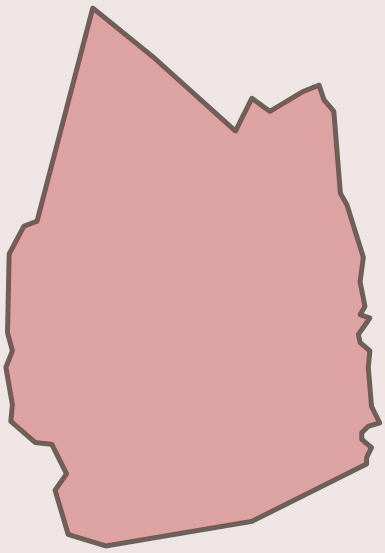
Safety Audit Report



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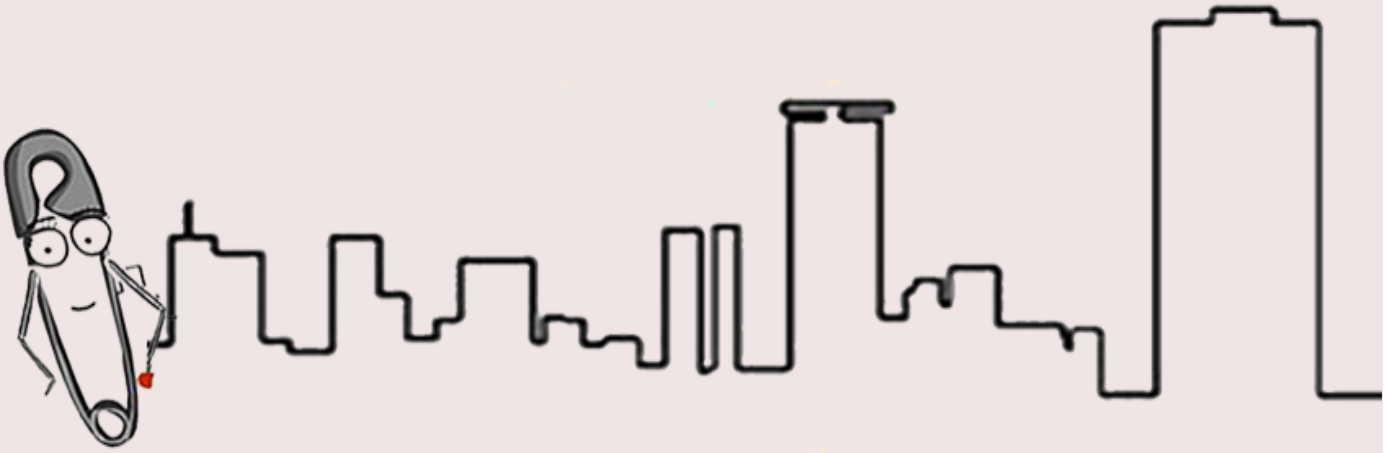
Name: Karnal
Area : 58 sq. km

Safety Score: 3.1 /5

Safety Rank : NA



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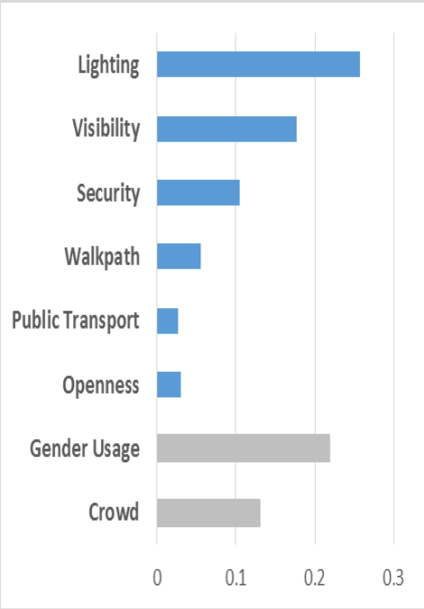
Introduction

SafetiPin is a mobile and online platform for collecting data about safety in cities. We use photographs taken at night, to help us understand the nature of public spaces in cities after dark. These pictures are coded on 8 parameters which together contribute to the feeling of safety. The description and relative importance of these parameters is given in the chart below.



Lighting measures the amount of brightness/illumination at a place and ranges from Dark to Bright. A place can be lit with street lighting or from other sources.

Visibility refers to how visible is one to others. It is based on the principle of 'eyes on the street'. This comprises windows-doors of shops, houses along with street vendors and hawkers.

Security refers to visible security offered either by the police or private security guards (for example along ATM/Bank)

The walkpath indicates whether a person can comfortably walk in a place. This could refer to the quality of a pavement or space along a road. Encroachment would indicate poor walk path.

Transport refers to the ease of accessing any mode of public transport i.e. metro/bus/auto/taxi etc and is measured in terms of the distance to the nearest mode

Openness refers to whether a person has a good line of sight in all directions

Gender is about diversity i.e. the percentage of women and children amongst the crowd. This increases as a consequence of safety perception.

Crowd indicates the number of people around. This increases as a consequence of usage opportunities.

The factor that has the highest impact on safety perception is Lighting followed by Visibility, Walkpath and Security. Improving these should thus be the focus of any (re-) development initiative. Gender Diversity ratings and crowd are a result of the these factors. Thus if the safety perception is high, then there is more likely to be diversity.

SafetiPin codes each location point into one of four ratings – 0,1,2,3. 0 and 1 indicates low scores (with high potential to improve) and 2 and 3 indicates good scores. Based on the ratings for each of the parameters, an aggregate Safety Score is generated.

The Safety Score of a point is thus a reflection of the perception of safety at that particular location. The Safety Score of an area is the average of all safety audits done in that area. The Safety Score is only provided for areas that have a minimum number of audits per square kilometre.

This report provides the summary of the safety assessment for this area. To aid decision making, the data is presented as tables, charts, graphs and maps to highlight aspects which need immediate attention. Additional information if required can be made available on request.

Focus Areas

All parameters do not have an equal impact on the perception of safety. It is therefore useful to know how an improvement in each parameter will impact the Safety Score of the area. In the table below, we show the Gap-Impact measures. The gap refers to the difference between the current score and the maximum score possible and the impact measures the contribution of this parameter

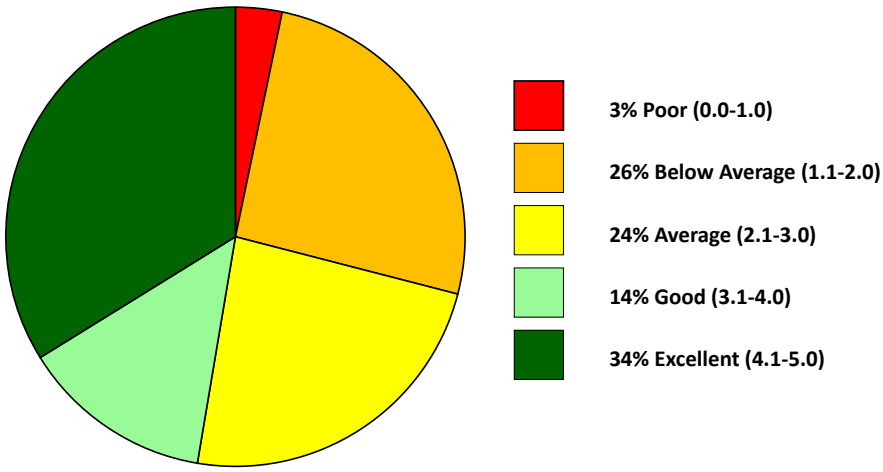
towards the perception of safety. Focusing actions based on the Gap-Impact will give the best improvement of the Safety Score.

