

PEDESTRIAN AUDIT REPORT

Centre for Public Policy Research

2008-09



CPPR
1st Floor, Door No. 28/3656, Soonora Church
Road, Elamkulam, Kochi, Kerala-682020
0484 6469177
+91 9249503895
www.cppr.in
Email: research@cppr.in

The success of the pedestrian audit was sought to be replicated in two other streets with heavy pedestrian movements and other traffic. This can be done in other cities as well. Hand Book for pedestrian audit is prepared by CPPR. This helps the citizens to bring the issues pertaining to pedestrians to the notice of city administration

INTRODUCTION

A **Pedestrian Audit** is a species of the genus known as a Road Safety Audit; an initiative usually undertaken by governmental authorities to estimate the safety needs of the roads. It's more than just a plain analysis. It seeks to ensure adherence to road safety rules and construction regulations, be a forum to showcase the opinions of all stakeholders, let authorities have a say and yet see how far one can hold them accountable in a non-confrontational manner. Pedestrians are everywhere. They are not an ethnic group found in some far corner of the world. A passenger or a driver of a vehicle is a pedestrian the minute they step out of their transport. In spite of being the largest road users to-date, they remain pitifully under-represented and their voices unheard.

This report consolidates the findings of **the Reinventing Cochin team**, as regards the pedestrian audits conducted in the city. It examines three main areas: **Kaloor, South, Eranakulam and M. G Road.**

KALOOR

The area from Manappaty Parambu Jn. to St. Anthony's Church was audited in the hopes that it would conform to the measures prescribed by the Indian Road Standards. Potholes, hoardings, transformers, garbage heaps etc that obstruct the normal pedestrian mobility were flagged using inflatable toys as teasers. Only very few points along that stretch of pavement adhere to the Indian Road Congress standard that prescribes 5 ft width for footpaths. An enormously large pothole was located, right across the pavement, which when measured was found to be 73 inches (more than 6 ft) wide while the footpath that followed measured only 43 inches (less than 4 ft). Majority of the points measured were less than 50 inches (approximately 4 ft) wide.

Moreover, the pavement doesn't run at a single stretch, in single file. Also, the elevation of pavement from the ground level does not maintain a uniform pattern. This makes movement strenuous for pedestrians, needless to say for the physically challenged.

Further, there is a marked absence of zebra crossings. No bays exist for the pedestrians to cross the wide and crowded road. The presence of a much acclaimed church, more than five educational institutions including National University of Advanced Legal Studies and innumerable commercial buildings call for more attention to the above said matters on the Kaloore road. Keeping in view the density of road users on the road, it is obvious that the traffic flow is a total mess.

ERANAKULAM SOUTH

An area dominated by residential houses, shops, a High School and a railway station, it's undoubtedly a busy vicinity. The bus stops and the railway station contribute towards the bulk of the pedestrians traffic, which traverses from to and from the stations, use the public transport systems, flag autos and frequent the many shops around it. Thus, the stretch between Government Girls Higher Secondary School, Ernakulam and the South Bridge was chosen.

Beginning at the curb near the School, a clear disparity can be seen in the width of the footpath used by the pedestrians. Beginning with a comfortable width of 8.5 ft, it shrinks, mainly because of the presence of a transformer, to a mere 3.25 ft as per the rest of the area. Not only is the area very busy with heavy pedestrian flow, but the footpath before the school has been converted into a makeshift bus stop in spite of an actual one existing mere meters away.

The actual bus stops ahead are put to minimal use, with potential passengers crowding in other areas and thus lie unused and dirty. Particularly near areas like the Kalyan Chambers, there exist no actual pavements, but mere concrete slabs over gutters,

intercept with gaping holes in the place of the same. The same measure up to a mere 1 ft 2.5 inches; where as the Indian Road Congress Standards prescribe a minimum of 4.9 ft.

The second transformer resides in the middle of the pavement near the Madakkapillil lane entrance. The area therefore lacks a pavement in addition to being dirty. Past the opposite side of Sadhanam Working Women's Hostel, down till Valanjambalam Temple, there are no actual pavements, but mere concrete slabs as mentioned before, this time measuring somewhere between 31 to 31.5 inches. A walk down few more meters leads us before Jose Electricals, where the slabs are 9 inches longer, ending at 40 inches.

