

Data Analysis

I am now going to analyse the social, environmental, economical and land use changes. I am first going to summarise all my data so that it is easier to compare.

A table to summarise my data

Data description	Specific Feature	Zone1	Zone2	Zone3	Zone4	
Historic land use categories (%)	Local services	38	59	57	31	
	Immigrant services	3	16	29	31	
	Gentrified services	54	10	2	0	
	Training centres	0	0	0	9	
	Workshops	0	3	7	22	
	Poverty services	0	2	5	4	
	Professional services	5	10	0	3	
Present land use categories (%)	Gentrified	81	17	20	19	
	Training centre	0	0	0	22	
	Workshops	4	8	9	15	
	Immigrant services	3	9	31	22	
	Local services	7	49	31	22	
	Professional services	4	7	0	0	
	Services of poverty	0	9	9	0	
Residential decay	Deterioration of walls	3	1	0	1	
	Part peeling	2	1	0	1	
	Broken glass in windows	3	1	0	1	
	Structural damage e.g. settling cracks	6	3	3	3	
	Rotting timber	4	2	2	2	
	Broken gutters, etc	7	3	1	1	
	Total score	25	11	6	9	
Environmental quality	Landscape quality	6	2	4	0	
	Derelict (waste) land	8	8	0	9	
	Litter/vandalism	6	4	2	3	
	Industrial work shop premises	7	6	6	6	
	Noise	3	2	2	2	
	Air pollution	4	5	8	7	
	Access to recreational amenities	4	2	2	0	
	Traffic flow	6	6	6	6	
Total score	44	35	30	33		
Perceptions	Total positive score	11	4	3	3	
	Total negative score	5	8	15	10	
	Total score	6	-4	-12	-7	
Secondary data	Land value (millions of pesetas)	1988	0.9	0.6	0.5	0.4
		1991	0.8	0.7	0.6	0.4
		1996	1.0	0.8	0.7	0.5
	Immigrant population (%)	6	19	16	23	

Summary of each individual zone

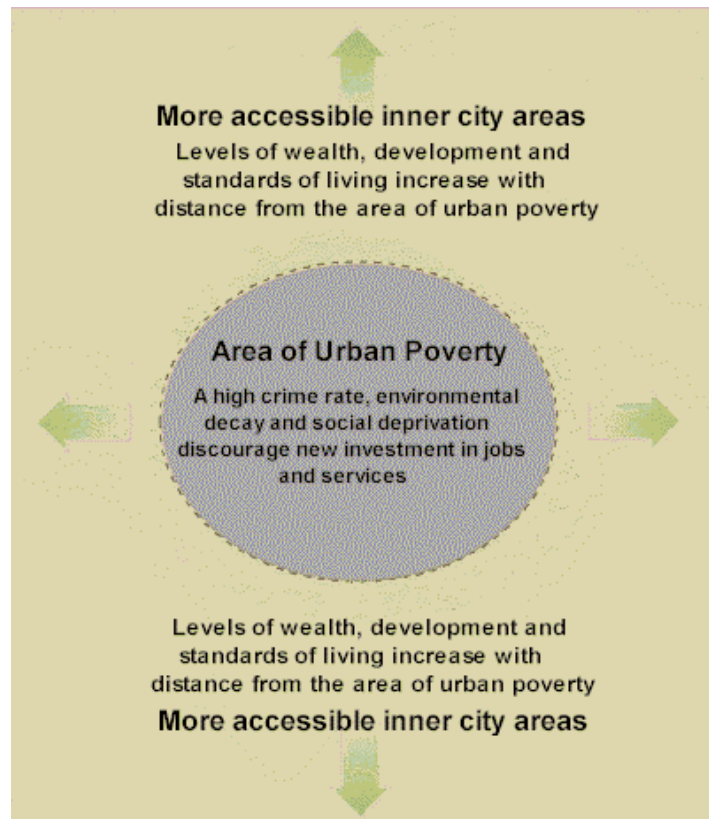
Explaining the changes within El Raval using the data I collected is tentative; as the study was completed over a short period of time and I do not have enough historic data to draw definite accurate conclusions and give general explanations, however, I am able to make statements about the reasons for the changes within the areas. It is essential that I know a brief historical description of each the areas so that I can evaluate the changes that have taken place and then go on to give reasons for the changes, and the impacts they have. Barcelona's approach to urban renewal is to 'change the area to change the people' and the history of each area was carefully studied and incorporated into the urban renewal schemes.

Zone1

The historically favoured location for convents and monasteries of the northern parts of El Raval, including zone 1, meant that the building structures in these areas were more appropriate for restoration as part of the gentrification program, and they were generally quite good quality structures. Taking this into account, the local government invested most of the money in increasing the area's cultural value and trying to attract tourism. This explains the numerous cultural and public buildings in the area, such as schools, libraries and cultural centres, many of which were originally old monasteries and convents. Such activities are displayed in the cultural centre, the CCCB, which is a converted monastery and a library for students as shown in the photographs, which is a converted cathedral. These public buildings were carefully located by the local government to attract and encourage gentrification to certain areas. The new cultural centre, with a large public square in front of it as shown in the photographs, in zone 1 contributed to the attempt to 'open up' the area to make it less cramped and densely populated. They have tried to convert the streets to avoid them being dark and narrow, which is unattractive as residential property and encourages crime. The creation of open communal spaces was hoped to encourage social mixing in the street, which plays a major role in Spanish society and tradition. The 'opening up' of areas has had a marked impact on both the crime levels and the environments of the areas, and has improved the safety of both tourists and local people, and the goal of social mixing has been achieved.

