

EVOLUTION OF MOBILE REPAIR BUSINESSES AT AHMEDABAD.

Changing Dynamics of location.

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Introduction

In their book 'Innovation Delusion' the authors argue that repair is a subset of maintenance and care. They posit that industries which have excess of innovation jobs today will have maintenance jobs tomorrow. They show how the Information Technology industry is a good example of this (Vinsel & Russel, 2020).

In the context of the Indian city, we imagine development configured on consumption-led growth. The cities of our country need to be developed further in order to accommodate the demography that will fuel this growth. But what of the city that already exists? What is it that keeps cities functioning on an everyday basis? It is in fact the labour of scores of maintenance staff that that keeps the city functioning.

Whether it be our everyday infrastructure of water, electricity, sewage or maintainers of the roads, parks and public spaces, be it municipal cleaners, sweepers or those who give medical care, be it our neighbourhood

shop for maintaining all our daily household electronics or the waste workers whose livelihood depends on the mountains of waste generated by our society (Corwin & Gidwani, 2021) (Gidwani & Maringanti, 2016).

In her article, Malini Sur talks about the cargo cycles of Kolkata that are used to ferry heavy loads of jute bags sourced from the narrow streets of the city. During the summer and monsoon months, truing of wheels of such cycles becomes a highly sought after skill (Sur, 2020).

In fact, this is particularly true in the Indian context. The Repair related awareness in the developed economies are looked upon as a means of achieving sustainability. In the Indian cities repair is ubiquitous, it provides livelihoods to scores of families. Repair is, in fact ingrained in the cultural context of India and indeed many other developing countries where lack of resources has resulted in innovative solutions for everyday needs (Hill, 2011).

So is repair as much a part of the development story as consumption-led growth? Have repair businesses evolved over the years to rival or even partner the consumption businesses? What does location of repair businesses tell us about their evolution?

The evolution of repair was closely linked to the evolution of specialized markets in cities, not only in the Indian sub-continent (Doron & Jeffrey, 2013) but also further east in China (Bai, 2011). In the city of Ahmedabad, repair businesses were clustered within the walled city (Ray, 2008). Starting out during the colonial era, through the post-independence era uptill the post liberalization-era, repair largely existed in markets to take advantage of large number of potential customers. At the turn of the twenty-first century, there was a departure from the earlier trajectory of location-based growth. There was a disaggregation of markets due to growth of the city, which consequently impacted repair businesses. The population of the city increased to more than double at 8.7 million in 2023 from 4.1 million in 1995 (wup2018,

2023). The increase in the urbanized area of the city had all but kept pace with increase in population. The area of Ahmedabad city grew most rapidly at 163% during the decade from 2000 to 2010. The sprawl was concentrated towards the north east and south west of the city (Ramachandra, Bharath, & Sowmyashree, 2014). This research looks at mobile repair businesses to understand the disaggregation as a response to the growth of the city. The research approaches the disaggregation from the perspective of the dynamics of location. While disaggregation led to setting up of new businesses in the extensions of the city. One important factor that made this disaggregation possible was mobile telephony and use of internet. As Assa Doron and Robin Jeffery describe so eloquently of repair businesses in Banaras, in Lucknow, in Kerala (Doron & Jeffrey, 2013). Repair businesses were set-up in new- extensions of the city in far flung areas. The change was made possible because the businesses did not have to be in geographical proximity of potential customers in order to function.

Commercialization in the Old City of Ahmedabad

A paper by Dr C. N. Ray in the context of Ahmedabad's walled city, describes the traditional neighbourhoods. It highlights the demographic changes that the city has undergone, right from its inception in the early 1400s. This study tries to understand the traditional neighbourhoods of the old city called Pols in the context of broader metropolitan growth of the city. Another study by Dyan Bellippa in 1992, highlights the ingress of commercial activity into the pols and the simultaneous exit of residents. The change in level of commercialization explains the development of the spatial clusters where-in firms and their ancillaries including repair, looked to expand in nearby areas (Ray, 2008).

