



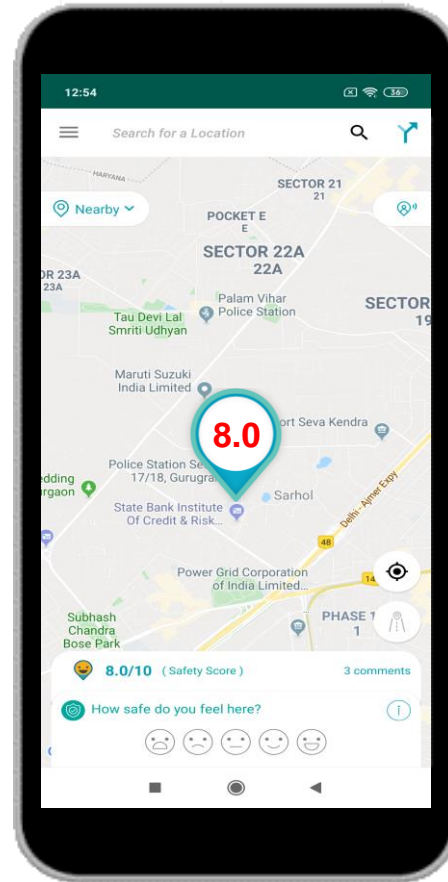
Using Data to Enhance Women's Mobility in Cities

KALPANA VISWANATH,
January 2020

SAFETIPIN

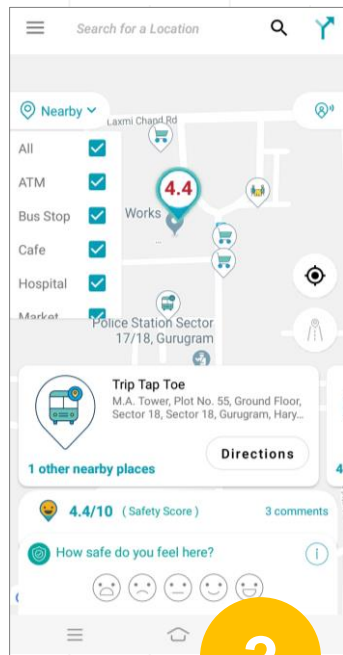
Working towards building a world where everyone can move around without fear, specially women.

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

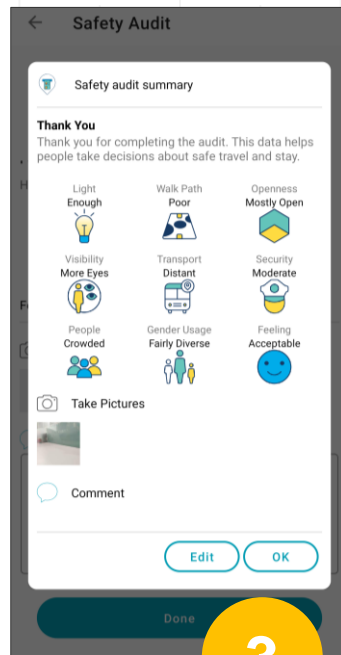




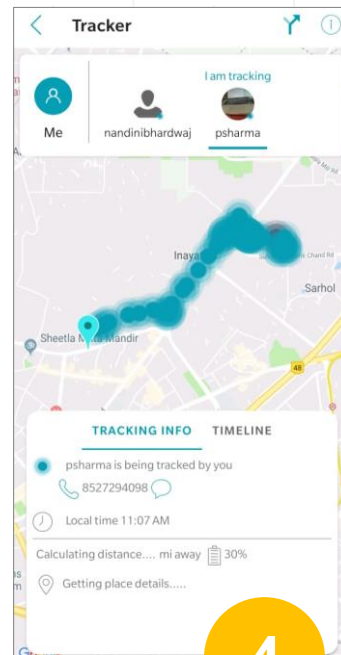
Safety Score



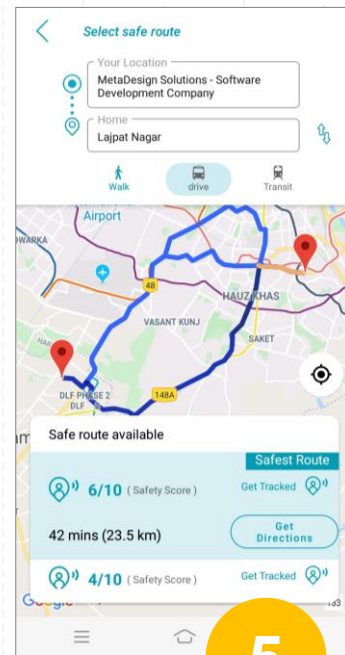
Nearby



Safety Audit



Tracking



Safest Route



SAFETIPIN NITE

Phone with Safetipin Nite Application is mounted on the windshield of a moving vehicle for capturing night time pictures. Pictures are taken at every 50 metres interval and uploaded to our system. These are then assessed according to the safety audit parameters.



