"Architecture of skateboarding"
The manual is a tool for any person willing to understand basics of creation of skatefriendly architecture and spaces. It explains most important factors that decide on usability of the space in the eyes of skateboarders. The content constructs only a tool without ready solutions as skateboarding knows no limits and is based on imagination and creativity. Therefore the manual should not ever be treated as finished and can be continuously expanded.

Buildings are building blocks for the open minded

**SKATE FRIENDLY PUBLIC SPACE**

Notion of skate friendly public space arises from growing acceptance for skateboarding as a natural part of a street life and its incorporation in planning and design processes. Its basic aim is to accommodate skateboarders equally along with all other users and create architecture that activates streets in responsible and conflict-free way.

Characteristics

There is no single, right way in creation of skate friendly public space and there should not be. It is an informal process that can never be treated as fully resolved and varies from site to site. However by specifying some encountered features we can understand its requirements better.

*Location and accessibility
*Context, atmosphere
*Authenticity - reinterpretability
*Multifunctionality
*Relation with other spots
*Attractive design
*Challenge
*Interaction
*Surrounding amenities
*Minimalism and scale
*Variety
*Durable materials and smooth surfaces
Skateboarders perception

Crucial to comprehend the phenomenon of skateboarding is to understand skateboarders perception. There is no physical element that is useless and does not create a chance for self-expression. Every curb, stone, bench, curvature come together as unlimited lines of connected possibilities.

Users classification

We can distinguish three groups of skaters according to their abilities and involvement in an activity.

*Transportation* - the group that uses skateboard only as a mode of transport. Their abilities are basic limited to controlled movement on flat, continuous surfaces.

- **Biggest skaters subgroup**: only smooth, flat terrain

*Occasional* - members of this group are able to freely move on a skateboard through semi-varied and continuous terrain. They don't perform complex tricks but can be a weekend visitors at skateparks.

- **Continuous but slightly varied terrain**

*Advanced* - for those users skateboarding is a hobby, lifestyle, frequent activity. They are able to jump and perform complex tricks. They are main users of skateparks.

- **Varied complex terrain**

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**Group - Transportation**

- Terrain: flat or slightly slanted with minimal drops of approximately 10 cm
- No ability to jump up

**Group - Occasional**

- Terrain: diverse but rather continuous terrain
- Medium drops
- No ability to jump up
Group - Advanced

* Diverse terrain forms
* Unlimited drops and stairs (average: drops 1.5m, stairs 7st)
* Jumps up obstacles
* Performs tricks on various elements

Classic street landscape

Requires advanced level of skills

Curves

Reachable for all users

Movement

Any movement on a skateboard requires continuous surfaces. It allows user to create own lines of moves, tricks etc.

Size of the wheels we are moving on influences comfort and range of the terrain we can use. The smaller and harder the wheels the more sensitive they are to the surfaces, any variations are more intensively perceived physically. The bigger and softer the wheels the faster can we move, dust and surface variations are less perceived physically. But the range and variations of the terrain forms we can move through is also bigger.

Relation between size of the wheels and surfaces
Speeds we move with influence the range of our view focus and therefore amount of details we notice. Skateboard is a mode of transport allowing for slow movement and is rooted in the environment of the streets with all its details, elements and surrounding life.

In comparison driving a car isolates us from most of the incentives coming from surrounding environment and life. High speed narrows down our field of view and allows us to see only bigger objects.

<table>
<thead>
<tr>
<th>Mode of transport</th>
<th>Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Car</td>
<td>60 km/h</td>
</tr>
<tr>
<td>Bus</td>
<td>50</td>
</tr>
<tr>
<td>Tram</td>
<td>45</td>
</tr>
<tr>
<td>Bike</td>
<td>20</td>
</tr>
<tr>
<td>Skateboard</td>
<td>15</td>
</tr>
<tr>
<td>Walk</td>
<td>4</td>
</tr>
</tbody>
</table>

Elements

Skateboarders can use any possible element of physical world. The criteria for their adaptability are shapes and materials of elements themselves. However what often decides on their usability is placement and surrounding. Skateboarders need enough space to get speed and land tricks so every obstacle needs good surface surrounding it and spatial arrangement that allows for comfortable flow.

Skateable
Object + Space + Surface

Unskateable
Object and sufficient space but wrong surface
Skate attractive geometries

Terrain forms
Slopes
Curves
Steps / Levels
Stairs
Platforms / Ledges
Rails

Transitions
Curved geometry is described through its radius and thus its difficulty. Minimal skateable radius is 50cm.