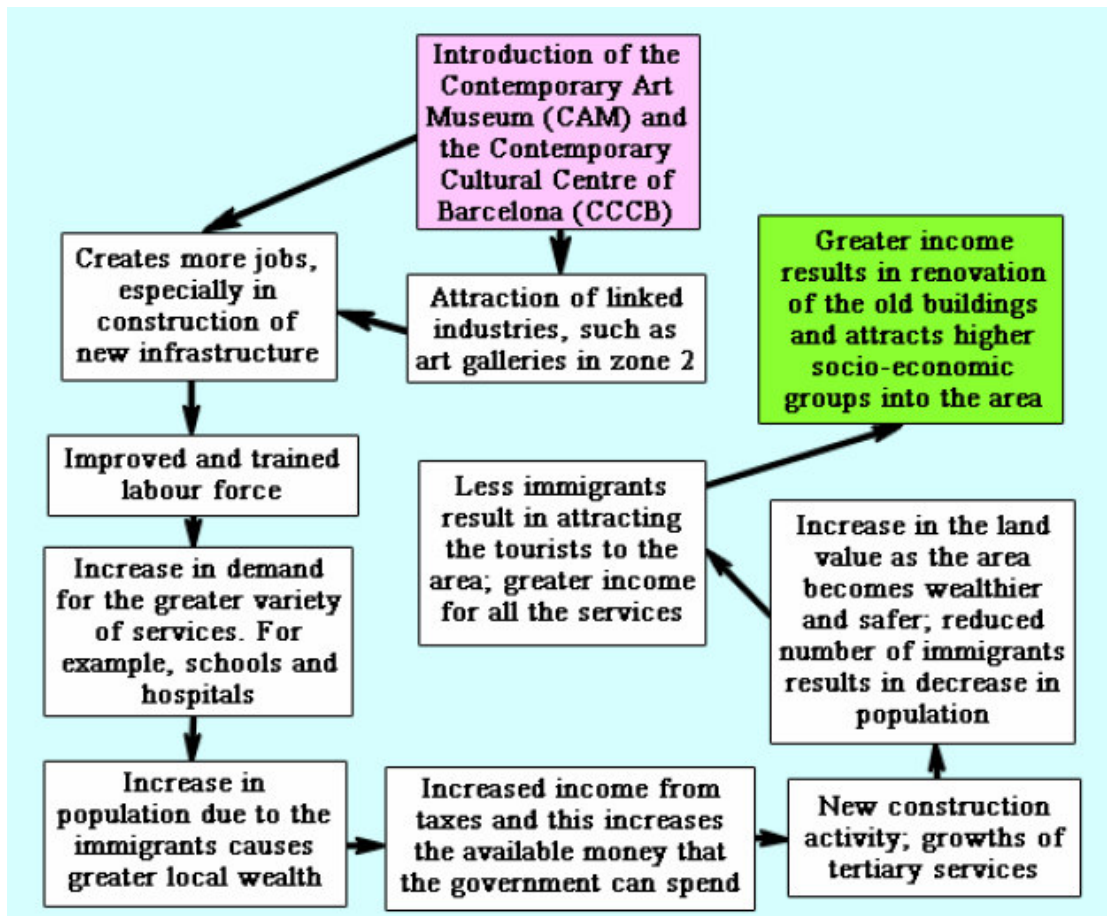
The proximity of the northern end of El Raval, including zones 1 and 2, to the more developed and wealthier parts of Barcelona, meant that the government felt it was more productive to invest in this area rather than the core of El Raval, which they considered 'too far gone' to successfully invest in, and was left for a further ten years until the council felt it was approachable and worth investment. El Raval is in the inner city of Barcelona, as shown in the introduction, and therefore is less likely to receive investments which are more concentrated in the CBD.

A diagram to show the reversal of the core-periphery model, illustrating the situation that the local government were faced with of El Raval



By introducing influential buildings into the periphery of El Raval, such as the cultural centre in zone 1, the quality of life in these areas has been hugely benefited, and has resulted in more gentrification in these areas than other area of El Raval. These improvements will attract not only foreign tourists but also local tourists from the surrounding area, which were once too dangerous and unattractive, although their historical background is potentially attractive to tourists. Tourism will bring in more money to the area, and this process will multiply itself as the shops in the area get more and more money, they will become more and more gentrified, explaining the highest percentage of gentrified shops in zone 1 out of the four zones. We can see that gentrification of the area has succeeded due to the increase in gentrified shops over the past two years. Also by comparing zone 1 to zone 3 we can see that gentrification is less apparent in zone 3 where it is only just starting to occur. Due to the multiplier effect many jobs have been directly or indirectly affected and created. The improvements in the periphery of El Raval, i.e. zone 1, will also have an affect on the areas closer to the core of El Raval, as the new jobs are created will not only attract people living in the area but people outside the area as well, meaning that by starting the Urban renewal schemes in the periphery you are indirectly improving the core of El Raval making it more accessible to directly improve. The reason that the land value is highest in this area out of the four zones in 1996 is also explained by the relatively high money input.

A diagram illustrating the multiplier effect in El Raval due to urban renewal



Immigrants that come from LEDC's are likely to be poorer than the general population, and usually come to the area to find work. The higher land values in the area may explain why the percentage of immigrant population, who are likely to be relatively poor, is the lowest out of the four zones, only 6%. A high percentage of immigrants in the area usually mean that the crime levels are higher. This is probably due to the fact that immigrants coming from LEDC's are relatively poorer and also they may not be accustomed to the stricter policing levels.

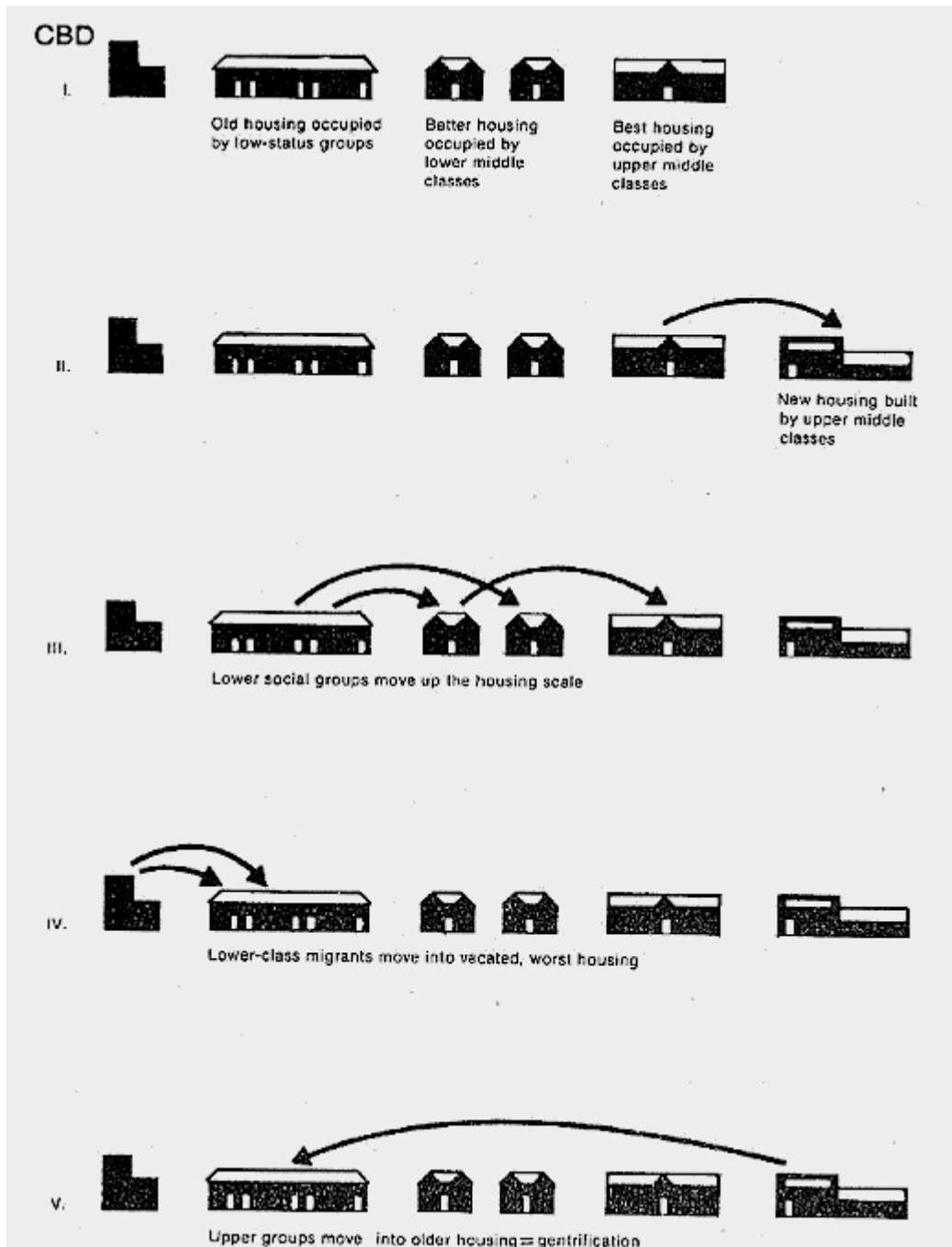
If there is less crime in the area, tourists will feel securer and probably be more attracted to the area as a tourist destination. This again has a multiplying effect. The reduced number of immigrants is also indicated by the lowest percentage of immigrant services. Also gentrification of the area is supported by the fact that the percentage of poverty services and training centres in the area was the least. If I look back at my historical land use data from 2002, I can see that the percentage of immigrant services, poverty services and training centres was also the lowest out of the four zones two years ago. However since 2002 these values have diminished even further. By introducing mixed land uses into the area, including service industries, offices, private and public housing, the scheme provokes the mixing of different socio-economic groups and avoids the development of ghettos and stigmatism. By mixing the land use, the area becomes active at all periods of the day, for example by mixing offices and residential building there are always people in the area. This