SAFETIPIN SITE

Tool to collect customized data on urban spaces to assess safety, mobility, accessibility

Project Planning

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

Data Collection

NITE AUDITS:

Safetipin trains drivers to collect data using 'Safetipin Nite' app and makes pre-loaded audit routes for the drivers to follow

SAFETIPIN SITE:

Safetipin trains volunteers to collect in depth data

Data Coding

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

Audit Report

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

RECOMMENDATION:

Urban design and infrastructural planning recommendations are given to foster positive change



Monitoring Impact

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

TIME LINE: ----- IN MONTHS

METHODOLOGY



Over 2
million
Pictures

300,000
Audit Pins

50,000
Km of
Road

40
Cities

12
Countries

Safetipin's data has been used by

Governments

Upgrading Infrastructure
Measuring Change
Delivering Safety

- Delhi
- Bogota
- Trivandrum

Researchers

Empirical Database
Mapping & Analysis
Feminist Tool

- SPA, New Delhi
- King's College London
- UNSW Sydney, IISc Bangalore

Women

Empowerment
Decision Making
Claiming Public Space

- Safety Audit
- Crowdsourced Data
- Khadar Ki Ladkiyan

NGOs, Local Communities

Advocacy
Social Initiatives
Citizen Rights

- Social Good Foundations
- Women Centric Organisations
- Resident Welfare Association

Global & Local Agendas

Cities for All by 2030
Inclusive and Safe Cities
Citizen Friendly Cities

- SDG 5, 11, 17
- New Urban Agenda
- Smart City Missions





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

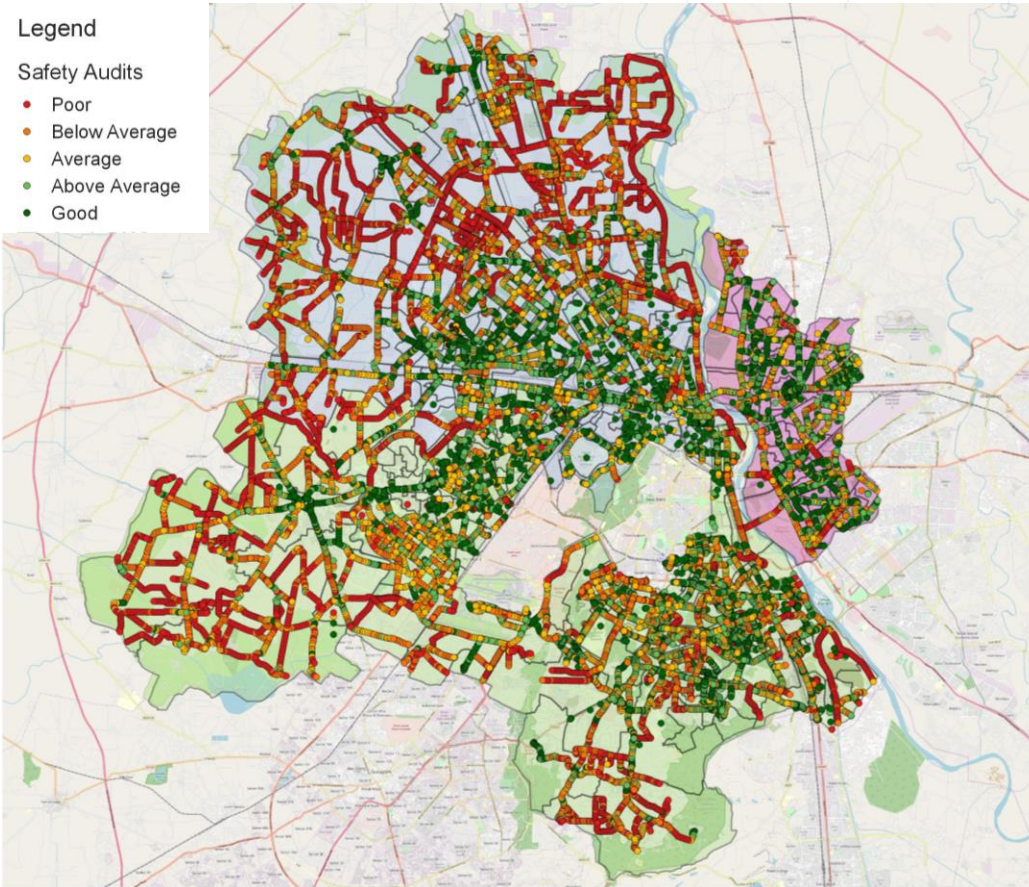
Walkability
Mobility
Connectivity
Sense of Safety
Women's Access to
(a) Public Spaces
(b) Opportunities
(c) Resources



