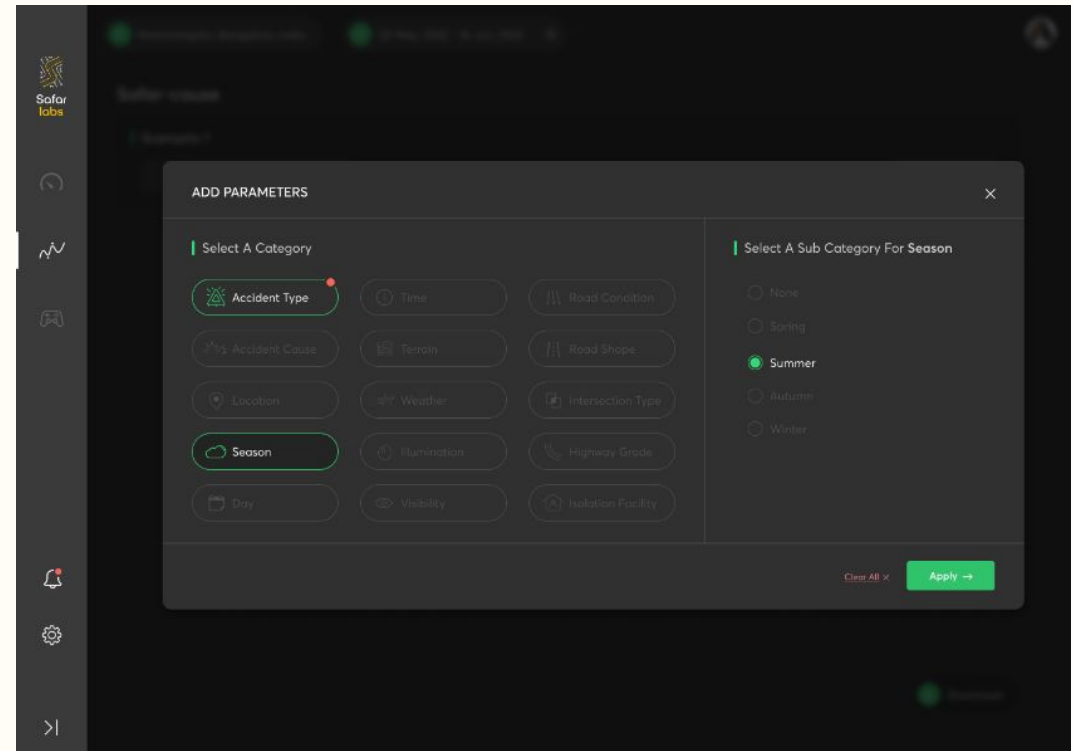
With 3 Main Modules

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

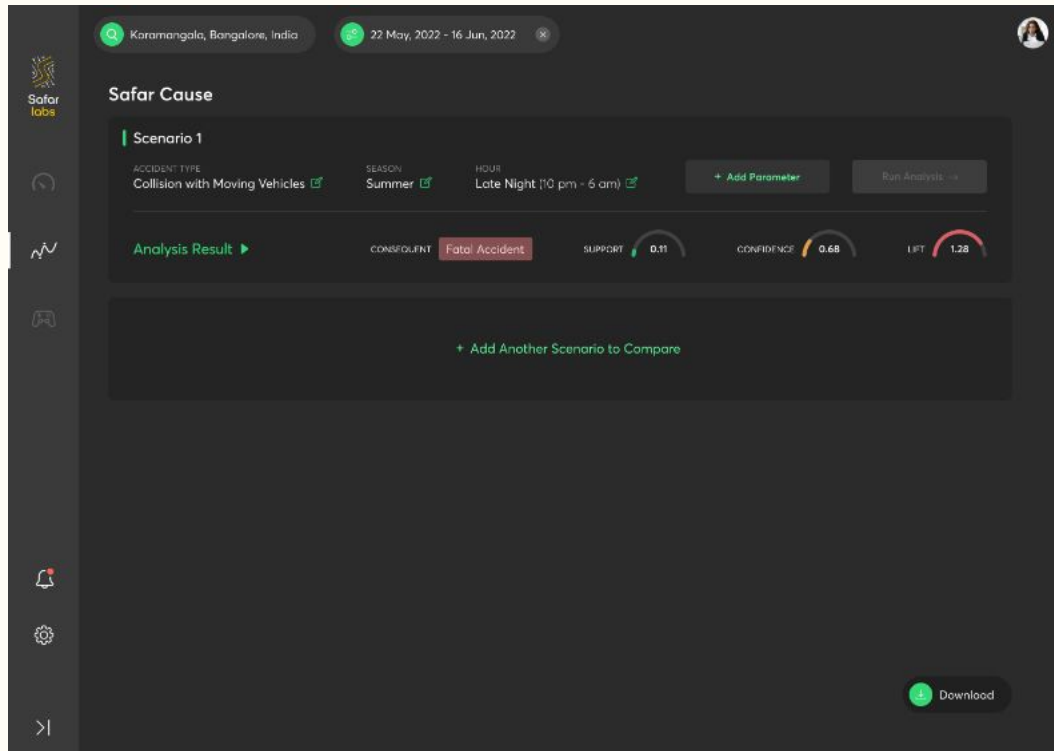


Select from multiple categories and sub-categories

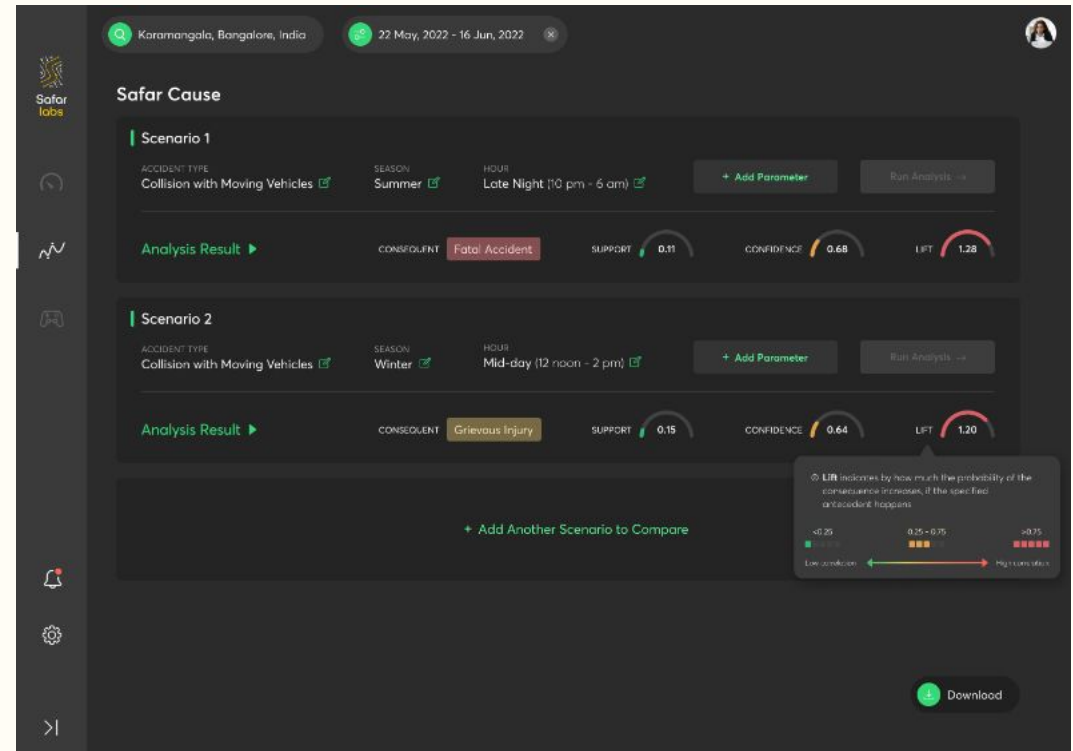
With 3 Main Modules

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

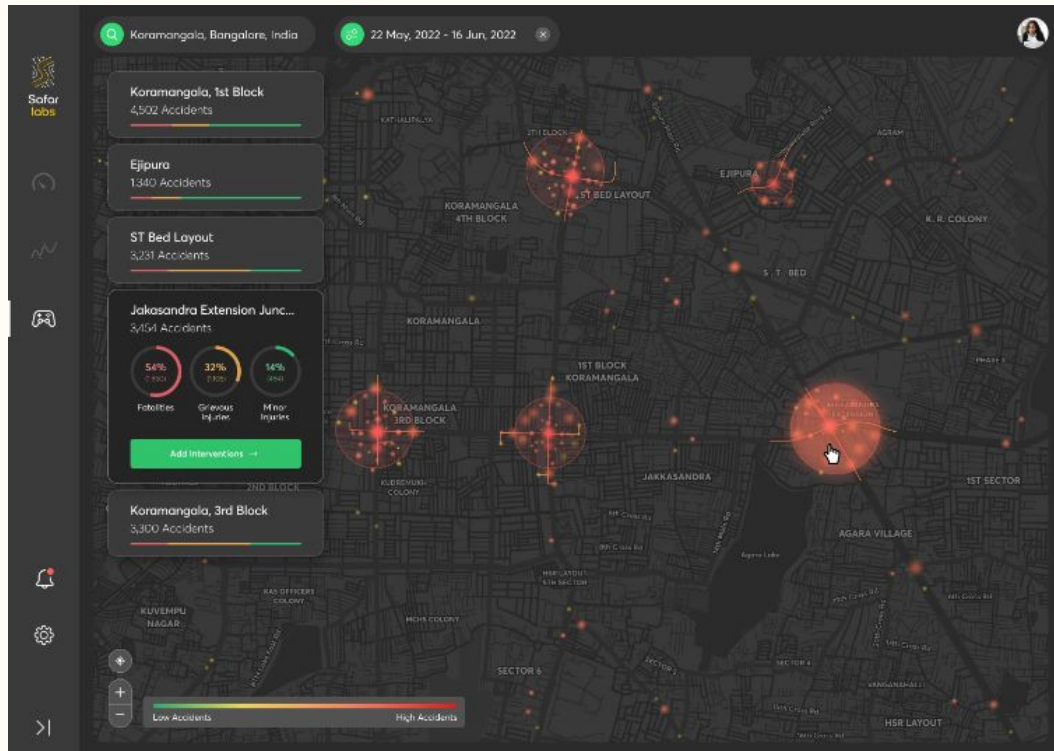


Compare with multiple scenarios, as required

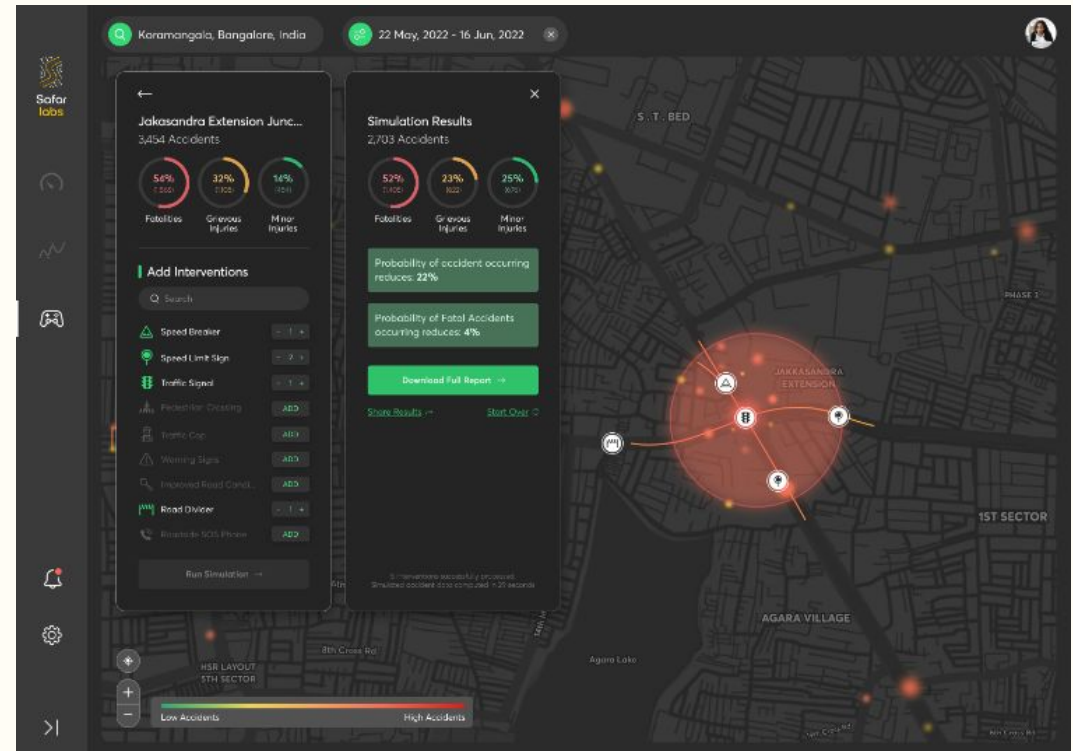
With 3 Main Modules

