

Data Presentation

In this section of my coursework I am going to present the collected data which I specified in The Methodology. I will also illustrate both good residential quality and bad.

1. Residential Decay – the highlighted red criteria illustrates the recorded results for the results.

Site 1

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 2

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 3

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 4

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8

Broken gutters etc	0	1	3	7
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Site 5

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 6

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 7

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 8

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 9

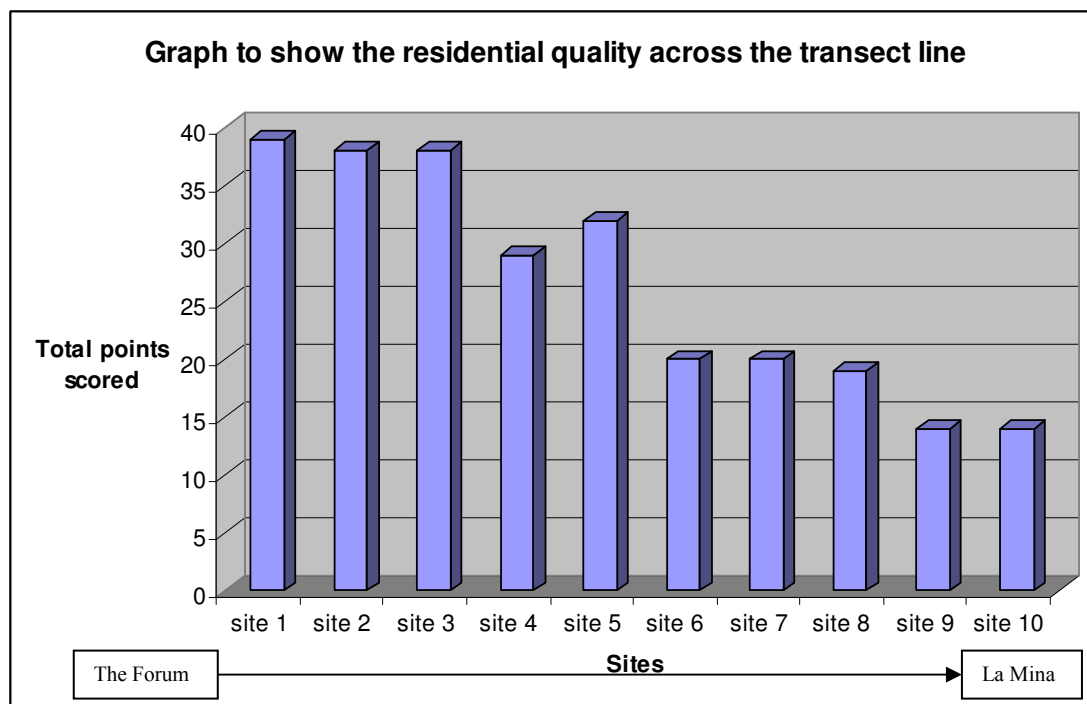
	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site 10

	Much	Some	Little	None
Deterioration of walls	0	1	3	5
Part Peeling	0	1	2	3
Broken glass in windows	0	1	3	7
Structural damage	0	3	6	11
Rotting timber	0	2	4	8
Broken gutters etc	0	1	3	7

Site Totals

site 1	site 2	site 3	site 4	site 5	site 6	site 7	site 8	site 9	site 10
39	38	38	29	32	20	20	19	14	14



The bar graph (above) compares the total points scored at each point along the transect line. The graph illustrates a negative correlation except for one main anomaly (site 5). We can see that the residential quality in the area decreases with relative distance from The Forum.

The graph shows again that the residential quality decreases with distance from The Forum. The line graph illustrates to us the gradient in the decline which is good for understanding the drop in residential quality as the distance from The Forum increases.



Image of Zone 1 (high quality)

Balcony and the sun shade both improve the quality of the inhabitants life.

Attractive, well kept exterior walls



Fig. 7

This is an image of the type of residences adjacent to The Forum. This image is of the housing at zone 1. Compared with the housing in La Mina, this is luxury. This area scored almost full points, with the exception of some peeling paint on the exterior walls. This zone contrasts pointedly with the zones in La Mina.

