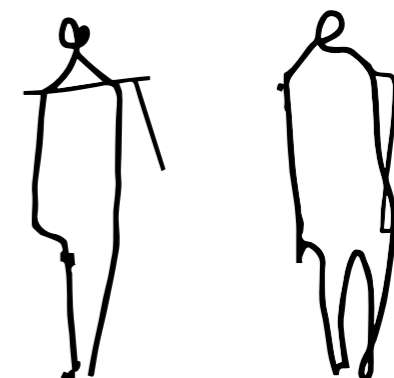


2 Theoretical argument



The following section of the dissertation comprises of a literature study deconstructing the Bilbao Effect. Once the Bilbao Effect has been clarified and understood, three architecture case studies will be investigated in terms of their successes and shortcomings (one of which will be the Guggenheim Museum Bilbao). After the case studies have been investigated and conclusions have been made, a new method will be designed

to deconstruct landscape architecture case studies. The landscape architecture projects will be selected from popular projects around the world which have successfully regenerated their precincts, essentially creating a 'Bilbao Effect' of their own. Conclusions drawn from the investigations will form the basis of principles to guide the design intervention in Pretoria West.

2.0 Theoretical argument

2.1 Bilbao Effect explained

2.2 Design matrix to assess:

2.2.1 The Guggenheim Museum Bilbao

2.2.2 The Royal Ontario Museum

2.2.3 Art Gallery of Toronto extension

2.2.4 Draw conclusions

2.3 Design applied matrix to assess the:

2.3.1 High Line, New York

2.3.2 Olympic Sculpture park

2.3.3 Louvre-Lens Museum park

2.3.4 Duisburg Nord

2.3.5 Grand Canal Walk

2.3.6 Parc de la Villette

2.3.7 Draw conclusions

2.4 Establish set of principles

Figure 2.1: Flow chart outlining the focus points and intentions of this study

Methodology

This section aims to answer the question, what is it about the Bilbao Effect that makes it so successful?

This section starts with a brief literature review on the Bilbao Effect and the Guggenheim Museum. To determine exactly what it is that makes the Bilbao Effect so successful, the Guggenheim Museum Bilbao (GMB) will be scrutinized along with two other buildings with similar intentions to the GMB (the Royal Ontario Museum and the Art Gallery of Toronto extension), in terms of regenerating their precinct. The study on the GMB and two more buildings are done to narrow down the scope of investigation for the next study, the most important study.

A method is designed to break down six landscape architectural projects in order to fully understand the Bilbao Effect in

landscape architecture. The best way to draw objective and accurate conclusions from the case studies is to distil each case study into a set of quantifiable data. Once the data has been retrieved the data will be analysed.

This set of data must be designed purposefully in order for it to compare to other sets, essentially seeking differences and similarities between the sets of data. The resemblance of the data is thus essential to the study as the designed intervention in Pretoria West will be based on the findings of this chapter.

Limitations

Although this method attempts to represent the case studies in a clinical, non-biased manner, there are a few shortcomings. Very few research studies contain information linking the Bilbao Effect with landscape architecture. The

three architectural case studies provided an easy choice as Argyle (2017) states that numerous authors consider them to mimic the Bilbao Effect. The landscape architecture case studies were chosen by the author after considering projects from around the world that have regenerated their precincts. Projects considered popular by both the public and designers were strongly considered before choosing the six projects. Projects (considered as precedents) within the landscape architecture profession were also considered.

The projects were scored according to quantifiable, tangible factors (such as proximity to transport nodes and the size of the landscape). The categories that include information regarding the physical design principles and the designer's approach were scored by the author according to his understanding of the project.

After every case study a list of references will represent the information used for that section.

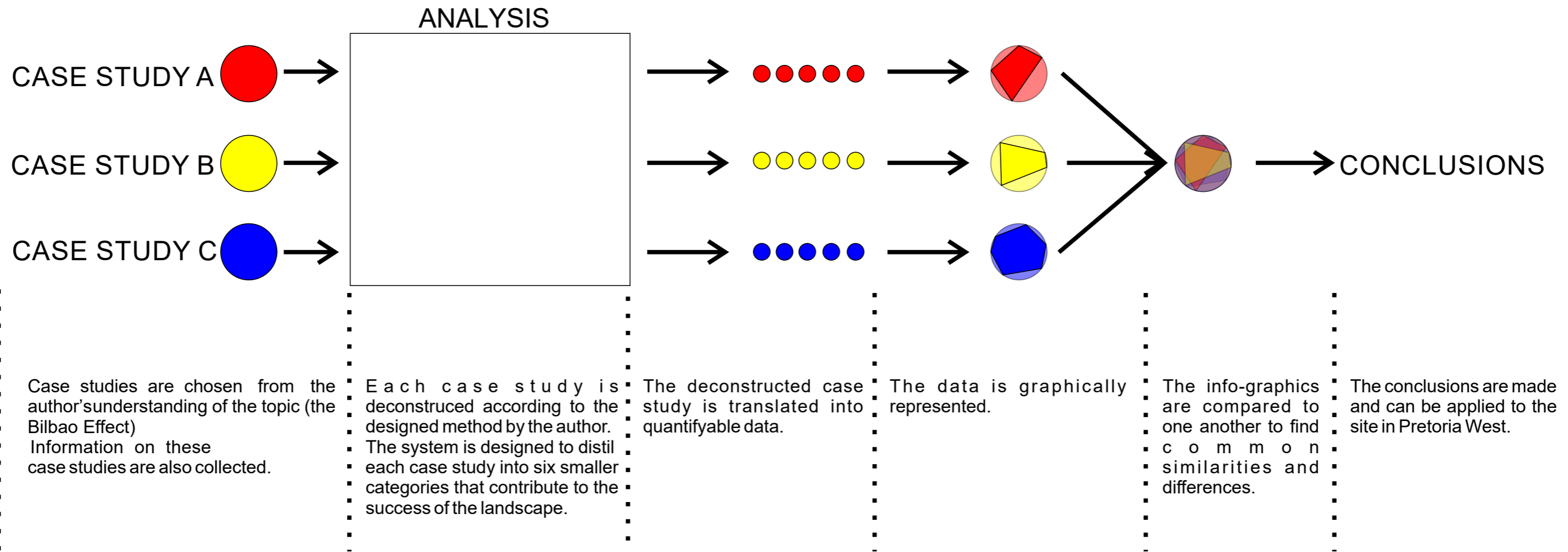


Figure 2.2: Flow chart explaining the process of deconstructing the various case studies

2.1 The Bilbao Effect

The city of Bilbao was in a similar physical, cultural, and economic depression as Pretoria West finds itself in today. For some time, very little to no stakeholders have invested in the western quadrant of Pretoria as the energy of the city has moved to the east. Bilbao underwent a major transformation from a post-industrial city to a vibrant cultural and economically stable city. This was largely due to the masterpiece of a building called the Guggenheim Museum Bilbao design by Frank Gehry.

This dissertation will not only thoroughly explain the Bilbao effect, but will also greatly focus on the GMB, why is it a successful building, and why is it a good urban catalyst? Numerous writings, (Areso 2007), (Franklin 2016), (Gonzalez 2011), (Safdie 2010) focus on the physical effect the GMB has had on the Basque region, concurring on the fact that the Bilbao effect is a positive catalytic reaction that economically and culturally regenerated the city of Bilbao. This section will look at two buildings erected with the same intentions of regenerating a precinct and compare them to the GMB to reinforce conclusions.

This dissertation seeks to understand whether the Bilbao effect can be replicated in the form of a designed landscape in the suburb of Pretoria West. The majority of this section will thus focus on well-known landscape architectural projects that have managed to regenerate a post-industrial city/precinct i.e. transposing the Bilbao Effect to a landscape context.

“The city of Bilbao is situated on the banks of the Nervión, a tidal river. The climate in Bilbao is milder than in most other parts of the peninsula, rarely falling below freezing in winter, or rising above 35°C in summer. There is also more rain, which is a mixed blessing.

The green hills of Bilbao are a welcome relief after an extended stay in the dry plains in the south, but planning a day at the beach is more risky. The population of Bilbao is just over 372,000, but within the metropolitan area there are over

1,000,000 inhabitants. Bilbao is divided into eight district areas: Deusto, Uribarri, Otxarkoaga/Txurdinaga, Begoña, Ibaiondo, Abando, Rekalde and Basurto/Zorroza. The end of the nineteenth century and the early twentieth century witnessed the rise of Bilbao as an economic power within the Basque Country and Spain. Mining, shipbuilding, and other iron industries led its economy for several decades and attracted large numbers of inhabitants to the growing city.” (Gil 2017)

The steel industry collapsed in the mid-1970's and 1980's and caused major social, economical and ecological problems (Gil 2017). In 1983 a catastrophic flood was seen as the last nail in the coffin (Gil 2017). The flood affected the entire Basque country, Burgos and Cantabria. Transportation, electricity and gas services, drinking water, food, telephone, and many other basic services were severely affected (Gil 2017). This catastrophe made the city rethink their strategy plan for the future of Bilbao. According to Gil (2017), multiple large-scale initiatives, ambitious unbuilt proposals, and remarkable built projects took place during this period that would culminate with the opening of the the Guggenheim Museum Bilbao on October 19, 1997.

According to Argyle (2017), Architects such as Eric Owen Moss, Daniel Libeskind, Patrik Schumacher and Jürgen Mayer all praise the GMB as a successful building and urban catalyst. The researcher sides with the majority of critics, who consider that it is a successful, innovative, and pleasing building to look at. It was mentioned earlier that the regeneration of Bilbao due to the GMB is not debatable as it was a success. This is an undeniable fact. What is debatable is why the museum has attracted over 9 million visitors since opening in 1997. The building transformed Bilbao from a functional, modernist industrial city, to a more humanistic, accessible city.



Figure 2.3: Bilbao floods



Figure 2.4: Bilbao floods



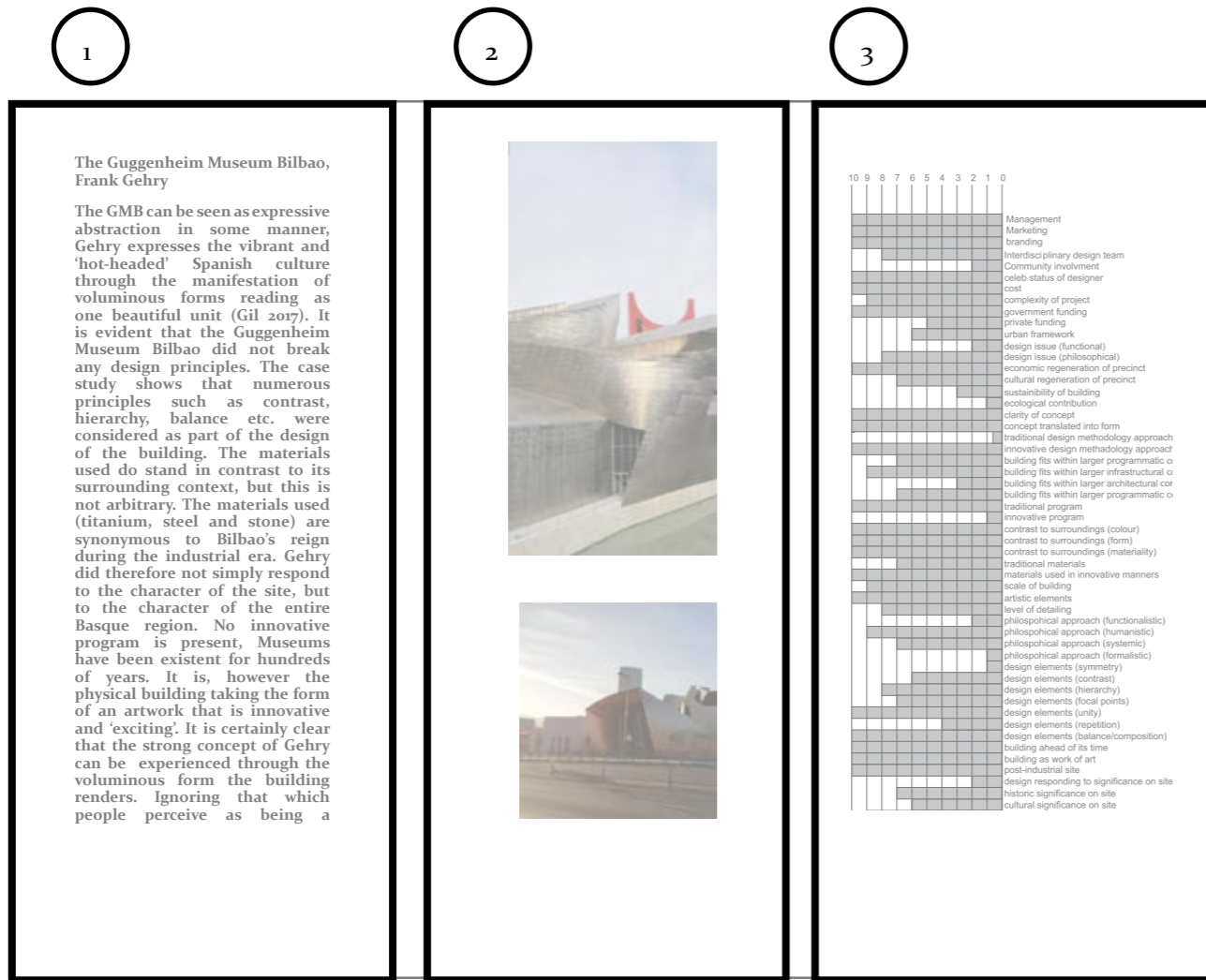
Figure 2.5: Bilbao floods



Figure 2.6: Bilbao floods



Figure 2.7: Modern day Bilbao



A brief literature study gathering information regarding the selected case study.

Images of the building

The information translated into an info-graphic. How the info-graphic was set up is explained on the following page

Figure 2.8: Graphic summarising the process of deconstructing the architecture case studies

2.2 The Matrix

A matrix system was set up to graphically deconstruct the three buildings and all the stakeholders involved, to determine the factors contributing to the Bilbao Effect. Displayed in Figure 2.8 are all the factors that might play a role in the success of the building, ranging from the physical design of the building to the management

and location of the building. The purpose of this matrix is, through a comparative analysis, to compare the different case studies and come to conclusions that will lead to a more complete, accurate matrix, for the landscape architecture case studies.

Questions formulated by the author to determine all the factors that might possibly contribute to the success of the building. Why does (or doesn't) this building successfully recreate a Bilbao Effect?	Questions deconstructed into factors that can be given a score out of 10 in order for the case studies to be comparable with one another	A score between 0 and 10 is given to each factor according to author's understanding of the research										
		high	medium						low			
Is the building successful because it is managed as a corporation?	management marketing branding	10	9	8	7	6	5	4	3	2	1	0
How much funds were available for this project?	interdisciplinary design team community involvement celeb status of designer cost	10	9	8	7	6	5	4	3	2	1	0
Is the building part of a larger framework?	urban framework	10	9	8	7	6	5	4	3	2	1	0
Is the building a necessity?	design issue (functional) design issue (philosophical)	10	9	8	7	6	5	4	3	2	1	0
In what way is the precinct regenerated?	economic regeneration of precinct cultural regeneration of precinct sustainability of building ecological contribution	10	9	8	7	6	5	4	3	2	1	0
Does the building have a concept?	clarity of concept concept translated into form	10	9	8	7	6	5	4	3	2	1	0
The approach of the design methodology, is it innovative or traditional?	traditional design methodology approach innovative design methodology approach	10	9	8	7	6	5	4	3	2	1	0
Is the building simply put on site or responsive to some contextual infrastructure?	building fits within larger programmatic context building fits within larger infrastructural context building fits within larger architectural context building fits within larger programmatic context	10	9	8	7	6	5	4	3	2	1	0
Does the program of the building have something to do with people visiting the building?	traditional program innovative program	10	9	8	7	6	5	4	3	2	1	0
Is the building in contrast to its surroundings?	contrast to surroundings (colour) contrast to surroundings (form) contrast to surroundings (materiality)	10	9	8	7	6	5	4	3	2	1	0
What materials have been used by the designer?	traditional materials materials used in innovative manners	10	9	8	7	6	5	4	3	2	1	0
What is the scale of the building?	scale of building artistic elements level of detailing	10	9	8	7	6	5	4	3	2	1	0
What the philosophical stance of the designer?	philosophical approach (functionalistic) philosophical approach (humanistic) philosophical approach (systemic) philosophical approach (formalistic)	10	9	8	7	6	5	4	3	2	1	0
Does the building adhere to design principles?	design elements (symmetry) design elements (contrast) design elements (hierarchy) design elements (focal points) design elements (unity) design elements (repetition) design elements (balance/composition)	10	9	8	7	6	5	4	3	2	1	0
Is the building ahead of its time?	building ahead of its time building as work of art	10	9	8	7	6	5	4	3	2	1	0
Does the design respond to the site?	post-industrial site design responding to significance on site historic significance on site cultural significance on site geographic significance of site the new element modifies the elements around it existing elements are enhanced or transformed the catalytic reaction does not damage its context an understanding of the context	10	9	8	7	6	5	4	3	2	1	0
Is the building controversial?	did the building challenge architecture	10	9	8	7	6	5	4	3	2	1	0
Is the building an abstraction of some sort?	organic forms artistic forms forms easily composed strong, rigid lines building is an abstraction of existing phenomenon building is abstraction of an idea/ideaology	10	9	8	7	6	5	4	3	2	1	0

Figure 2.8 (continued): Explaining the categories under which the case studies will be scored

2.1.1 The Guggenheim Museum Bilbao, Frank Gehry

The GMB can be seen as expressive abstraction in some manner, Gehry expresses the vibrant and ‘hot-headed’ Spanish culture through the manifestation of voluminous forms reading as one beautiful unit (Gil 2017). It is evident that the Guggenheim Museum Bilbao did not break any design principles. The case study shows that numerous principles such as contrast, hierarchy, balance etc. were considered as part of the design of the building. The materials used do stand in contrast to its surrounding context, but this is not arbitrary. The materials used (titanium, steel and stone) are synonymous with Bilbao’s reign during the industrial era (Safdie 2010). However, Gehry didn’t simply respond to the character of the site, but to the character of the entire Basque region. No innovative program is present, museums have been existent for hundreds of years. It is, however, the physical building taking the form of an artwork that is innovative and ‘exciting’. It is certainly clear that the strong concept of Gehry can be experienced through the voluminous form that the building renders (Safdie 2010).

Ignoring that which people perceive as being a beautiful building, one looks at the GMB and thinks “how on earth was this created?” It is unlikely that another person could have come up with these shapes; the overall complexity of the project is certainly ahead of its time. It must be admired for something out of this world yet it is so much in place (Gil 2017).



Figure 2.9: the GMB



Figure 2.10: the GMB

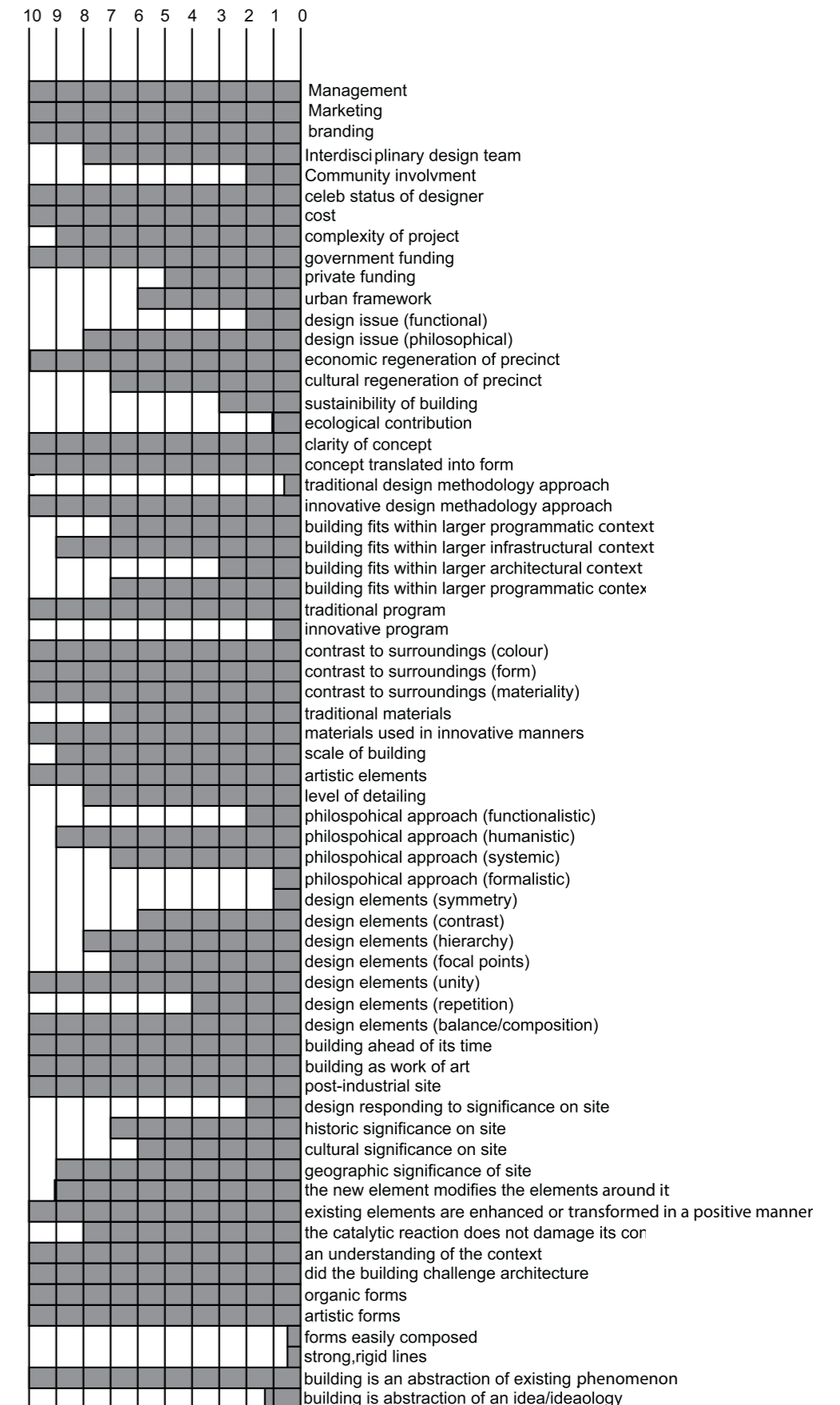


Figure 2.11: Info-graphic deconstructing the Guggenheim Museum Bilbao

2.1.2 The Royal Ontario Museum, Daniel Libeskind

The extension to the Royal Ontario Museum was chosen as a second case study as many authors compared the GMB to the Royal Ontario Museum (ROM) as the intention was to regenerate not only the old museum, but the entire suburb. The reason the the ROM is compared to the GMB is that the ROM did not do a very successful job as an urban catalyst (Safdie 2010). A comparison of the two case studies will most definitely highlight the successes and failures of the two buildings.

At first glance of the building, one can tell a lot about it. Similar to the GMB the ROM also seems out of place as it competes for attention (Safdie 2010). The big difference, however, is that the ROM feels out of place as well. Not only did the community of Toronto despise the shapes of Libeskind, architectural writings do not assess the building favourably either (Safdie 2010). Libeskind challenged the way in which knowledge and artefacts were displayed throughout the centuries in a very linear fashion (as knowledge and artefacts were acquired over the years) (Safdie 2010). He did this by attaching “crystals” to a very old classical building. Yes, it is just as flashy as the GMB, but the composition of forms and lines are not done in a very harmonious way. Toronto is a city that likes to do things quietly and to be ‘in the background’ (Safdie 2010). Again, the ROM does not express or respect the approach of the local people. Also, the “crystals” shooting out of the building cannot compare to the complexity of the GMB’s voluminous, soft lines. The ROM lacks the humanistic elements mentioned earlier.



Figure 2.12: The ROM



Figure 2.13: The ROM

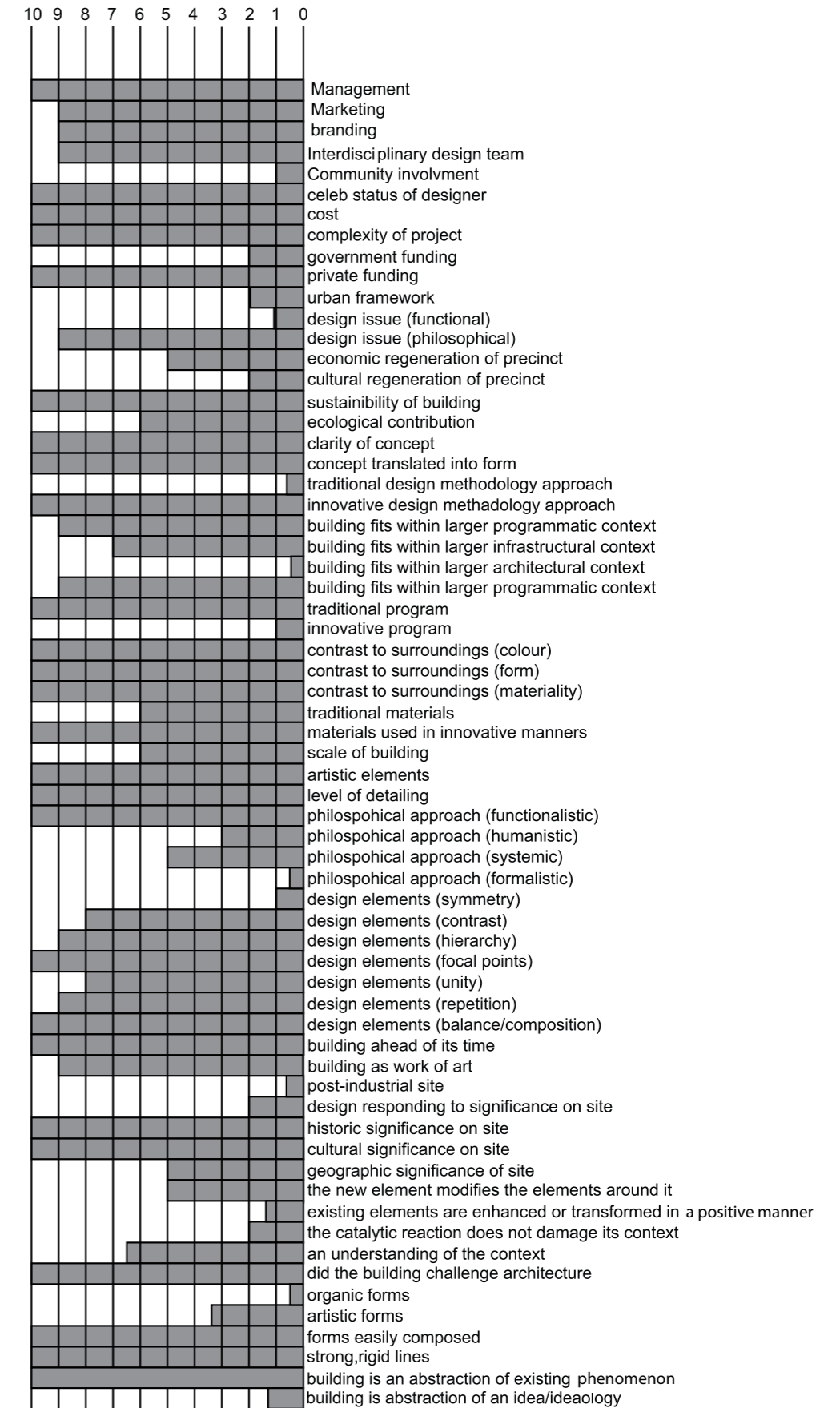


Figure 2.14: Info-graphic deconstructing the Royal Ontario Museum

2.1.3 Art Gallery of Toronto extension, Frank Gehry

The last architectural case study was the extension to the Art Gallery of Toronto (AGO). Both projects (the AGO and ROM) involved the intervention of a contemporary extension to a historic Museum. Although the building takes on the shape of a crystal floating through the city, it is one of Gehry's most subtle works of architecture to that time. Gehry's famous manipulation of materials is prominent in this building. Probably the most renowned feature of the building is the interior timber staircase wandering through space. Visitors to the museum have described the space as being unexpectedly comfortable, in contrast to the ROM's illegible and wasted interior space. The glass façade is sloped down towards the bottom for pedestrians to experience the reflection of the Victorian and Georgian architecture across the street. Rather than shouting, the glass façade invites one into the gallery.