avoids the area becoming almost deserted, as people leave. This mixing of services is especially apparent in zone 1. My total scores for the environmental quality, perception and residential decay survey were all highest in zone 1.

Urban filtering is a process in which existing housing stock is adapted over the years to supply new demands. Improved housing is built for each new higher income group, as they get wealthier, and the housing which these groups vacate is then occupied by the next lower income group. Over half the house purchasers move less than 5 miles and under 10% over 50 miles, which suggests that we should regard housing choice and migration of households in a city as an important factor in the formation of the social areas of a city.

However, due to recent urban regeneration schemes within the El Raval, there is also a process by which some of the original low income housing close to the city centre is becoming socially desirable and is being socially upgraded or gentrified, meaning that wealthier people from the outer parts of the city are starting to move back to the city centre including El Raval. The area of El Raval has the attraction of being close to the city centre, where a variety of services are already found attracting high socio-economic groups. These people will also spend money in El Raval as itself it is seen as an approachable and desirable place to go. The socio-economic group is a measure of a person's income, wealth, education and occupation, and the type of housing occupied by each group is generally related to it.

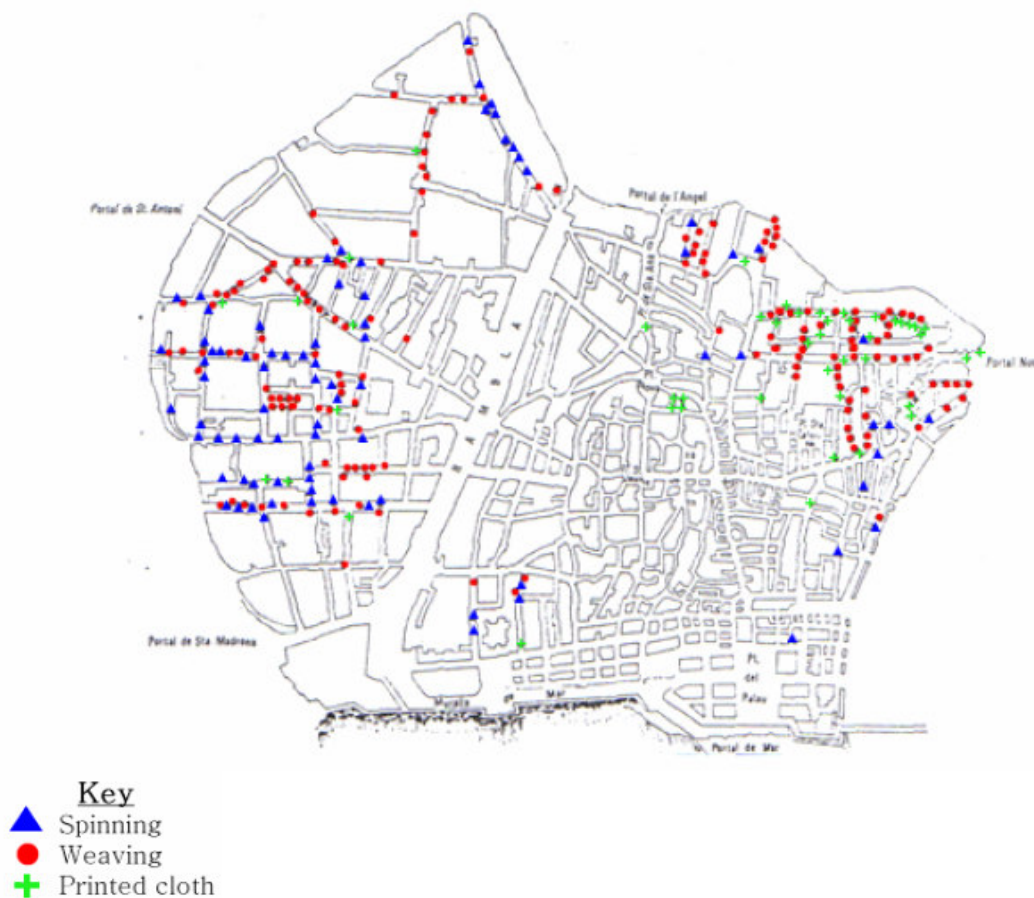
A simplified diagram to illustrate the process of urban filtering



Zone2

Zone 2 used to be the densest part of El Raval, maybe explained by the industrial tendency of zone 4 due to the industrial revolution, which created a large demand for housing near to the area. The score I gave zone 2 for the perception survey was the lowest out of the four zones, possibly explained by the dense nature of the buildings in the area. Zone 2 is right next to zone 4 supporting this possible explanation. The dense industrial purpose of zone 4 is supported by the map below.

A map to show the location of cotton factories in 1829



By introducing mixed land uses into the area, including service industries, offices, private and public housing, the scheme provokes the mixing of different socio-economic groups and avoids the development of ghettos and stigmatism. By mixing the land use, the area becomes active at all periods of the day, for example by mixing offices and residential buildings there are always people in the area. This avoids the area becoming almost deserted, due to people leaving work or home, with their absence encouraging crime. This mixing of services is especially apparent in zones 2 where the percentage of professional services in zone 2 was highest, 7%, even though the area has the reputation of being densely packed with residential housing. The government has greatly invested in transport infrastructure throughout the area to try and improve the accessibility, which increases the opportunity for social and economic activity. 'Calle Lluna' in zone 2 has been pedestrianised and new traffic lights and computerised access systems have been introduced to control the traffic flow.

