

## Robust Street edges as an Extension of Shop Fronts; a study with special reference to area of Negombo

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**Abstract:** Streets are providing a media for the moving elements such as pedestrians and vehicles, but it serves a place for myriad purposes and forming a major part of the cities. While streets offering multiple activities for multiple purposes of different type of people, this quality called robustness. According to Lynch, the contribution of elements on either side of the path, are highly Impact on the human behavioral pattern. Buildings where on eitherside of the streets effect on the robustness of the street edges. Some activities within the building used to extend towards outside and making connections with outdoor activities. As a result of this street edges being taken place for spectrum of activities and functions.

To determine that how extended shop fonts contribute to street edges to become robust and As result of that, Robust street edges become not only limited to single fixed use, but taking place for multiple uses and activities. Market Street, Main Street and the Station road are the three streets selected from Negombo for the study where one of commercial city since the past. All three streets are Commercial corridors in three different locations of the city and each has unique characters. An attempt to figure out from Plan view, elevations along the street and sections through the site revels how shop used to articulate their fronts with the help of other six factors such as; Legibility, Permeability, Variety, Visual Appropriateness, Personalization and Richness and how effects on outdoor activities on the street edge.

**Keywords:** Streets, Robustness, Responsiveness

### Introduction

Multiple uses and activities are more important than buildings structures to the life of public realm. Number of human activities in the urban context cannot be limited into a single fixed use. They spread along streets, nodes, landmarks, edges and district. But specially, streets are involving for human activities by providing the media to move them. According to Lynch, "People observe the city, while moving through it & along these paths the other environmental elements are arranged." That means the contribution of elements on either side of the path, are highly Impact on the human behavioral pattern. Most of Shop fronts on either side of the streets, tend to extend their inner volumes, towards outside. As well as they used to articulate those frontages for many different purposes rather using only an entrance.

Offering Many Different purposes from a one space, can be define as Robustness. The Concept of Robustness starts from master scale and its scale down into smaller particles and it offer benefits to the particular aspects of user's life. Negombo is a one of city, which has given more potential to Commercial activities. Therefore shop streets spreading throughout the city. Mostly Street sellers on either side of the streets, living in a smaller plot, used to overflow their interior volumes to the outer facades to steps, steps to street edge or pavement. Robustness is not a single phenomenon that happens individually. It works with many of factors. Legibility, Permeability, variety, Visual Appropriateness, personalization, richness and Robustness are key factors of responsive Environment, where weaving together.

Research Question

- i. Is Robustness Being factor to make street habitable?
- ii. ( Reasons for this occurrence were explored via a study on collective data from three streets in Negombo )
- iii. What are the parameters affect on Robustness?
- iv. How extended shop front use parameters ( Legibility, Permeability, variety, Visual Appropriateness, Personalization, Richness ) to overcome Robustness?

### Research Aim

The research aim will be, to identify how factors impact on street edges to become robust and how shops on either side of the street, physically and functionally articulate their shop fronts for giving contribution to the street robustness and further more how street robustness conduses healthy interaction between people and places.

### Objectives

- i. To understand that Robustness is not only a single phenomena where interrelated with Legibility, Permeability, Variety, Visual Appropriateness, Personalization and Richness
- ii. To identify that how shops on either side of the street, tend to articulate their shop fronts
- iii. To determine while extending their shop fronts to the outside how it effects on immediate street edge and activities happened at the street edge
- iv. To determine that how extended shop fonts contribute to street edges to become robust.
- v. Identifying Robust street edges are not only limited to single fixed use, but taking place for multiple uses and activities

