

# Exploring Visual Clues for Easy Navigation at Bus Stand, Rohtak (Haryana)

Anjali Dashora

## Abstract

Public transportation is a significant component of city, which helps in attaining sustainability, efficient mobility and high quality of urban life. The present paper is intended to study the current information graphics or signage in Bus Stand, Rohtak; a fast developing city of Haryana. Most of the travelers or visitors using transit services have low literacy level or belonging to various cultural backgrounds and speaking different language and the current signage are not good enough to help in clear dispersal of information among them. This paper analyzes existing signage systems by conducting survey among passengers. Based on the findings of survey and interactions with the passenger's suggestion to improve current signage system has been summarized.

**Keywords:** Infographics; Signage; Transit Signage; Wayfinding.

## Introduction

Signage is an essential device, which initiates interaction between transit space and its user. In public transit environment easily readable or perfect availability of information is very important for quick decision making. (Marston et al. 769-779) Signage as an essential element of transit environment comprises of information communicated through both visual in the form of sign/pictogram and verbal consisting texts in various scripts which efficiently help in creating connection between space and its users. Information communicated through graphics or pictogram reduces about half of the time used to understand or decode the information communicated verbally or with text only especially among people belonging to varied literacy levels and multilingual situations. (Gupta)

To communicate well with building users, the elements such as identi-

fiction sign, directional sign, floor sign, and directory help the users to determine locations and to move around the transit place accessibly. All kinds of safety and regulatory signs are also very important in case of emergency. In public places like bus stand/terminal, which have large quantities of users, signs are more important in solving communication problems. Graphics, symbols, and pictograms can ease reading as well as optimal contrast of colors since they are universal.

This study is an initiative to explore graphic environment or signage in the bus stand Rohtak. It tried to examine and outline the drawbacks of current signage in order to improve and simplify the relationship, information, orientation as well as the ambience of the bus stand. A planned, clear and easy signage system utilizing variety of shapes, colours, sign and pictogram can help in making travel more convenient and comfortable which thereby motivate people.

### **Objective of Research**

The objective of the present study is to observe whether there are sufficient signage positioned in terminal area i.e. Bus Stand (Rohtak) and also to check that they are giving useful information and assist commuters in finding their way through the terminal.

### **Sign categories and usage at transit place**

“According to Bednar, a comprehensible architecture design with an efficient signage or visual communication system ensures high accessibility standards of the built environment.” (Bednar) Signage as the vital element of any space help in addressing the essential information about space to its users and its main purpose is to help people in finding directions and reaching their destinations in public spaces without seeing help from others. It helps in reducing the anxiety and fear of people of getting lost while traveling in unfamiliar places by providing correct information in universal format.

Signage is significant aspect of transit environment, a well-planned signage system is fundamental for the proper operation of any transit place. According to TCRP Report-12 the basic functional categories for signs. (TCRP 18-20)

1. Information Signs: Guidance/Directional & Emergency

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2. Regulatory Signs: Mandatory & Prohibition
  3. Warning Signs: Caution & Danger

Signage provides communication necessary to the passenger for using and navigating within transit environment, it makes a sense of space, re-assure users by giving right orientation while visiting a transit place. It contributes in making space more informative, more user-friendly and enhancing experience of travelers. Travelers can rely on the information conveyed by the signage and take rational decisions accordingly without seeking help from fellow travelers or transit staff. (MANUAL FOR STANDARDS AND SPECIFICATIONS FOR RAILWAY STATIONS 120-127) In brief, signage:

- Guide traveler's movement from one point to another within station area.
- Helps in providing correct information regarding various amenity/facilities/service.
- Inform regarding mandatory, prohibitory and hazardous actions.
- Quicken the direction finding or navigation process.
- Make the space more accessible and comfortable thereby helping passengers in getting rid of the traveling nervousness.

### **Research Methodology**

Site visit and photo documentation of current signage system. Survey method was adopted to explore the current signage in bus stand. Questionnaire was developed and distribute among passengers. Online and offline responses were collected for the study and participants varied from school students, college students, working category of bachelors and retired people too. Commuters were asked questions regarding present signage, its utility and were also asked to submit suggestions and improvement they would like to see in the signage system currently used in bus stand.