Zone3

The relatively lower land values in zones 3, are probably due to the reputations of the area and the traditional land uses. Zone 3 has been known as the 'red light district', meaning that the area may be threatening or unattractive to the average tourist or wealthier local citizen. The reputation the area has may also explain why the total scores I gave zone 3 for the environmental quality, perception and residential decay survey were all the lowest out of the four chosen zones. As the land values are relatively cheap here, poorer immigrants from LEDC's may be attracted here not out of choice but out of financial restraints. However, investments in the once industrial core of El Raval are beginning to become apparent, reflected in the rising land values. The high immigrant population is suggested by the percentage of immigrant services being highest in zone 3. Also the immigrants, coming from different cultures, are likely to have different religions from the local religions. This is supported by the fact that the only mosque to be found in the four zones is located in zone 3 (as shown in the photographs), and one of the evangelical churches from the photographs is also found in zone 3. Immigration tends to result in social segregation, for example ethnic clustering. There are several reasons for ethnic residential clusters, which can be, classified as defensive, avoidance, preservation and attack functions all deriving from a feeling of conflict between the host population and the immigrants. By joining an ethnic cluster it is possible to reduce one's own feeling of isolation and provide some form of security. This is a defensive reaction, which is not only found among coloured populations, and is apparent in several areas of El Raval, including zone 3. A good example of ethnic clustering would be in zone 2 where a group of immigrant services were all found to be Philippine. By concentrating, avoidance of outside contact can be maintained and the group can support its members. In such an area a Mosque, shops and services, which specialise in serving a particular community's needs can easily develop. Later immigrants then have a stable environment to enter in the host country where traditions are preserved. Preservation of identity and promotion of one's own cultural heritage is important. Indians and Pakistanis have distinct language, religious and social organisations and therefore have a strong wish to remain independent. The ethnic concentration is also a means by which action against society in general can be based.

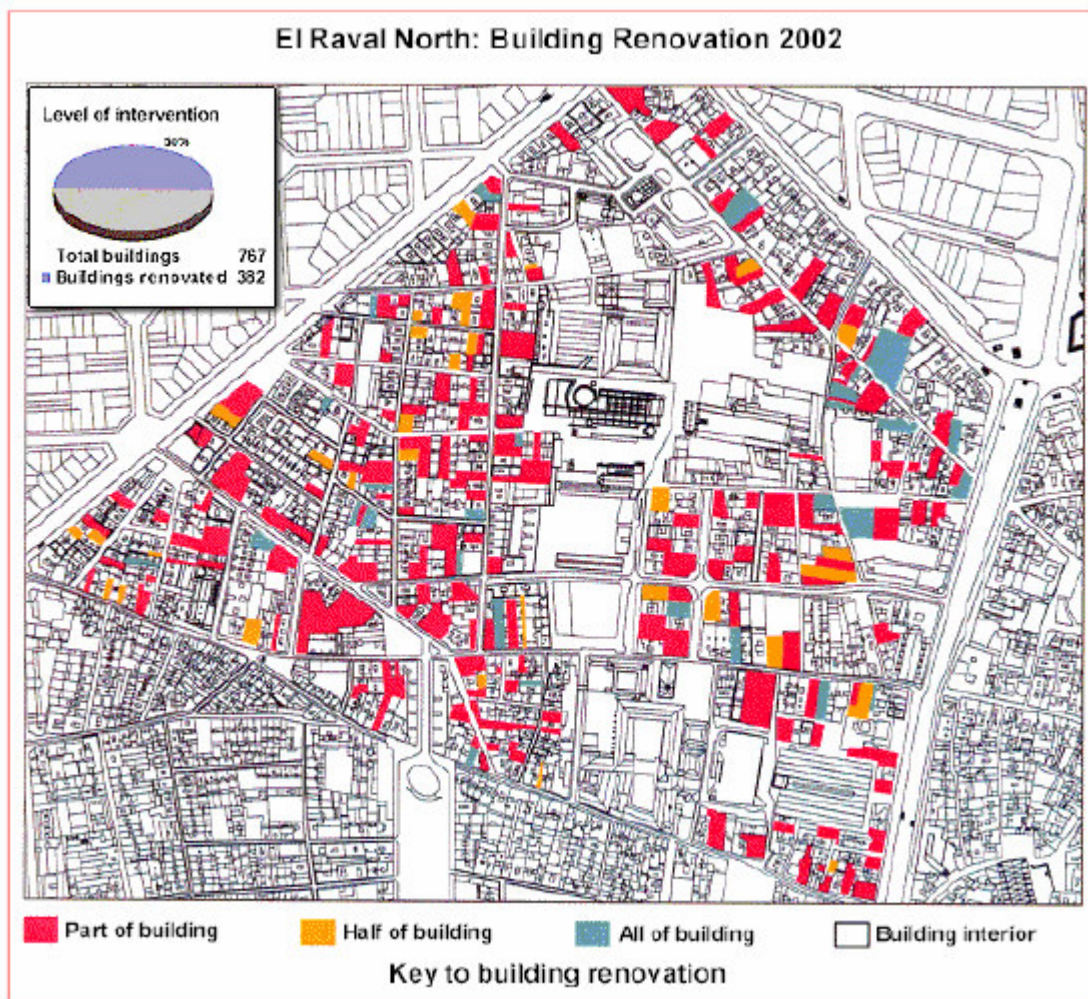
Public buildings were carefully located to attract and encourage gentrification in certain areas. Such buildings would be the new four-star hotel in zone 3. So far the plan has generally succeeded in gentrifying areas of El Raval, although this is less apparent in zone 3 than in zone 1 where gentrification is just starting to occur. By introducing mixed land uses into the area, including service industries, offices, private and public housing, the scheme provokes the mixing of different socio-economic groups and avoids the development of ghettos and stigmatism, the area becomes active at all periods of the day, for example by mixing offices and residential building there are always people in the area. This avoids desertion of due to people leaving for work of home possibly encouraging crime in the area. This mixing of services is starting to become apparent in zone 3 near the new 'Ramble del Raval', where a variety of services are moving into the area to satisfy the needs of the local people.