Nearing the gate of the Valanjambalam Temple, there is another transformer, with a hole, 3 ft 2 inches in width and over 9 ft 4 inches in length. The presence of a garbage disposal bin causes a foul odor to pervade the area. Past Valanjambalam Temple's first gate and on to its second, the distance between the two has no pavements and often acts as an unofficial bus stop. The area between now and the South bridge ahead clearly sees adequate spaces on either side, empty plots, without pavements and oft used as garbage dumping grounds or alternatively, a car park .

M. G ROAD

A commercial area and a shopping hub, M. G Road is scattered with shops and eateries, and attracts more vehicular and pedestrian movement than most areas in the vicinity. In shopping areas such as these, IRA recommends that width should be increased by 1 metre, which is treated as "dead width". Where there are sidewalks around buildings and fences, the dead width can be taken as 0.5 metres. For areas of heavy pedestrian activity such as bus stops, railway stations and recreational areas, the width of sidewalks should be suitably increased to account for accumulation of pedestrians. A considerable difference from the earlier audit is experienced here. Here actual pavements exist, laid out in red stone. While there is often a clear, distinguishable and mostly unbroken pavement, there are some anomalies to the same.

From Joy Alukkas to Jose Alukkas, the pavements range from somewhere between 4.10 to 5 meters. There are minor interruptions in the form of poles or railing or half-built transformers, but there is adequate place for pedestrian movement. Moving forward, the petrol pump adjacent to the UniverCel showroom has a huge area which allows for easy movements of vehicles and pedestrians but ends with an uphill climb before a huge, gaping, clogged and open outlet, which forms a part of the city water supply tubes. A wall around it marks it out.

Areas around Shenoy's figure pavements 6 ft in length while Twinkle sports clearly broken ones, the same continuing a trend till K. B Varkey & V. S Builders. Jacobs DD Mall sport little to no pavements. These open spaces are used by food vendors to set up temporary stalls as the evening arrives. Nearing Lens & Frames, the pavements widen, while the area between Woodlands till the opposite side of My Kingdom have pavements 34 inches long. Certain areas that have footpaths have the same opened and a pile of dirt from within, deposited on the sidewalks. Josco Jewellers are a testament to the landscaping skills of shopkeepers. Here, the public pavements have clearly been encroached by them by making way for a car park for their customers.

The opposite side of M. G Road, sporting shops such as Punjabi Libas suffers the very same situation, though the width of the pavement is slightly lesser when compared to the other side. In M. G Road, the pavements are in a relatively better condition. However, the only visible downside would be that shop-keepers have surreptitiously encroached the public walk-ways, by expanding their shop-fronts.

DATA ANALYSIS

This is the data pertaining to a pedestrian audit survey. The number of questionnaires filled was 70. Multiple choices were available to the participants as a result of which many of them opted for more than 2 choices, esp. in the first question.

The options made available to the participants are given below and the numbers of votes received (in descending order) for each option are given corresponding to each option.

The pedestrian are encountering plethora of perils on the road everyday. Lack of proper planning and infrastructure like the sidewalks, zebra crossings, etc have added to the woes of Kochiites pedestrian. Table 1 shows that they face a constant threat from the vehicular traffic. Parking on the pavements reduces the space for the pedestrian. Lack of zebra crossings and assistant at the heavy pedestrian points in the city poses a major danger to the safety of the pedestrian. This creates conflict between the motorised and non-motorised transport system (pedestrian). The table also shows that only 5 per cent respondents are of the opinion that the hawkers are a problem to the pedestrian; thereby breaking the myth of poor hawkers poses a threat to the right of the pedestrians.