Image of Zone 5 (anomaly)

Evidence of the residents' efforts, flowers

New balcony guards



Generally good exterior walls

Fig. 8

This is an image of site 5; this was the main anomaly in the recorded results. There is some proof of renewal (balcony fences) but the area still looks dull. However, the houses are well kept which account for its higher score. The residents must look after their homes in this residential block. There is no structural damage and no broken windows.

Image of Zone 10 (lowest quality)



Neglected exterior, stained etc. extremely unattractive

Broken windows

This site is in contrast to the residence adjacent to The Forum. The apartment block exterior is extremely stained from years of neglect, there is also substantial vandalism, broken windows etc. This site is situated the furthest from The Forum; unsurprisingly it has the worst residential quality. However, the apartment block is waiting to be refurbished and renewed.

Fig. 9

2. Environmental Quality – the highlighted red criteria illustrate the recorded results for the site.

Site 1

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 2

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 3

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0

Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 4

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 5

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	

	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 6

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 7

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10

small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 8

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 9

Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2

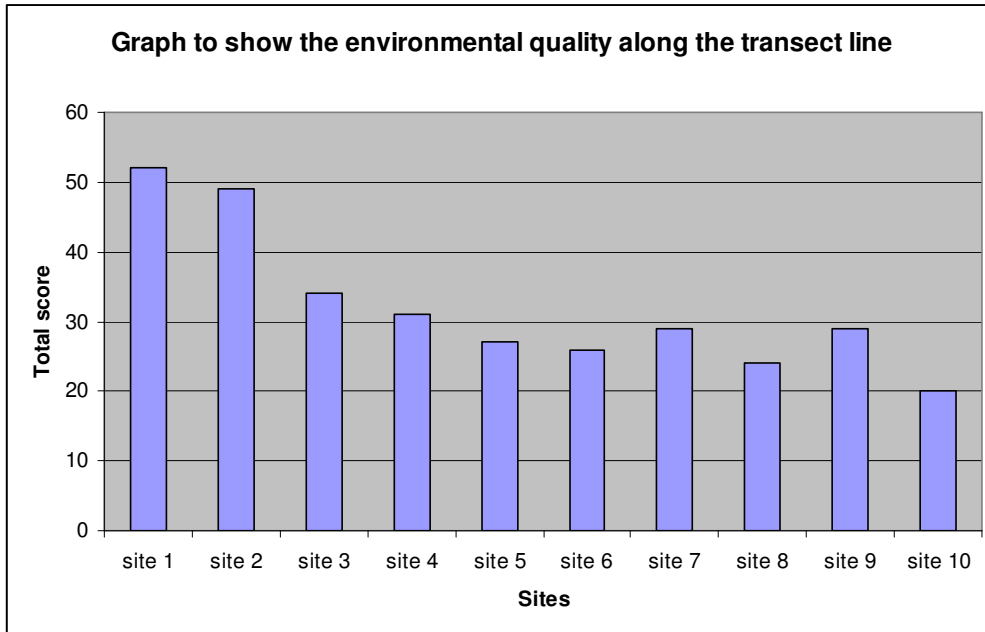
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
some litter and/or vandalism	4	some street seating, but no park	2
very untidy, much vandalism	0	no street seating or park	0
Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
some workshops	5	above normal traffic	3
mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site 10