### Research Methodology

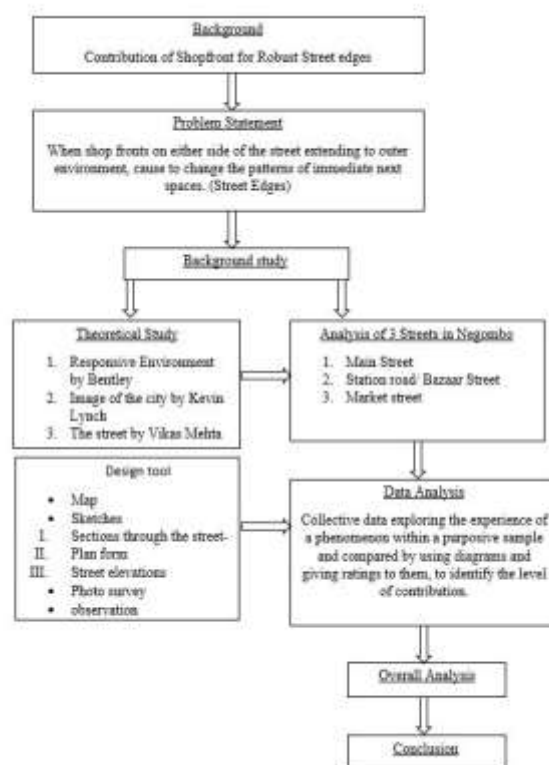


Figure 1- Research Methodology  
 Source: by Author

### Introduction to Location of the Study

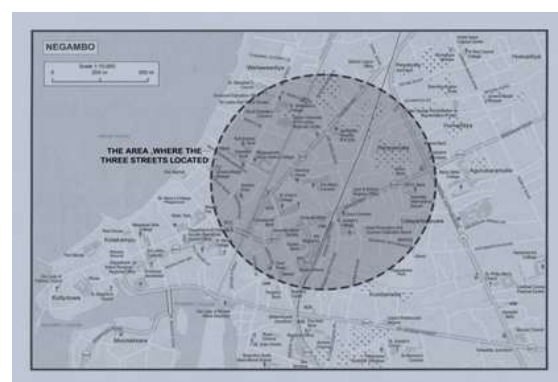


Figure 2- Negombo map  
 Source: Department of surveying

Well-ordered urban fabrication of Negombo has been led well organized road network and establishments to the city. Small Scale and Large Scale Robustness of the cityscape promotes the sociability index which built since past. As a result of that, Three commercial corridors; Market Street, Main Street and the Station road have taken as the case study, where elaborating unique characters to them with the quality of robustness in different scale. All three street are

crossing over city and selected from three different locations.

1) Street 1- Market Street: This street composition can be considered as most bustling commercial and entertainment stretch in Negombo. This two dimensional ribbon is tied with 3 main points. They are Main Street - Kamachode junction and end with Sea. Kamachode junction is the intersection point of the sea street and the Market Street. The main street and the Sea Street provide accessibility to the street and the area comprises as a commercial and some other parts of the street settle as residential. For Wednesdays, and Sundays the Pola comes alive. So the street perspective is tending to frame the Kamachode weekly fair. Suburb village vendors already have their permanent structures long the market street and while the Pola Functions; Many of sellers come from outside city. This Neighborhood Commercial Corridor Fulfils Day to day needs, vital goods, fresh vegetable, textiles, grocery for the people.

There are small scale of shops bearing grams, grinding millers and textiles and from the other side pottery outlets and Dutch buildings and structures with Dutch influenced details. The massive gate way or the pandole tracing through the layers of commercial activities. In between Toddy turbans, cinema hall and some gipsy settlements have suddenly change the pattern of flow.

2) Street 2- Main Street: Main street is congested with vehicles, people and shops. Beyond the St. Mary's church and Koppara Junction are the two nodule edges of the main street. When Passes through the street Historically mansion buildings such as Dutch influenced colonial buildings, series of Jewelers shops, Fancy Shops, Branches of shopping centers and Ample of Parking Facilities makes visual clusters in the streetscape. As well as overflowing commercial Activities of shops corporate towards to the street, as a result, explode activities on either side of extended part of the shop fronts. Especially for the Christmas and other important occasions of the St Mary's church the street formed to festive character. Rather than

other three streets this consists of large scale shopping malls and jewelry shops and the edge spaces of those kinds of buildings are being a part of vendor sellers, Cut piece sellers and some are selling newspapers, dry fish and antiques on their temporary structures. Or else it's act as space for displaying their own selling items.

For the weekends Street gets Really Busy with Suburb commuters because of the Formal Commercial establishments such as Branches of shopping malls like Nolimit, Glitz, Sriyani Dress point, Molly, Rare, Muthukaruppanchettiyar, vogue Jewells.

3) Street 3- Bazaar Street( Station Road): Bazaar street is completely different from the main street. This also a shop street consists with, retails, variety of textiles, kitchen items, cosmetics and toys. Usually the street known as Bazaar Street, because it is functioning while the Bazaar functioning. The Bazaar take place once a week and for other days its function as a normal access road. When this street function as a bazaar, the activity pattern has been totally changed than other days. The perspective view of the street has compact with vibrant textiles and retail shops and narrow paths facilitating to peeing to flow of people.