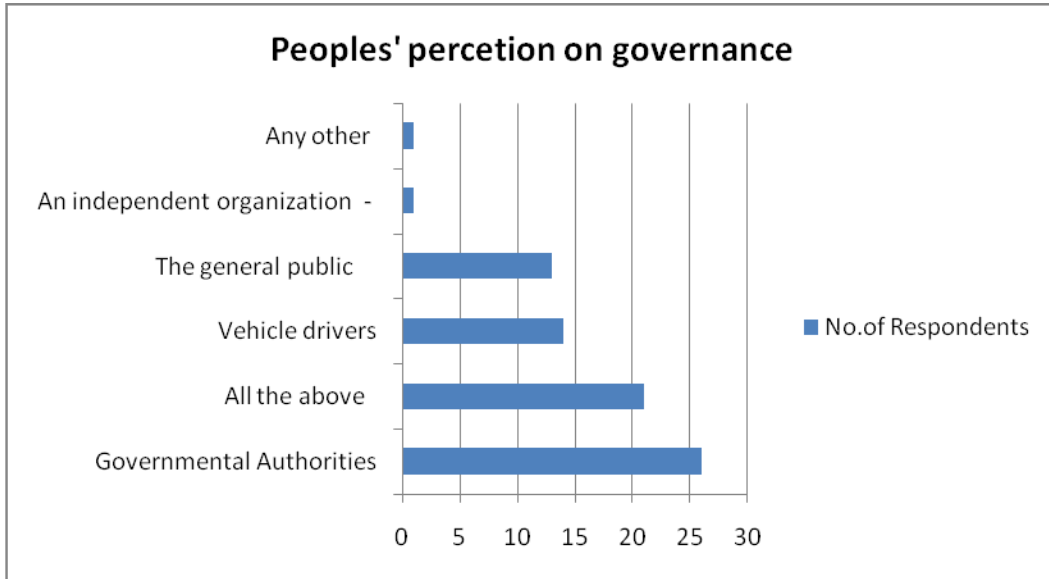
Table 1
Kind of Problems faced by the Pedestrian

Sl.no	Particulars	No.of respondent
1	Unruly Traffic	53
2	Overflowing gutter	32
3	Heaped garbage	31
4	Absence of pedestrian crossing	31
5	Unusable footpaths	28
6	Two-wheelers using footpaths as alternate roads	20
7	Encroachments	13
8	Pavement dwellers, vendors and hawkers	4
9	All the above	11
10	Other	11

The following table captures people's perception about the governance. While 37 per cent of the respondents said that the government could solve all the problems faced

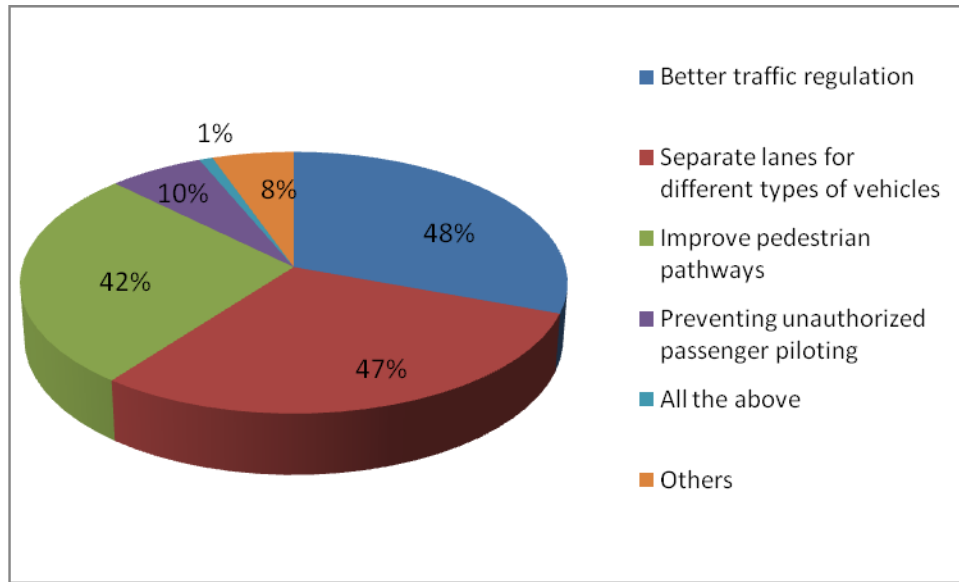
by pedestrian, another 30 per cent of the respondents think that collective effort from the all the state holder could help in elavating faced. Though the opionins stand divided, however, it is encouraging to see that the people realize that it would take a collective effort to bring in imporvement in pedestrian safety and amenities.