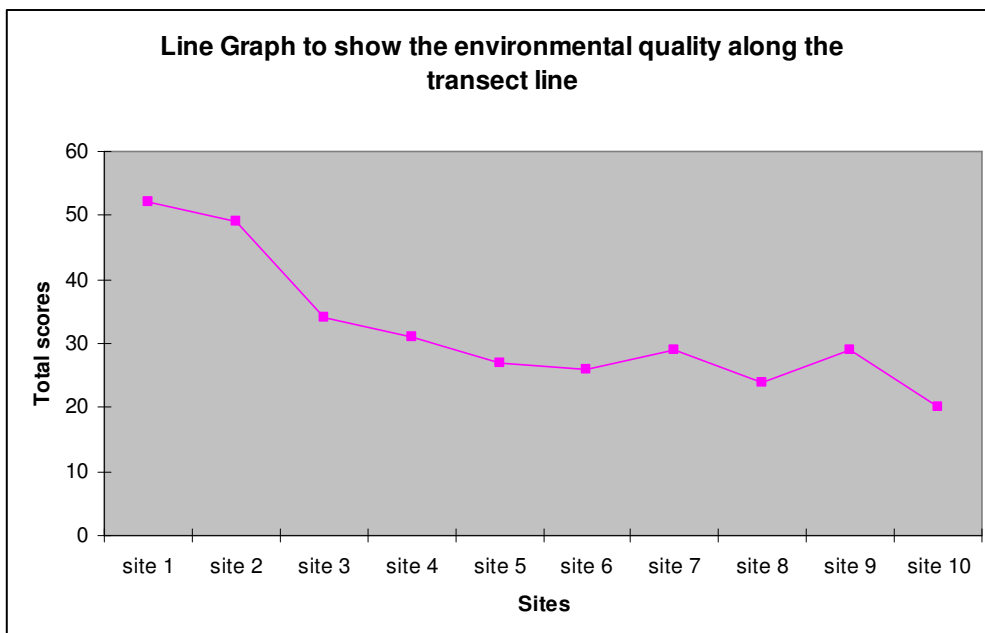
Feature	Score	Feature	Score
Landscape Quality		Noise	
trees and well-kept grassed spaces	8	normal residential standard	5
few trees and/or un-kept grassed spaces	4	above residential standard - some noise	2
no trees or grassed spaces	0	main street standard - very noisy	0
Derelict (waste) land		Air Pollution	
none	10	no offensive smells or obvious air pollution	10
small area	4	offensive smells and/or obvious air pollution	0
large area	0		
Litter/Vandalism		Access to recreational amenities	
no litter, no vandalism	8	nearby park visible	4
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Industrial workshop premises		Traffic flow	
all residential properties	10	normal residential traffic	6
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mainly industrial workshops	0	heavy vehicles and lots of traffic	0

Site Totals

site 1	site 2	site 3	site 4	site 5	site 6	site 7	site 8	site 9	site 10
52	49	34	31	27	26	29	24	29	20



We can see from the graph that again there is a decline in quality, this time environmental, as we move away from The Forum. However there are two main anomalies with these recorded results, sites 7 and 9.



The line graph again illustrates the decline in quality between each site, and the gradient at which it declines.

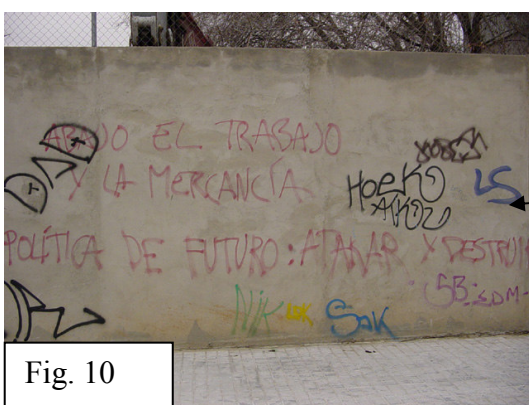


Fig. 10

Fig 10 shows an example of the environmental quality in La Mina at site 10.

3. Index of Services and Amenities

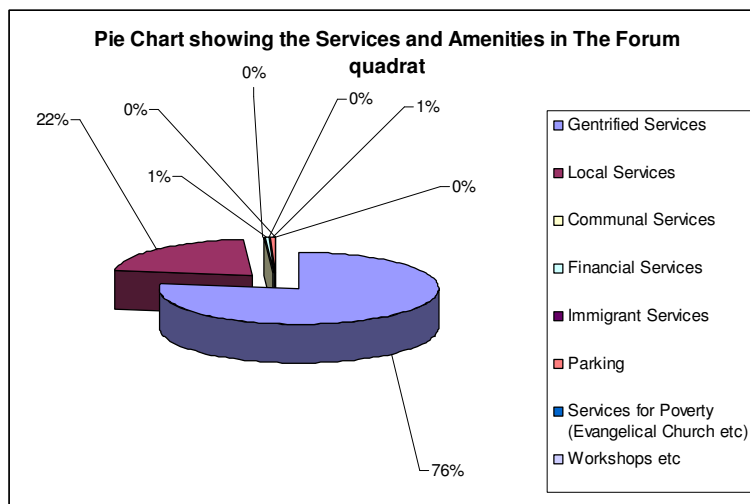
Type of Service	The Forum	Old La Mina	New La Mina
Gentrified Services	148	0	0
Local Services	42	37	34
Communal Services	0	13	0
Financial Services	1	0	2
Immigrant Services	0	1	0
Parking	1	0	1
Services for Poverty (Evangelical Church etc)	0	2	0
Workshops etc	0	1	4

Total Services and Amenities

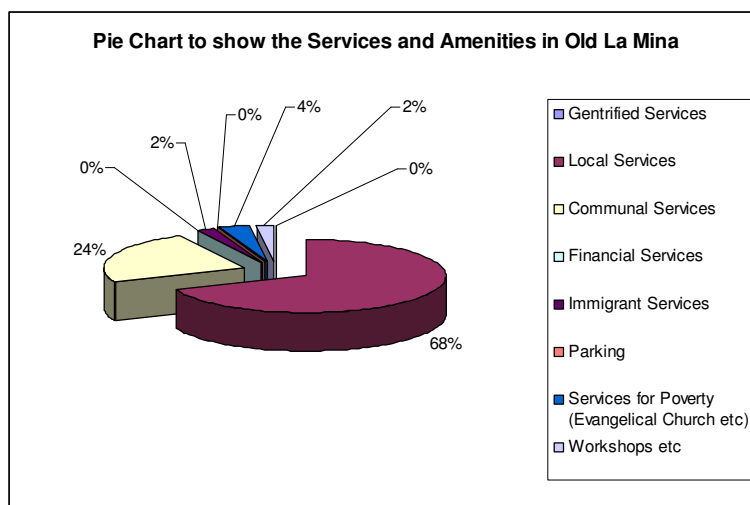
The Forum – 192

Old La Mina – 55

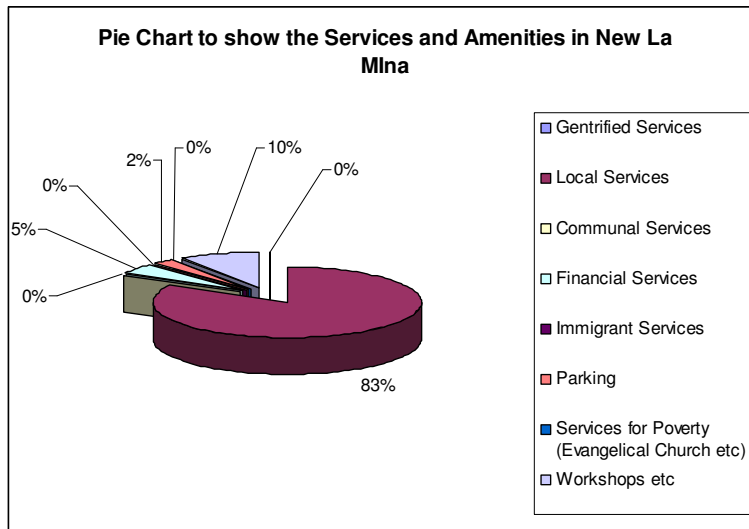
New La Mina – 50



The adjacent pie chart shows us that the services etc around The Forum are predominantly for the use of wealthier customers, such as gentrified clothes shops etc. There are no services that would benefit the people of La Mina



