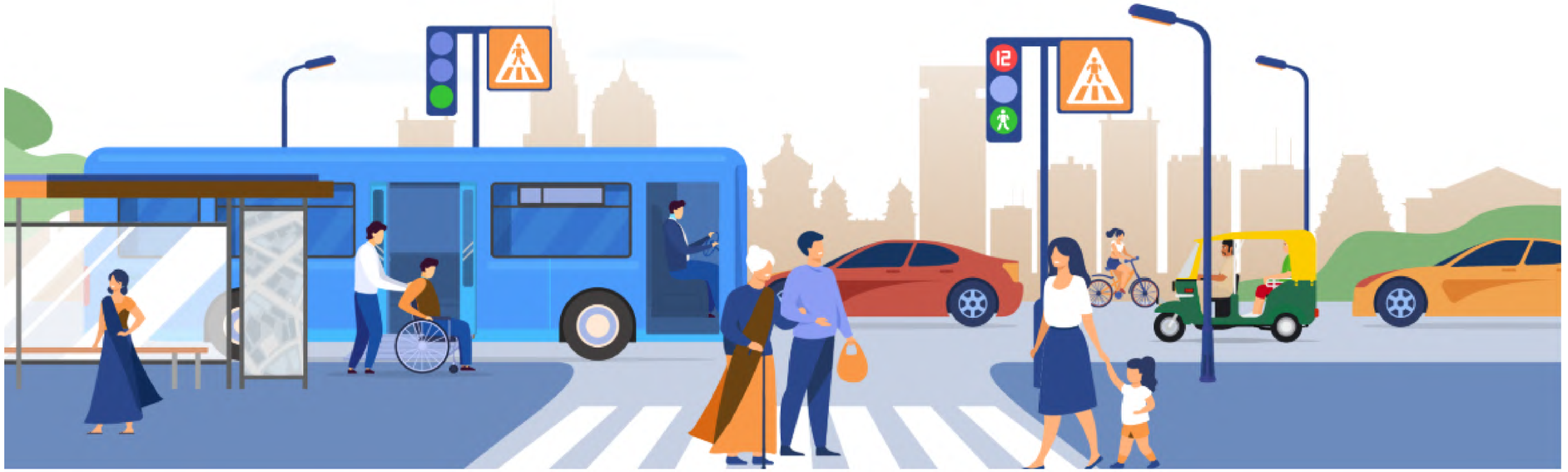
B.PAC MOBILE
SUSTAINABLE MOBILITY FOR ALL

IRR Street: Standstill to Active

A Comprehensive & Collaborative Approach to Sustainable Mobility

B.PAC Let's Be Better



WHY INNER RING ROAD AND WHAT DID WE TRY TO ACHIEVE?

The Inner Ring Road (IRR) connects **Indiranagar and Koramangala** in Bengaluru, serving as a vital link for commuters, businesses, and residents. The IRR faces severe traffic congestion, multiple road crashes, obstructed walkways, missing crossings, and inadequacy in bus frequencies. The demand for improved public transport services in the locality gets ascertained by the overcrowded buses during peak hours. Also, the **Indiranagar Metro Station has the second highest footfall in Bengaluru**, after Majestic.

AIM

To improve **accessibility and reliability of buses, walkability and road safety** along 7.5km of IRR for a safer, more efficient and lively street for all.

The stretch spans from Indiranagar KFC junction upto Madiwala Masjid in Koramangala. We have conducted on-ground surveys and data analysis to share data backed recommendations with the concerned government departments, namely: **Bengaluru Traffic Police (BTP), BMTC, BBMP and BSWML,** and are working with them to see change on ground. The project is complex because of its: **comprehensive nature, multiple stakeholders & multiple govt. permissions.**

Site Introduction

- **The Inner ring road** is a link road connecting Indiranagar and Koramangala.
- **An ideal mixed use corridor**
- **Important link for the IT Corridor**

Key map

Legend

- Commercial
- Residential
- Work space
- Green spaces
- Educational Inst.
- Hospital
- Public Buildings, Cultural assoc.
- Bus stop
- Road

CMH Road

Indiranagar 100ft Road

Domlur Flyover

Nala below

Tech Parks
(DELL Office
Maruthi InfoTech Centre
Embassy Golf Links)

