

# Impacts of Downtown Developments to Facilitate Environmental Sustainability and Presence of Core and Frame: A Case Study of Saddar, Karachi, Pakistan

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**Abstract:** A real sustainable world and a livable environment for everyone is currently needed and becoming an extraordinarily challenging task. Sustainability for whom-who benefits and who loses? The increasing environmental problems are also hampering the sustainability. The remarkable increase in population and severe food shortages has brought unprecedented burden on land.

Land is considered as space, territory, location, ecosystem, reserve and human habitat above all. Land-use provides a basis for identification of different functional zones in the city thus providing a framework for shaping the internal structure of a city. The best-planned development of any area is possible when the problems of that area are well understood, well documented and closely monitored. Systematic information on land-use / land cover classes, environmental problems and the available arrangement is critically important for future planning of an area.

The rationale of this study is to indicate the presence of core and frame in the downtown area of Saddar, Karachi and to examine how finished downtown developments are designed to facilitate environmental sustainability. The field inventory has been conducted to find out the functional and physical developments and sustainability of the study area. In addition the process models have been applied to find out the environmental sustainability. The results of filed investigations show that Saddar does not fulfill the requirement of any of the classical land use models. With reference to the planned development of the core area, zoning laws should be applied to place the functions properly to their respective location. The main problems should be considered as prime matters for the city planners and agencies.

**Keywords:** Downtown, CBD, Environmental Sustainability, Core and Frame.

## INTRODUCTION

Central Business District (CBD)/downtown of any city is considered as special commercial area where day time population is comparatively larger than the other areas. Business activities at CBD are carried out on large scales which lead to various socio-environmental issues and ethical problems etc. [1]. Under this scenario, it is very difficult to apply a systematic approach to prevent the problems, its planning and smooth running of the business activities [2].

Saddar is a commercial hub of Karachi where numerous problems such as traffic and environmental issues are rising [3]. Now, there is a question on the government approach for the sustainable solution of these problems and allocation of the resources to cope with the challenges [4].

Land use provides a basis for identification of different functional zones, thus furnishing a framework for determining the internal structure of the city [5]. The best planned development of any area is possible

when the problems of that area are well understood, well documented and closely monitored [4].

During this study, development projects for Saddar were reviewed using various Karachi development reports and after intensive survey, internal structure of Saddar area has been portrayed. In addition, it is suggested that how development projects can be positively executed through CBD Concept Model. However, it is very unfortunate that political element is a big barrier to the successful approval and implementation of any development project [5].

## Core and Frame

Where central business districts have been discussed in terms of development and characteristics, the Core-Frame concept has been signified as relevant to capture the essence of the internal structure of central business structures [6]. The 'core' of the central business district houses the most number of tallest buildings and maintains the highest cost of the land. In addition the space is most intensely utilized. The CBD core has heavy pedestrian traffic organized horizontally on the sidewalks and skywalks [7].

According to Kaplan, *et al.* (2004), the CBD frame is an area that accommodates a comparatively less

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intensive use of land. Additionally, there are largely low-rise buildings and fewer pedestrians. And the land uses are generally different as compared to the CBD core [6].

Figure 1 below illustrates the land uses in the Core-Frame model, where the inner core comprises the front-end activities of the commercial, financial, governmental and related professional institutions, the outer core that encompasses back-end activities, such as smaller shops, public administration handling paper works, etc. The Frame on the other hand, consists of warehousing, manufacturing and transportation [8-12].

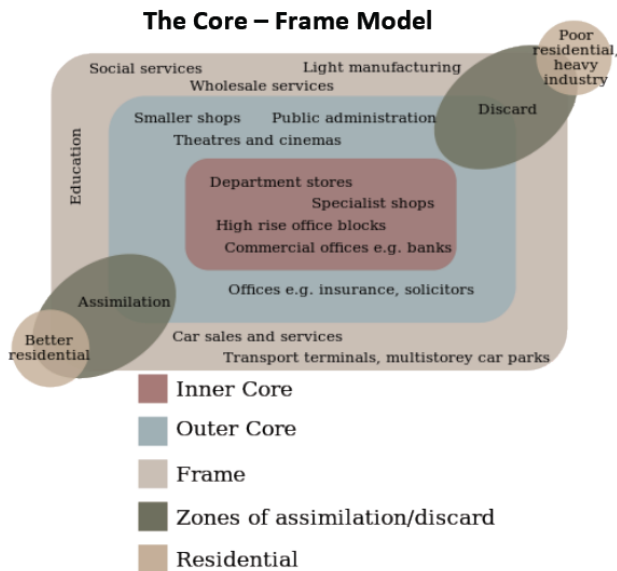


Figure 1:

### Developments History and Developments Policy

Perceptions of the nature of Karachi’s rapid urban growth have changed over the decades. The KDA order of the 1950’s reflects the perceptions of its time which have changed in the 1960’s and in the 1970’s and yet again through the insights gained in the preparation of the 1974-1985 [13] Karachi Development Plan. In the 1980’s perceptions of the urban issues have again changed as the first issue of 1986-2000 development plan. During these decades of change, the KDA order, with only slight amendments, has remained the formal basis upon which Karachi’s urban planning has been based [14].

### Purpose of Study

The purpose of this study is to examine the impact of CBD developments designed to facilitate environmental sustainability in Saddar. The primary aim of the study is to build a general model for the CBD development process through the study of Saddar developments (Figure 4). Secondly, a cross-case to analysis of the economic, social and environmental considerations of development to discover how sustainability is integrated into the process and how in considering environmental sustainability. The planning process and approved development are impacted in Saddar areas to explore and investigate the internal structure of Saddar to identify and list down the salient features of internal structure of the downtown area based on the spatial arrangement of its land uses [15].

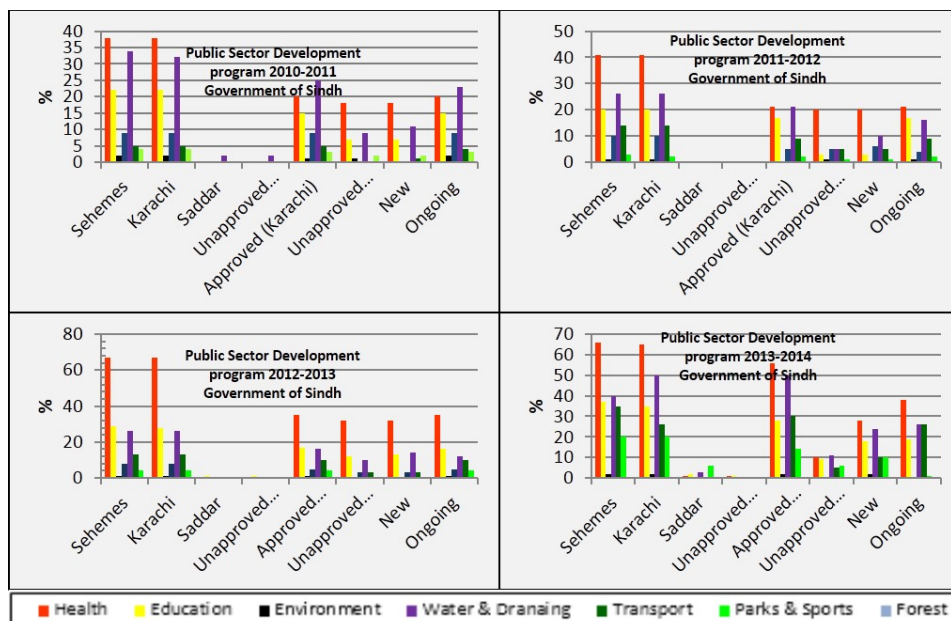


Figure 2: (Source: Annual development plans, government of Sindh, 2010 to 2013).

### Study Area: Saddar the Heart of the City

The study area comprises the commercial core of Saddar UC 8 of Saddar town. Saddar the city center, is the main shopping area of Karachi with thriving markets (Figure 3).

Saddar, which has been a North Indian term for the cantonment area, was not a part of the old town [16]. It was built by the British when captured Karachi way back in 1839. In the fifties, soon after partition, when the immigrants from India and the work force from up north in Pakistan, came to what was then the capital of the country, found it to be the main shopping area of a city whose population was growing in geometrical progression [17].