	Average (out of 3)		Number of Audit Points			Gap-Impact
	City	**Here**	Good	Poor	**% Poor**	
Lighting	2.00	**2.0**	1027	348	**25**	26
Visibility	1.50	**1.5**	599	776	**56**	27
Security	0.50	**0.5**	22	1353	**98**	28
Walkpath	2.00	**2.0**	1316	59	**4**	6
Transport	0.20	**0.2**	57	1318	**95**	8
Openness	2.10	**2.1**	1348	559	**29**	3
Gender	0.90	**0.9**	401	974	**70**	46
Crowd	1.40	**1.4**	584	791	**57**	21

Charts and Graphs

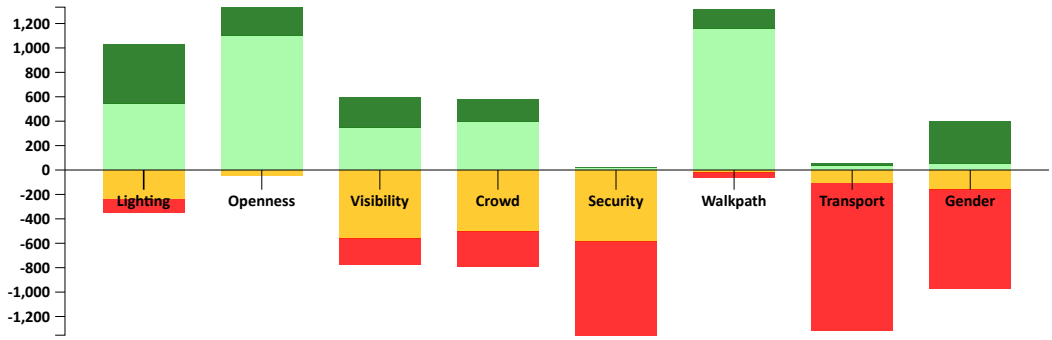
Number of points for each range of scores

The Safety Score for each point is a number between 0 and 5. Each range is assigned a colour and a name. Below is percentage distribution of Safety Score in this area.



Number of Pins of each category for each parameter

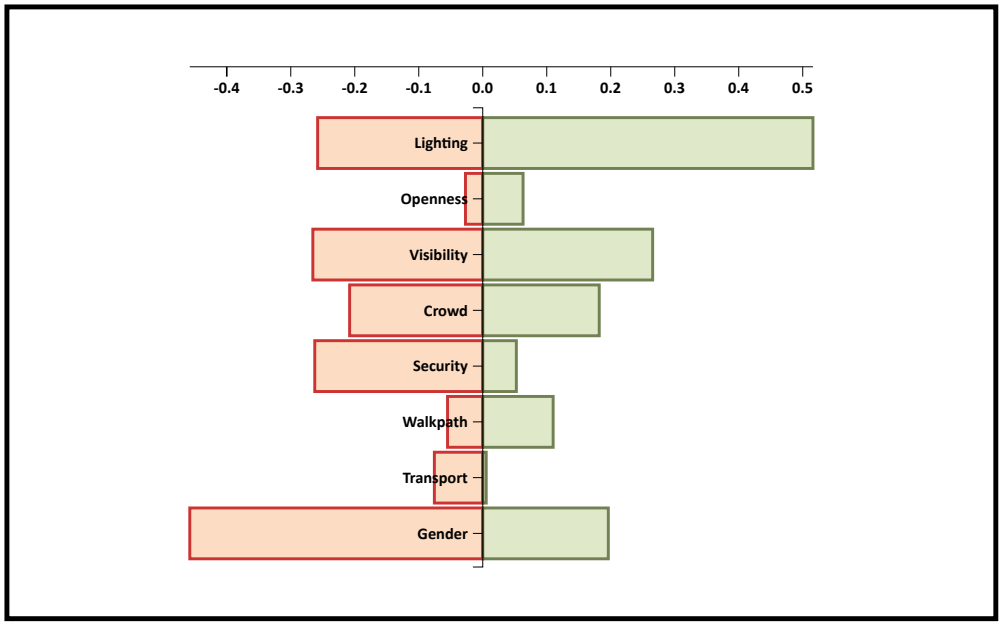
The stacked bar chart below shows good points as positive and poor points as negative numbers. This indicates both the pin distribution of the four ratings within each parameter and also the relative performance of each parameter. The actual number of pins in each category are indicated in the table



	Lighting	Openness	Visibility	Crowd	Security	Walkpath	Transport	Gender
Excellent	485	236	250	188	8	160	17	345
Good	542	1098	349	396	14	1156	40	56
Marginal	234	41	559	504	582	17	106	159
Poor	114	0	217	287	771	42	1212	815