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

The Market Potential



The direct cost of Road Accidents

\$700 mn
will be paid by
insurers every
year



State and Central
Governments will
spend at least
\$100 mn
every year from
their Motor Vehicle
Accidents Funds

Who will Pay for our Platform

Central
Government



28 states
8 union
territories



109 Municipal
Corporations



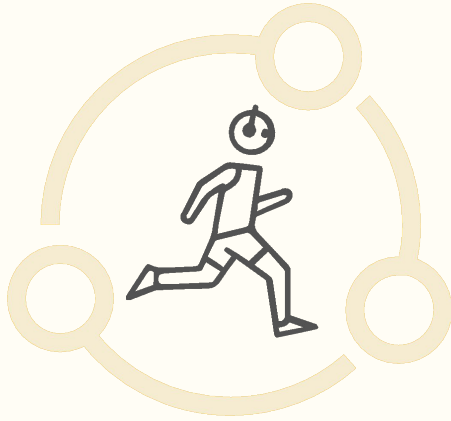
1,432 Municipal
Councils



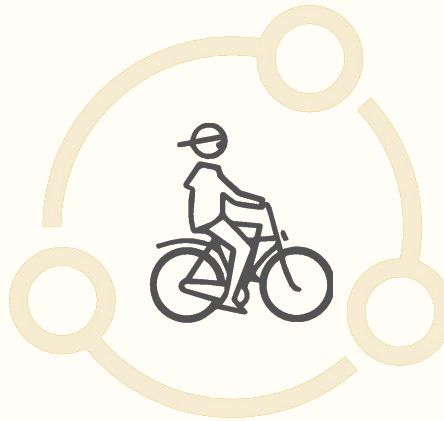
20+ motor
vehicle