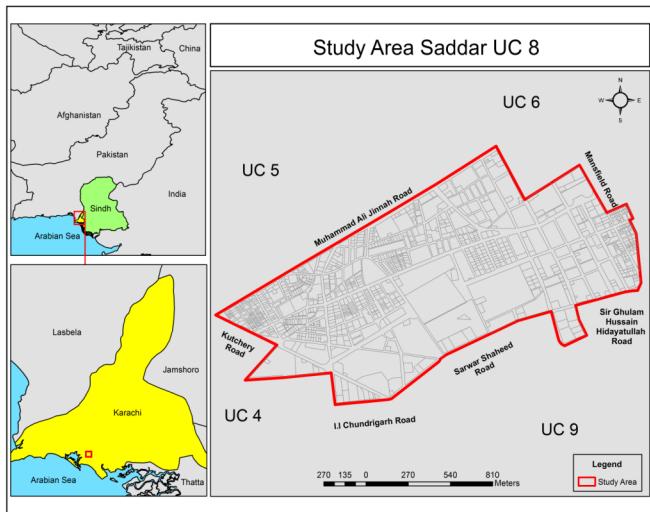


Figure 3:

### Study Approach

In this study primary and secondary data are recognized. Primary data are collected through questionnaire interviews, and other participatory approaches. The secondary data consisted of the Government annual development program/projects, and documentation of the land use planning process, which were supported by interviews to confirm the interpretation of the documents and core structure of Saddar area [18-22].

Pertaining to the research strategy, the following activities have been carried out for the land use analysis: (i) acquisition of maps; (ii) intensive field survey; (iii) analysis using GIS; (iv) analysis using statistical measures; (v) data processing using multiple approaches; and (vi) cartographic representation [22].

### RESULT & DISCUSSION

Our study area Saddar, Karachi is mostly based upon commercial activities. All kinds of functions are being practiced in this area. The majority functions include electrical appliances, pets, wholesale (particularly in Empress Market and Jhandu building), hotels and restaurants, bakeries, jewelers shops, dairy products, mobile shops, garments, general stores, and weapons shops.

As the population of the city increased, the area couldn't keep its legacy. This also proves that British were never be the good planners. Since Saddar is a business center of Karachi, people from all over the city come towards Saddar causing overflow of vehicles [23]. Presence of bus terminal and encroachments create a great chaos for smooth traffic flow. Better planning should be done to deal with such problems, Government did not consider and focused on Saddar as no effective plans executed in Saddar (Figure 2).

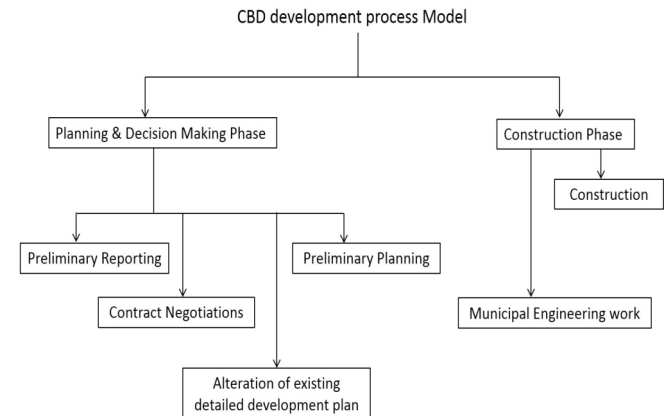


Figure 4: (Saynajoki et al, 2014. Development process model).

The commercial heart of Karachi contains almost every kind of function from bread and butter; clothes and shoes to heavy machinery and weapons. It is a mixed wholesale and retail business center. Saddar is a highly dense area in terms of day time population as well as commercial activities. There are a number of buildings with specialized functions. Having same types of commercial activates having same type of commercial in a series of shops e.g. Noman Centre, Jhandu Building, weapon shops, Dildar Shopping Center and Hong Kong Shopping Mall. Specialized functional areas develop because many kinds of uses agglomerate inside the largest cities to facilitate comparison buying, to serve a special market or to make joint use of specialized facilities, (Berry).

