Design proposal for a 2 star mixed use green hotel in the city of Stockholm: The case of Brunkebergs square

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Abstract

The word **sustainability** does not only mean building environmentally friendly buildings, with green high technology solutions, but it also touches the economical, physical and social aspect of a given area. A building can not be called sustainable if it is not designed for people’s needs and does not promote social interaction between people. In a broader extend, the three levels of sustainability, economical, social and environmental need to be achieved at the same time, or else the concept of sustainability itself is neglected.

Nowadays most of the hotels in the core of the city of Stockholm range in a classification from 4 to 5 stars, and rarely there are 2 or 1 star hotels. The world financial crisis that emerged in 2008 and which substantially decreased the number of customers who could afford to pay the high fees of the luxury hotels, leaded to crisis in the hotel industry emptying many rooms and leaving the 4 and 5 stars hotel to their own luck.

The core of the city centre has other problems such as potential areas with commercial and office buildings which only have a day life and at night are considered abandoned and unsafe, especially nowadays with the crisis in the hotel industry.

The aim of this master thesis is the design of a **prototype green mixed use building** by Brunkebergs square, which is a square in need of renovation and located in the core area of the city of Stockholm. The prototype green building is a 2 star mixed use green hotel with green design features and public, semi public and private character. This new hotel also would be part of a group of hotels called CBD Vasagatan.

The integration between the new prototype building, Brunkebergs square and Drottningatan will be done according to concept and context of the new building. The areas in question will be renovated under the guidelines of Stockholm Vision 2030, which is an improvement city plan proposed by Stockholm under the years 2006 and 2007, and following a few Green Design premises as dictated by architect Ken Yeang and LEED (Leadership in Energy and Environmental Design).

The proposed 2 stars green hotel, besides representing the possibility of being a cheaper lodging alternative, and therefore helping the declining economy of the Hotel market in the city of Stockholm, will also promote physical integration with Brunkebergs square, creating a path of communication inside the building leading from Brunkebergs square to Drottningatan, which is one of the most known retail streets in Stockholm city center. This way the flow of pedestrians between these 2 important areas would be enabled and Brunkebergs square would suffer renovation and become more attractive to tourists and Stockholm citizens.
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Finally I would like to thank some friends I met in Sweden for the fun during the free time and Djs and bands Deadmau5, David Guetta and All American Rejects for keeping me “company” while writing my thesis.
Preface

I still remember my first visit to Stockholm’s city centre. As soon as I walked out the subway station at T-Centralen, suddenly I was facing Sergels Torg, the Main Square and convergent point of the city centre. Continuing my walk through the streets I found another square, Brunkebergs Torg, which in this master thesis will be called Brunkebergs square. (Square is the translation of “Torg” into English). All of a sudden I started to ask myself why such a potential space was so empty and why people seemed to avoid passing through it. It was pleasant to sit on a bench there for a while and observe everything that was going on: traffic, people passing by, the buildings, etc... During the time spent there I could notice the buildings that surrounded the square were like “concrete wall curtains”. They were on its majority private spaces and therefore either not opened to the public or not inviting. These spaces also didn’t offer any type of flow from Brunkebergs square into other interesting streets, like Drottningatan, one of the main retail streets, which lies just on the backstreet from Brunkebergs square.

Brunkebergs square also seemed quite “disconnected” from the surrounding buildings, just like an isolated public area placed in that part of the urban realm. There was no clear “dialogue” whatsoever with the architecture on the immediate surroundings.

Later on during my studies I reflected upon this area considering the economical and social sustainable aspects of this empty square space and started to investigate possible agents of transformation for this area.

The city centre has an abandoned city atmosphere, nearly ghost town like at night. During the day the city center is very lively, due to the retail activities, but at night it is abandoned and unsafe. Two different realities taking place in a matter of hours during a day. It looks like two different places. This situation leads to social problems, such as the lack of interaction between people.

As a conclusion after my studies and observations I knew that my concept would have to act as a “social engine” which could transform the life of a whole urban block, bringing sustainability in the full sense of word, which means, working with the social, physical, economical and ecological aspects of this problematic area.
PART I:

INTRODUCTION & METHODS
1. Introduction

The city of Stockholm, capital of Sweden has approximately 800,000 inhabitants (county of Stockholm: 1,300,000 inhabitants), number expected to grow to 900,000 by 2030, (county: 2,400,000 inhabitants). (http://stockholm.se/OmStockholm/).

The number of tourists visiting the city also increases every year. (Peterson, Hans Åke, 2007)

Taking this into account, between the years of 2006 and 2007 Stockholm traced a comprehensive plan which outlined an overall long term vision to cope with the sustainable development and growth in the future. This plan is called “Vision 2030” and expects, as an example, to meet the demands of the growing population and tourism in the city in terms of housing, lodging providing places to meet and leisure spaces and also to achieve a strong international character. Some of these expectations can be noticed on the citation bellow:

“Stockholm is an attractive city, successfully keeping up well in the international competition with other cities. In maintaining this attractiveness also in the future, the city must look with positive eyes upon what is characterizing a global city, for example a great variety and new cultures, and at the same time preserving the unique characteristics of the city”. (http://stockholm.se/OmStockholm/framtidens-stockholm/Vision-2030/).

Based on this plan/vision and strongly considering the global financial crisis, energy use and current environmental issues, it can be inferred that now its time to provide alternatives for sustainable and affordable housing and lodging in the city. This also includes enhancing and bringing life and renovation by using a green approach to abandoned areas which are also part of the urban realm.

In regards to the hotel industry in the core of city (nowadays mostly composed by 4 or 5 stars hotel), and besides Vision 2030 masterplan, a new strategy which considers more the reality and needs of the city instead of financial profits would have to be approved and implemented by the city politicians.

More 1 and 2 star hotels are needed to be placed in areas of touristic interest. It is possible and necessary for the city of Stockholm based on the information given by the Hans Åke Petersson AB report, which is an official document that provides information and reflection about the current and future scenario of the Hotel Industry in Stockholm. The hotel industry in Stockholm subject to collapse if cheaper lodging alternatives are not presented. An interview done with the manager of the ACCOR Hotels chain in Stockholm also proved this issue to be important and necessary.

Despite the Government in the city of Stockholm being reluctant on accepting these 1 and 2 stars investments to be placed in valuable areas in the city center, due to conflicts of interests, or difficulty of approval or other matters it was possible for me to notice through research that good
practices of 2 star hotels or budget hotels exist and are successful in the heart of other cities worldwide, for an example, the hotel IBIS in Amsterdam and the hotel IBIS Rio de Janeiro. (see figures 7A to 8B for further information)

The prices of land in the city center also represent an issue to this need since they are expensive, especially in central Stockholm where there is not much available land to build. Cheaper hotels wouldn’t provide the investment return x the price of the land, so an alternative besides Government will and cooperation would be the mixed used multi purpose buildings which could return the investments, when serving as public, semi-public and private spaces.

1.1 Problem formulation

According to the Hans Åke Petersson AB 2007 report, nowadays it can be clearly noticed (see figure 1) that the hotel industry in Stockholm city centre is composed mostly of hotels with classification ranging from 4 to 5 stars, especially when it comes to the central area of Stockholm.

This core area of the city centre represented by the blue delimitation in figure 1 and called Hotel Group CBD/ Vasagatan also includes the Brunkebergs square area. Especially nowadays, these hotel prices are considered to be out of the budget reality of many Swedish citizens and tourists visiting the city. The lack of occupancy due to budget limitations make these hotels subject to suffer reducing in the number of rooms and services provided, and therefore contribute to the unemployment situation in of people working in the field of tourism.