Legend

Safety Audits

- Poor
- Below Average
- Average
- Above Average
- Good



MAPPING DELHI

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

40,224
North
Delhi

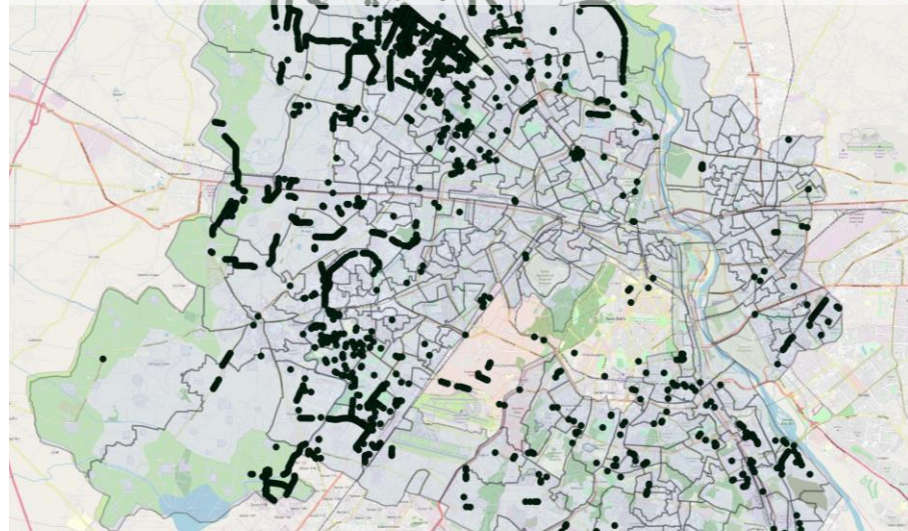
10,664
East
Delhi

60,224
South
Delhi

Delhi 2016

7438

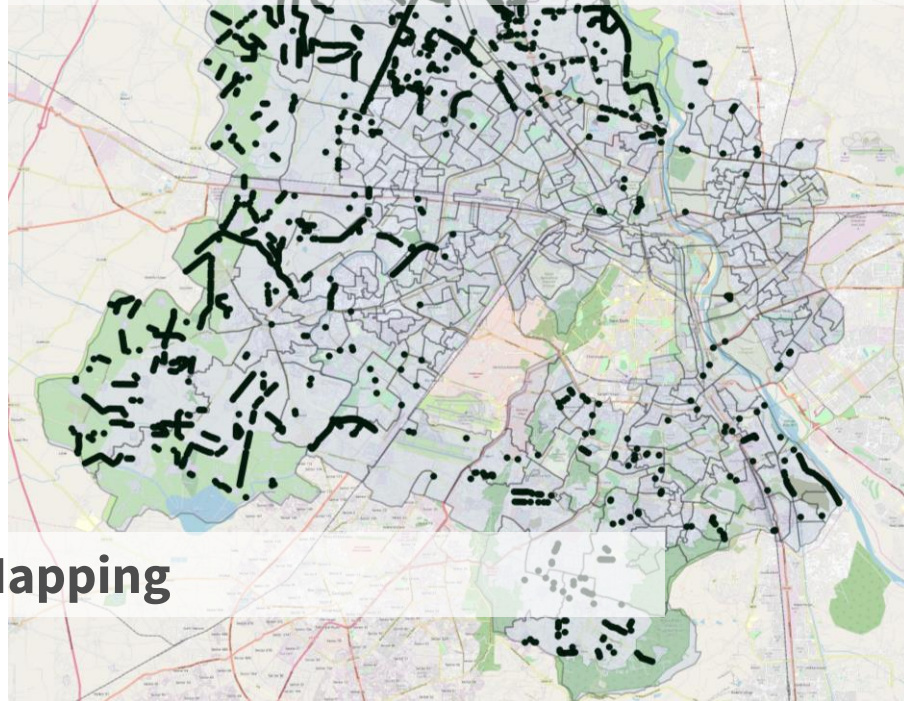
Dark Spots



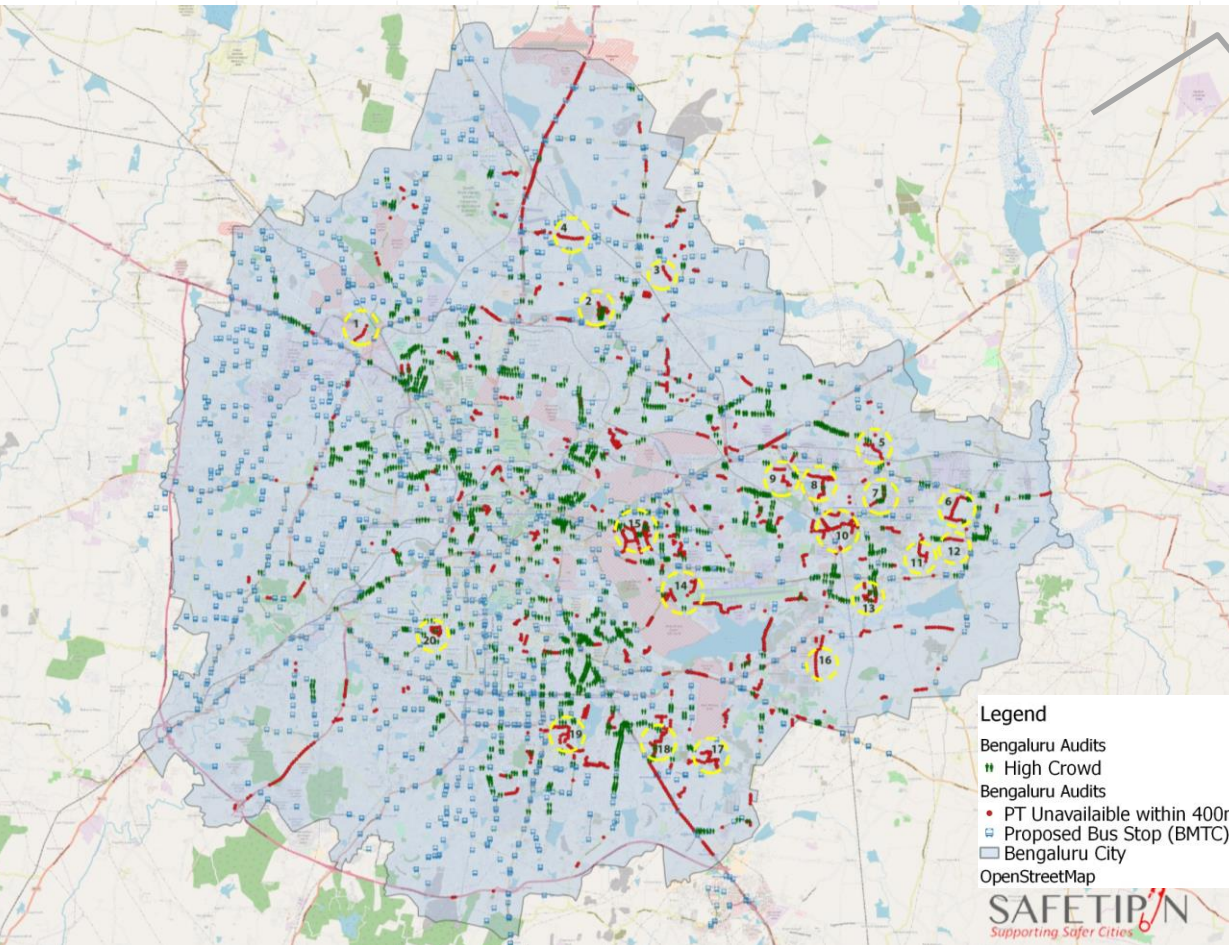
Delhi 2018

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

Indu Sabti

GURGAON: A majority of residential and commercial areas in Gurgaon failed to pass the litmus test on the safety analysis recently conducted in the city.

In a comprehensive study on urban safety and infrastructure, Gurgaon scored an overall 'D' grade of just about average.

More than half of the sectors scored between 0.1 to 0.4 on a scale of five by Safetipin, a social enterprise, on nine different parameters — lighting, openness, visibility, crowd, security, footpaths, transport, gender usage and safety.

Interestingly, some of the three major private residential colonies — South City, DLF Phase 1, 2 and 3, and Embassy — scored above 2.5, which is the average mark according to Safetipin. The major issue highlighted in the three areas was security followed by gender usage.

Security is a major issue affecting almost all residential colonies in Gurgaon. When we talk about security, it covers police as well as private guards and other surveillance methods such as CCTV cameras. Most of the big localities, including privately developed ones, either do not have CCTV surveillance or the system is deficient. Both residents and developers should look into the matter as security is a vital element for overall safety,

said Dr Dilganga Chakraverty, founder of Safetipin. Most residential blocks do not have CCTV cameras at any of their entrances. A couple of guards patrol the streets at night, which is not enough, especially when there are no streetlights on many roads.