### **Case Study of present signage at Bus Stand, Rohtak**

A good signage system is one which is clear and understood by all. Also the information is presented is precise, there is consistency in communi-

cations, presented in a positive manner and perceived in same manner by all viewers. Site visit and responses survey suggest that there is no specific signage system currently used at bus stand. Information is communicated verbally or written and displayed in different formats. It was observed that passengers couldn't navigate or find their destinations within station area without seeking directions from other. Findings of survey also suggest that there are insufficient informational, directional and safety signage within terminal.

The main entrances, exit, enquiry, ticket counters and other essential facilities within bus terminal should be distinct and clearly signed with the appropriate symbols. There are 3 Gates at bus stand. Gate no 1 is used for entrance to office building, parking area and auto stand. Gate 2 is used for entrance of buses and gate 3 for exit of buses. The entrance gates are well marked but exit points are not clearly, which often causes confusion for first time visitors. The identification sign of all the gates is not uniform format i.e. size; placement and colour of all three vary. Readability of entrance sign is hindered by tree or other station elements. The information is presented only in Hindi and is not supported by any symbolic representation. Information in bilingual format i.e. in both Hindi and English along with pictograms will enhance proper distribution of information among passengers belonging to various literacy and language backgrounds.



**Fig. 1 Entrance Gate Bus Stand, Rohtak Image source: Author**



**Fig. 2 Prohibitory Sign at bust stand Rohtak. Photo source: Author**

Prohibition signage not in uniform format; few are hand painted on walls, few printed & glued on walls and some are printed on flex. These signs are not positioned in cone of vision most of them located above eye level. As per international transit signage standards all prohibitory signage should be presented in white background, black image and red slash and prefer to use circle.



**Fig. 3 Identification sign for various services offered at bus stand.**

**Photo source: Author**

Enquiry counter not noticeably marked and there are no directional sign showing way towards enquiry window from platform.

The identification signage for amenities or facilities available within station area are not appropriate and up to the standards. There are no directional sign, which guide passengers towards various facilities or basic amenities like enquiry, drinking water, washrooms, food court or stalls, telephone; waiting area, ATM, postal service, etc. is not in uniform format. There are no map & directories showing plan of the building and all facilities/sections available in concourse areas or platform.



**Fig. 4 Destination or route identification sign Photo source: Author**

There is only one platform where track or bays for busses departure to various destinations take place. Track no and destinations served are mentioned on overhead identification sign but there are no advance and confirmatory directional signage displayed within terminal. The information is given only in Hindi and there is no colour coding to depict or differentiate various tracks/bays. Combination of colors and colour coding to denote various transit lines or routes or tracks within a system will help passengers not only in easily identifying busses departing various routes but also makes information more memorable.



**Fig. 5 Ticket windows for various destinations or routes. Photo source: Author**

All ticket windows are located near to the tracks/bay but not parallel to it. These counters are not numbered or designated with numbers as mentioned on tracks/bays which again creates chaos on platform when passengers cannot easily identify ticket counter from which they need to purchase tickets. Proper numbering and colour coding can help in quick interpretation of information. There are no specific information available related to the fare or ticket charges; passengers ask and pay on counter itself.

There are no advance and conformational directional signage within station area. Directional signs at every decision point should be placed for uninterrupted movement and availability of information in advance regarding the next step or action i.e. whether to turn right, left, or go straight ahead. This will help passengers in identifying their location within terminal and aid in wayfinding decision-making.



**Fig. 6 Drinking water and Toilet signage Photo source: Author**

The facilities of toilets are available in a corner of platform that is not visible from any side of platform or station area. Passengers often ask for directions to locate toilet. There are no advance directional sign within station area showing way toward toilets. Confirmatory directional sign is there for some toilet but it is placed very near to identification sign





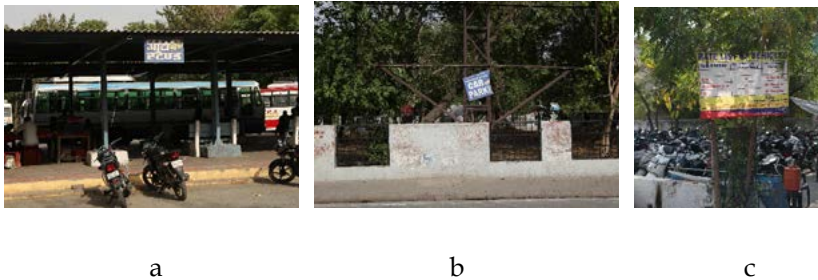
**Fig. 7 Information in single language. Photo source: Author**

Information is available in singular language so it cannot benefit people speaking or belonging to other language background. Information in bilingual format and accompanied by visuals/pictograms will ensure proper dispersal of information among passengers. Pictorial communication is key to help illiterate people to read. Hence it was realized that there is a need for incorporating graphics/visuals along with verbal information which will initiate universal communication thereby assisting and understood by all passengers irrespective of their cultural, literacy, and language backgrounds.