The bigger radius the easier transition

Transition difficulty level in relation to dimensions
Easy
Average
Hard (Vert/Wall)

Forms variety
Surfaces can be classified by their level of skateability. The smoother the surface the easier, safer and more comfortable it is to move on a skateboard. The best are continuous, smooth, semi-slippery surfaces. Tiled pavements are just as good but they must be laid with minimal distances between the elements.

### Surfaces

**Unskateable**
- Cobblestone
  - Rough, uneven, small tiles with significant grout

**Hardly skateable**
- Beveled tiles

**Skateable**
- Smooth, continuous, cast in-situ
  - Concrete, asphalt etc.

- Smooth, flat, big tiles with minimal grout
  - Concrete, Stone

- Textured, flat, small tiles with minimal grout
  - Concrete, Stone, brick
Skateboarding is sensitive to any changes in surface tectonics and structure.

**Materials**

Because there are no codified standards of what skating means, skateboarders can skate elements made of almost any material. Thus there is an often mentioned conflict arising due to an unintentional but possible damage, not all materials are able to resist hits and weight. To prevent that, all elements intended to be skated or creating such possibility should be made of hard, durable materials. They should feature hard, smooth, continuous edges and average to high slipperiness.

**Unskateable**

-or possible for a quick damage

Soft wood
(eg.: spruce, oak, pine, fir)

Soft plastics or composites

Low quality concrete
Skateable

High quality concrete cast in-situ (minimum class C35/37)

High quality concrete prefabricated (minimum class C35/37)

Stone

Bricks

Bitumic (with small grains ø 5-10mm)

Stone

Hard plastics and composites

Steel

Ceramics

Hard wood (eg.: walnut, ash, beech, hornbeam)

Interaction

One of the most valuable and beneficial features of skateboarding is the tendency of interaction between skateboarders and all other users of public space. Thoughtful location of obstacles in space can additionally provoke and embrace it.

- Visual when people notice each other’s appearance and further observation if their paths may cross or one compels attention of the other e.g. with their movement.
- Sound created by skateboard wheels rolling on the surface can be a noise factor if constant and loud. Appearing suddenly can scare people unfamiliar with it but produces a warning message about closeness of skaters just as a bicycle bell.
- Physical interaction is possible but rare and related to possible crash caused by speed difference and unexpected movement.
- All above may lead to verbal interaction (of any different kind)

Wow, amazing! Do that again!
Sits oriented towards skateable areas

When there is nothing interesting to do or look at there is no use to stay anywhere for longer. People pick places where other people come and where things happen.

Appearance of skateboarders causes interest and is an incentive for other people to join. Observation points should be placed in different distances according to the level of interest of observers. Some want just to look at other people and some are looking for closer interaction.

Intensity and type of interaction will be dependent on placement of the objects in relation to each other. The distances create different options to skate objects and can totally change usability of the space or the object. Some arrangements can cause conflicts through difference of interest of the users but that is another face of interaction. Each case should be considered separately as there is no single good solution, sometimes the design shouldn’t try to solve every problem. Such spaces of safety would be fake and unnatural. Multifunctionality and therefore acceptance that inscribed uses of the objects are not the only ones allows for creativity and makes places easier to identify with.
Gdańsk / Poland

Polish city on the Baltic coast. Poland’s principal seaport and centre of the country’s fourth largest metropolitan area with population approaching 1.4 million. Gdańsk origins as a Polish stronghold erected in the 980’s by Mieszko I of Poland. The city’s history is complex, with periods of Polish rule, periods of Prussian or German rule and periods of autonomy as “free city”. An important seaport and shipbuilding town, in the 14th and 15th centuries a member of the Hanseatic League. Prior to 18th century rapid growth of Warsaw, Gdańsk was a royal city considered to be the wealthiest and the largest city of Poland. In 20th century the city’s ambiguous political status was exploited, furthering tension between Poland and Weimar Republic (later Nazi Germany) ultimately culminated in the invasion and the first clash of the Second World War just outside the city limits. In 1980’s it would become the birthplace of the Solidarity movement, which played a major role in bringing an end to Communist rule in Poland and helped precipitate the collapse of the Eastern Block, the fall of the Berlin Wall and the dissolution of the Soviet Union.

