MARTI I PUJOL STREET

1. Case Study Area and Character Sections

Badalona is one of the oldest towns in Catalonia. It is situated near Barcelona and has 210,000 habitants. Historically, we can find the urban starting point of Badalona in the foundations of an urban settlement by the Romans, in the year 100 BC. Since then, that first nucleus was changing to become Badalona as it is nowadays.

Since the tenth century, Badalona has a new urban nucleus where the old Roman city was, formed by a group of houses situated around the square and the church. At the same time, a rural centre grew up outside the town walls. This double situation, urban and rural, stood till the middle of the eighteenth century.

Badalona was one of the most important towns during the industrialization. At the beginning of the nineteenth century, a lot of and very good buildings were erected, among which outstands the Pavillard house. It was built by Joan Amigó i Barriga in 1906, and is considered the best modernist work in the town.

Character Sections
The Study Area has been divided into three Character Sections. The street runs between the streets Sant Isidre and Ventura Gassol with a total length of 958 m. Section 1 runs from Sant Isidre street to Els Arbres street (273 m), section 2 from Els Arbres street to Rector street (400 m) and section 3 from Rector street to Ventura Gassol street (285 m).
Location

Marti i Pujol Street sits at the centre of Badalona,
2. Street indicators

Built Form

Theme 1.1 Buildings

<table>
<thead>
<tr>
<th>Primary Descriptors</th>
<th>Measurement and or Comment</th>
<th>Change</th>
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</table>

section 1

section 2

section 3
1.1.1 Building Height  The average height of roofline is 10 m, 14 and 22 m in section 1, 2 and 3. Marti i Pujol Street had similar building heights before reconstruction.

1.1.2 Spacing of Buildings  Ratio of frontage to space between frontages is 27% in section 3. In section 1 and 2 it is no possible to calculate the ratio because there is no space between frontages. The same before reconstruction.

1.1.3 Inactive Frontages  Ratio of length of inactive frontage to active frontage in character section is 9, 3 and 8% for each section.

<table>
<thead>
<tr>
<th>Section</th>
<th>Inactive Frontage in section 1</th>
<th>Inactive Frontage in section 2</th>
</tr>
</thead>
</table>

1.1.4 Doorways  Number of doorways per 100 m opening onto the public realm is 11 in section 1, 15 in section 2 and 13 doorways in section 3.
1.1.5 Historically important buildings or significant structures

There is one historical building in section 1: the modernist house Pavillard from 1906. Front with floral decorations.

Before the reconstruction, Marti i Pujol Street had the same number of historically important buildings.

1.1.6 Quality of Built Fabric

There is different quality of design and state of repair. In general, the state of repair is reasonable. Buildings have a good appearance and there are several frontages in restoration now.

About quality of design, it is reasonable in all the character section; maybe it is best in section 3 with fashionable buildings and in section 1 with the most old buildings of the street but with a good maintenance.

Since reconstruction of the street, a restoration process of several buildings.

Theme 1.2 Space Between Buildings

<table>
<thead>
<tr>
<th>Primary Descriptors</th>
<th>Measurement and or Comment</th>
<th>Trend (Increasing/decreasing etc)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.2.1 Street Width</td>
<td>Distance between opposing building lines is 21 m in section 1, 21.6 m in section 2 and 25 m in section 3.</td>
<td>Before reconstruction Marti i Pujol had the same street width.</td>
</tr>
</tbody>
</table>
### 1.2.2 Side Space Width
- Width of side space in section 1 is 3.75 m and 5.25 m in each side; 5 m + 4.25 m in section 2 and 6.75 m + 3.5 m in section 3.
- Before reconstruction Street had smaller side space width: 3.5 m in each side in section 1; 5 m in section 2; and 4 m in section 3.

### 1.2.3 Median Strip
- Marti i Pujol Street has no median strip.
- It never had median strip.

### 1.2.4 Width Between Side Space
- Width 12 m in section 1, 12 m in section 2 and 15 m in section 3.
- The street had 14 metres between side space in section 1 and section 2; and 11 m in section 3.

### 1.2.5 Trees and Other Greenery
- Green shapes the street space and is an important formative element, unmistakable of the street
- Green has an influence on the street space / Green outweighs over technical installations.
- Green does not shape the street space / Green and other installations cancel each other
- Green has no influence on the street space / Green sporadic exist
- Now there are more trees than before reconstruction. Green influence on the street spaces was less important than now.

### 1.2.6 Street surfaces, furniture and other design elements
- What materials are used – asphalt, paving stone, concrete, cobblestone pavement
- Material used in side space surface is paving stone, and in carriage way is asphalt. The surface has a reasonable appearance. Paving stone has a reasonable quality and it
- Marti i Pujol Street had the same type of material surface. Before the change, street surfaces had a poor appearance.
has an important attribute: it is non-sliding. Intersections are provided with facilities for people with disabilities such as kerbs with ramp. In addition, in section 1 and in section 2 there are two junctions (Sant Joan Street and Els Arbres Street) where there is a continuity in footpaths along the Marti i Pujol street. See photos.

