Fighting Crime through Data Integration: Enhancing Safety of Public Property

Team Recon

Bonam Santosh Kumar, Debaditya Swarnakar , Juhi Sah, Kumar Priyam

Internal Mentor : Dr. Debolina Kundu
External Mentor : Mr. Manish Thakre

Background

Constant hassle between ULBs and delinquents

Equipment worth Rs 20 lakh 'stolen'

FARIDABAD: The ongoing installation work of CCTV cameras under the Smart City project in Faridabad is faced with a unique hurdle.

SHARE ARTICLE

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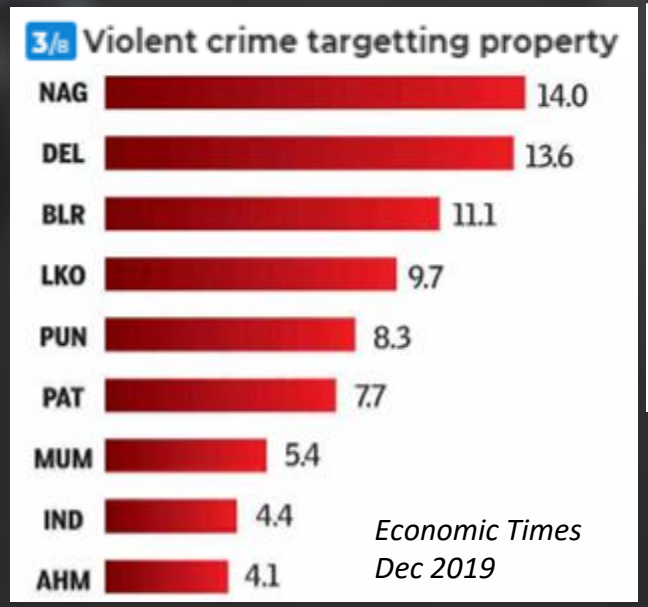


Economic Times Dec 2019

Railings,benches,lights stolen from greenbelts,MC a mute spectator

The Municipal Corporation is suffering losses worth lakhs of rupees due to theft of materials from greenbelts,gardens and parks.

Written by Khushboo Sandhu | Chandigarh | Published: June 5, 2011 3:15:05 am

The Municipal Corporation (MC) is suffering losses worth lakhs of rupees due to theft of materials from greenbelts,gardens and parks. The materials usually found to be missing included railings,benches and iron gates. Even the lights installed in the greenbelts have not been spared.

LIVE BLOG

Telangana, Hyderabad, Andhra Pradesh Coronavirus Live Updates: Andhra registers single day record 10,830 cases; 81 deaths

4 hours ago

Maharashtra Coronavirus, Weather Today LIVE updates: Record 14,888 new coronavirus cases in Maharashtra, 295

Background

Constant hassle between ULBs and delinquents

THIS STORY IS FROM MARCH 19, 2020

Smart infotainment systems stolen from 13 parked cars in Pune

Mihir Tanksale | TNN | Updated: Mar 19, 2020, 06:52 IST

A- A+

PUNE: Smart infotainment systems worth over Rs1 lakh were stolen in the early hours of Tuesday from 13 cars parked across Right and Left Bhusari Colony, off Paud Road, after breaking their window glass.

Senior inspector Pratibha Joshi

THIS STORY IS FROM MAY 26, 2020

Bhopal: Lockdown flattens crime graph, but house break-ins & vehicle thefts rise

TNN | Updated: May 26, 2020, 07:19 IST

A- A+

BHOPAL: The city's crime rate has fallen to a large extent during the lockdown period, but since lockdown 4.0 has started, the crime graph — especially for theft and vehicle theft cases — has shot up.

Bhopal: 131 thefts in January alone, cops identify 45 spots with high vehicle theft rate