Figure 1. Hotel Group CBD Vasagatan consisting mostly of 4 and 5 star hotels (HÅP AB (2007)).
The table below shows the index of occupation of the CBD Vasagatan group of Hotels on weekdays/weekends/whole year. It is possible to notice that the higher index of occupation takes place during the summer. In the year of 2007 the whole year percentage of occupation in the hotels was 77%. This index could have been more satisfactory considering the number of tourists that visit Stockholm increasing every year and who would preferably stay in these hotels which are close to the areas of touristic interest.

<table>
<thead>
<tr>
<th></th>
<th>JAN</th>
<th>FEB</th>
<th>MARS</th>
<th>APRIL</th>
<th>MAY</th>
<th>JUNE</th>
<th>JULY</th>
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<th>OCT</th>
<th>NOV</th>
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<tr>
<td>Weekdays</td>
<td>72</td>
<td>78</td>
<td>83</td>
<td>71</td>
<td>89</td>
<td>86</td>
<td>79</td>
<td>90</td>
<td>96</td>
<td>93</td>
<td>92</td>
<td>81</td>
<td>84</td>
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<tr>
<td>Weekends</td>
<td>50</td>
<td>57</td>
<td>60</td>
<td>56</td>
<td>67</td>
<td>77</td>
<td>75</td>
<td>83</td>
<td>86</td>
<td>70</td>
<td>71</td>
<td>56</td>
<td>67</td>
</tr>
<tr>
<td>Whole year</td>
<td>63</td>
<td>69</td>
<td>72</td>
<td>64</td>
<td>79</td>
<td>82</td>
<td>77</td>
<td>87</td>
<td>91</td>
<td>84</td>
<td>83</td>
<td>67</td>
<td>77</td>
</tr>
</tbody>
</table>

Figure 2. Table showing year percentage of occupation of the Hotel Group CBD Vasagatan (HÅP AB (2007)).

Apart from the observations present in the Hans Åke Petersson report, I also have done two interviews in March 2009 which contributed to my knowledge for this problem formulation. The first interview was with Göran Granhed, who is the chief economist of SHR (Stockholm’s Hotels and Restaurants Association), and the second one with Steffan Lind, manager of the ACCOR Hotels Group in Stockholm. Based on the information acquired on both interviews, it was possible to conclude the imminent need for building 1 and 2 star hotels in the city in order to provide more alternatives for affordable lodging. Based on one of the premises of Stockholm Vision 2030 these hotels should also have a sustainable/green character.

Nonetheless, at the present moment there are no concrete plans or support from the Government and its politicians to insert these budget hotels in the city centre area, highlighting an underestimation of the situation.

1.2 Aims and Objectives

The main aim of this design thesis report is to provide a prototype solution that can encounter Stockholm’s city needs on a sustainable level.

My research looked for a suitable place in the core area of the city of Stockholm, and the chosen area was Brunkebergs square, for being a place in need of renovation. I ended up with the suggestion of a prototype green building on the indicated site (see figure 12B) which would be a 2 star mixed use green hotel in a site by Brunkebergs square, which is also one of the core areas of the city of Stockholm and close to the main areas of touristic interest and also part of the CBD/Vasagatan group of hotels. This suggested prototype could in short:

- Increase the interest and safety in the area.
Provide a sustainable character and immediate relate and connect to the square features.

Enhance the flows from the square to Drottningatan. The hotel building would be directly linked to the square at 2 levels.

Provide more affordable lodging for tourists.

It is important to mention the building is here said to be a prototype idea for the area, because in fact there is no available land to build.

1.3 Limitations of research

Since dealing with a broad scope of research which includes, a new building which could replace an existing one, a communication path, how to renew a square, which is a public space owned by the municipality, its important to keep in mind that suggestions regarding function change in buildings adjacent to this public square would not be easily approved by stakeholders.

Due to lack of time it was not possible to also interview some of the citizens who pass through Brunkebergs square on a daily basis and ask their opinion about my project.

That’s the reason why I limit myself to the design conception and suggestion of a “prototype green building” which could in short represent a solution to the pedestrian flow problems in the area, the possibility of renovation of the adjacent square and which at the same time could attend the new needs of the hotel industry in Stockholm due to the financial crisis.

1.4 Method and data collection

This design master thesis had its data collection based on interviews, direct observation and site analysis of Brunkebergs square and surrounding areas and also major support from statistics and publications of Stockholm city. These statistics and publications were acquired via internet and media. All the data collection, after reflections and conclusions made upon them, gave origin to my Design Proposal, which will be presented on the third part of this design master thesis.

2 Hotel industry situation in Stockholm

2.1 Interviews with Göran Granhed and Steffan Lind

According to Göran Granhed, chief economist of Stockholm’s Hotels and Restaurants Association (SHR) and to Steffan Lind, manager of the Accor Hotel chain in Stockholm, the city of Stockholm, especially the city centre, an area which has proximity to the main touristic areas of
Stockholm, urgently needs alternatives to provide more affordable lodging for the tourists visiting the city.

Both Göran Granhed and Steffan Lind mentioned during the interviews the fact that the city centre counts on very few affordable (budget) hotels and even these very few hotels get somehow “overshadowed” by the 4 and 5 stars hotels for having less rooms and therefore smaller lodging capacity. They also mentioned that now, during the financial crisis many 4 and 5 hotels had to diminish the number of rooms or shut down whole floors, as an example the Grand Hotel Stockholm, because currently there is not enough demand due to the out of the budget price. Other issue discussed was the expensive price of the land in the city center and the lack of space to build nowadays.

I was still very curious why there were so few affordable options in the city center, so finally they explained to me why a 2 stars hotel would hardly be accepted in an area with land price as expensive as the city centre. The main point was that a 2 stars hotel alone wouldn’t be able to pay back for the investment made on the expensive land and also there were conflicts of interests between the politicians of Stockholm when it came to invest on these budget hotels in the city centre, an alternative that would benefit the tourists, but that wouldn’t bring profits. According to Göran and Steffan these issues would have to be solved for these hotels to happen, but now with the Vision 2030 premises, the city will be forced to walk towards the well being of tourists and citizens and therefore the general needs of the city will end up on being attended as described bellow.

2.2 Hotel market in Stockholm city center

In order to verify the accuracy of information provided in the interviews I have made use of an official report which talks about the present and future perspectives of the hotel industry in the city of Stockholm. This report is called Study on future hotel room supply and demand in the city of Stockholm and it was done and published by the Hans Åke Person Konsult AB (HÅP).

According to HÅP’s sixth assessment of hotel room supply and demand in the City of Stockholm:

✓ At present most of the hotels in the city center range from 4 to 5 stars, and therefore are in the group considered of mid-quality spectrum.
✓ Just over half of all rooms are in 4 star hotels.
✓ It is noticeable that there are only just over one-third as many low price rooms as Luxury rooms.
✓ A low price hotel has approx. one-third as many rooms as a hotel with three stars.
All the hotels in the city centre have a revenue distribution of: 66% Accommodation, 24% Restaurant, 2% Conference spaces and 2% others.