Figure 1



The people had been asked to give their view on the possible ways to fix the problems encountered by the pedestrians and secure their rights and safety. Figure 2 given below shows that majority of the pedestrian demand for better traffic regulation, separate lanes for different types of vehicles and improved pathways. This calls for a coordinated effort by the traffic police, Public Works Department (PWD) and the Other Local Bodies (OLB) for constructing and maintaining the pedestrian infrasturtures.

Figure 2



CONCLUSION

Missing sidewalks or gaps, abrupt changes in sidewalk width, obstructions on sidewalks, and frequent, abrupt changes in direction are all seen as signs of a faulty walkway. Reinventing Cochin Team firmly believes that this is one urban infrastructure that is in dire need of revamping. A good makeover can contribute towards the scenic beauty of the city making it a more attractive and lucrative place for tourism, industrial activity, and commerce etc.

Annexure I

PEDESTRIAN AUDIT: THE JOURNEY!

In the beginning, our initial understanding of the audit was confined to just what has been mentioned below. This was also how we represented our cause. The subsequent changes can be seen as one proceeds.

Pedestrian Audit – The Where’s, The Who’s And The Why’s

What is a Pedestrian audit?

It is more than just an analysis process. It seeks to ensure:

- Adherence to rules and guidelines
- Revamping of said guidelines according to the needs of the pedestrians
- Redressal of grievances if any.

Why Kaloor Road?

- Haphazard traffic.
- No medians/ zebra crossings to ensure easy pedestrian movement
- No traffic personnel to regulate traffic flow
- Unofficial bus stops contributing to pedestrian rush.
- Many stakeholders, including 5 educational institutions.

What is sought to be audited?

- Footpaths – their current measurements and maintenance, whether it fulfills the official regulations, their utility so far, problems faced during monsoons etc. (gutter and canal problems)
- Road length and width
- Signals and whether they ensure easy pedestrian movement.
- Median or the very obvious lack of it.
- Lack of other mechanisms like a zebra crossing etc.

What are the goals of the audit?

- Garner data as regards the existing road statistics and their comparison to governmental statutes.
- Public opinion and its incorporation in revamping guidelines.
- Official Accountability.

Who is partnering with us?

- Seeking to highlight the plight of the disabled people by incorporating an accessibility audit as a part of our initiative.
- Club FM promotes this as a part of their social manifesto.

Since we managed to acquire a better understanding of an audit, we came across a variety of documents illustrating measurements and dimensions that roads and pathways must try to adhere to, however sadly don't, at least in our country. Some are enumerated below:

Pedestrian Facilities: Audit for Yourself

I) Footpaths

A) Footpath should:

- Have even surface;
- Have continuity;
- Be at least 1.5 m wide;
- Not have cross slope more than 1 in 30;
- Have guiding blocks for people with visual impairments;
- Have no obstacles or encroachments;
- Not have the height of the curb more than 15cm.

B) Capacity of Footpaths:

<u>Width</u>	<u>One-Way</u> (No. of pedestrians)	<u>Two-Way</u> (No. of pedestrians)
1.5 m	1200	800
2.0 m	2400	1600
2.5 m	3600	2400
3.0 m	4800	3200
4.5 m	6000	4000

II) Traffic Signals

- Should be installed if the peak hour traffic volume of a road intersection is more than 3000PCU;

- Exclusive pedestrian phase in the signal cycle should be provided if peak hour volume of pedestrians (P) and vehicles (V) are such that $P \times V^2 = 10^8$;
- Walking rate is 1.2m/sec for the calculation of timing for pedestrian phase
- Pedestrian traffic signals should be provided with clearly audible signals for the benefit of pedestrians with visual impairments.
- Should have flashing warning signal for pedestrians and vehicles in case of free left turn.

III) Mid-block Zebra Crossing

- Should have 'Pedestrian Cross' sign and 'Stop Line' with flashing light;
- Should be controlled if the approach speed of motor vehicles is more than 65km/h
- Should be sited only when the distance between two consecutive intersections is more than 300m;
- Width ranges between 2m to 4m.