Sudeept Mishra | TNN | Feb 8, 2020, 17:17 IST

A- A+

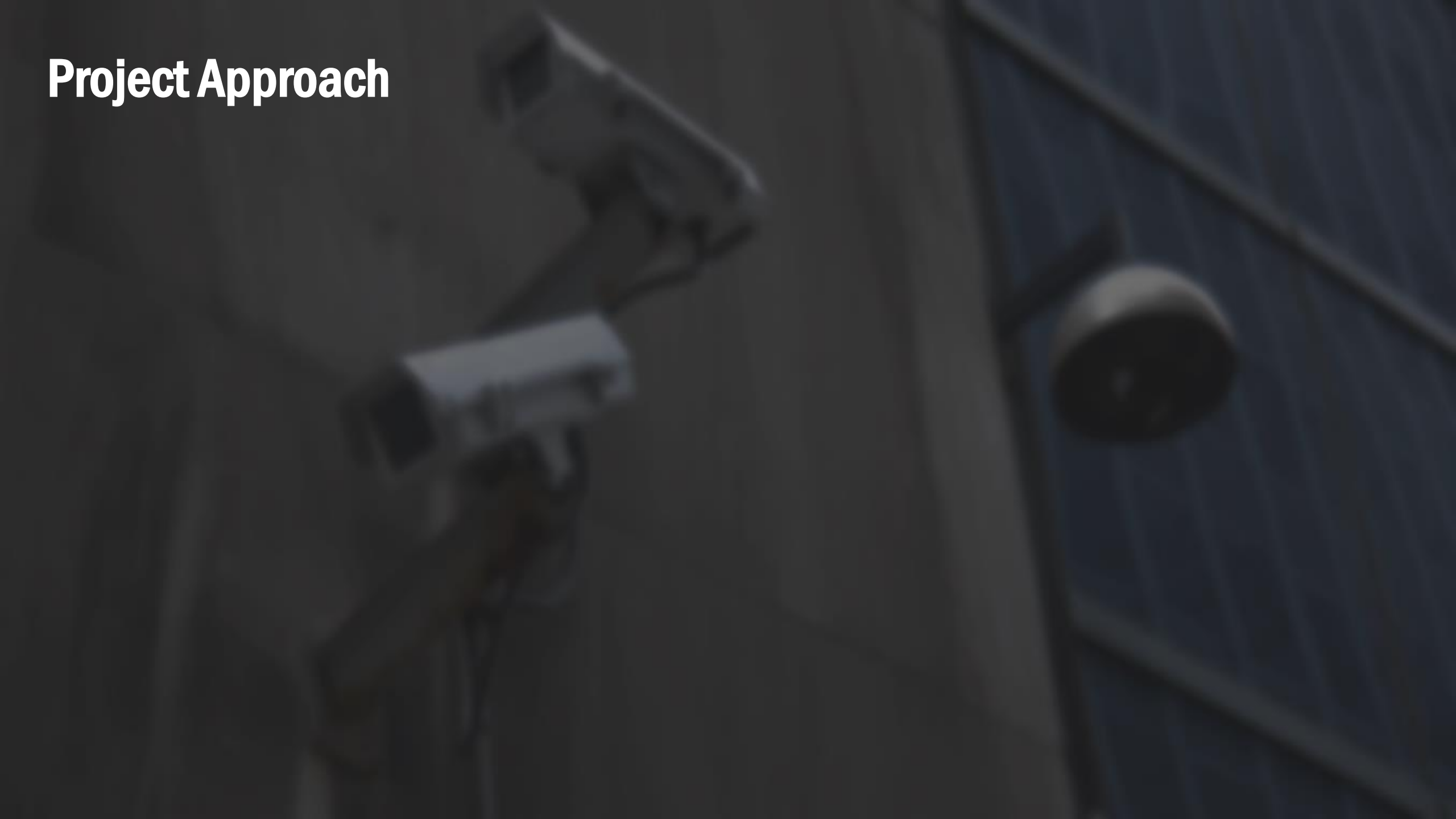
Representative image

BHOPAL: A whopping 2,109 vehicle theft incidents were reported in the city last year. This means that on an average, half a dozen vehicles, including bikes and scooters, were stolen in the city every day in 2019. The trend continues this year also and around 131 vehicles were stolen in the city in January alone.

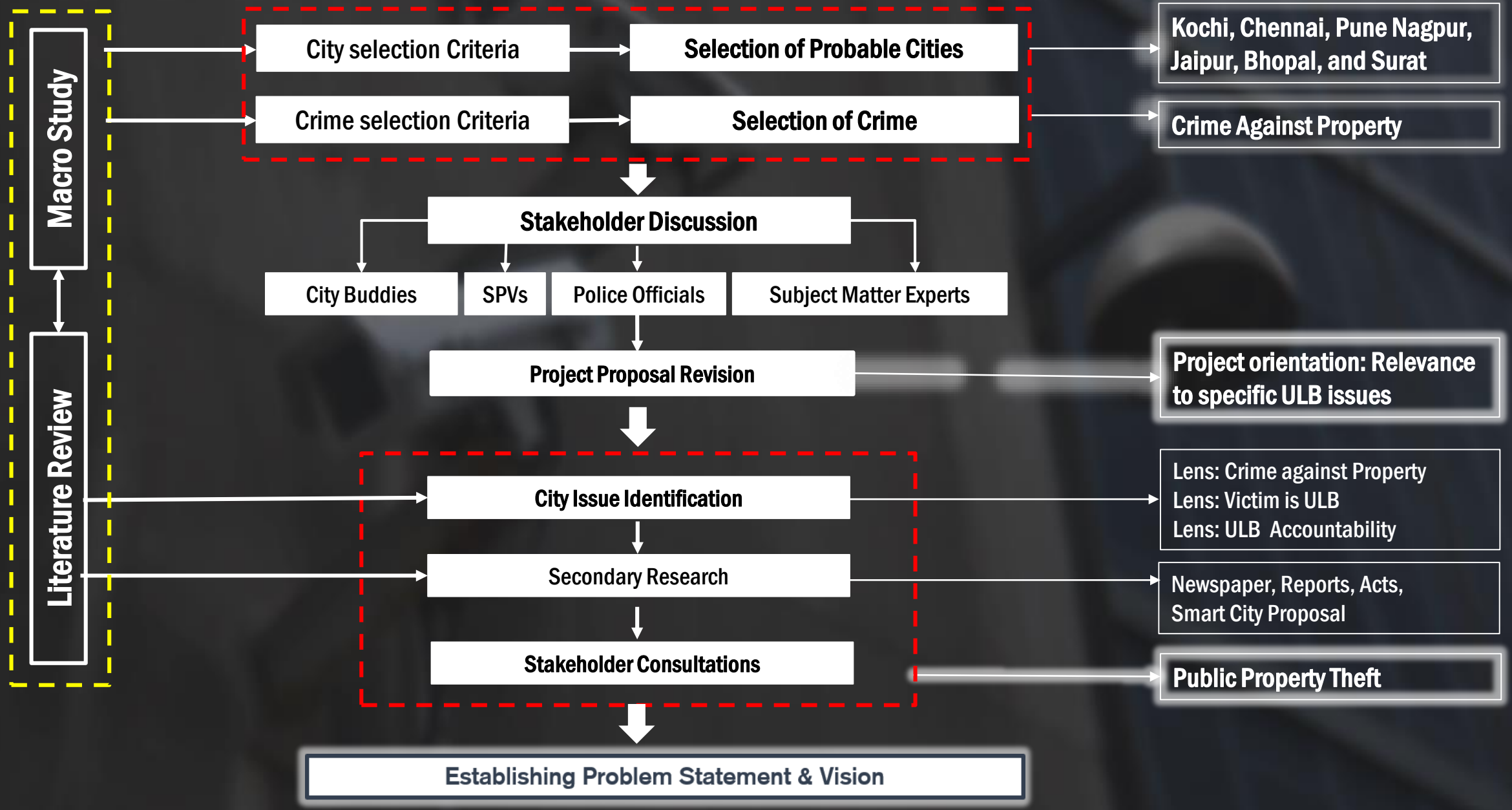
MAJOR CRIMES IN LAST 3 MONTHS

Crime	March	April	May (till 24)
Murders	5	2	3
Attempts to murder	2	2	5
Loots	2	1	0
Rapes	14	7	4
Burglaries	46	20	25
Thefts	149	26	10