**Fig. 8 Concession or bus pass counter. Photo source: Author**

There are four eminent Universities in Rohtak, Maharishi Dayanand University largest university of Haryana and Pandit Laxhmichand State University of Performing and Visual Arts; Asia's only design university. Most of the passengers in utilizing bus services in Rohtak are students who commute daily from various places from Haryana or Delhi NCR to attend college or University. 25.8% respondents said in survey that they use public transport for attending college or university. The present signage system is not benefiting students and they often did not find it convenient to use services and identify routes at Rohtak bus stand. The information regarding concession or bus passes is also not presented properly. (Fig.) This is the most essential piece of information that is required by students who travel regularly.



**Fig. 9 Parking and auto stand signage. Photo source: Author**

Sign for Car Parking has been located at wrong place and often causes confusion among visitors. (b) Parking sign is regulatory/mandatory information, which presented in circle, blue colour and pictogram / information in white. There are no directional sign or wayfinding showing way towards the parking area, which often creates confusing among visitors, and they enter gate no 2 that is the entrance for platform. Identification sign for auto stand and car/two wheeler parking are there but are not large enough or easily noticeable.

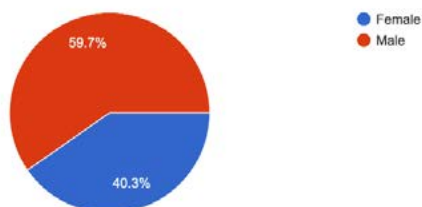


**Fig. 10 Helpline no or emergency service Photo Source: Author**

No emergency exit, safety & hazardous sign or other emergency signage has been displayed within station area. Safety & hazardous areas and sign should be clearly marked and emphasized by uniting various colour and texture combinations also using physical guards to prevent mishappening. Only one signboard about security or emergency information displayed outside station near gate no 3, which is also not noticeable or large enough and clear. No COVID 19 signage reminding passengers to maintain social distance and informing about safety measures or COVID 19 behaviors were displayed within station area.

### **Findings of Survey conducted on Passengers**

Following is the summary and analysis of the questionnaire responses. Out of 75 responses only 62 responses were found suitable and were included for analysis.



**Fig. 11 Gender of respondents**

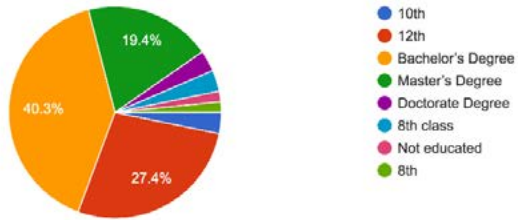


Fig. 12 Highest level of Education

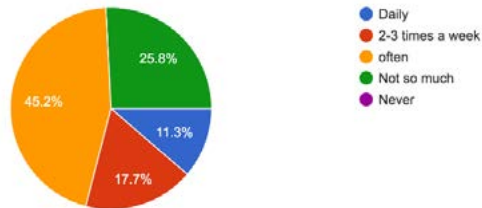


Fig. 13 How often do you use Public Transport?

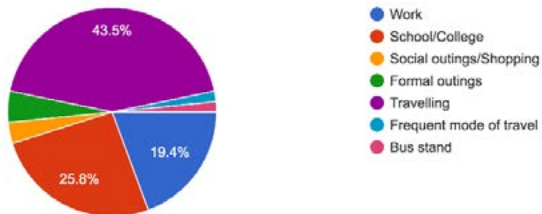


Fig. 14 What do you use public transportation for?

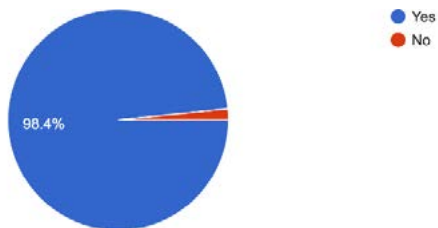
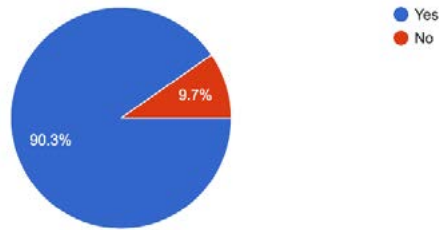
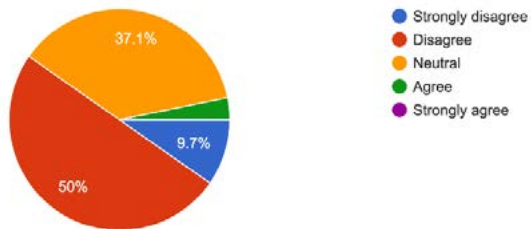