Once entered, the user experiences a child-like narrative, meandering through the timber staircase and flowing through the warm spaces. This building takes a stance in its surroundings without taking anything away from the adjacent historic buildings. It is a building that caters for the user experience rather than making a statement. The AGO's annual visitors echo the success of the building.



Figure 2.15: The Art Gallery of Toronto extension



Figure 2.16: The Art Gallery of Toronto extension

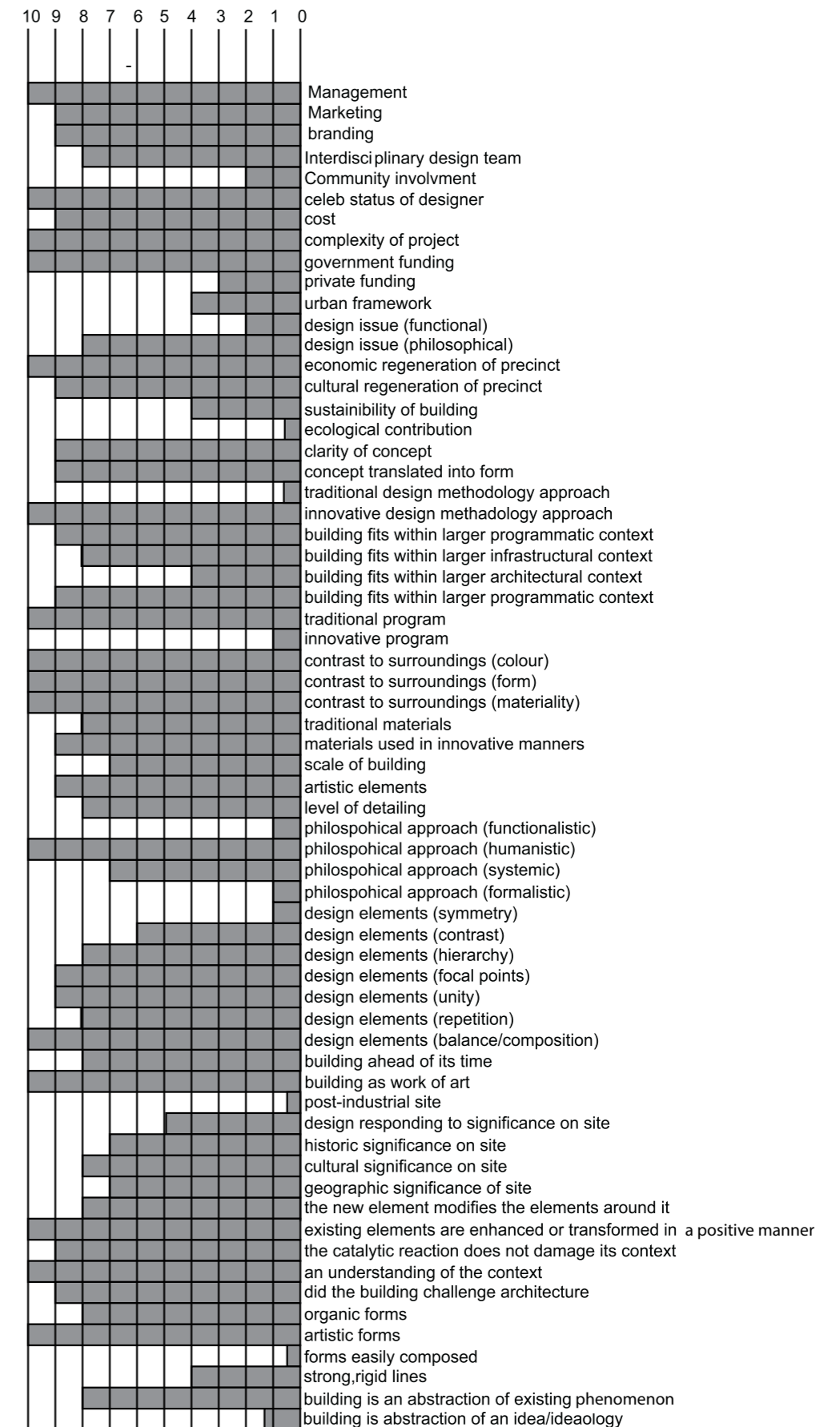
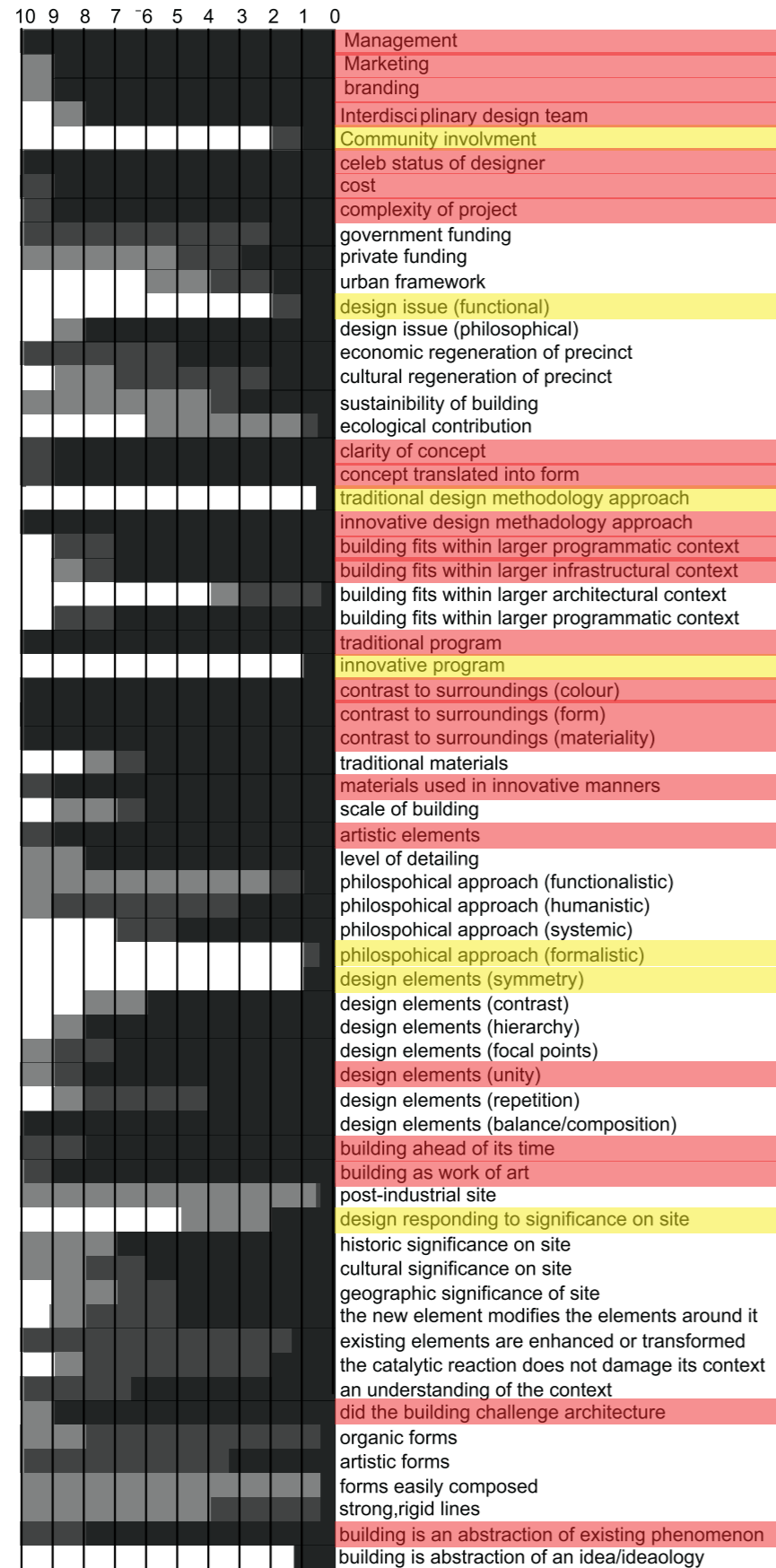


Figure 2.17: Info-graphic deconstructing the Art Gallery of Toronto extension



All three buildings scored low
 All three buildings scored high

Figure 2.18: Highlighted are focal points of the more advanced matrixes for the landscape studies to follow

2.1.4 Findings

Derived from a synthesis of the data, in order for the building to recreate the Bilbao Effect, the following is required:

- It should be managed as a business in terms of the management, branding, and marketing of the building (and what happens inside the building).
- The building must be designed by a “celebrity” designer with a large amount of fees available for the project.
- A strong concept, clearly translated into the form of the building (not necessarily translated into the program).
- The program does not need to be an innovative program, but rather the experience thereof should be innovative.
- It needs to stand in contrast to its surroundings in terms of colour, form, and materiality.
- It does not necessarily have to consist of new, innovative materials, but rather consist of traditional materials that are used in innovative manners.
- It challenges architecture in some manner, whether it is criticized or praised by pundits.
- It must be an abstraction of some sort.

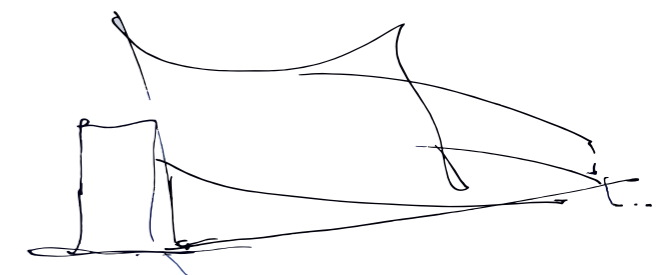
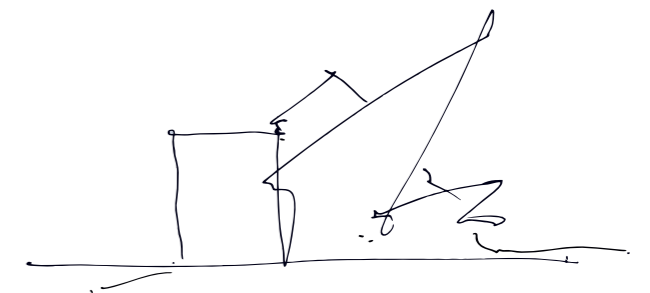
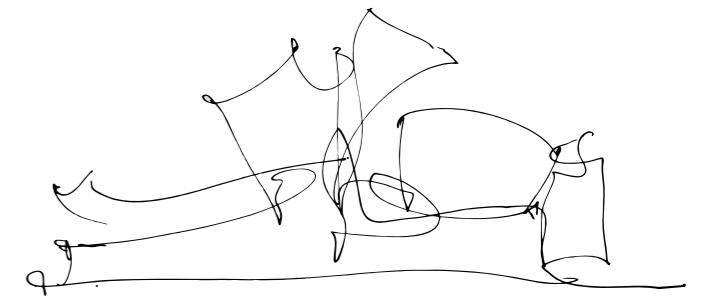


Figure 2.19: The GMB
 Figure 2.20: The ROM
 Figure 2.21: The AGO

2.3 Landscape architecture case studies

The case studies conducted on landscape architecture projects were selected because of their similarities to the aim of the GMB to regenerate old post-industrial sites/cities. The criteria of the landscape projects differ slightly from the architectural case studies, as the intentions of the projects were to regenerate their precincts. The landscape projects will be scrutinized in more depth than the previous case studies. Figure 2.22 illustrates the steps taken to analyze the landscape projects.

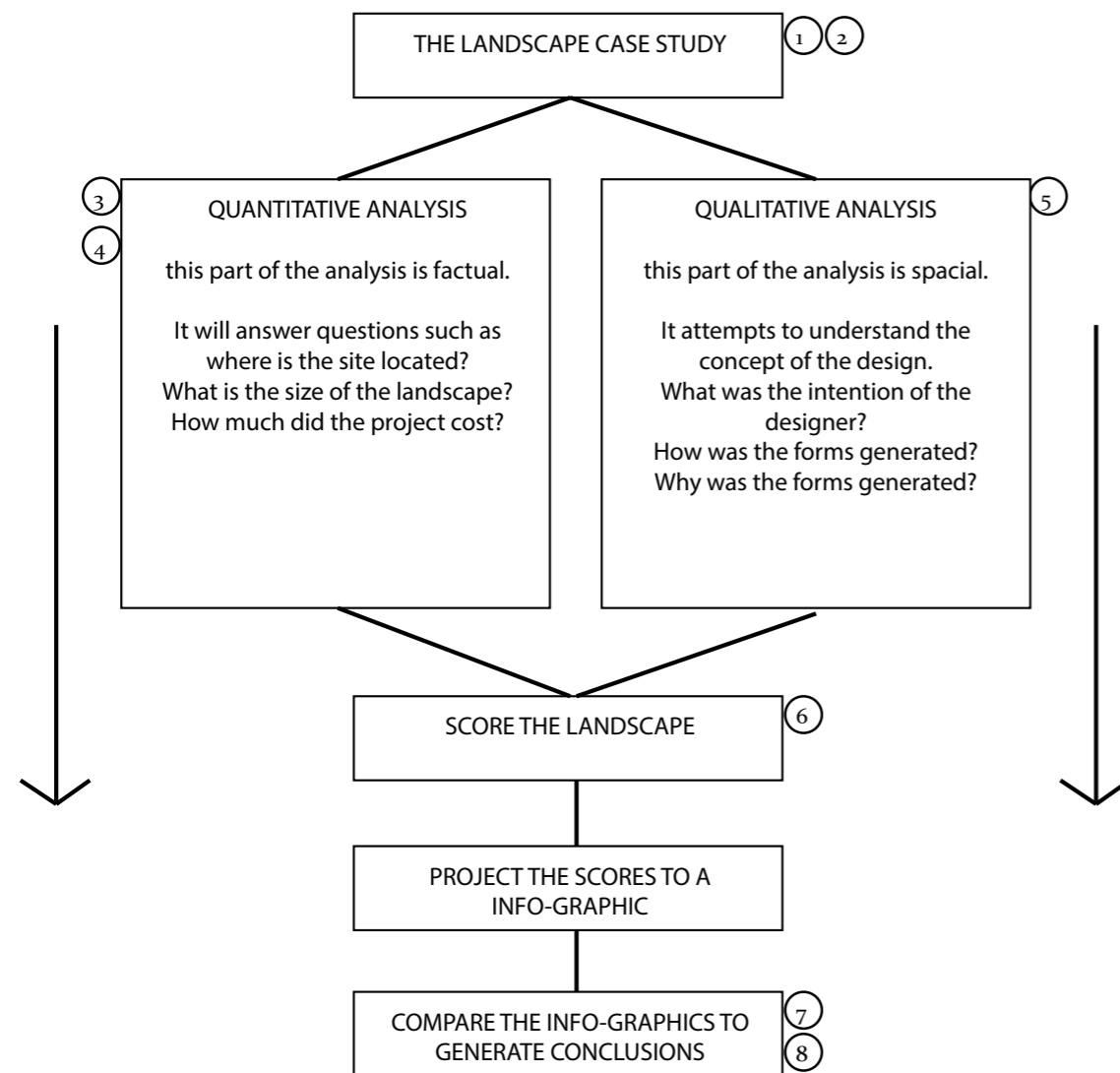
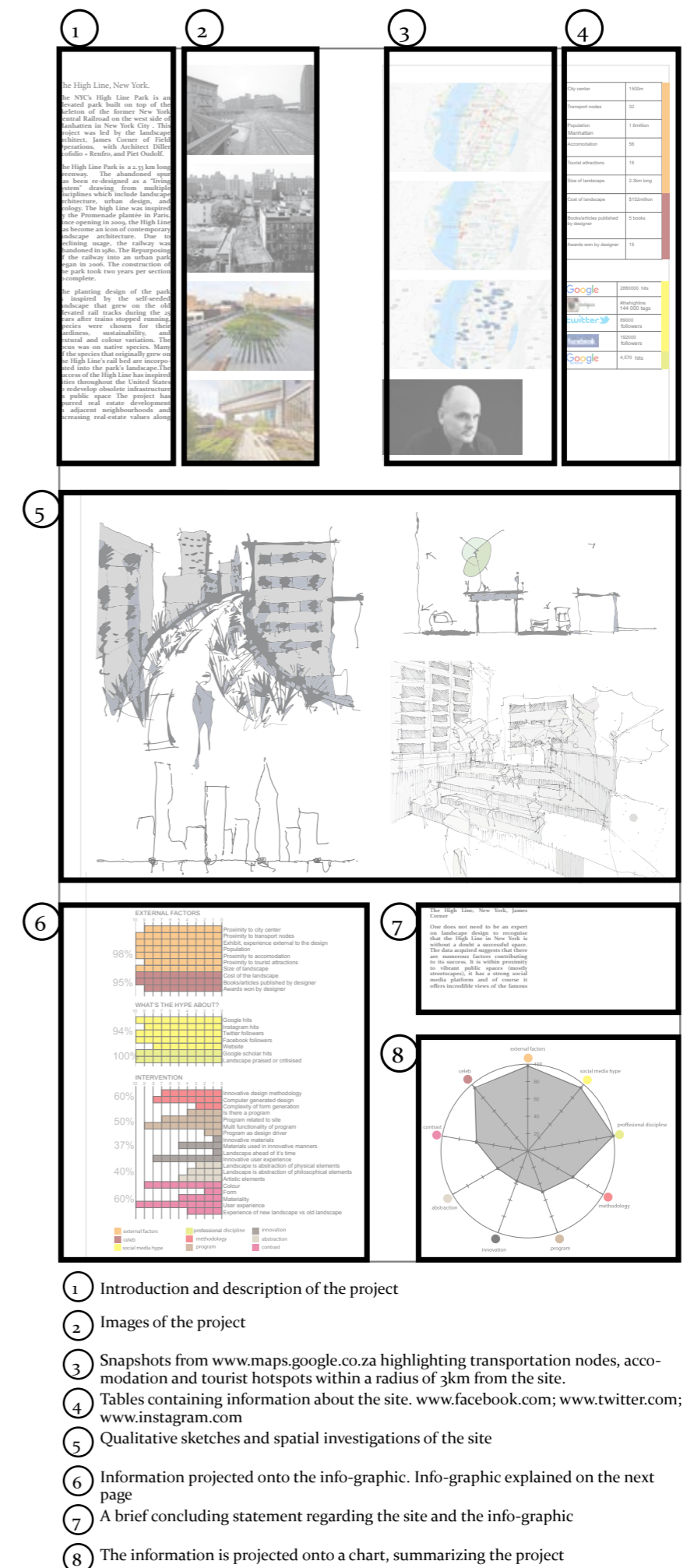
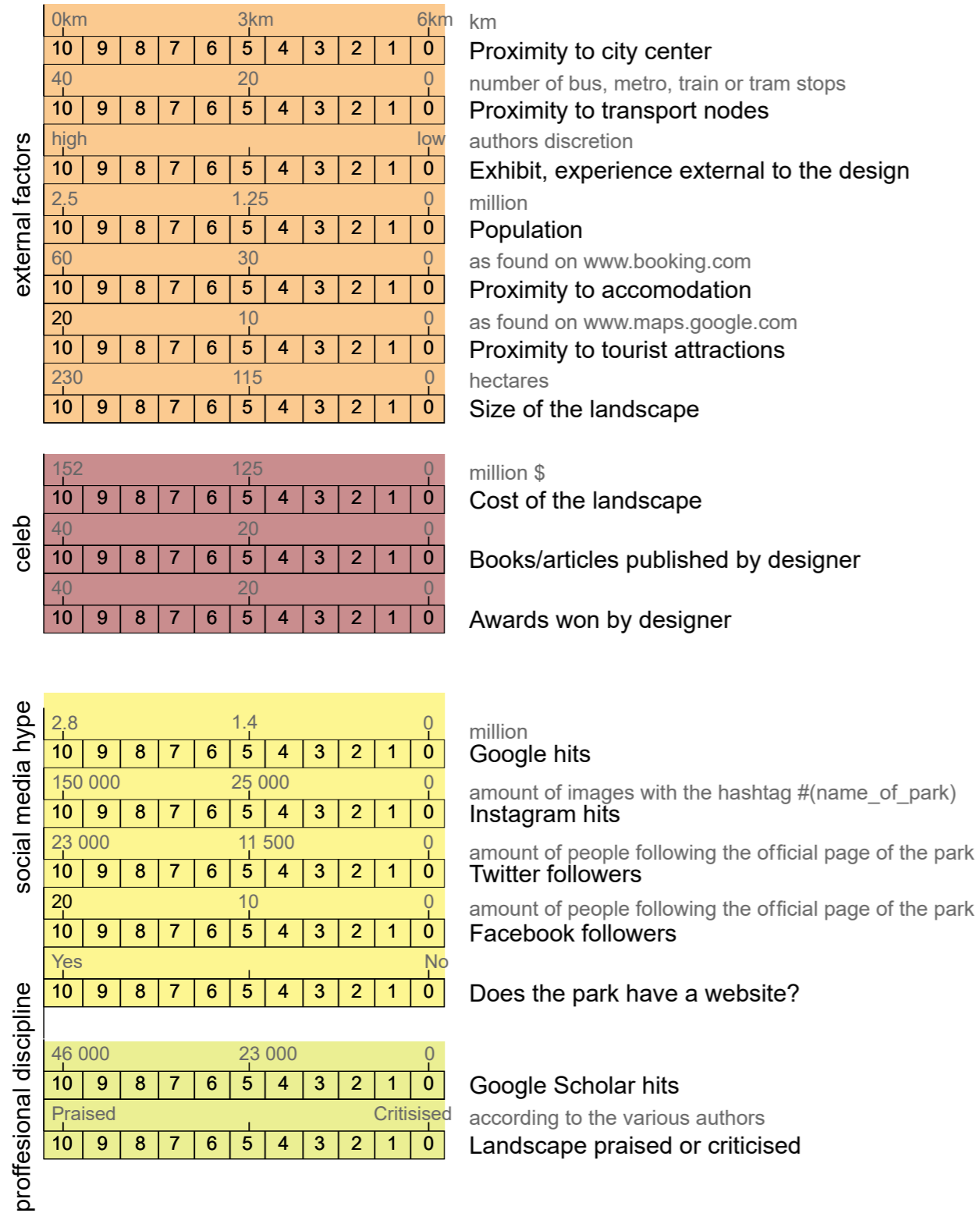


Figure 2.22 (top): Flow diagram explaining the process of analysing the landscape case studies

Figure 2.23 (right): Highlighted are the steps followed for conducting each landscape architecture case study



external factors



whats the hype about?

design intervention

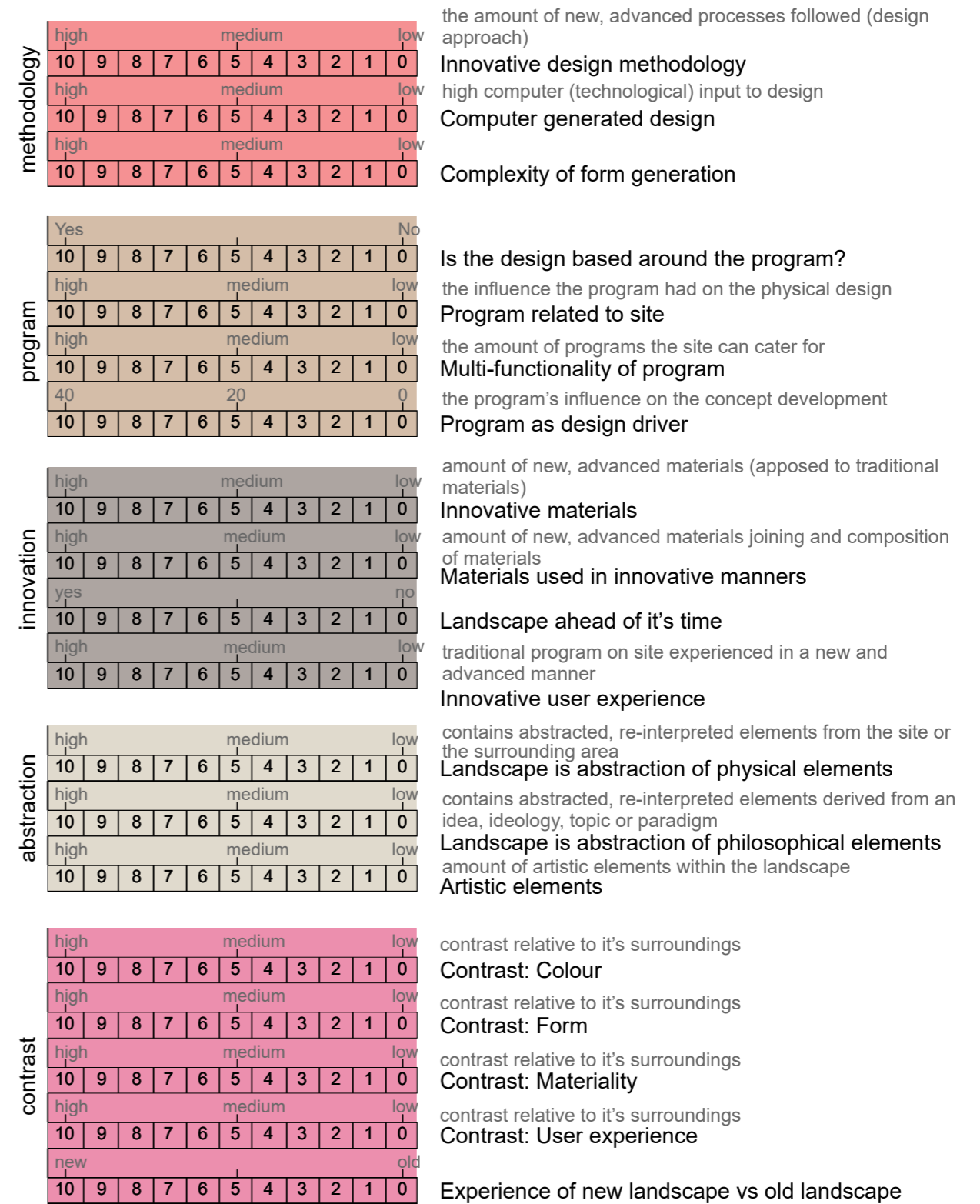


Figure 2.24 (top and right): A detailed legend explaining how the projects are scored within their categories

2.3.1 The High Line, New York, James Corner

The NYC's High Line Park is an elevated park built on top of the skeleton of the former New York Central Railroad on the west side of Manhattan in New York City. This project was led by the landscape architect, James Corner, of Field Operations, with Architect Diller Scofidio and Renfro, and Piet Oudolf.