For an example, in figure 3 this is the current classification of the hotels included in the group called Vasagatan:

<table>
<thead>
<tr>
<th>VASAGATAN</th>
<th>NO. OF ROOMS</th>
<th>NO. OF STARS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adion Hotell</td>
<td>94</td>
<td>3</td>
</tr>
<tr>
<td>2. Sheraton Stockholm Hotel</td>
<td>465</td>
<td>5</td>
</tr>
<tr>
<td>3. Scandic Continental</td>
<td>268</td>
<td></td>
</tr>
<tr>
<td>4. Best Western Hotel Terminus</td>
<td>155</td>
<td>4</td>
</tr>
<tr>
<td>5. Radisson SAS Royal Viking Hotel</td>
<td>459</td>
<td>5</td>
</tr>
<tr>
<td>6. Comfort Hotel Stockholm</td>
<td>163</td>
<td></td>
</tr>
<tr>
<td>7. Profil Hotels Central Hotel</td>
<td>93</td>
<td></td>
</tr>
<tr>
<td>8. Freys Hotel</td>
<td>124</td>
<td>4</td>
</tr>
<tr>
<td>9. Nordic Light Hotel</td>
<td>175</td>
<td>4</td>
</tr>
<tr>
<td>10. Nordic Sea Hotel</td>
<td>367</td>
<td>4</td>
</tr>
</tbody>
</table>

Figure 3. Classification of Hotels Group Vasagatan (HÅP AB (2007))

Particular consideration should be given to the different demands of hotel guests and the need for different types of hotel rooms. The number of 1-2 stars hotel rooms in areas of touristic interest has to reach a balance in comparison to the 4 and 5 stars hotels. More conference centres need to be created as well to attend the demand for meeting places.

On figure 4 with the Hotels Clarion Sign and CCC new conference centres were created, as shown by the red circles, the green circle represents the possibility of my prototype building to create another conference point which will relate to these existing ones.

Figure 4. Existing conference centres and new opportunity (HÅP AB (2007) and own illustration)
Bellow, on figures 5 and 6 are the present and future projections of number of hotel rooms in the city centre of Stockholm. As it can be noticed there are plans which include a raise on the number of budget hotels (1-2 stars) which are supposed to increase from 310 rooms to 800 rooms. The number of youth hostels will also increase.

![Central Stockholm: Number of hotels and rooms](image1)

**Figure 5.** Number of Hotels and rooms in Stockholm according to classification (HÅP AB (2007)).

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of Hotels</th>
<th>Number of Rooms (approx.)</th>
<th>Category Share (%)</th>
<th>Rooms per Hotel Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>33 rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>287 rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>1,364 rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td></td>
<td>4,103 rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>1,990 rooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>32</td>
<td></td>
<td>3,189 rooms</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All hotels (incl. 2 youth hostels)

![All Hotels: Number of hotels and rooms](image2)

**Figure 6.** Future projections of number of hotels and rooms in Stockholm according to classification (HÅP AB (2007)).

The acceptance and insertion of 2 stars hotels in the city will be hard to be approved by the government and its politicians. It might be difficult, but not impossible. Many examples of hotels around the world proved this alternative to be possible and successful, which is the case of the IBIS Hotel in cities like Rio de Janeiro and Amsterdam, as shown on figures 7A to 8B.
2.3 Examples of budget hotels in cities worldwide

2.3.1 Hotel Ibis Rio de Janeiro City Centre

Figures 7A and 7B show respectively, the façade of the Hotel Ibis in Rio de Janeiro and its location. It is possible to notice by figure 7B that Ibis is located on the backstreet from one of the busiest streets in the city centre of Rio de Janeiro, which is called *Rua da Carioca*. Of course in this street and nearby streets there are many more office spaces than housing, but even this way this budget Hotel has a great tax of occupancy, either by tourists or businessman from other cities visiting town. The price per day is about 51 euro (ca 510 kr) per double room, including breakfast. It has a total of 200 apartments, 10 apartments for handicapped people and 180 for non smokers, Wi-Fi internet, cable TV, mini bar inside the room, among other facilities.

![Figure 7A. Façade of Hotel Ibis Rio de Janeiro city centre](www.skyscrapercity.com)

![Figure 7B. Rua da Carioca and Ibis location (Michelle Pietsch)](www.skyscrapercity.com)

2.3.2 Hotel Ibis Amsterdam City Centre

Figures 8A and 8B show the Hotel Ibis Amsterdam City Centre and its location. Just like the Hotel Ibis Rio de Janeiro, the Ibis Amsterdam is located at an important city centre area, called Stationsplein, as figure 8B shows.

Ibis Amsterdam city centre counts on 363 rooms and cost about 129 euro per day (double room), having the same facilities mentioned for Hotel Ibis Rio de Janeiro, such as internet, etc).
Both the Ibis Hotel in Amsterdam and in Rio de Janeiro are successful practices of low budget lodging located in the heart of both cities. They are located in key areas of touristic interest and at the same time provide reasonable prices for their clients. Please note the rates (price of rooms) change due to differences in the economy of both countries, Brazil and Netherlands respectively. They belong to the worldwide ACCOR Hotels chain and are considered budget hotels according to the ACCOR classification.

3 Stockholm in the future

3.1 Stockholm vision 2030 premises

Based on the need of Stockholm to continue developing and offer a better environment for its tourists and citizens, during the spring of years 2006 and 2007, Stockholm city together with several actors in the region worked on a project towards a sustainable development for the city of Stockholm. This project was named “Stockholm Vision 2030” since it discusses several issues that the city of Stockholm wants to improve or achieve by 2030.

The issues are divided in three different themes. By 2030 the city should be respectfully:

1. Versatile & eventful

By 2030 the city is expected to have a wide range of employment, education, service, culture and entertainment followed by a strong international character. The unique urban environment combined with nature and water will attract visitors from around the world.
2. Innovative & growing

International competitiveness will be strengthened in order that Stockholm becomes the main growth region in Europe. The region shall have a dynamic and innovative industry in the world which successfully competes with products and services in the global market.

3. Citizens in Stockholm

The city will offer unlimited opportunities for people to travel live and meet. It is also expected to offer high quality in terms of public services based on choice and diversity, which give Stockholm’s inhabitants the opportunity of choosing between different health care providers and schools. (http://stockholm.se/OmStockholm/framtidens-stockholm/Vision-2030/)

The premises that got caught more my attention, were premises 1 and 3 which talk about attracting more tourists to the city, providing more places to travel, live and meet and which also talk about choice and diversity. They are arguments very related to my idea of a prototype building that will seek to attend these issues with its design, function and use.

3.2 Stockholm as the Green Capital of Europe 2010

February, 23rd Stockholm was chosen as the green capital of Europe 2010. (http://miljobarometern.stockholm.se/default.asp?mp=GC).

The Center party of the city of Stockholm presented a 2009 budget for projects with environmental focus. Some of the measures which are relevant to know about in order that my design project relates to some of the measures are:

- In addition to the general increase in security, the Center Party of the city of Stockholm wants safe streets during evenings and nights.
- The Center Party has a vision of a Stockholm which is modern, tolerant and green. A city where ideas and entrepreneurship are to flourish and where politicians and municipal administrations are there for the people.
- The Center Party wants strong and proactive efforts in which the city takes the lead in climate change. They also want to keep an inventory of the city property in order to find areas where you can use sun's energy. The starting point should be to the city's own buildings must use small-scale, decentralized energy supply.

My design thesis project will reflect upon and seek to attend these 3 issues mentioned above, as it was presented in short in my aim and objectives session of this master thesis.
4 Brunkebergs square - The chosen area

4.1 History and future plans

The name of the Brunkebergs square is given after Brunkeberg which means rullstensås (rounded stone), and in which earlier times was called the Norrmalm area.

Transformation

1960: The remodelling of the lower Norrmalm gave Brunkebergs square a new face.