The government has greatly invested in transport infrastructure throughout the area to try and improve the accessibility, which increases the opportunity for social and

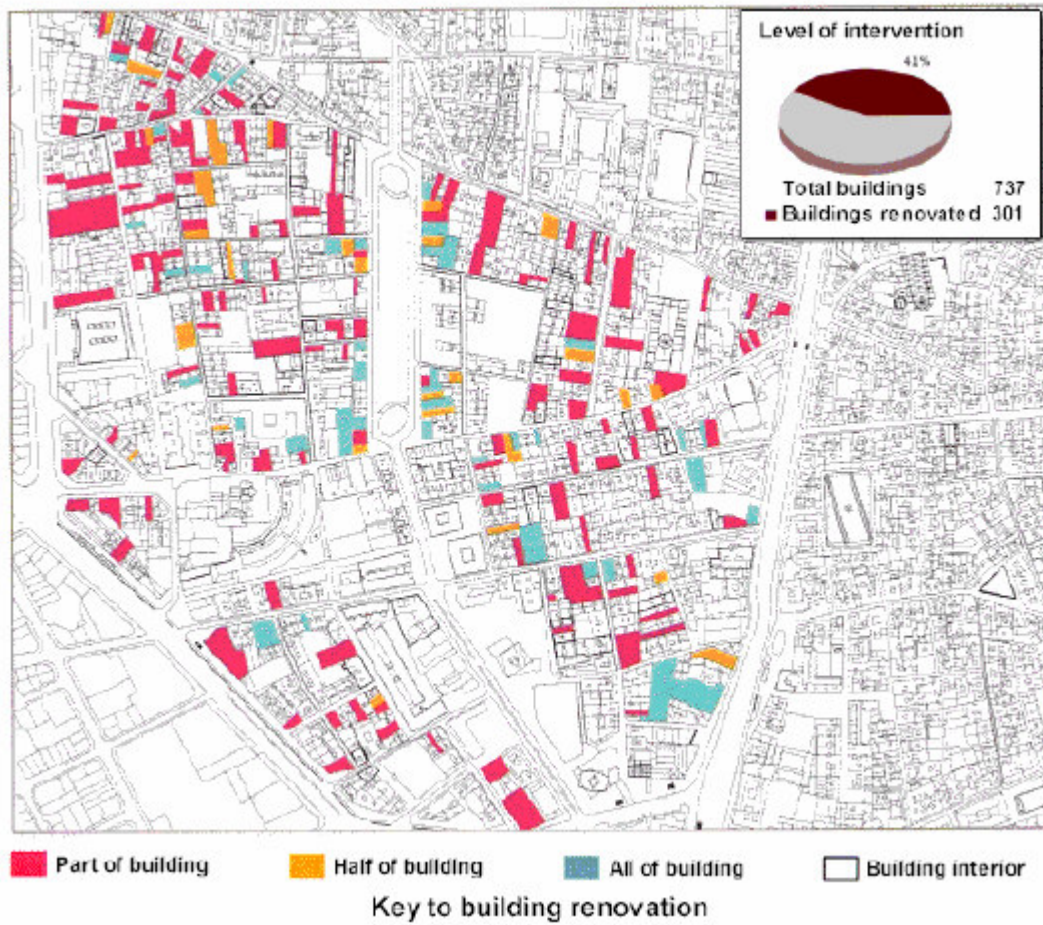
economic activity. This plan has been applied all over El Raval, and the Raval Rambla is a good example of it. The creation of the Raval Rambla, which is 55 meters wide and 300 meters long, has succeeded in reducing traffic jams and has increased the opportunity for social and economic activity. The ‘Rambla’ was constructed by demolishing a whole block of dense poor quality housing, and it was hoped to replace the dark, narrow streets which once existed, and are unattractive as residential property as well as encouraging crime. As in zones 1 and 2, the creation of open communal spaces was hoped to encourage social mixing in the street once again it has had a significant impact on both the crime levels and the environments of the areas, and has improved the safety of both tourists and local people, and the goal of social mixing has been achieved.

Buildings of very poor condition have been bought up by the government to be renovated and refurbished both from the inside and the outside to a very much higher standard using public funds. This renovation can be seen in the census data of building renovation from 2002.