The Location of the street highly involves attracting people while the Bazaar Functions. The bazaar street has bank with Samanla Book shop, Buddhist Mandhir , Bank of Ceylon and on the other side railway track and some settlements merge with the city. The entry point -node which facing to the city center, act as welcoming place for many of activities. This street is being a kind of transition point because the railway track and the bus station creates a transport hub and Pedestrians, couples and stokers used to transfer through this street. People tend to use this street because of the quietness and cozy quality of the space. The activities of the street has hardly linked with the immediate spaces with Saturday Vegetable Market, weekly Fair.

Method of Data Collection

From each street, 3 blocks have selected as the samples and observe how the profile of the

shops on either side of the street and street elevation along each street involve to determine how shop fronts achieve Legibility, Permeability, variety, Visual Appropriateness, personalization and richness. As well as the Section through each block useful to determine, while shop fronts extending towards the street edge, How social behavioral pattern has been changed. The final analysis elaborates the contribution level of each block to make the street edge as Robust space.

1) Street 1- Market Street



Figure 3- Market Street  
 Source: by author

2) Street 2 - Main Street



Figure 4- Main Street  
 Source: by Author

3) Street 3- Bazaar Street



Figure 5- Station Rd( Bazaar Street)  
 Source: by Author

**Analysis**

A. Analysis of Three streets

All three streets have closer proximity to immediate main neighborhood commercial corridors, where fulfils day to day vital needs. The location of these streets promotes its legibility. Because they are closer proximity to city core area and walkable distance from city center to each street. Usually people from nearest suburbs visit to Bazaar Street and Main Street for shopping. Mostly, neighborhood community is the user group of the Market Street. Overflowing activities and extended shop fronts are common characters of those shop streets, and create active building edges and offering range of outdoor activities.

B. Zone of activities of three street

This studying area comprises as a commercial and some parts settle as residential. Small shop street where filled with horizontally and vertically extended spaces and the central stripy space has allocated for the pedestrian movement. Shop front, edge and the street are offering multiple activities for pedestrians as well as merchants.

1) Zone of Activities of Market Street

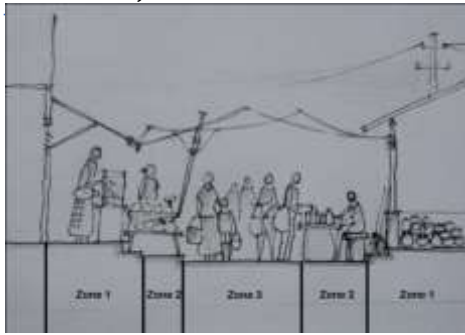


Figure 6- Market Street- block 1  
Source: by author



Figure 7- Market Street  
Source: by author



Figure 8- Market Street  
Source: by author

Block 1 has been an extended part of the Market Street. Basically I have identified 3 zones. Though the Pola is held or not, The Building edge is always being active. As I mentioned earlier, Zone 1 is always used as an entry point to the shop. But sellers are displaying their selling items along the edge space and canopies and long eaves protect them from weather conditions. Zone 2, immediate next space to the building edge, where serves as a rentable area for other sellers who are coming from outside. They used to arrange them goods under temporary huts. Mostly Zone 3 is the narrow strip where allocated for pedestrian movements and rarely bicyclist uses this zone.

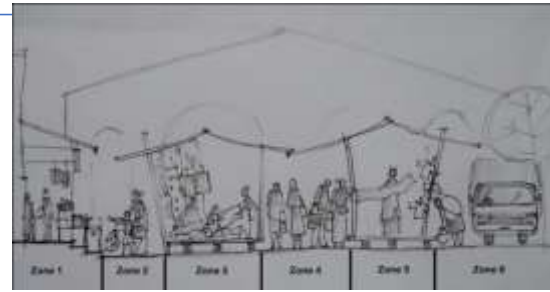


Figure 9- Market Street- block2  
Source: by author



Figure 10- façade created by own selling  
Source: by author



Figure 11- Orderly stacked selling on extended shop fronts  
Source: by author

Same as Block 1, permently settle Shops are locate in zone 1and mostly they sell grocery items, oil and eggs. The building edge has been articulate with orderly stacked grocery items. People who are coming to these shops and the fair, parking their vehicles such as threewheelers and BicycleS in Zone 2. When the Pola is held, market street is filled with temporary Shops and creating shopping lanes within the street. therefore Zone 3, 4 and 5 are availble on Wendsdays and Sundays. Zone 6 is use to park lorries, vans which borrows vegetables, fruits and clothes to the fair.