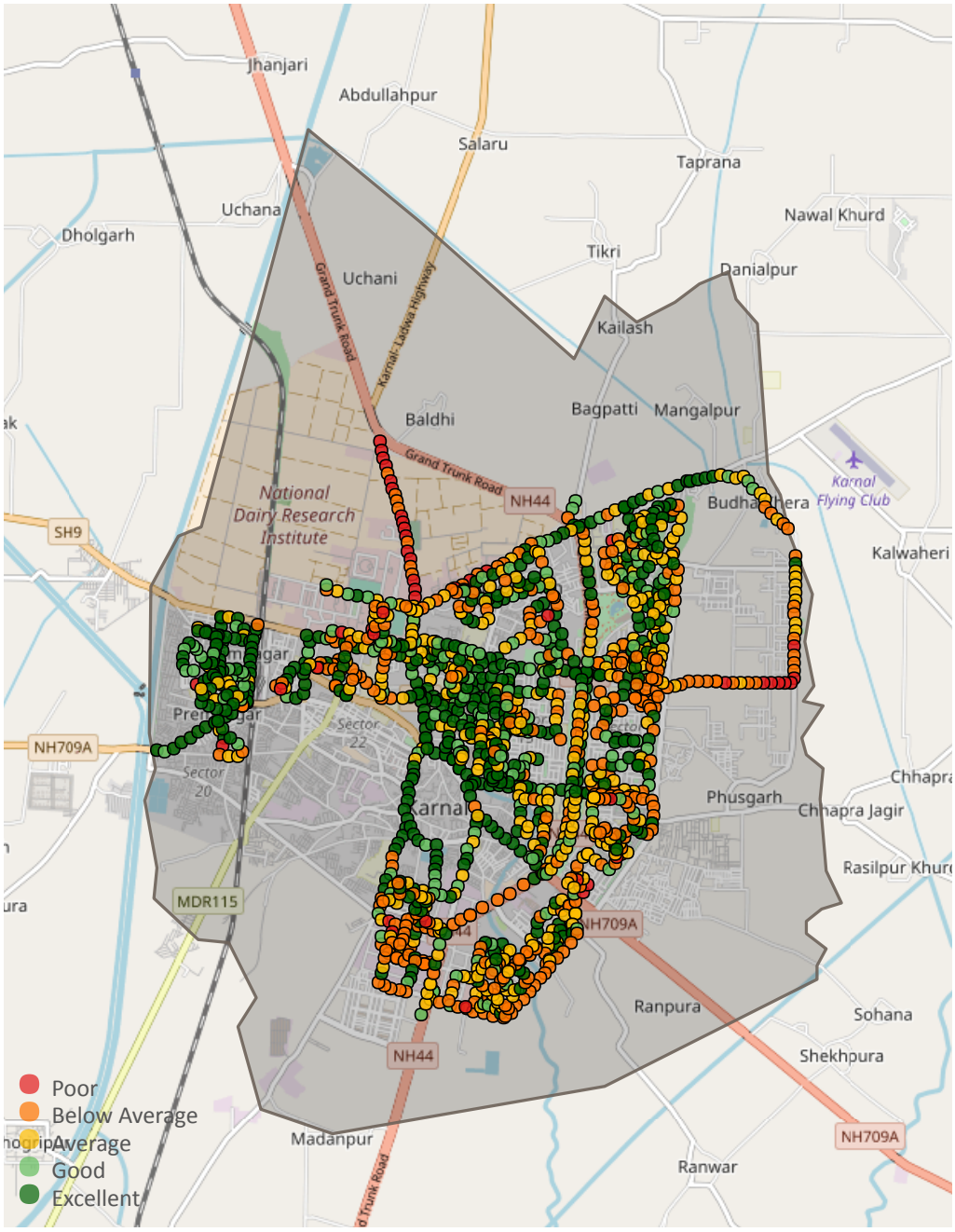
Gap Impact

The Impact bar indicates the extent of influence and the relative impact that each parameter has on the perception of safety. The combined length indicates the impact potential of the parameter. The parameters with the maximum combined length have the highest impact on the perception of safety and vice versa i.e. Lighting has the maximum impact and Transportation the least. The positive length (in green) indicates the extent of provision that has already been made on ground. The negative length (in red) indicates the (remaining) amount of improvement needed to increase the Safety Score.