Project Approach

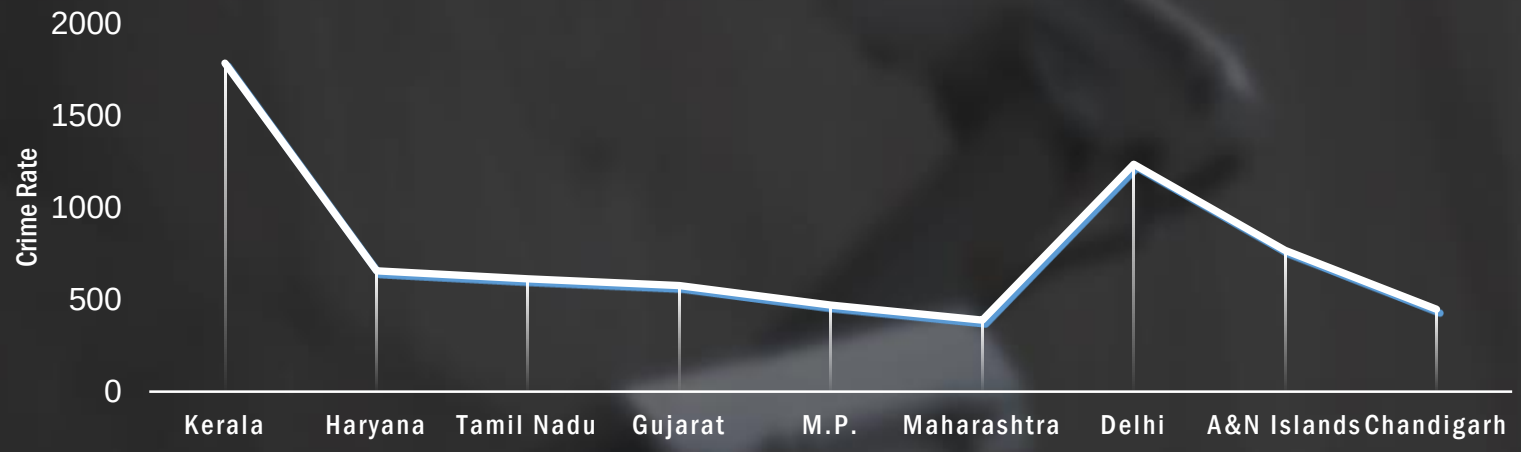


Project Approach

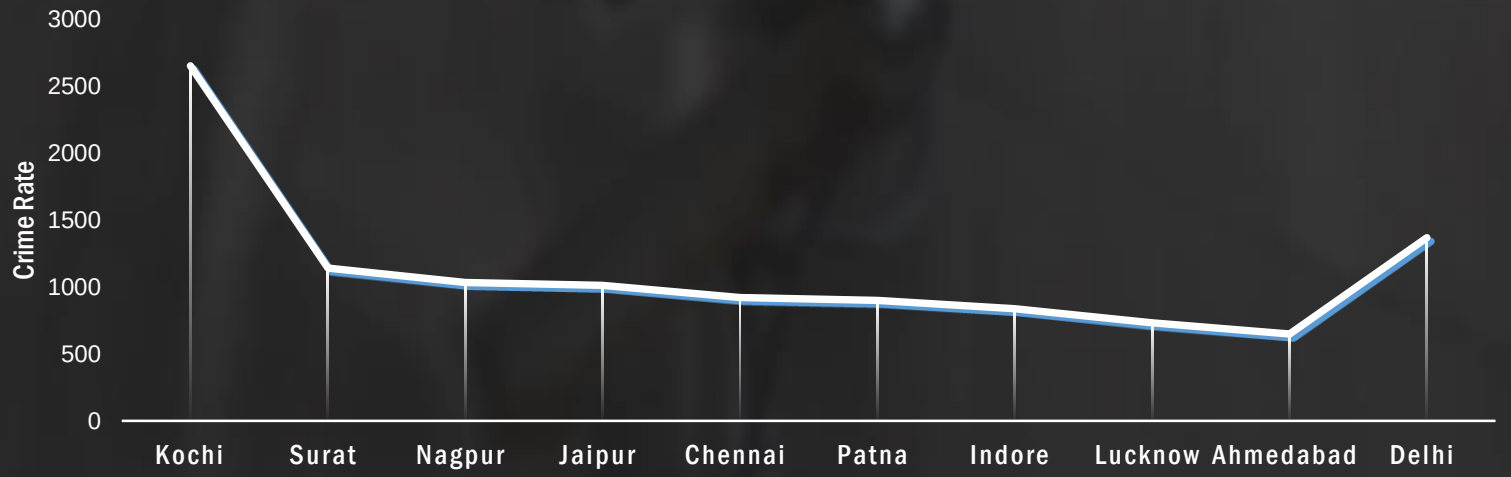


Crime Scenario

Highest Crime Rate: State Wise (2016-2018)



Highest Crime Rate: CITY Wise (2016-2018)



Crime Rate = Criminal Incidence per 1 lakh Population
Source: National Crime Record Bureau (NCRB)

