

4.1 Section one

The implementation of tools, techniques and strategies for the qualitative sound analysis of the thesis case study site, Hornsgatan, begins at the area close to the absolute birthplace of Stockholm, Slussen. Or more accurately, some 100 meters further away at the point where Hornsgatan intersects with the beginning of Götgatan at a 90 degree angle; at the very corner. Here, the view of the Gamla Stan district and beyond is stunning. And sound travels quickly across water, that from here you can distinguish the hum of the city from far away as an acoustic horizon.

This is the oldest part of Hornsgatan, mentioned as far back as 1642, when the new city plan took form, though some blocks in the area were built at the middle and the end of the 20th century. This beginning/end of Hornsgatan is also important from a transportation point of view as several traffic arteries have their entry/exit right here, such as the Söderleden tunnel; Katarinavägen; Skeppsbron; Götgatan; and, bivious, Hornsgatan itself. In addition, this is the point where Hornsgatan opens up and transforms into an open space, the square known as Mälartorget, a busy node for vehicles, public transportation and pedestrians moving in the vicinity of Slussen.

After an initial sequence consisting of a mixture of old and new office buildings, and a considerable outflow of traffic coming from tunnels leading towards Slussen as well as from the rest of Hornsgatan, the street stretches over a hilly part of the island of Södermalm and passes several stages of physical differentiations along this extension. It is interesting to note that Hornsgatan was lowered some 7 meters at the beginning of the last century (1900s) to make transportation easier.

A narrow strip of the street was left untouched, today known as “Puckeln” (“the hump”), characterized by a steep outline delving abruptly down to the driver’s lane some 7 meters below, and on the other side a row of houses from 17-18th century. Puckeln is a walker-friendly part of Hornsgatan and it has something of an iconic status, as many artists live and work in the neighborhood and the area hosts several small galleries, cafés and boutiques.

Standing on Puckeln, looking southwards, the Maria Magdalena Church and churchyard is a green oasis that acts as “green lungs” for the neighborhood.

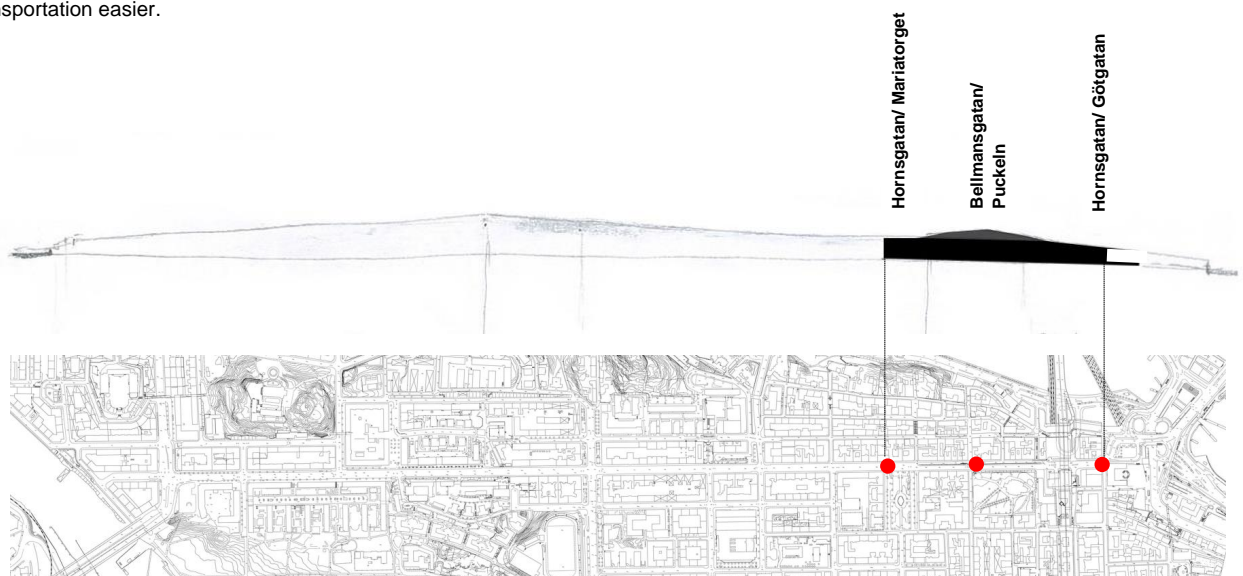
The visual connection with the greenery of the churchyard together with a marked de-connection from the busy drivers’ lanes below, gives a certain sense of *release* from the low-frequency buzz of Hornsgatan.