**Table 1: Source: Based on Field Work, no of Responded 2014**

Social Survey Outcomes			
S. No.	Description	Y (in %)	N (in %)
1	Improved consumption facilities	0.00	100.00
2	Improved conditions for walking and cycling	0.00	100.00
3	Improved parking arrangements	4.00	94.00
4	Lively urban atmosphere	0.00	100.00
5	Safe, High quality living environments	0.00	100.00
6	Improved housing availability	2.00	98.00
7	Shopping mall-like spatial design	3.00	97.00
8	Increased traffic and related emissions and noise within the CBD and residential areas	100.00	0.00
9	Reduced and limited green space	100.00	0.00
10	Balanced population structure	0.00	100.00
11	Houses very close to one another and courtyard spaces smaller	100.00	0.00

**Table 2: Source: Based on Field Work, no of Responded 2014**

Economic Survey Outcomes			
S. No.	Description	Y (in %)	N (in %)
1	Higher commercial status of the CBD	100.00	0.00
2	More space for business activities	66.00	34.00
3	Denser and more attractive commercial structures	88.00	12.00
4	Customer flows and purchase power directed to the CBD	75.00	25.00
5	Increased business activity and new entrepreneurship	96.00	4.00
6	New Jobs	76.00	24.00
7	More space for parking	100.00	0.00
8	Increased value of the real estate within the CBD	96.00	4.00
9	Self-sufficient development (positive business plan)	0.00	100.00
10	New investment	16.00	84.00
11	Supermarkets (their attractiveness) staying with in the CBD	0.00	100.00

### Social and Economic Survey Outcome

Social and economic Survey outcomes, signify that excessive traffic is generated because of excessive trade and business in CBD resulting in congestion that increases travel time increasing fuel consumption and polluting environment. Need for space for business and trade resulted in the occupation of every available open space which reduced the green space and space between the houses (Table 1 and 2).

### Environmental Survey Outcome

Environmental outcome shows the following environmental survey outcomes;

Brownfield spaces are being utilized since the business and commercial activities are expanding and therefore needs space. Commercial activities like oil vendors and meat vendors produces contaminated runoff that infiltrates the ground and contaminates the ground water. There is an unorganized web of water and electric connection which is hazardous to environment (Table 3).

### Land Use Classification

Land Use Classification of Saddar describes the different land uses and their percentage of areas utilized. The graph shows that 62% of the area is occupied with residential cum commercial land use (Figure 5).

Table 3: Source: Based on Field Work, no of Responded 2014

Environmental Survey Outcome			
S. No.	Description	Y (in %)	N (in %)
1	Brownfield-based (built land) use of existing infrastructure	100.00	0.00
2	Reduced travel from the sadder to other destinations	16.00	84.00
3	Aims to reduce private driving by encouraging walking, cycling and the use of public transport	0.00	100.00
4	Aims to protect the green space and urban ecosystem services	0.00	100.00
5	Major losses of trees and green space	100.00	0.00
6	Brownfield-based development saves greenfield elsewhere	0.00	100.00
7	Aims to protect ground water quality	0.00	100.00
10	Encourages biodiversity in the Saddar area	0.00	100.00
11	Provides connections to wider green spaces	0.00	100.00
12	Urban runoff control is taken into account	0.00	100.00
13	Contaminated land remediation	0.00	100.00
14	Requires re-arrangements and re-building of the existing infrastructure (water, electricity)	0.00	100.00
15	Environmentally friendly building materials are recommended	0.00	100.00
16	Costs of parking are allocated to the users	55.00	45.00
17	None of the alternative plans causes fewer emissions than the other	100.00	0.00