City Selection Criteria

Five **highest Crime Rated State** (Moving Average)

+

Five **Highest Crime Rated Metro Cities**

+

Presence of the **Police Commissionerate**

+

Presence of the **ICCC Unit**

+

City population 5 Lakhs to 10 lakhs – **Large City**

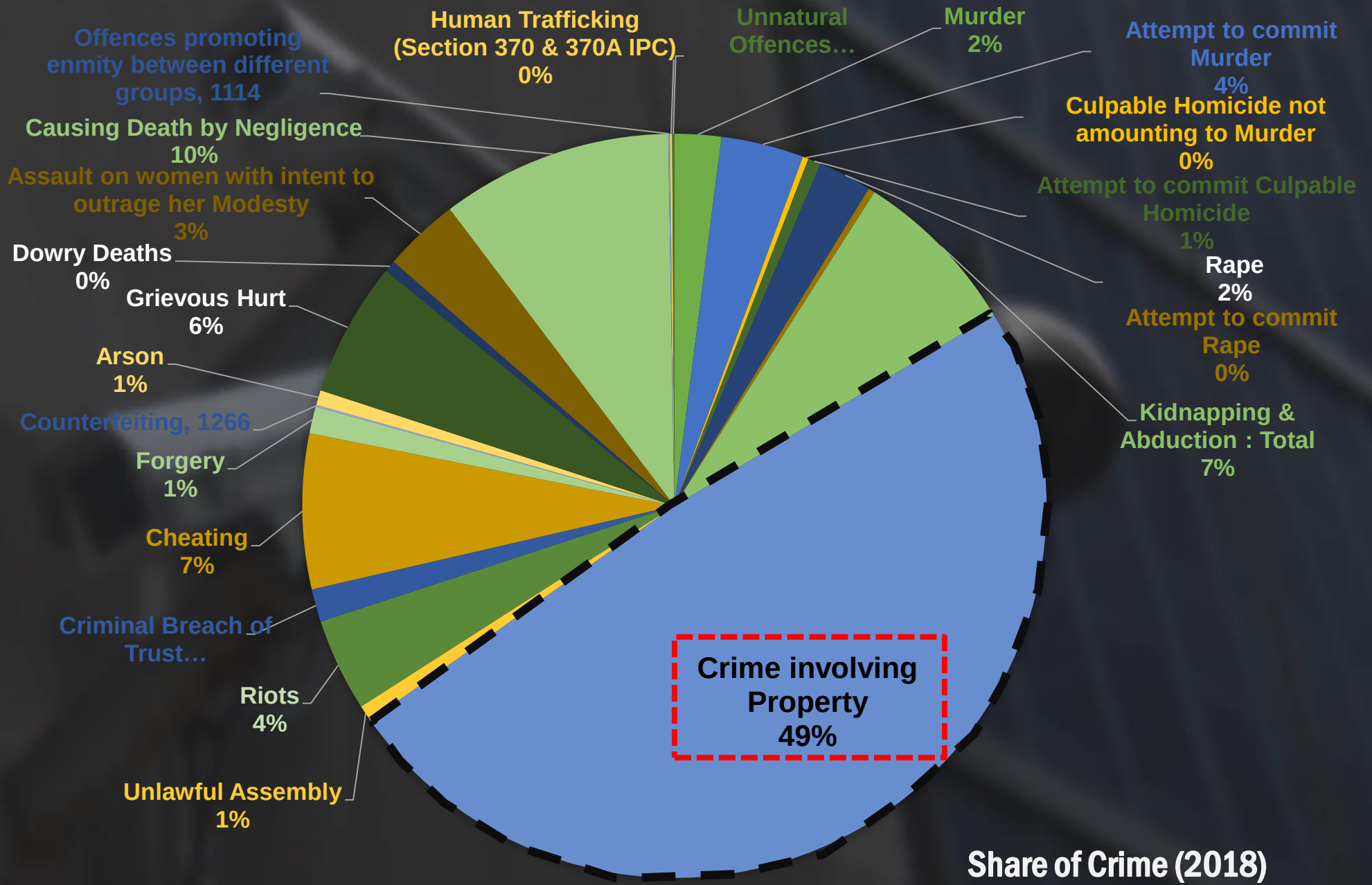
(as per URDPFI Guidelines)

+

City population 10 Lakhs to 50 lakhs – **Metro City 1**

(as per URDPFI Guidelines)