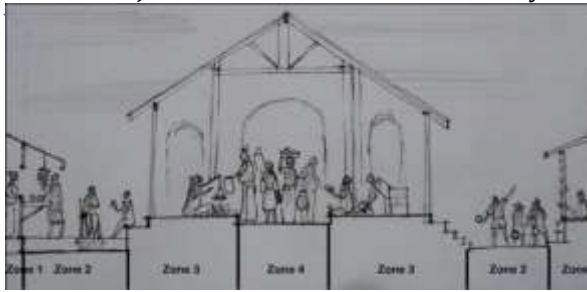


Figure 11- Market Street- Block 3  
 Source: by author



Figure 12- Market Street- Block 3  
 Source: by author



Figure 13- window selling along street  
 Source: by author

The new market and the residential area are belongs to the block 3. Specially these residential building haven't varenda spaces. Therefore they really engaging to activities which happened in the fish market. As a result of this, zone 1 is articulte as window shops or shop houses. They selles tea, and sweets for the sellers who work at the market. Sellers come to zone 2, when they need a relax and some time its being a place for children to play. When the fair dosent held, they attact the market for gathering and lingerings. zone 4 is compact with people when the pola held.

## 2) Zone of Activities of Main Street

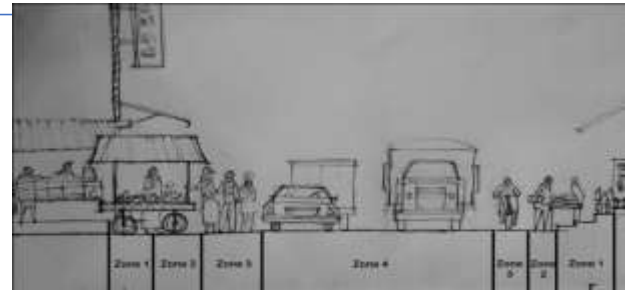


Figure 14- Main Street- Block 1  
 Source: by author

Zone 1 is usually used by vendor sellers, or people who are selling fruits and newspapers. But sometimes, we can identify activities in zone 1 become active ,while the pola function. If not most of people who visit to the St. Marys church, are hanging around this zone and most they visit to buy statues of gods, to buy some fruits or the daily newspaper as well. Therefore, daily we can see the fruit cart and statues, Newspaper seller and statues which keep in front of the shop. Same as Zone 2 is allocated for parking purpose. Zone 3 has been used by the pedestrian and zone 4 is used by vehicles. Mostly the days when the weekly fair held and the special occasion of the church (Good Friday, Christmas) the Zone 2, 3 and 4 become congested with people.

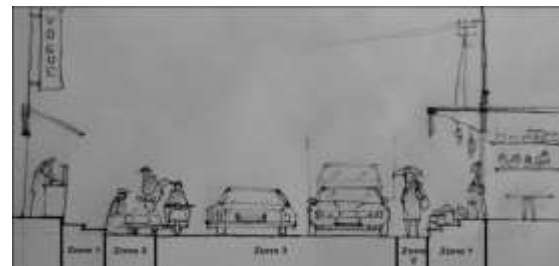


Figure 15- Main Street- Block 2  
 Source: by author



Figure 16- Main Street- Block 2  
 Source: by author



Figure 17- Main Street- Block 2

Source: by author

As mentioned earlier in block 1, same scenario is happening in the street. Though Zone 2 is allocated for the parking, sometimes it becomes a place of sellers who are selling clothes and retails in a reasonable price. The other Specialty is that, not like other blocks most of the building are belongs to gold shops, and fancy shops. Shop owners keep dummies with new arrivals, fashionable dresses in front of the building and pedestrians waiting at the building edge to watch the new arrivals.