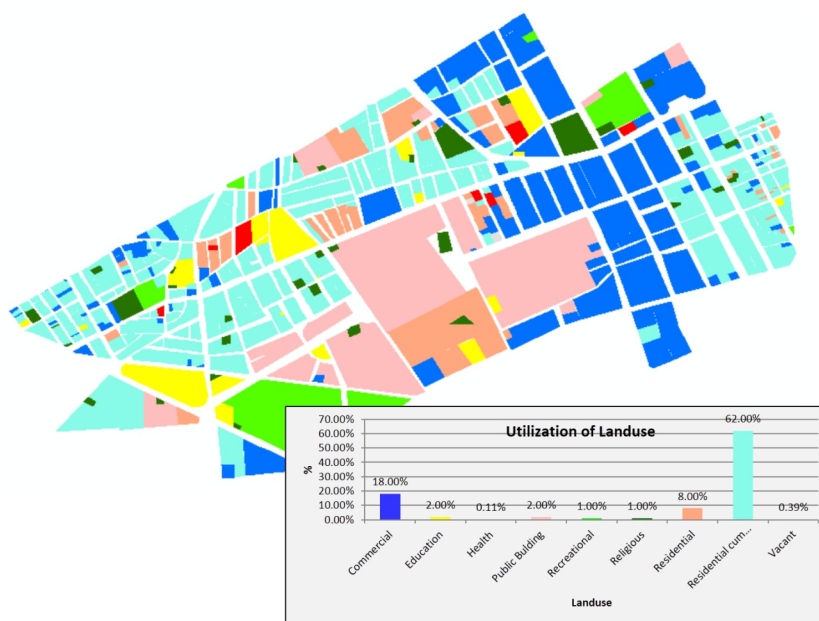


Figure 5: (Source: Based on field work 2014).

**Land Use Functions**

Figure 6 shows different functions of land use in Saddar Town.

**Dominated Functions Between Different Roads**

The figures and graphs show the dominated functions differences between different roads.

Figure 7 shows the dominated functions between Abulha Haroon and Zaibunnisa Road, Saddar in 2014, Jewelry (25.15%).

Figure 8 shows the dominated functions between Shahrh -e- Liaquat and Clarke Street Road, Saddar 2014, of electrical appliance (26.25%).

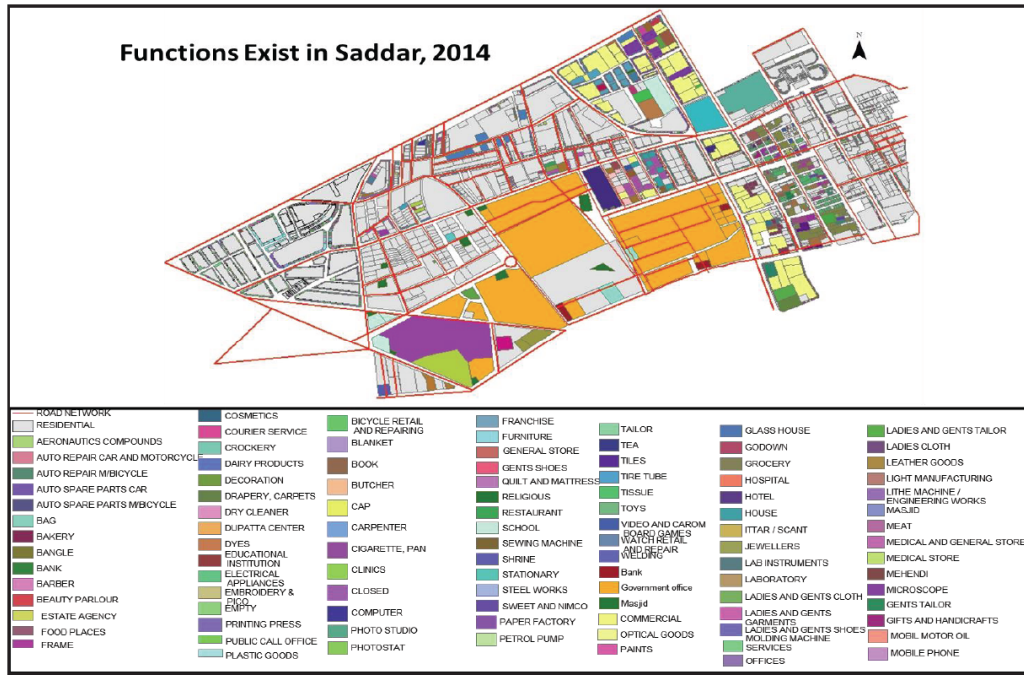


Figure 6: (Source: Based on field work 2014).

Figure 9 shows the dominated functions between Raja Ghazanfar Ali and Daudpota Road, Saddarin 2014, Ladies and Gents clothes (20.04%).