insurance
companies



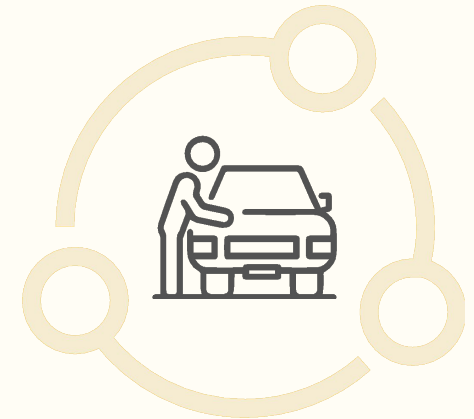
Who will also **Benefit**



Pedestrians



Two-wheeler
Users



All road users

How will they benefit from Safar Labs

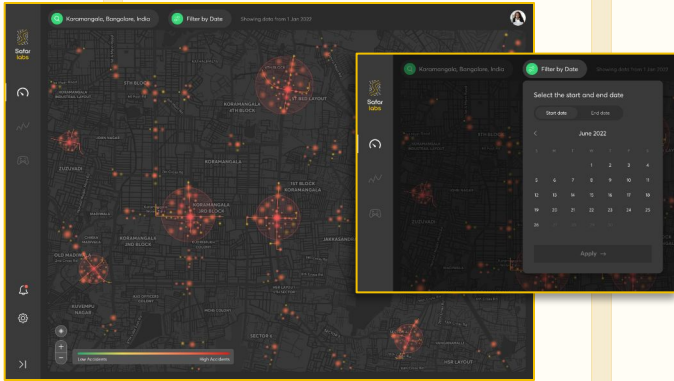
- Improved quality of crash data analysis
- Provide insights at street or locality level to avoid collisions
- Improve responses after crash
- Create better regulatory frameworks for road safety
- Contributing to SDG Goals 11
- Know black spots and take additional precaution