The High Line park is a 2.33 km long greenway. The abandoned spur has been re-designed as a "living system," drawing from multiple disciplines which include landscape architecture, urban design, and ecology (Corner 2014). The high Line was inspired by the Promenade plantée in Paris.

Since opening in 2009, the High Line has become an icon of contemporary landscape architecture (Keller 2016). Due to declining usage, the railway was abandoned in 1980. The repurposing of the railway into an urban park began in 2006. The construction of the park took two years per section to complete (Keller 2016).

The planting design of the park is inspired by the self-seeded landscape that grew on the old elevated rail tracks during the 25 years after trains stopped running (Corner 2014). Species were chosen for their hardiness, sustainability, and textural and colour variation. The focus was on native species. Many of the species that originally grew on the High Line's rail bed are incorporated into the park's landscape (Corner 2014).

The success of the High Line has inspired cities throughout the United States to redevelop obsolete infrastructure as public space (Keller 2016). The project has spurred real estate development in adjacent neighbourhoods and increased real-estate values along the route (Keller 2014). Since September 2014, the park attracted nearly five million visitors annually (Keller 2016).



Figure 2.25: Image of the site prior to the intervention



Figure 2.26: Image of the site prior to the intervention



Figure 2.27: Image of the site after the landscape intervention



Figure 2.28: Image of the site after the landscape intervention



Figure 2.29: Transportation nodes near the site (3km radius)

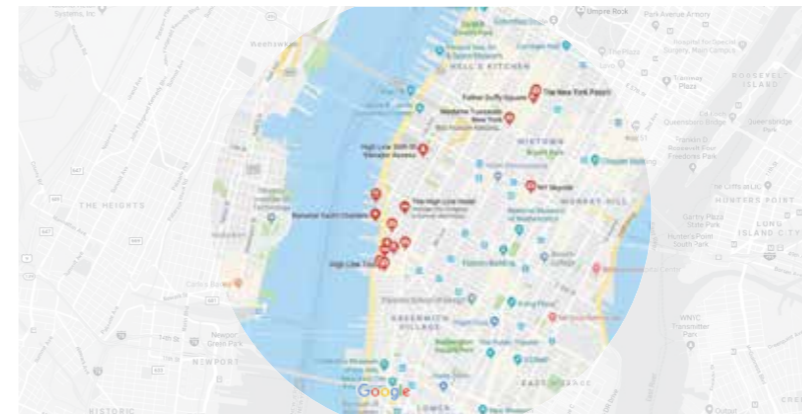


Figure 2.30: Tourist hotspots near the site (3km radius)

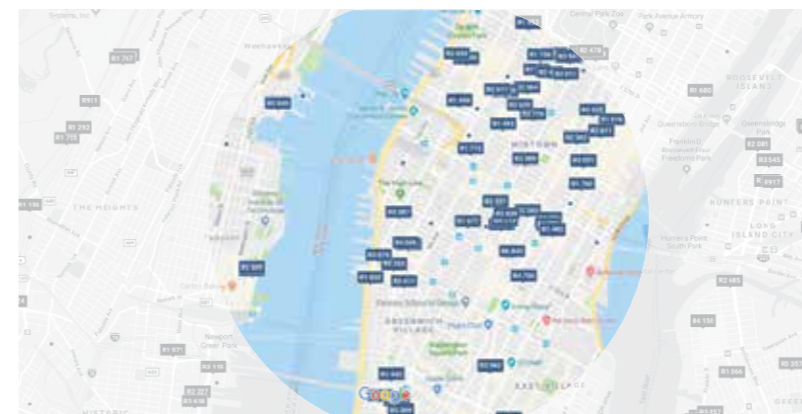


Figure 2.31: Accommodation near the site (3km radius)



Figure 2.32: James Corner

1	City center	1500m
2	Transport nodes	32
3	Population Manhattan	1,664,727
4	Accommodation	56
5	Tourist attractions	16
6	Size of landscape	2.3km long
7	Cost of landscape	\$152million
8	Books published by designer	5 books
9	Awards won by designer	16

10	Google	2 880 000 hits
11	Instagram	#thehighline 144 000 tags
12	Twitter	89 000 followers
13	Facebook	192 000 followers
14	Google Scholar	4 570 hits

- 1 <https://www.maps.google.co.za>
- 2 <https://www.maps.google.co.za>
- 3 <https://www.citypopulation.de/php/usa-newyorkcity.php>
- 4 <https://www.maps.google.co.za>
- 5 <https://www.maps.google.co.za>
- 6 <https://www.google.co.za>
- 7 <https://www.nytimes.com/2009/06/09/arts/design/09highline-RO.html>
- 8 <https://www.books.google.co.za>
- 9 <https://archinect.com/jcfo>
- 10 <https://www.google.co.za>
- 11 <https://www.instagram.com>
- 12 <https://www.twitter.com>
- 13 <https://www.facebook.com>
- 13 <https://www.scholar.google.co.za>



Figure 2.33: Perspective of a typical walkway between the buildings

Figure 2.34: Conceptual sketch illustrating the high line connecting New York on a pedestrian level.

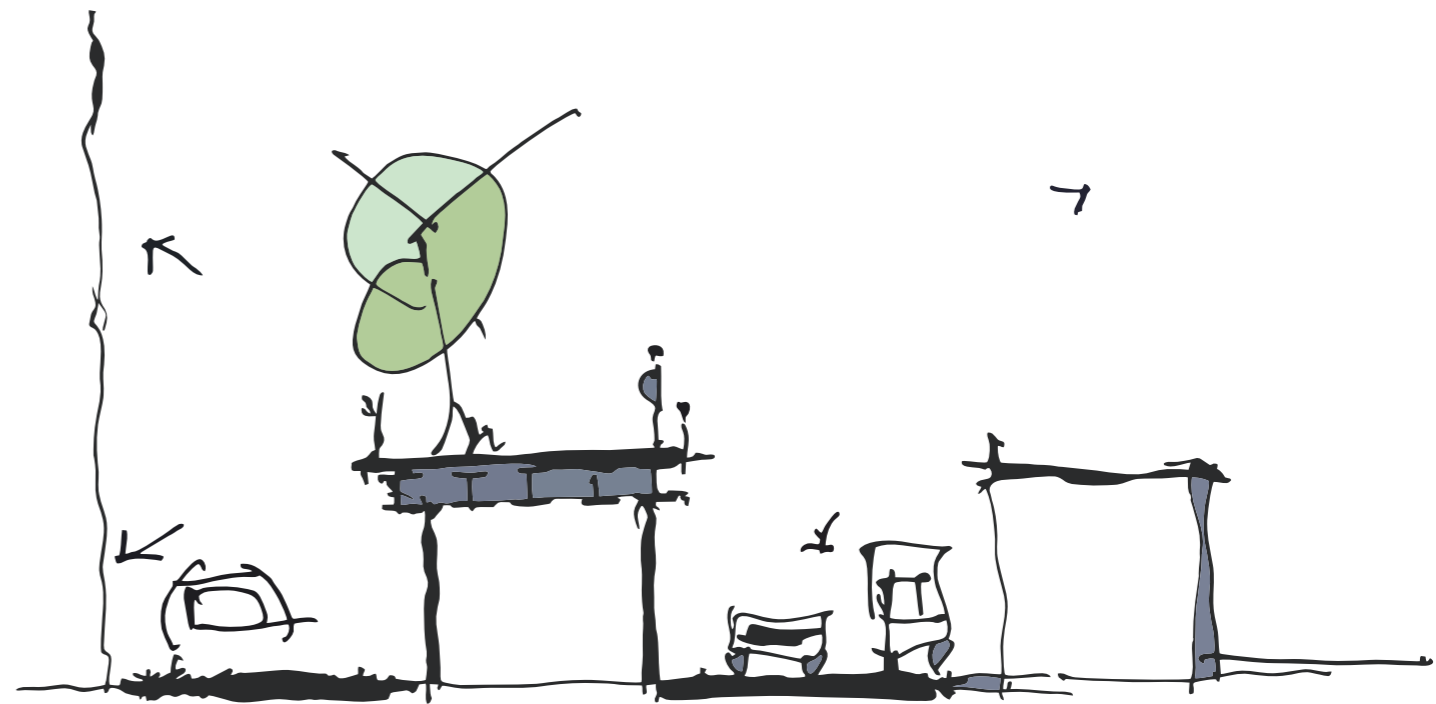
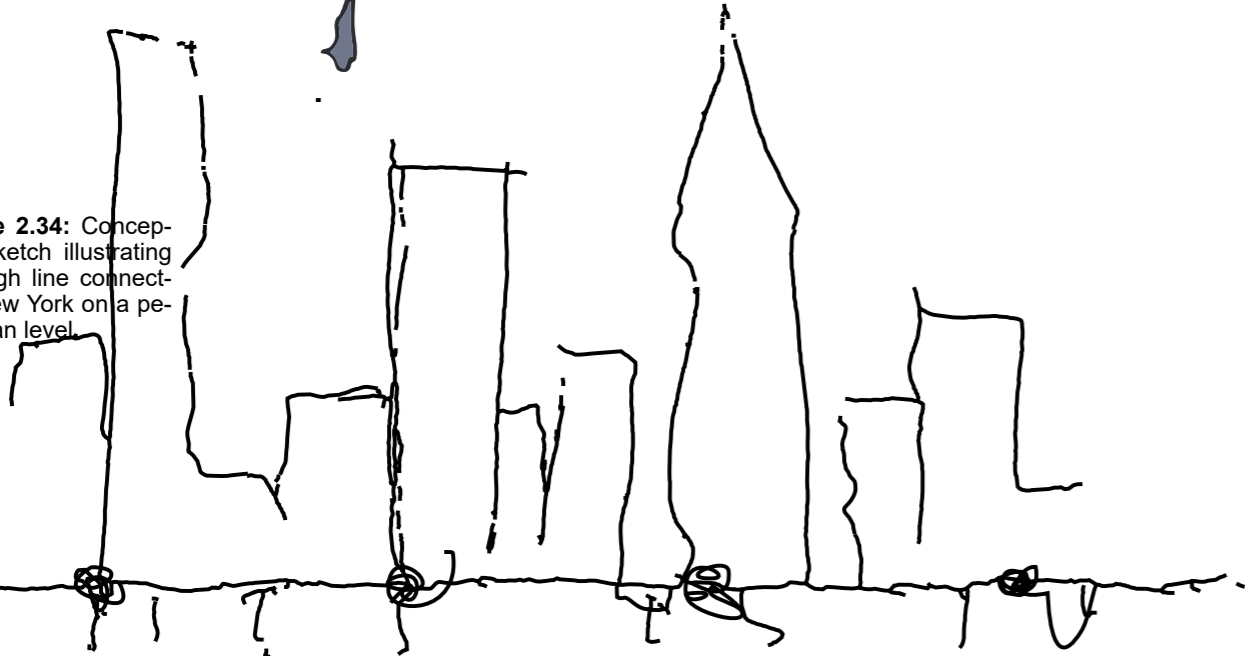


Figure 2.35: Section through the High Line

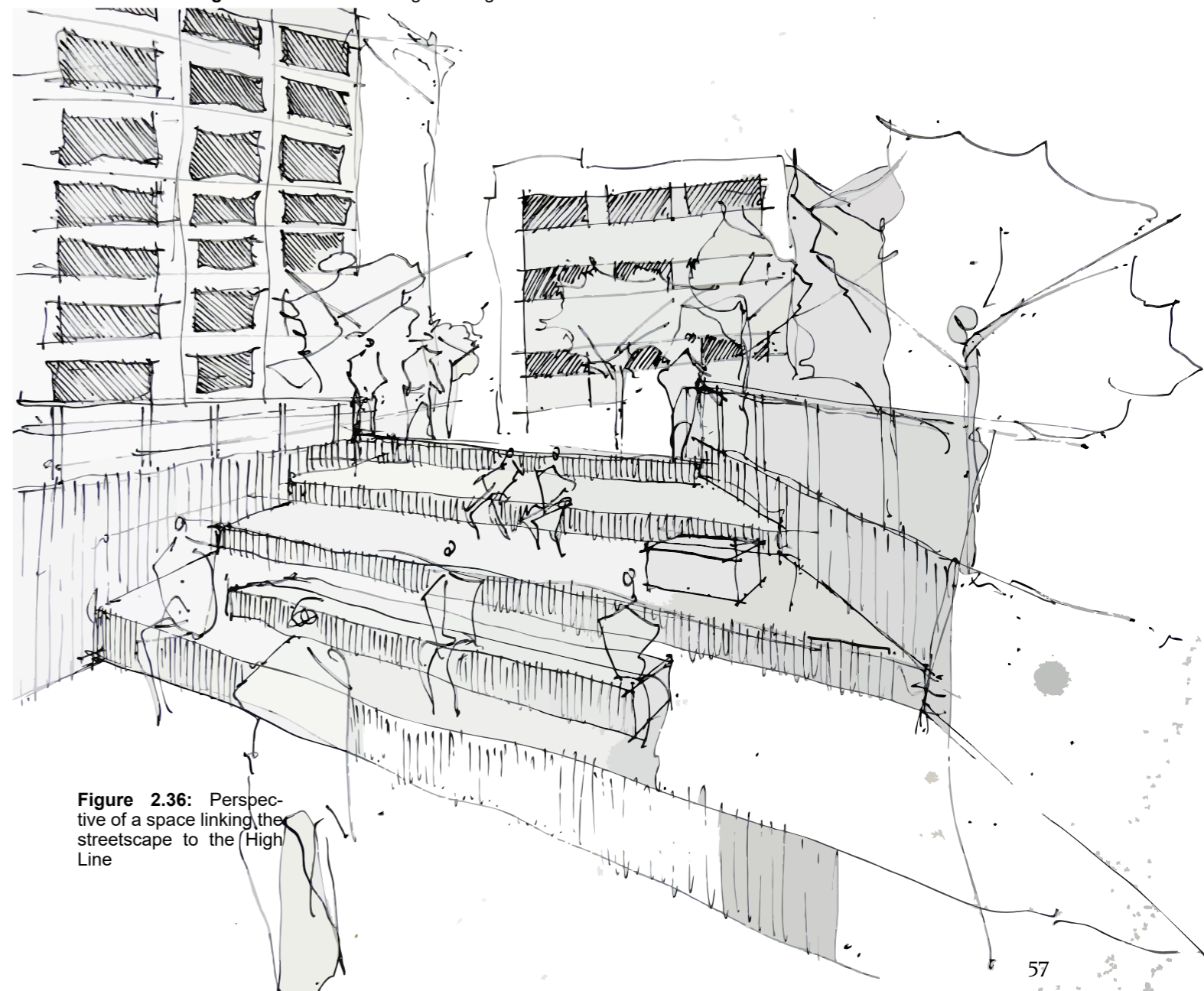
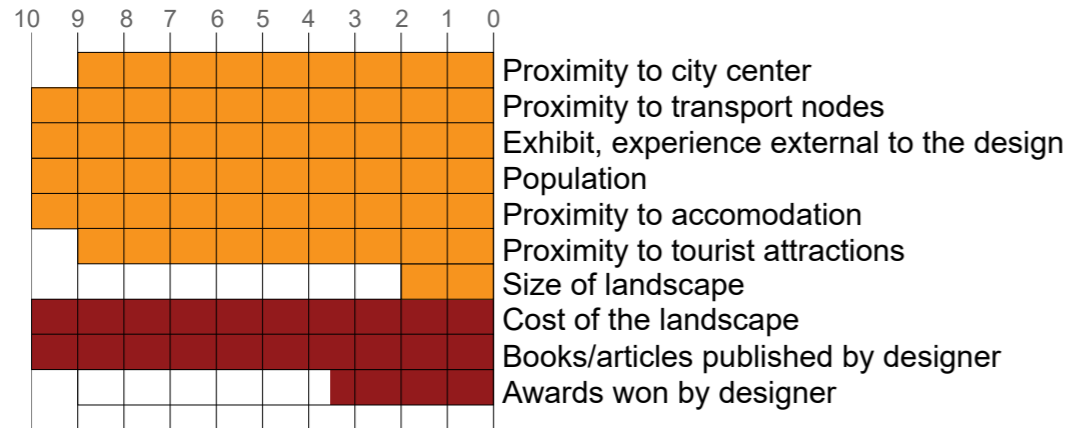
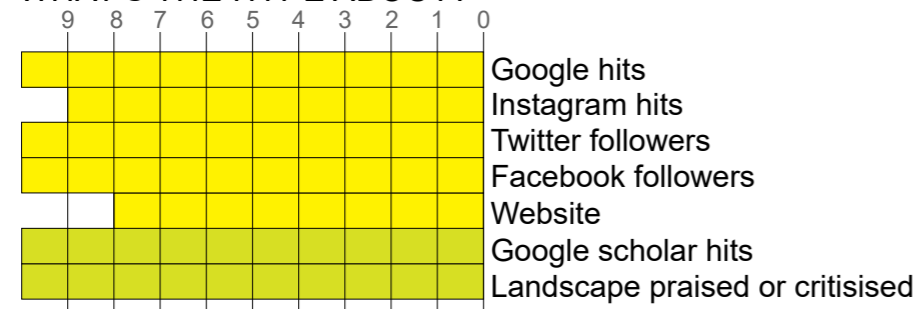


Figure 2.36: Perspective of a space linking the streetscape to the High Line

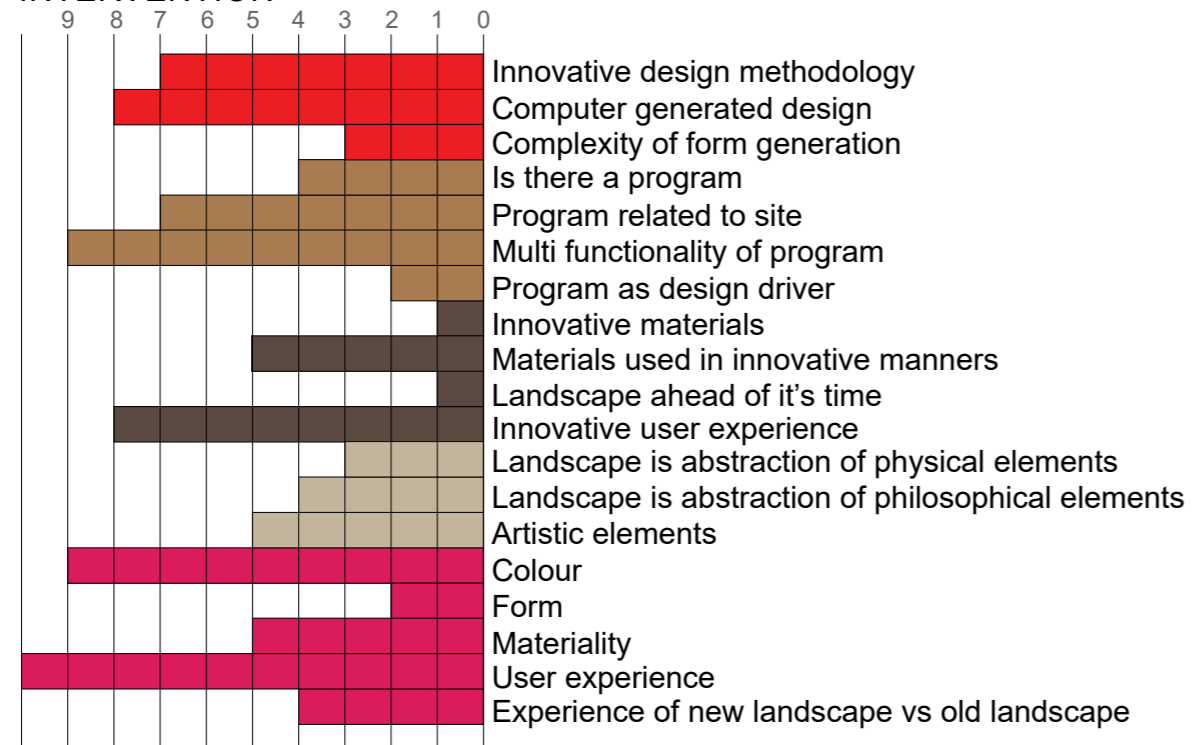
EXTERNAL FACTORS



WHAT'S THE HYPE ABOUT?



INTERVENTION



- external factors
- celeb
- social media hype
- professional discipline
- methodology
- program
- innovation
- abstraction
- contrast

Figure 2.37: Information projected onto the graphic

One does not need to be an expert on landscape design to recognise that the High Line in New York is without a doubt a successful space. The data acquired suggests that there are numerous factors contributing to its success. It is within proximity to vibrant public spaces (mostly streetscapes), has a strong social media platform, and of course, it offers incredible views of the famous New York skyline. The celebrity status of James Corner placed the project within the contemporary discussion of landscape architecture.

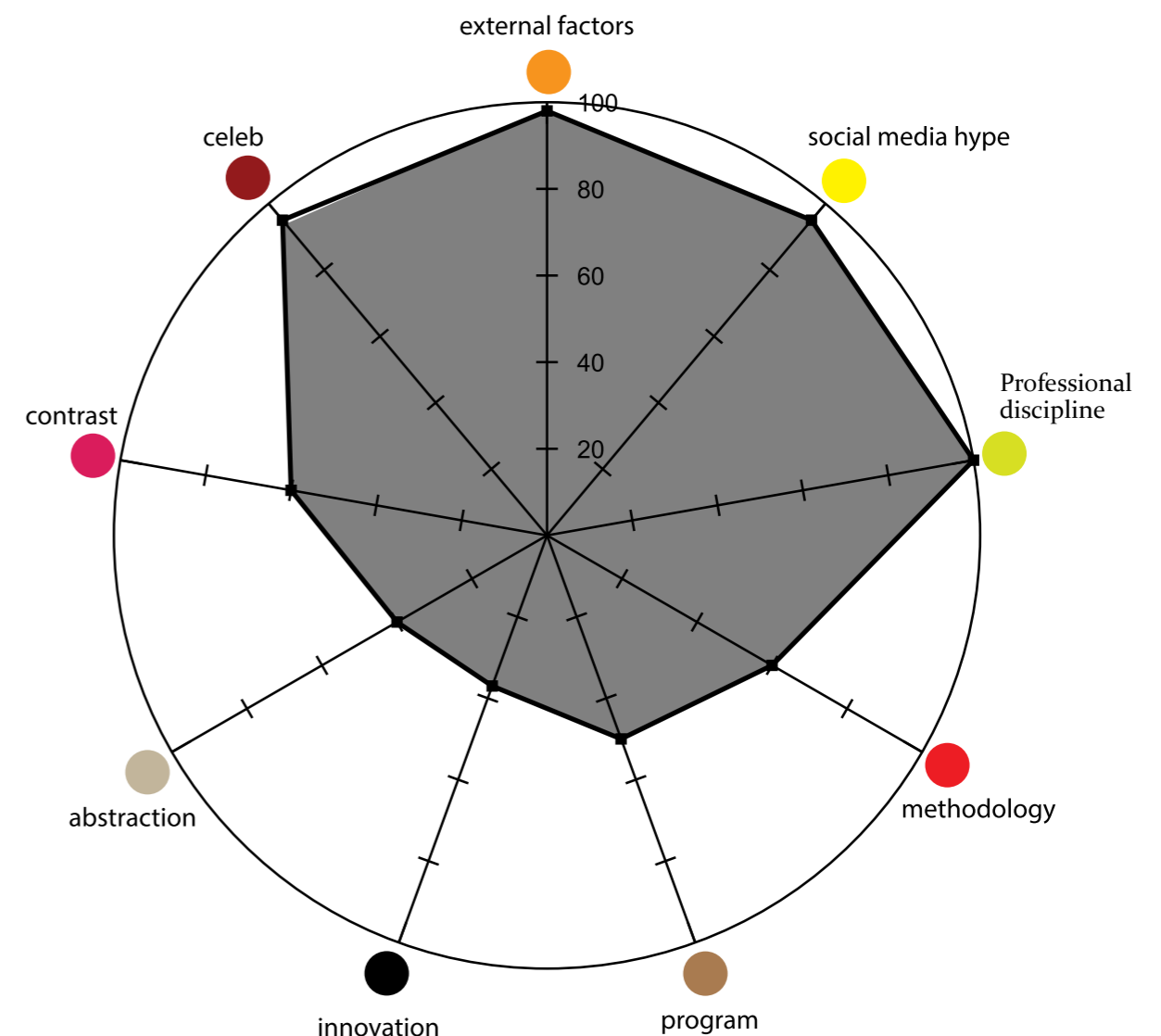


Figure 2.38: Info-graphic of the site

2.3.2 Olympic Sculpture Park, Seattle, Weiss/Manfredi

The Olympic Sculpture Park is an open air sculpture park located in Seattle on the last undeveloped waterfront property (Architect Magazine 2012). It was an industrial site sliced by train tracks and an arterial road. The design uses an uninterrupted Z-shaped green platform to connect three separate sites; a dense and temperate evergreen forest; a deciduous forest of seasonally changing characteristics; and a shoreline garden including a series of new tidal terraces for salmon habitat and salt water vegetation (Architect Magazine 2012). The park is elevated above sea level and descends forty feet to the water. Magnificent views of the Seattle skyline and Elliott Bay can be enjoyed from the park (Minner 2011).

The site was formerly owned by Union Oil of California (Unocal) and used as an oil transfer facility (Minner 2011). Over 120,000 tons of contaminated soil had to be removed and re-filled with clean soil before construction of the park could begin. The water strategy is planned in such a way that landforms and plantings collaborate to direct, collect, and cleanse storm water as it moves through the site before being discharged into Elliott Bay (Minner 2011).

