Using Data to Enhance Women’s Mobility in Cities

KALPANA VISwanath, January 2020
SAFETIPIN

Working towards building a world where everyone can move around without fear, specially women.

We have one app My Safetipin and two technology tools to collect data on urban spaces
Safety Score

Nearby

Safety Audit

Tracking

Safest Route
Phone with Safetipin Nite Application is mounted on the windshield of a moving vehicle for capturing nighttime pictures. Pictures are taken at every 50 metres interval and uploaded to our system. These are then assessed according to the safety audit parameters.
Tool to collect customized data on urban spaces to assess safety, mobility, accessibility
**PROJECT SCOPE:**
Collecting and assessing safety related information of the entire city using both the Safetipin Applications

**PROJECT AREA:**
City Area
Or Municipal Area

**RESOURCE ALLOCATION:**
Data collection planning with the project partners

**TIME LINE:**
------------------------------------------------------------------------------------------------------------------ IN MONTHS

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| **NITE AUDITS:** Safetipin trains drivers to collect data using ‘Safetipin Nite’ app and makes pre-loaded audit routes for the drivers to follow | **CODER RATING:** Safetipin has a certified team for review and codification (visual analysis of geo-tagged photos). It rates each and every photograph collected by ‘Safetipin Nite’ through its exhaustive sub-parameter menu to aggregate safety information gathered into a safety score of a place and/or city | **SAFETY MAPPING:** Audit results are represented in spatial maps to understand locational issues | **DATA ANALYSIS:** CSV files with complete coded data are provided for detailed analysis | **MEASURE CHANGE:** Ideally after one year of doing the first safety audit mapping and based on interventions / upgradations instituted, fresh mapping to be conducted in order to measure change and assess impact.

**SAFETIPIN SITE:**
Safetipin trains volunteers to collect in depth data

**METHODOLOGY**
Supporting Safer Cities

- 40 Cities
- 12 Countries
- Over 2 million Pictures
- 300,000 Audit Pins
- 50,000 Km of Road
Safetipin’s data has been used by

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Effecting Change

PARAMETERS
- Light
- Walkability
- Natural surveillance
- Mobility elements
- Security

OUTCOMES
- Improved Lighting
- Better Sidewalks
- Improved Last Mile Connectivity (IPT)
- Bus Stops
- Bicycle Infrastructure
- Enhanced Security (Physical + CCTVs)

IMPACTS
- Walkability
- Mobility
- Connectivity
- Sense of Safety
- Women’s Access to
  (a) Public Spaces
  (b) Opportunities
  (c) Resources
Data Collection was done from December 2018 – January 2019 between 6 PM – 9 PM

More than 100,000 images collected

Specific focus on metro stations, bus stops, parks, markets, tourist areas etc
Delhi 2016
7438 Dark Spots

Delhi 2018
2780 Dark Spots

Measuring Change: Delhi Dark Spots Mapping
BENGALURU PUBLIC TRANSPORT

Yellow circles highlighting areas having no Public Transport within 400 m radius but high density of pedestrians and people using the street.
GURGAON, NCR CITY

City falls short on women safety

REALITY CHECK

Inadequate police presence, poor lighting and road infrastructure make Gurgaon unsafe for residents.

Vidita

Gurgaon: One of the six commercial hubs in Gurgaon, men and women face a lot of women safety issues. The police presence is inadequate, and the city lacks proper lighting and road infrastructure.

The problem is exacerbated by the city's high population density, which makes it difficult for police to keep a watchful eye on the area. The city's road infrastructure is also in need of improvement, with many roads poorly illuminated and lacking proper sidewalks.

Women's organizations have been calling for better police presence and improved infrastructure, but little has been done to address these issues. The city's residents are left to fend for themselves in a city that is far from safe for women.
Points where women are present but public transport is unavailable

- **Jodhpur**: 643 Points
  - Diverse Gender Usage: 206
  - Unavailable Public Transport: 437

- **Bhopal**: 488 Points
  - Diverse Gender Usage: 53
  - Unavailable Public Transport: 435

- **Gwalior**: 491 Points
  - Diverse Gender Usage: 161
  - Unavailable Public Transport: 330

Legend:
- Public Transport
- Unavailable
- Diverse Gender Usage

Base: Google Map
BOGOTA CITY
Auditing Bike Tracks
Urban Mobility: Hanoi Metro Line 3
Focus on Last Mile Connectivity to improve access for women and girls
Sihanoukville: Parameter Public Transport

Legend
Safety Audits
- Unavailable
- Distant
- Nearby
- Very Close
- Sihanoukville
Base: Google Map

Status: Completed (2019)
Covered: 50 Km
Audit Pins: 1170
Increasing Impact
Scale, Flexibility, Enhanced Usage

- **My Safetipin**
- **Safetipin Nite**
- **Safetipin Site**
- **Photographs**
- **Machine Learning**
- **Database**
- **Analysis**
- **Reports**
- **Maps CSV**
- **Dashboards**
- **Urban Models**
- **Other Map Layers**
- **Modelling**

Supporting Safer Cities
THANK YOU!

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Safetipin can be downloaded FREE from: