

## Problems faced by Commuters at Ticketing Area of Mumbai Suburban Railway Stations

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### ABSTRACT

Local trains are the lifeline of Mumbai city. The ever-growing number of people using railway facility means: that the ease of purchasing a ticket is increasingly becoming a concern for commuters. Thus, ticket counter becomes a vital prerequisite facility to access the Mumbai railways. The main aim of this study was to identify the problems faced by the commuters using the facilities at the ticket counters of Mumbai suburban railway stations. To study the above objective, observation method was used to assess the ticketing area of six Mumbai suburban railway stations. Based on the observation, a questionnaire was formulated and was used as an interview schedule for data collection. A sample size of 126 commuters (60% female and 40% males) aged 16-30 years were surveyed using a convenient sampling method. The results of the study showed that 30% commuters book the ticket once in three or six months while 29% book once in a month whereas only 7% booked tickets daily. The results revealed that the problems faced by the commuters were related to poor ventilation (59%), insufficient movement space (39%) followed by lack of cleanliness and hygiene (37%), and improper flooring (32%). In addition, 25%, 23% and 24% commuters found the ticketing area unsafe, noisy and had improper signages respectively. Findings of this study will be useful for policymakers and designers to work on an effective design of the ticketing area in order to reduce the discomfort and problems of commuters.

**Keywords:** Ticketing area of Mumbai Railway, Problem faced by commuters, Ergonomic, Design, Environment, Services.

### I. INTRODUCTION

Mumbai is the financial and commercial capital of India. Mumbai wouldn't have achieved this without the lifeline of the city - its local trains. Lakhs of people travel regularly and commute by local trains. <sup>[1]</sup>

The family system in India has undergone dramatic changes in terms of industrialisation, education and urbanization in response to development. It is vital to create spaces for females and males to access their jobs smoothly. The need for men to be strong individuals who engage in profitable economic activities and for

women to take care of family and home alone has changed dramatically.

Due to convenience, low maintenance, and environmentally-friendly nature, travelling by train is the best candidate to satisfy passenger's daily traffic requirements. <sup>[2]</sup> Hence the purchase of a train ticket becomes a necessary action in many people's daily commute and is predominantly achieved through a ticketing counter or machine. <sup>[3]</sup>

As ticket counter is a vital prerequisite facility to access the Mumbai railways. Thus, the objective of the study is to assess problems faced by commuters at

ticketing area of Mumbai Suburban Railway Stations.

## II. Review of Literature

Railway has been the backbone for commuters going to work in Mumbai since the Colonial era. At the railway stations, due to insufficient number of ticket windows and lack of other facilities the commuters suffer a lot. [1]

Natural light can increase customers' positive sense of station orientation and identification and can be a potential energy saving initiative. [4]

Suburban Train Services in Indian Railways, it was observed that many ticket windows remained shut down due to shortage of staff. Long queue of passengers for tickets were noticed at some stations despite Automatic Ticket Vending Machines (ATVMs) having been provided. [5]

According to an article in Mumbai Mirror on the 27<sup>th</sup> December 2018- The Western Railway had decided to reduce the number of ticket windows at Andheri Station and increase the number of ATVMs. In response to this move, a lot of readers found the UTS App and the ATVMs to be inefficient.

## III. METHODOLOGY

- **Sample size:** The focus for the present study was to survey young adults (age 16-30 years) using Mumbai Railway Network and its ticketing facilities. For this purpose, a total of 126 commuters were surveyed.
- **Sampling Technique:** Convenient sampling method was used for the study.
- **Inclusion Criteria:** Commuters between the age of 16 - 30 years who have been using the western Mumbai railway facility and ticketing area for at least 6 months and more.
- **Exclusion Criteria:** Passengers with disabilities, major health problems or pregnant women were excluded from the study.
- **Tools for data collection**

## Part 1: Observation of the Railway Ticket booking area

The observation was done on 6 Mumbai railway stations of western line. Observation included 3 main stations i.e. Borivali (6 ticketing area), Andheri (3 ticketing area) and Bandra (1 ticketing area); and 3 sub-stations i.e. Kandivali (4 ticketing area), Malad (2 ticketing area), Santacruz (4 ticketing area). All the issues related to environment, ergonomics and services were observed in order to prepare the data collection tool.

## Part 2: Questionnaire

In consonance with the observation, a well-structured questionnaire was formulated to record the problems of the commuters on various ticket booking facilities. Opinion on parameters like Lighting, Noise, Ventilation, Movement Space, Signage's, Safety, Cleanliness/ Hygiene, Flooring, Entry-Exit and accidents/injuries at ticketing area were recorded.

## IV. RESULT AND DISCUSSION

From **Table 1**, it could be seen that the commuter's frequency of travelling by train was maximum for daily (65%). Most young commuters travel by train for educational purpose (61%) and for work (34%). But, the frequency of commuters using ticket window was found to be more for 'once in 3 or 6 months' (30%) and 'once in a month' (29%) and this could be due to the fact that majority of the commuters were pass holders (60%). During certain circumstances, commuters used to book single or return ticket (59%), use smart cards/ATVM (44%) or apps (13%) for booking tickets.

When classified with respect to gender, it was observed that 68% of females were students as compared to 50% males. Thus, these were the major group using pass facility. Remaining travel related information was found to be similar for both the genders.

**Table 1: Booking and travel related information of commuters**

General Travel related Parameters	Male (n= 48)		Female (n=78)		Total(n= 126)	
	Sum	%	Sum	%	Sum	%
Frequency of travelling by train						
Daily	33	68.78	49	62.82	82	65.08
2-3 times/week	10	20.83	14	17.94	24	19.05
Sometimes	5	10.42	15	19.23	20	15.87
Purpose of travel with train						
Education	24	50	53	67.94	77	61.11
Work	23	47.91	20	25.64	43	34.13
Frequency of using ticket window						
Daily	9	18.75	0	0	9	17.14
2-3 times/week	5	10.42	8	10.26	13	10.32
Few times/month	4	8.33	10	12.82	14	11.11
Once/month	9	18.75	27	34.62	36	28.57
Once/3 or 6 months (merged)	14	29.17	24	30.77	38	30.16
Rarely	7	14.58	9	11.54	16	12.7
Time of day for using the ticket counter						
Morning	24	50	46	58.97	70	55.56
Afternoon	17	35.42	17	21.79	34	26.98
Evening	6	12.5	13	16.67	19	15.08
Night	1	2.08	2	2.56	3	2.38
Type or mode of ticket purchased						
Single/return	26	54.17	48	61.54	74	58.73
Pass	24	50	52	66.67	76	60.32
Extension	2	4.17	5	6.41	7	5.56
ATVM / Smart card	26	54.17	29	37.18	55	43.65
Using Apps for booking tickets	8	16.67	9	11.54	17	13.49
Class of booked Pass/ Tickets						
1st class	13	27.08	28	35.9	41	32.54
2nd class	35	72.92	50	64.1	85	67.46

Suburban Train Services in Indian Railways, it was observed that many ticket windows remained shut down due to shortage of staff. Long queue of passengers for tickets were noticed at some stations despite ATVMs having been provided. This indicated that usage of ATVMs has not been adequately propagated or the equipment provided was not user friendly. <sup>[5]</sup>

**Table 2** describes the opinions of commuters on various environmental parameters. With respect to lighting level, 56% commuters felt it moderately adequate.

From the view point of ventilation, around (59%) of commuters felt the ticketing area suffocating. However, 73% commuters felt the need for more fans at the ticketing area. When enquired about the noise level majority of commuters felt it moderately loud (56%) to very loud (23%). There was no difference in rating among the genders for environmental parameters thus indicating similar trend for lighting, noise and ventilation requirements.

The illumination at the enquiry and Booking offices should be specially brightened up. <sup>[6]</sup>

**Table 2: Commuters opinions on various Environmental parameters**

Environmental Parameters	Male (n= 48)		Female (n=78)		Total(n= 126)	
	Sum	%	Sum	%	Sum	%
Lighting						
Adequate	18	37.5	26	33.33	44	34.92
Moderately adequate	26	54.17	45	57.69	71	56.35
Inadequate	4	8.33	7	8.97	11	8.73
Ventilation						
Felt the ticketing area Suffocating	29	60.42	45	57.69	74	58.73
Felt the need for more fans	34	70.83	58	74.36	92	73.02
Noise						
Normal	11	22.92	15	19.23	26	20.63
Moderately loud	27	56.25	44	56.41	71	56.35
Too loud	10	20.83	19	24.36	29	23.02

**Table 3** illustrates about the problems faced by the commuters for movement and circulation at the ticketing area. Around 39% experienced that the movement space was inadequate. This could be supported by the results where around 32% rated the ticket booking area to be over crowded to extremely crowded.