There are a lot of dark spots in the locality. South City 1 is due to no or deficient street lights. Another issue is the absence of public transport. We have to walk a long distance to get out of the localities to reach the main roads, said Anjali Bhat, a resident of South City 1.

On the other hand, over-crowding, lack of security and poor last mile connectivity plague Sectors 15 and 17. The sectors lack basic infrastructure such as streetlights, footpaths and wide roads. "It has to be improved

when it comes to the overall safety of the area. Very few sectors in Gurgaon have proper streetlights, footpaths or even basic security," said Pooja Prasad, a resident of Sector 17. Among the six commercial hubs of Gurgaon — MG Road, Golf Course Road, Sector 14, Sector 45, Cyber City and Vihar Vihar — only MG Road scored above three out of five.

Golf Course Road, which has several offices, hotels and public institutions, was ranked the lowest — 1.0. Offices scored though the rate of development in the area is high, safety and security has not been given importance, according to them, police presence is inadequate in the area. The roads in the commercial hubs lack proper lighting and signage, creating inconvenience for those entering and exiting the areas at night.

"Thousands of people come to Golf Course Road every day for work. The place has no streetlights, sidewalks or footpaths, making it difficult for us to commute. The police are also hardly seen patrolling the roads here," Anshika Singh, an office-goer, said.

Additionally, women said there were shops in some buildings along Golf Course Road, making it "unsafe" to walk on the road at night.

"There is a shop very close to my office and at night, a lot of people park their cars or two-wheelers in front of the shop. This is unsafe for women as malicious activities happen frequently," said Yashika Bhat, an NGO employee and Delhi resident.

The police and officials from the administration, meanwhile, said they will take more concrete steps to make

Gurgaon safer. "Most of the safety problems are due to lack of proper civic infrastructure and inadequate manpower. Once we have those in place, security will improve. We are working to increase our manpower and other resources," said Sandeep Singh Yadav, Gurgaon police commissioner.

The Municipal Corporation of Gurgaon said it will study the audit in depth and take measures to address the city's infrastructure deficiencies. "We will study the safety audit report and take immediate action. We will solve all problems raised by the people of Gurgaon. The MCG will appoint its best officials to oversee all deficiencies as soon as possible," said T. Sanyal, an MCG deputy commissioner of Gurgaon.

LAGGING BEHIND

In a recent audit by Safetipin, a social enterprise, more than half of the areas in Gurgaon scored between 0.1 to 0.4 on a scale of five.

SAFE AREAS: Only three out of six commercial hubs in Gurgaon were rated safe with a score of 3.0 or above, which is good. The areas are MG Road, Cyber City and Vihar Vihar, which have streetlights and CCTV surveillance, which make people feel safe.

4,000 Number of police personnel in Gurgaon city

Most of the big localities, including privately developed ones, either do not have CCTV surveillance or the system is deficient. Residents and developers should look into the issue.

Dr Dilganga Chakraverty, founder of Safetipin

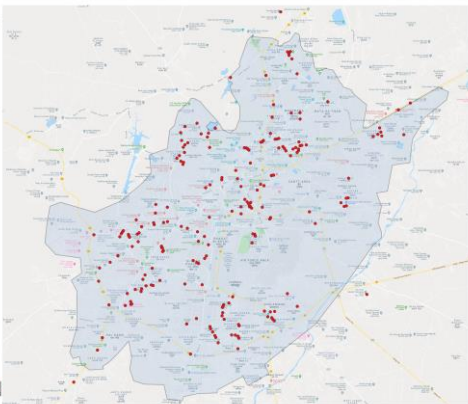
Jodhpur:
Correlation between
Gender & Transport

Legend

Public Transport

- Unavailable
- Jodhpur

Base: Google Map



SAFETIPIN
Supporting Safer Cities

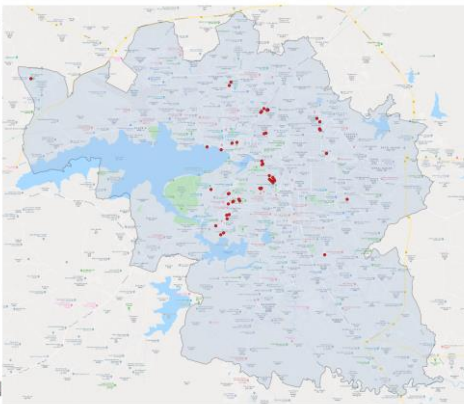
Bhopal:
Correlation between
Gender & Transport