This was made possible as many residents who were now impacted by the nuisance of growing commercial moved out to the south western and north eastern extensions of the city.

Spatial logic of repair in the extensions of the city:

The Historic city of Ahmadabad has been inscribed in the UNESCO heritage list in the year 2017 (Ahmedabad Municipal Corporation, 2023). The dossier of heritage

listing includes maps which documented among other details, 'specialized products markets including craft communities' (Refer to Figure 4 on page 17). Based on the mapping documentation, explorations of the old city of Ahmedabad revealed a number of repair clusters. Significant among these were electrical goods market at Gandhi road, tailoring equipment market at Gheekanta, musical instruments market at Dabgarvad, cycle bazaar near Panchkuva darwaja, Conversations with repairers and craftsmen at these markets reveal an interesting phenomenon. Many of the crafts clusters still remain one-of-a-kind in the city and they also see decline in their numbers as the subsequent generations move to other trades.

A reconnaissance survey by the author reveals that the listing does not include many trades such as two-wheeler repair, air-conditioner repair, keys and locks repairers, scissors repairers, mobile-selling, spare-parts and repairs market. Two-wheeler repair and air-conditioner repairs are located in Shahpur and Mirzapur. Keys and locks repairers, scissors repairers are located near Dilli chakla. Mobile selling, spare-parts and repair are concentrated around 'China market' on Relief road near Gheekanta. This market was named 'China market' because it was a place for selling imported Chinese electronics in the days before it graduated to become the mobile market of Ahmedabad in the late 1990s.

While trades like air-conditioner repair and two-wheeler repair disaggregated to locate themselves in new extensions of the city. Air-conditioner repair has evolved to a few locations in the new extensions such as Juhapura, Memnagar and Dudheshwar. Two-wheeler repairers and mobile repairers have become ubiquitous in the new extensions of the city. In the case of mobile repair, the company-authorized and other repairers collaborate with each other. The repair businesses consisting of small firms found ways to locate themselves in the new-extensions of the city. While locations for shops are difficult to find due to large format of commercial spaces in the new city, some informal sharing strategies were evolved to ensure business could serve customers. The strategies were about using 'shared' space. Sometimes urban villages provided possible locations. Businesses thrived by locating themselves in areas with

diverse and complex tenures or by operating as an 'informal vendor' in which case it is a 'negotiated' public space of the city (Solomon, 2008).

This allows the mobile repair businesses to negotiate their presence in most of the new-extensions of the city, more so than two-wheeler repairs. A parallel mapping of mobile repair businesses through google search shows that they have located themselves along the main transit-corridors of the new extensions (Refer to Figure 3 page 16). For the very fact that they are most prolific and widely distributed, mobile repair businesses emerge as the most interesting case of disaggregation among the repair trades.

Methodology

This study focusses on understanding the evolution of the mobile repair business in Ahmedabad city, over the last two decades. Although the mobile repair business story begins in the period post 1995, the major changes that are visible, came post the turn of the century. The period after CoVID-19 saw an acceleration of the changes for this business in the city.

The study was limited to urban areas of

Ahmedabad city. Businesses were identified in the city, using a snow-balling method. Subsequently, A google search was initiated for 'mobile phone repairers in the localized areas identified from snowballing'. A structured questionnaire was administered to respondents from the repair businesses. The data collection was done in order to establish the dynamics of location in the new extensions of the city from 30 respondents across the city.

The number of respondents from each area depends on a combination of snow-balling method and google search. More samples from the snow-balling method were taken from Maninagar and Relief road as these are the old hubs for mobile repair. Similarly, snow-balling method was used at Ashram road and Gita-Mandir as these are new hubs for mobile repair. More samples from google search were taken in Vastrapur and Navrangpura as these are relatively new commercial zones within residential areas. Areas of Gurukul road and Naranpura, near A.E.C. crossroads have evolved as markets for mobile selling accessories as well as repair. Drive-in road and Nehrunagar offered only a few samples as these are specific locations with isolated shops.