Defence land

Sony Signal
Bus stop
towards Indiranagar

Ejipura Signal

St. John's Hospital

In front of **Oasis Centre**

Koramangala 100ft Road

B.PAC
Let's Be Better

Bus waiting shelter

Road Safety

Bus Reliability

Street Lighting

PROJECT SCOPE

Urban Flood Resilience

Walkabilty & Access

Traffic Signal Study

Cleanliness

B.PAC MOBILE
SUSTAINABLE MOBILITY FOR ALL

IMPACTS

10
audits & analysis
completed

9
buses,
58 trips added to MF5 (201D)

4
blackspots
transformed.
Saving Lives

45+
streetlights
added

4325 tonnes
debris & soil
cleared

129 tonnes
garbage
removed

CREDITS

Hearty thanks to the team! **These improvements have come about due to their support and hardwork:**

- **BMTC:** Traffic Operations, Intelligent Transportation Systems (ITS)
- **Bengaluru Traffic Police (BTP):** Operations, East and South Divisions, JB Nagar, Ulsoor, Ashoknagar, Adugodi, Madiwala.
- **BBMP:** Road Infrastructure(RI), Project Central (PC), Traffic Engineering Cell (TEC), Electrical, SWM, Health, Pourakarmikas, SWD, East and South divisions of each department and Contractors.
- **BSWML:** Operations, Marshals
- **B.PAC:** Management, Operations, B.MOBILE, B.CLIP, Communication and Interns.

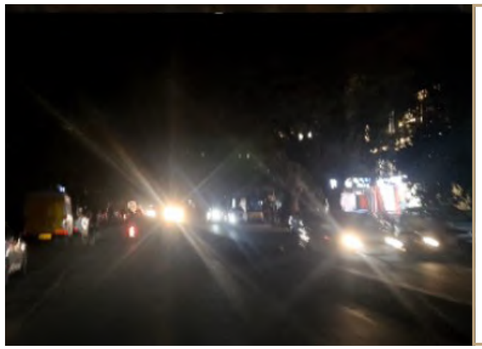
Guidance: Our heartfelt thanks to expert volunteers who guided us. Their advice and efforts was critical in understanding the right approach for audits and analysis:

- GSR Chaitanya, WRI India - Bus Frequency Vs Occupancy survey and Bus Supply-Demand data analysis
- Dr. Aitichya Chandra, IST lab, IISc - Bus fleet calculation
- Ranjith Parvathapuram, ex-WRI India - Traffic signal study
- Vijay Narnapatti, Maya Praxis - Domlur flyover pedestrian access
- Divya S, Maya Praxis - Domlur flyover pedestrian access
- Chetan Sodaye, WRI India - Streetlighting and Road safety
- Raj Bhagat Palanichamy, WRI India - GIS Map

CONCERNING ISSUES

Footpath Obstructions

Footpaths are an obstacle course with construction debris, garbage, vehicles parking, and shop standees blocking the walk, forcing pedestrians onto the roads.



Street Lighting

Damaged lamps and missing poles result in pitch dark patches, risking road crashes and vulnerability to theft and crimes.

Fatal Crashes from Overspeeding

Roads without traffic calming lead to overspeeding and fatal crashes. Missing pedestrian crossings and road markings pose road safety risks.

Buses and Bus stops Conditions

Buses sometimes arrived at 15 minute intervals. Many bus waiting shelters lack basic amenities and information, while some are missing altogether.

Traffic congestion

Several hours are lost due to traffic congestion, emphasizing the need for more efficient public transportation. Garbage and debris dumped alongside add to it.

Drainage Problems

Missing drainage inlets and garbage in SWDs cause urban flooding and safety risks. Open drain covers during construction add to the danger.

IMPACTS ON GROUND

Bus frequency and reliability:

Data analysis observing crowding patterns and gaps:

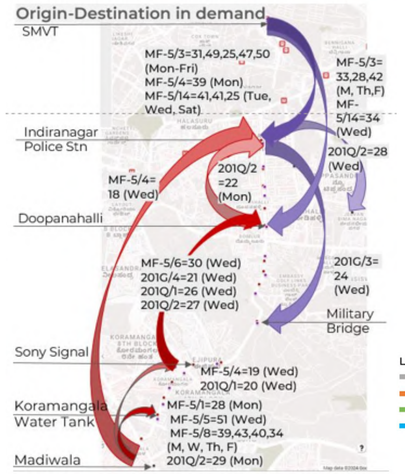
The gap in bus supply and demand was inferred by analysing 1.1 Lakh+ bus ticket data, origin-destination demand and conducting bus frequency vs. occupancy surveys on-ground. BMTC has added 9 buses and 58 trips to the MF5 route, which was the most in demand, based on the study.