Gdańsk Oliva

Oliva is a part of the city of Gdańsk. Its area of 18.23 sqkm is bordered on the east by a railroad and “Tricity Landscape Park” on the west. Its population is approximately 19,824 with a density of 1,087 person per sqkm.
It is not exactly known when Oliva was established but it was mentioned for the first time in 1186. For ages functioned as a village with Cisterian monastery becoming an important religious centre in Pomerania region. In 1831 due to its location between the sea and wooded hills it was transformed into a health resort.
Since 1926 Oliva has been incorporated by the city of Gdańsk (then Free City of Danzig).

Today some of the biggest attractions are Metropolitan Cathedral with the adjacent park, Municipal Zoological garden and small town architecture with historic villas. The district is undergoing fast development also due to big office parks investments making it an important cultural and business centre.
Square is located in the central, historical area of the district. It is a busy, noisy public transport node with trams, buses and close relation to train station with commuter and long distance trains.

The space is surrounded with greenery of “Oliva park”, historic buildings mixed with new development and intensive car traffic on the main road going along the whole city.

The hub is a patchwork of interim renovations improving functional aspects but with overall poor aesthetic appearance. It lacks any consistency with small buildings of shops and bars, variety of different surfaces and vast range of infrastructural elements as bus shelters etc. However as the whole district is undergoing redevelopment with investments in housing, offices and infrastructure the hub will also be soon comprehensively updated. This affair is a great chance for Oliva to gain new quality public space with representative character due to its location and functions.
Axonometric view on existing area
Surface details - texture

A: Weathered concrete tiles 30x30cm
B: Concrete curb
C: Cobblestone 5-7cm
D: Weathered concrete tiles 30x30cm
E: Concrete curb
F: Cobblestone 10-15cm
G: Weathered concrete tiles 30x30cm
H: Concrete curb
I: Concrete curb
J: Smooth concrete tiles 50x50cm
K: Smooth asphalt
L: Smooth concrete tiles 50x50cm
M: Cobblestone 7-12cm
N: Concrete curb
O: Cobblestone 7-12cm
P: Smooth concrete tiles 50x50cm
Q: Smooth asphalt
R: Smooth concrete tiles 50x50cm
S: Cobblestone 7-12cm
T: Cobblestone 7-12cm
U: Smooth concrete tiles 50x50cm
V: Smooth asphalt
W: Smooth concrete tiles 50x50cm
X: Cobblestone 7-12cm
Y: Smooth concrete tiles 50x50cm
Z: Smooth asphalt
Elements
Possible interaction - speed of movement / field of sight focus

Speed legend

- Car 60 km/h
- Bus 30
- Tram 10
- Bike 10
- Skateboard 10
- Walk 4
- Static 0

Field of view in relation to speed

Functions

Legend

- Housing
- Services
- Greenery
- Bus
- Tram
- Train

1. Oliva Park
2. Grocery store
3. Fast Food Bar
4. Greengrocery
5. Public transport facility
6. Bar
7. Restaurant
8. Bank
9. Supermarket
10. Hotel
11. Photo studio
12. Spa
13. Shrine
14. Tailor
15. Bakery
Existing surfaces zoning

Site is covered in various surfaces of which only 5-10% allow for comfortable movement on a skateboard.

Use pattern

The site is visited mainly by daily commuters (red). People who stay here longer (blue) are people visiting few service points as other activities do not occur.

Existing surfaces zoning

Site is covered in various surfaces of which only 5-10% allow for comfortable movement on a skateboard.
Spring- Skate competition

Summer- Concert

Autumn- Food truck festival

Winter- Christmas market
Surfaces have been chosen according to functions and intended speed of movement in certain areas.

1. Smooth concrete cast in situ
2. Granite tiles 100x100cm, light gray
3. Weathered concrete tiles 35x35, white
4. Concrete paving 5-7cm, dark gray
5. Cobblestone 7-12cm

Concrete, in-mass added pigment:
- Blue
- Red
- Green
Planned use patterns:

Different surfaces allow and force different mobility forms. This allows to design intended movement speeds in certain zones.

Project will change the way people communicate through the area and how they use it. Daily commuters (red) won’t be dominant over people spending more time here (blue).
Objects multifunctionality and reinterpretation for skateboarders purpose

Indirect interaction
Trick- 50-50 grind
Grind on the obstacle over the gap.

Indirect interaction
Trick- Fs Ollie 180
Ollie over the gap with 180 degree rotation around vertical axis.