Locational primacy by years of work experience of the owner

Survey Locations in the city	Locational Primacy		Below 15 years of experience		Above 15 years of experience		Total	
	Y	N	Y	N	Y	N		
Old Hub	Relief Road	3	1	1	1	2	0	4
	Maninagar	3	3	3	2	0	1	6
New Hub	Gita mandir	0	2	0	2	0	0	2
	Janpath	1	0	0	0	1	0	1
Western Suburbs	Navrangpura	2	1	2	0	0	1	3
	Vastrapur	3	2	1	2	2		5
Along Major Roads	Drive in road	1	0	1	0	0	0	1
	Gurukul road	3	0	2	0	1	0	3
At locations in western Suburbs	Naranpura	2	1	2	1	0	0	3
	Nehrunagar	1	0	1	0	0	0	1
	Total	19	10	13	8	6	2	29*
	Total (%)	66	34	45	28	21	7	100

Locational Primacy of surveyed repair businesses, disaggregated by years of work experience of the owner. Source: Survey. (*) total no of responses for this question were 29 out of 30.

Visibility of surveyed repair businesses by rented or owned properties								
Survey Locations in the city	Rented			Owned			Total	
	High Visibility	Medium Visibility	Low Visibility	High Visibility	Medium Visibility	Low Visibility		
Old Hub	Relief Road	0	0	2	0	0	2	4
	Maninagar	1	0	0	3	0	2	6
New Hub	Gita mandir	1	0	1	0	0	0	2
	Janpath	0	0	0	0	0	1	1
Western Suburbs	Navrangpura	1	1	1	0	1	0	4
	Vastrapur	3	1	0	0	0	1	5
Along Major Roads	Drive in road	0	0	0	1	0	0	1
	Gurukul road	1	0	0	1	1	0	3
At locations in western Suburbs	Naranpura	1	0	1	1	0	0	3
	Nehrunagar	0	0	0	1	0	0	1
	Total	8	2	5	7	2	6	30
	Total (%)	27	7	17	23	7	20	100

Degree of visibility of surveyed repair businesses, disaggregated by rented or owned. Source: Survey

Discussion

Location is still important but with a difference:

The primary determinant of location holds good for 66% of the respondents. While 34% say that location is not the only important determinant. But a clearer picture emerges if we separate-out businesses that are more than 15 years old and those who are less than 15 years. While businesses older than 15 are clear on the matter with 75% in favour of 'location is primary'. Businesses lesser than 15 years are 62% in favour of 'location is primary'

The respondents with more than 15 years of experience are located in the traditional hubs of Relief road, Ashram road and Maninagar as well as new areas of Vastrapur and Gurukul road. These businesses are dependent on the earlier logic of 'primacy of location'. Though the dynamics of an evolving city such as Ahmedabad are such that a location may not be as advantageous after 15 years. So a repairer in Maninagar says that his business prospered because people find it difficult to drive to the old city. There is no parking available there, he says. So 'primacy of location' itself is not something un- changing. Over a period of time a location may not remain advantageous.