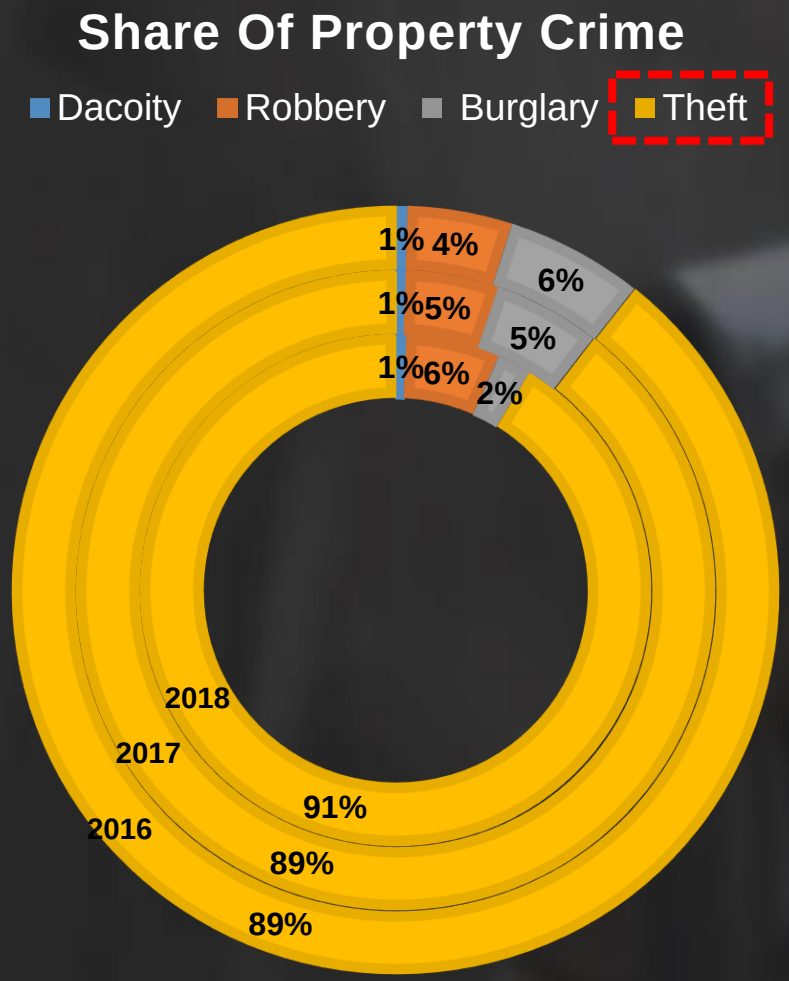
Types of Crime



Share of Crime (2018)

Source: National Crime Record Bureau (NCRB)

Type of Property Crime



Source: National Crime Record Bureau (NCRB)

RTI activists want theft plaint registered for missing benches

TNN | Apr 12, 2019, 11:04 IST

Picture used for representational purpose only

SURAT: A group of social activists submitted a memorandum to police commissioner Satish Sharma on Thursday requesting registration of a police complaint for theft of missing benches installed in different areas of the city from MPLADS funds. The activists, who carried out a social audit, found out that of the 865 benches installed, only 193

THE HINDU

DELHI

300 LED streetlights stolen in south Delhi

Damini Nath

NEW DELHI, FEBRUARY 25, 2017 01:38 IST
UPDATED: FEBRUARY 25, 2017 01:38 IST

SHARE ARTICLE PRINT

SDMC to lodge four separate FIRs

Hundreds of spots across south Delhi have gone dark after LED streetlights that illuminated them were stolen recently. At least 300 LED lights have been stolen from poles, forcing the South Delhi Municipal Corporation (SDMC) to lodge

Meant for catching thieves, CCTV cameras stolen in Delhi

CCTV cameras, which were installed by Arvind Kejriwal government across Delhi, are being stolen.

Ankit Yadav
New Delhi
July 22, 2019 UPDATED: July 22, 2019 23:36 IST

Maharashtra: Seven held for 64 cases of vehicle theft

TNN | Updated: Feb 16, 2020, 13:46 IST

Alarmed by thefts, Chandigarh MC to replace 2,000 heritage manhole covers

MC in its agenda to be tabled in house says these covers are prone to theft and there are many cases of these being sold at auctions

CHANDIGARH

Problem Statement

Urban local bodies incur losses due to theft of public property / assets that are established using tax payers money. And there are no proper monitoring and reporting mechanism for such thefts.

Project Vision

To reduce theft of public property / assets by offering smart and sustainable solutions to ULBs to digitally monitor its assets through data integration and increased public participation.

Aim : Developing a monitoring toolkit to address the public property theft in the city

Identification of Offence and contributing Factors

Data capturing & Visualization Heat mapping

Spatial Analysis

Smart Solution

Predictive modeling

Identification of Crime Type and Contributing Urban Attributes through literature and secondary surveys

Data capturing & Visualization

Spatial Analysis

Smart Solution

Predictive modeling

Dacoity

Theft

Burglary

Surveillance

Poverty

Street lights

Unemployment

literature & secondary surveys
Crime Heat Mapping Based on static and dynamic data
Spatial Analysis
Smart Solution
Predictive modeling

ULB
Police Dept.
Static / Dynamic Offence Input
Base map
Urban attributes
Data collection
Theft Heat Mapping
Crime dashboard at ICCC

literature & secondary surveys

Data capturing & Visualization

Spatial analytical tool combining crime data with urban attributes data

Smart Solution

Predictive modeling

Dashboard

Population Density

Land Use

Police Station Buffer

Base map

Attributes Overlay

Identification of Vulnerable Areas and Attribute Ranking

ULBs using analysis for strategic decisions

literature & secondary surveys

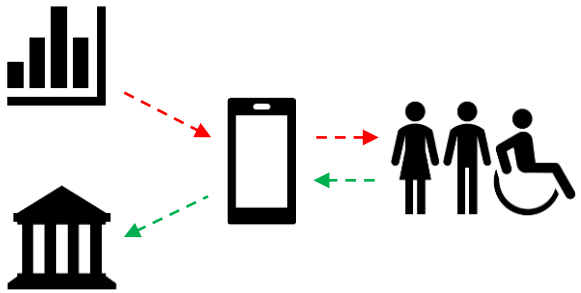
Data capturing & Visualization

Spatial Analysis

Smart solution efficient monitoring
Short term initiative

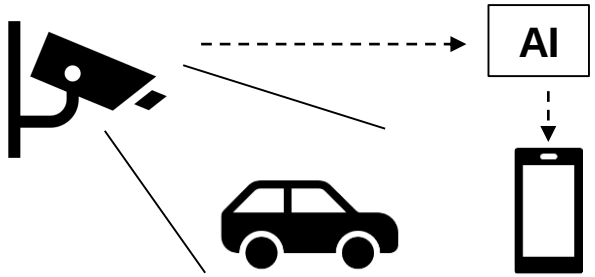
Predictive modeling

Solution 1



Incident Reporting App
Citizens can report public property loss / theft in the city