Malm Torg SE 5, which was built in 1897-1899 for Liförsäkrings AB Nordstjernan, is the only building that remains from de 1960’s and 1970’s.

Present at the square surroundings today are: the National Bank, inaugurated in 1976 and Hotel Scandic Sergel Plaza, inaugurated in 1971.

In connection with Gallerian, in 1973-1975 an underground parking lot was built. In 2003 Stefan Thorén made the iron sculpture called Gryning (dawn) for the square.

Below, a picture of Brunkeberg square in 1841 and a picture of the square nowadays.

Future projects

There are plans to change Brunkebergs square, because today it is a place perceived as boring and not well used by pedestrians. Very few people pass on the place today, despite its central location.

The new renovation plans by Wester and Elsner architects included a cafe in the middle of the square and stores at the ground level of several buildings around the square, including the building where Gallerian is located. The project is part of the so called “Three Squares Project” (Tre Torg), which
is a project that seeks to renovate the 3 main squares of the city center: Sergels square, Brunkebergs square and Gustav Adolf’s square. (www.wester-elsner.se ). This proposal did not go ahead, what led me to have even more interest on doing a further analysis in the area and search for ways of solving its problems with a new proposal.

Figure 10. Wester-Elsner Architects proposal (www.sfv.se )

4.2 Observations and considerations

Brunkebergs square is a strategic point for urban renovation, according to researches done by the Stockholm city council. It is considered an abandoned area by the citizens of Stockholm and a space that has no clear use.

The picture bellow was taken by me in February this year and despite the fact it was winter, the lack of life in the square can be clearly noticed.

Figure 11. Brunkebergs square Northwest view (Michelle Pietsch)
The site marked in red in figure 12 was chosen because of its strategic location, which has best immediate connection to the square, in comparison to the other buildings which surround Brunkebergs square.

The chosen building on picture 12B is a mixed use building but which has a private character. It is a seven storey building with a restaurant on the ground floor. On the front and back part of the building there are private and government offices, in the middle part there are residential units which are only 10 years old.

This building would be the one chosen to be demolished for having the best strategic position to fulfil my aims in this design thesis.

It would also be necessary to knock down the existing building in order to rebuild bringing a new concept to the area.

Figure 13 shows a rough scheme of the division of the activities taking place in the prototype building.

The prototype building would have to count on minimum 400 rooms, conference rooms which could be rent and stores and facilities opened to the public in order to pay back for the price of the investment made in the area.
Design proposal for a 2 star mixed use green hotel in the city of Stockholm

<table>
<thead>
<tr>
<th>Residence – ca 16 rooms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hotel rooms – ca 300 rooms</td>
</tr>
<tr>
<td>Hostel rooms – ca 150 rooms /outside bar connected to square</td>
</tr>
<tr>
<td>Conference rooms/gym/restaurant</td>
</tr>
<tr>
<td>Stores and walkway</td>
</tr>
<tr>
<td>Parking area</td>
</tr>
</tbody>
</table>

**Figure 13** – Rough scheme of Prototype green mixed use building’s function (own illustration).

By this other rough scheme present on figure 14B we can see how the connection between the chosen site, Brunkebergstorg and Drottningatan would take place.

**Figure 14A.** Location and classification of chosen site ([www.eniro.se](http://www.eniro.se) and own illustration).

**Figure 14B.** Chosen sites for renovation and communication paths. ([www.eniro.se](http://www.eniro.se) and own illustration)

### LEGEND

- **Chosen sites**
- **Brunkebergs Torg (area to be renewed)**
- **Interaction (Building x Square)**
- **Communication path**
5 Design Guidelines

5.1 Green buildings and eco design planning premises

The idea behind the design scheme is influenced by some of the green design premises of architect Ken Yeang, who is a Malaysian architect. His premises, implies a green building must interact with the surrounding environment, and when facing a square or green area in the urban realm must “communicate” in a way that the green of the building interacts with the green coming from the square and from the square into it.

Among the premises are the maximal use of natural light, ventilation, green facades, solar absorption by panels and conversion into energy for the building.

The premises which were chosen to be present in the design project of the prototype mixed use green building involve:

✓ The creation of a natural environment for the building occupants and in the process, the creation of an elegant, aesthetic design solution and interaction with the surrounding environment.

✓ Maximize the amount of day light, natural ventilation, natural vegetation and creation of friendly spaces with terraces and planting, shade devices, etc.

✓ The knowledge and awareness that the building can not be 100% green and accepting this premise the design should seek to mitigate the negative environmental impacts to make it as humane and pleasurably habitable for inhabitants as possible.

✓ Saving our environment is the most vital issue that humankind must address today. Designing ecologically is thus fundamental and crucial.

✓ Designing for low energy means improving comfort conditions relative to external conditions while minimising demands on non-renewable sources of energy.

✓ Improve comfort conditions over external conditions without use of electro mechanical systems, like adopting building configurations and orientation in relation to the locality’s climate, appropriate façade design (e.g.: solid to glazed area ration and suitable thermal insulation levels, use of natural ventilation and vegetation).

✓ Eco design is essentially design that integrates our artificial systems both mechanically and organically, with its host systems being the ecosystems. (Yeang, K. 2005 Eco Design and Planning).
Combined to the premises mentioned above, some LEED Guidelines (Leadership in Energy and Environmental Design) which had origin and are used in the USA also could be brought into my design here in Sweden.

According to the LEED Guidelines, Green Design and Construction practices should significantly reduce or eliminate the negative impact of buildings on the environment and its occupants.

Two out of five LEED premises will be reflected upon and considered during my design process, which are:

- Energy efficiency and renewable energy
- Indoor environmental quality

### 5.2 Mixed use developments definition and benefits

The prototype building is supposed to have a mixed use character, so a research investigating the definitions and benefits of mixed used development was carried out.

Mixed use is a key component of many current development trends, including Transit Oriented Development (TOD), Traditional Neighborhood, Development (TND), Livable Communities, and Smart Growth principles. ([http://www.designforhealth.net/pdfs/From_MDCWEB/DPmixed_use.pdf](http://www.designforhealth.net/pdfs/From_MDCWEB/DPmixed_use.pdf))

According to Grant (2002) there are 3 approaches applied to Mixed Use Development today and they are

- Increase intensity of land uses
- Increase diversity of land uses
- Integrate segregated uses

The main benefits of the mixed use development are:

- Activate urban areas during more hours of the day
- Increase housing options for diverse household types
- Reduce auto dependence
- Increase travel options
- Create a local sense of place.

The chosen site, on figure 12B, already has a mixed use character for having housing units and office spaces at the same place. But it is a private mixed use space. On my design process the new prototype mixed use green building will have a public, semi public and private character, and this expects to fulfill the aims of mixed use developments mentioned above.
5.3 Sustainable Methods in Urban Design

According to Torbjörn Einarsson, architect from Arken Arkitekter on his report New Sustainable methods of Urban Design, today’s urban planning practices are still very much influenced by the ideas of a 80 year old modernism, which implies the zoning of different functions in different enclaves. This ends up on creating more suburbia, or non town. He says:

“Much of the sustainability debate seems to get trapped in the same pattern of just adding new “functions”, new restrictions and proposing larger buffer zones. With the implied assumption that if you make the inventories and processes ever more elaborate, you will avoid all disadvantages and then at the end get some sort of “sustainable town plan” falling out from this “process”. It normally doesn't. Instead, this still modernistic method tends to give you modernistic zoning into enclaves for living, working and services. The enclaves are enclaves in spite of cute marketing labels, such as eco-village, Garden town, office park. This is far from the real urbanity” (Einarsson (2008))

Einarsson suggests we should move away from the modernism kind of planning urban spaces. The modernism planning is restrictive and ends up on separating functions in the urban realm according to separate zones, causing his way segregation of spaces. According to Einarsson planners should instead move into attraction plans which are based on broad evaluation of towns, cities and their urban spaces, in order to start planning for a real sustainable town.