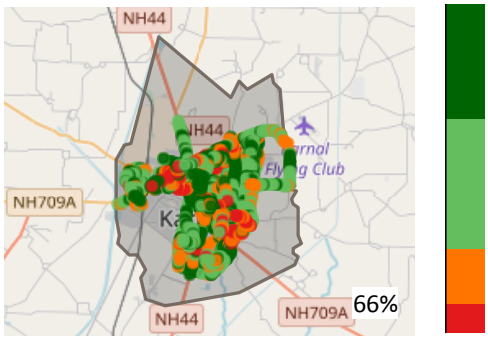


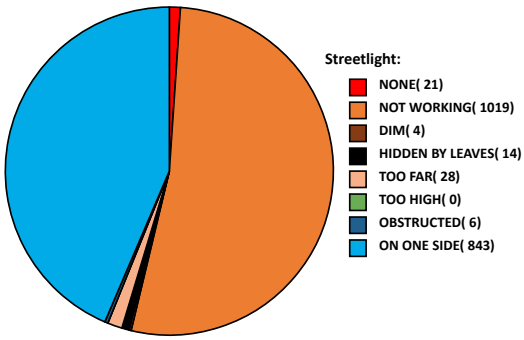
Maps

Safety Score

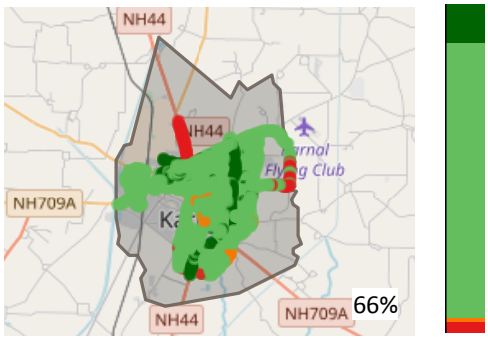


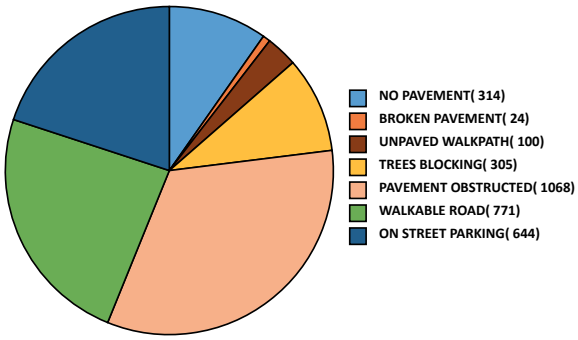
Lighting



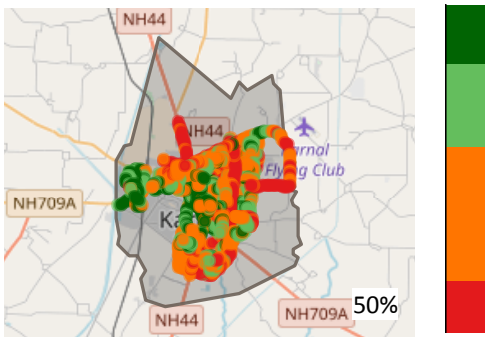


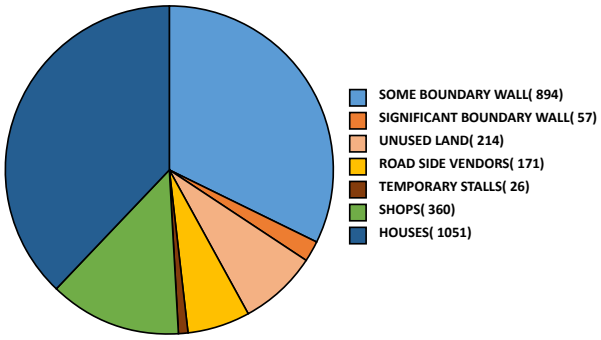
WalkPath



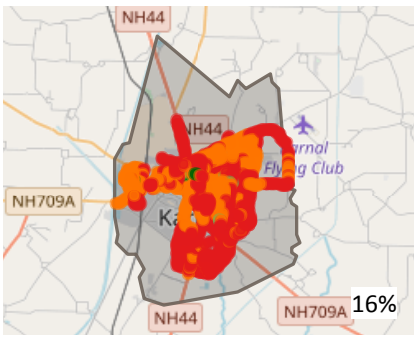


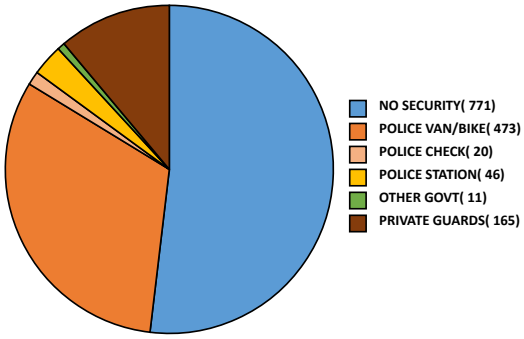
Visibility





Security





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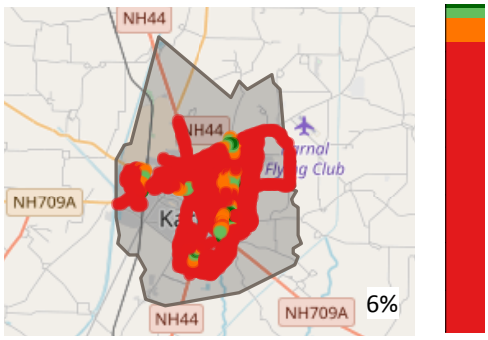
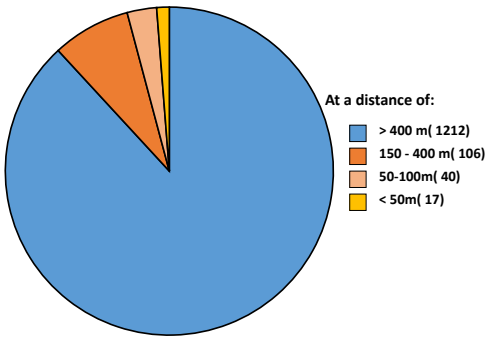
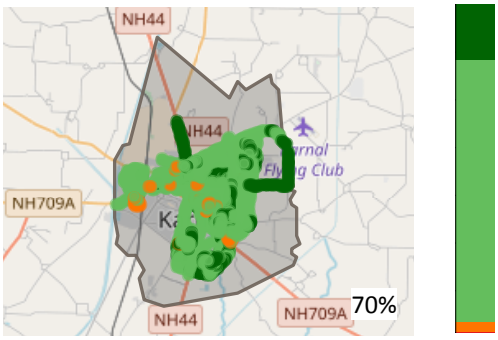
Public Transportation

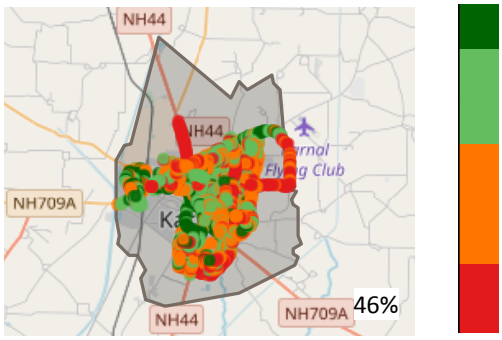




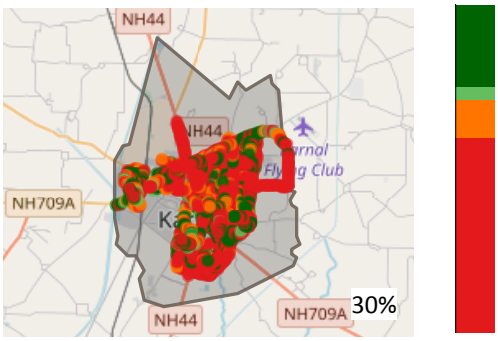
Openess



Crowd



Gender



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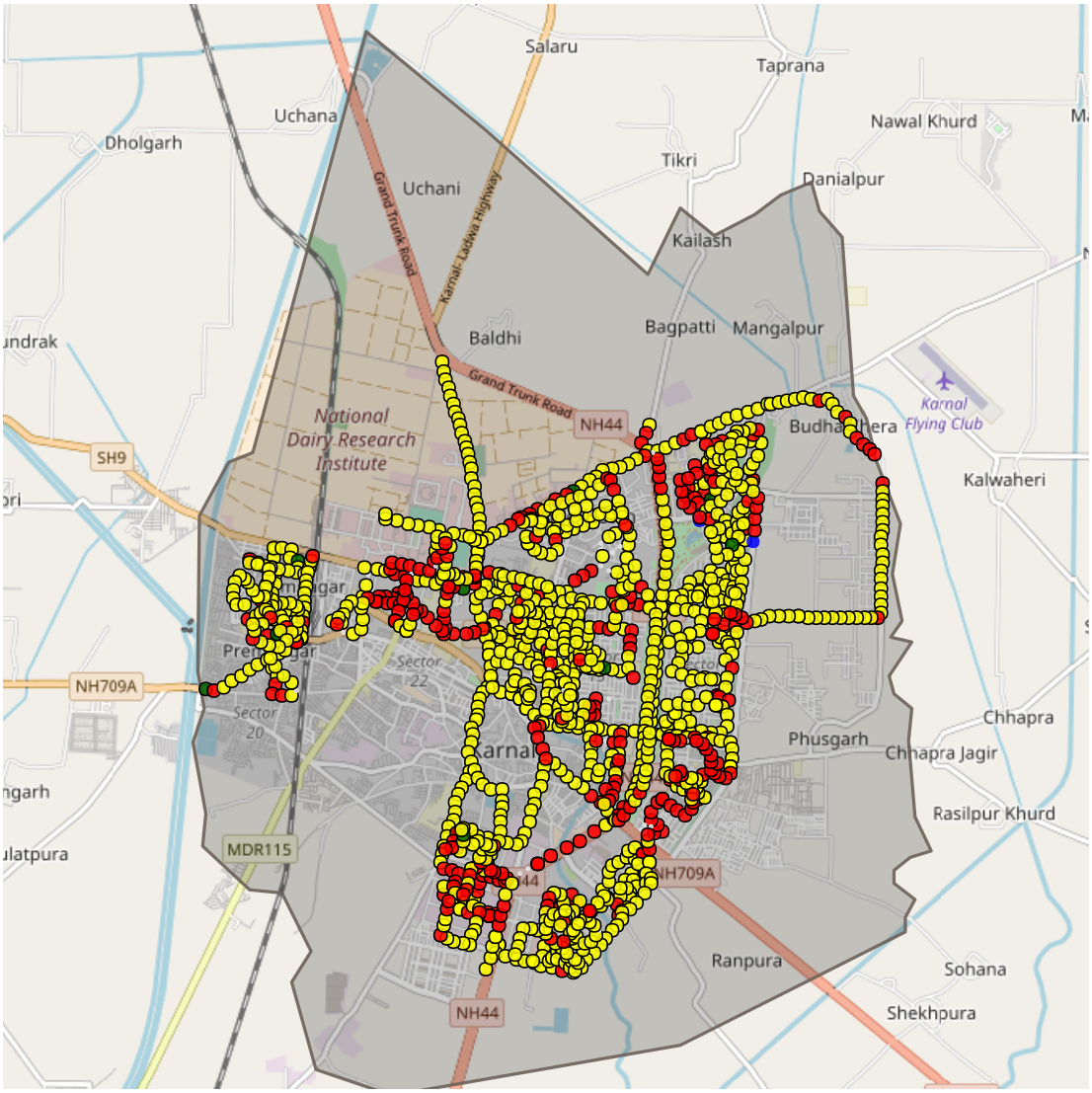
Lighting (Maintenance Issues)