**Dominated Functions, between Raja Ghazanfar Ali & Dr Daudpota Road, Saddar, 2014**

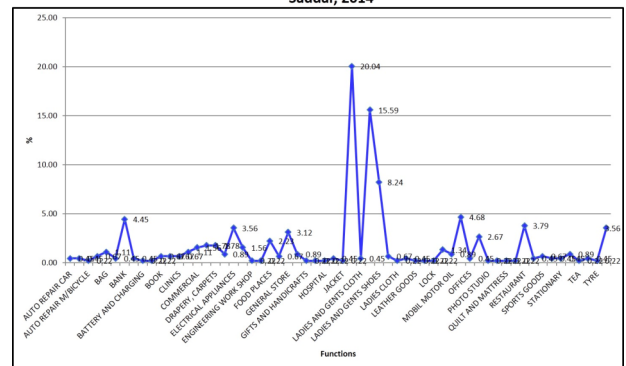


Figure 9: (Source: Based on field work 2014).

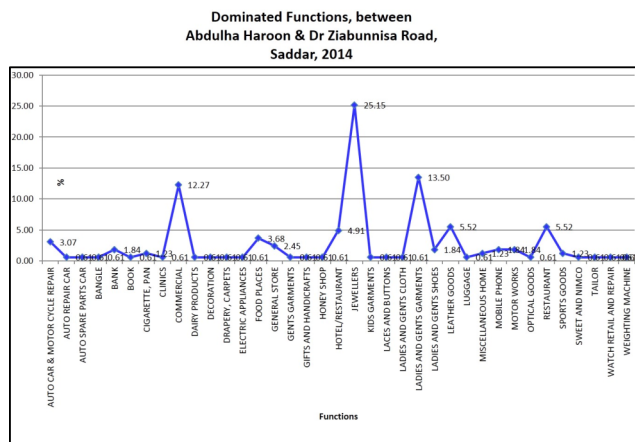


Figure 7: (Source: Based on field work 2014).

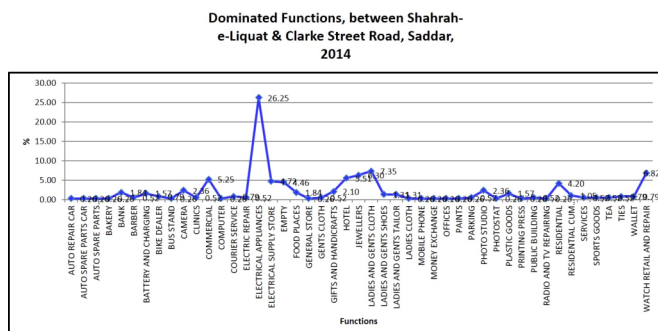


Figure 8: (Source: Based on field work 2014).

**Dominated Functions, between Mohd. Bin Qasim & M.A Jinnha Road, Saddar, 2014**

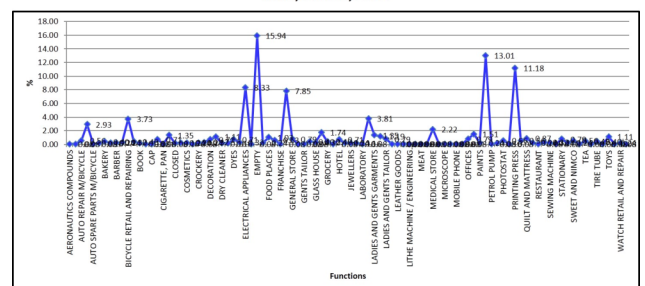


Figure 10: (Source: Based on field work 2014).

Figure 10 shows the dominated functions between Mohammad Bin Qasim and M.A Jinnah Road, Saddar in 2014, of empty shops (15.94%).

Figure 11 shows the dominated functions surrounded Preedy Street Road, Ladies and Gents clothes (39.96%).

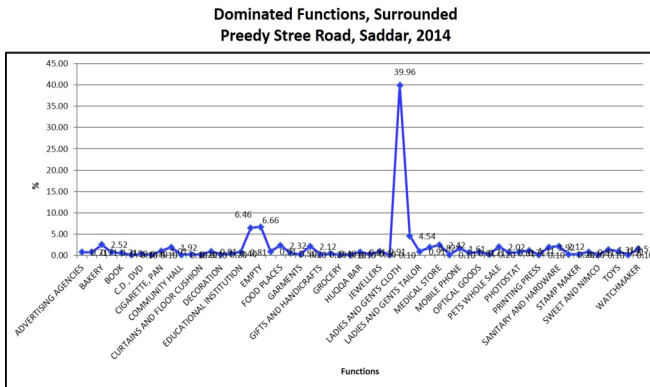


Figure 11: (Source: Based on field work 2014).