Minner (2011) of Archdaily describes the park as follows: “As a “landscape for art”, the Olympic Sculpture Park defines a new experience for modern and contemporary art outside the Seattle Art Museum walls; (the park is part of the museum). The topographically varied park provides diverse settings for sculpture of different sizes. Deliberately open-ended, the design invites “new interpretations of art and environmental engagement, reconnecting the fractured relationships of art, landscape, and urban life.” (Minner 2011)



Figure 2.39: Image of the site prior to the intervention



Figure 2.40: Image of the site

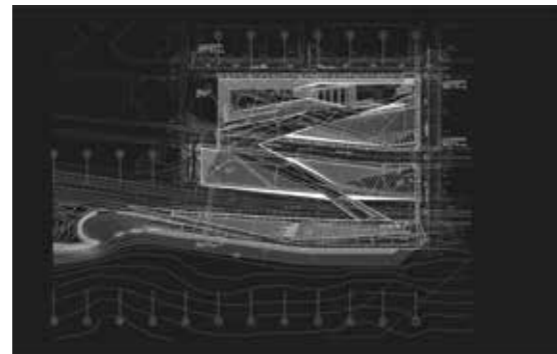


Figure 2.41: Autocad drawing of the design



Figure 2.42: Image of the site



Figure 2.43: Transportation nodes near the site (3km radius)

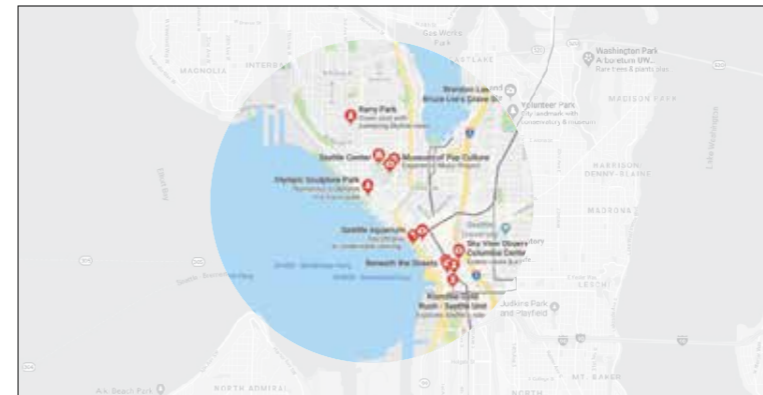


Figure 2.44: Tourist hotspots near the site (3km radius)

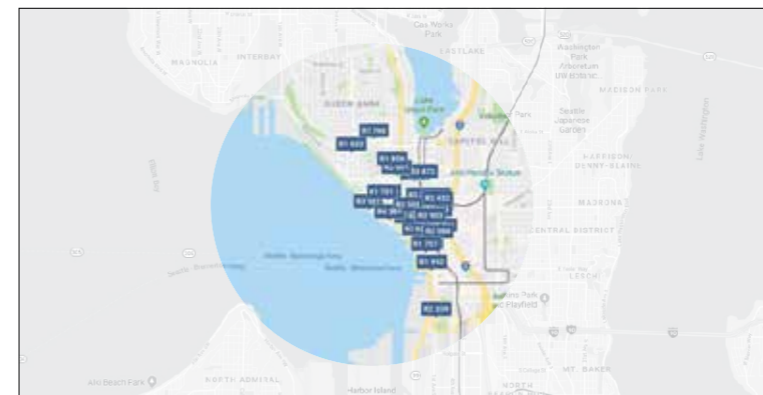


Figure 2.45: Accommodation near the site (3km radius)



Figure 2.46: Marion Weiss and Michael Manfredi

1	City center	2000m
2	Transport nodes	17
3	Population Seattle (City in King county)	724 745
4	Accommodation	26
5	Tourist attractions	12
6	Size of landscape	3.4ha
7	Cost of landscape	\$85 000 000
8	Books published by designer	more than 22
9	Awards won by designer	more than 150

10	Google	203000 hits
11	Instagram	#olympicsculpture park 16 406 tags
12	Twitter	no page
13	Facebook	2000 followers
14	Google Scholar	520 hits

- 1 <https://www.maps.google.co.za>
- 2 <https://www.maps.google.co.za>
- 3 <https://www.citypopulation.de/php/usa-washington.php?cityid=5363000>
- 4 <https://www.maps.google.co.za>
- 5 <https://www.maps.google.co.za>
- 6 landscapevoice.com/olympic-sculpture-park/
- 7 landscapevoice.com/olympic-sculpture-park/
- 8 <https://www.books.google.co.za>
- 9 <http://www.weissmanfredi.com/awards/>
- 10 <https://www.google.co.za>
- 11 <https://www.instagram.com>
- 12 <https://www.twitter.com>
- 13 <https://www.facebook.com>
- 14 <https://www.scholar.google.co.za>

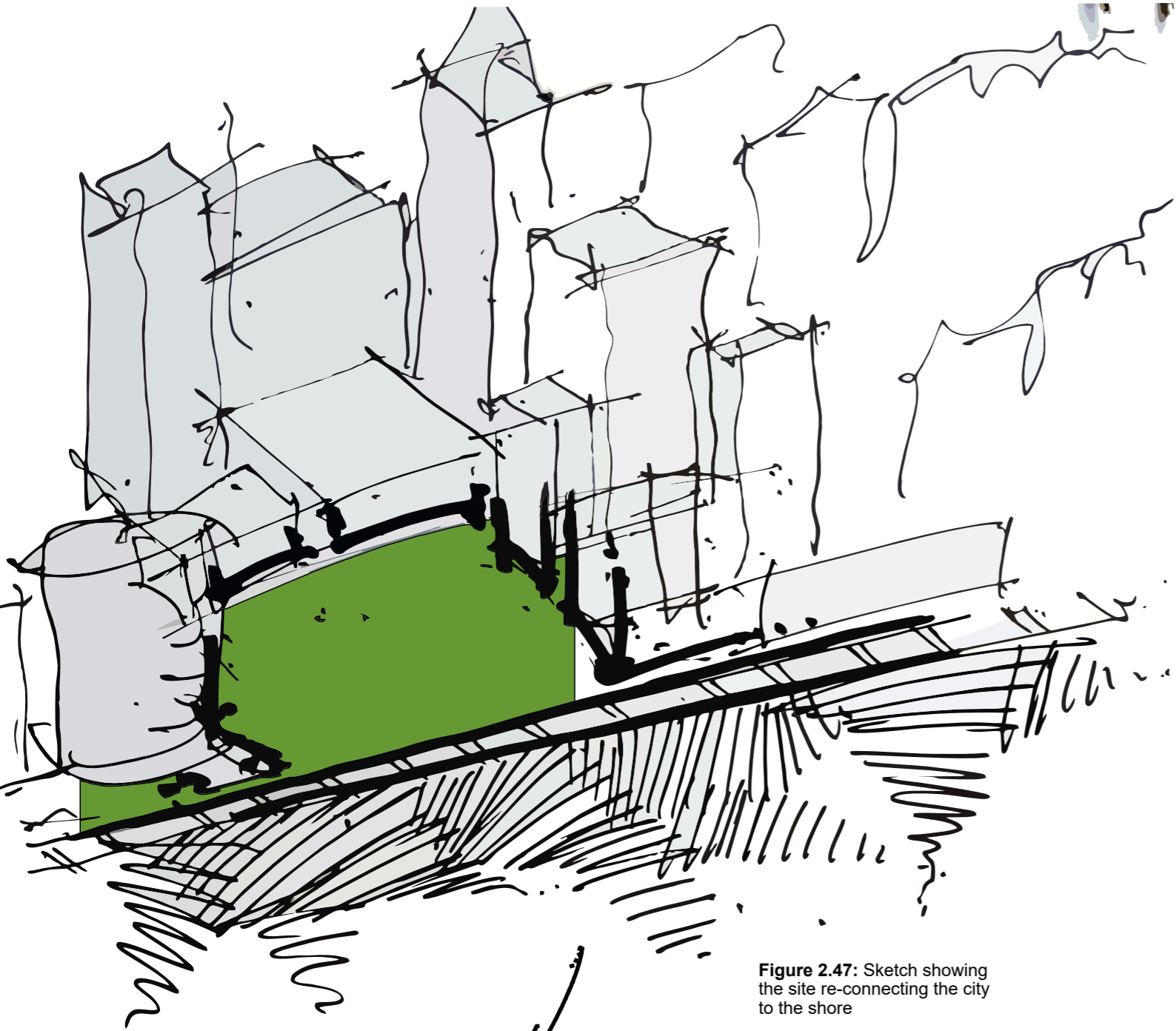


Figure 2.47: Sketch showing the site re-connecting the city to the shore

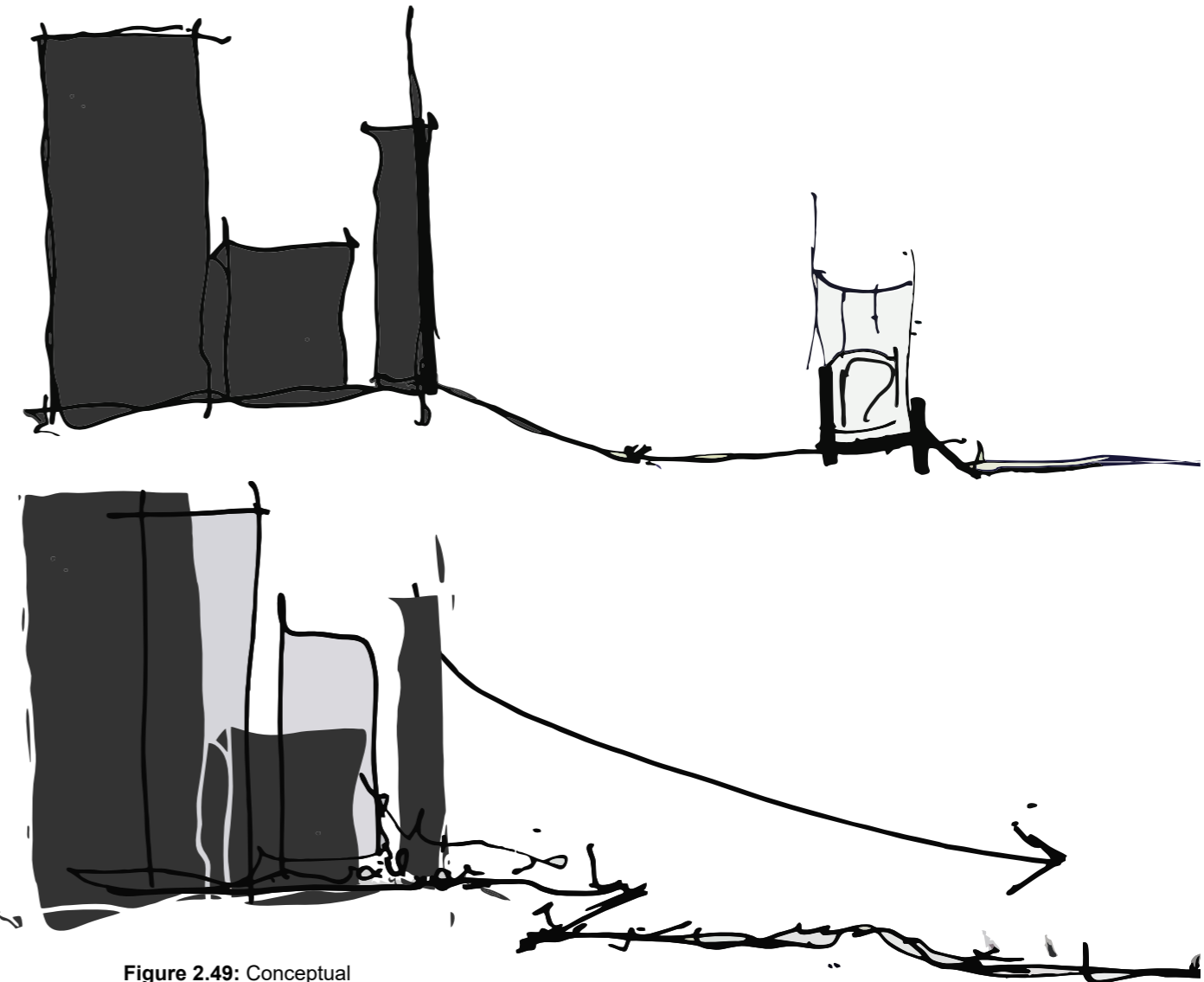


Figure 2.49: Conceptual section showing the city, site and shore before and after the intervention.



Figure 2.50: Section displaying the site as a work of art

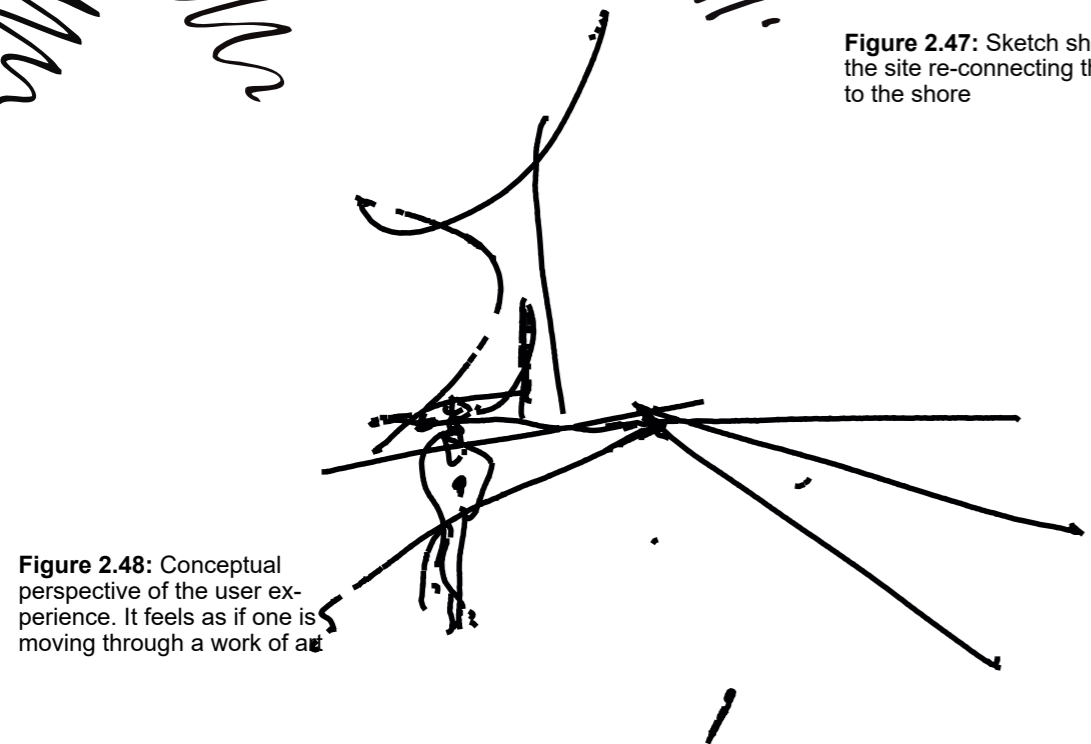
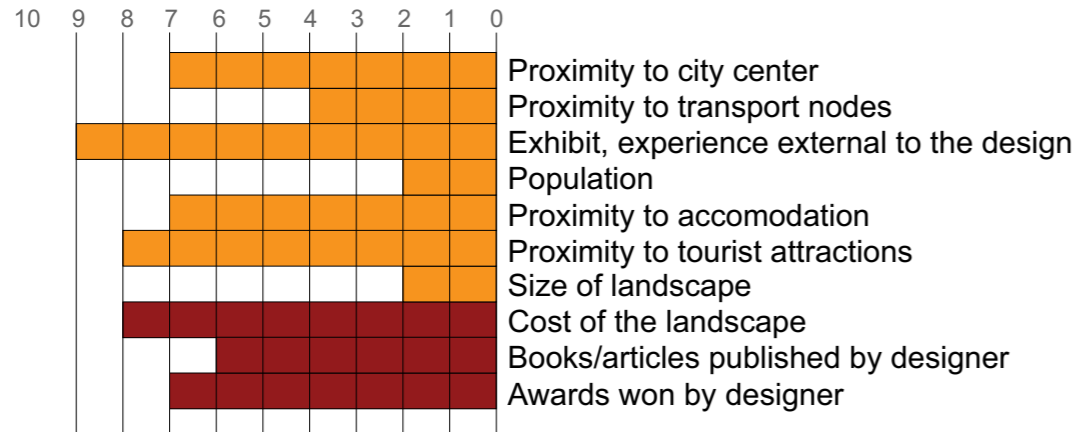
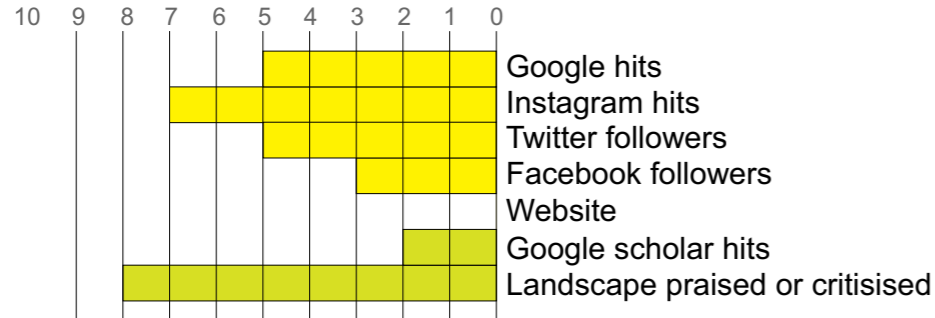


Figure 2.48: Conceptual perspective of the user experience. It feels as if one is moving through a work of art

EXTERNAL FACTORS



WHAT'S THE HYPE ABOUT?



INTERVENTION

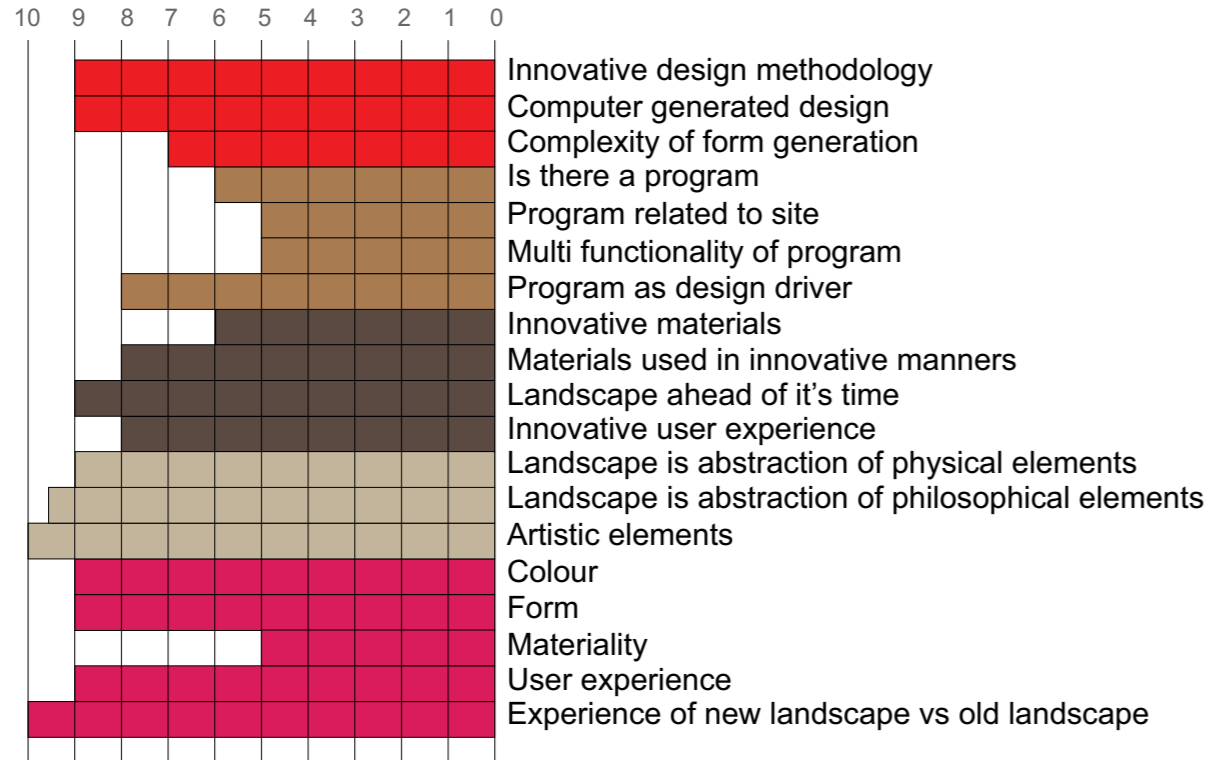


Figure 2.51: Information projected onto the graphic

The Olympic Sculpture park is a technical, innovative landscape connecting Seattle to the shoreline. There are external factors at work, as the landscape is filled with contemporary pieces of artwork. According to the data, the Sculpture Park is a very well rounded off project.

This project can be seen as a precedent in terms of the technical resolution of the major level differences.

One of the intentions of the park is to guide the user through a 'sculpture' of a landscape rather than simply displaying the prefabricated sculptures.

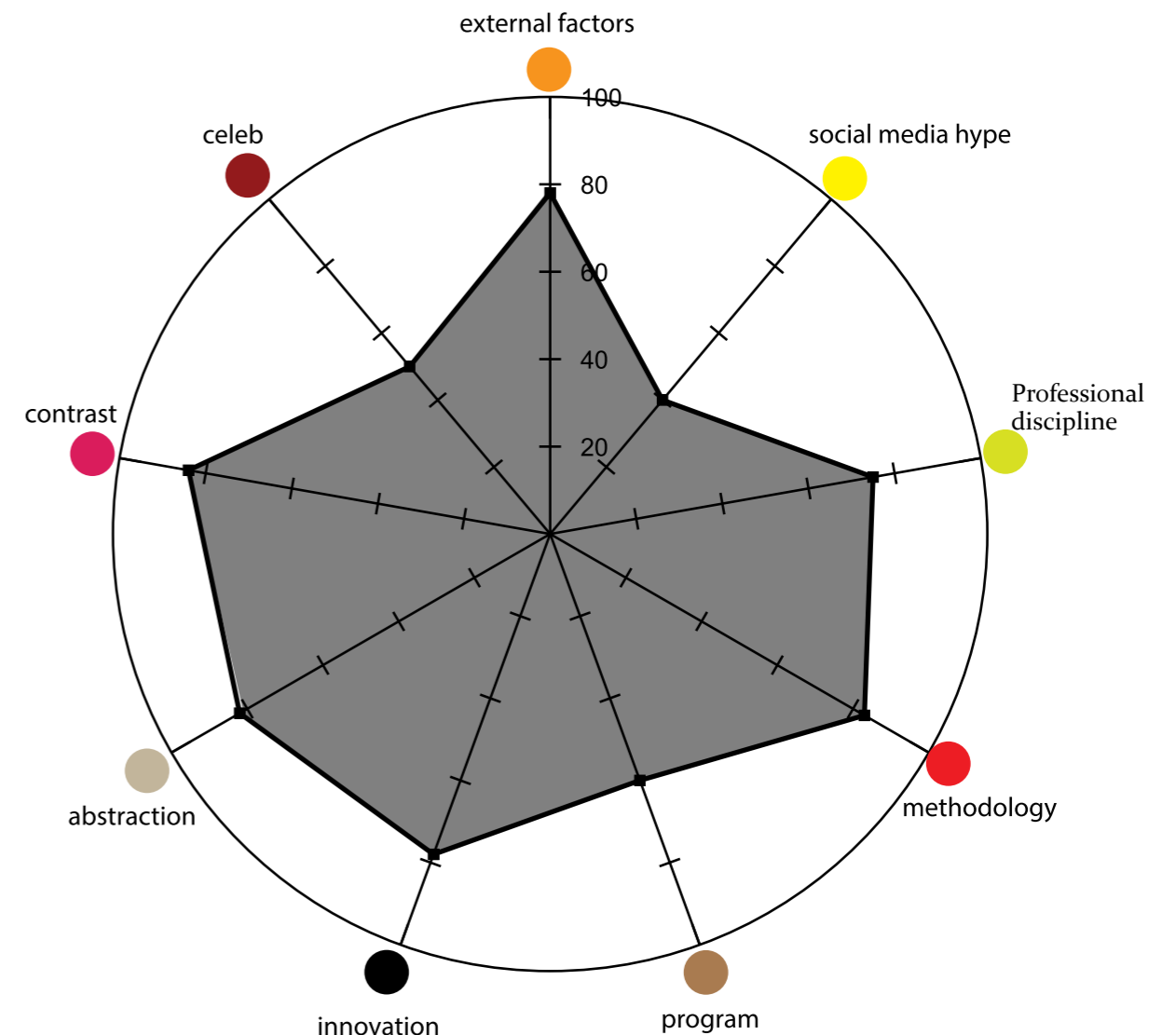


Figure 2.52: Info-graphic of the site

2.3.3 Louvre-Lens Museum Park, Lens, Catherine Mosbach

The Louvre-Lens is an extension of the Louvre, Paris. The museum is built on a 20 hectare wasteland that was originally a coal mine until the 1960's (Rosenfield 2012). The museum consists of a 360 meter long steel and glass structure surrounded by an exterior park (Rosenfield 2012). The site has a slight elevation as a result of excess fill from the mine.

The Louvre-Lens Museum Park is situated near the northern border of France in order to be accessible for English, Belgian, and German tourists. Catherine Mosbach, the Landscape Architect describes the park at the Louvre-Lens as follows: *“Landscape setting which extends the programs of the museum outside the wall. It is the place for cultural programming, animation and popular gathering in connection with the activities of the museum. Connection between museum, city and territory”*



Figure 2.53: Image of the site

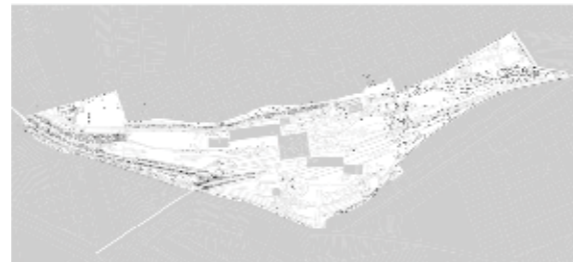


Figure 2.54: Autocad drawing of the design



Figure 2.55: Aerial image of the site



Figure 2.56: Image of the site



Figure 2.57: Transportation nodes near the site (3km radius)

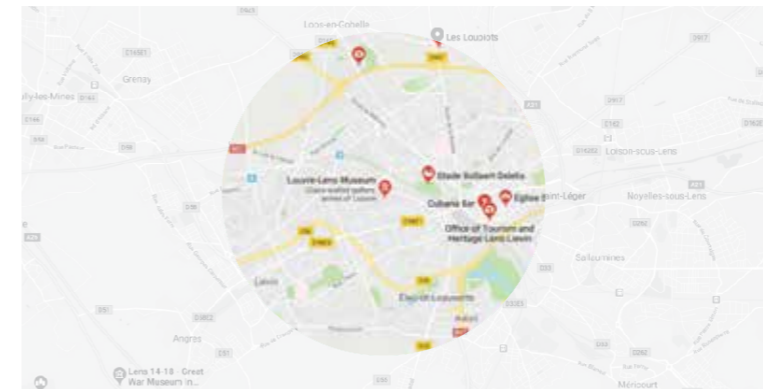


Figure 2.58: Tourist hotspots near the site (3km radius)



Figure 2.59: Accommodation near the site (3km radius)



Figure 2.60: Catherine Mosbach

1	City center	1900m
2	Transport nodes	3
3	Population Lens	30 413
4	Accommodation	3
5	Tourist attractions	6
6	Size of landscape	25ha
7	Cost of landscape	16 500 000 euros
8	Books published by designer	2
9	Awards won by designer	8

10	Google	281 000 hits
11	Instagram	#louvrelensmuseum 711 tags
12	Twitter	23 000 followers
13	Facebook	38 000 followers
14	Google Scholar	133 hits

- 1 <https://www.maps.google.co.za>
- 2 <https://www.maps.google.co.za>
- 3 <https://www.citypopulation.de/php/france-pasdecalais.php?cityid=62498>
- 4 <https://www.maps.google.co.za>
- 5 <https://www.maps.google.co.za>
- 6 <https://land8.com/museum-park-louvre-lens-shows-us-the-potential-of-coal-mines/>
- 7 <https://www.publicspace.org/works/-/project/h101-louvre-lens-museum-park>
- 8 <https://www.books.google.co.za>
- 9 <https://www.google.co.za>
- 10 <https://www.google.co.za>
- 11 <https://www.instagram.com>
- 12 <https://www.twitter.com>
- 13 <https://www.facebook.com>
- 14 <https://www.scholar.google.co.za>