30 **Buses** are needed for the MF5 route to maintain a 5-minute frequency.

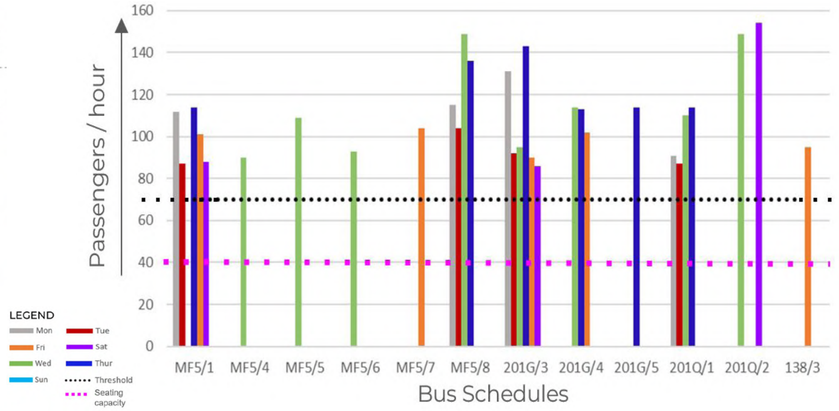
26 **Buses** in BMTC's MF5 fleet now, from 17 buses in November 2023.

227 **Trips a day** both ways from the earlier 169 trips last year.

5 **minute frequency** target getting closer.



8-9am Hourly Origin-destination demand mapped.



Passengers/ bus towards Indiranagar at 8- 9am in a typical week. Over 140 passengers approx. in some buses at peak hours.

Missing bus waiting shalter at Sony Signal (towards Koramangala). Headway of 15 minutes observed at times during day and night leading to a large number of people standing and waiting, and buses getting overcrowded.

Credits: Guidance and contribution from GSR Chaitanya, WRI India on Bus Frequency Vs Occupancy survey and Bus Supply-Demand data analysis, and Dr. Aitichya Chandra, IST lab, IISc on Bus fleet calculation.

Road safety and crossings:

The IRR stretch was lacking road markings such as zebra crossings, stop lines, and lane markings. BTP recommended that to control over speeding and ensure pedestrian safety, traffic calming elements were required.

Crash data: In Ulsoor limits alone, the IRR has 5 blackspots.
16 accidents were recorded here, with 5 fatalities between Jan.-Sept. 2024 and 4 fatal accidents in 2023, due to overspeeding.

After 6-8 months of work involving crash data analysis, design preparation, and coordination with Bengaluru Traffic Police and BBMP Traffic Engineering Cell and, the following has been executed so far by TEC East and its contractors. This has proved to have **saved lives post interventions.**

19 **Drawings** of road markings & traffic calming interventions provided for junctions and blackspots