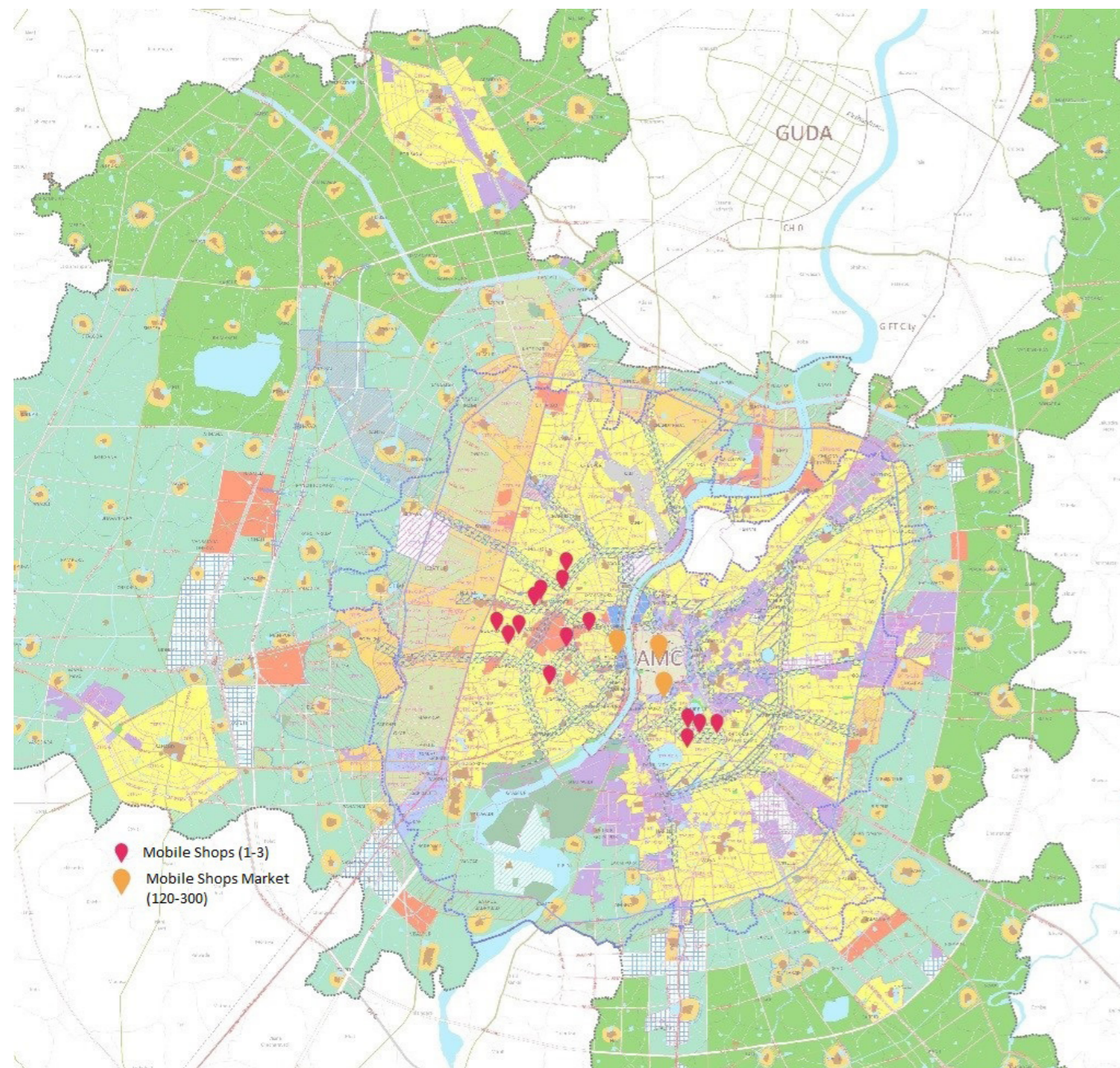
Locations in the city provide a wide range of options for rented and owned spaces that may not be directly in the path of potential customers. So upper floors of markets and basements become highly sought after for setting up a non-space-intensive repair shop. In some cases even if the visibility of the approach is not good, but the customer makes it very easily to the repair shop with the support of google location and some basic landmarks in the address line.

Repair does exist in high value areas:

Looking at it from the perspective of ownership, the respondents were equally represented with 50% rented and 50% owned properties. Among the rented properties, 93% are located on primary streets and 53% have high visibility. So repair does exist in high value, high visibility areas. In such locations, the pre-dominant strategy is to have a repair counter within a shop that can afford to pay a high rent. 27% of the respondents in rented, high visibility locations are using this strategy. The shop in this case, sell new-mobiles and mobile accessories Among the owned properties, 73% are located in Primary streets and 47% have high visibility. As is evident in such cases, the owned properties are less in Primary streets.