On an average, 64% of commuters waited in the queue for around 4-10 minutes while booking their pass/tickets. Moreover 69% commuters pointed out the circulation problem with ‘same entry and exit’ and 51% commuters felt pillars causing hindrance.

When compared between the groups; movement space and crowd related problem were more rated by males whereas females identified more problems because of hindrance caused by pillars and also passing through ticket counter to reach railway station.

Proper planning is essential to decongest the entrance, separate entry/exit gates to be provided at stations, wherever feasible. All unauthorized entry points into the stations irrespective of their class should be closed excepting the specified exit and entry. [6]

**Table 3: Movement and Circulation related Problem faced by the commuters**

Movement / Circulation related parameters	Male (n= 48)		Female (n=78)		Total(n= 126)	
	Sum	%	Sum	%	Sum	%
<b>Movement Space</b>						
Adequate	11	22.92	15	19.23	26	20.63
Moderately adequate	15	31.25	36	46.15	51	40.48
Inadequate	22	45.83	27	34.62	49	38.89
<b>Average waiting time in a queue</b>						
1-3 min	11	22.92	20	25.64	31	24.6
4-6 min	15	31.25	28	35.9	43	34.13
6-10 min	18	37.5	19	24.36	37	29.37
More than 10 min	4	8.33	11	14.1	15	11.90
<b>How crowded is ticketing area while booking ticket</b>						
Less crowded	2	4.17	9	11.54	11	8.73
Moderately crowded	28	58.33	46	58.97	74	58.73
Over crowded	14	29.17	17	21.79	31	24.60
Extremely crowded	4	8.33	6	7.69	10	7.94
<b>Problems of circulation with same entry and exit</b>						
Yes	35	72.92	52	66.67	87	69.05
<b>Problem faced while passing through ticket counter to reach railway station</b>						
Yes	19	39.58	39	50	58	46.03
<b>Hindrance cause by pillars</b>						
Yes	17	35.42	47	60.26	64	50.79

**Table 4** indicates design related problem about the ticketing area. Regarding seating facility, (58%) commuters felt that there is a need for seating. With respect to colour scheme, (61%) commuters were of the opinion that it was not pleasing. Nearly half of the commuters (55%) faced problems while talking through glass cut- outs at ticket window and 54% felt the signage ‘moderately adequate’. Flooring was also one of the important issues reported by commuters with (32%) feeling it as improper.

**Table 4: Viewpoint on Design related problems faced by commuters at ticket counter**

Design related parameters	Male (n= 48)		Female (n=78)		Total(n= 126)	
	Sum	%	Sum	%	Sum	%
<b>Need for seating</b>						
Yes	25	52.08	48	61.54	73	57.94
<b>Colour scheme not pleasing</b>						
Yes	25	52.08	52	66.66	77	61.11
<b>Problems faced while Talking through glass cut-outs</b>						
Yes	24	50	45	57.69	69	54.76
<b>Signage</b>						
Clear	13	27.08	15	19.23	28	22.22
Moderately adequate	26	54.17	42	53.85	68	53.97
Inadequate	9	18.75	21	26.92	30	23.81
<b>Flooring</b>						
Proper	12	25	20	25.64	32	25.4
Moderately adequate	20	41.67	34	43.59	54	42.86
Improper	16	33.33	24	30.77	40	31.75

When compared for the perceptions on design related issues among the two genders, need for seating (62%), modifications in current colour scheme (61%) and change in glass cut-outs height was more essential for female than for males.

If there is a glass barrier between the passenger and sales person at the ticket counter, this shall either be removable or, if not removable, an intercom system shall be fitted. [7]

**Table 5** reflects about the outlook of commuters on Safety and Services provided at ticket booking area. It is very vital to note that 15% of the commuters had an injury at ticket booking area. Out of these, 13% injuries were because of overcrowding and 10% due to slippery flooring. When enquired about the first aid available after injuries, only 7% replied agreed. Therefore, it is very essential to work on the aspect of flooring and circulation to reduce the injuries at ticketing counter.