Figure 12 shows the dominated functions between Rizvi Shaheed and D.Daudpota Road, Saddar in 2014, Electrical supply store (14.06%).

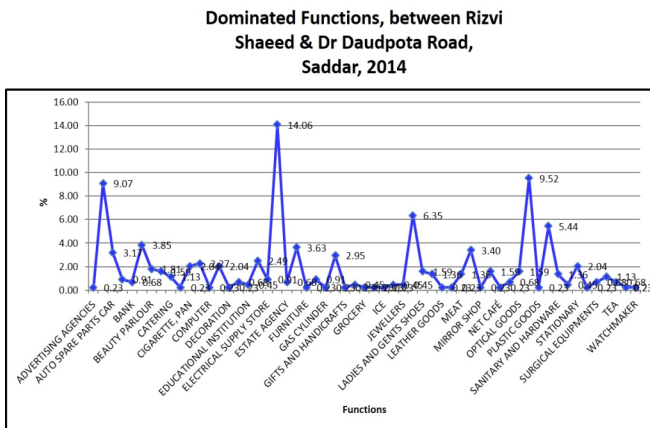


Figure 12: (Source: Based on field work 2014).

Figure 13 shows the dominated functions between Shahrh-e-Liaquat and M.A Jinnah Road, Saddar in 2014, Auto spare parts (25.38%).

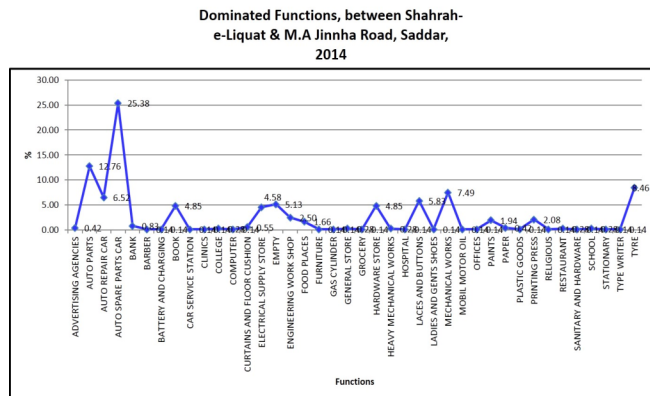


Figure 13: (Source: Based on field work 2014).

Figure 14 shows the dominated functions between Shahrh-e-Kamal Attaturk and M.R Kayani,Road, Saddarin 2014, Government office (33.33%).

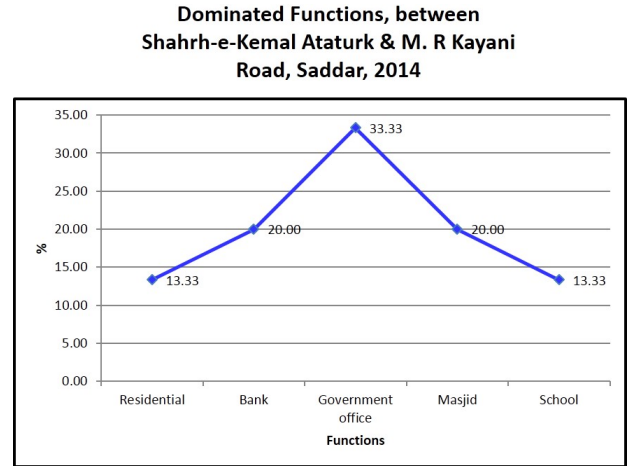


Figure 14: (Source: Based on field work 2014).

Figure 15 shows the dominated functions between Preedy and Zaibunnisa Road, Saddar in 2014, Electrical appliance (26.09%).

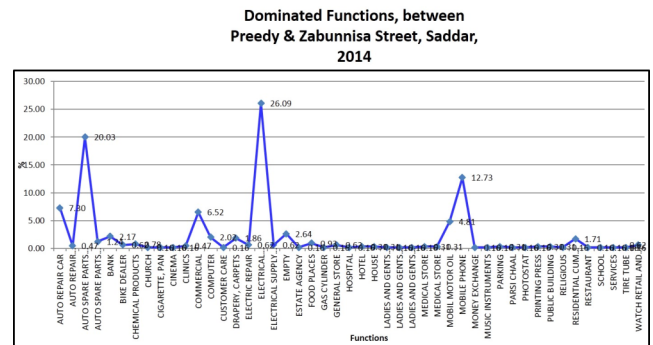


Figure 15: (Source: Based on field work 2014).