About furniture, in section 1 we can find several wood benches, with a good appearance.

1.2.7 Guard Railing
Street has no guard railing.

The same before reconstruction.

1.2.8 “People Spaces”
There is one space for people to congregate, it is in section 1. There are banks of wood to sit down, next to the trees that give shade in summer.
Are they green?
☐ yes
☒ no

Before reconstructed period Marti i Pujol Street had no some “people Space”.

1.2.9 Lighting
Describe the lighting e.g.
☐ the places are very well light, illumination is part of design of the place
☒ places are light
☐ no light (the places are places of fear)

Before reconstruction, street had one line of light to each side space.
the footpaths are well lit
the footpaths are poorly lit
only one side lit
the lighting is at the median
no lighting of the footpaths

Marti i Pujol Street has one longitudinal line of street lighting in each side space, near the kerb. In section 1 and in part of section 3 the lighting is special to illuminate pedestrians and carriage space, too. See photo below.

Secondary Descriptors

1A Definition (Two Dimensional Scale) Ratio street width to building height are 2.10, 1.54 and 1.14 for each character sections.

Around 1970 and before reconstruction ratio street was the same that now.
1B Definition (Enclosure)

Average width between side spaces are 12, 12 and 15 for each character section in Barcelona Street.

Section with a smaller enclosure effect is section 3.

1C Transparency

Regarding level of transparency between public and private realm at the meeting of the vertical and horizontal planes; section 3 has larger percentage of inactive frontage with an 8% and section 2 has more doorways per 100 metre building line (15 doorways); but the number of doorways is similar in all sections (11 - 15 and 13). Finally, the percentage of illuminated building line is similar for all sections with 32 - 33%.

Theme 2. Function, Management and Regulation

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<tbody>
<tr>
<td>2.3.1 One-Way or Two-Way Working</td>
<td>The street works two-way.</td>
<td>Before reconstruction the street also worked in two way.</td>
</tr>
<tr>
<td>2.3.2 Speed limit</td>
<td>Speed limit is 50 km/h in all section</td>
<td>Speed limit was 50 km/h, too.</td>
</tr>
</tbody>
</table>
2.3.3 Traffic Calming Measures

<table>
<thead>
<tr>
<th>Is traffic “calmed”?</th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
</table>

Before reconstructed year, Marti i Pujol did not have traffic calming measures.

2.3.4 Number of Marked Traffic Lanes

Number of lanes per carriageway are 2 in section 1 and section 2; and 4 in section 3.

Marti i Pujol Street, before reconstructed year had the same number of marked traffic lines.

2.3.5 Lane Width

Width of lanes is 3 m.

The same before reconstruction.

2.3.6 Visual Width

There is not visual reduction of carriage width.

The same before reconstruction.

2.3.7 Division/Allocation of Carriageway Space

Describe segregation of carriageway

**bus / tram**

- separate
- ☑ in mix

width: ______________

Badalona has not tram.

**bicycles**

- separate
- ☑ in mix

width: ______________

**pedestrians**

- separate
- ☐ in mix

width: ______________

**HOV / taxis etc**

- separate
- ☑ in mix

width: ______________

There is not HOV and taxis are in mix. Parking car is a division of carriage space in some parts along the street, it width is 2 m.
2.3.8 Division/ Allocation of Side Space

Describe division of side space -
- pedestrians: 2.75 m and 4.25 m in section 1; 4 m and 3.25 m in section 2 and 5.75 m and 2.50 m in section 3
- bicycles: ______m
- green: 1 m
- parking: ______m
- bus/tram: ______m
- waiting places: ______m

Division of side space before reconstructed year was the same than now, a space to trees, and the rest to the pedestrians movement.

2.3.9 Pedestrian Crossings

Describe pedestrian crossing points -
- everywhere possible to cross
- to cross the street only at some points possible
number of crossings per 500 m: 13
- no possibility to cross

Number/location of signal lights at pedestrian crossings:

- Number of marked pedestrian crossings (e.g. zebra crossing)
- Number of built pedestrian crossings
- Number of over-/underpasses
- “Staggered” or straight across crossing

The reconstruction did not change the number of pedestrian crossings. There are no elements avoiding to cross. There was the same number of crossing per 500 metres: 13. There are no over- or underpasses.
2.3.10 Signal Junctions

There are 11 signalised junctions; 3 in section number 1, 7 in section 2 and only 1 signalised junction in character section 3.

The pedestrian crossings have lowered kerbs in order to make it possible for wheelchair users, etc. to cross.

In addition, section 2 has two junction (with Els Arbres Street) where the pavements continues at the same level and the cars have to pass over the pavement in order to enter the side street. It is illustrated in photos below.

Pedestrian phase provided?

- [x] no
- [ ] yes

“all green” pedestrian phase provided?

- [x] no
- [ ] yes

diagonal crossing provided?