IV) Grade Separated Pedestrian Facilities

A) Warrant

- If exclusive pedestrian phase increase the cycle time for traffic signals beyond 120 seconds.

B) Subway

- Minimum Width: 2.5m
- Minimum Height: 2.5m
- Ramp slope not steeper than 1 in 10

C) Foot Over Bridge

- Minimum Width: 1.5m
- Maximum Rise: 15cm
- Max. Cross Slope: 1 in 30
- Should be integrated with Railway Stations

Almost as though a prologue, writing on the need for a pedestrian audit appeared in the blog, the excerpt of which is provided below:

Plans for the Pedestrian Audit

Before the audit:

- **Select and finalize the stretch to be audited and how: In addition**, this would also entail getting the people involved, (CPPR team, Rotaract members, NCC/NSS cadets and anyone else participating in the **Walkathon**) organized and coordinated and issuing them proper directions. They should be given strict instructions as to how to move, where to move, what to do about the rest of the road users, how to get the audit moving etc. **Also please measure the pavements beforehand... JUST IN CASE!!!**
- **Set survey process in motion** - Its already in motion. Collect and analyze data and reach consensus. Use pie charts, graphs etc.
- **Inform the necessary authorities** - Confirm their attendance at the event and present above collected data so they know what to speak on. If they are given the necessary data previously, they know beforehand what grievances/problems are to be addressed and what solutions are to be arrived at. This would allow for more clarity and better time management. A suggestion that can be incorporated here is making the session more interactive, with the representatives of the various stake holders asking questions, but then again, only if proper crowd control can be exercised.
- **Intimate partners** – Inform Club FM (media coverage), HRLN (representing the needs of the disabled people) and Rotaract Club of Cochin on said developments and chart out their specific roles in the process.
- **Creating necessary materials and promotions** – Pamphlets and other Audit literature distribution can be a head start. Advertisements and teasers by Club FM, a few well-placed reports in the local dailies, a few promos on the radio etc can do wonders for us. As would establishing some kind of campaign identity with the masses – flyers, badges, hand bands etc with our message or logo, prior to actually conducting the audit.
- **Stakeholder Management!** – How to do it?

During the audit:

- **How to go about it:** The stretch having been selected, the next challenge would be to: –

- (a) **Selecting a place to set up a stage (?)** for the authorities to gather and answer the public. It should be a strategic location, yet something that does not intrude upon the normal road traffic.
- (b) Since at the last meeting, it was decided that the **Walkathon members would come from two different directions and converge upon a single point** and do the audit, the same has to be timed properly. It does bring up concerns of too many people undertaking the same task; so maybe, one group can audit one side of the pavement and the other, the next side of it.
- (c) **T-shirts and other crowd attracting paraphernalia** to be looked into.
- (d) **Media partners like Club FM** could be asked to **undertake groundwork**. They have readily agreed to lend all forms of assistance.
- (e) **The point of convergence** has to be somewhere around the place where the authorities are seated. They need to have a clear view of things and at the same time; the auditors must have freedom of movement, as must other road users.
- (f) **Concern raised:**
 - Do the authorities speak before or after the audit?
 - Would it make more sense for them to speak after the audit data is declared or before it?
 - Do they accompany us to the place of the audit or do we bring them to it?
 - What about the people?
 - Would the event become confrontational at all?
 - The time limit envisaged?
 - Would the rains, the Church Tuesday mass or bus strikes affect us? If so, how do we improvise?
- (g) **Rotaract has ideas:** They are particularly keen on having a video taken on this. It would help to have a visual representation of what we wish to achieve/highlight. We really need to sit and discuss with all of them about their role in it.

After the audit:

- Pedestrian Audit Instruction Manual.
- Networking and continuity of our events

- An eventual umbrella organization, which encompasses contemporary concerns of all organizations, networks with them (PPP and otherwise), and accelerates the process of urbanization by signing a MoU with the government for fulfilling our goals. Something akin to the Janaagraha Foundation in Bangalore.
- Providing statistics for the perfect road.