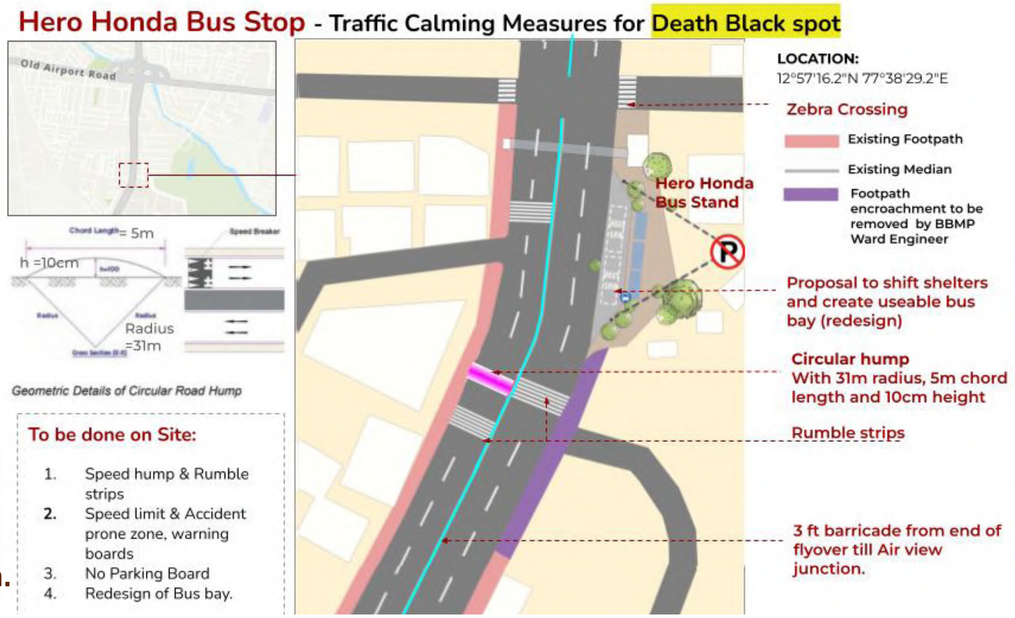
10 **Rumble strips** executed at Indiranagar 14th main, 15th main, Domlur flyover ramp down, DELL office & at S curve defence land.

2 **Speedhumps** and its **signage** executed

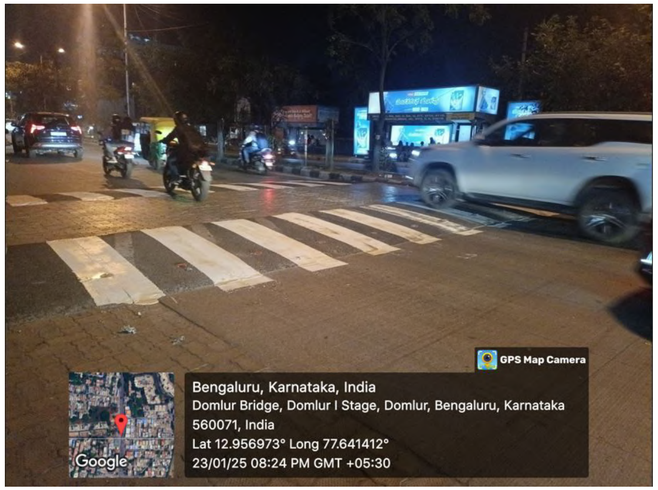
2 **HRPCs (raised pedestrian crossings**executed on both sides

2 **Zebra crossings** laid: at Ejipura junction and relaying at Indirangar KFC junction

0 **fatal crashes**, **post intervention,** Nov '24- Feb '25, **& 1 non-fatal crash.**



Rumble strips executed at the S curve on IRR.



Raised pedestrian crossing (HRPCs) executed near TATA motors, Domlur Bridge bus stop.

Street Lighting:

Adequate street lighting improves road safety and sense of security. More than 50% of IRR don't have street light poles or electrical connection for it.
After conducting streetlight audit, it was observed that there is potential for more than half of the existing streetlights on the 7.5km stretch of IRR to be made functional.