Based on these reflections, Arken Arkitekter created a method of evaluation for this matter. The method is called STEP.

S for sustainability
T for town types
E for evaluation performance and empiricism
P for participation

This method works with the analysis of existing situation in various towns, cities and urban spaces, indentifying the strengths and weaknesses of every space and after this process decisions are taken collectively by planers and other actors responsible for the city development. It is a democratic process.

In his arguments Einarsson also encourages the mixed use in planning of urban spaces in order to promote various activities in the same place, making it interesting for the people inhabiting or passing by those areas.
The evaluation performance matter is executed by a value rose, shown on figure 16, to access the different settlements sustainability. Figure 15, shows the 4 crucial aspects to be attended when evaluating a certain area, which are: Ecological Sustainability, Social Sustainability, Physical Sustainability and Economic Sustainability. This is called “Sustainability on 4 legs”.

Each of these 4 aspects has demands that should be attended at some extent. For an example a certain area can be strong in Physical and Economic Sustainability but needs to reinforce and improve its ecological and social aspects and so forth.

Figure 16 shows a sample of value rose. This example has 12 variables that can be changed according to which topics one wants to observe and analyse on an urban space or a city. The topics can be changed as long as they belong to the 4 sustainability legs shown above on figure 15. A similar rose to figure 16 will be used to evaluate the urban area of Brunkebergs square on chapter 3 of this master thesis as a support for the SWOT analysis.

The value rose has a classification which ranges from 0 to 100. 0 means BAD and stays close to the centre and 100 means PERFECT and stays out at the edge.

The value rose offers a broad perspective of evaluating sustainability and performance of urban heritage of a certain area as well as how new planning ideas would fit a certain area.
Important to conclude this section by saying this STEP method as well as no other methods used for analysis gives guarantees for success, but it can be an excellent tool in order to help to identify the problems to be corrected or mitigated on a certain area.

After the problems are identified according to organized topics it is easier for planners and other actors to have a more assertive perspective of which steps to take in order to improve the weak aspects of a given area.

It also becomes easier to see with which actors they must work in partnership with in order to present a possible solution of a problem. For an example, if a given place must have its Physical Sustainability improved, which therefore involves the transport sector and accessibility, a contact and partnership with the city’s local transport company and traffic engineers has to be established in order to present a feasible and real solution for the Physical Sustainability issues. As said before it is a democratic process which involves the participation of several actors.
PART II:

CASE STUDY DESIGN: BRUNKEBERGS SQUARE
6 Survey of Brunkebergstorg area and immediate surroundings

6.1 Urban pattern perception

Figure 17 shows that the blocks of buildings configure a “rigid” urban pattern followed by transversal narrow streets.

Many of these narrow streets are not used or rarely passed by the pedestrians in the area, as concluded by my own observation and according to Ding, Li (2008). The streets are unattractive spaces, usually sides of buildings with some small stores along them.

My plan is to design my prototype building, which will be located on the site marked as number 1 on this urban pattern perception map and which was shown on figures 12A and 12B. This prototype building would replace the existing building as mentioned previously. This building is supposed to provide mixed use services, linking public (streets, square) and private spaces (buildings), creating this way more flexible spaces and bringing life to the nearby streets.

![Urban Pattern perception map, based on Ding, Li (2008) map (own illustration).](image)

**Figure 17.** Urban Pattern perception map, based on Ding, Li (2008) map (own illustration).
6.2 Function – Existing land use

Brunkebergs square is mostly surrounded by office buildings and a Hotel (Scandic Sergels Plaza). This area has little flow of pedestrians during all times of the day since most of them make use of Drottningatan, which is the street where the main street retail core is located.

The other streets which connect Drottningatan to Brunkebergs square, such as Karduarsmakargatan, Fredsgatan and Herculesgatan count on only a few shops, and the space inside blocks are mainly used for offices and partly for government offices.

Figure 18 shows the main types of uses present in the area.

The chosen site has already a mixed use character. The mixed use character of the site in question will be kept but the activities going on the proposed mixed use green prototype building will bring improvements to the site.

Instead of counting on housing and offices, and having a strictly private use, as the building that occupies the site nowadays, the prototype would count on commercial spaces, housing, lodging, being public, semi public and private at the same time.

![Figure 18. Existing land use map (own illustration).](image)
Location of main shops, galleries and hotels

As shown in the existing land use map the area is more dominated by commercial spaces. Drottningatan and the inside of Gallerian, possibly the most visited and important retail spaces in this area, are the most legible pathways located on the immediate surroundings of Brunkebergs square.

Brunkebergs square can be considered as an area out of the pedestrian flow mainstream, since it is even hard for pedestrians to find their way to this area.

Figures 19 and 20 shows the entrance and inside of Gallerian, respectively and figure 21 shows the pedestrians in Drottningatan. People who are walking along Drottningatan have no direct and legible access to Gallerian and vice versa. With the new prototype building inserted on the chosen plot these pathways would be clearer.

6.3 Traffic

According to Ding, Li (2008) the traffic in the Klara area is limited to Sergels Torg and a little on Gustav Adolf Torg. Brunkebergs square is an area with few to medium traffic during the day, during peak times (08:00-10:00 am or 17:00-18:30 pm) the traffic is medium to heavy.

The traffic map on figure 22A shows the main flows of cars according to the usual intensity of traffic in these areas. The classification ranges from Heavy to low traffic.

This could also be noticed by own observation of the area at both times mentioned bellow, on figures 23 and 24.
6.4 Commercial activities and main public flows

The city center street life, especially at the Brunkebergs square area, can be considered to be little or none during the night, as it can be observed on figure 25.

Even with the special Christmas lighting during the winter month of December, the square is rarely passed by pedestrians and therefore is considered by the pedestrians an unpleasant and unsafe space to pass by.
Brunkebergs square area besides having a dead street life, counts on no “support” from restaurants, clubs or pubs nearby. The only building would be the Scandic Hotel, but even this can not be considered attractive, since is a totally private space. Figure 26 shows that the commercial activities and pedestrian flows in this area are not very well linked. The areas marked in green are in need of reinforcement in order to better link the commercial and open spaces.

Figures 27, 28 and 29 show some of the flow problems faced by Brunkebergs square and therefore which urge for urgent correction.
Design proposal for a 2 star mixed use green hotel in the city of Stockholm

On figure 27 the amount and size of the trees in Brunkebergs square block the vision of the surroundings and on figure 28 the entrance to Gallerian is not very visible or well defined.

![Figure 27. Brunkebergs square - North view (Michelle Pietsch)](image)

![Figure 28. Brunkebergs square - Northeast view (Michelle Pietsch)](image)

On figure 29 it seems like the buildings work like wall curtains. People don’t have the possibility to see what is happening on the nearby streets. There is no possibility of vision of the streetscape or flow. During the spring/summer as shown in figure 24 the barriers are 2: the trees and the buildings.

![Figure 29. Brunkebergs square - Northwest view (Michelle Pietsch)](image)
### 6.5 SWOT analysis of Brunkebergs square and immediate surroundings

The SWOT analysis in question was built upon own observation of the area, on data found on the Hans Åke Petersson report and information found on the website of the city of Stockholm ([www.stockholm.se](http://www.stockholm.se)).