Moving on to Mariatorget, the street gets narrower as it is lined by full-scale (of 6-7 stories, compared to the 2-4 story buildings along one side of Puckeln) housing blocks, which affect the perception of the sound quality of this sequence of Hornsgatan at many levels. However, these spatial characteristics produce a dynamic and non-monotonous experience as you move along the section.

Compilations of various facets of spatio-sonic information for section one are available in the appendix.

Site-specific qualitative sound analyses:

- Hornsgatan/ Götgatan
- Bellmansgatan/ Puckeln
- Hornsgatan/ Mariatorget

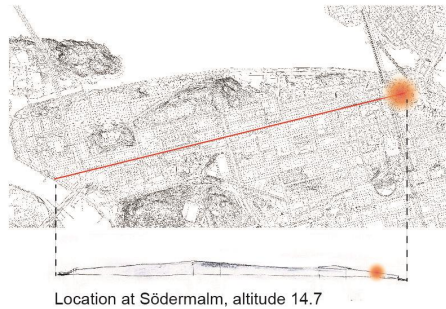


Section one: Hornsgatan/ Götgatan, altitude 14.7 m; Bellmansgatan/ Puckeln, altitude 26.4 m; Hornsgatan/ Mariatorget, altitude 20.4 m

Site: Hornsgatan/Götgatan

Description:

Beginning/end of Hornsgatan, communicational node.



Spatial quality

Architecture

- Spatial opening of a narrow urban space (24 m wide).
- Crossing point between several pedestrian paths.
- Site surrounded by 4-5 story buildings and one that is 1-2 stories high (Stadsmuseet).

Topography

- Flat ground slightly tilting towards the sea.
- Visual wideness/openness as well as narrowness.
- One of the sideways (Götgatan) tilts steeply upwards.

Materiality

- Hard/ mineral ground and wall materials.
- Nature and greenery in the distance.

Contents

Activities

- Intense pedestrian use of public outdoor space.
- Transitional site.
- Traffic dominates.

Functions

- Mixed functions of communicational, transportational, commercial and business related character.
- Residents are nearly non-existent.

Temporal features

Sound quality

- Predomination of high intensity sounds (traffic).
- Temporal breaks of relative silence.
- Less dominant sound qualities are existent but not numerous.

Mobility

- The site offers several possibilities to move closer to or away from its most sound exposed parts.
- The possibility to influence one's distance to various spatio-sonic qualities on site, are manifold.

Accessibility

- There exist several options for pedestrians to access the site though one path is a steep uphill slope (Götgatsbacken) difficult but not impossible to mount for disabled persons.

Visual, sonic and textual observations,

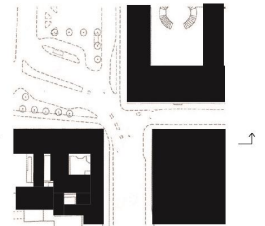


Video recording 360°
101122, ca.12:30



110622, 16:15

Morphologic plan and section:

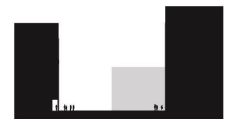


Color index describing observed qualities of space and sound:

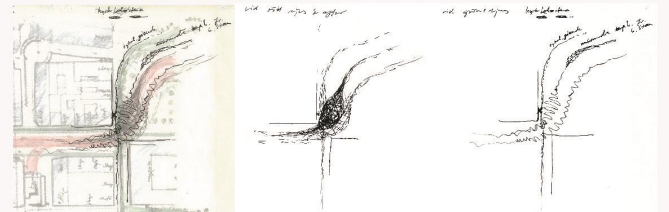


Intense sonic situation, mineral and solid materials

High-intensity sonic situation, mineral and solid materials

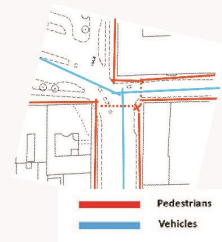


Sound notation from the transparency inventory, 110901, 11:00

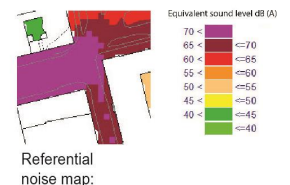
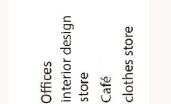


Sound recording,
110901, 11:00

Accessibility/ escapeability:



Mapped functions at groundplan, 2010, on an excerpt of the sociotope map

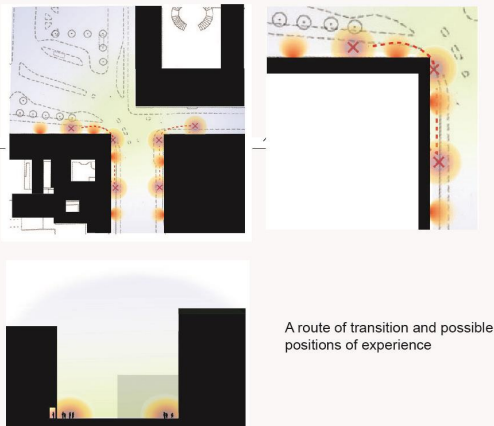


Qualitative sound analysis

descriptions and analyses

Spatio-sonic illustrations:

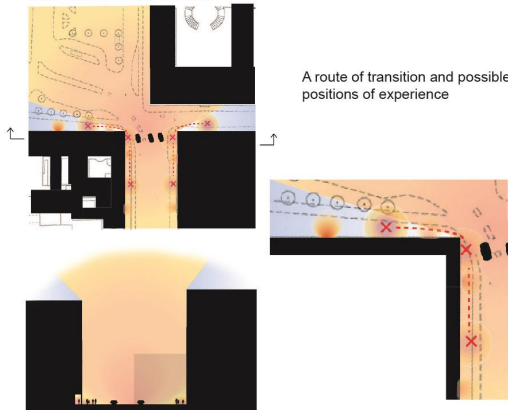
Low-intensity sonic situation



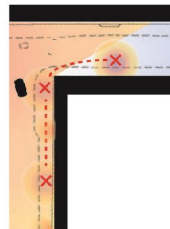
A route of transition and possible positions of experience



High-intensity sonic situation



A route of transition and possible positions of experience



Key to spatio-sonic illustrations

- High and persistent sounds generated on site by traffic
- Background sounds generated at a long distance by human, nature, animal or technical activities
- Low-intensity sounds generated at a short distance by human, nature, animal or technical activities
- Abrupt change between low-intensity and high-intensity sounds (blue = background sounds, red = high-intensity and persistent sound coming from traffic, black = the corner of a building)
- Sounds generated by someone moving or standing still at a possible position of experience (clothes rustling, talking, breathing, walking etc.)
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- A possible position of experience
- A route of transition
- Gradual transition between high, persistent sounds and low-intensity or background sounds

The beginning/end of Hornsgatan is during daytime a busy spot frequented by motor-driven traffic as well as bicyclists and pedestrians. The site is characterized by a dynamic flow of traffic and people, tuning in and out of each other and the extreme states of low and high intensity sound qualities, with a consistent domination of the latter.

The site provides several paths/ directions that enable access or departure. Moving away from the corner Hornsgatan/Götgatan offers a possibility to experience variegated sonic qualities. This is possible due to the change of activities and morphology on site in combination with positioning oneself physically within the area.

Staying immobile for a long while at the corner of Hornsgatan may create a sense of discomfort as one is being exposed to a very intense sonic situation during a long time period, even though sonic pauses regularly occur. The temporal cease of traffic flow depends upon the rhythm and interruption of traffic lights as well as the amount of traffic present at the moment. A low intensity sonic situation at this point may either be experienced in these temporal breaks or through physical elongation.

Depending on your position, the specific spatio-sonic conditions changes and thereby offers a possibility to have a variegated sonic experience within the site at large when moving through various spatio-sonic situations that differ from each other in terms of quality.

For example, the spatial, visual and sonic contrast of the open square of Slussen/ Mälartorget compared to the enclosed character of the first section of Hornsgatan, introduce a sense of release or at least a sense of variation while walking through and taking part of different sonic states on site.

These specific conditions offer a rather dynamic spatio-sonic experience to the pedestrian users of this public urban space (if being in transition and by experiencing the contrast between opposite spatio-sonic qualities), a situation which can be adjusted and improved in regard to the users perspective and needs.

Site: Bellmansgatan/ Puckeln

Description:

The site is positioned between two nodes and contain contrasting spatio-sonic qualities compared to surrounding street segments.

Spatial quality

Architecture

- Spatial opening of the street from a more dense/ narrow urban space on one side and busy part of the street close to Slussen, on the other.
- 2-4 story buildings at Puckeln and high residential buildings at Hornsgatan and around the churchyard.
- Walker-friendly path, close to green areas.