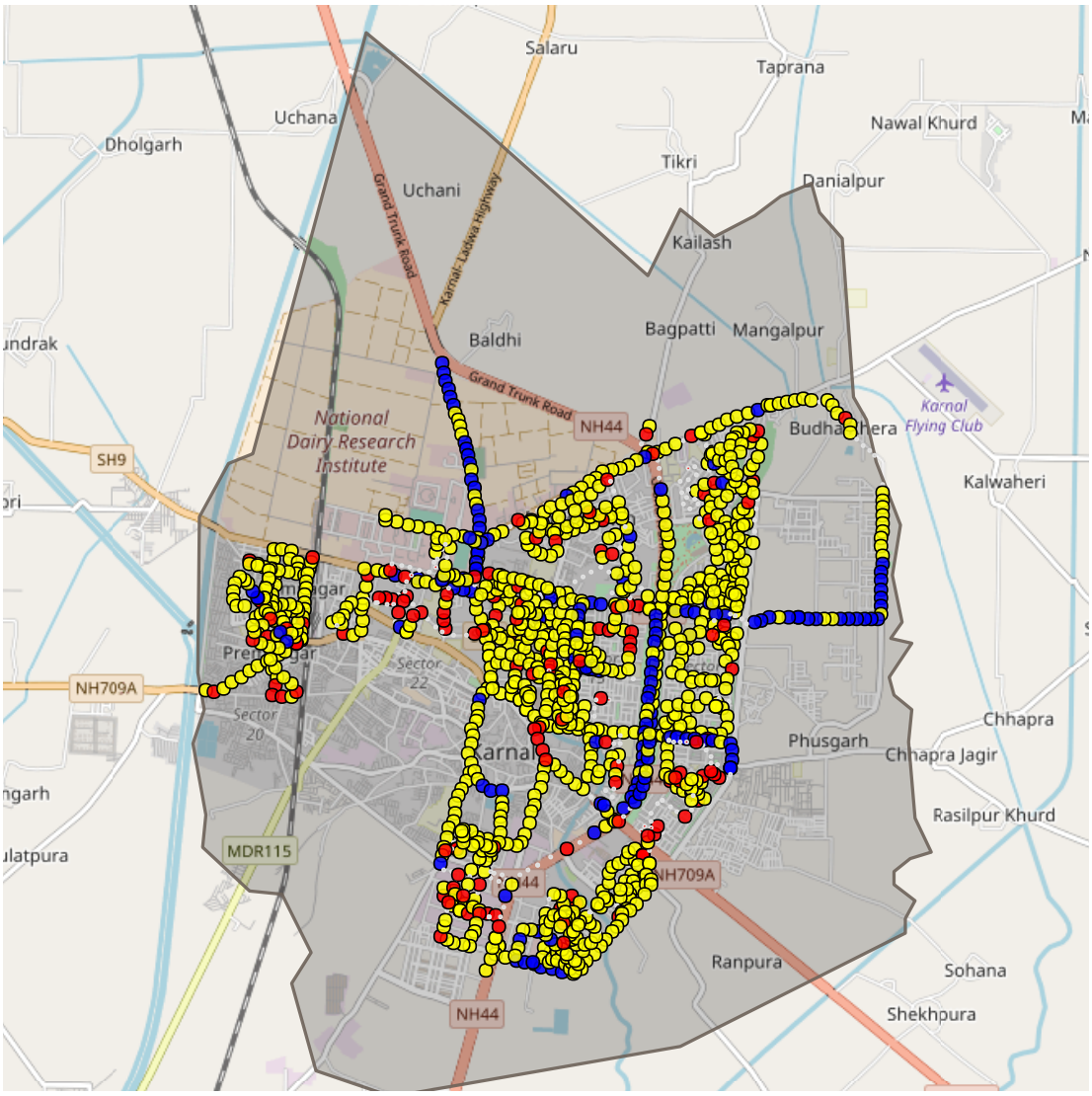
The map below indicates location points having poor lighting on account of maintenance issues. The table specifies the extent of these along with proposed recommendations to fix the issue. The recommendations are in suggested order of priority.



Colour	Distance (Km)	Recommendation
Red	31.3	Make street lights operational. These are points where streetlights exist but are not working.
Dark Green	1.2	Prune trees. These are points where streetlights are working but are covered by tree leaves
Blue	0.3	Increase lux levels of light. These are points where lights are too dim to impact the entire road.
Yellow	101.2	Light exists. These points have functional light poles.

Lighting (Additional Streetlights Required)