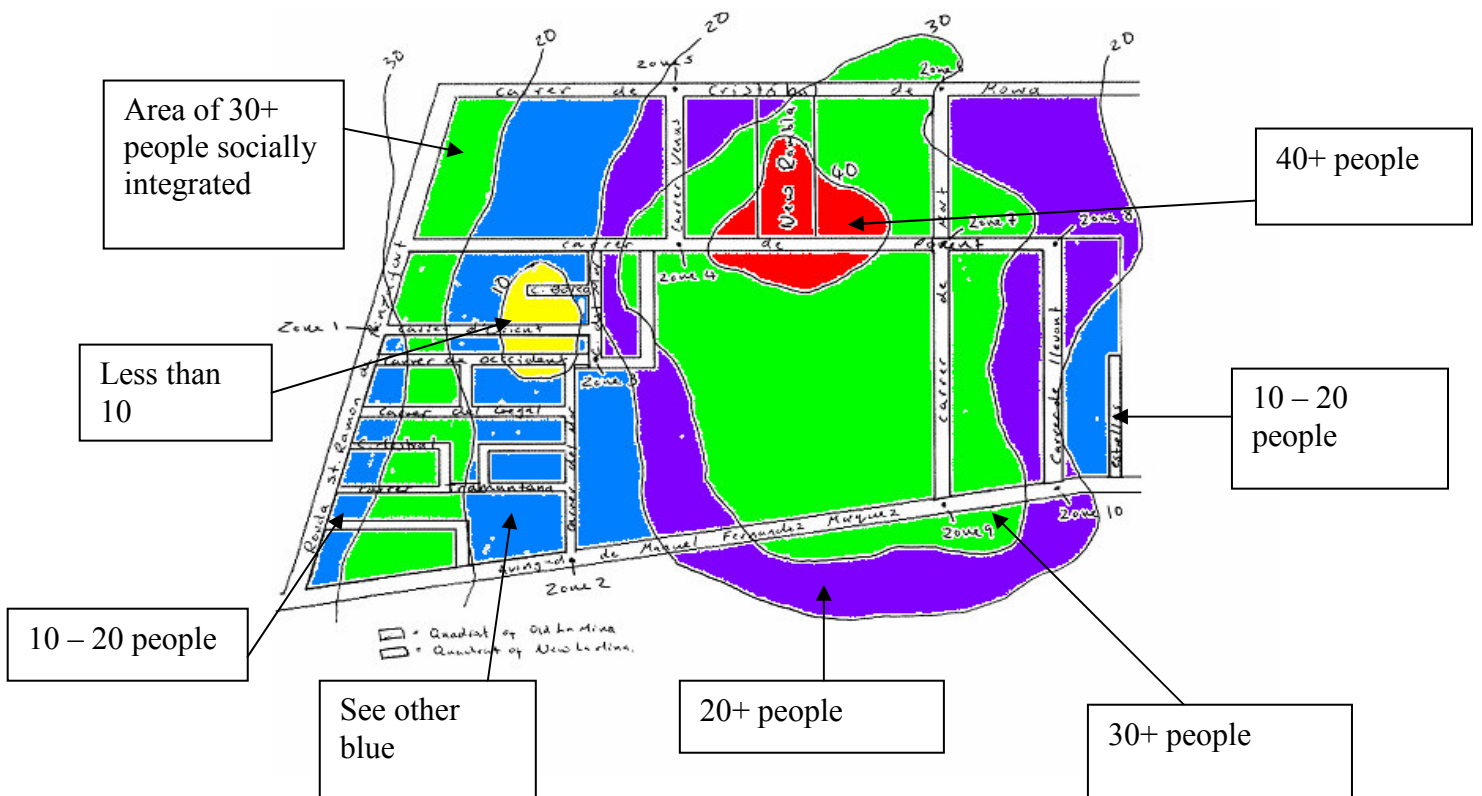
The pie chart shows a stark contrast with the services in The Forum area. In Old Mina there are no gentrified services, but many communal services.



The pie chart shows again that most of the services in the area are for community use, with minimal gentrification.