Our Go to Market Plan

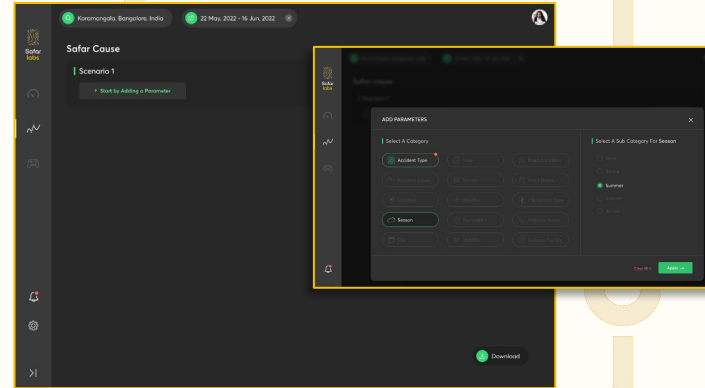


Product Growth



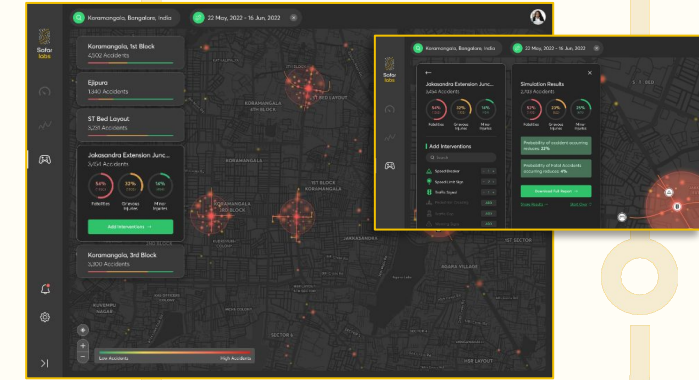
Part 1 - Completed

- Safar View
- Map-based charting | Basic Filters



Part 2 - Partially Completed

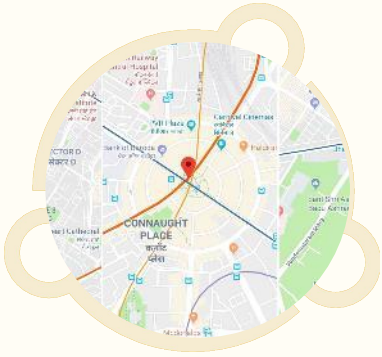
- Safar View | Safar Cause
- Multiple charting added | Drag and drop parameters for causal analysis
- API-based access



Part 3 - Under Development

- Safar View | Safar Cause | Safar SIM
- Multiple filters added | Additional parameters added

Business Growth



PHASE 1

- Pilot in 3 Municipal Corporations in one region
- Cover 100+ hyperlocal black spots



PHASE 2

- Expand to 25+ Municipal Corporations in 2 regions
- Cover 1,000+ hyperlocal black spots



PHASE 3

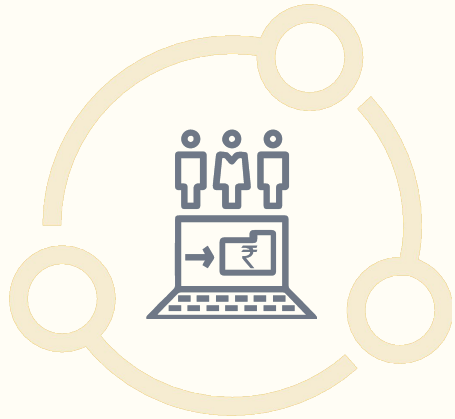
- Expand All India
- Cover 5,000 + hyperlocal black spots



PHASE 4

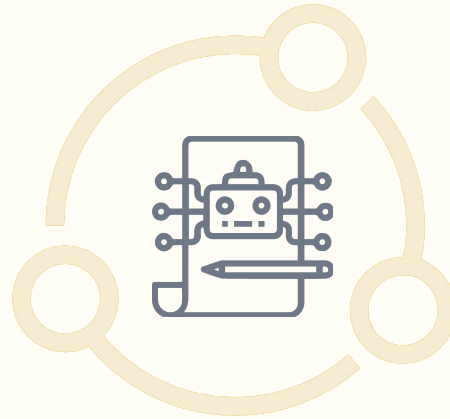
- Expand Globally

3 Forms of Revenue



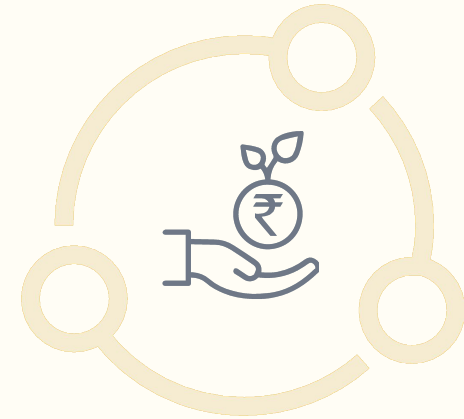
Dataset Subscription

- Monthly and Annual Subscriptions ranging from \$1,000 dollars per year per 10 km of dataset



API-based Plans using our algorithm

- Based on number of API calls. \$10 per 1,000 calls



Revenue-share

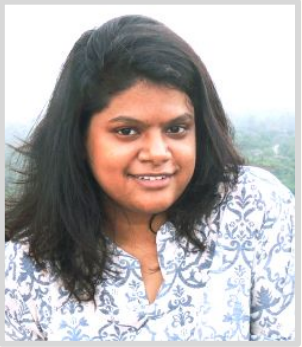
- Based on reduction in accidents and insurance claims
- 1% profit share per \$10,000 reduction in insurance claims

Our Winning Combination



How we are Geared for success

1 | Strong Team



AISHWARYA RAMAN

Executive Director,
OMI Foundation



PROF. (DR.) ADWAY MITRA

Professor,
Centre of Excellence in Artificial
Intelligence,
IIT Kharagpur



**PROF. (DR.) ARKOPAL
GOSWAMI**

Professor and Chairperson,
Ranbir and Chitra Gupta School
of Infrastructure Design and
Management,
IIT Kharagpur