Figure 2.61: Perspective of a typical path through the site

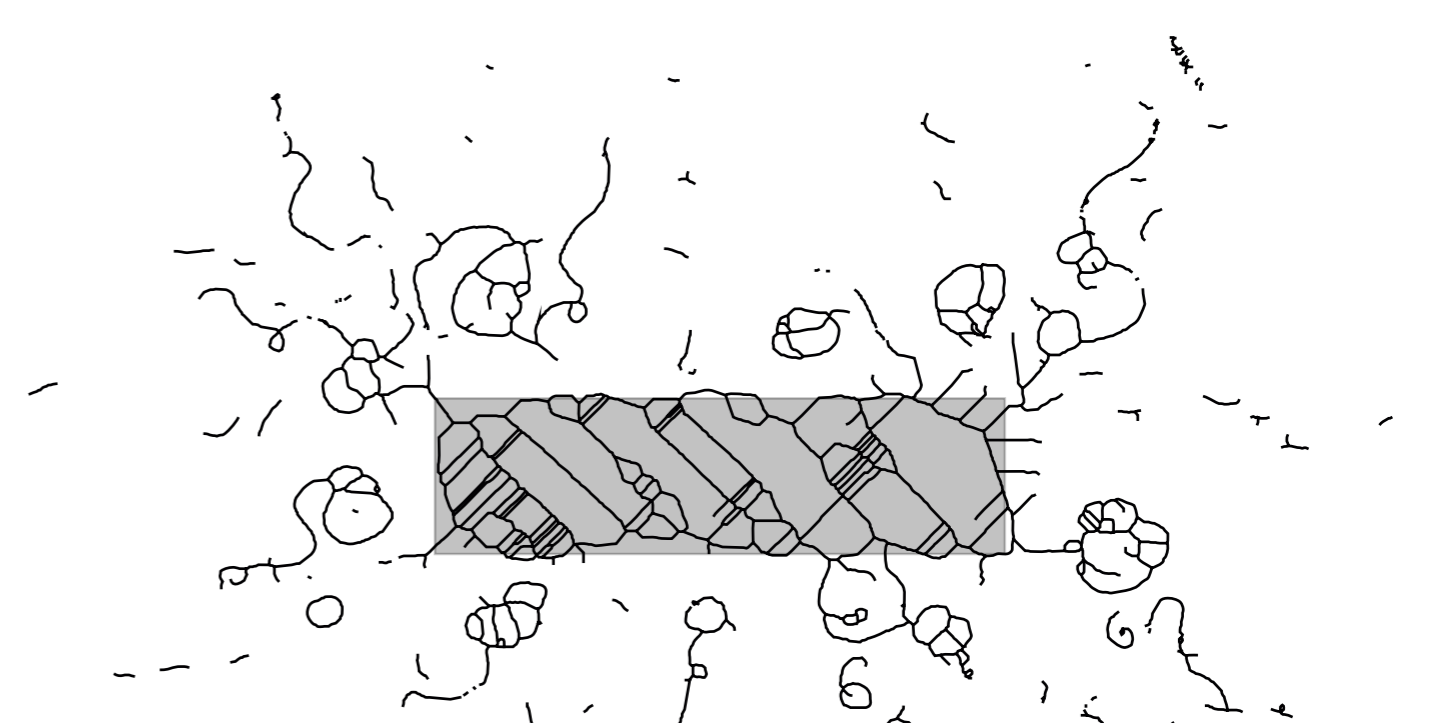


Figure 2.63: Diagram communicating how the shapes of the landscape 'bleeds' out from the building

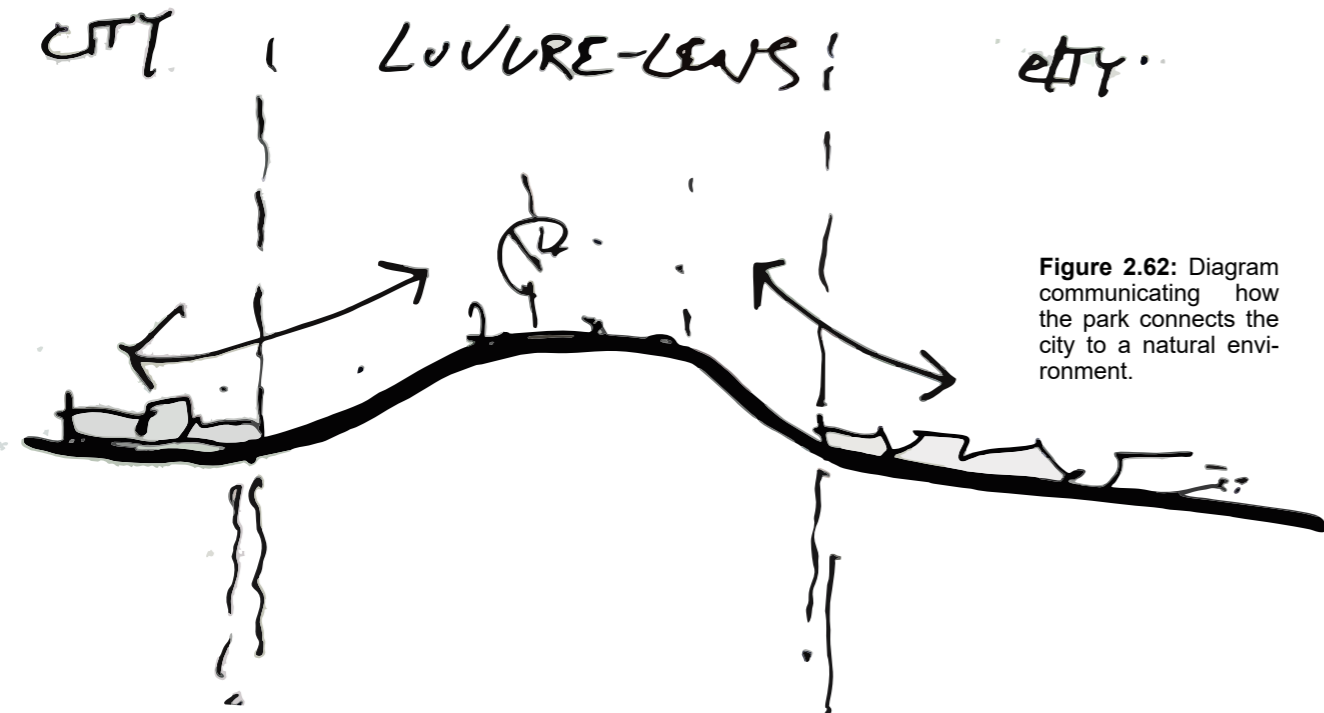


Figure 2.62: Diagram communicating how the park connects the city to a natural environment.

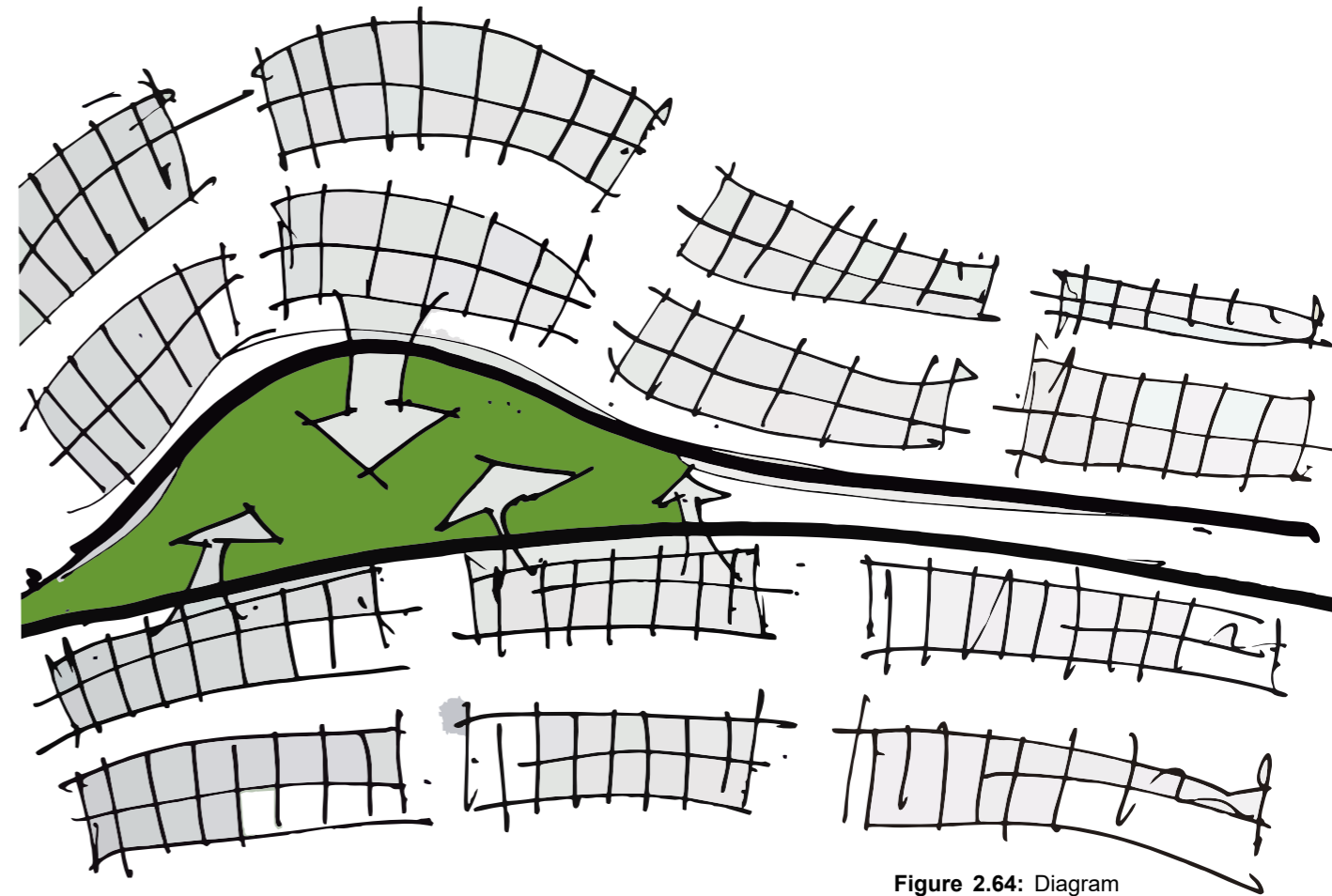
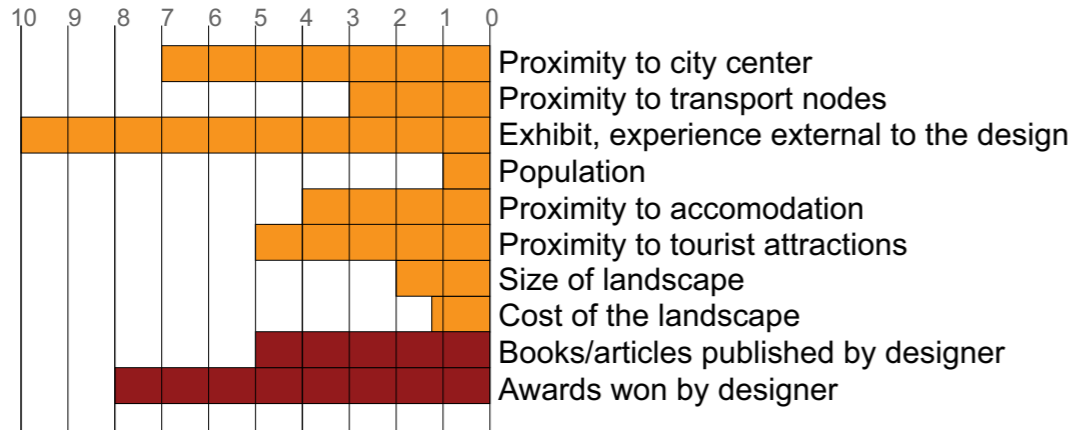
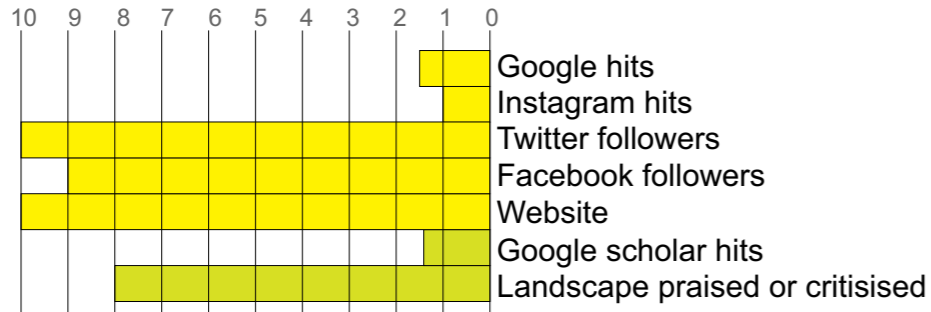


Figure 2.64: Diagram communicating how the park connects the city to a natural environment.

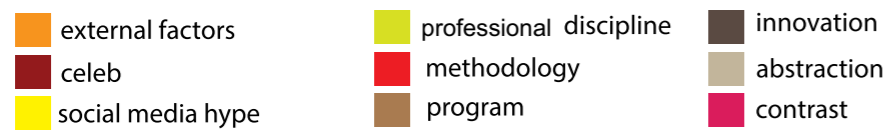
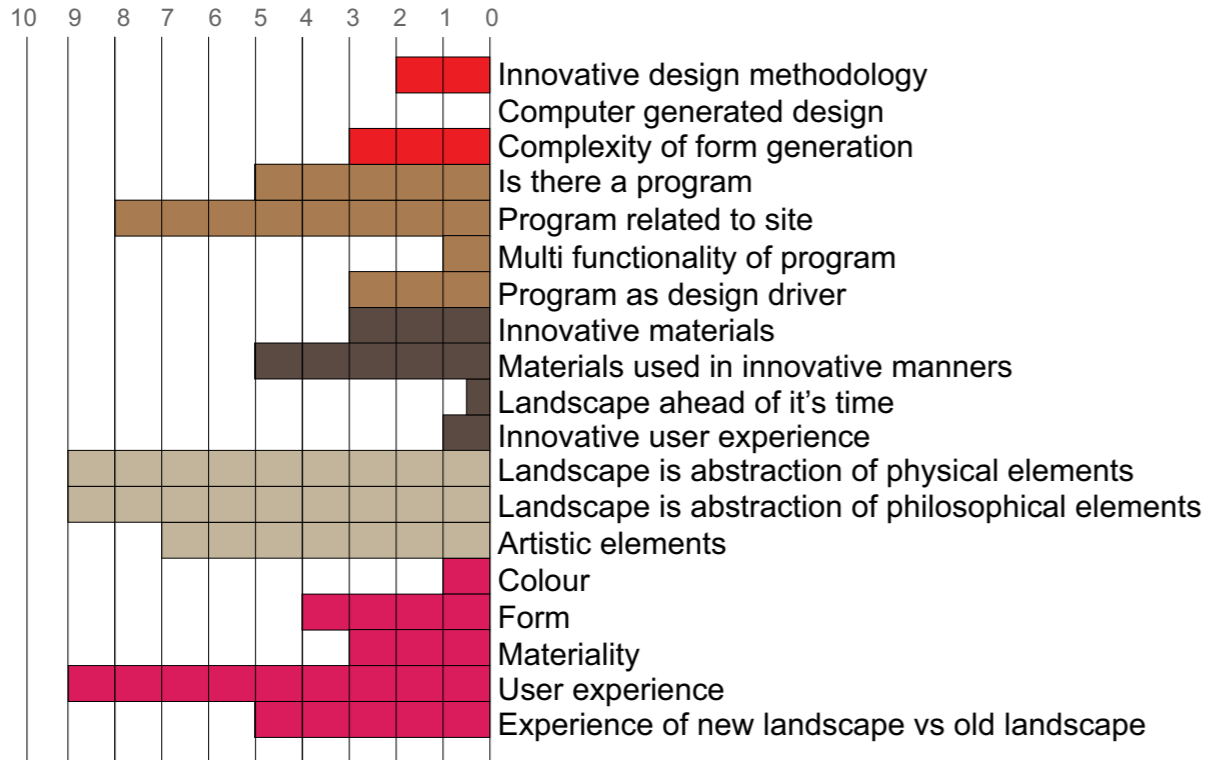
EXTERNAL FACTORS



WHAT'S THE HYPE ABOUT?



INTERVENTION



The Louvre-Lens Museum Park is a more subtle landscape, exposing the relicts of the previous site activities (a mining belt). One might argue that people will visit the site only to get to the Louvre museum, but the subtlety of the intervention compliments both the architecture and the surrounding natural environment. The park stands in contrast to its surroundings through the intimate natural spaces it creates via meandering paths through the forest. Figure 2.20 show that although the stance of the park is subtle it is a well balanced design, measured by the number of people attracted to the site.

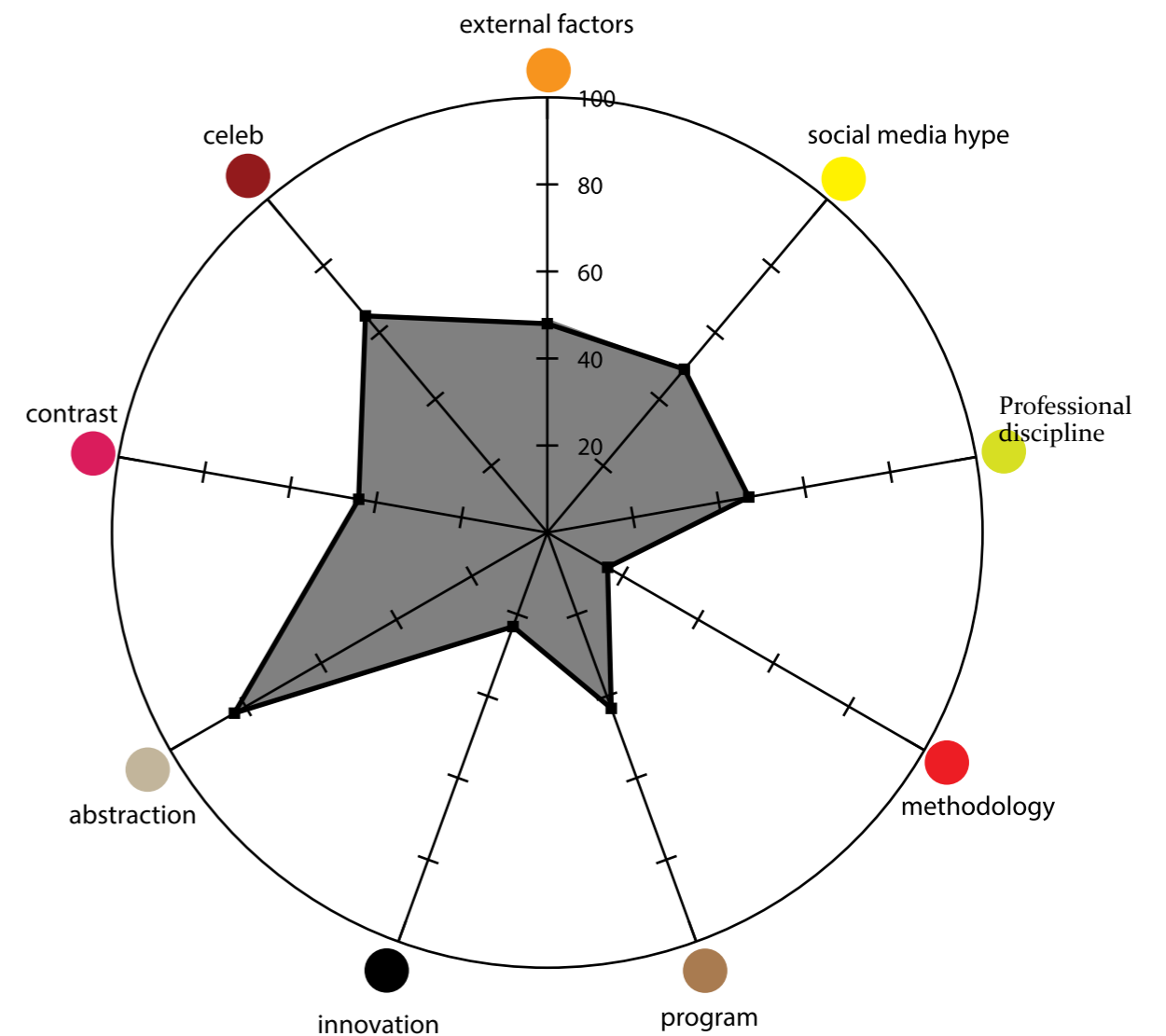


Figure 2.66: Info-graphic of the site

Figure 2.65: Information projected onto the graphic

2.3.4 Duisburg Nord Landschaft Park, Duisburg, Peter Latz

Landschafts Park is a public park located in Duisburg, Meiderich, Germany. It was designed by Peter Latz of Latz + Partner. The aim of this park is to heal and understand the industrial past, rather than trying to reject it. The park is built on an old abandoned coal and steel production plant. Since the site was abandoned in 1985, the area was significantly polluted. New functions were found for the old structures on the site.

The concrete bunkers create a space for intimate gardens. The old gas tanks have become pools for scuba divers. Concrete walls are used by rock climbers. The most central place of the factory, the middle of the former steel mill, had been made into a piazza. The former sewage canal is used as a method of cleansing the park. This park is a re-representation of the past; the park itself is a living museum.



Figure 2.67: Image of the site

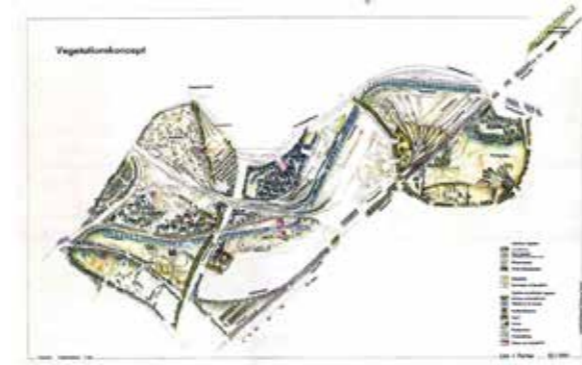


Figure 2.68: Plan of the site



Figure 2.69: Image of the site



Figure 2.70: Image of the site

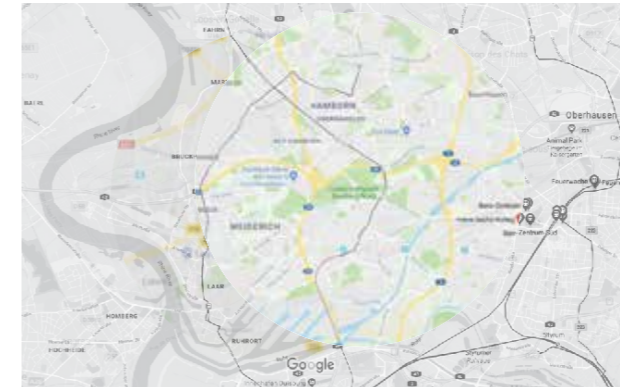


Figure 2.71: Transportation nodes near the site (3km radius)



Figure 2.72: Tourist hotspots near the site (3km radius)

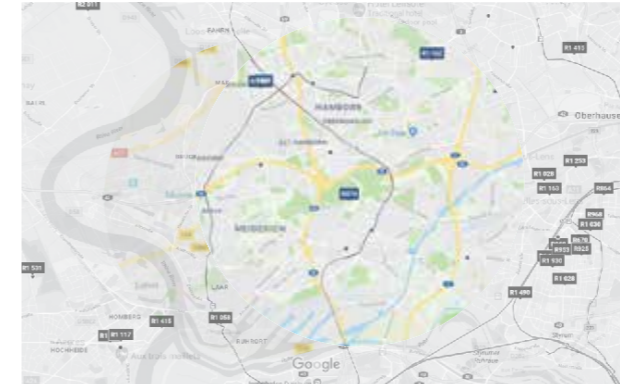


Figure 2.73: Accommodation near the site (3km radius)



Figure 2.74: Peter Latz

1	City center	1900m
2	Transport nodes	4
3	Population Duisburg	502 634
4	Accommodation	4
5	Tourist attractions	5
6	Size of landscape	230ha
7	Cost of landscape	100 000 000\$
8	Books published by designer	66
9	Awards won by designer	24

10	Google	184 000 hits
11	Instagram	#duisburgnordlandscapark 43 tags
12	Twitter	812 followers
13	Facebook	16 768 followers
14	Google Scholar	767 hits

- 1 <https://www.maps.google.co.za>
- 2 <https://www.maps.google.co.za>
- 3 <https://www.citypopulation.de/php/germany-duisburg.php>
- 4 <https://www.maps.google.co.za>
- 5 <https://www.maps.google.co.za>
- 6 <https://rmitallchange.weebly.com/north-duisburg-landscape-park.html>
- 7 www.landezine.com/index.php/2011/08/post-industrial-landscape-architecture/
- 8 <https://www.books.google.co.za>
- 9 <https://www.latzundpartner.de/en/buero/auszeichnungen/?page=2>
- 10 <https://www.google.co.za>
- 11 <https://www.instagram.com>
- 12 <https://www.twitter.com>
- 13 <https://www.facebook.com>
- 14 <https://www.scholar.google.co.za>



Figure 2.75: Perspective of the industrial site

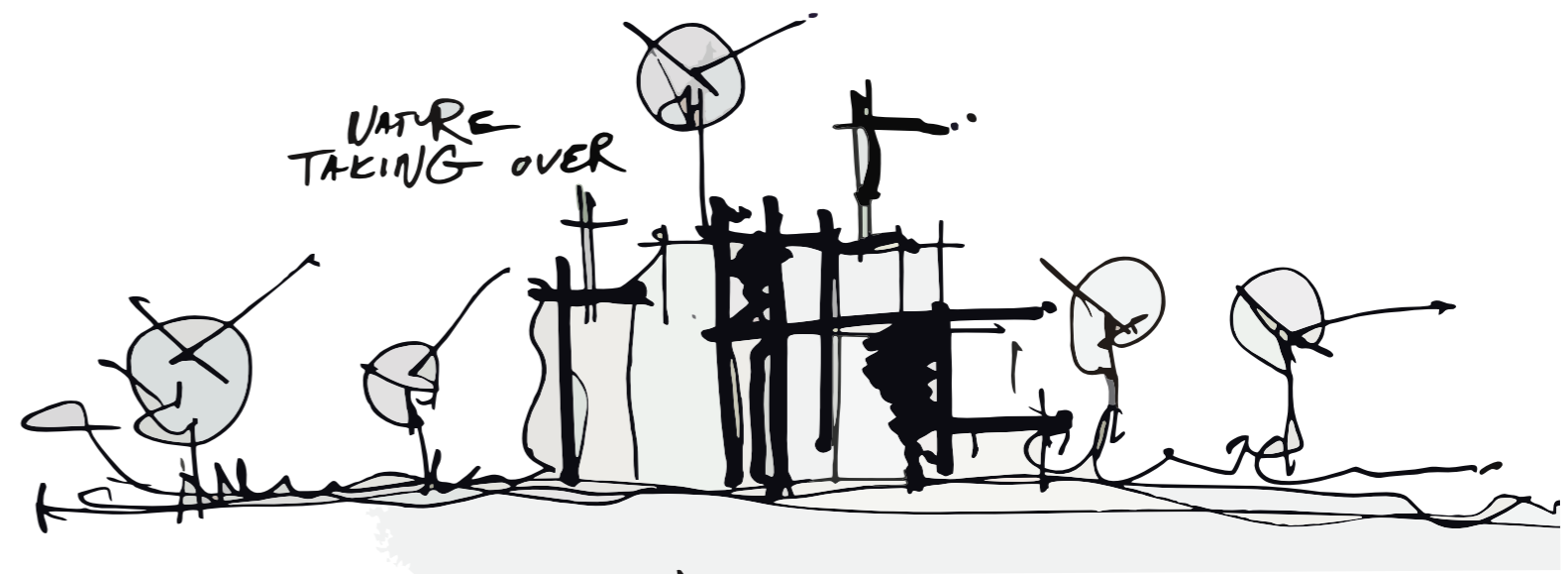


Figure 2.77: Diagrammatic elevation showing how the design allows for nature to take over the industrial site