Solution 2



Safe parking spaces
Integration of AI based programming in CCTV cameras to provide surveillance automatically to parked cars

literature & secondary surveys

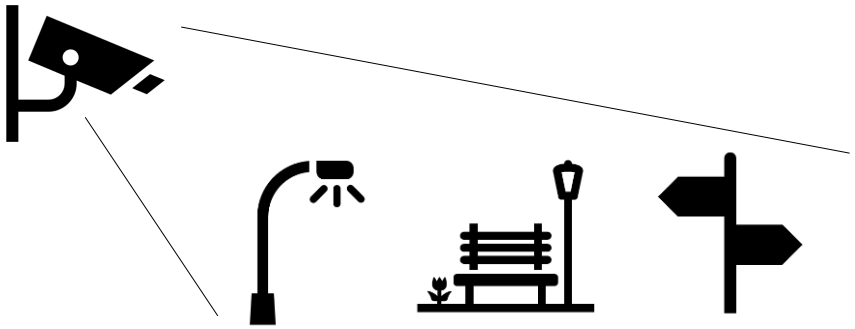
Data capturing & Visualization

Spatial Analysis

Smart Solution

Way forward algorithm based predictive analysis

Solution 3



Asset management system

Integration of AI based programming in CCTV cameras to monitor theft of public properties

Solution 4

Predictive analysis

Based on the analysis of the dashboard of past years and integrating algorithms based on machine learning

Expected Outcomes

Spatial Analytical Tool

Identification of Area which are more susceptible to crime and Probable Contributing Parameters.

Reporting Application

Plugin for public property theft available to citizens

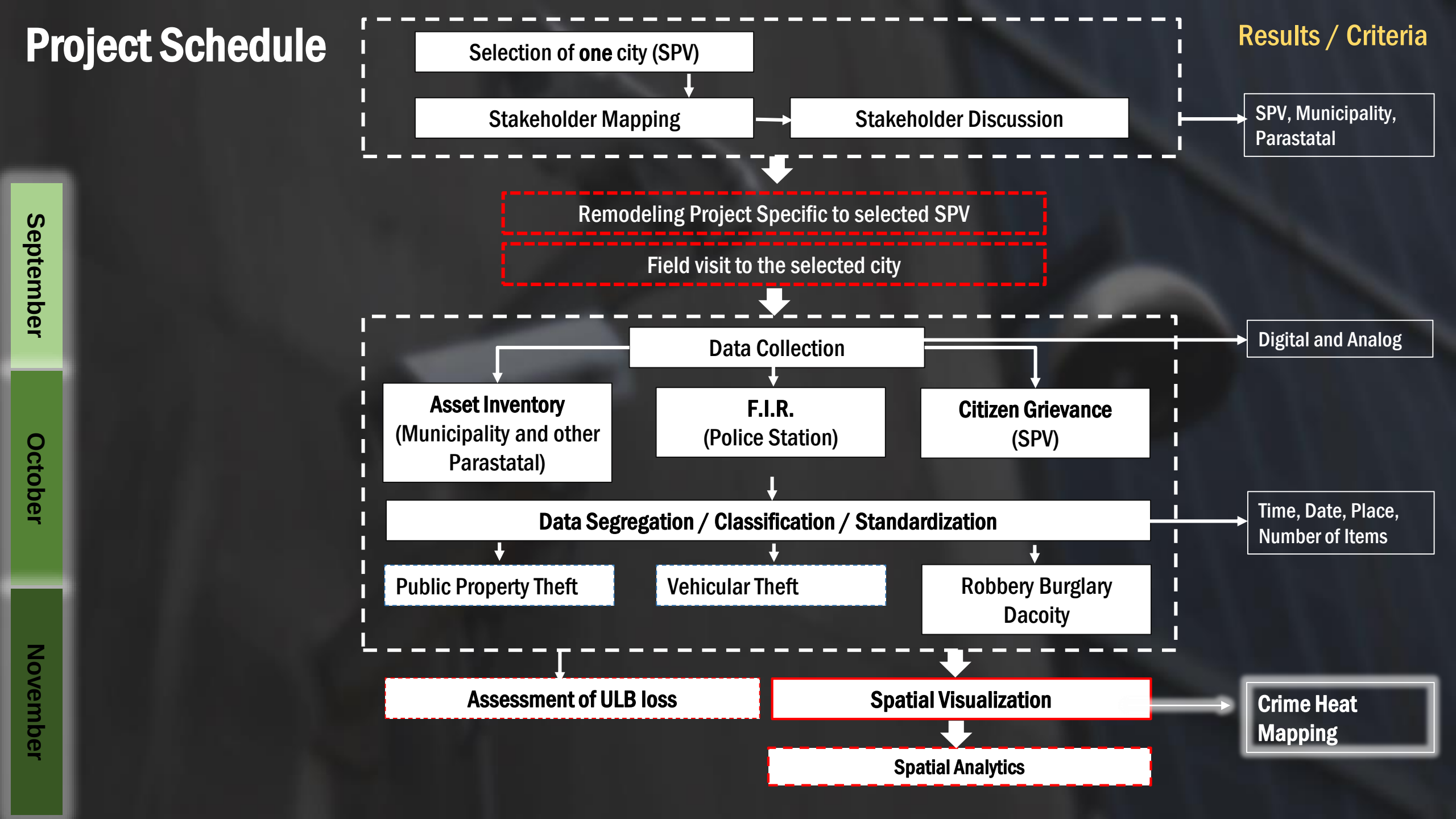
Effective and Efficient

deployment of resources by ULBs and Law Enforcement Departments.