- [x] no
- [ ] yes

cyclists catered for?

- [x] no
- [ ] yes

Before reconstruction the street had the same number of signal junctions.

In addition, junctions had no ramps in pedestrian crossings before reconstruction.

Adapted kerbs. Section 3

2.3.11 Roundabout Junctions

In Marti i Pujol Street there are no roundabouts. Before reconstruction there were no roundabout neither.
2.3.12 Other Junctions

Describe any other junctions

There are 6: 5 in section 1 and 1 in character section number 3

2.3.13 On-Street Parking

In section number 1 there are 44 on-street parking places, in section 2 there are 33 places and 31 in section 3.

In all 3 sections there are two types of on-street parking: limited parking and delivery parking.

Limited parking is called “Blue Zone”. It is a charged parking with time restrictions. Parking is limited to three hours during a specific period of time: Monday to Saturday from 9 until 14 hours and from 16 until 20 hours. Outside these periods the parking is free.

Delivery parking has user restrictions and time restriction, too. The period of time to use this zone is from 8 a.m. until 8 p.m., and maximum time is thirty minutes.

In section 2 there is a special type of reserved parking. It is an on-street parking for school buses in front of several schools; and it is limited from 8.30 a.m. until 5.30 p.m.

Shared use?

☐ no
☒ yes
2.3.14 Cycle "Lanes"  
For each side of street describe the type of cycle provision e.g. –  
☑ none  
☐ path/lane for both directions  
☐ on road bicycle lane  
☐ bicycle path on the sidewalk  
☐ bicycle path in the side space  
☐ with support at crossings

2.3.15 Cycle Parking  
What is the number of formal cycle parking places? In Martí i Pujol there are 108 cycle-parking distributed in 44, 33 and 31 for each section respectively.

2.3.16 Bus Stops and Stands  
There are 5 bus stops: 3 in section 2 and 2 in section 3.  
Marked spaces?  
☑ yes  
☐ no  
Parking prohibited?  
☑ yes  
☐ no
Theme 3  

Patterns of Use

Theme 3.1  

Traffic

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<tr>
<td>3.1.1 Average Vehicle Flow</td>
<td>Traffic flow in general is 11687 vehicles in section 3 and 3618 vehicles in section 1 and section 2</td>
<td></td>
</tr>
<tr>
<td>3.1.2 Peak Vehicle Flow</td>
<td>Peak vehicle flow is 791 vehicles in section 3 from 18-19 hours. In section 2 and 1 it is 278 vehicles from 14 to 15 hours.</td>
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<tr>
<td>3.1.5 Bus/Tram Reliability</td>
<td>Average delay is 5 minutes.</td>
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Theme 3.2  

Activities

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<tbody>
<tr>
<td>3.2.2 Pedestrians Along the Street</td>
<td>See next page</td>
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</tbody>
</table>
3.2.6 Off-Street Parking
There are 15 off-street parking places in section 1, 25 in section 2 and 113 in character section 3.
Before reconstruction Marti i Pujol had a similar number of off-street parking.

Secondary Descriptors

3A Ratio of normal to peak traffic
If normal traffic is from 8 to 22 hours, ratio of normal to peak traffic is 5,7:7,3=0,78
If normal traffic is 24 hours, ratio of normal to peak traffic is 4,03:7,3=0,55.
So, regarding ratio of normal to peak traffic by TOPP (Germany)
Barcelona Street is medium or totally bad.

**Recent statements**

The Municipality of Badalona is planning to construct a raised zebra crossing in section 3 in order to lower traffic speed, and to improve pedestrian connection between the areas on the northern and southern side of the street.

The area on the north side is very commercial with many pedestrian streets and other traffic and parking restrictions. It function very well now although the beginning were hard with many complaints and demonstrations from the neighbours and shopkeepers. The area next to Marti i Pujol street but on the southern side has also some commercial zones but no general traffic restrictions have been implemented. The idea of the Municipality is to improve pedestrian facilities (30 km/h) in this area too.

In 2002 a new cycle lane network was planned in Badalona and one of the stretches is been constructed now, crossing the Marti i Pujol street in section 3, next to the railway station.

**Case Summary**

Marti i Pujol street was and still is an important arterial street in Badalona. It is one of the few streets that connects the mountain and seaside in the city.

The facilities for pedestrians and public transport passengers have been improved by the reconstruction of the street. Sidewalks have been enlarged, more greenery and bus stops with waiting facilities. Traffic congestion is still a normal pattern in the street, especially in sections 1 and 2.

The looser to a certain point is the on street car parking. There are less places to park now, with time restrictions and you have to pay during day time.

It is estimated that traffic volumes has not changed to any greater extent in the reference area between the before and after situation.

Assessments are generally not being made. We don’t have numbers indicating bus passengers, pedestrians, etc. from the before
situation. Neither is speed being measured. Generally the project is being made by the municipal architects with some collaboration from the municipal engineers (how many lanes are needed for the cars?).