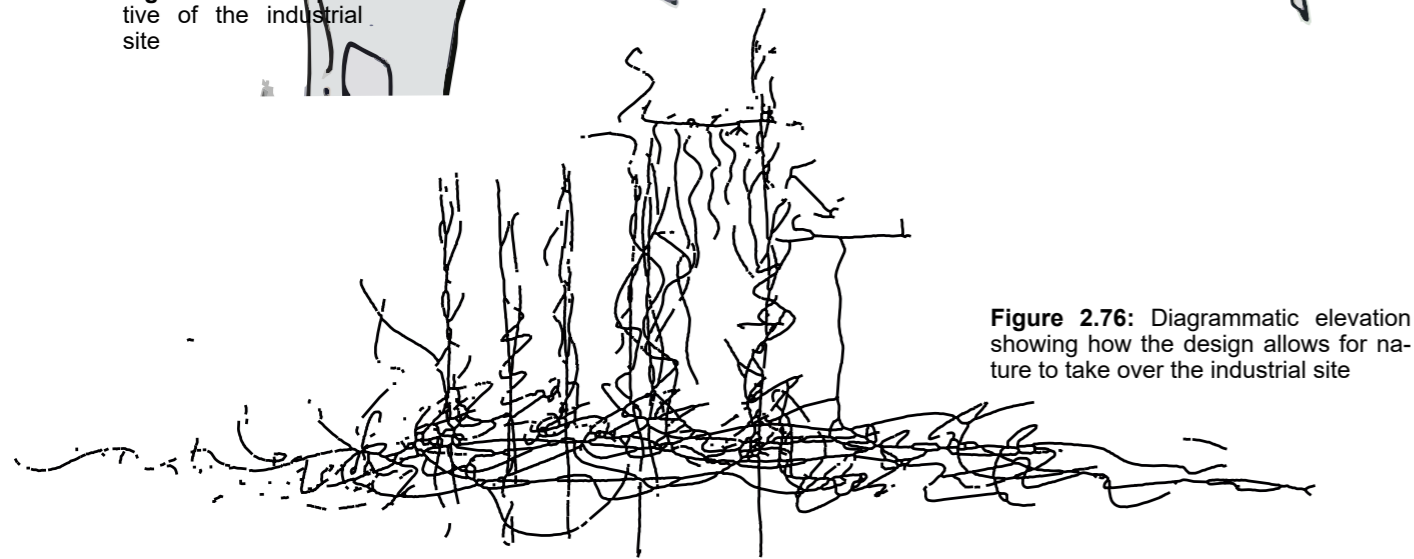


Figure 2.76: Diagrammatic elevation showing how the design allows for nature to take over the industrial site

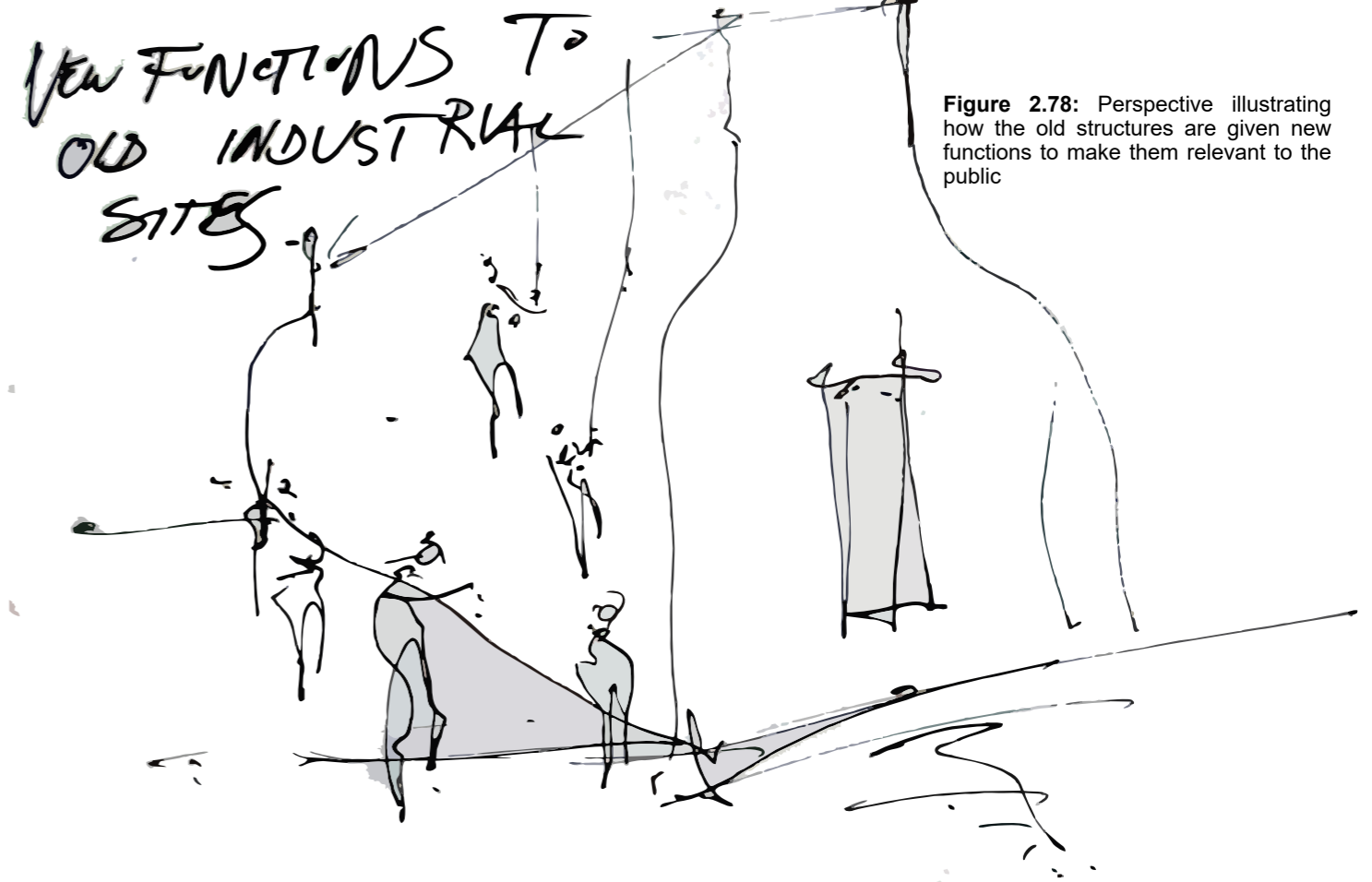
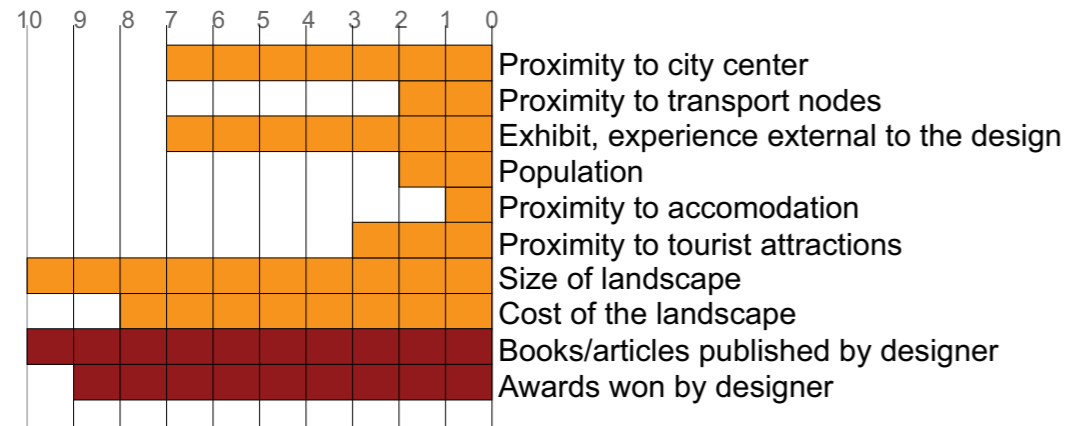
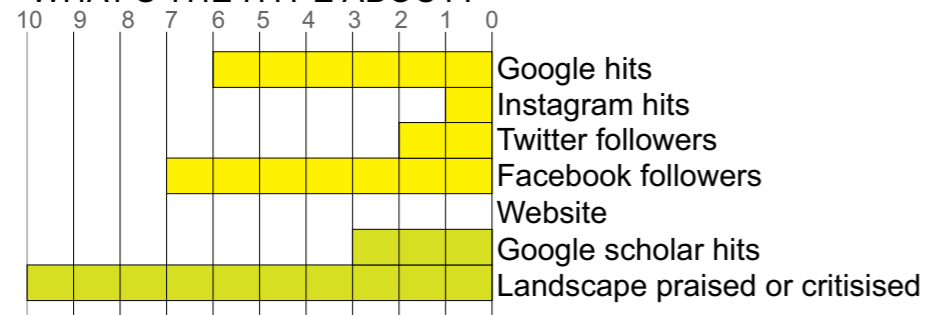


Figure 2.78: Perspective illustrating how the old structures are given new functions to make them relevant to the public

EXTERNAL FACTORS



WHAT'S THE HYPE ABOUT?



INTERVENTION

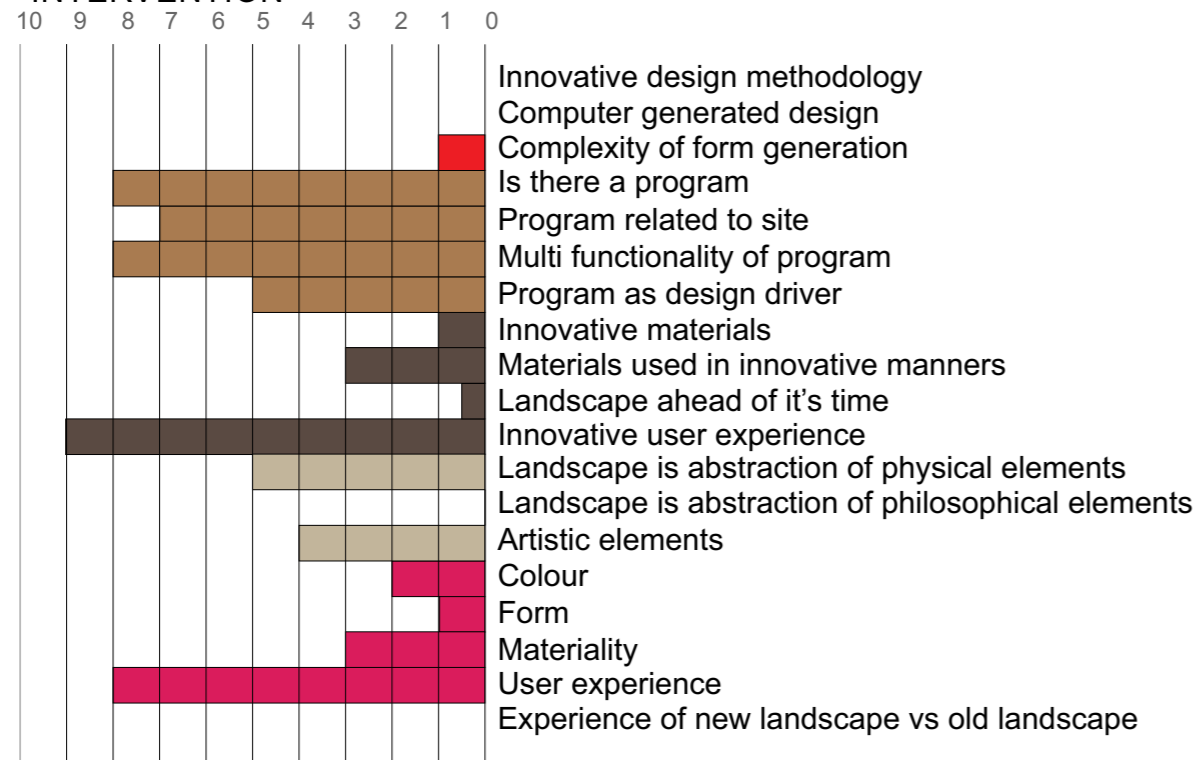


Figure 2.79: Information projected onto the graphic

Duisburg Nord Landscape Park is an excellent example of making a few alterations to an existing gas plant to not only remediate the ecological nature of the site, but to create public space for the people of Duisburg. Not a very innovative approach was followed, but nonetheless the project was executed to perfection. The site sits in stark contrast to its surroundings as it creates a space to connect the people with naturalized environments.

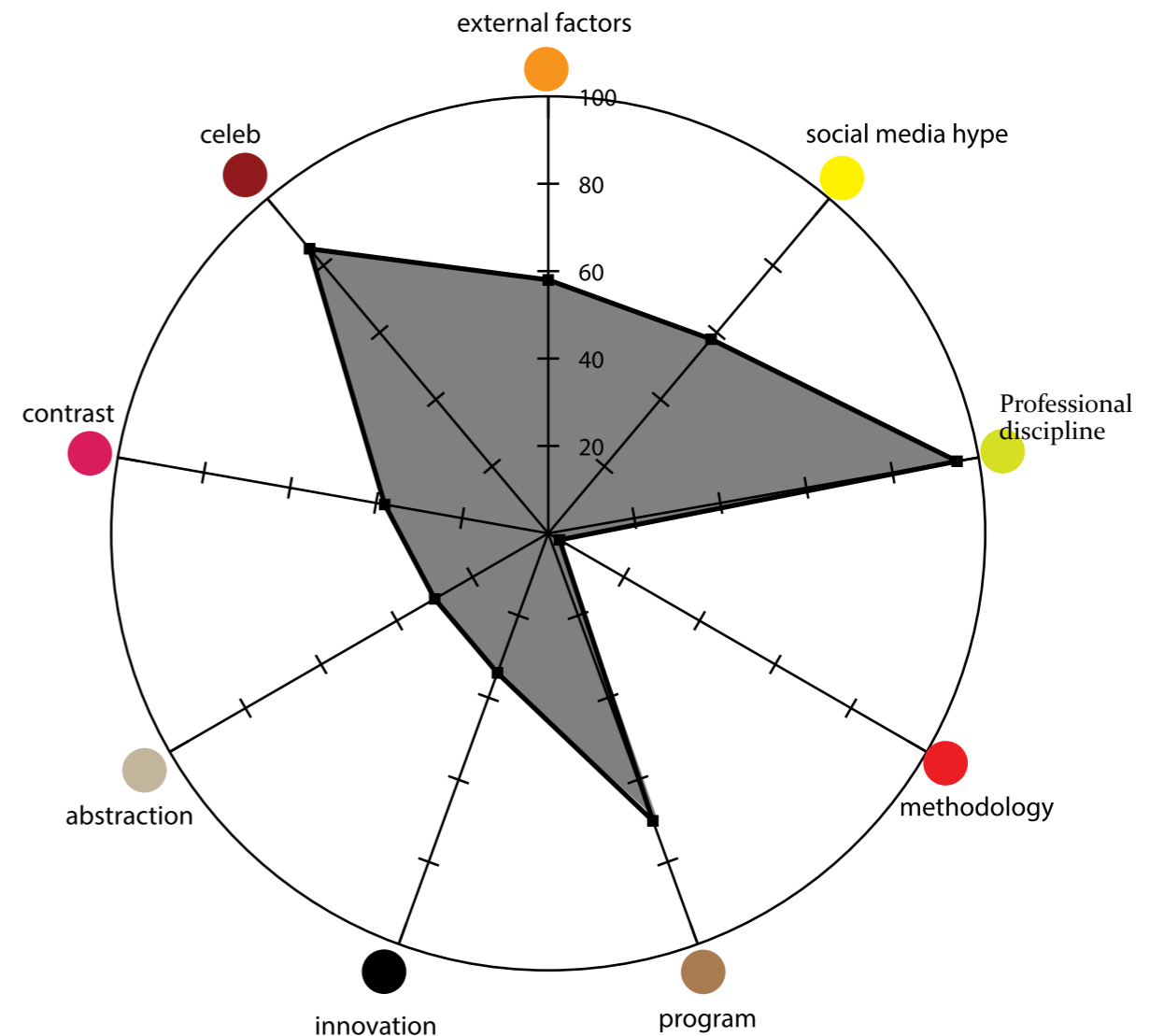


Figure 2.80: Info-graphic of the site

2.3.5 Grand Canal Square, Dublin, Martha Schwartz

Grand Canal Square forms the centerpiece of the Dublin Docklands' emblematic revitalization project. The project was completed in 2007 (Krzykowski 2008). The square is situated on the banks of the Grand Canal, in front of the new Cultural Arts Performance Centre designed by Studio Daniel Libeskind (Krzykowski 2008).

Granite paved paths criss-crosses the Grand Canal Square allowing movement in any possible direction, and also enabling the square to host major public events such as festivals and performances (Krzykowski 2008).

The idea of the red stroke is to represent a red carpet rolled out from the canal into the site's main theatre (WAN 2009). The "red carpet" is made from bright red resin-glass paving. This paving reflects and captures light during the day. Eight-meter high, red light poles are positioned on the carpet at various angles providing dramatic light at night. A fountain and other attractions also fills the space (WAN 2009).

This square is a 24/7 destination for communal celebrations and according to Martha Schwartz, it accurately interprets and exemplifies Dublin's optimistic metropolitan energy (WAN 2009).



Figure 2.81: Image of the site at night



Figure 2.82: 3D rendering of the site



Figure 2.83: Image of the red poles sticking out of the ground

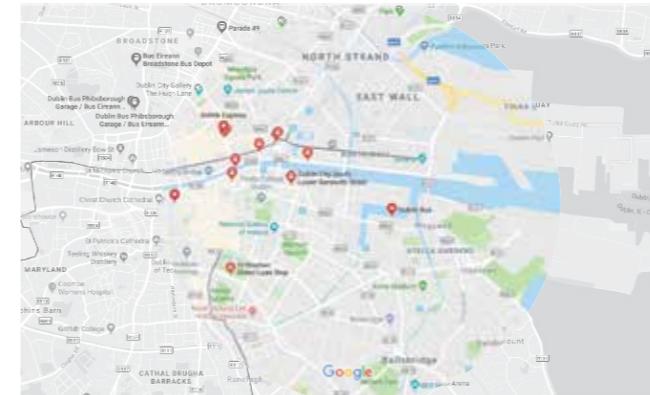


Figure 2.84: Transportation nodes near the site (within 3km)

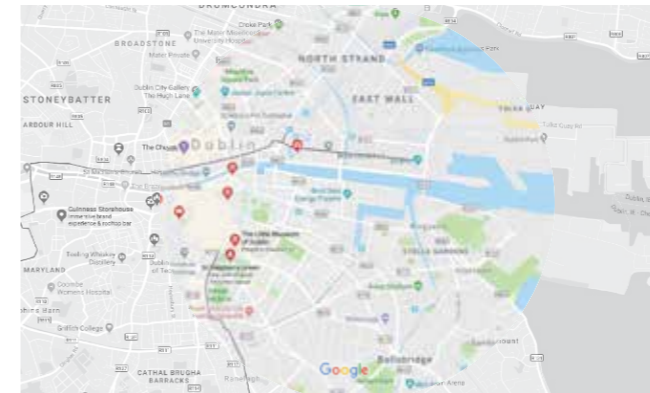


Figure 2.85: Tourist hotspots near the site (within 3km)

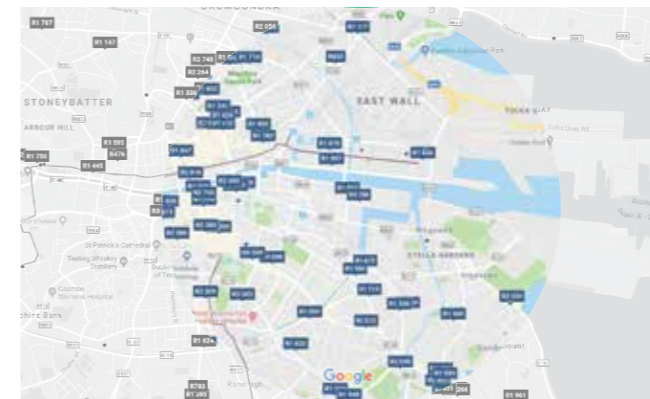


Figure 2.86: Accommodation near the site (within 3km)



Figure 2.87: Martha Swartz <http://www.dublindocklands.ie/living-docklands/things-do/sightseeing/grand-canal-square>

1	City center	1500m
2	Transport nodes	13
3	Population Dublin	527 612
4	Accommodation	47
5	Tourist attractions	6
6	Size of landscape	0.64ha
7	Cost of landscape	\$8 000 000
8	Books published by designer	4
9	Awards won by designer	36

10	Google	207 000 hits
11	Instagram	#grandcanalsquare 1336 tags
12	Twitter	no page
13	Facebook	no page
14	Google Scholar	87 hits

- 1 <https://www.maps.google.co.za>
- 2 <https://www.maps.google.co.za>
- 3 <https://www.citypopulation.de/php/ireland-admin.php?adm2id=DC>
- 4 <https://www.maps.google.co.za>
- 5 <https://www.maps.google.co.za>
- 6 charteredland.ie/grand-canal-square/
- 7 www.thejournal.ie/the-reflector-construction-2969940-Sep2016/
- 8 <https://www.books.google.co.za>
- 9 www.marthaschwartz.com/practice/awards/
- 10 <https://www.google.co.za>
- 11 <https://www.instagram.com>
- 12 <https://www.twitter.com>