Repeat customers by customer catchment					
Customer Catchment	Below 30% Repeat customers	31% to 60% Repeat customers	61% to 90% Repeat Customers	91% and above Repeat customers	Total
Ahmedabad	2	3	7	2	14
Ahmedabad and Gandhinagar	2	0	0	0	2
Gujarat	2	2	1	2	7
Outside Gujarat		1	1	1	3
Total	6	6	9	5	26*
Total (%)	23	23	35	19	100

Impact of repeat customers on customer catchment among repair businesses. Survey (*) total no of responses were 26 because 26 responded out of 30



Location of surveyed mobile repair businesses Source: Survey based on Draft Development Plan AUDA 2021

Repair is a reference business:

Mobile repair business is a reference business. This is supported by the fact that 18% of the respondents say that they have over 91% repeat customers and another 39% say, that they have over 61%-90% repeat customers. The interesting positive relationship emerges between higher number of repeat customers with a wider catchment of customers

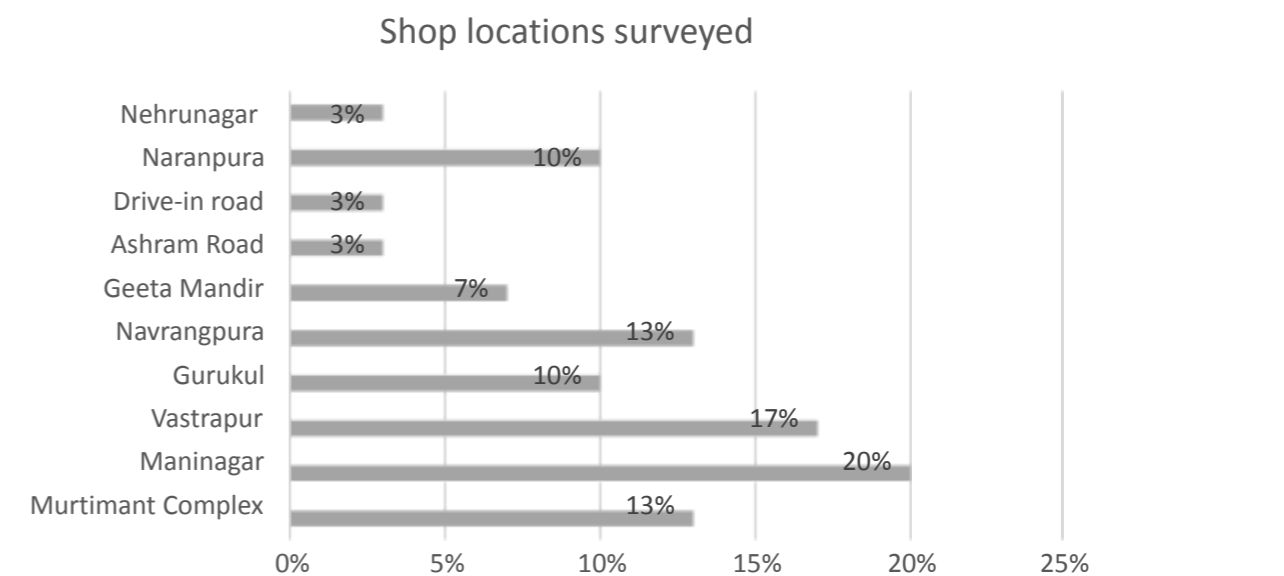
favourable not only from the perspective of customers from the city but those from outside the city as well. It would be very normal for dealers and repairers from other cities to come to Ahmedabad by train with many small errands to be taken up. Today the business has grown manifold. There are many more customers but there are many shops as well.

During the interview one of the respondents mentioned, that repair is a 'reference business' and that customers will continue with him even if he moved to another location. He said this was proven during the CoVID-19 days as he worked from home and customers came to him there.