Legend

Public Transport

- Unavailable
- Bhopal

Base: Google Map



SAFETIPIN
Supporting Safer Cities

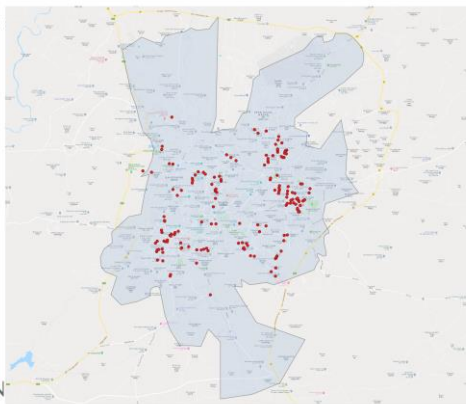
Gwalior:
Correlation between
Gender & Transport

Legend

Public Transport

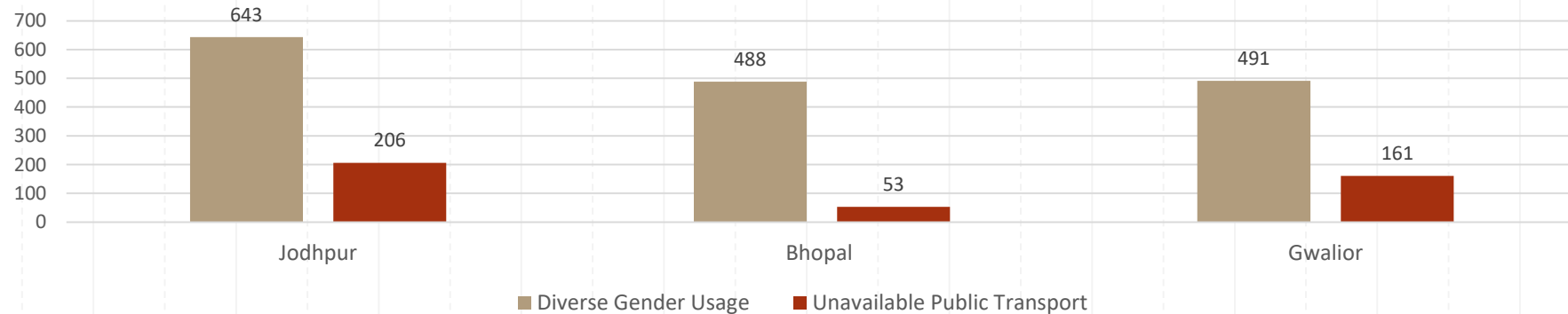
- Unavailable
- Gwalior

Base: Google Map



SAFETIPIN
Supporting Safer Cities

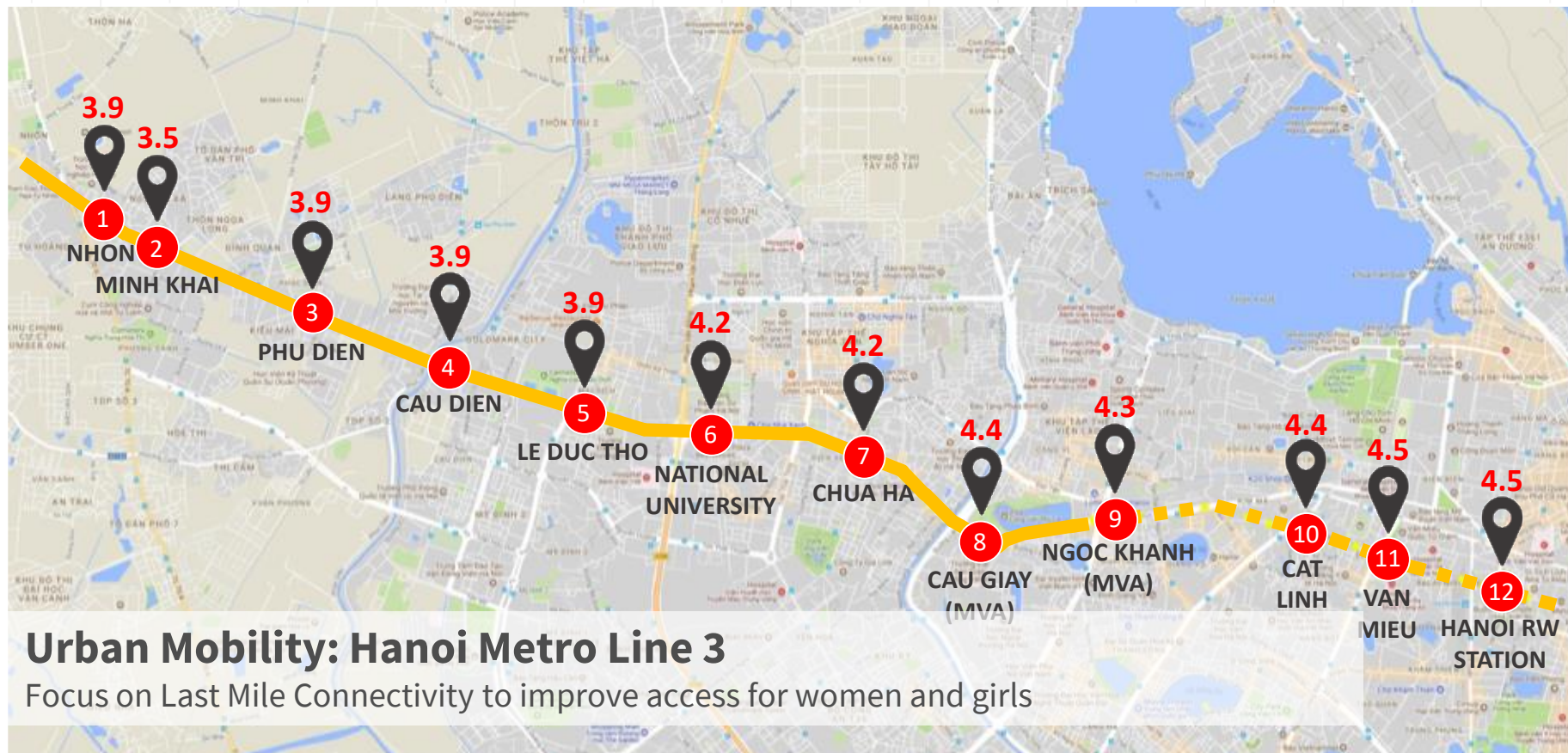
Points where women are present but public transport is unavailable