A table to show census data of building renovation from 2002

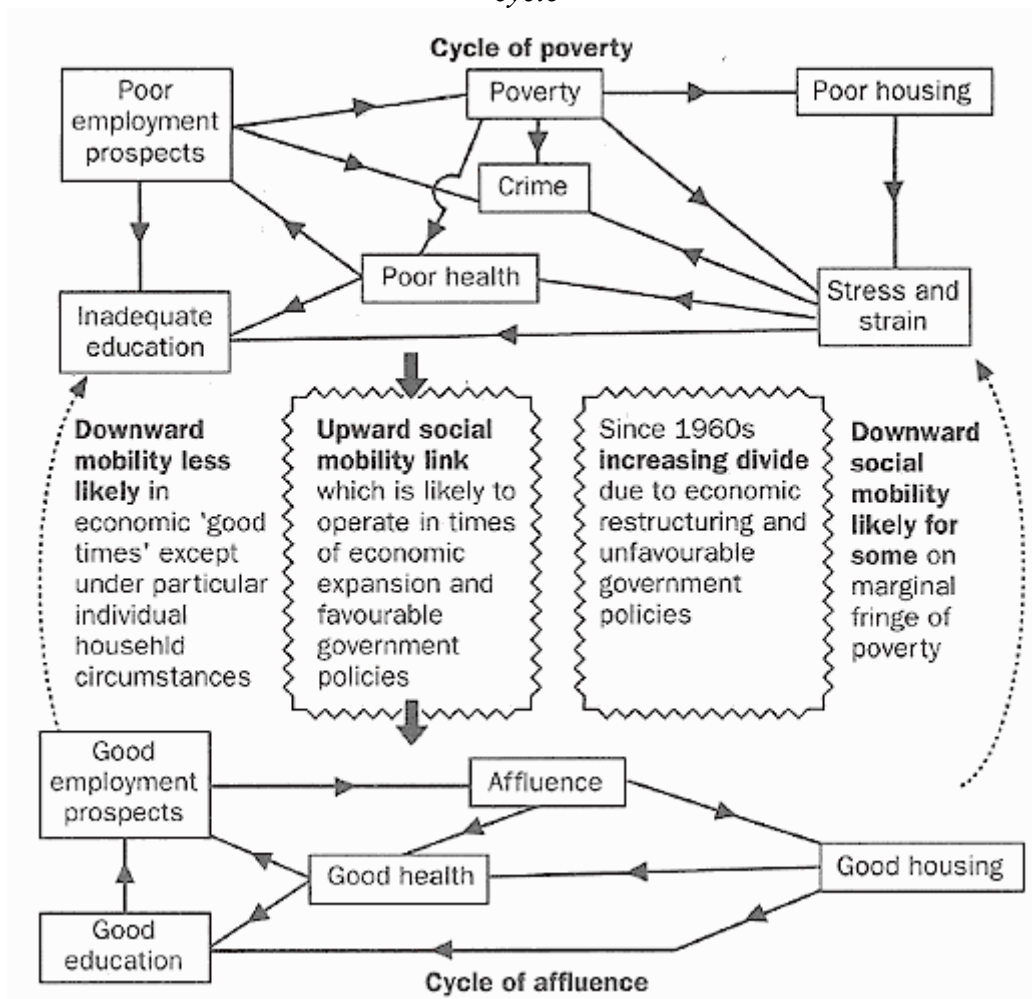


El Raval South: Building Renovation 2002



The cycle of poverty or deprivation is a concept largely, though not exclusively, linked to inner city problems, such as the ones that the local government were faced with in El Raval, especially in the core, zone 3. The cycle of poverty possibly explains how the problems have arisen as it involves a continuous process which transmits relative poverty from one generation to the next and makes escape from deprivation very difficult. The problems probably arose from the low incomes of the occupational groups found in the area, and due to industrialisation in the area. These low incomes had an impact on the living standards of the population, including housing and poor health, as well as impacting the prospects of younger members of the household. The neighbourhood, and the educational services found in it may lack resources and skilled people, resulting in the next generation being related to factors such as educational opportunity and being caught in the cycle of poverty. Young people tend to leave school early with insecure employment prospects, possibly because they need to earn money at a young age. This deprived group found in El Raval became even more vulnerable during modernisation of industry resulting in a reduced need for workers and during economic recessions, such as in the year 2003, due to high unemployment all over the world, and rising prices of crude oil and raw materials. The world's economy was also affected by the war in Iraq. These poor prospects encourage criminal activity and lack of interest in the neighbourhood environment, discouraging outside investment and incentives to improve it. As a result the neighbourhood becomes even more run down and an adverse image of it is created, discouraging inward movement of all but the desperate households who have nowhere else to go. The cycle of poverty is thus characteristic of the under classes or 'modern poor', and is also increasingly concentrated in particular areas of the city, El Raval being an example, and in certain housing estates on the edge of some cities, increasing the concentration of poverty. They have become trapped in areas of deprivation.

A diagram illustrating the poverty or deprivation cycle



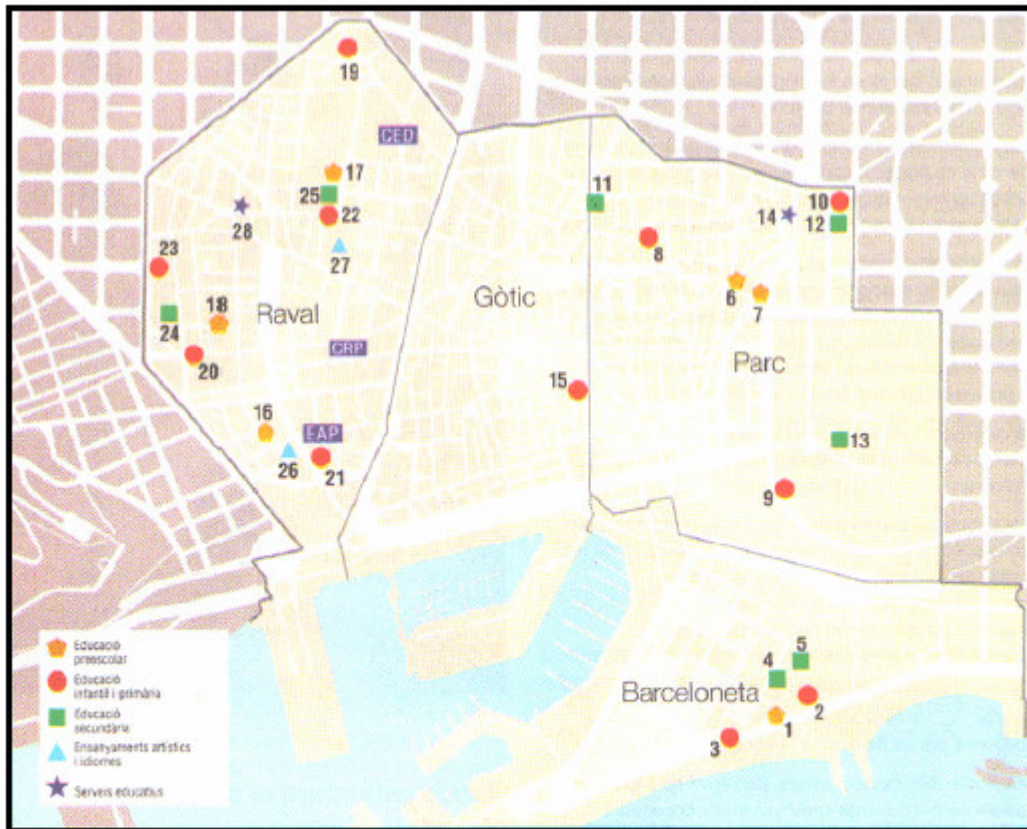
This concept can also be applied to the reverse situation. The cycle of affluence, meaning that households of reasonable and higher incomes improve their lifestyles and become upwardly socially mobile, especially in times of economic expansion. So by investing in El Raval the local government has tried to reverse the cycle of poverty into the cycle of affluence. This is only just starting to become apparent in zone 3 unlike zone 1. Households of adults who plan to start a family may progressively migrate to better housing areas, as explained by the process of urban filtration. However, in times of social unrest and recession, these groups will have the influence to protect their locations and social positions against the needs and perceived threat from the 'under classes', making it even more difficult for them to escape their cycle of poverty, meaning that the core of El Raval will still need to be directly invested in to ensure the gentrification of the area.

Zone 4

The land values are the least in this area, probably due to the reputations of the area and the traditional land uses. Zone 4 had the largest number of factories in El Raval, explaining the highest percentage of workshops out of the four zones. The workshops will generally need a large cheap labour force. To carry out jobs that are generally less desired. These jobs are suitable for untrained or poorly educated immigrants who come to the area in search of work, explaining the highest immigrant population in zone 4. These factories would be less suitable to convert into attractive tourist destinations than old monasteries and convents like in zone 1, meaning that money input from tourism will be less. The reputation that zone 4 has of being the factory zone means that the area may be unattractive to the average tourist or wealthier local citizen. As the land values are the cheapest here, poorer immigrants from LEDC's may be attracted here not out of choice but out of financial restraints. This explains the percentage of immigrant population being the highest in this area. The high immigrant population is suggested by the high immigrant businesses. Also the immigrants, coming from different cultures, are likely to have different religions from the local religions. This is supported by the fact that one of the evangelical churches from the photographs is found in zone 4.

The 'Generalitat' has invested greatly in improving the educational and leisure services of El Raval, hoping to increase the opportunity of the residents for employment and reducing the social problems of illiteracy and the high crime rate. This scheme has been enforced throughout the Raval and now the number of primary and secondary educational facilities in El Raval is greater than in any other part of the district, the Cuitat Vella. Zone 4 has the highest percentage of training centres suggesting that rapid change is being undergone to try and improve the area and educate the residents. The numbers of educational services are concentrated in zone 1 and 4 as shown in the diagram below taken from 'Barcelona és una bona escola', provided by the Generalitat de Barcelona.