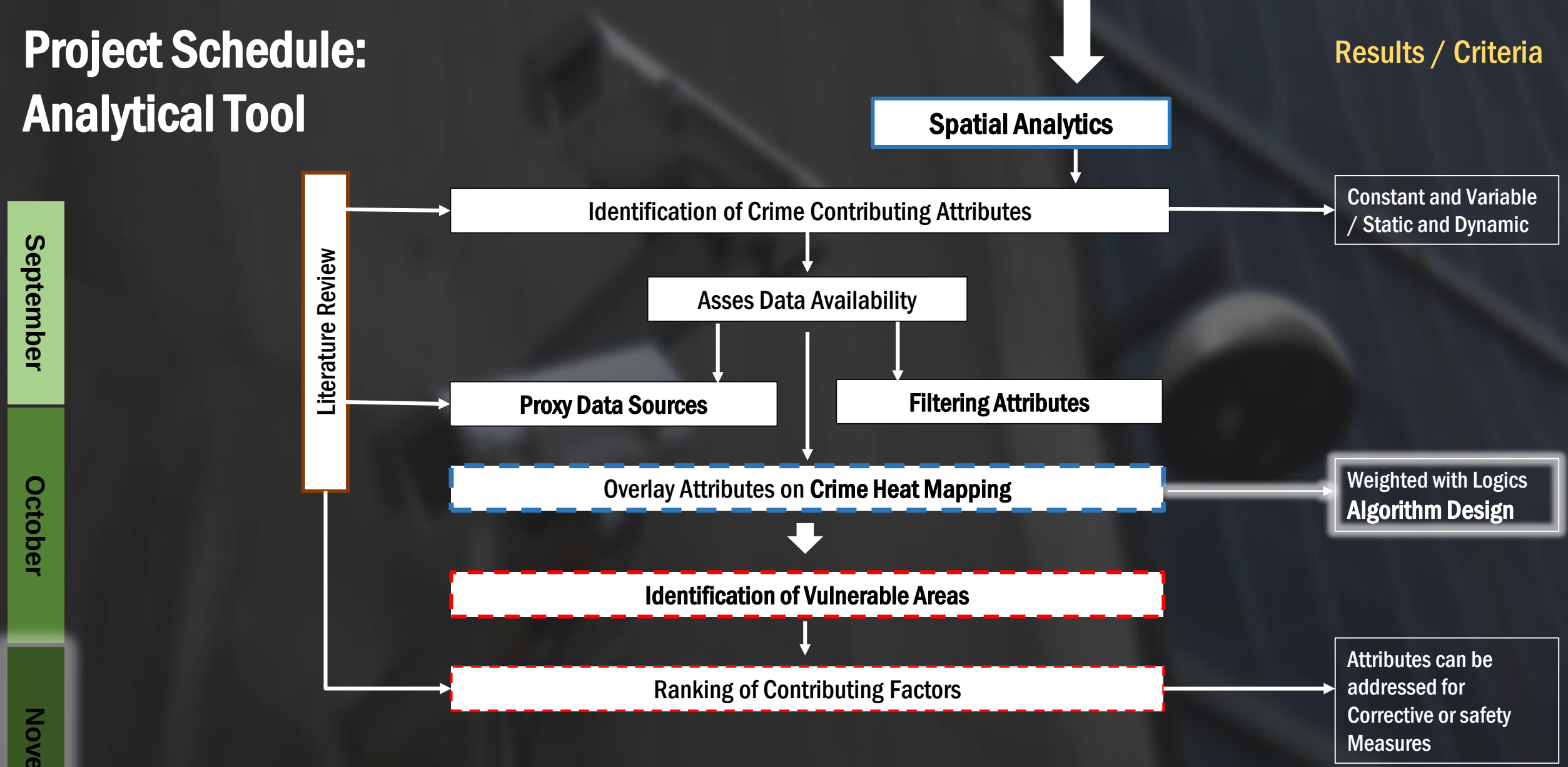
Automated Surveillance System

Way Forward

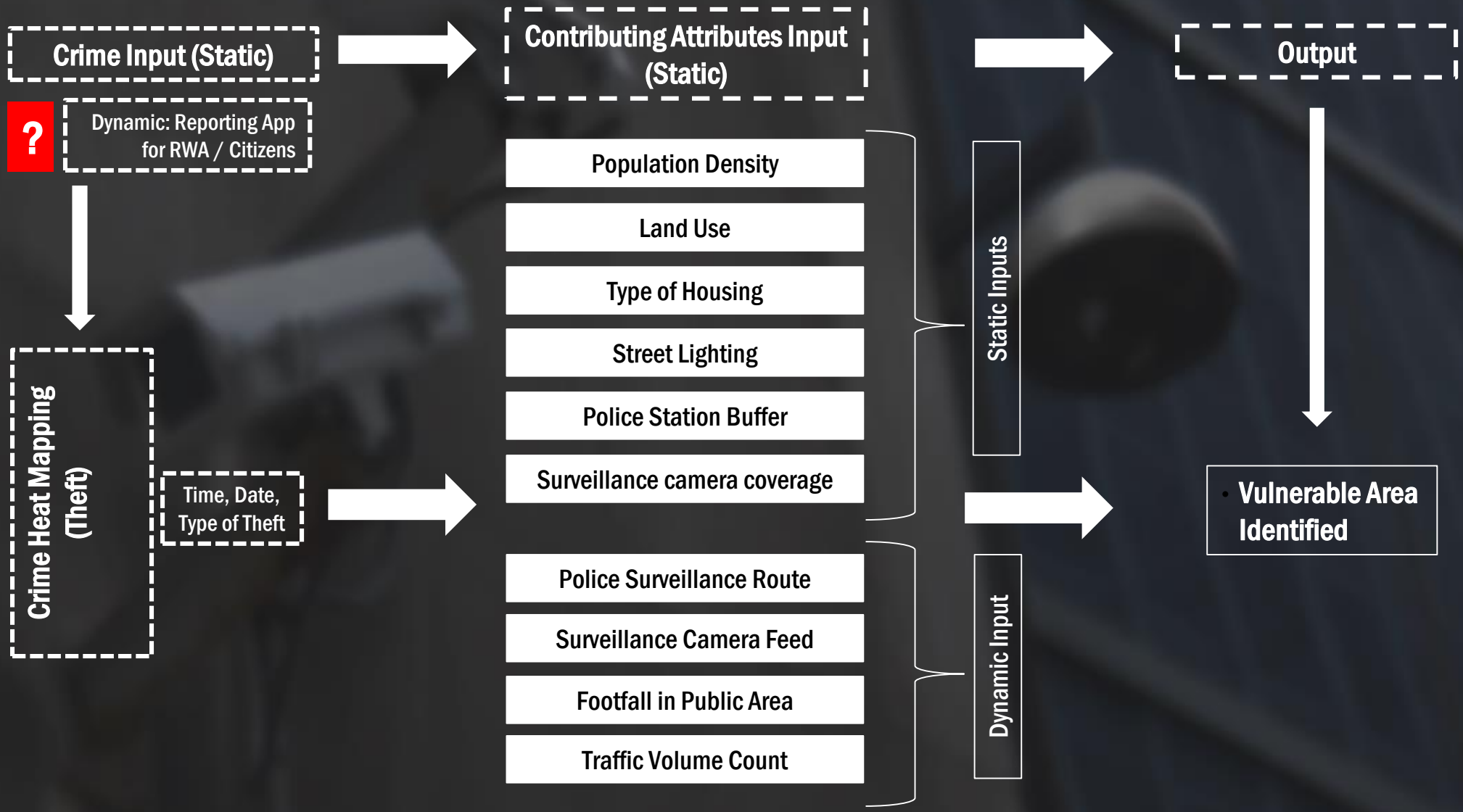
Project Schedule