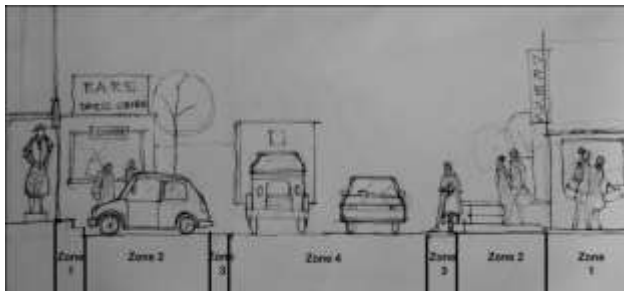


Figure 18- Main Street- Block 3

Source: by author

Most of buildings are shopping centers like Nolimit, Rare, Molly, Sriyani Dresspoint. They didn't tend to extend their interiors to outside and glass facades are making visual connection with outer environment. Therefore zone 1 is usually use for entry and exit point to the building. Zone 2 has allocated for ample parking spaces with tree shades, small benches. Therefore people used to spend there for relaxing, and chatting with others while their relatives shopping.

### 3) Zone of Activities of Bazaar Street



Figure 19- Bazaar Street- Block 1

Source: by author



Figure 20- Bazaar Street- Block 1

Source: by author



Figure 21- Bazaar Street- Block 1

Source: by author

Zone 3 has allocated for the pedestrians. Zone 1 is used by the sellers to keep their selling items and sometimes their shop space extending towards zone 2 as well. People who comes to the shop, usually staying at zone 2 and they spent their while choosing, buying.



Figure 22- Bazaar Street- Block 2

Source: by author



Figure 23- Bazaar Street- Block 2

Source: by author

Same situation on block 2, but the difference is that, zone 3 become narrower, because another

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 strip of space grabbed by the selling purposes.  
 The compact environment occurs a hustle and  
 bustle situation within the street.

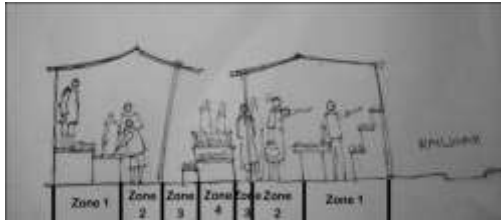


Figure 22- Bazaar Street- Block 3  
 Source: by author



Figure 23- Bazaar Street- Block 3  
 Source: by author

Same as block 2 Activities happening on each zone but the open end of the street limit the compact situation

4) Overall Analysis of Physical Arrangement of Three Streets: This studying area comprises as a commercial and some parts settle as residential. Small shop street where filled with horizontally and vertically extended spaces and the central strip space has allocated for the pedestrian movement. Shop front, edge and the street are offering multiple activities for pedestrians as well as merchants.

Market Street and the bazaar streets are highly actively contributed to active the street edges rather than Main Street. Therefore the edge spaces can be considered as soft Areas, because time to time the space can use for many of function. Edge is not only for entry point to the building, it offers opportunity to people staying, waiting for someone, buying or choosing thing of the shop and to shop owners its being a place for displaying new arrivals. Sometimes Building Edges covered with extended roof where provided small sheltering for the pedestrians to protect from rain. Finally we can identified that, active building edges making background to become robust as well as it supports to urban life to come alive.

C. Physical Arrangement of three streets

Table 1. Ratings for Successive Contribution for the Robustness

Rating for Successive contribution for the robustness	Representing Color
High	Red
Medium	Green
Low	Yellow

Table 2. Overall Analysis of Physical Arrangement of Three Streets

Source: by Author

D. Physical Composition of three street

Overall Analysis of Physical Arrangement of Three Streets			
Character	Market Street	Main Street	Station Road (Bazaar Street)
Legibility	Kamachchode weekly fair and the Market is the main character which emphasis the street as Robust. But bit away from the city.	Prominent landmarks, Nodes and branches of the street where leading City, combined with the street.	Being located closer to the city center and the active node anyone can easily identify the location
Permeability	Lack of alternatives to the Market Street.	Branches of the Main street making connection to other places of the city	Limited alternative routes cause the lack of permeability of the layout.
Variety	has diversity of built layout	Variety of shops establishments where represents social, cultural and entertainin g.	Mixed uses and many of business increases the variety of the street.