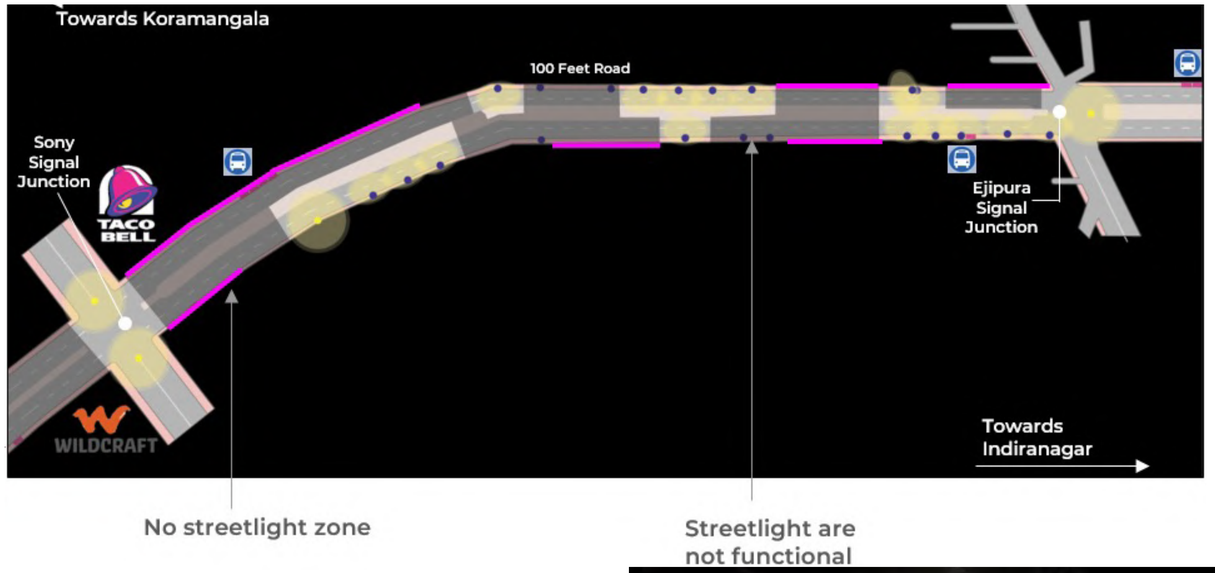
Indiranagar 1st -16th main is awaiting tender finalisation of cabling work. The BBMP Electrical, Project Central teams and contractor got the following implemented:

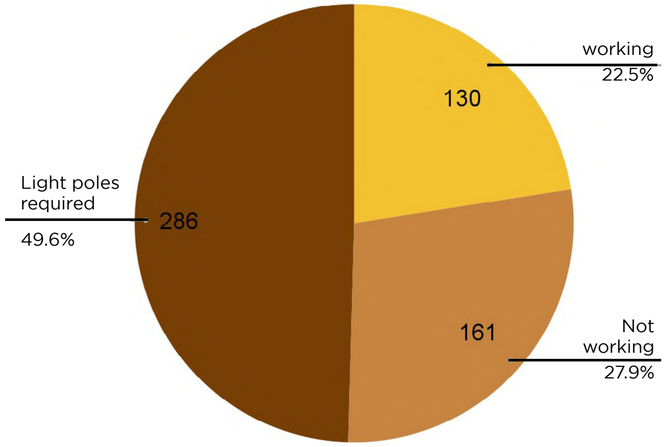
10 **+ street lights electrified** from Indiranagar 16th main to Domlur flyover.

15 **Lamps** above the Domlur flyover were made functional after our streetlight audit was submitted.

10 **New LEDs** are added in Koramangala to existing RCC poles.

10 **Temporary street lights** added on footpath leading to Ejipura Bus Stop towards Indiranagar.





*286 + pedestrian light poles absent for 4.3km from Domlur flyover till Ejipura signal

Streetlights electrified from Indiranagar 16th main to Domlur flyover on both RHS, LHS & pedestrian lights.

Debris & garbage clearing:

BSWML, BBMP Project Central 9, Contractor, BBMP SWM team, Marshals and Pourakarmikas of East and South have cleared 80% of construction debris and garbage on Ejipura flyover median, footpaths and defence land boundary from October 2024- January 2025 and April 2025. We worked with the different teams to share audits, followup, conduct joint inspections and coordinate.

4325 **tonnes of debris & soil** cleared

129 **tonnes of garbage** cleared

130 **construction barricades** removed.

WORK IN PROGRESS

Bus waiting shelters:

The bus waiting shelter audit was conducted systematically to evaluate the current conditions of the shelters along the Intermediate Ring Road. The audit assessed various critical parameters to evaluate the overall condition and amenities available to commuters.