Figure 16 shows the dominated functions between High Court and Dr. Ziauddin Road, Saddar in 2014 masjid (30.77%).

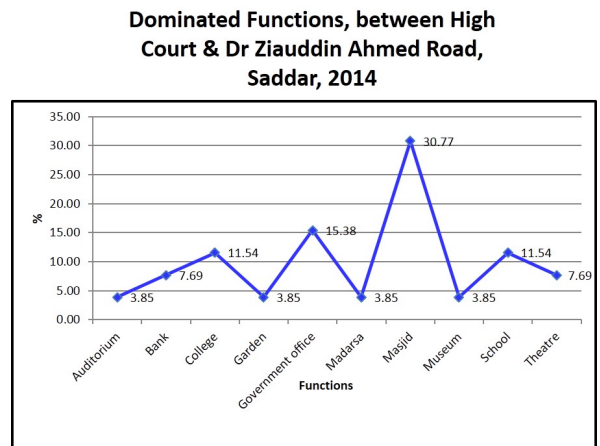


Figure 16: (Source: Based on field work 2014).



Figure 17: (Source: Based on field work 2014).

Table 4: Source: Annual Development Plans, Government of Sindh, 2010 to 2013

Departments	2010-2011	2011-2012	2012-2013	2013-2014
Health	0	0	0	1
Education	0	0	1	2
Environment	0	0	0	0
Water & Dranaing	0	0	0	3
Transport	2	0	0	0
Parks & Sports	0	0	0	6
Forest	0	0	0	0
Unapproved (Saddar)	2	0	1	2

Figure 17 shown core and frame structure in Saddar.

The given Table 4 depicts the government development plans and projects. The table shows that there is no development work initiated by government in Saddar during the last four years. In 2014, only one scheme on health, two schemes on education and three schemes on water & drainage were presented however, out of these schemes, two schemes were rejected. Over all, Saddar has not been government priority from development point of view. Saddar town the heart and business score of Karachi, is developing without any government support.

**CONCLUSION**

Despite having the biggest parking plaza of Pakistan, the Saddar Town of Karachi is braving huge traffic jams. Severe traffic jams have become a routine

affair on the roads of Saddar, especially near Empress Market, M. A. Jinnah Road and its link roads. Chaotic scenes are witnessed when schools are off in the afternoon exposing youngsters to the danger of accident. Hundreds of roadside vendors have occupied entire footpaths in the market area. It is nerve-racking to drive on these roads, and even pedestrians cannot move along the roads. Long routes of public transport vehicles restrict the availability of vehicles because three to four hours are needed to complete a return journey for a public transport vehicle. Despite of the presence of high profile offices and business centers, the town which witnesses millions of people visiting on a single day has no capacity of parking vehicles, as its streets are filled with illegal parking. Complete chaos is witnessed during the peak hours of morning and evening, when vehicles are parked in the middle of roads, blocking the traffic flow in complete violation of rules.



Encroachment is the biggest problem in Saddar Town. Which has become a thriving business and the administration seems to be utterly failed to control the problem. All sorts of encroachers are active. Jama Cloth Market, Boulton Market and Lea Market. They have occupied every inch of the market land, either by force or by greasing the palms of local police. Because of these encroachments, there is always a rush for roadside shopping. A large number of shopkeepers have put up roadside stalls in complete violation of laws. Forty to seventy percent width of streets and roads is occupied by vendors, while footpaths are also mostly occupied by shopkeepers and vendors, allowing very little space on streets and footpaths for vehicular traffic and pedestrians.

After the detailed investigations we suggest that the area of Saddar should be used properly. Bus terminal, schools and residential buildings might be relocated to another places because it is totally a commercial area. Since Land values are very high here, new multistoreyed commercial buildings should be built. To overcome the traffic problem of Saddar, multistoreyed parking and under passes should be constructed as well as limited bus routs should be allowed.

Finally with reference to the planned development of Saddar, zoning laws should be applied to place the functions properly to their respective location.

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