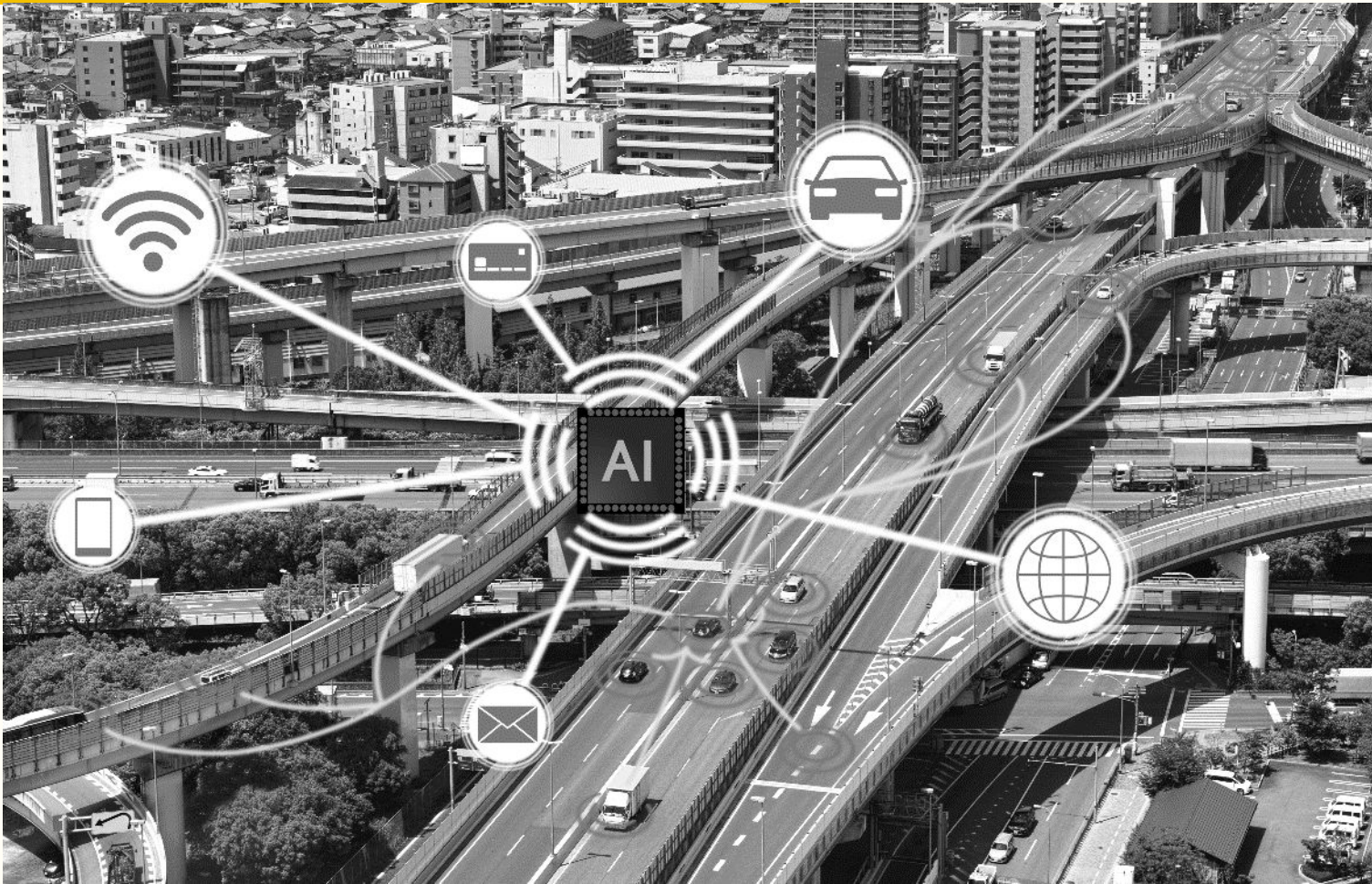


DR. AKHILESH SRIVASTAVA

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

How we are Geared for success

2 | Proprietary Algorithms

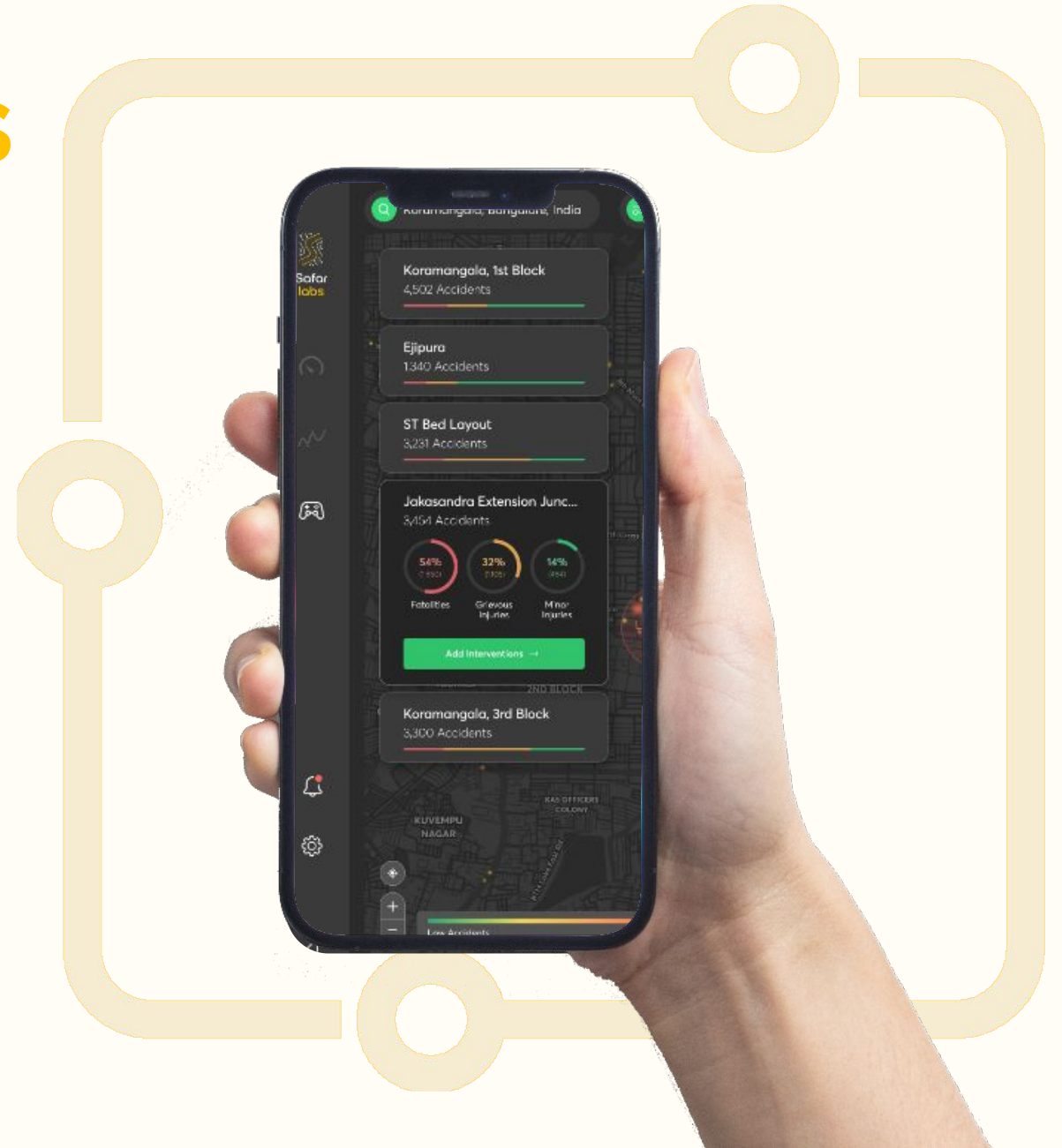


- Proprietary AI/ML models and algorithms for causal analysis and simulations
- Patents will be filed