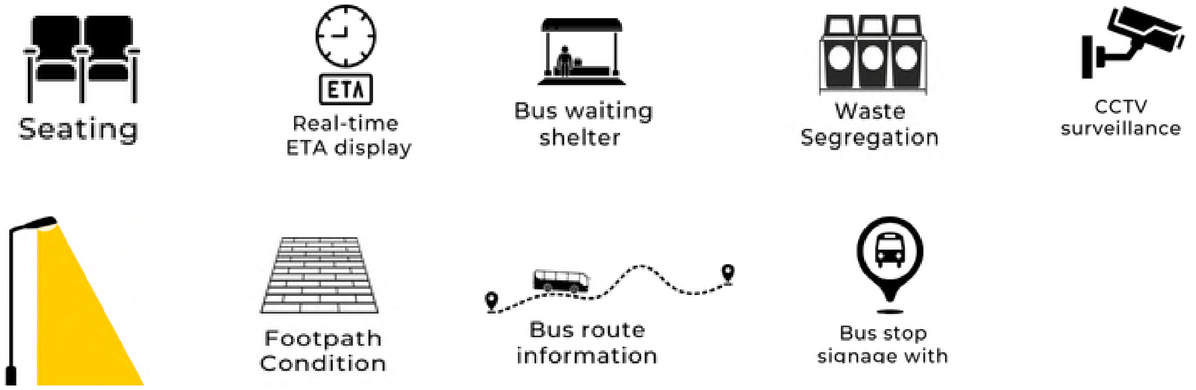
27 bus waiting shelters audit completed. 1 joint inspection done with BBMP TEC, BMTC, BTP and agency. Installation of the missing shelters is yet to be done, and upkeep of the rest needs follow-up.

8 **Bus waiting shelters** are missing altogether

27 Bus Stops lack **Lighting and CCTV** surveillance

8 **require makeover and footpath** relaying.

Parameters for the audit:



Koramangala water tank bus stop (towards Koramangala) - broken footpath and open drain.

Implementation of a temporary walkway and 10 temporary lights near Ejipura bus stop towards Indiranagar, after our persistent advocacy.

Pedestrian Accessibility

The Domlur Flyover was constructed to streamline traffic, but unfortunately has not considered any accessibility for pedestrians. Footpaths along the flyover are not maintained and remain disconnected, making it exceedingly difficult for pedestrians. They end up crossing busy roads with fast-moving vehicles, risking their safety.

To improve safety and accessibility, we have proposed 6 interventions that will help utilise existing pedestrian infrastructure along the flyover and create new ones for safe pedestrian access. 2 other interventions will be taken up under Suraksha 75.

Pedestrian access proposal -key map.

A joint site inspection was organized by B.PAC with DCP Traffic East, Jeevanbhima Nagar Traffic Inspector, BBMP TEC East and MayaPraxis. The 6 interventions were agreed upon at the site by TEC and BTP. Letters have been sent from BTP to BBMP TEC requesting the installation of the same.

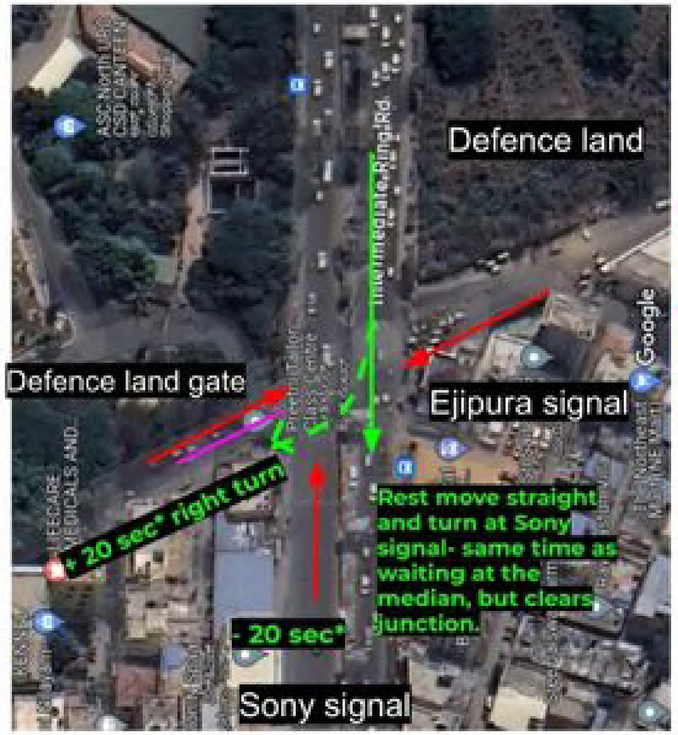
Traffic signal optimisation

Traffic signal audits were conducted at four junctions: Ejipura, Sony World, Koramangala Water Tank and Indiranagar 12th main junctions. Patterns of vehicle and pedestrian movement were observed for each signal cycle for a duration of 30 minutes.