<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
<th>Opportunities</th>
<th>Threats</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diverse</strong> public buildings and services nearby.</td>
<td>Poor legibility of spaces, what is a problem for the tourists to find their way around</td>
<td>Increase in tourism and the growing population are expected to increase market opportunities, increase of number of hotels of diverse categories</td>
<td>Will of population in accepting changes in the area.</td>
</tr>
<tr>
<td><strong>Strong</strong> retail core</td>
<td><strong>Social life is limited</strong> between or inside buildings</td>
<td><strong>New traffic development</strong> is expected to reduce traffic flow towards the city center</td>
<td><strong>Cold</strong> weather. During winter that should be dealt with.</td>
</tr>
<tr>
<td><strong>Proximity</strong> to areas of touristic interest</td>
<td><strong>Lack of security</strong> at night due to the little movement on the streets</td>
<td><strong>Vision 2030</strong> is expected to provide more meeting places, insert greenery in buildings &amp; turn the center into a versatile and eventful place.</td>
<td>Increasing population and tourism will also <strong>demand more capacity and well planned infrastructure</strong> for the city center.</td>
</tr>
<tr>
<td><strong>Little noise</strong> from traffic.</td>
<td><strong>Facilities</strong> in public spaces such as seats and shelter are not sufficient and don't function the way they should.</td>
<td></td>
<td><strong>No available land</strong> to build on the chosen location.</td>
</tr>
</tbody>
</table>

![Figure 30. SWOT Analysis (Michelle Pietsch)](image_url)

### 6.6 The Value Rose of Brunkebergs square area

The value rose on figure 31 illustrates the current situation of the Brunkebergs area and its immediate surroundings; it is a complementary analysis which shows in a graphic manner the information present in the SWOT Analysis on figure 30 plus some considerations.
Some concluding comments can be made after observation of figure 31. Regarding the 4 sustainability topics (shown on figure 15) which have to be attended:

**Physical Sustainability**

✓ Good accessibility for public transports and cars. This area is close to Gamla Stan and the main retail core of the city represented by Drottningatan and Gallerian. It is also well served by the central line of the subway, T Centralen and by taxis and buses.

✓ The noise and the air pollution are not a big issue in the area since only at peak times there are small traffic jams, which doesn’t get to a point of disturbance for the area.

✓ It can be inferred the **Physical sustainability of the area is good** in the overall.

**Ecological sustainability**

✓ There is just a few data acquired through newspaper reading and observation regarding energy effective transports, which are the *miljöbil* (environmentally friendly cars in Swedish), represented as far as I know only by some taxis circulating in the area and some buses.

✓ No productivity of soils or energy effective techniques of recycling. The biodiversity at Brunkebergs square is also not strong enough. There are just sparse trees, not well connected (as an example through “green belts of vegetation” promoting the migration of species.
✓ It can be inferred the **Ecological sustainability of the area has to be drastically improved.**

✓ **Social sustainability:**

✓ The intensity of urban life and meeting places at Brunkebergs square is very poor, since it is not an inviting space as mentioned by SWOT Analysis and urban pattern perception map. The area needs more places to meet in order to intensify and turn the urban life interesting in the area.

✓ The social activities are also not very clear. Brunkebergs square is also not seen or considered as an appropriate public space. This also represents an obstacle to interaction between different ethnic, generation and income groups.

✓ The local connections and historical connections are also not clear. As said before during analysis the area is surrounded by blocks which enable no physical or social connection to the successful nearby areas, such as Drottningatan and Gallerian. According to Torbjörn Einarsson, the denser the blocks the closer you come to getting a jammed street or streets turning into barriers instead of arenas for street life, which is the case of the narrow streets which lead the way from Brunkebergs square into other nearby areas.

✓ It can be inferred that the **Social sustainability of the area has to be improved.**

**Economical Sustainability**

✓ The possibilities for business shops and services are high since we are dealing with an area inserted in the city centre. There are already many office spaces surrounding Brunkebergs square and some shops as the side entrance of Gallerian and some small shops along the narrow streets leading to Drottningatan, but the problem is that they are not well connected. In order to work the functions have to be connected somehow, instead of being segregated. This also touches the aspect of the long term economy which is directly related to the right development of this urban area. At the moment at this specific area at Brunkebergs square there is an uncertainty about the long term economy, That is the reason why on the value rose the rating is in the middle (50, 50%). It can go great or go down depending on how well connected the functions in the place are, new developments made in the area, such as shops or mixed use spaces, etc.

✓ It can be then inferred the **Economical Sustainability of the area needs more planning of activities going on in the area in order to respond positively.**
7 The design project

7.1 Opportunities

Gallerian and Drottningatan are successful examples of public attraction. In between these 2 areas is Brunkeberg square, as shown on figure 32 seen nowadays as an unattractive “black hole”.

The so called main links of flow represented in red on figure 32, which goes from the interior of Gallerian, passing through Brunkeberg square and reaching Drottningatan will enable communication via improved pedestrian flows from Gallerian and Drottningatan, which are successful public attractors, with Brunkeberg square, being an opportunity to bring life and interest back to the square.

The optional or secondary links of flow, represented in yellow on figure 32 will enable improved pedestrian communication between Brunkeberg square and Drottningatan. They are respectively 2 narrow streets called Vattugatan and Herculesgatan, which will have use as the main and secondary entrances for the prototype building’s Hotel.

The link between the building and the square, represented in pink on figure 32 will promote communication from the building with the square by the walkway from the third floor of the building which connects to the bar/cafè to be inserted in the area and then leading to the square.

In short the spaces that had no direct connection before, as the interior of Gallerian and Drottningatan now will be connected by the paths leading to and inside the prototype building and also through the square which will be renewed in a way that the flows are clear and the surrounding areas visible, as an example, changing the vegetation layout and scale. This way the pedestrian vision of the surroundings will not be blocked any longer.

Figure 32. Opportunities map (Michelle Pietsch)
7.2 General layout proposal for the area

The proposal on figure 33 is a combination of my proposal with the Wester and Elsner one to have stores along the buildings surrounding the square.

**Figure 33. General layout proposal for Brunkebergs square area (own illustration)**

1. **The mixed use prototype building:**
   Will seek to promote pedestrian flows from Brunkebergs square into Drottningatan and vice versa.

2. **Brunkebergs square:**
   Renewed, more attractive counting on a suggested café/bar directly connected to the prototype building

3. **Gallerian:**
   New gate opened towards Brunkebergs square. New stores also opened towards the square.

4. **Drottningatan:**
   New life will be given by new passage way inside the hotel building and therefore more connection with Brunkebergs square will be provided.
7.3 Typologies to be used in the project

1- The Eaton centre in Toronto, Canada: The prototype building will have the same system of “closed shopping street” with a pathway covered by a skylight, catching this way the maximum of natural light.

2- The green walkway represents the path of connection inside the prototype building between Brunkebergs square and Drottningatan, characterized by a lot of green features and some trees along it.

3- The store represents the activities happening in the ground floor of the building, which is going to be characterized by commercial spaces opened to the public.

4- Green Roof which will be used on the roof level of the prototype building. The green walkway to the square also symbolizes the physical connection from the prototype building bar to the square.

5- Hydroponic vegetation which will flow upwards and downwards the prototype building.

6- A random 2 star hotel room showing the standard type of a 2 star room for the hotel inside the prototype building.