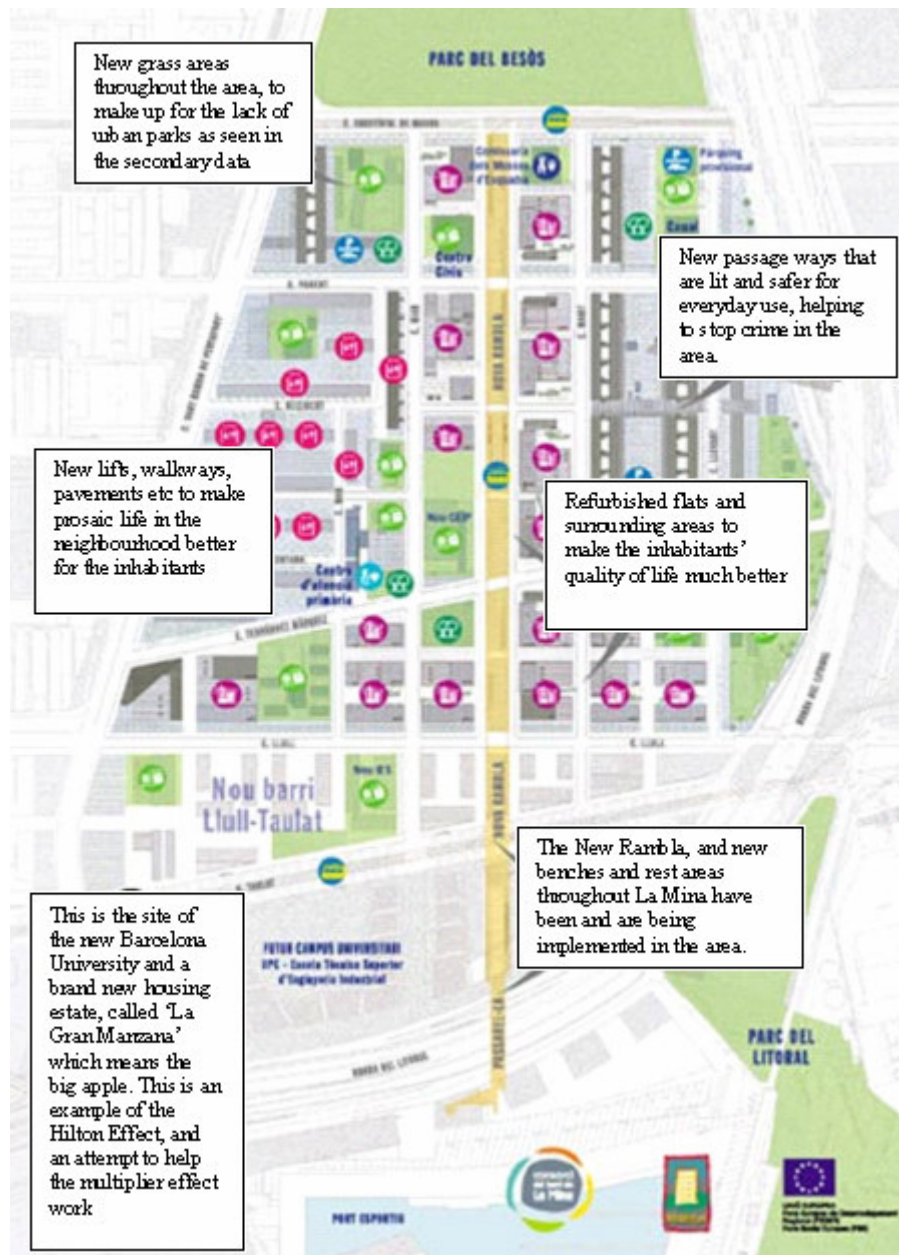
4. People Count

site 1	site 2	site 3	site 4	site 5	site 6	site 7	site 8	site 9	site 10
36	22	11	39	24	31	41	28	33	22



The diagram above is a presentation of the recorded results for the amount of social inclusion around the New Rambla. The different coloured areas represent the number of people, who were socially integrating, in the respective data collection points of 1 – 10. The red area, which is directly next to the New Rambla, has the most number of people who are socially integrated, whereas the peripheral areas (blue) have the least people. There is an area of low social inclusion inside of Old La Mina, but this was part of a building site, so that is accountable.

5. Location of Renewal Programs etc



The above diagram illustrates the government inputs into the area of La Mina. There are numerous projects in process, but the time that it takes for these projects to have an effect will be the critical factor in the neighbourhood.