For Ejipura Signal and Sony World signal, vehicle count with respect to signal cycle and signal timing for pedestrians were observed., and recommendations shared.

6:00 PM		Timing	Bike	Car	Auto	Van	Bus	Truck	Bicycle	Total motor vehicles
Towards Koramangala (straight)	Red	66s								
	Green	209s	145	94	35	2	1	11	-	288
Towards Ejipura Main Road (right)	Red									
	Green	30	37	7	6	-	-	-	-	50
Towards Defence Gate	Green	30s								338
Right of Bar	Green	33s								
Towards Indiranagar (IRR)	Green	214s								

Vehicle count at Ejipura signal at 6pm



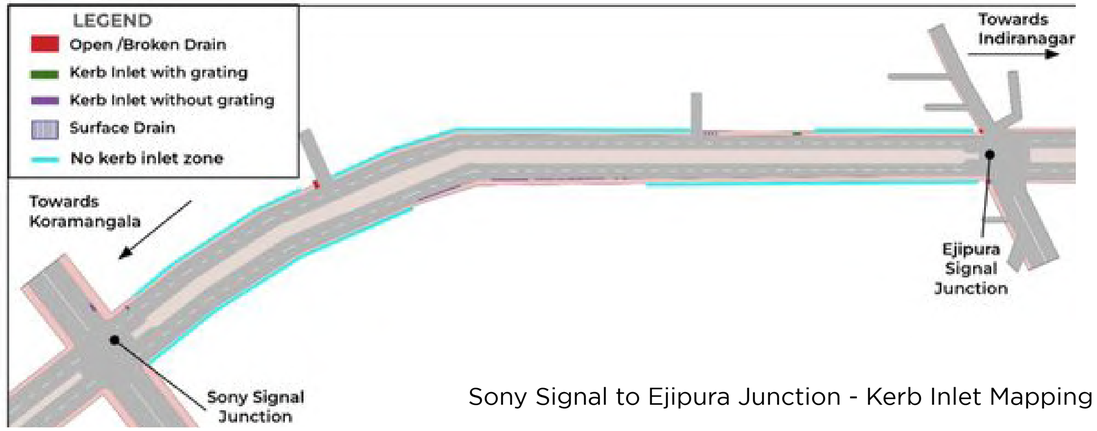
Recommendation for signal modification at Ejipura Junction

LONG TERM PLAN

Resilience to Urban Flooding:

Kerb inlets to stormwater drains were largely found to be missing in the stretch, especially in Koramangala, which is prone to urban flooding. Surface drains tend to get easily clogged with litter and silt. Similar clogging in the open stormwater drains (SWDs) and kerb inlets hampers effective water flow. SWDs left open during repair or desilting pose serious risk to life of pedestrians. BBMP Project Central 9 has taken note of this and the contractor was asked to:

- close the drains responsibly before leaving site
- shoulder drains were asked to be constructed at every 5m-7m, instead of 30m that was being constructed on site.
- leveling of pavers and 1% slope to drain water from footpaths.



Sony Signal to Ejipura Junction - Kerb Inlet Mapping

Open drains

Open drains being covered.

Other long term plans:

- Bus lanes
- Removal of OFC cables hanging
- Naala cleaning

OUR EFFORT CONTINUES...

While the summary has highlights of each parameter, the 'IRR Street: Standstill to Active' Project report has captured the data analysis, audits, recommendations and impacts so far in detail. We will capture the LIVE updates on our webpage as we continue to follow up with various authorities to see completion.

Only comprehensive actions addressing these various aspects discussed can lead to real on-ground difference: increased public transport usage, walkability and reduced traffic congestion. The coordination between various teams, departments, govt. officials and local communities is critical to bring this together. We hope these learnings serve as a blueprint for similar initiatives across Bengaluru and contribute to the city's broader mobility planning and policy.

Feedback QR

Please share your **feedback** on the IRR project with us at:
https://forms.gle/Qy393zLiyq4g4k4F8.

For the **detailed report and recent updates**, visit:
https://bpac.in/b-mobile/irr-street-standstill-to-active/

To get in touch with us, reach out to:
forbangalore@bpac.in

Webpage QR

Thank you!