Topography

- Puckeln is an elevated part of Hornsgatan rising some 7 m above the main driver's lane. The churchyard is elevated some 3-4 m above the same.
- Visual wideness/openness towards the greenery and free sight along the street and beyond.

Materiality

- Hard/ mineral ground and wall materials, cobblestones cover the ground at Puckeln, asphalt at the main drivers lane.
- Nature and greenery at the churchyard.

Contents

Activities

- Fairly intense pedestrian use of public exterior space.
- Traffic dominates at main driver's lane.
- Pedestrians dominates at Puckeln and the churchyard.
- Nature, animal activities at the churchyard.

Functions

- Mixed functions of recreational, cultural commercial and communicational character.
- Residential area.

Temporal features

Sound quality

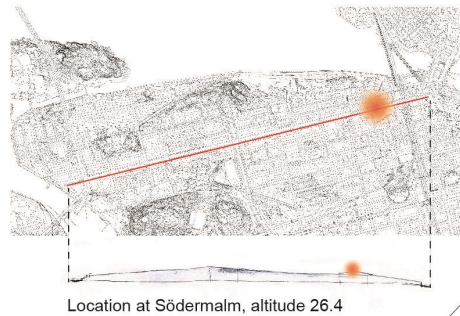
- Three categories of contrasting sound qualities are detected around the site (churchyard, drivers lane, Puckeln).
- Mixture of high intensity sounds and low intensity sounds around the site.

Mobility

- The site offers several but not unlimited possibilities to move closer to or away from its most sound exposed parts as well as lesser sound exposed parts.

Accessibility

- There exist several options for pedestrians and disabled to access the site.
- Two transitional passages are connected to the use of stairs (between Puckeln and drivers lane down below as well as the path leading up to the churchyard).



Location at Södermalm, altitude 26.4

Visual, sonic and textual observation:

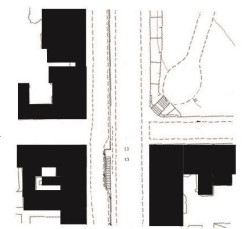


Video recording 360°
101122, 12:40



100622, 16:00

Morphologic plan and section:

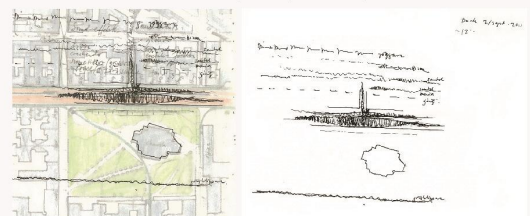


Color index describing observed qualities of space and sound:

	Churchyard High-intensity and intense sonic situation, green and porous materials
	Puckeln High-intensity and intense sonic situation, mineral and solid materials

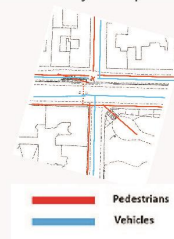


Sound notation from the transparency inventory, 110902, ca. 12:00



Sound recording,
110902, 12:00

Accessibility/ escapeability:

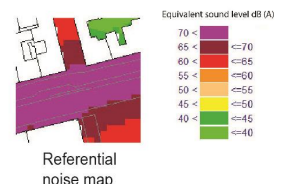


Mapped functions at groundplan, 2010, on an excerpt of the sociotope map

Children clothes
The shop
Art gallery
Jewellery
Art gallery
Art gallery
Glass atelier
Metal workshop
Clothes
Gallery
Atelier



Stones
Boutique
Clothes
Hair dresser
Sole care
Interior



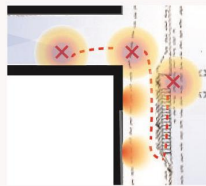
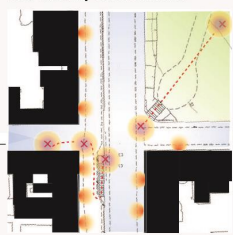
Referential noise map

Qualitative sound analysis

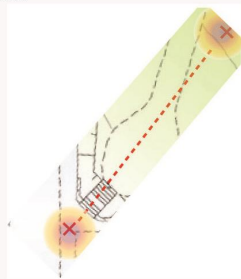
descriptions and analyses

Spatio-sonic illustrations:

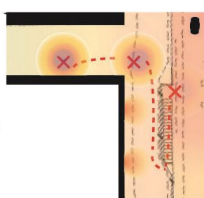
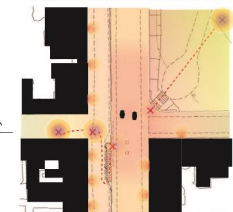
Low-intensity sonic situation



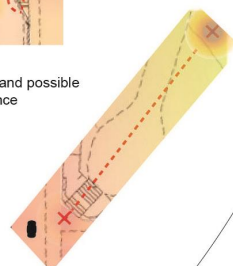
A route of transition and possible positions of experience



High-intensity sonic situation



A route of transition and possible positions of experience



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- A route of transition
- Gradual transition between high, persistent sounds and low-intensity or background sounds

The site/ area of investigation has three ground levels; the churchyard, the lowered street-section and the more walker-friendly elevated part of Hornsgatan known as Puckeln (the Hump"). Standing some 7 meters above the busy drivers's lane at the peak point of Puckeln, there is little visual contact with the increasing and decreasing stream of traffic but instead with the greenery of the churchyard. The traffic appear to be further away than it actually is. This site provides an interesting and dynamic spatial situation that contains a wide diversity of perceptible sound qualities possible to plunge into.

Moving in a transversal direction through the churchyard, the busy street and the elevated strip of Puckeln, makes comparison between these three contrasting spaces, each with their own unique spatial and sonic quality, easy as the contrasting effect between them is evident. Moving in a longitudinal direction, following the contour of Puckeln, also provide a variegated spatio-sonic experience, though not as clearly distinguishable as the previous example. Here, the tilting slope slowly separate us from the dominating sound source of Hornsgatan. While walking upwards and the downwards Puckeln minor sounds from nearby comes closer and turns crisp and clear. What makes this site interesting from a sound perspective is the existence of sonic variation within a very limited geographical area. The site is a good demonstrative example of how the constitution of space, its contained sound sources and the ability to move at this location on foot, can offer a variegated spatio-sonic experience even at a spot that partly is highly problematic in terms of sound (the area around and closest to the drivers lane).

The abrupt (taking the stairs) or smooth (the uphill or downhill slope) change of ground level and the possibility to physically access different locations, makes this uneven terrain on Hornsgatan an interesting location with rich possibilities to be exposed to a variety of urban sound qualities. The ability to choose, depending on your needs or intentions at the moment, what sonic environment one wants to be part of or experience, may define the site as one of the more well-functioning along the long site of investigation. This situation provides a unique combination of static and temporal features that together offer a possibility to have a dynamic spatio-sonic experience while moving around the area.

Comparing the noise map of the site with my own measurements and observations, implies that it does not take into account perceptible evident and subtle changes between different spatio-sonic typologies, as the noise mapping at this scale do not consider site-specific changes of topography, the materiality of the environment nor all of the events taking place there apart from calculable traffic-related activities.

Site: Hornsgatan/ Mariatorget

Description:

Cultural, commercial and recreational node in the area

Spatial quality

Architecture

- City park (0.8 hectare, 130 x 60 m) with fountain, playground and greenery surrounded by 5-6 storey buildings.
- Mixed residential and office buildings.
- Spatial opening of the street canyon.

Topography

- Flat ground, no change of ground level in the park.
- Blecktornsgränd on the north side of Hornsgatan rises with steep inclination/stairs up to Mariaberget.

Materiality

- Mixed hard and soft materials (grass, trees, gravel, asphalt, facades).
- Water in the park (fountain).

Contents

Activities

- Intense pedestrian use of public outdoor space.
- Transitional site for traffic and people.
- Recreational site, people stay long in the area.
- Traffic is present and intense but concentrated to one side of the park.
- Commercial, cultural and recreational activities dominate the site in total.

Functions

- The site has several overlaid functions.
- Culture, commerce and leisure-dense site.
- Residential area.
- Recreational area.
- Transitional functions (traffic and pedestrians).

Temporal features

Sound quality

- Predomination of high-intensity sounds (traffic) near Hornsgatan.
- Predomination of nature, human and animal sounds at the interior of the park (low-intensity sounds or sounds of changing intensities).

Mobility

- The site offers several possibilities to move closer to or away from its most sound exposed parts.
- The possibility to influence one's distance to various spatio-sonic qualities are manifold along the extension of the park, but are more limited along the extension of Hornsgatan.

Accessibility

- There exist several options for pedestrians to access the site: either along the street, by entering the park or by the uphill slope at Blecktornsgränd.