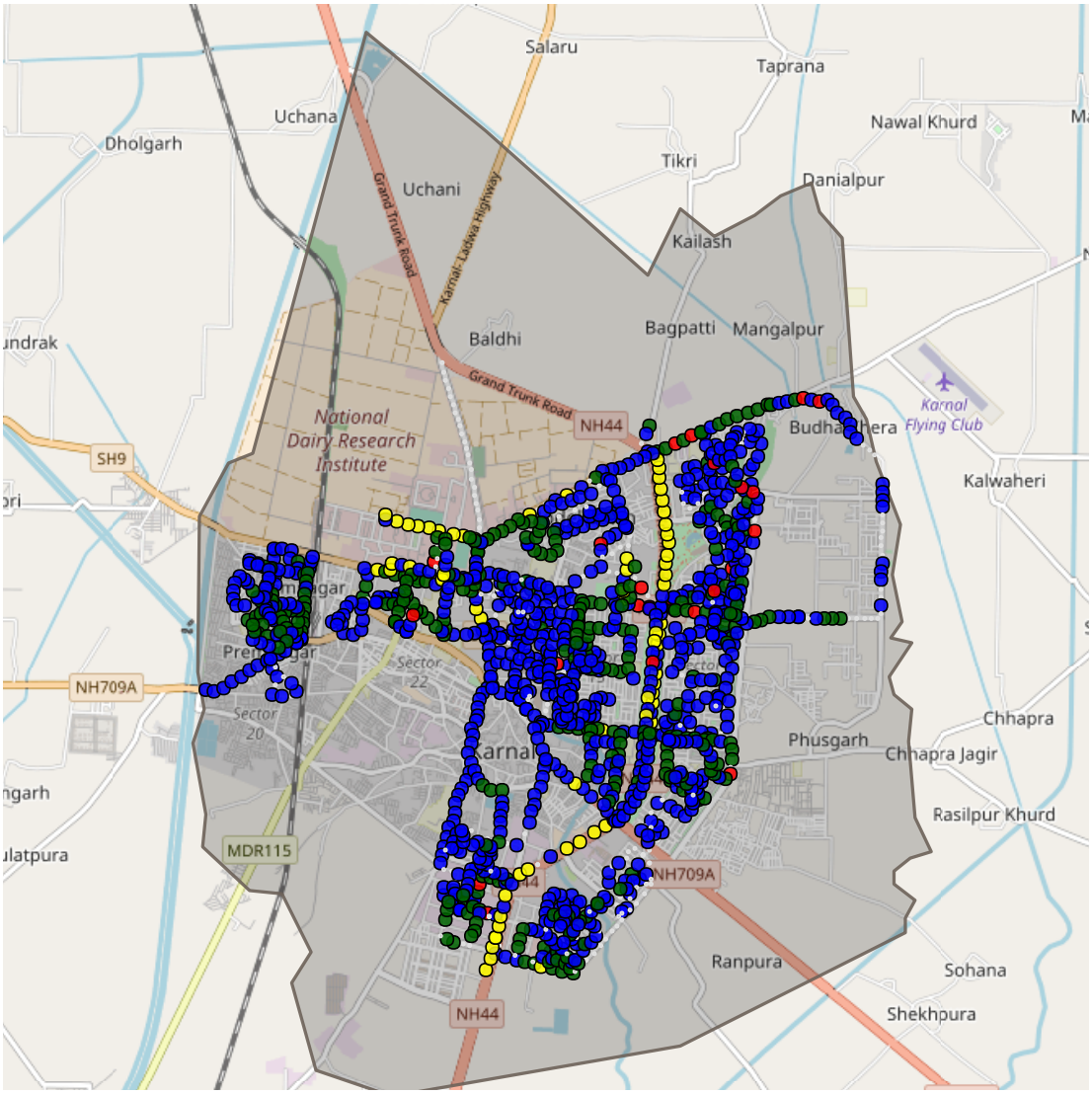
The map below indicates locations where either there isn't enough illumination or no streetlights. The table indicates such areas in recommended order of priority.



Colour	Distance (Km)	Recommendation
Red	15	Install new lights. These are residential areas without street lighting and where overall lighting is poor.
Dark Green	0	Install pedestrian scale lights. These are wide roads (6 lanes or more) where the walkpath is not well lit because here lights are installed either too high, or only on one side of the road.
Blue	14.3	Install lights on both sides of the road. These are 4 lane main roads and one side of the road is dark.
Yellow	90.2	Lights exist. The stretches of road have light poles.

Walkpath (Maintenance Issues)

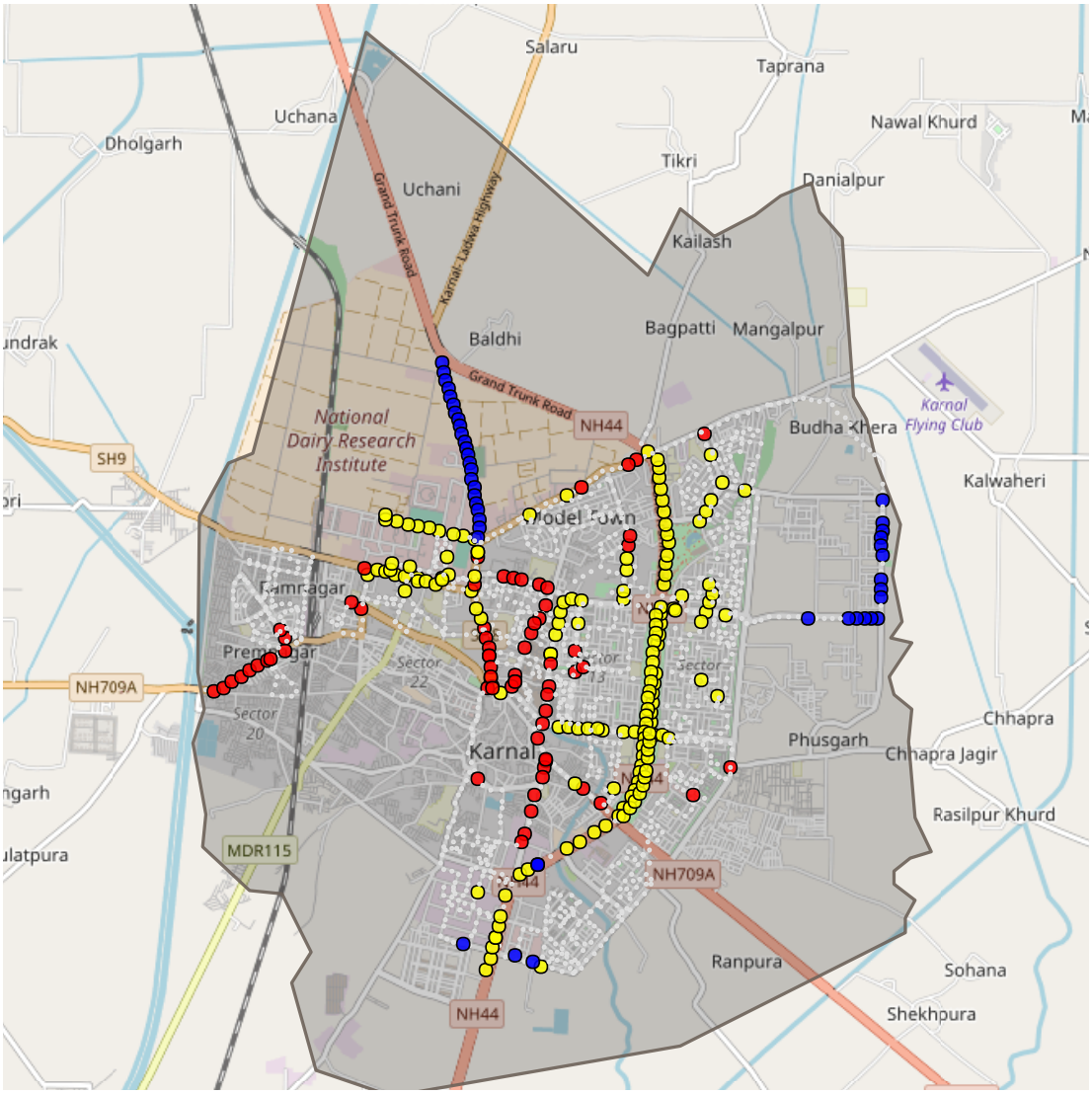
The map below indicates the location points where walkpath exists but in poor condition on account of maintenance issues. The table indicates proposed recommendations for these in order of priority.