Direct interaction
Trick- 5-0 slappy grind
Grind on the edge of the gap. (slappy - without jump)

Grass gap
- gap in continuous pavement
- strengthened with metal edges
- 3mm galvanized steel

Direct interaction
Trick- Ollie- Jump
Using curvature to speed up and jump off on the opposite side.

Direct interaction
Trick- 5-0 grind
Using top edges of the curvature to perform sequences of grinds.

Direct interaction
Trick- speeding up
Using curvature to speed yourself up.

Fountain pool
- casted in concrete
- smooth surface

Direct interaction
Trick- 50-50 grind
Grinding with both trucks on the edge of the podium.

Direct interaction
Trick- Ollie- Jump
Jumping off the elevation.

Direct interaction
Trick- Manual
Balancing on two front or back wheels.

Podium- elevation
- casted in concrete
- smooth surface
- framed with 3mm steel edges

Section 1.5: Terrain form + Object

Section 1.5: Terrain form
Skateboarding in theory

Ian Borden

Most analytical and comprehensive descriptions of skateboarding as political and spatial act come from Ian Borden’s Skateboarding, Space and the City: Architecture and the body, (Berg, 2001). The author is an English architecture historian and urban commentator. Vice-Dean education at Bartlett UCL, professor of architecture and urban culture particularly well known for his academic studies of everyday occurrences such as driving a car, skateboarding, walking and movies in relation to contemporary architecture and public spaces.

To explain how skateboarders produce a space, Borden uses ideas of philosophers Michael Foucault and Henri Lefebvre. He defines architecture as a process between itself, time and its users rather than just objects placed in space. Thus the act of skateboarding is combined of a skateboard, skateboarders body and terrain (architecture). They merge together into what Borden calls “super architectural space” and reveal new ways of using architectural objects, for example jumping of stairs instead of using them as intended.

According to Borden, skateboarders reinterpreting the city, adding new meanings of joy and use values where they weren't inscribed, they are critiques of modern cities and lifestyle. In Lefebvrian meaning they appropriate spaces that are dominated by capitalism and the state and ignore their programmed use. Thus it often lead to conflicts as skateboarding does not produce economic value in spaces dominated by the cult of “¥€$”.

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Michael Foucault’s notion of heterotopia is another way of understanding the act of skating. It says that every space can exist in various different ways while being re-invented by its users, descriptively called “Spaces of otherness”. When skaters use the city differently than its inscribed semantics they create spaces parallel to what was programmed and is existing even if only for a brief period of time.

Urban skating has also been related to the Situationist concept of “psychogeography”, “diversion” and “drift”. French skate situationists of the 1960’s drift around in the urban landscape guided by its physical texture and emotional qualities and not by its inscribed meanings and codes, reclaiming the “public” spaces of the city.

**DIY**

DIY movement is about building yourself new places to skate. That’s just another way skaters engage with urban environment. Even though it’s about changing public space for own purpose which is not always legal it’s done with love and positive energy to create something new and make places more personalized. It happens most often in locations that nobody cares about, left-overs and forgotten areas. The intentions behind are always good and they activate places and make them safer. Those spots are living organisms built fast with minimal budget they evolve with the needs and ideas. Anyone can be a part of a process and it connects everybody involved as most usually skaters community is open and democratic. There are no leaders or supervisors.

There are no rules on how DIY spots look like and that depends only on their creators. They vary from just simple adjustments of existing skateable elements in public space to whole skateparks located under bridges, in forests or abandoned warehouses.

This typology roots also in ephemeral character of skateboarding, as activity itself is based in a moment of performance in time there is also no certainty in how long the illegal DIY interventions will last before they are taken down by authorities.
Traffic barrier with DIY additions

Skaters building own obstacle on unused parking

DIY skatepark "Portland" / Basel / Switzerland
Cut to size elements for the mold made of laminated particle board 16mm thick.

Corners of the mold sealed with silicone

Prepared reinforcement. 3 longitudinal bars 8mm diameter and metal mesh 1mm thick

Mold with distanced reinforcement prepared for casting

Inner sides covered with an adhesive

Prepared mixture of ready mixed concrete (grøvbeton) and water
Ready bench sanded and covered with water and dust stopping impregnant

Mold filled with a concrete mixture and enclosed down side left to dry

Removing mold after 7 days

BENCH TEST

Following photos are an out-take from a video representing reinterpretation process common for every user of public space. Any surrounding element can be used in various imaginative ways and that’s what skateboarders take an advantage of.