How we are Geared for success

3 | User-friendly Product

- Multiple visualisation capabilities
- Wizard-based simulations
- Plans to roll-out in multiple languages



How we are Geared for success

4 | 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.1 | 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

5a.2 | Data Collection

A solid black silhouette map of South Korea, including its surrounding islands.

South Korea

A solid gray silhouette map of Australia, including its surrounding islands.

Australia

A solid black silhouette map of New Zealand, showing the North and South Islands.

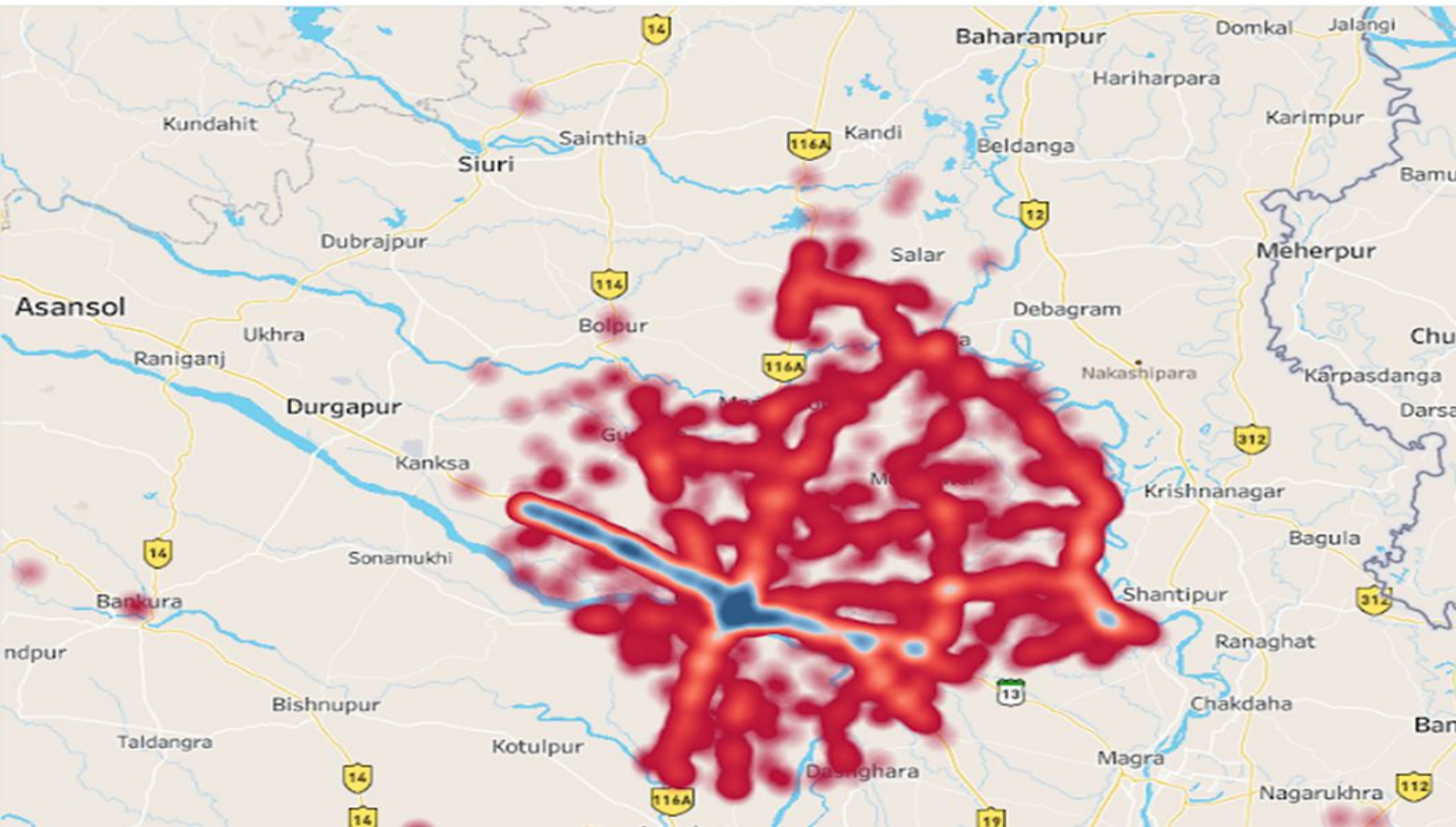
New Zealand

Proof of Concept

5b.1 | Safar View: Hotspot Analysis

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

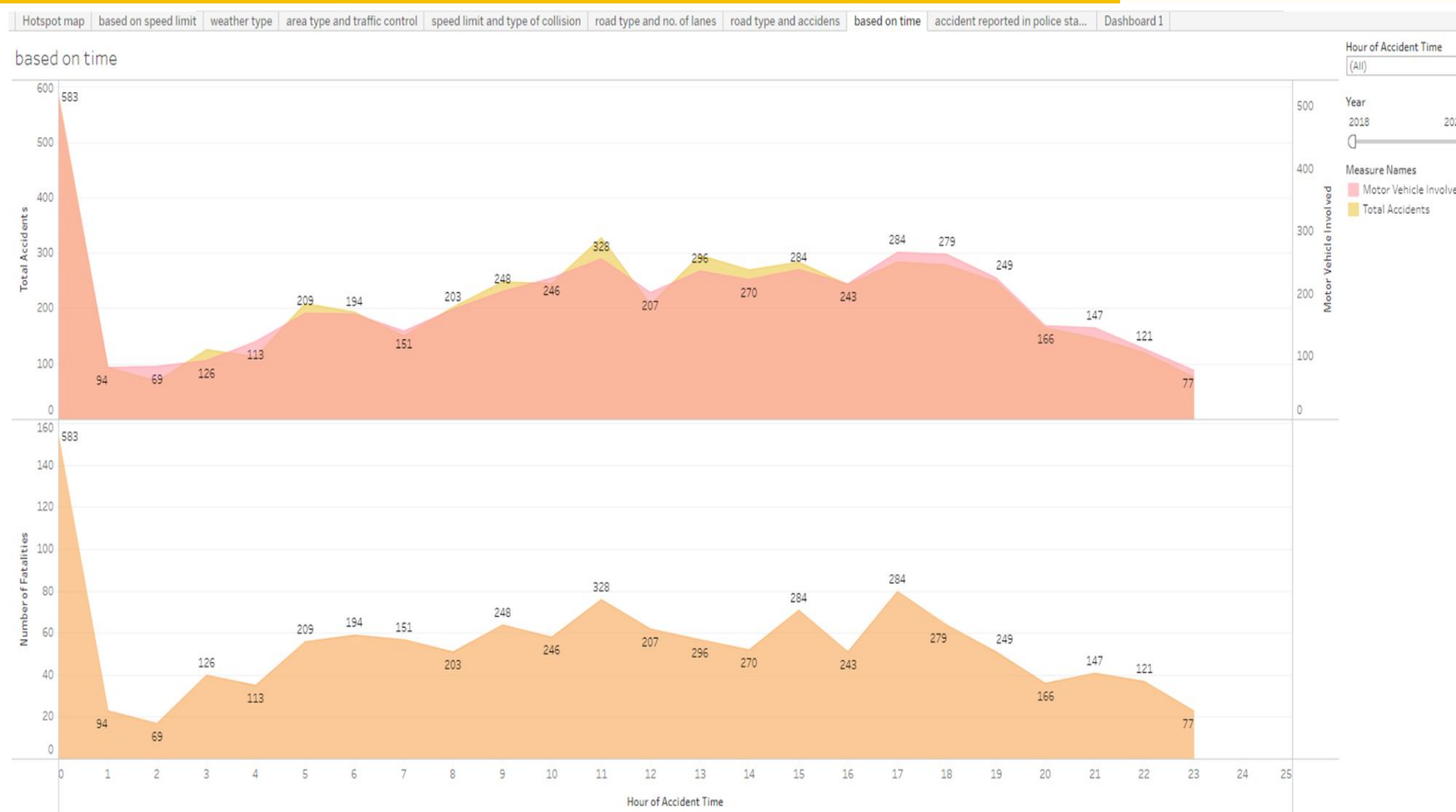
An unsafe improvised vehicle on a highway



Proof of Concept

5b.2 | Safar View: Interactive Dashboard

People riding
motorbike without
helmet on highway



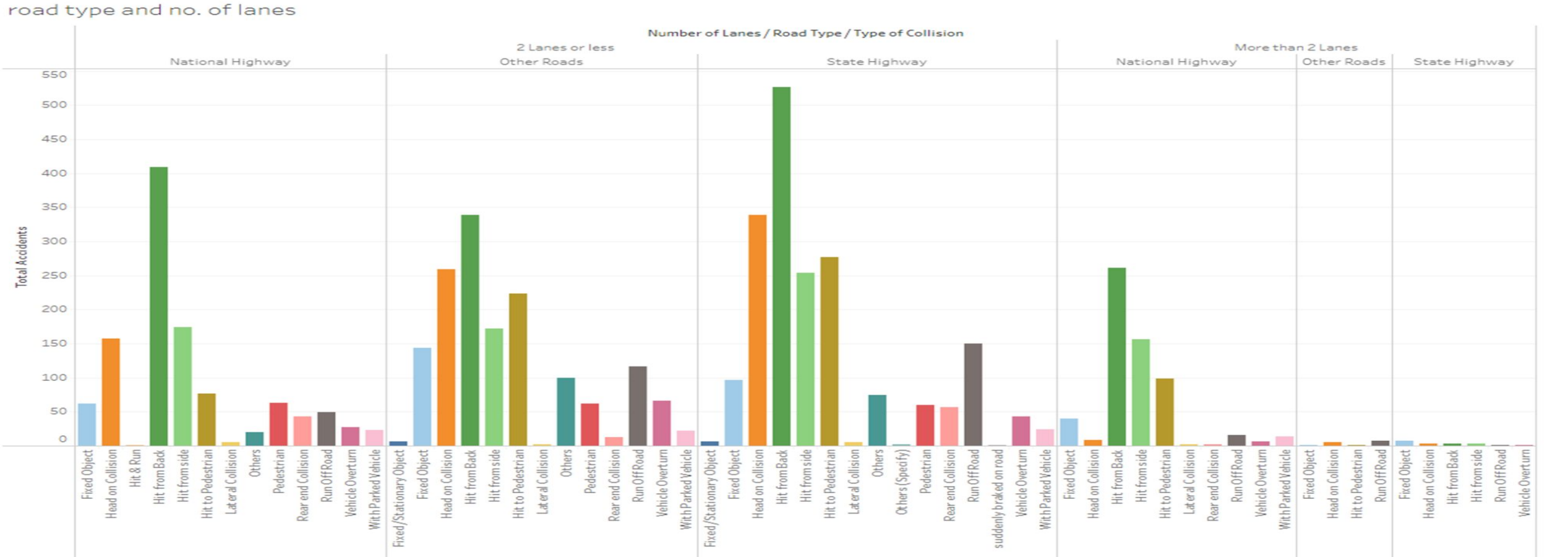
Proof of Concept

5b.3 | Safar View: 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 accidents based on time accident reported in