Colour	Distance (Km)	Recommendation
Red	2.4	Repair the footpath. These are stretches of road with broken footpath.
Dark Green	29.7	Widen the footpath to accommodate the tree. These are the points where trees obstructs the movement of the pedestrians.
Blue	78.6	Create a proper paved footpath. These are the points where pedestrian movement is obstructed due to vendors or cars parked on the footpath or extended houses.
Yellow	6.6	A proper paved footpath exists.

Walkpath (No Walkpath)

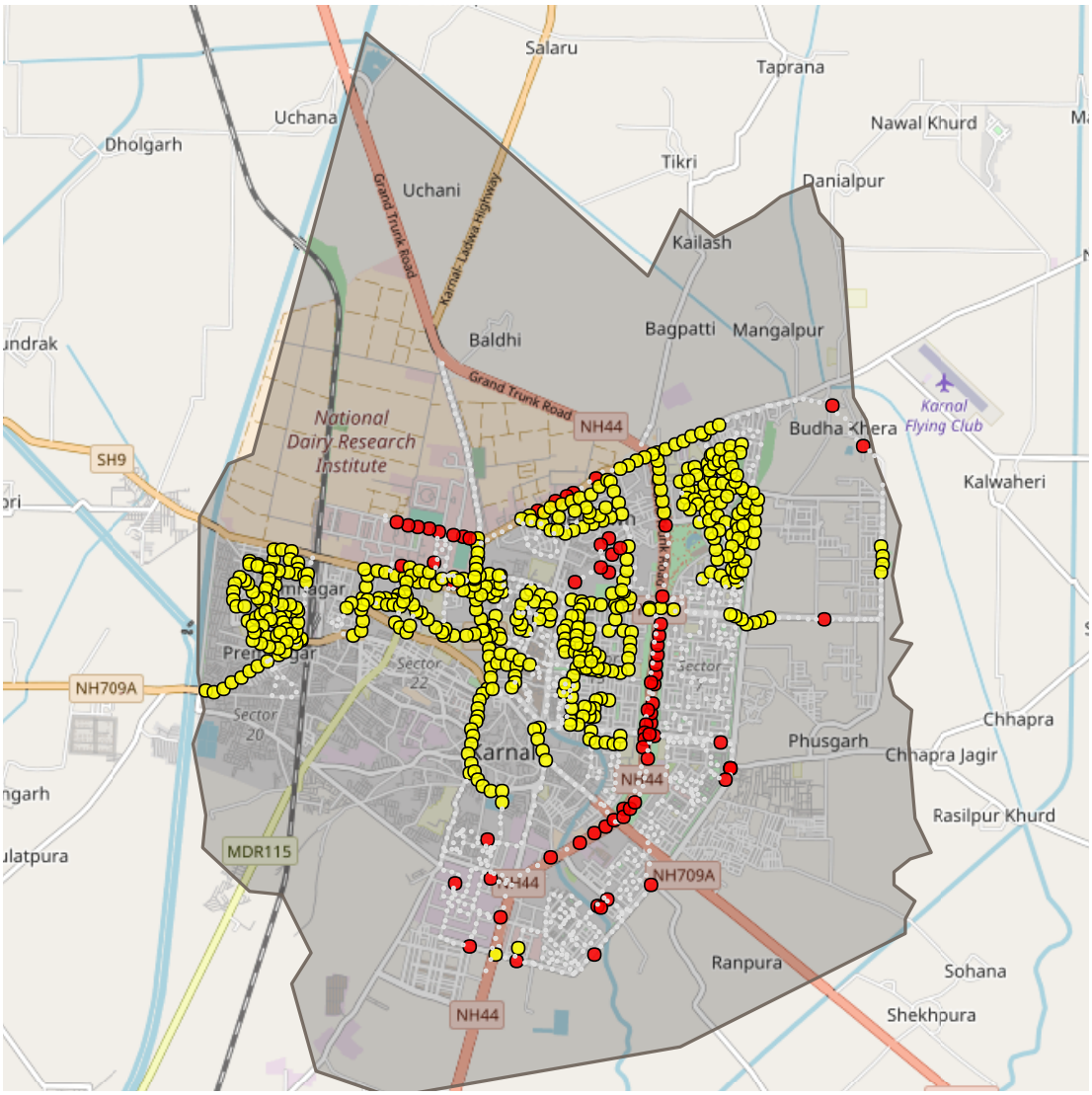
The map below indicates locations with no or unpaved walkpath where construction of a proper footpath is required. The proposed areas for intervention are in suggested order of priority.



Colour	Distance (Km)	Recommendation
Red	6.7	Construct a footpath. These are stretches of road with no or kachcha walkpath.
Dark Green	0	Construct a footpath. These are main roads with 6 or more lanes.
Blue	4.3	Construct a footpath. These are main roads with 4 lanes.
Yellow	15.8	A proper paved footpath exists.

Security

The map below indicates the locations with poor rating of Security i.e. 0/1 out of 3.



Colour	Distance (Km)	Recommendation
Red	7.3	Patrol these routes. These are the points with no security and visibility.
Yellow	47.8	Regular patrolling is done here.