A map to show the location of educational services in Barcelona



Keys

- Preschool education
- Secondary education
- ★ Educational services
- Primary education
- ▲ Artistic schools and language institutes

Identifying the links between the sets of data

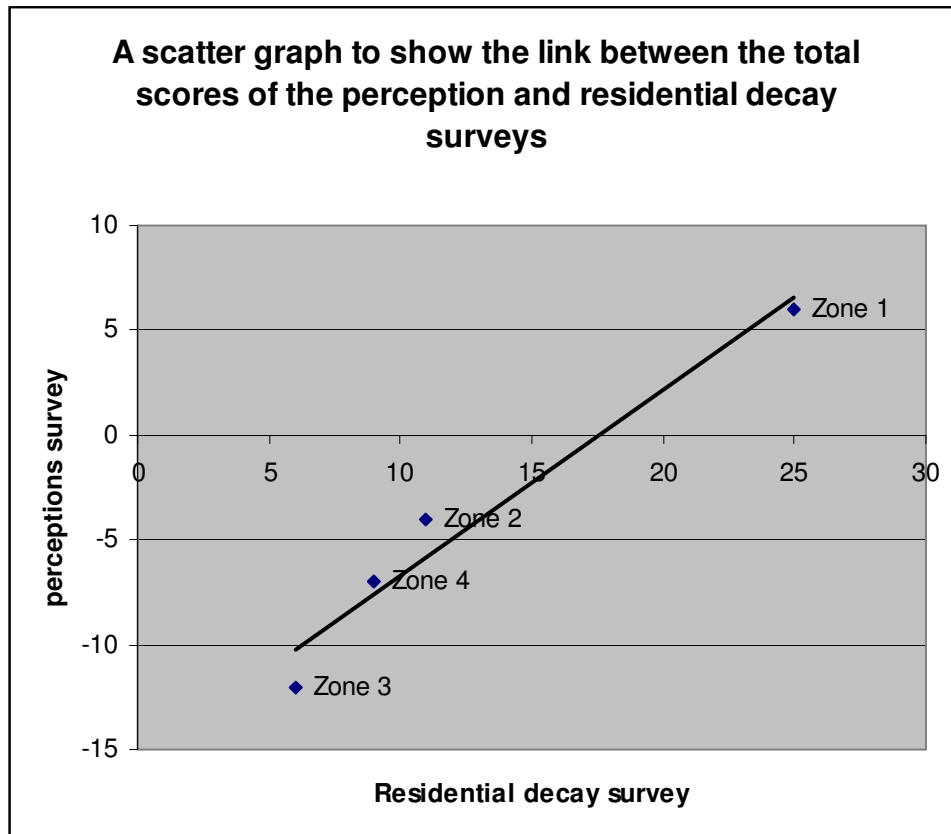
I can see that there is a link between the residential, environmental quality and the perceptions surveys. This link is made clear when I rank the total scores for each survey from highest to lowest.

A table to show the ranking of the total scores from the residential survey, environmental quality survey and the perceptions survey from highest to lowest

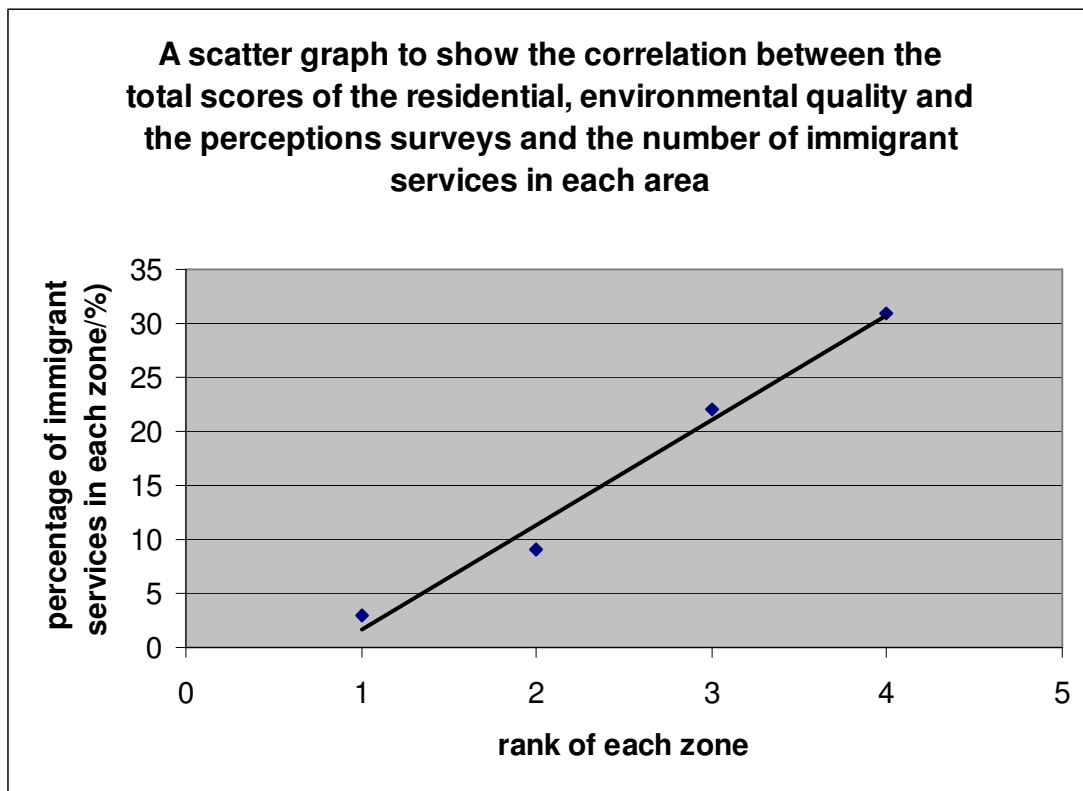
	Highest score to lowest score ranking of each zone			
	1	2	3	4
Residential decay survey	Zone1	Zone2	Zone4	Zone3
Environmental quality survey	Zone1	Zone2	Zone4	Zone3
Perceptions survey	Zone1	Zone2	Zone4	Zone3

By looking at this table it is quite clear that the zone with the highest score in all of the surveys was zone 1, indicating that it was the best area residentially, environmentally and my perceptions were the best there. The opposite applies to zone 3, which was given the worst total scores for all of the three surveys. Zone 2 was second best, and zone 4 was penultimate in all the total scores.