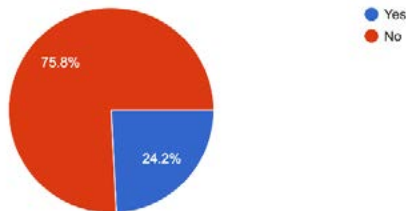
Fig. 15 Do you know what signage are?



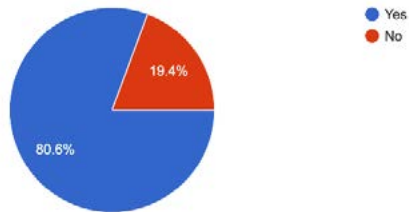
**Fig. 16 Have you ever noticed signage and wayfinding in Rohtak?**



**Fig. 17 Do you think there are sufficient signage displayed in Bus Stand, Rohtak?**



**Fig. 18 Did you find the external signage in bus stand?**



**Fig. 19 Did you find internal identification signage in bus stand?**

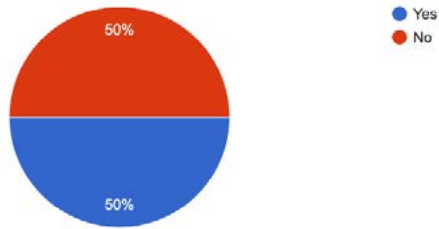


Fig. 20 Did you find safety and regulatory signage in terminal area?

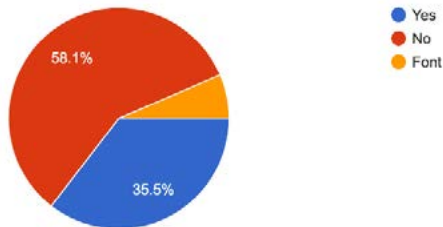


Fig. 21 Do you like signage displayed in bus stand?

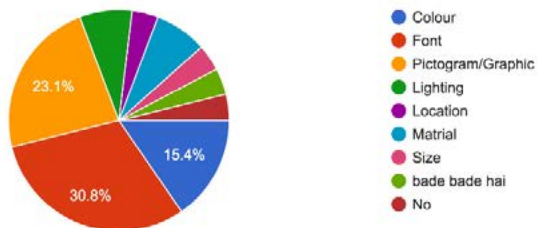


Fig. 22 If, yes what part of the signage was good?

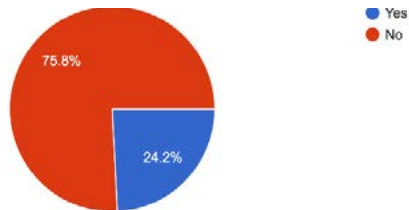
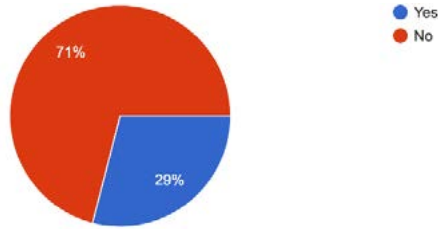
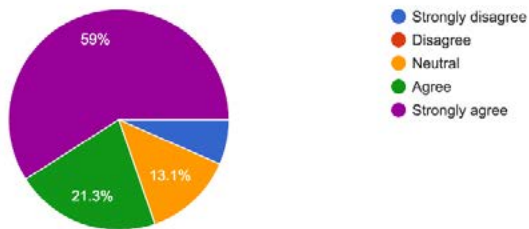


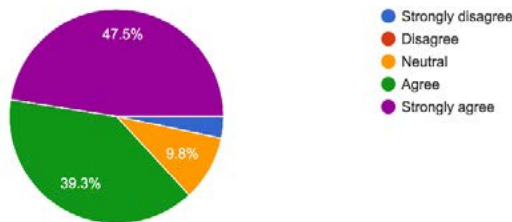
Fig. 23 Do find directional signage and wayfinding in bust stand?