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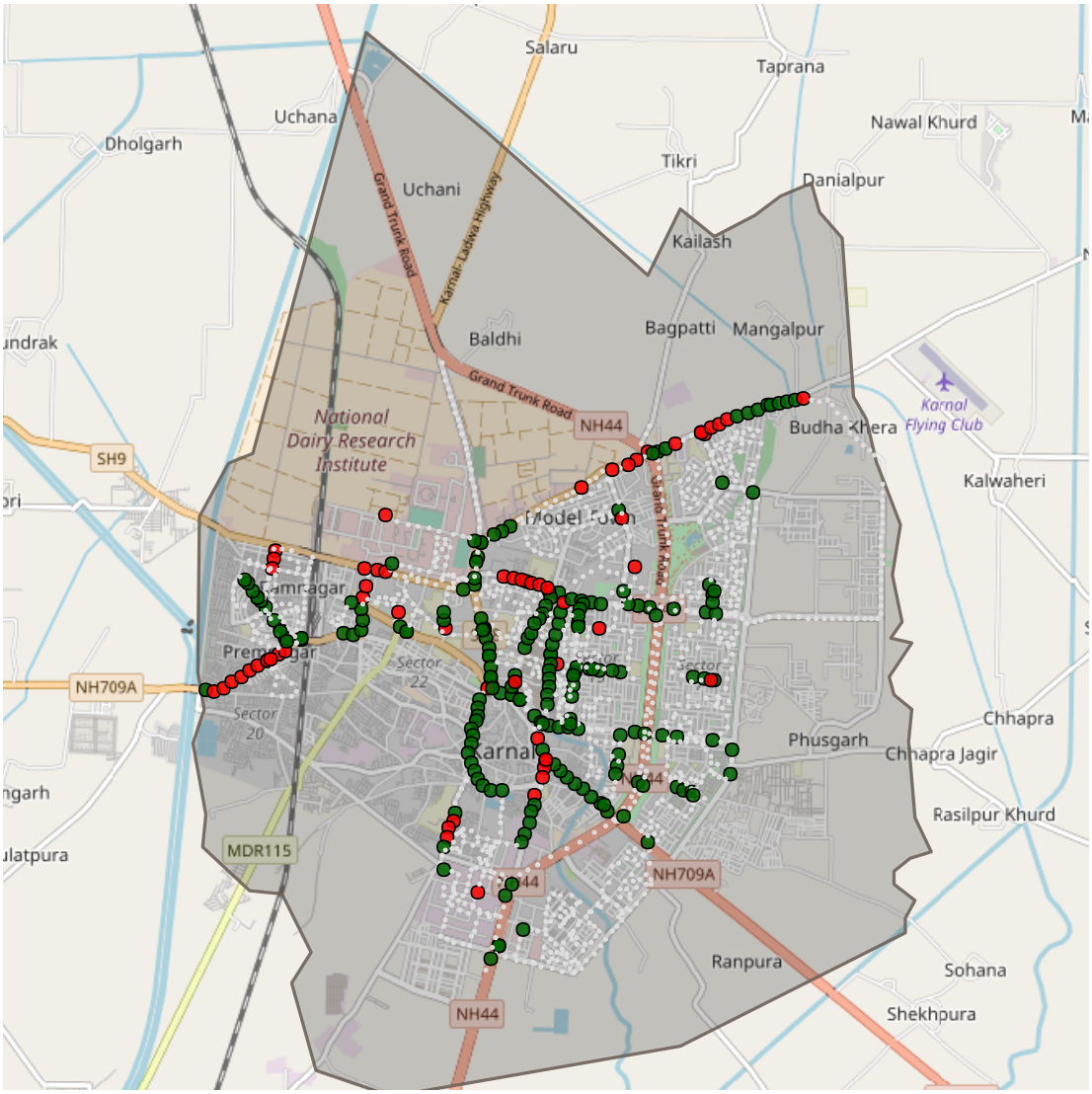
Visibility

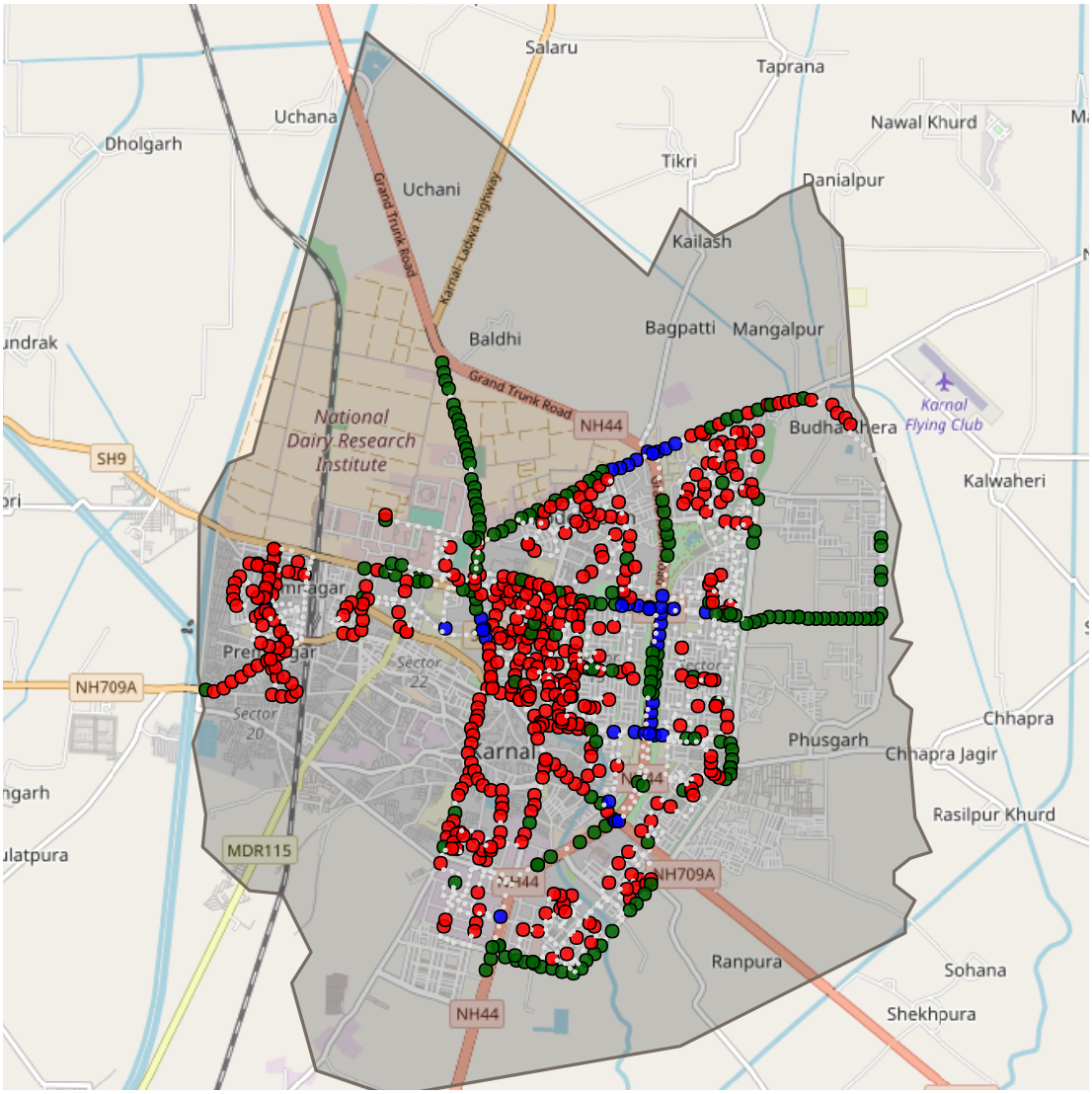
The map below indicates the locations where designated hawker zone can be provided for the temporary stalls or road side vendors. The table specifies the proposed areas for intervention in suggested order of priority.



Colour	Distance (Km)	Recommendation
Red	6.1	Provide a hawker zone. These are main roads in residential areas where temporary stalls and road side vendors are present.
Dark Green	19.5	Provide a hawker zone. These are points where shops, temporary stalls and road side vendors are present.

Public Transport

The map below indicates the locations where a designated stand for para-transit (autos/shared autos, cycle-rickshaws and taxis) needs to be created. The proposed areas for intervention indicated in the table are in suggested order of priority.



Colour	Distance (Km)	Recommendation
Red	43.9	Create a para- transit stand. These are main roads in residential areas.
Dark Green	18.1	Create a para- transit stand. These are main roads where shops are present.
Blue	4.3	Create a para- transit stand along the bus stop. These are main roads with a bus stand.