Pertaining to CCTV, only 32% found them in the ticketing area. Regarding

cleanliness and hygiene, majority of commuters felt it was moderately clean (52%), while found it dirty (37%) found it dirty. Commuters stated spitting (90%) and throwing waste (71%) as the major factors for unclean ticketing area. Approximately 42% also blamed the management for not maintaining the cleanliness which happens to be a concern for railway authority. Similar opinion was observed on factors related to Safety and Services among both the genders.

During joint inspection of Mahim station/WR, it was observed that in the absence of cleaning contracts, platforms and surrounding areas were very dirty. The Station Master stated that Divisional authorities had not finalized any cleaning contract or provided housekeeping staff/sweepers for the station. Thus, the measures initiated by the Ministry of Railways were neither effective nor adequate to improve the state of cleanliness at stations. [5]

**Table 5: Outlook on Safety and Services related parameters by the commuters**

Safety and Services Parameters	Male (n= 48)		Female (n=78)		Total(n= 126)	
	Sum	%	Sum	%	Sum	%
Accidents or injury occurred						
Any accident/ injury occurred	8	16.67	11	14.10	19	15.08
Cause of injury						
Overcrowding area	7	14.58	9	11.54	16	12.7
Slippery flooring	5	10.42	7	8.97	12	9.52
Broken/uneven tile	1	2.08	5	6.41	6	4.76
First aid available at ticket counter						
Yes	6	12.5	3	3.85	9	7.14
CCTV available at the ticketing area						
Yes	20	41.67	20	25.64	40	31.75
No	28	58.33	51	65.38	79	62.70
Not observed	0	0	7	8.97	7	5.56
Cleanliness and Hygiene						
Clean	4	8.33	10	12.82	14	11.11
Moderately clean	25	52.08	41	52.56	66	52.38
Dirty	19	39.58	27	34.62	46	36.51
Major Causes of unclean ticketing area						
Spitting	42	87.5	71	91.03	113	89.68
People throwing waste	31	64.58	59	75.64	90	71.43
Not cleaned by management	19	39.58	34	43.59	53	42.06
Overflow dustbin	17	35.42	32	41.03	49	38.89
Dirty due to animal/birds	16	33.33	19	24.36	35	27.78

## V. CONCLUSION AND RECOMMENDATION

Buying a train ticket should be quick, hassle-free and a pleasant experience. This paper has identified amenities available at

the railway ticketing area and the ones that need improvement that are significant for passenger satisfaction. The major problems faced by the commuters were insufficient movement space, cleanliness and hygiene,

flooring, lack of safety, noisy and improper signages. Following are the recommendations for each of them:

- Crowd Reduction- Increase the number of efficient ATVMs and Mobile booking services to reduce the crowd at ticketing area.
- Insufficient movement space- Distinguishing the ticket windows by type of ticket/passes to reduce confusion and waiting time at the counter. Provision of barricades and handrails between different queues.
- Poor ventilation - increase in HVLS fans (High Volume Low Speed Fan) and windows for air circulation.
- Cleanliness and hygiene- Improving the frequency of cleaning, maintaining cleaning contracts for main stations and levying penalties for littering.
- Flooring- Regular maintenance and replacement of broken tiles which lead to accidents and injuries.
- Lack of safety- Installation and regular maintenance of the CCTV and fire safety equipment's.
- Improper signage- The various signages and a plan of the railway station should be clearly placed in the ticketing area with large fonts.

## VI. REFERENCES

1. Abhyankar, A., Narayanmorthy, A., Ramachandran, V., & Mhapankar, M. (2012) A Survey on Mumbai Suburban Local Train Travelers. Society of Interdisciplinary Business Research, 1(1), 291-302.
2. Lee, Hyung-Woo, Ki-Chan Kim, and Ju Lee. (2006) "Review of maglev train technologies." IEEE transactions on magnetics 42.7, 1917-1925.
3. Mukhopadhyay S., D. Ghosh, and N. Debnath. (2012) "A new framework for an efficient ticket booking scheme based on mechanism design." Journal of Computational Methods in Sciences and Engineering 12. s1, 13-27.
4. Railway Board. (2009) Development of World Class Stations through Public Private Partnership. The Manual for Standards and Specifications for Railway Stations. Ministry of Railways. Government of India.
5. General, C. A., & India, O. (2016) Suburban Train Services in Indian Railways.
6. Railway Board. (2012) Manual for Standards and Specifications Manual for Railway stations.
7. Department of Transport (2015) Design Standards for Accessible Railway stations.

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