While there are strategies deployed by repairers to take advantage of high numbers of customers, like the mobile-phone-wholesale-accessories market at Gita-Mandir State Transport Bus-stand. There are also strategies to try to leverage the online market. Repair counters inside shops selling new mobiles and mobile accessories is one such strategy to take advantage of high numbers of customers. A repair counter can be advantageous to both the shop and the repair business but there are limitations. A repair counter is normally a work space of 3 feet by 2 feet, it normally has a glass window on the front and two sides at the

Changing Dynamics of Location:

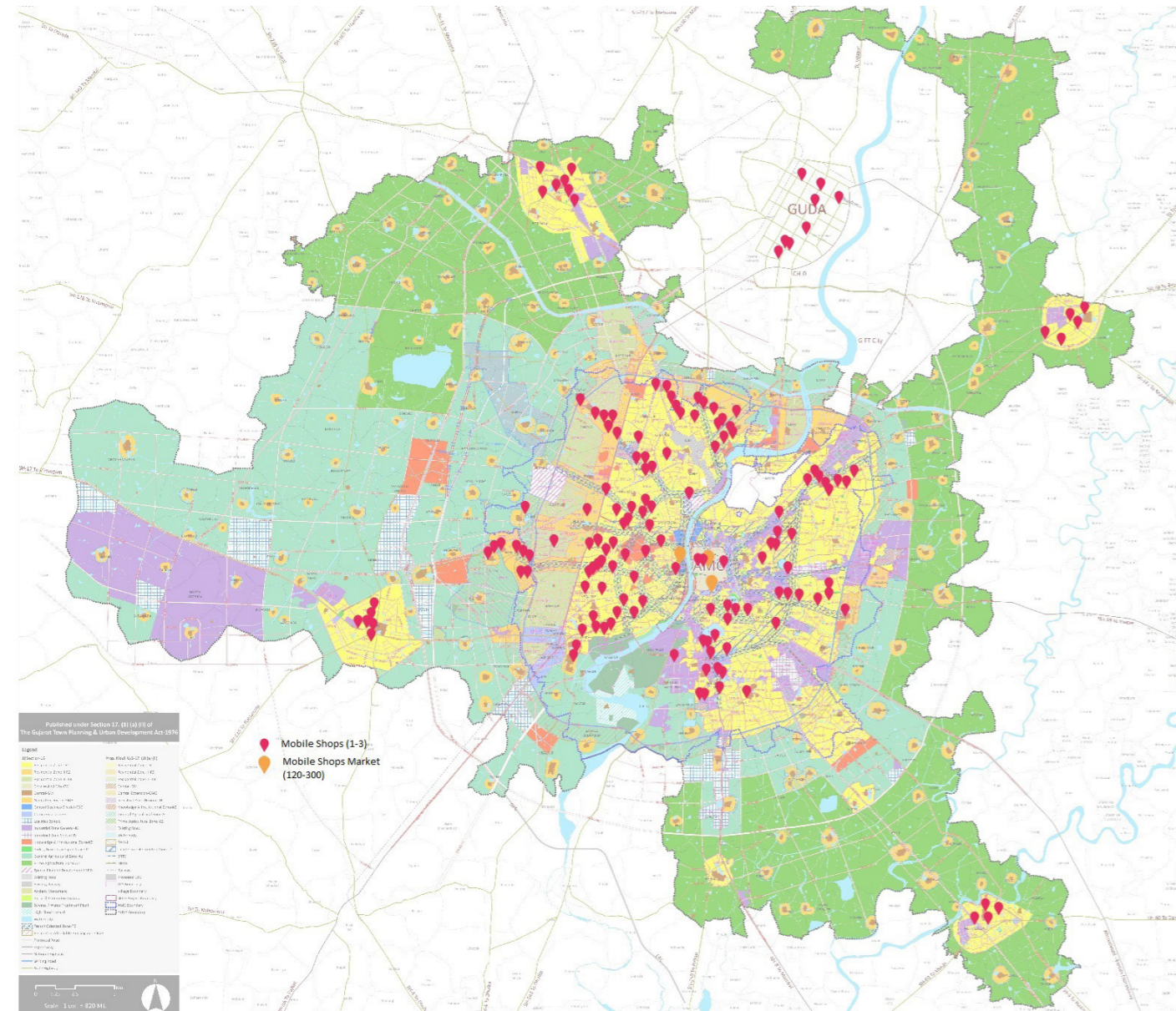
Dynamics of location have changed but just so. Location is still important, then what has changed and why? Earlier the mobile repair business was highly concentrated in the area of the walled city. This location was