Figure 34. Eaton Center Toronto
(www.destination360.com/north-america/canada/eaton-centre )

Figure 35. Green walkway

Figure 36. Store inside Gallerian in Stockholm
(www.gallerian.se)

Figure 37. Green roof of Nanyang University in Singapore. (http://www.neatorama.com)

Figure 38. Vegetation flowing from top to bottom of building (http://netflock.poly.edu)

Figure 39. 2 star hotel room in Stockholm
7.4 Plans, sections and perspectives

Underground level Plan

The underground level plan will provide parking space for hotel customers and for the people living in the permanent residential units in the prototype green mixed use building.

The people coming for conferences in the Hotel can park on the existing underground parking under Brunkebergs square or get permission to park in the hotel garage.

Figure 40. Underground plan (own illustration)
Ground Level Plan

The ground level would work as a path of communication between Brunkebergsstorg and Drottningatan and would count on stores, kiosks, restaurants and other facilities which would attract the public into the building.

The 2 entrances for the Hotel would be located on the side streets, main one in Herculesgatan and secondary one in Vattugatan. This would, to some extent bring life to these nowadays abandoned and narrow streets.

- 1-Walkway path and entrance (Shopping Avenue)
- 2-Restaurant
- 3-Beauty parlour
- 4-Kiosk, free meeting space
- 5-Storage /Adm./Garbage
- 6- Stores,
- 7-Hotel/Hostel entrance.
Second Level Plan

The second level plan would count on conference rooms, indicated by number 10, which could be rented by the nearby offices for various purposes and also on a gym, indicated by number 11, which would be opened to the public.

- 8- Guests eating area
- 9- Hotel Staff Area
- 10- Conference rooms
- 11- Gym (opened to public)
3rd and 4th level floor plan

The third and 4th level plans are where the Hostel rooms will be located. These rooms will count on 6 beds and a collective bathroom for people in the room.

The 3rd level plan is one of the most meaningful in the project for being projected outside by a bar indicated by number 12, which will provide a path of direct connection through stairs to a bar/ café to be placed in Brunkebergs square. (see figure 44), the 4th level plan will be just about the same, apart from the bar area

- 12- Outdoor/Indoor bar
- 13- Hostel rooms

Figure 43. Third level plan (own illustration)
5th to 8th level floor plan

The 5th to 8th level floor plans will have the same layout and there the Hotel rooms will be placed. The Hotel rooms will have about 12m² count on 2 single beds or 1 double bed, with the possibility of adding a 3rd bed. Each room has its own bathroom and there are special rooms with about 18m² and with privileged view of Brunkebergs square and Drottningatan.

- 14- Hotel rooms

Figure 44. 5th to 8th level plans (own illustration)
9th level floor plan

The 9th level floor plan is where the permanent residential units will be located. Each unit will count on a living room, 1 bedroom, 1 bathroom and a kitchen connected to the dining space.

Figure 45. 9th level plan (own illustration)
Roof Level Plan

The roof level plan has a provision to be visited by the people staying in the Hotel/Hostel. With its green roof and privileged view from the surroundings, such as Brunkebergs square and Drottningatan, it would be a pleasure location to be at for events or even sunbathe during the summer season.

1-The green roof technique enables absorption of rain water, better insulation and economy of air conditioning and heating systems for the building, helps to combat the heat island effect. The vegetation along the building can be said to be hydroponic (suggestion)

2-The skylight enables maximum light entrance for the building, saving energy this way.

3-The photovoltaic panel transforms light and captures solar energy to be transformed into energy for the building.

Figure 46. Roof level plan (own illustration)
Design proposal for a 2 star mixed use green hotel in the city of Stockholm 2009

Section A-A

Figure 47. Section AA (own illustration)

Section B-B

Figure 48. Section BB (own illustration)
**Daylight penetration scheme**

The Daylight penetration scheme on figure 50 was done based on the assumption the materials applied on the building, such as glass, skylights, etc, would enable these flows of light entrance. The method of representing was based on the LEED representation of daylight penetration on a building.

![Daylight penetration scheme](image)

**Ventilation scheme**

The ventilation scheme on figure 51 was done based on the assumption the materials applied on the building, such as brise soleils, windows, etc, would enable these flows of ventilation entrance and exit. The method of representing was based on the LEED representation of ventilation scheme on a building.

![Ventilation scheme](image)
Figure 52 shows the façade of the prototype green mixed used building and how it relates to the surrounding buildings and to Brunkebergs square, by showing features as the path of connection to the bar that would lie in the square. The total height of the prototype building is about 35 meters and as the picture shows, it is slightly taller than Scandic, but not so height that would break the skyline of the place.

Figure 53 shows a zoomed vision of the connection path between the hotel and the bar/café at Brunkebergs square. This bar would be used as it is during the summer season with tables outside. During the winter there’s the possibility that temporary glass cover is put around the bar in order to keep it warmer in the winter together with the auxiliary heating, also to be provided.

Figure 53 also shows how the hydroponic green vegetation coming hanging from the structures in the building relates and connects to Brunkebergs square. The square which before had no physical (architectural) connection or “dialogue” to the surrounding buildings is now relating to it through the path of communication to the bar and the green features.
Design proposal for a 2 star mixed use green hotel in the city of Stockholm

Figure 52. Hotel bar communication with Brunkebergs square (own illustration)

Figure 53. Connecting pathway and interior (ground floor level) (own illustration)
Figure 54 above shows the Ground Floor Level where the life and pathway connection to Drottningatan are taking place. The stores on the ground floor as well as the kiosks will be opened during the normal commercial time of Stockholm (9 am to 7-8 pm). The guests staying at the hotel and residents of the building during the night will make use of the side entrances located at Vattugatan and Herculesgatan.

![Figure 54. General View of inside of hotel (own illustration)](image)

Figures 55 and 56 shows the interior of the prototype building from different angles. There is also vegetation flowing on the inside walls of the building and overtures which enable the entrance of light on each floor plan.

![Figure 55. View from the residential floor veranda (own illustration)](image)
PART III:

RESULTS, DISCUSSION AND CONCLUSIONS
8 Results and discussion

As mentioned in previous arguments along this master thesis, the word sustainability has a much more complex and broader meaning than just inserting some greenery and high technologies on a building. The sustainability concept is not only responsible for improving the quality of a building as an isolated object placed in an urban area, but this very same building is also responsible for improving the quality of the urban realm where it is inserted and if possible integrate itself with other areas of interest, as it is the case of my proposed design in this master thesis for a prototype green mixed use building by Brunkebergs square. The world sustainability deals with the Physical, Ecological, Economical and Social aspects of a given area. These aspects are interrelated as shown in the STEP analysis by Arken Arkitekter and therefore can not be considered isolatable when the well functioning and balance of an area are in question. Every single aspect is interdependent and if one aspect doesn’t work considerably well the others are subject to failure or to poor performance. With these observations I do not imply that an urban context has to be perfect in order to function well, but at least some basic issues of each aspect (Physical, economical, social and ecological) have to be attended in order that the others flow and function.

Through this master thesis research we could observe that Brunkebergs square is considered by Stockholm’s citizens and some urban planners to be one of the “black holes” of Stockholm’s city center urban realm. It is an uninviting space with lack of pedestrian flows and activities happening on its surroundings, there are no places for meeting and interaction. There is also no clear connection between the square and the surrounding buildings. These buildings have no physical elements which can relate to the square and have the appearance of wall curtains that do not enable flows to the areas of interest nearby. The streets besides those buildings are narrow, old style, and somehow uninviting, also because they don’t clearly show the activities which take place there. Some of them have stores along, but how these stores have any economic return if people don’t often walk through these streets, it’s a questionable thing.

