

Survey of pedestrian infrastructure at signalled intersections in Pune

Survey conducted in March-April 2024

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1. Introduction

Signal controlled intersections are among the relatively safer facilities available in Pune for pedestrians to cross roads. The following infrastructure contributes to the safety of pedestrians at such intersections:

1. Clean conspicuous and properly placed zebra and stop line markings, which clearly indicate where exactly the vehicles need to stop.
2. Working pedestrian signal aspects (lights).
3. A sufficiently long “pedestrian phase” in the signal cycle, so that pedestrians can complete crossing the road before vehicles get a green signal.
4. Some mechanism that indicates to pedestrians whether it is safe to start crossing a road now, or whether they should wait for the next signal cycle.
5. Audio indication for visually challenged persons.

SPTM periodically conducts a survey of these facilities, so that we can assess-

1. How safe Pune’s signal-controlled intersections are for pedestrians, and
2. Whether the situation is improving every year.

2. Findings of the survey: 2024

The survey was conducted in the months of March and April, and covered 103 signal-controlled intersections across the city. Many intersections were not surveyed because the pedestrian infrastructure was temporarily affected due to some work in progress (Metro, flyovers etc).

SPTM uses a point system to quantify the status of the pedestrian infrastructure. The same system has been used in earlier editions of the survey, so that the findings can be compared year-over-year.

The table below provides the number of intersections scoring above or below a certain score:



Table 1: Summary of pedestrian safety scores of the 103 intersections surveyed

	Road markings score	Pedestrian signals score	Overall score
Intersections with scores > 67%	4	0	0
Intersections with scores between 67% and 33%	56	60	54
Intersections with scores < 33%	43	43	49
Pune average	31%	37%	35%

The average ‘pedestrian phase’ at the signals was found to be 12 seconds. The formula in the IRC guidelines would suggest a pedestrian phase of 20 seconds at most of the intersections (more in some cases), depending on the width to be crossed in one go.

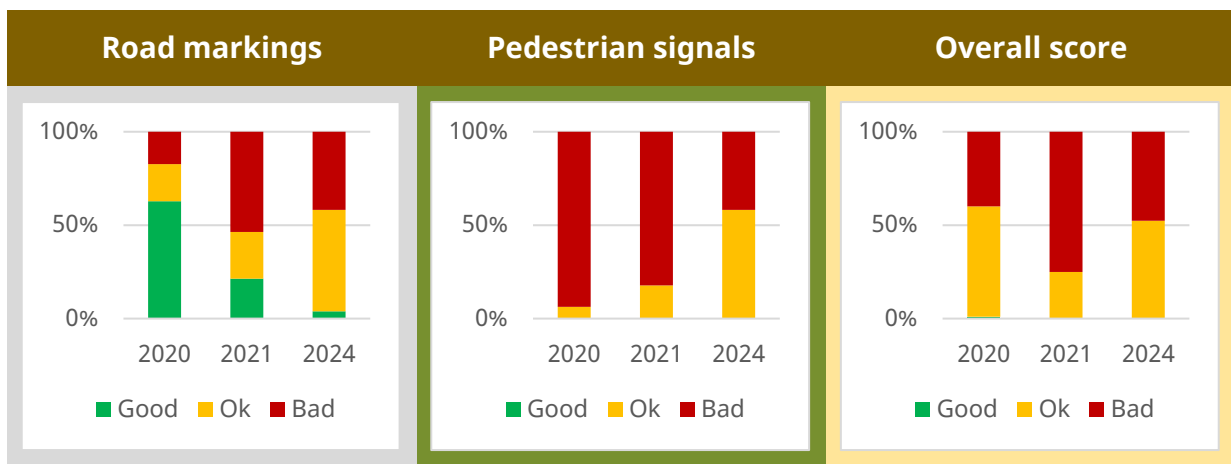
2.1. Inferences

2020 was the first year when SPTM conducted and produced a detailed report. The survey was repeated in 2021 and now in 2024.

The charts below show the percentage of chowks in the following 3 categories over the years:

- A. Good: With scores of 67% or more,
- B. Ok: With scores between 33% and 67%,
- C. Bad: With scores less than 33%

This comparison is done separately for road markings and pedestrian signals, as well as for the overall score.



The following inferences may be drawn from these charts:

1. **Road markings:** The condition of zebras and stop lines has deteriorated a bit since 2021. Though the percentage of chowks with really bad markings has slightly reduced, a good number of chowks have only 'acceptable' markings.
2. **Pedestrian signals:** There is significant improvement in the condition of pedestrian signals. This may be attributed to the ATMS project, which covers about half of the chowks in Pune. Yet, we would like to highlight the following observations:
 - a. In spite of the ATMS project implemented at ~125 intersections, not even one intersection scored more than 67% points. It is observed that the pedestrian signals at many of these intersections (though not all) have already started malfunctioning, in just a few months.
 - b. The state of the non-ATMS signals is much the same, perhaps even worse. Significant improvements are needed in these signals so that pedestrians can safely cross roads at such intersections.
3. **Overall score:** The overall score of pedestrian-oriented infrastructure has improved in Pune from 2021 to 2024, but only from 22% to 35%. Most of the improvement is due to the improved pedestrian signals, as a result of ATMS.

3. Conclusion and recommended steps

Based on the findings of these survey, the concerned authorities need to take certain actions to improve pedestrians' safety at signalled intersections.

1. PMC Road Department and Ward offices should continue painting and maintaining the zebra and stop line markings, improving their score continuously.
2. Pune Traffic Police should promptly report malfunctioning pedestrian signals to PMC.
3. PMC Electrical Department should also proactively repair failed pedestrian signal aspects.
4. PMC Electrical Department should ensure that the signals are programmed to provide at least the minimum pedestrian phase duration, derived using formulas provided in IRC:93.
5. In spite of the above, pedestrians will need some indication to tell them whether it is safe to start crossing the road at a given instant. The ATMS signals have this facility, which needs to be extended to non-ATMS signals too.
6. PMC should ensure that audio indication is supplied so that visually challenged persons can know whether it is safe to cross a road. This is a mandatory requirement as per the Rights of Persons with Disabilities Act, 2016. Such indication must be installed in all new signals, or retrofitted in old signals if possible – else the signal controllers would have to be changed to provide audio indication.

And of course, NGOs like SPTM and others should relentlessly push these authorities to take the required steps.