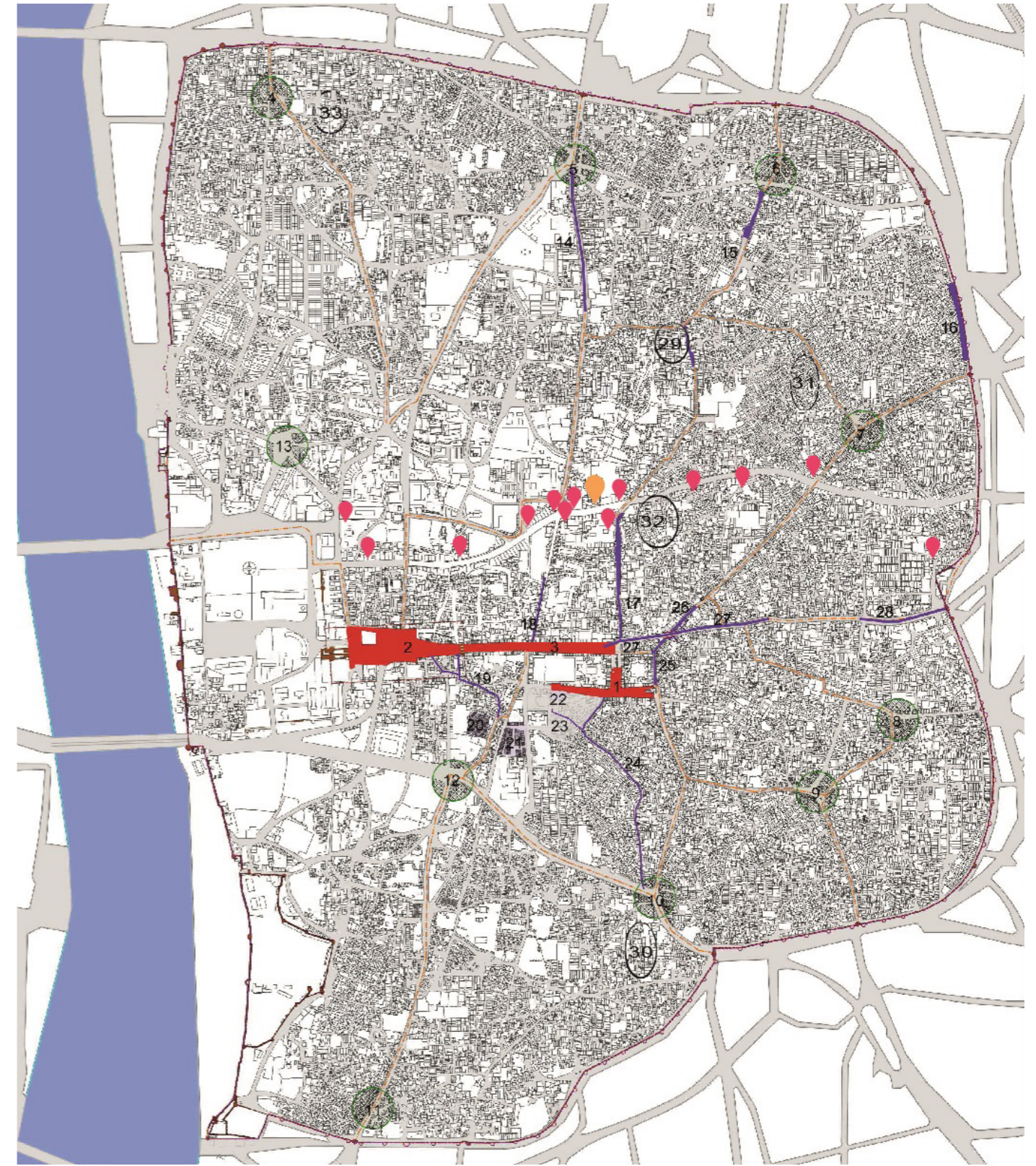
Percentage of surveyed businesses by location Source: Author