6. Secondary Data

	Barcelona in general	La Mina
Population density (people per hectare)	151,3	256,5
% of population under 15	11,60	13,40
% of population between 15 & 24	11,60	12,70
% of population between 25 & 64	54,80	50,90
% of population older than 64	21,90	23,0
% of population with university degrees	16.6	4
metres squared of urban parks	10,066,800	none
population under 15 out of school	15,61	25,88
% of population that understand Catalan	93,80	88,74
% of population that speak Catalan	68,99	47,32
life expectancy	78,50	77,77
% of population that is actively working	44,37	41,88

This data was collected from numerous sources, including government offices and the internet. It will help me to draw a decisive conclusion. We can see that there is considerable difference between La Mina and Barcelona in general.

Spearman rank correlation coefficient – this will help me to illustrate the strength of the link between the distance from The Forum and the respective residential and environmental qualities.

Residential Quality

Site	Distance from The Forum (m)	Rank1	Residential quality	Rank2	Difference between Rank1 & Rank2 (d)	d ²
1	100	10	39	1	9	81
2	200	9	38	2.5	6.5	42.25
3	300	8	38	2.5	6.5	42.25
4	400	7	29	5	2	4
5	500	6	32	4	2	4
6	600	5	20	6.5	-1.5	2.25
7	700	4	20	6.5	-2.5	6.25
8	800	3	19	8	-5	25
9	900	2	14	9.5	-7.5	56.25
10	1000	1	14	9.5	-8.5	72.25

$$\Sigma d^2 = 336$$

$$(R^2) = 1 - \frac{6 \Sigma d^2}{n^3 - n}$$

When written in a mathematical formula, the Spearman rank formula looks like this. I will use this to calculate the coefficient (r²).

Calculations to find the coefficient:

- Find the value of all the d² values by adding up all the values in the Difference² column. In our example this is **336** Multiplying this by **6** gives 2016.
- Now for the bottom line of the equation. The value *n* is the number of sites at which you took measurements. This, in my study is **10**. Substituting these values into *n*³ - *n* we get **1000 - 10**
- We now have the formula: R² = 1 - (2016/990) which gives a value for R² 1 - 2.036 = **1.036**

$$(R^2) = 1 - \frac{6 \Sigma d^2}{n^3 - n}$$

The closer **r** is to +1 or -1, the stronger the likely correlation. A perfect positive correlation is +1 and a perfect negative correlation is -1. . However, as the Spearman rank test uses the higher rank as a less positive result and in my results the higher the mark means the better quality I had to swap the final result around. Therefore, a perfect positive correlation in my method is -1 and a perfect negative is +1. The **R²** value of 1.036 suggests a strong relationship, illustrating that residential quality does decreases with distance from The Forum.

Environmental Quality

Site	Distance from The Forum (m)	Rank1	Environmental quality	Rank2	Difference between Rank1 & Rank2 (d)	d ²
1	100	10	52	1	9	81
2	200	9	49	2	7	49
3	300	8	34	3	5	25
4	400	7	31	4	3	9
5	500	6	27	7	-1	1
6	600	5	26	8	-3	9
7	700	4	29	5.5	-1.5	2.25
8	800	3	24	9	-6	36
9	900	2	29	5.5	-3.5	12.25
10	1000	1	20	10	-9	81

$$\Sigma d^2 = 306$$

Calculations to find the coefficient:

- Find the value of all the d² values by adding up all the values in the Difference² column. In our example this is **306** Multiplying this by **6** gives **1836**.
- Now for the bottom line of the equation. The value *n* is the number of sites at which you took measurements. This, in my study is **10**. Substituting these values into *n*³ - *n* we get **1000 - 10**
- We now have the formula: R² = 1 - (1836/990) which gives a value for R² 1 - 1.854 = 0.854

$$(R^2) = 1 - \frac{6 \Sigma d^2}{n^3 - n}$$

The closer *r* is to +1 or -1, the stronger the likely correlation. A perfect positive correlation is +1 and a perfect negative correlation is -1. However, as the Spearman rank test uses the higher rank as a less positive result and in my results the higher the mark means the better quality I had to swap the final result around. Therefore, a perfect positive correlation in my method is -1 and a perfect negative is +1. The **R²** value of 0.854 suggests a negative strong relationship, illustrating that environmental quality also decreases with distance from The Forum.