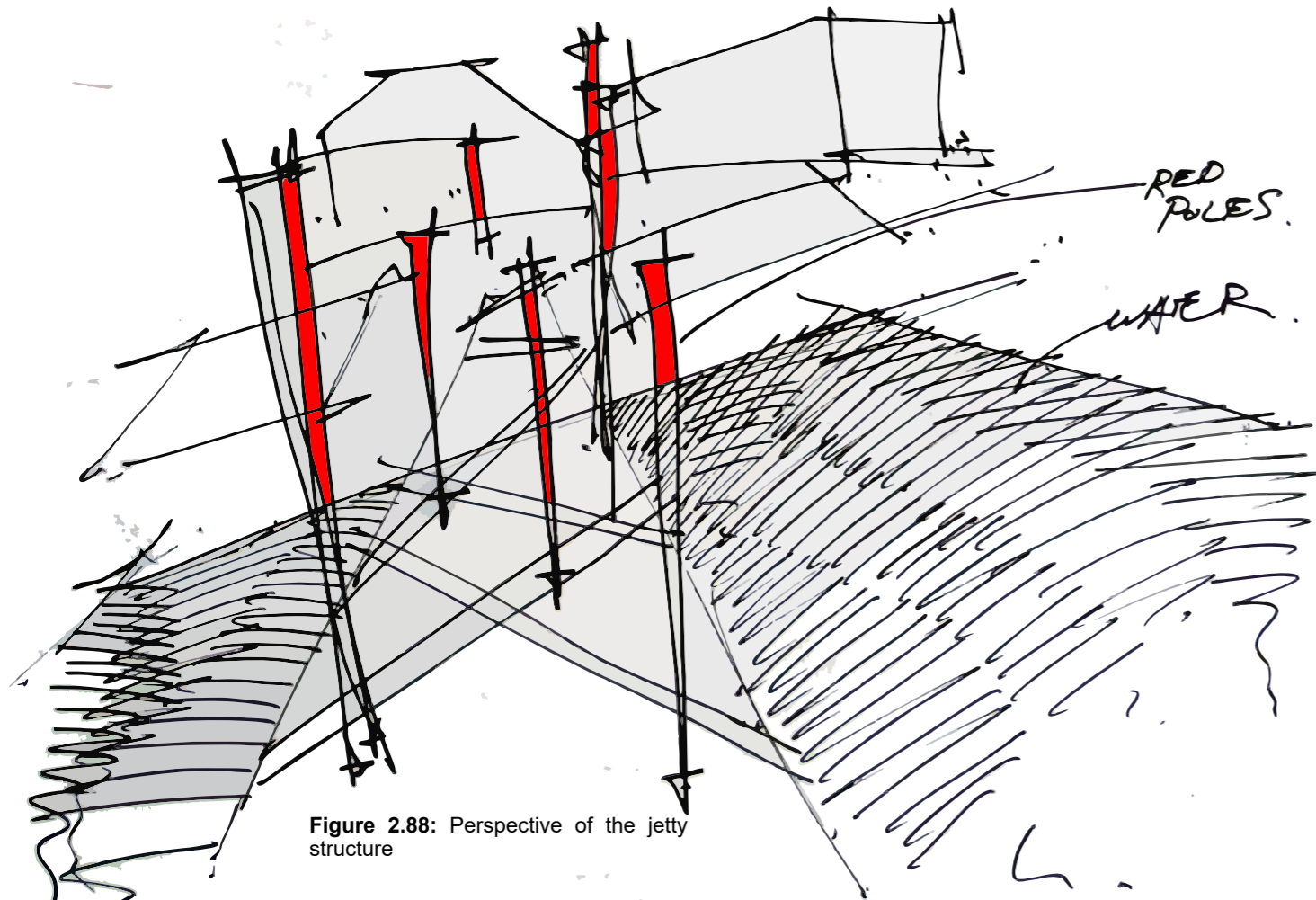


Figure 2.88: Perspective of the jetty structure

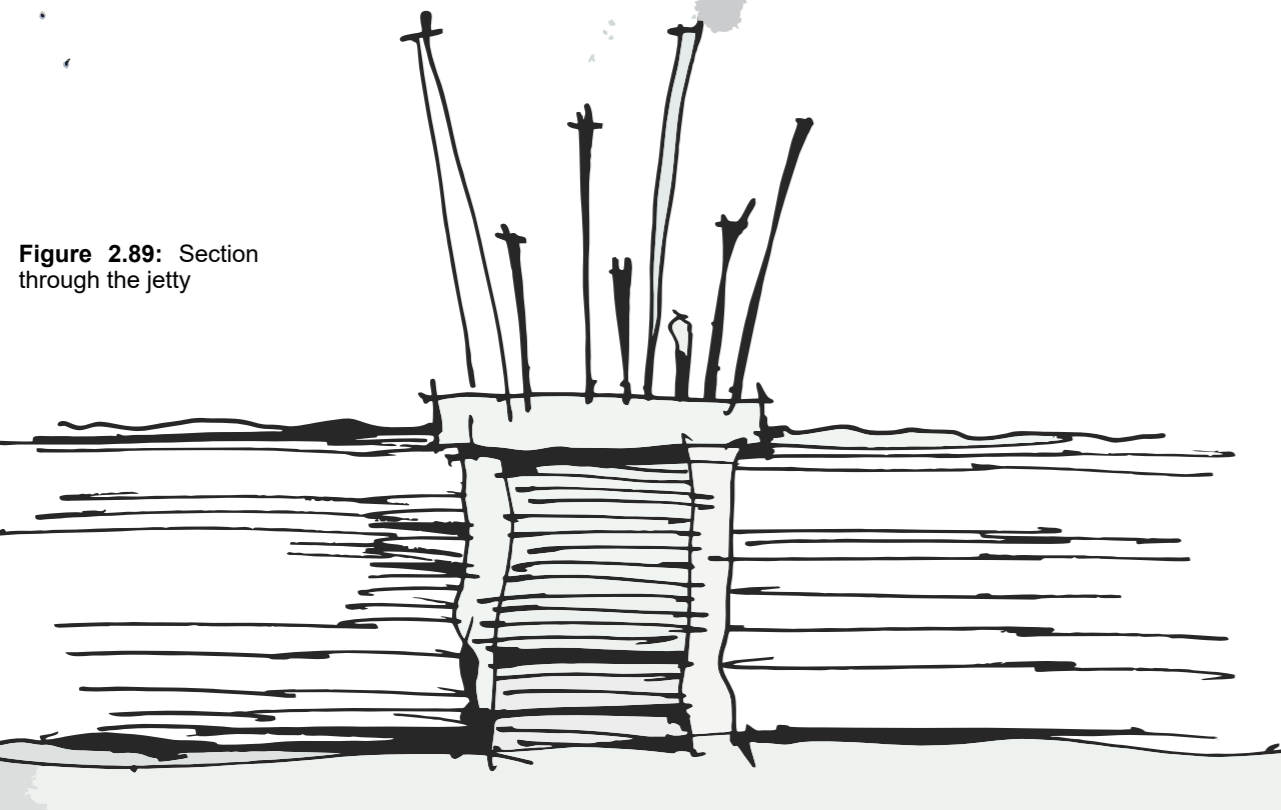


Figure 2.89: Section through the jetty

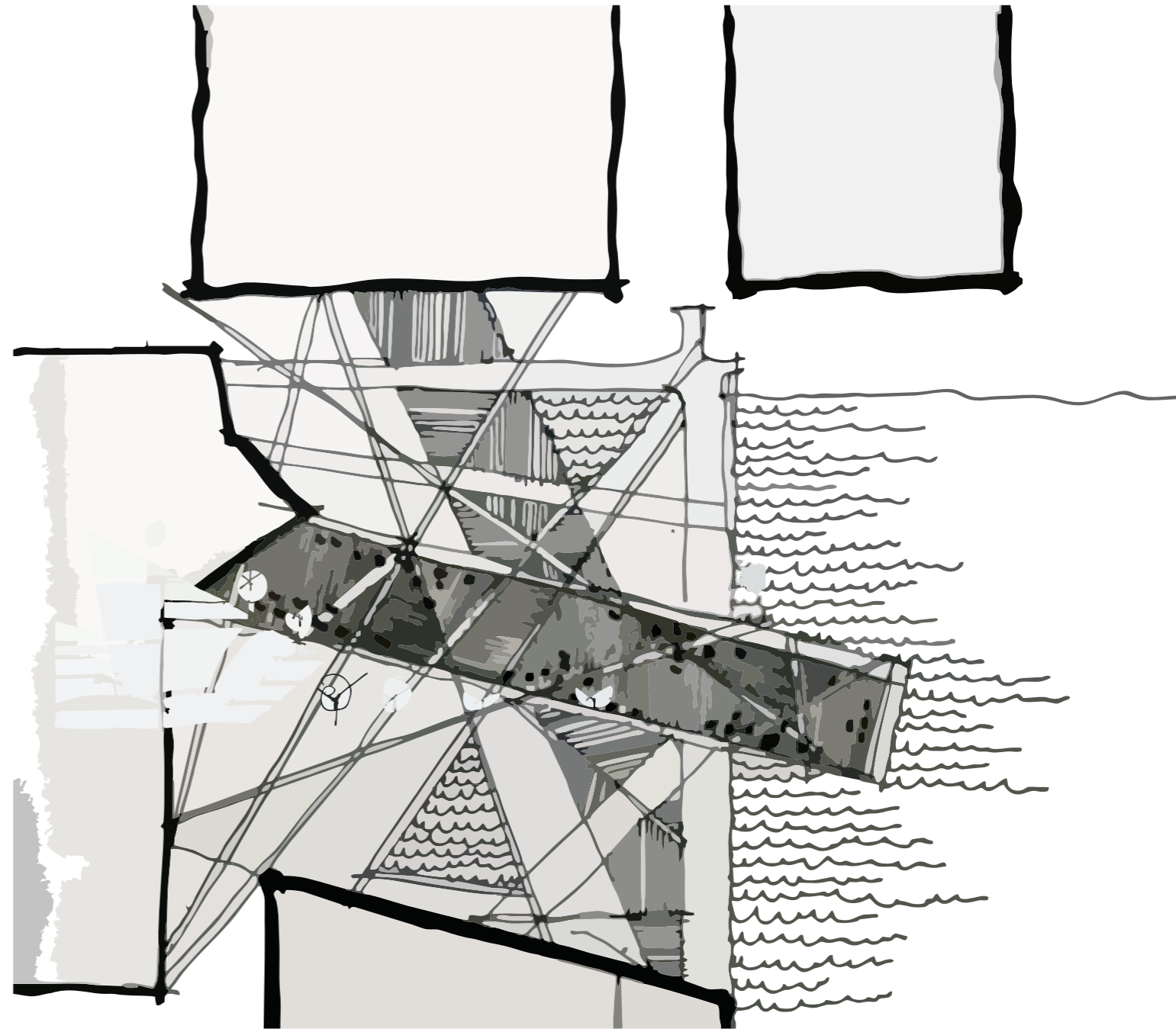


Figure 2.90: Plan of the urban space, highlighting the juxtaposition of the site and its boundaries

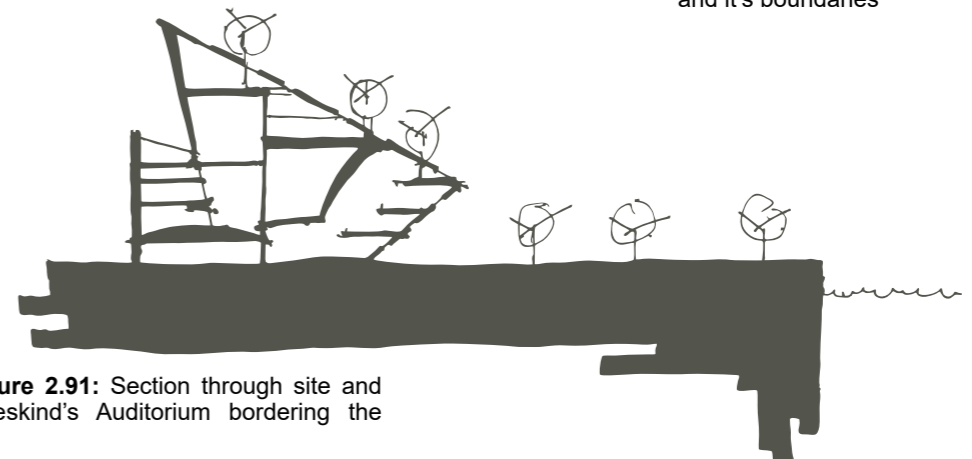
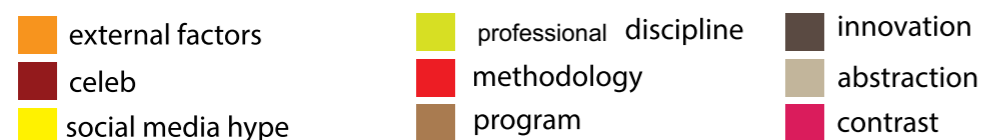
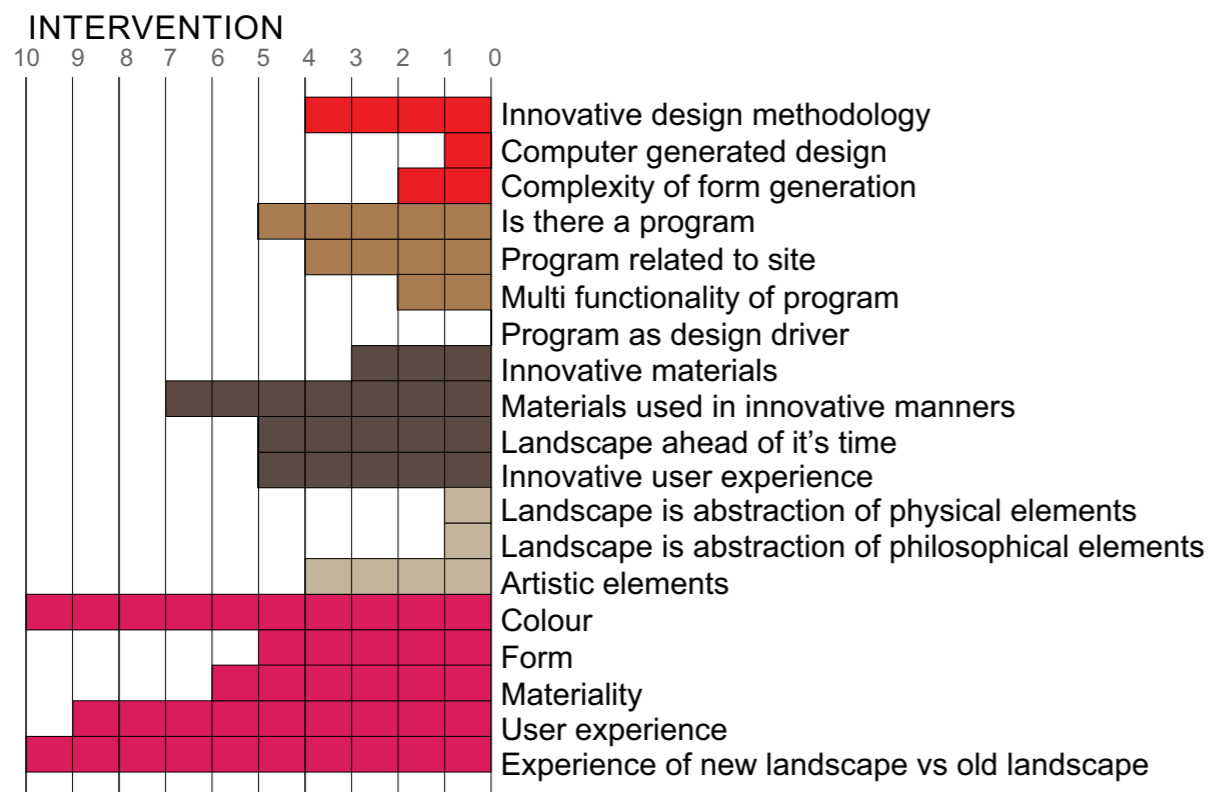
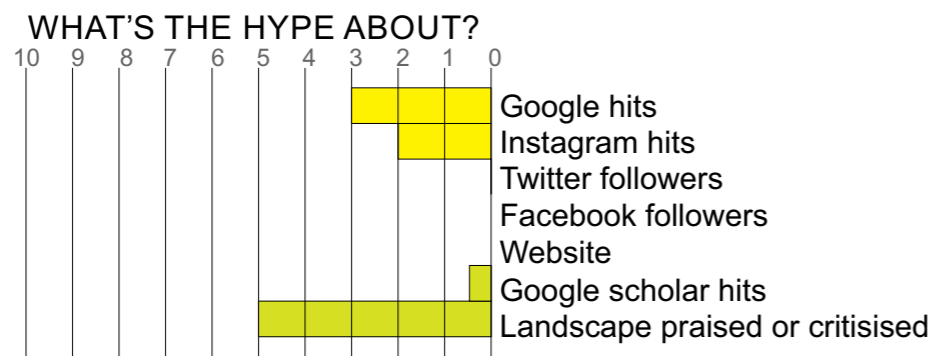
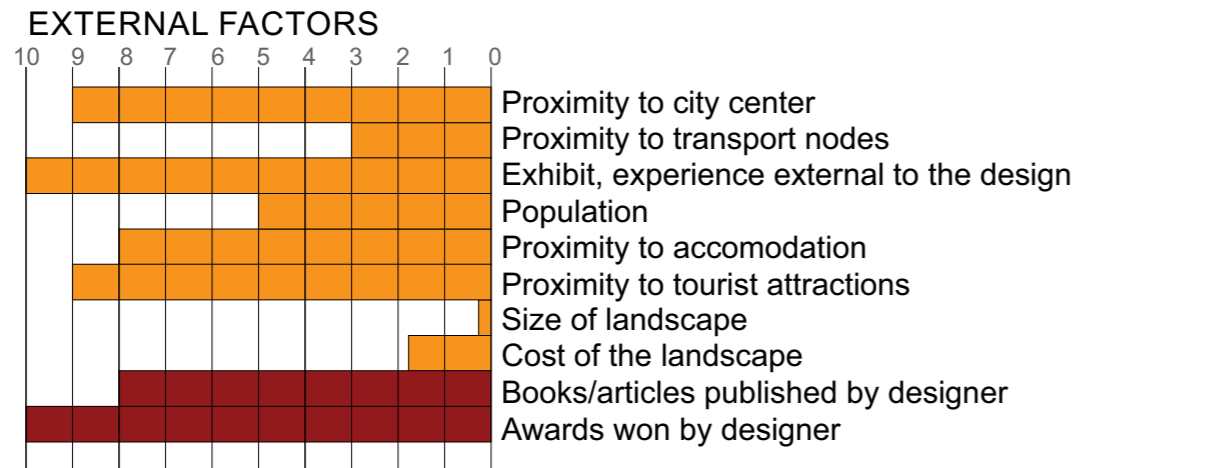


Figure 2.91: Section through site and Libeskind's Auditorium bordering the site



The Grand Canal Square makes a statement by using bright red illuminated poles. The local people of Dublin have been criticizing the design on online forums and it is clear to see why. The design does not recognize the existing historical layer of the site.

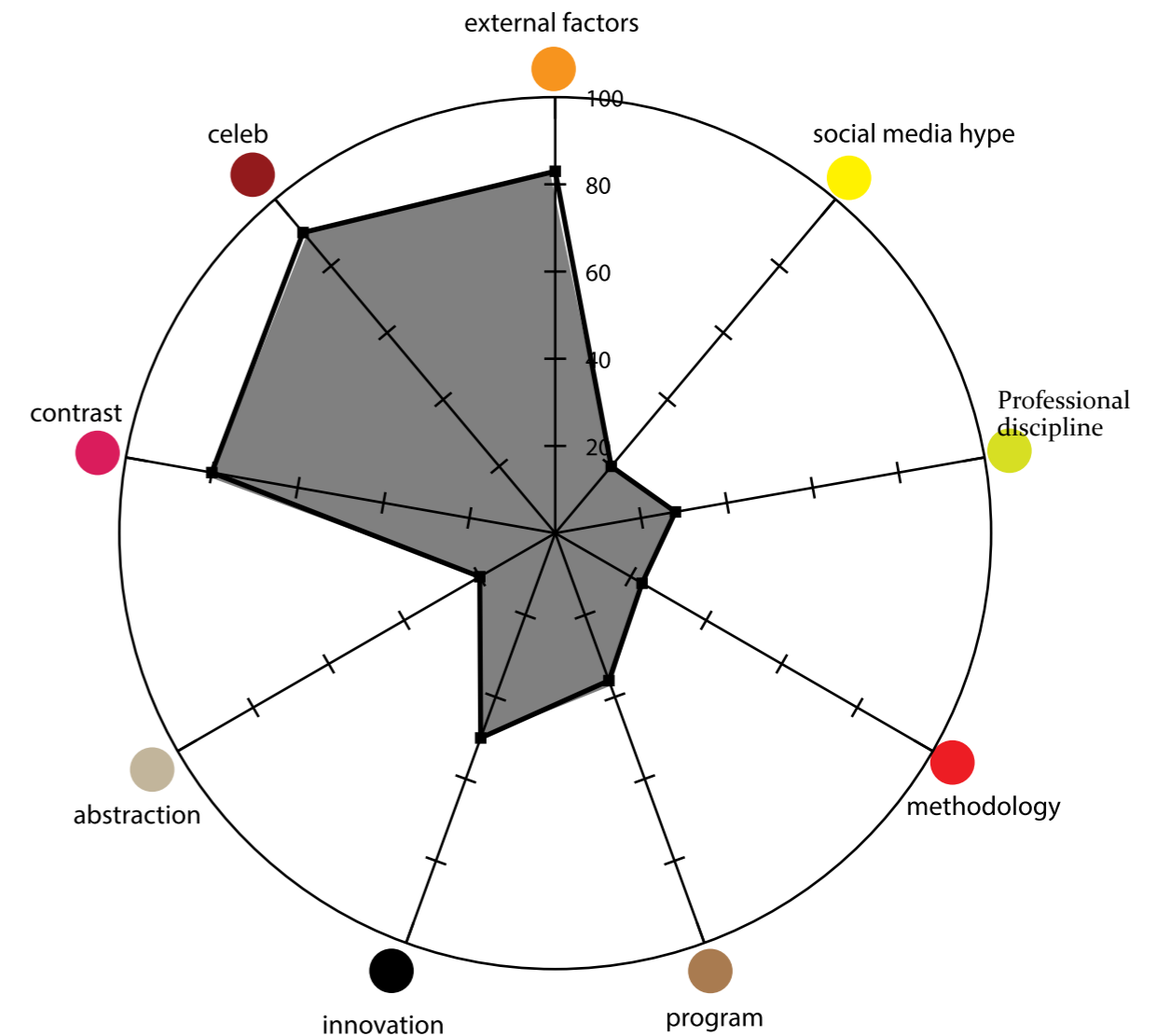


Figure 2.93: Info-graphic of the site

Figure 2.92: Information projected onto the graphic

2.3.6 Parc de la Villette, Paris, Bernard Tschumi

The Parc de la Villette is located at the north-eastern edge of Paris and is 55.5 hectares in area (Souza 2011). The park houses a large concentration of cultural venues in Paris, including three major concert venues, the Paris conservatory and the City of Science and Industry (Europe's largest science museum) There are live performance stages and theatres, as well as playgrounds for children, and thirty-five architectural follies, themed gardens, and open spaces for exploration and activity, the park has created an area that appeals to both adults and children (Souza 2011).

The park was designed by Bernard Tschumi, a French architect of Swiss origin, in partnership with Colin Fournier. The site was a former slaughterhouse and the national wholesale meat market which had been relocated in 1974 (Souza 2011). The park was developed as part of an urban redevelopment project.

The park opened in 1987 and has become a popular attraction for locals and international tourists. An estimated 10 million people visit the park each year.

According to Tschumi, the intention of the park was to create space for activity and interaction, rather than adopting the conventional park mantra of ordered relaxation and self-indulgence. The vast expanse of the park allows for visitors to walk about the site with a sense of freedom and with opportunities for exploration and discovery.

The design of the park is organized into a series of points, lines, and surfaces. The intention is to act as a means of deconstructing the traditional views of how a park is conventionally supposed to exist (Souza 2011).



Figure 2.94: Image of a folly in the landscape



Figure 2.95: Image of a folly in the landscape



Figure 2.96: Image of a folly in the landscape



Figure 2.97: Image of a folly in the landscape



Figure 2.98: Transportation nodes near the site (within 3km)



Figure 2.99: Tourist hotspots near the site (within 3km)



Figure 2.100: Accommodation near the site (within 3km)

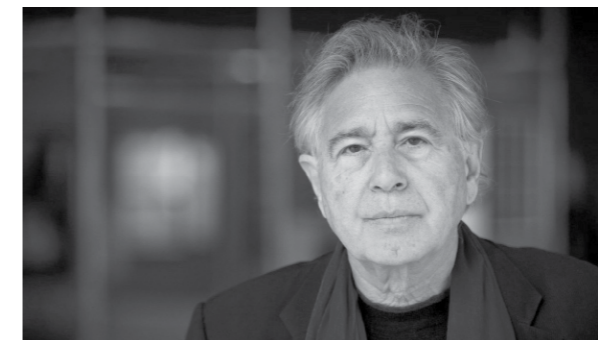


Figure 2.101: Bernard Tschumi

1	City center	5200m
2	Transport nodes	15
3	Population Paris	2 241 346
4	Accommodation	17
5	Tourist attractions	2
6	Size of landscape	55.5ha
7	Cost of landscape	14 000 000 euros
8	Books published by designer	33
9	Awards won by designer	39

10	Google	1 090 000 hits
11	Instagram	#parcdela Villette 16 785 tags
12	Twitter	15 400 followers
13	Facebook	no page
14	Google Scholar	8 670 hits

- 1 <https://www.maps.google.co.za>
- 2 <https://www.maps.google.co.za>
- 3 <https://www.citypopulation.de/php/france-cityofparis.php>
- 4 <https://www.maps.google.co.za>
- 5 <https://www.maps.google.co.za>
- 6 www.architectmagazine.com/project-gallery/parc-de-la-villette-722
- 7 <https://www.publicspace.org/works/-/project/w023-parc-de-la-villette>
- 8 <https://www.books.google.co.za>
- 9 www.tschumi.com/awards/
- 10 <https://www.google.co.za>
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- 14 <https://www.facebook.com>

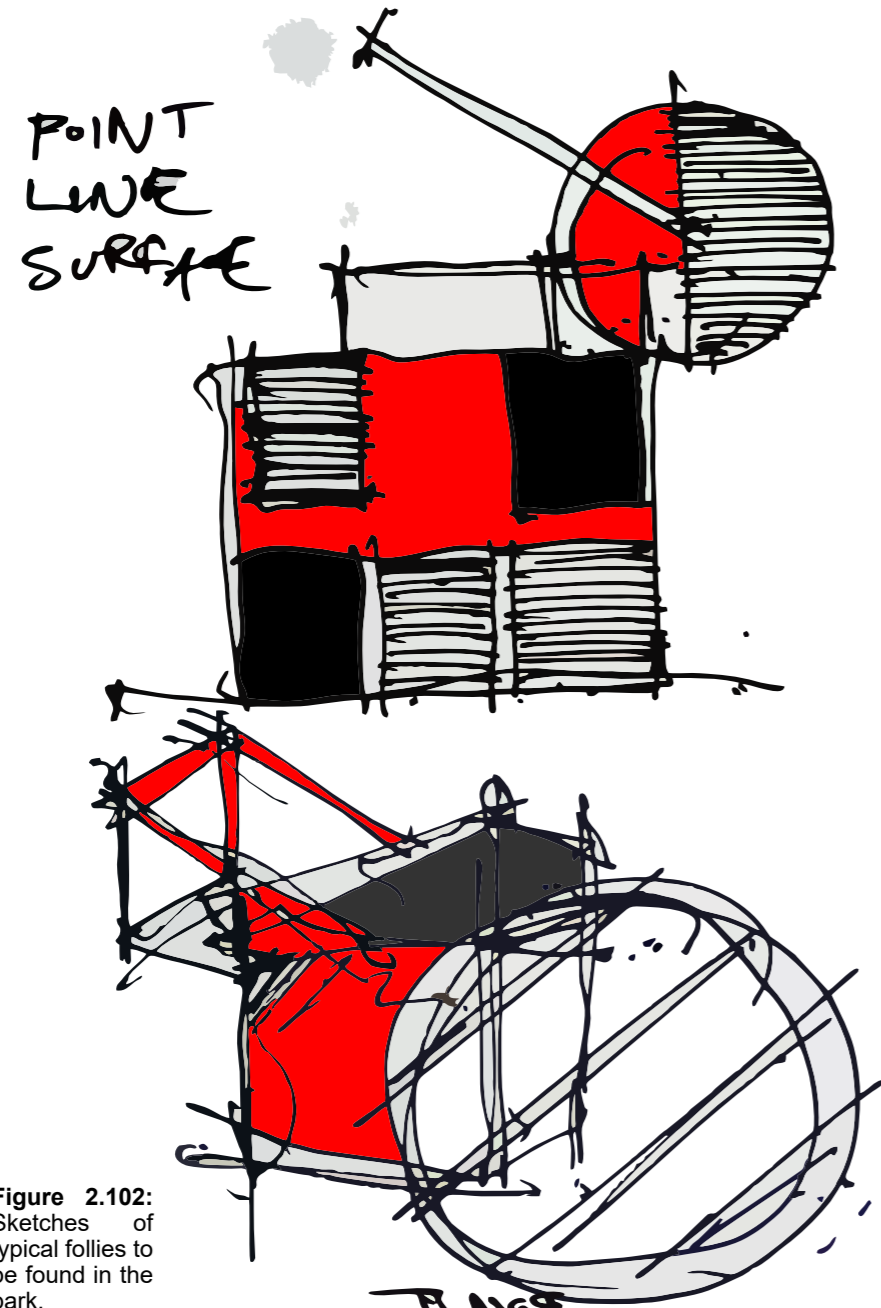


Figure 2.102: Sketches of typical follies to be found in the park.