top. It is only a space for working on repairs and some storage, there is no space for display or customer servicing. Such a small space along with a chair for the repairer is offered for 25000 INR per month in high value locations. The limitations of having counters is, that more complex repairs which need sophisticated instruments, cannot be taken up in such a space. Normally a repair counter is linked with a repair shop nearby that would take all the complex repairs. The repair counter is not a recent innovation, the market on Relief road has many repair counters in spare parts shops for many years.

On the other hand, online repair is a relatively new phenomenon. Online repair is an example of complete negation of 'primacy of location'. The initiatives like Cashify and Phixman started out as portals, the idea being offering of services through kiosks or online means. But today these companies are forced to open physical shops in the city. The repairers in these shops insist that customers want to interact with repairers. They say, when a refurbished phone is bought, the customer wants a face she/he can interact with in case of complaints. They will only give their phone to someone they trust.



Disaggregation of Mobile Repair businesses in Ahmedabad
Source: Map Based on AUDA DEVELOPMENT PLAN 2021



Clustering of Mobile Repair Businesses in the Walled city along with Specialized Products Markets listed by UNESCO Heritage city Ahmedabad; Source: Map Based on UNESCO Heritage city Ahmedabad listing 2017
<https://whc.unesco.org/en/list/1551/documents/>

A new start-up by Gujarat Technical University Innovation hub in the premises of L. D. Engineering college campus, testifies to the fact that customers want someone answerable and that cannot be an email address or a complaint number. During the interview, the director of the start-up says that online- repair is still at a nascent stage in India. He says in more developed economies, customers favour time over just money. It is when the market reaches that kind of maturity, online repairs will become big in India. He says in the Indian context and most definitely in Ahmedabad, customers value the experience of buying or even getting a service. So people will surely prefer to go to the repair store to interact with the repairer. The young-engineer-director-repairer zips around the city on an electric-bike collecting phones that need to be repaired. He takes pride in the fact

that their turn-around time is only one day. That is very efficient especially because the phones are being collected and dropped back to their owners.

Conclusion

What is also evident from the study regarding the question of location, is it still important, as customers want to go physically to the shops for repair. The mobile repair businesses are located in proximity to public transport, regional transport or railway stations but even in such locations, they find floor-spaces that are not directly in the path of customers and therefore less costly. The study highlights that spatial proximity to customers remains important, to such an extent that new hubs and clusters have been formed in the extensions of the city.

Himadri Das is an urbanist and educator based in Ahmedabad and Bangalore. His interest is in propagating awareness of sustainability be it through consultancy, advocacy or activism. Himadri is a trustee at Repair café Bengaluru. He is part of a team of volunteers who help spread the message of repairing and re-using domestic items by organizing pop-up workshops in communities. Himadri graduated from the Master in Human Settlements (MaHS) from Katholieke Universiteit Leuven, Leuven, Belgium in 2012. He is currently pursuing his Phd at Faculty of Planning at CEPT University. His research focuses on micro-entrepreneurs in electronics repair clusters in Indian cities. In his professional life he consults as an urban design expert. He was the recipient of a ‘special recognition’ in the Volvo Sustainability Awards 2013 for his project “Towards a walkable and Sustainable Bengaluru: A safe Access project for Indira-Nagar Metro Station”. He is a co-author of the Safe Access Manual: Safe Access to Mass Transit Stations in Indian Cities in 2014. Himadri has been actively involved in teaching architecture and urban design for more than 12 years.

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