According to my SWOT analysis and Value Rose analysis (part of the STEP analysis) on this thesis, Brunkebergs Square has to improve a little its Physical sustainability, which in the overall is good, with the available transportation, access to cars and little noise and pollution, but has to drastically improve its Social and Ecological sustainability in order that the Economical Sustainability can be guaranteed for the long term. That means in regards to Social Sustainability improve aspects such as providing more places for people to meet and interact and insert elements which may provide a more
active social life in the space. In regards to Ecological Sustainability, the place needs as an example more buildings with elements that enable the use of natural sources of energy, like the sun, etc.

Many proposals, as the Wester and Elsner architects’ proposal of placing stores on the ground level of every building, have been made by several architectural firms in Stockholm in order to improve the Brunkeberg square area. The idea proposed by Wester and Elsner architects would certainly promote more life, touristic interest and therefore pedestrian flows to the area, but in my opinion this solution would not be enough for an assertive renewal of the square, that is the reason why I assume my prototype building together with the Wester and Elsner proposal could be a better solution to solve or mitigate the problems of Brunkebergs square and its immediate surroundings.

The other very important issue presented on this thesis is the imminent collapse of the hotel industry in Stockholm due to the financial crisis and hard times for the tourism industry which directly affect the aspect of Economical Sustainability in this area.

It may be nice to have luxurious hotels in Stockholm, but there has to be a balance between the number of Hotels and hotel rooms of luxurious hotels and budget hotels, so that people are free to choose where to stay in accordance to their possibilities.

Successful practices of budget hotels, as the Hotel Ibis Amsterdam and Ibis Rio de Janeiro have been shown throughout this thesis and proven possible to insert budget hotels in the core of famous city centres. What is lacking in Stockholm is the planning according to nowadays reality and also support from the Government and its politicians, who at the present have to be more there for the people, as on of the premises of Stockholm as the Green Capital of Europe 2010 shows.

Based on the plans, sections, 3d models and arguments presented on the section “Project Proposal” it’s possible that this prototype building, if inserted on the chosen site, could be a key element to connect these 2 areas considered important in the city center, Drottningatan and Brunkebergs square.

The mixed use character of the building would also attract more varied groups of people interested on the activities taking place there and would possibly solve the problem of the expensive price of land on the city center, making possible to have rooms of 2 star quality and youth hostel rooms in the building.

An innovation for the area is that the building with its green elements, flowing into the square which would also relate directly to it, by some sort of connecting “belt” and this way the flow from the square into the building at ground and third level would seem like naturally led. What doesn't happen today with the existing buildings as previously seen in SWOT analysis (see figure 30).
Other important aspect to be discussed is that this building would make maximum use of the natural resources, i.e.: sun light, ventilation, being considering this way a “healthy building” and therefore saving energy and attending some of the principles of green design according to architect Ken Yeang and to some basic principles of LEED.

Finally, I would like to present some areas in Stockholm, where the prototype building could possibly work as a path of communication between areas of interest: They are respectively, 1- Central Nacka, 2- Sickla Köpkvarter and 3- Karolinska.

On figure 57, the prototype building represented by a rectangle could serve as a path of connection between the road and the Nacka Stadshuset. The building would be located in an area of interest in Nacka, due to the proximity to Forum Nacka, which is a retail space (shopping center), around which potential residential areas and activities are being

![Possible Prototype building location in Central Nacka](www.eniro.se and own illustration)

On figure 58 the prototype building could represent a path of communication between the shopping center and the parking lot, but mostly would serve as a lodging option for the people staying at the Sickla Köpkvarter. The location would be privileged for being in an area where the retail core is located extremely near. The stores would start at the ground level of the building and continue inside the shopping
Figure 57. Possible Prototype building location in Sickla Köpkvarter (shopping area) ([www.eniro.se](http://www.eniro.se) and own illustration)

Figure 59 shows an area under development in Stockholm: The Karolinska area. In this case the prototype building could serve as a path of connection between the road and a big green area which would be located right behind the building. This area is under commercial and housing expansion; therefore a budget hotel building in this area would be very welcome in a near future, when the touristic interest for the area would also be increased.

Figure 58. Possible Prototype building location close to Karolinska ([www.eniro.se](http://www.eniro.se) and own illustration)
8.1 Challenges

This project proposal deals with two different types of site, one is a square, which is a public space owned by the government, but at the same time where planners and their proposals, if successful, have a stronger voice over the final decision. The other site is private and it would certainly be difficult to get approval from the stakeholders to build anything on the chosen site, especially because at the moment there is already a building with apartments which was built about 10 years ago and some government offices sharing the space.

Also, the new project, for being a more affordable lodging alternative would represent threatens to the 4 stars Scandic Hotel which lies beside the chosen site. In the other hand this could also represent an alternative for an alliance between the hotels. Scandic could buy this idea and give their hotels a new character.

Considering the reasons mentioned above is the reason why my proposal will be limited to be considered as a prototype that could solve the problems in the area, but that difficultly would be implemented in the area considering lack of available space to build, government will and conflicts of interests between the population, hotel industry and government.

A whole change of mine and will to have a new green innovative approach to the area would have to be considered if this prototype was to be built.

9 Conclusions and recommendations:

Based on the discussion and challenges mentioned above is possible to conclude that there are indeed feasible ways of turning “one of the black holes” of the city center of Stockholm into a lively and joyful space or minimizing the problem, as some previous proposals from architecture offices and my project proposal have attempted to show.

The city of Stockholm also for having been nominated the green capital of Scandinavia 2010 and for having to achieve the plans traced by Vision 2030 should have on its agenda the inclusion of more green character buildings on its central urban realm. Even if most of the buildings follow nearly the same traditional design over centuries, new, modern green design could be strategically inserted in some areas of interest, especially when having the function of connecting areas of interest, promoting liveability, joy and variety.

Regarding the matter of the hotel industry in Stockholm, subject of collapse due to the financial crisis, hotel owners should be more flexible and make use of an approach which could attend the needs of affordable lodging and at the same time attend their interests when it comes to economic return of the
investment. It's likely that mixed use buildings, as shown in the project, which provide possibility of services linked to a network of 1 or 2 stars hotel would be fully booked for most of the year.

The government of the city of Stockholm has also to lay its eyes upon the question and demand of tourism industry and reach to a common sense between what is good for the population and good and profitable according to their interests. In my opinion, a balance can be reached and some strategic areas can be negotiated or donated to mighty profitable investments.

Nowadays there are very good tools for urban analysis as presented in this thesis, and the good part is that after helping identifying the problems of a given area, they become a tool for democratic decision involving citizens, stakeholders, politicians, etc, to see what are the best alternatives to be executed in order to achieve satisfactory and sustainable solutions for an area.

Finally I conclude saying that examples of successful green buildings and low budget hotels located on the core of the main cities worldwide can be observed and the best practice can be learned from them and that is important that architects and planners always keep in mind the 4 aspects (legs) of sustainability when trying to plan successfully.
10 References

Bibliography


- Greenhotelier, 2005, *Sustainable Hotels and resorts-an achievable goal?* The International Tourism Partnership, UK.


Web sites

- http://stockholm.se/OmStockholm/
- http://www.ne.se/lang/brunkeberg
- www.eniro.se
- www.wester-elsner.se
- www.ibishotel.com
- www.scandic.com
- www.skyscrapercity.com
- www.schlijper.nl
- www.sfv.se
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