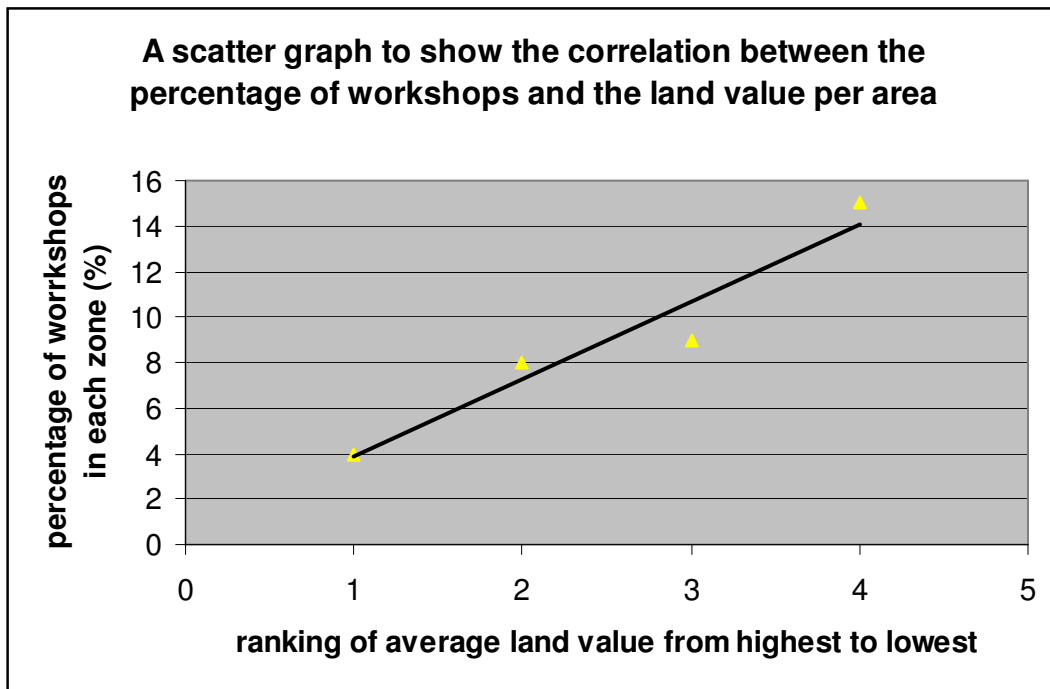
A scatter graph to show the link between the total scores of the perception and residential decay surveys



A graph can be drawn to illustrate the positive correlation between the residential quality survey and the perceptions survey. This means that as either value from the residential decay survey or the perceptions survey increases so does the value from the other. Since the residential decay survey indicates the social changes and the perception survey indicates the economic changes, we can deduce that as the people in the area become wealthier, their positive social impact on the society is greater. Also the reverse is true, that the larger the social changes in the area are, the wealthier the area tends to become. The social changes are usually due to the decrease of the poorer part of the population, who can be identified or represented by immigrants, who tend to be poorer and are not able to afford the more expensive housing. As the poorer part of the population leave the area due to increasing house prices, the score for the perceptions survey will increase, as the socio-economic group in this area will become wealthier. Through intervention the area becomes wealthier, partly due to the higher socio-economic group, is attracted to it. The number of immigrant services can be used as being an indication of the percentage of immigrants in the area. The number of immigrant services in each of the areas, negatively correlates with the pattern I identified above, meaning that the lower the percentage of immigrant services in the area the higher the ranking from the residential, environmental and perceptions surveys, and a graph can be drawn to illustrate this point.

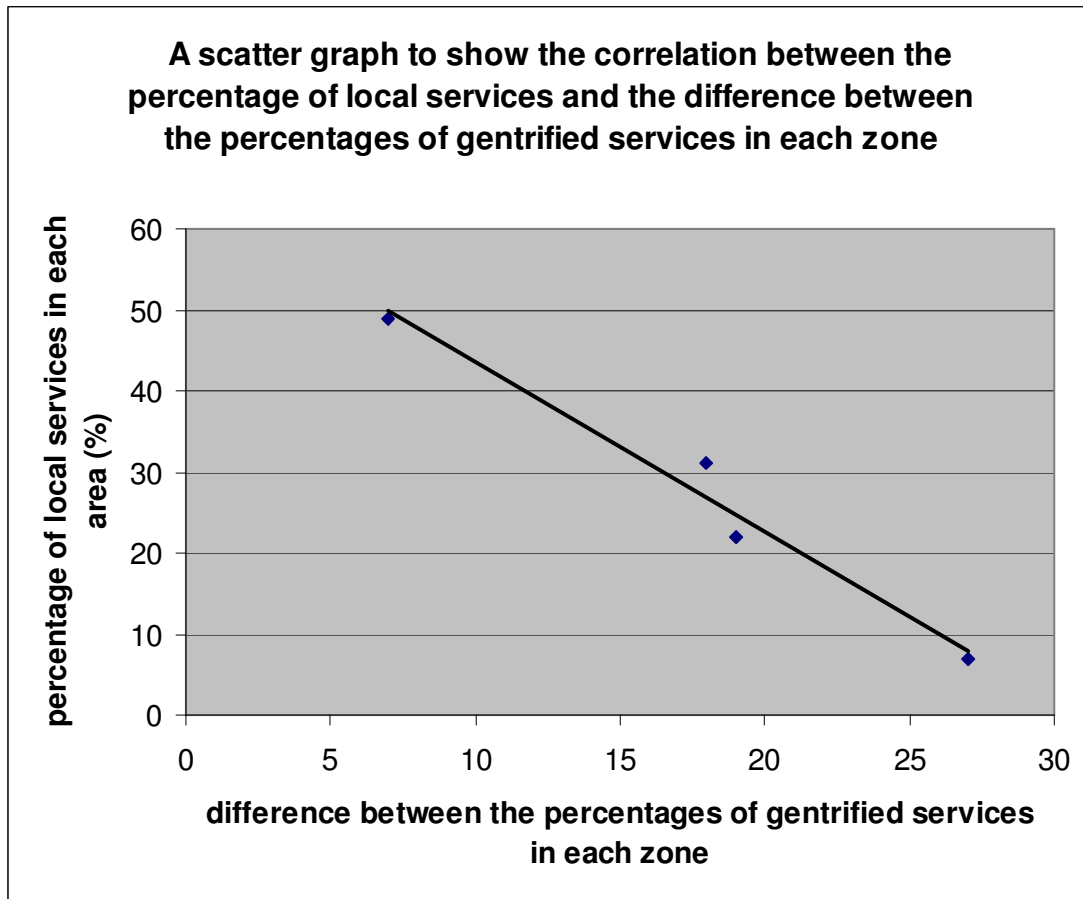


There is also a link between the present percentage of workshops in each area and the land value.



As the percentage of workshops decreases in the area the land value increases, indicating that workshops are attracted to areas where the land value is least. This is probably due to the fact that workshops tend to need large areas of space, and do not generate a lot of money in comparison to other industries or services. Also the fact that the workshops are in the poorer areas is probably due to the fact that the workers, who will have relatively low incomes, will probably live close to the area affecting the environmental qualities.

If I calculate the difference between the percentages of gentrified services between the two years, and rank these from the zone with the highest percentage of gentrified services to the lowest percentage, I can see that these results correlate with the number of local services in the area.



This indicates that as the number of local services decreases the number of gentrified shops increases. This is probably due to varying demands of goods and services from the people in each zone. These demands may change for several reasons. The first could be that money-spending tourists are attracted to areas where previously they were not, generating a new group of customers in the area. Also the inhabitants in the area could be changing. They could either be completely different people who have moved into the area, attracted by the improved (or in some other cases, deteriorating) state of the area. Or the people who were originally living in the area could be getting increasing incomes, meaning that they are wealthier and able to spend money on luxury items which previously they would not have been able to afford.