Location at Södermalm, altitude approx. 20.4 m

Visual, sonic and textual observations,

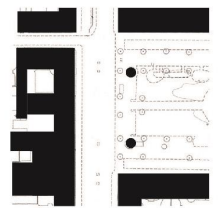


Video recording 360°, 101029, 12:15

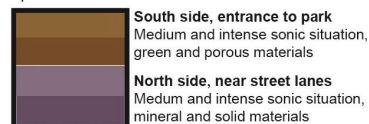


Hornsgatan/ Mariatorget 100620, 17:00

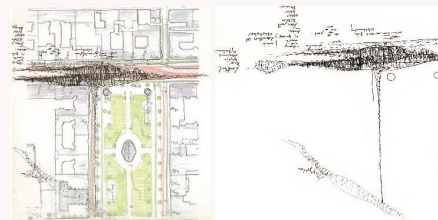
Morphologic plan and section:



Color index describing observed qualities of space and sound:



Sound notation from the transparency inventory, 110906, 10:30

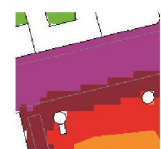
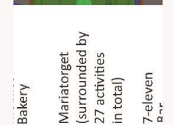


Sound recording, 110906, 10:30

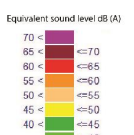
Accessibility/ escapeability:



Mapped functions at groundplan, 2010, on an excerpt of the sociotope map



Referential noise map

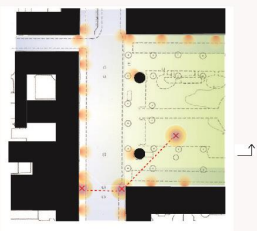


Qualitative sound analysis

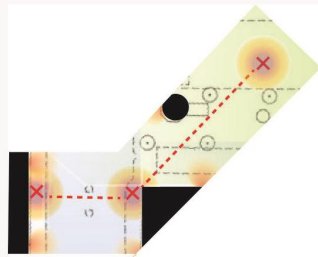
descriptions and analyses

Spatio-sonic illustrations:

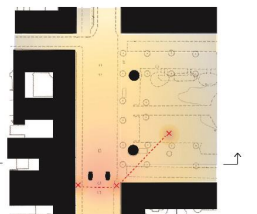
Low-intensity sonic situation



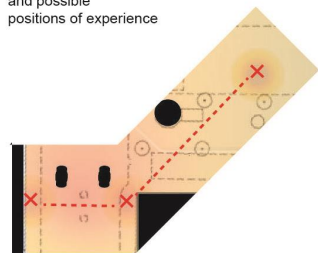
A route of transition and possible positions of experience



High-intensity sonic situation



A route of transition and possible positions of experience



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Mariatorget is a popular and lively city park, especially during the warm time of the year, though it is a central node in the neighborhood during all four seasons.

Entering one of the four corners of the square offers a visual and sonic release in relation to the visual and sonic qualities of the realtive narrow and ordinary street canyon foregoing the square. This city park has a moderate size and is surrounded by five–six storey residential buildings (and a hotel). The park contain lawns, trees and flowerbeds, a fountain, gravel paths and a small playground.

At ground level around all four façades all kinds of commercial activities/ businesses are located.

Mariatorget functions as a popular restorative public space in the area.

Depending on several factors like time of year, distance to the sound source, existence of outdoor activities amount of traffic and weather, the variation of site specific sound qualities in the area differs a lot depending on where you happen to be.

Entering the park from Hornsgatan, the sudden opening of the square with its flowers, moving water, lawns and huge trees during the warm season provide the pedestrian with an opportunity to experience both a visual and sonic release compared to the dense sonic environment of Hornsgatan. Near Hornsgatan, recommended sound pressure levels for city parks are consequently exceeded, while walking towards the inner parts of the square opens up for a range of interesting and contrasting spatio-sonic qualities to break through.

The sound of this place changes a lot depending on where one happen to be and the material surround you. Standing on the pavement near the driver's lane overlooking the park from the north side of the street creates the impression of standing in front of a sonic wall acting as a separating obstacle from the what is going on in the park. The visual connection is still unbroken, however.

While entering the park, sounds from people, nature and animals are all the more clearly distinguished. At the same time sounds from Hornsgatan diminishes, especially after passing the fountain where other and contrasting sonic environments appears that are colored by activities taking place in the park, at the playground or on adjacent side streets