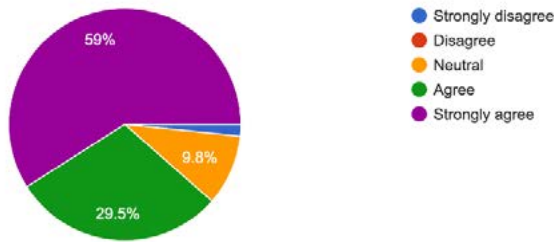
**Fig. 24 Did you at any point ask for directions after consulting a sign?**



**Fig. 25 Do you believe signage that have graphic symbols/pictogram are more useful than signage with text only?**



**Fig. 26 Do you think the visual clues/signage helps travellers / visitors in finding their destinations easily & quickly and better signage system in terminal area can help in proper utilization of facilities and infrastructure?**



**Fig. 27 Do you agree that proper designing and execution or signage system can overcome the problem of illiteracy and multilingualism at bus stand, Rohtak?**

### Summary of responses

The facilities need to be properly marked using appropriate visuals/pictogram and information should be written in both English and Hindi; according survey findings 43.5% passengers preferred English, 35.3% Hindi and 21% preferred both Hindi & English. 98.4% respondents knew what signage are and were able to give relevant examples. Few of them did not know but could relate to it when researcher showed visual references to them. 50% of respondents said they are not satisfied with the current signage displayed at bus stand 37.1% were neutral and rest felt that there are sufficient signage at bus stand. Passengers said in personal interactions that as compared to other bus stand there ne bus stand Rohtak has good no of signage and information boards. 75.8% passenger did not find the external signage (Station Entrance, Parking, Taxi stand, Amenities, etc.) and 80.60% did not find internal identification signage (Platform No., Ticket Window, Enquiry, Elevators, Information, Amenities, etc.) displayed in bus stand. Most of the respondents felt that except no smoking sign there are no other prohibitory, safety and regulatory signage in bus stand area. 75.8% respondents feel that there are no directional signage/way finding (arrows showing directions to various platform & other facilities/services) in terminal area and 71% said that they have to ask for directions to perform various things at station. Most of them said that the exit points or gates are not properly signified/identified that often creates confusion. 47.5% strongly agree and 39.3% agree that visual clues/signage helps travelers / visitors in finding their destinations easily & quickly and better signage system in terminal area can help in proper utilization of facilities and infrastructure. Most of the respondents prefer signage with graphic symbols over signage with text only. 88% (59% strongly agree



and 29 % agree) feel that proper designing & execution of signage system can overcome the problem of illiteracy & multilingualism at Bus Stand, Rohtak. Most of the passengers suggested requirement of proper signage within terminal to initiate barrier free communication. The existing signage are not sufficient enough to assist / guide passengers within station area. Respondents suggested that properly design, executed; located signage and sufficient directional signage could make travel experience more easy and comfortable. Hence, we can conclude from above findings that better signage system and incorporation of pictograms/graphics along with written information can help in proper operation and wayfinding activities within Rohtak bus stand.

## Conclusion

Information is the power and information when provided at right place and right time enables transit authorities to support appropriate management and operation of space by aiding decision-making of travelers. The visual information system i.e. signage followed presently in New Bus Stand Rohtak, in general, is not satisfactory and up to the universal standards and so it is not efficient in communicating information among commuters belong to various literacy or language settings. The flaws have been identified during the physical as well as highlighted in results of survey conducted on passengers. There are insufficient informational, regulatory and warning signage displayed in station area.

Signage with symbols or graphics extent assistance to all, especially they are prove beneficial for folks belonging to low literacy, limited ability, multi-lingual and multi-cultural settings. The visuals representations in the form of sign are easily comprehended over the verbal words like men, women, hotel, taxi, parking, first aid, tickets, departure, enquiry, water, toilet, etc. Visual clues in the form signage is a language which is immediate, global, and expected, that is why signage are frequently created and incorporated in all areas of design. The observations of current study reveals that visuals or graphics along with verbal messages makes the information more attractive and people-friendly or universal i.e. easily understood by all.

Present signage can be enhanced through utilizing colour contrast and increasing size of sign in order to assure readability. Also the legibility of information can be improved by increasing the size of letters in accordance to the reading or viewing distance. In order to make signs useful to everyone, they should be easily seen from eye level, and easily identi-

fied even at night. Hierarchy of information and directional signage along with well-marked emergency, safety and hazardous sign will assist and help passengers in convenient and comfortable travel experience thereby increasing public transit ridership.

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