BOGOTA CITY

Auditing Bike Tracks



Urban Mobility: Hanoi Metro Line 3

Focus on Last Mile Connectivity to improve access for women and girls

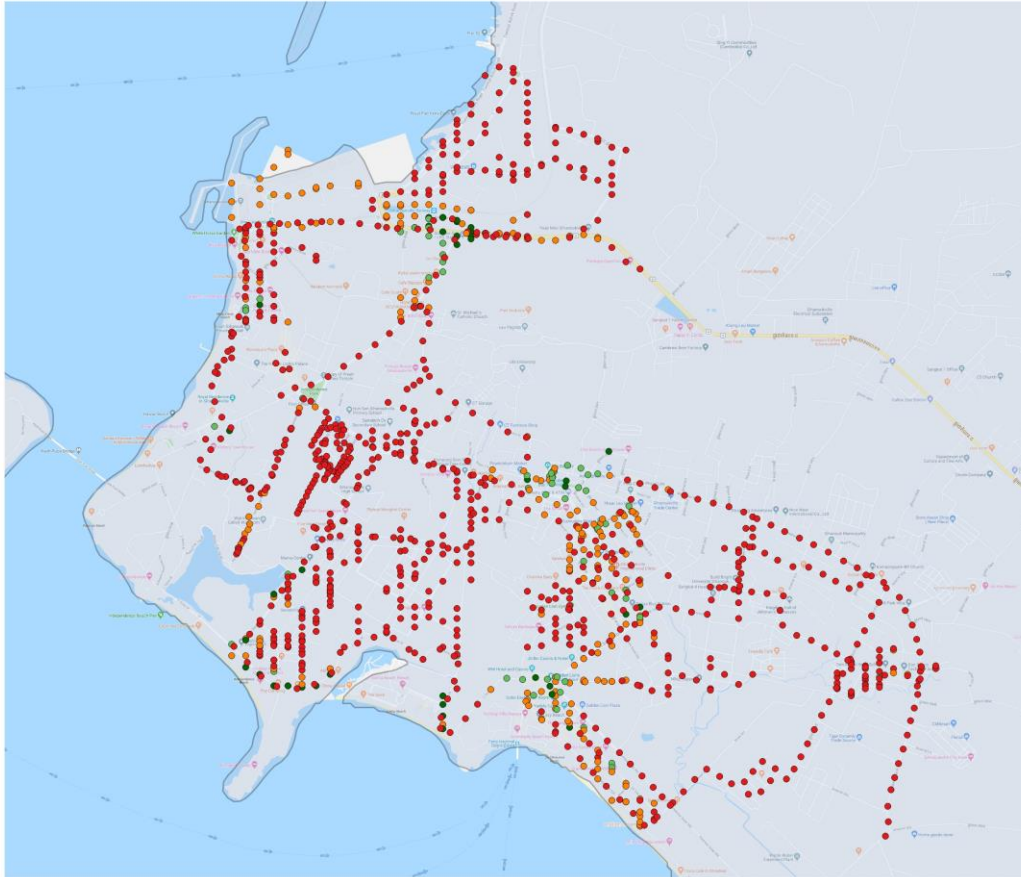
Sihanoukville: Parameter Public Transport