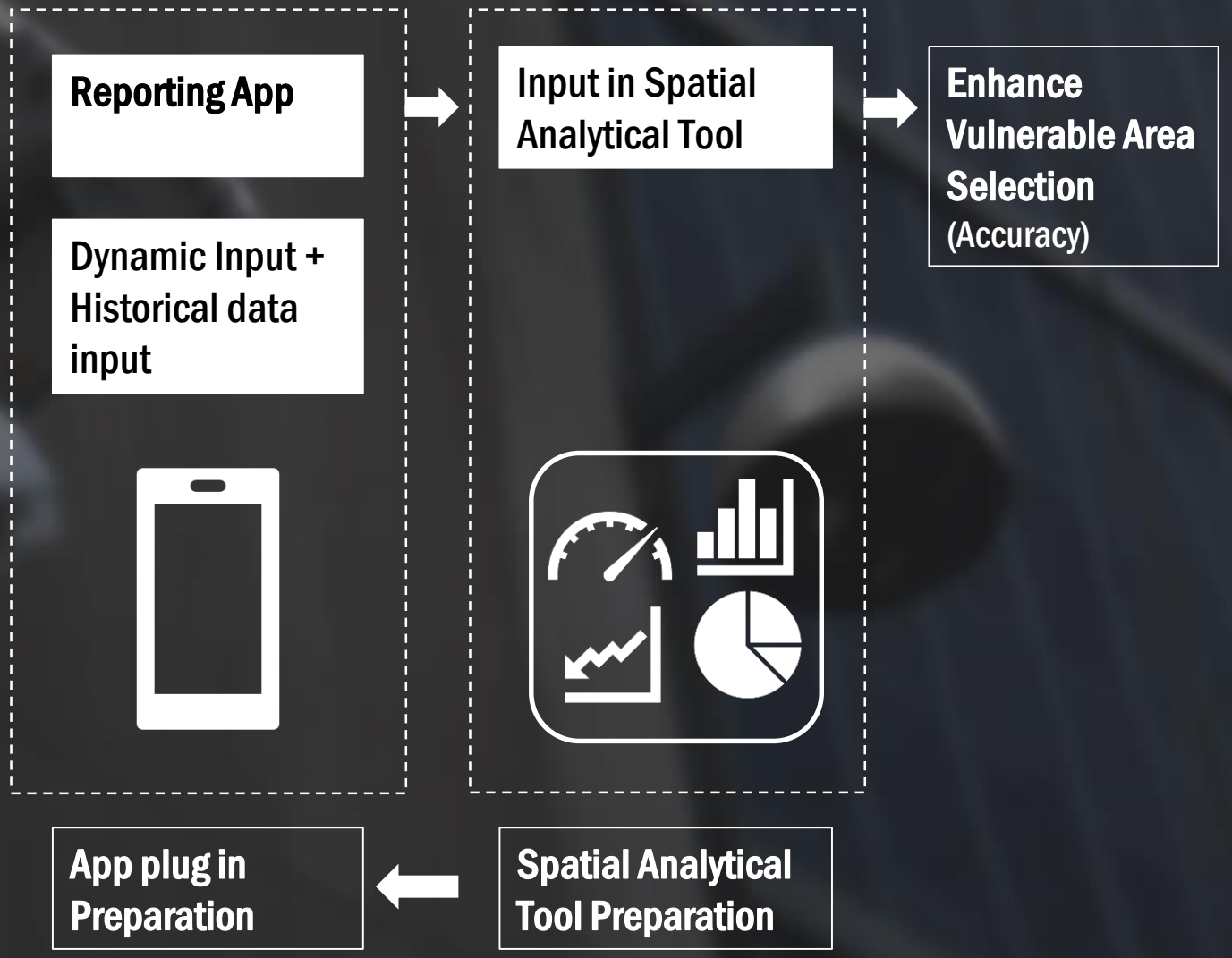
Project Schedule: Analytical Tool



Spatial Analysis
Design Principle



Smart Solution: Theft Reporting Mobile Application



Thank You