Table 3: Ratings for Successive Contribution for the Robustness  
Source: By Author

Rating for Successive contribution for the robustness	Representing Color
High	
Medium	
Low	

Table 3. Overall Analysis of Physical Composition of Three Streets

Source by Author

Overall Analysis of Physical Composition of Three Streets			
Character	Market Street	Main Street	Station Road (Bazaar Street)
Legibility	Usually people recognized as a place for Vegetables and fruits. But retails and bakery equipments also available.	People from other cities come to by gold, jewels and clothes. Because famous gold shops and dressing malls took place in this street.	Cheap available and choices cause to attract people.
Permeability	Permeable shop fronts helps to reveal inside and people deal with the shops while staying outside of the shop.	Permeable glass facades displaying new arrivals of jewelries, dress on dummies.	Hanging, stacking their selling items on façade or the shop fronts, people get the idea what selling in this shop
Variety	variety of vegetables and fruits are the common availabilities, in fact colorful curtains, clothes where making varieties on the façade	Variety of displaying patterns, textures and orders of the façade	Variety of sellings articulate the façade itself
Visual Appropriateness	When people gather around some shops, other also attract to them to find	While displaying new fashionable clothes or any other arrival,	People attracting by articulating their façade by own selling.

	what selling there.	people may attract to them	
Richness	Making a favorable enclosure for the pedestrians by the temporary structures on either side of the street	Axially composed elevations along the street provide many things to watch on the shop fronts	Lack of richness of the street. Because the space itself doesn't provide a livable environment or a microclimate
Personalization	Some sellers are unique to sell one thing and some have unique collections.	Dressing the building façade with many different unique collections. from season to season	Everyone have variety of goods offering multiple possibilities to the customers

### Conclusion

While people walking down the street, they are engaging activities on either side of the shop fronts. As a result of this, street edges become robust. The contribution of the shop front may present on different ways. Robustness is not only a phenomenon which happens individually. Legibility, Permeability, Visual Appropriateness, Richness and Personalization are the factors also help to fulfil the requirement of Robustness.

The location of the street where how much closer to active landmark, nodes, paths, edges or the district is important when considering about the legibility of the street because layout should provide a clear image of the street to the pedestrians. Bazaar street and the Main Street are more benefitted than Market street because there closer to the city centers and actively function nodes. On the other hand, the legibility has differed relating user aspects. Compared to bigger shops, small business consumed smaller plot of space to fulfill their requirement. As a result of this Rather than Main Street, small vendor sellers in Bazaar Street and the Market Street making their robust environment within small plot of land. As well as they achieve permeability by articulating their façade as well. Decorating their shop windows with their own selling or stacking them into order in front of the shop, by providing chairs, benches for the

people who come to their place are the simple method that they use to engage with the Street. The contribution of Variety of uses, good and services are more important than the variety of the built use of the street. Main Street has consisted with commercial, Socio and entertaining establishments such as Saree shops, Gold shops, Dressing malls, saloons, pharmacy, Book shops and hardware. Shops in Market Street and Bazaar Street uses to articulate their façade by Variety of selling items and they create variety of colors, textures, orders and patterns as well. People walking by these shops and some are used to stay at street edge while observing, buying and choosing them. Though these streets are not much rich with aesthetical pleasant appear, people willing to watch eye catching elements where displaying in front of the shop. Therefore the quality of visually appropriateness has fulfilled by the three streets. Lack of ventilation, the uncomfortable, unsafe atmosphere and visual barriers, endless view of the street has destroying the sensory richness of the Bazaar Street. But axially composed shop arrangements on either side of the street, enhance the directional quality and the sense of environmental comfort of the Market Street and Main Street. Personalization is the other thing that contributes the robustness from large scale to small scale. Large shopping centers at the main streets use to display their unique collection on glass façade as well as they articulate their façade from season to season to attract and provide multiple experiences to the people. Even sellers who are selling vendors, fancy items also have a unique character to engage and encourage people's activities who are walking by them.

Finally, in such way extended shop fronts helps to create Active Building edges and get benefits from the outdoor public realm. Therefore, it creates robust street edges and offers number of choices. Building edge with benches, balconies, Shaded canopies steps, windows are making alive the street and they encourage activities on

edges. It encourages both indoor and outdoor activities; people encourage walking along, walking through it and giving the experience of sense of volume. So that lively building edges are part of social fabric, street, city as well as people life. Finally, the robustness can be apply for the cities, cities to street, streets to building edges, to make an environment friendly setting.

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