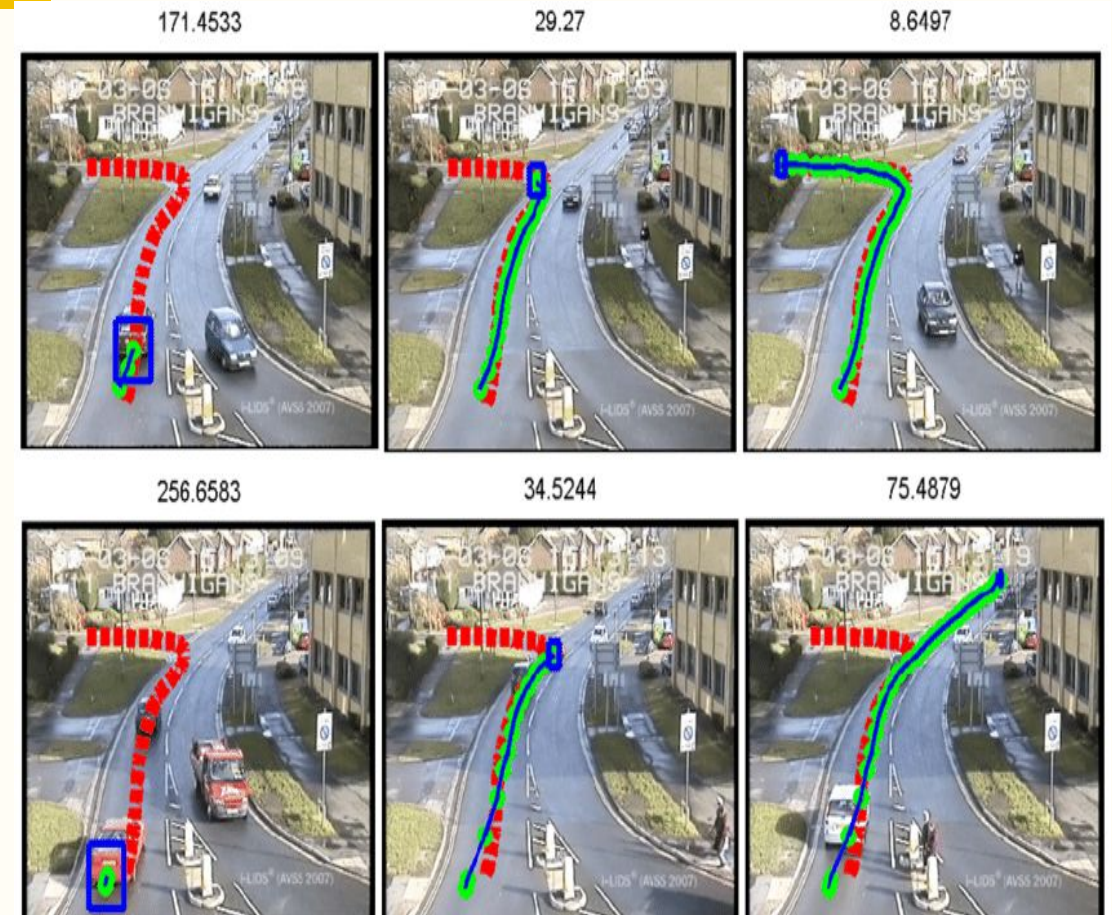
Proof of Concept

5c.1 | Safar Cause: Traffic Feed Analytics



<https://www.traffictechnologytoday.com/>

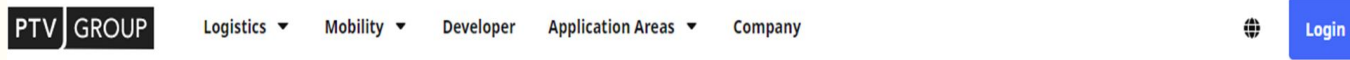
Computer vision to analyse number of vehicles of different types, their speeds and trajectories



Credits: Adam Nowosielski

Proof of Concept

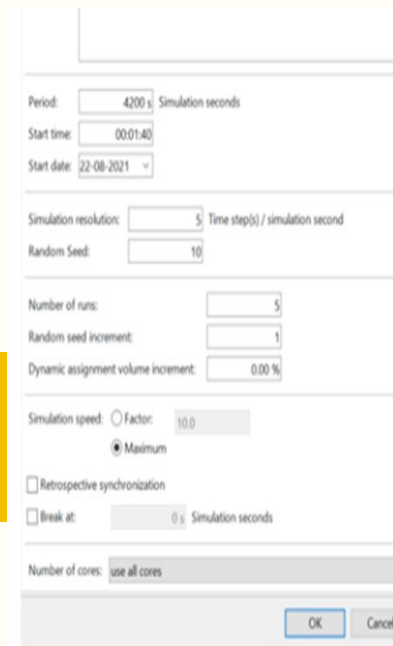
5d | Safar Sim: Traffic Simulation Development



PTV VISSIM

Multimodal Traffic Simulation Software

The world's leading multimodal traffic simulation software PTV Vissim digitally reproduces the traffic patterns of all road users. Trusted by traffic planners and engineers around the globe, PTV Vissim evaluates and improves the performance of your traffic facilities. Results establish the basis for your traffic planning decisions and address your road traffic challenges, such as congestion and emissions.

The image shows a settings dialog box from the PTV Vissim software. It contains several input fields and checkboxes. The 'Period' is set to 4200 s. The 'Start time' is 00:01:40 and the 'Start date' is 22-08-2021. The 'Simulation resolution' is 5 s and the 'Random Seed' is 10. The 'Number of runs' is 5, 'Random seed increment' is 1, and 'Dynamic assignment volume increment' is 0.00 %. The 'Simulation speed' is set to 'Maximum' (radio button selected). There are checkboxes for 'Retrospective synchronization' and 'Break at: 0 s'. The 'Number of cores' is set to 'use all cores'. At the bottom, there are 'OK' and 'Cancel' buttons.

How we are Geared for success

5 | Supported By

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.

What We Need

\$200,000

Proceeds of Investment (18 months)

Building the Product: **50%**

Base Data subscription: **5%**

Tech Infrastructure: **20%**

Sales & Marketing: **10%**

Office Infra and Administration: **15%**



**Let's make our
ROADS SAFER**



www.safarilabs.org