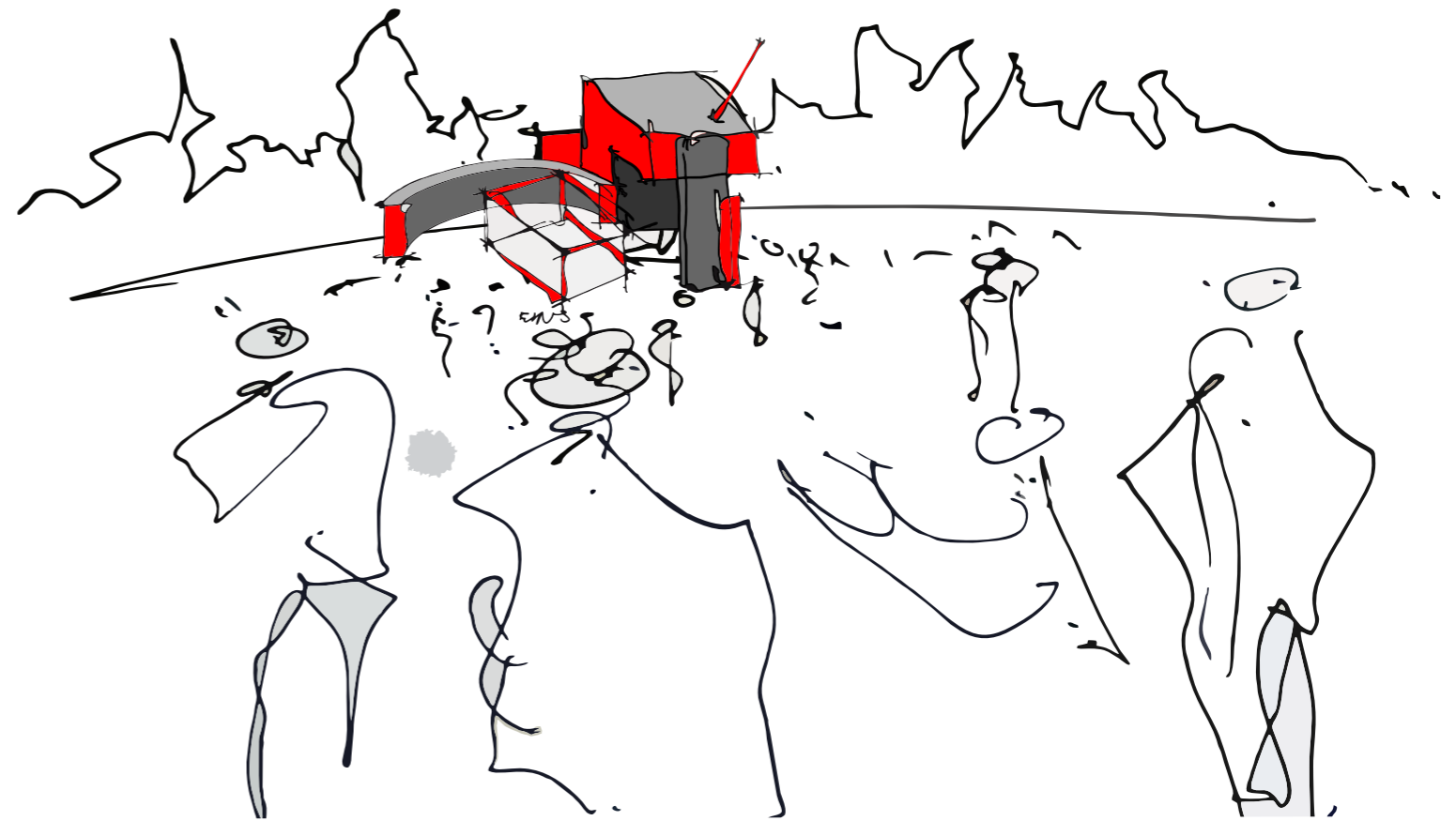
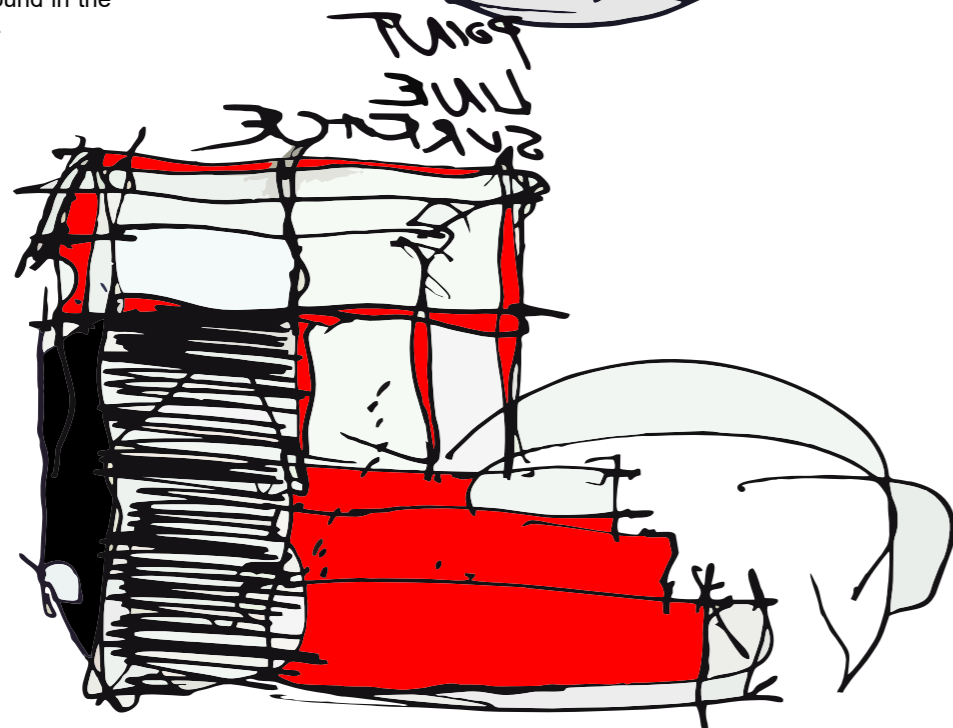


Figure 2.103: Perspective of people gathering around the folly during an event

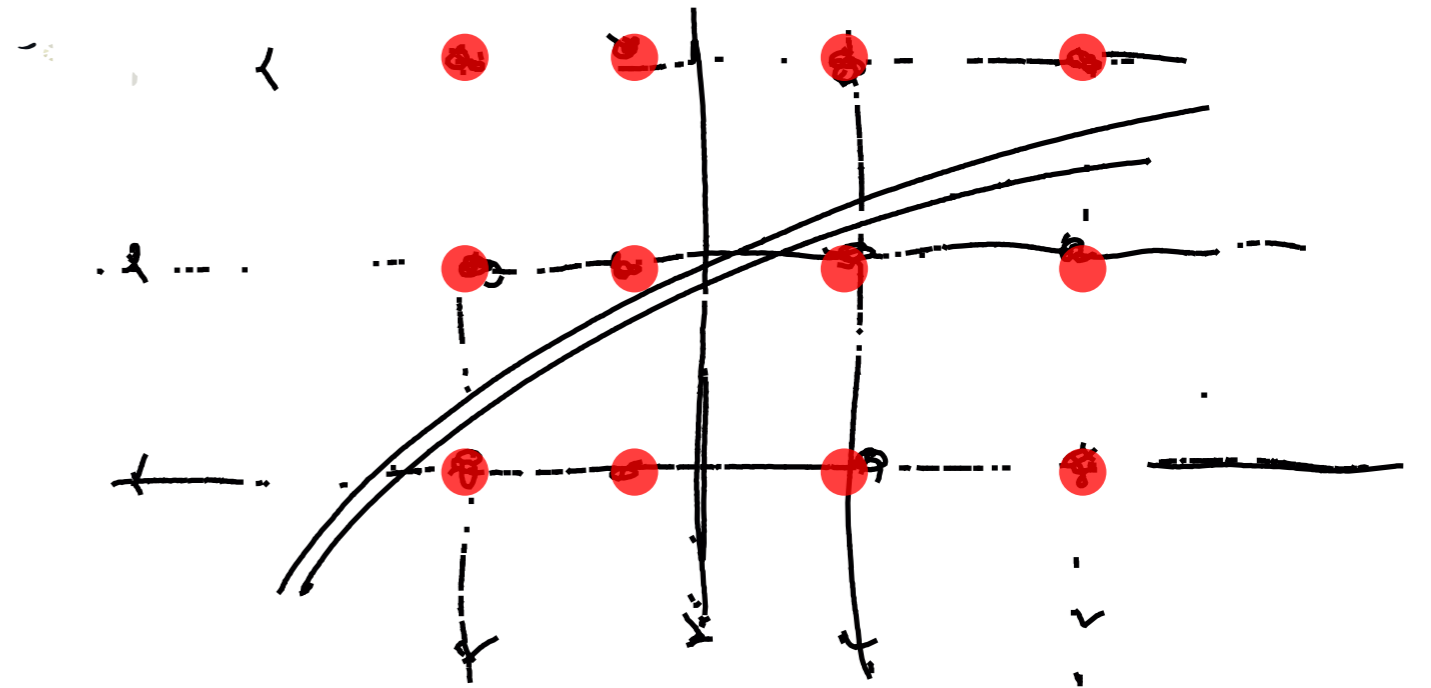
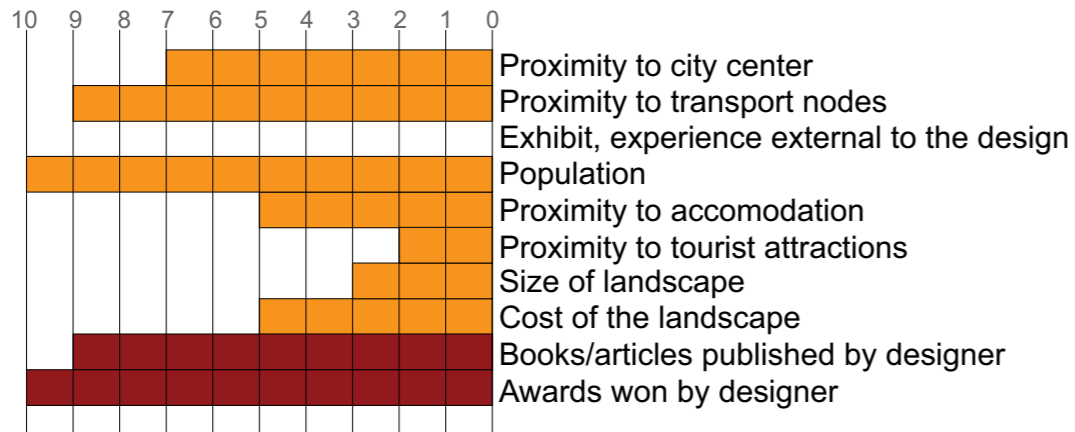
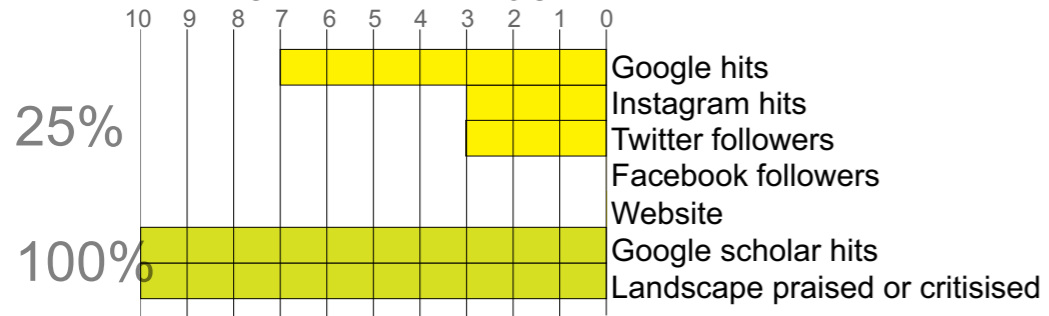


Figure 2.104: Diagram illustrating the concept of deconstruction. The entire park consist of points, lines and surfaces.

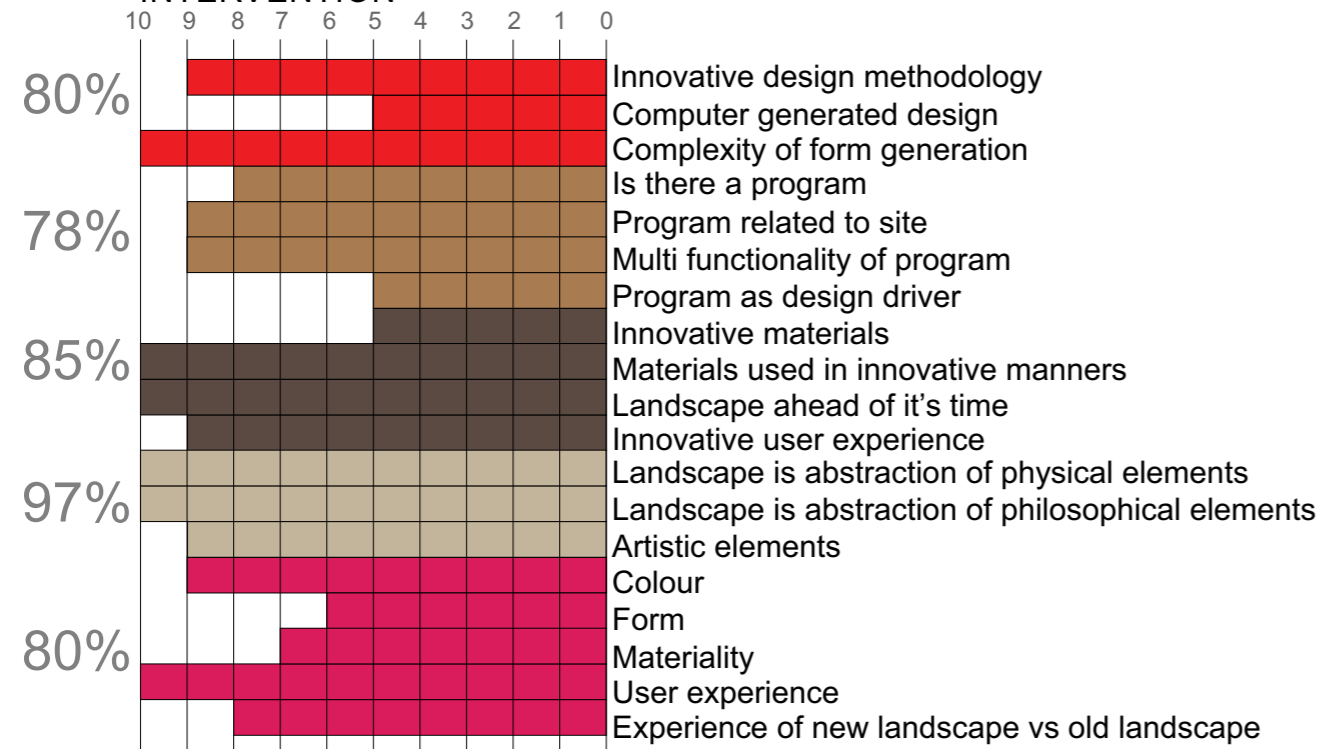
EXTERNAL FACTORS



WHAT'S THE HYPE ABOUT?



INTERVENTION



A masterpiece manifesting in the form of abstract follies, Parc de la Villette is an example of deconstructivism as a design approach. A very successful park regenerating a post-industrial precinct with distinction. Parc de la Villette does not possess a strong social media platform or external factors leading people to the site, but it is rather an abstraction and celebration of an ideological concept of deconstruction. Much like the GMB the design of the park sits seamlessly within the larger context, not afraid to make a statement.

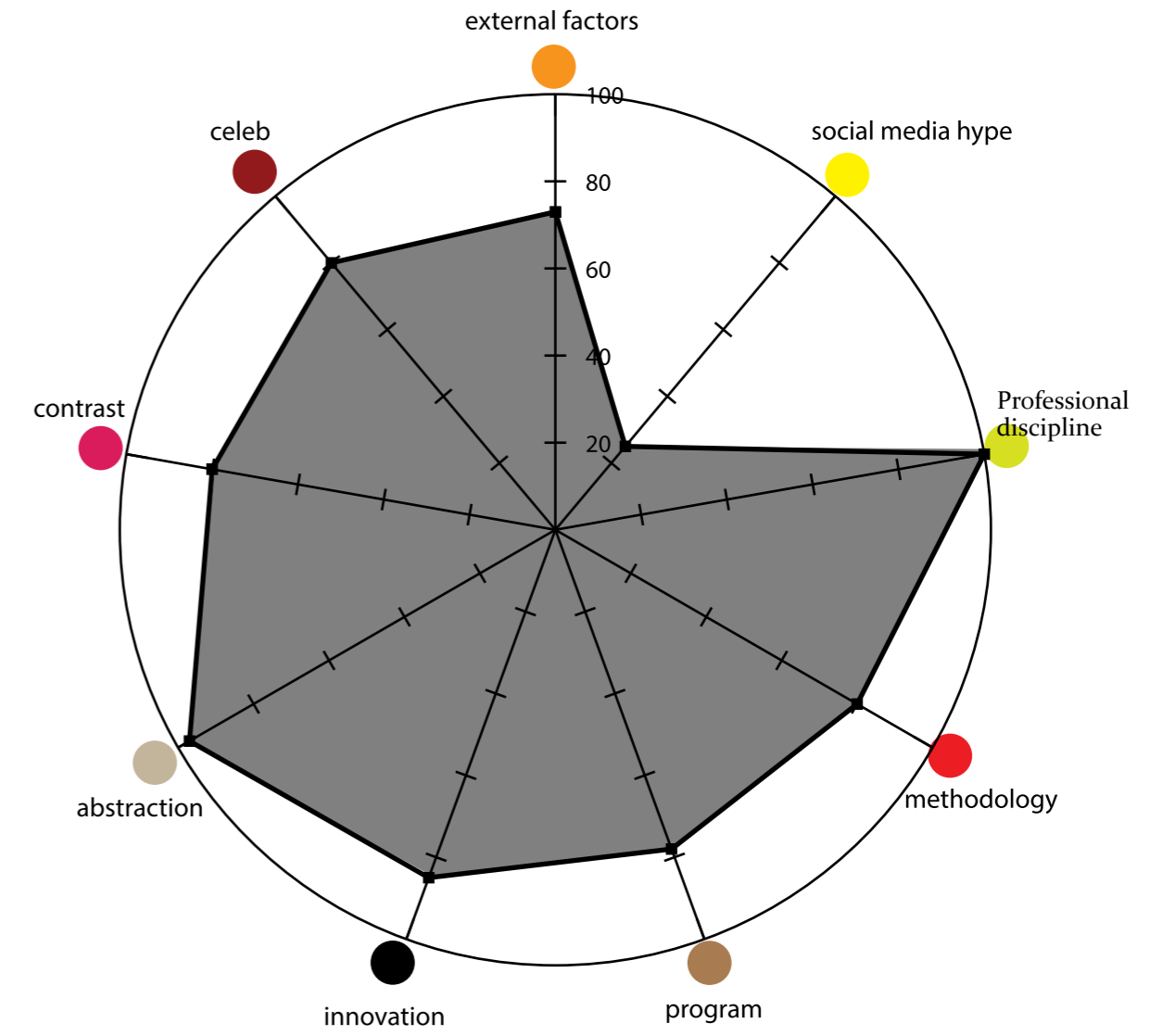


Figure 2.106: Info-graphic of the site

Figure 2.105: Information projected onto the graphic

2.4 Compiling the data

The following chart (Figure 2.104) is a graphic summary of the landscape projects analysed. The following graphics compare the landscape projects to one another in order for conclusions to be made about the Bilbao Effect and landscape architecture.

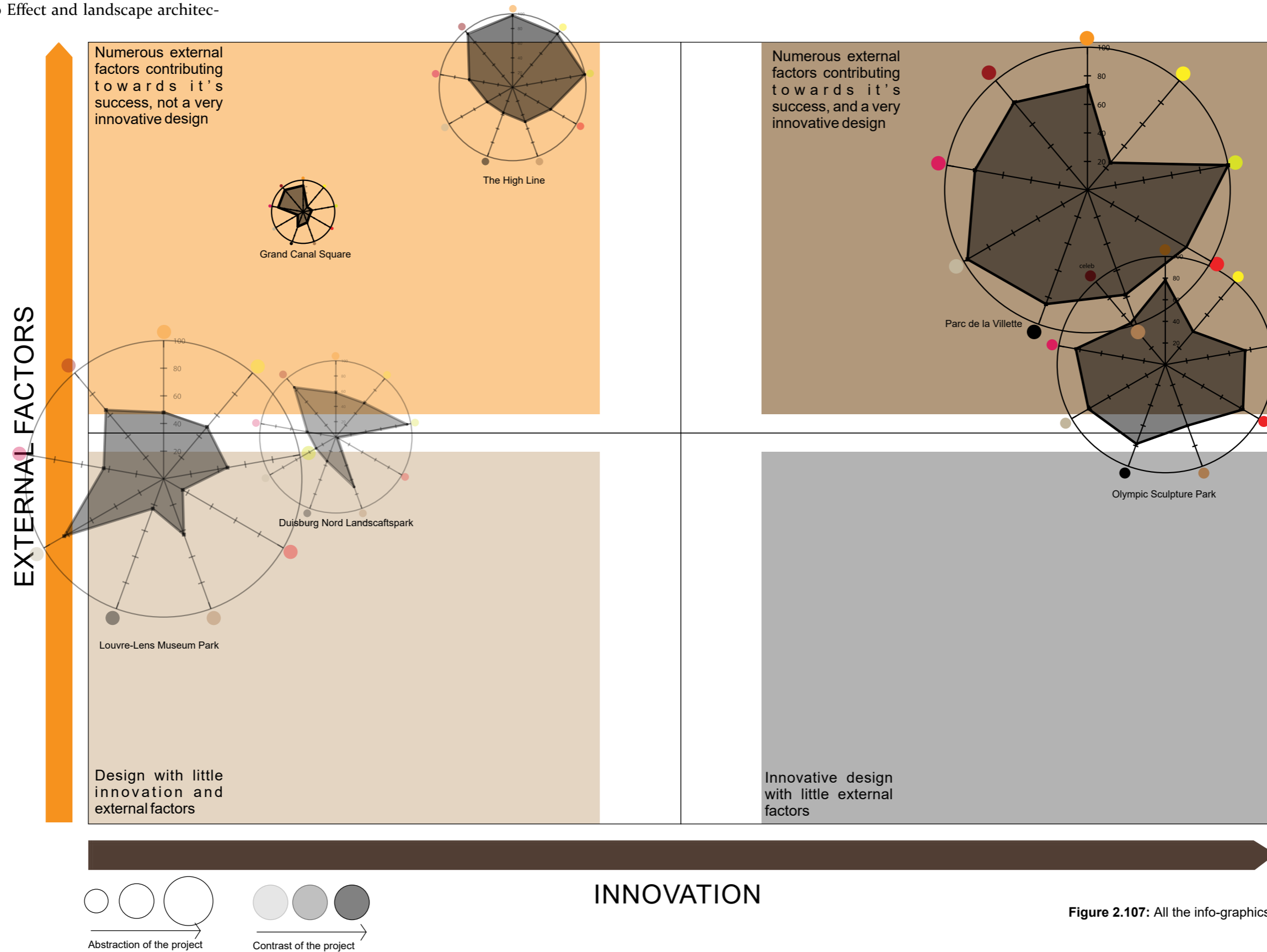


Figure 2.107: All the info-graphics plotted onto a chart

Figure 2.104 is distilled into parti diagrams, each one stating why the project has recreated the Bilbao Effect.

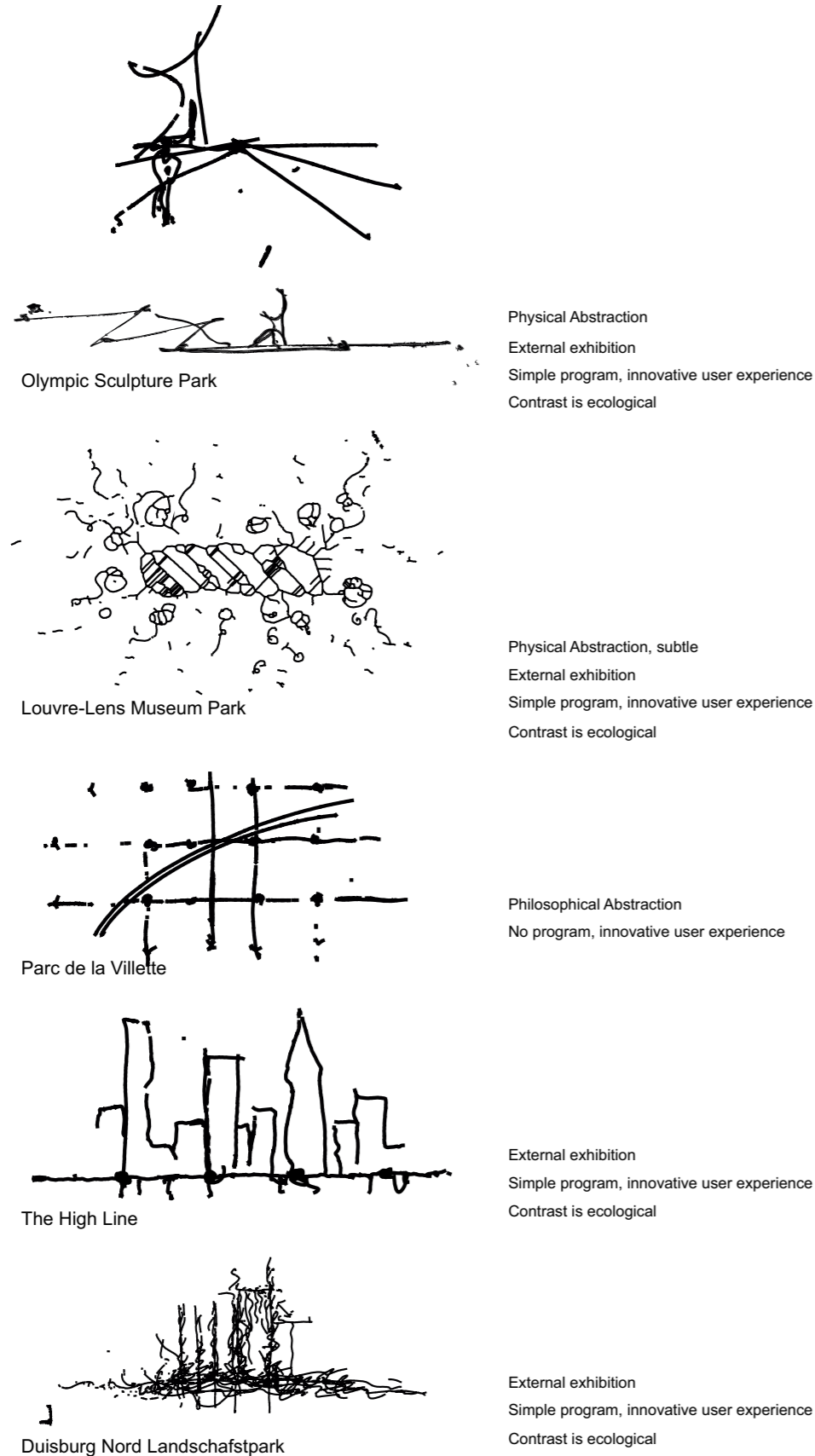


Figure 2.108: Parti diagrams summarizing the landscape projects

The overlaid graphics creates a new info-graphic which theoretically illustrates the ideal project to recreate the Bilbao Effect. The graphic can now be used as a guideline for the design process to follow. The theory suggests that for the Author to recreate the Bilbao Effect in Pretoria West the design will have to comply to the graphic.

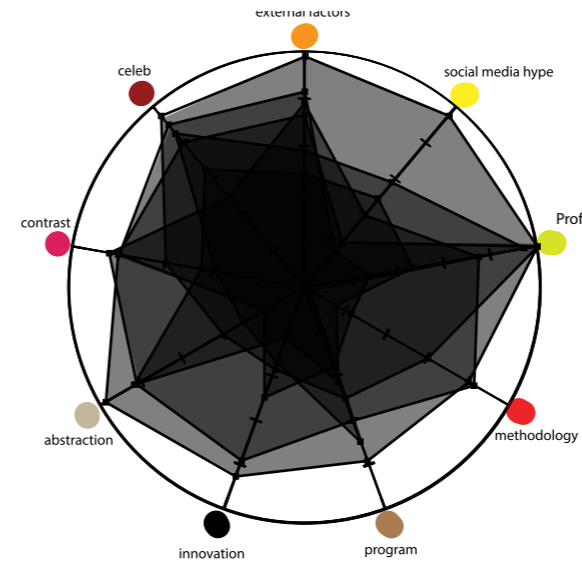


Figure 2.109: All the info-graphics overlaid

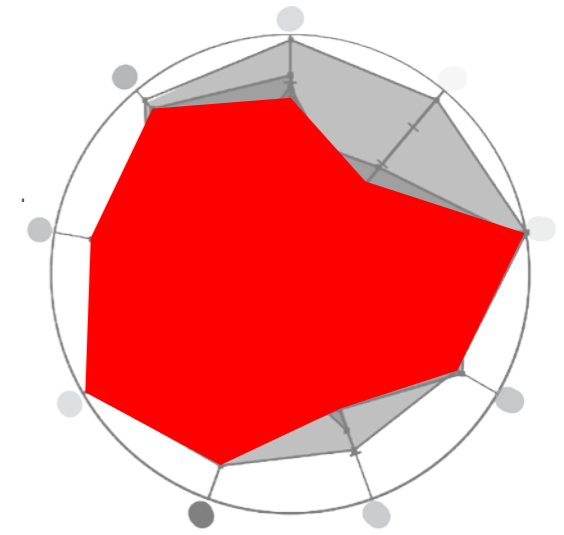


Figure 2.1010: New info-graphic created from Figure 2.109, the ideal project to recreate the Bilbao Effect

2.4.1 Conclusions

- 1.) Five out of the six precedents looked at whether they have some form of external exhibit integrated within the design. A good example is how the High Line merely compliments the existing famous skyline of New York City (Figures 2.33 - 2.36). The Seattle Sculpture Park is another example as it is filled with art pieces sculpted by world renowned artists.
- 2.) No landscape has challenged landscape architecture the same manner that the Guggenheim Museum Bilbao has challenged architecture.
- 3.) Successful projects have an interactive and frivolous social media platform, as well as professional management.
- 4.) An innovative program is not

necessary, but it would be preferable to have the program perceived as an innovative user experience.

Chapter three consists of the urban analysis and the urban issues in Pretoria West. Once the author has an understanding of the site, the context of the conclusions will be calibrated to the specific site. Before the design process kicks off, chapter three will refine the conclusions of chapter two.