Legend

Safety Audits

- Unavailable
- Distant
- Nearby
- Very Close
- Sihanoukville

Base: Google Map



Sihanoukville

Status: Completed (2019)

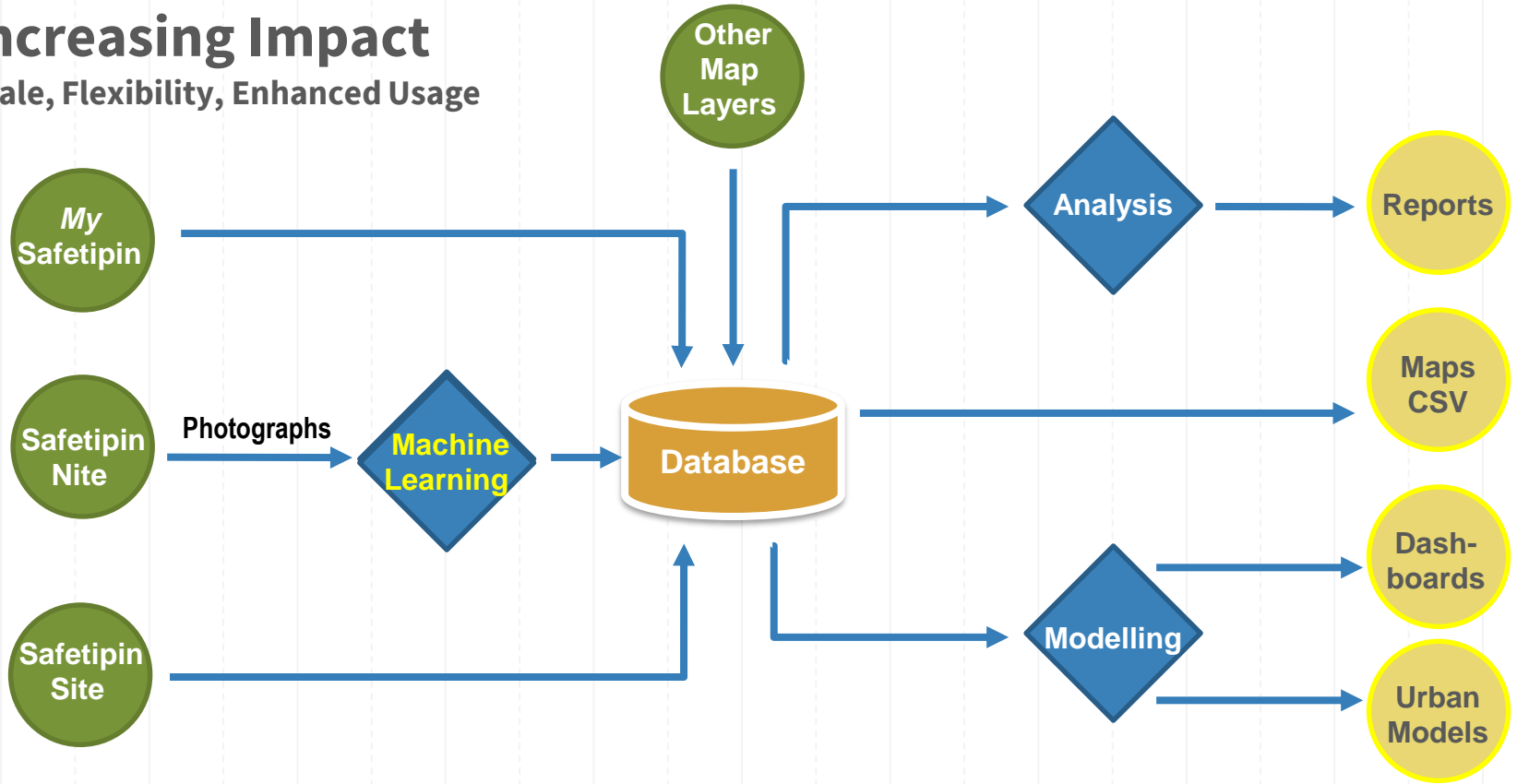
Covered: 50 Km

Audit Pins: 1170



Increasing Impact

Scale, Flexibility, Enhanced Usage



THANK YOU !



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