

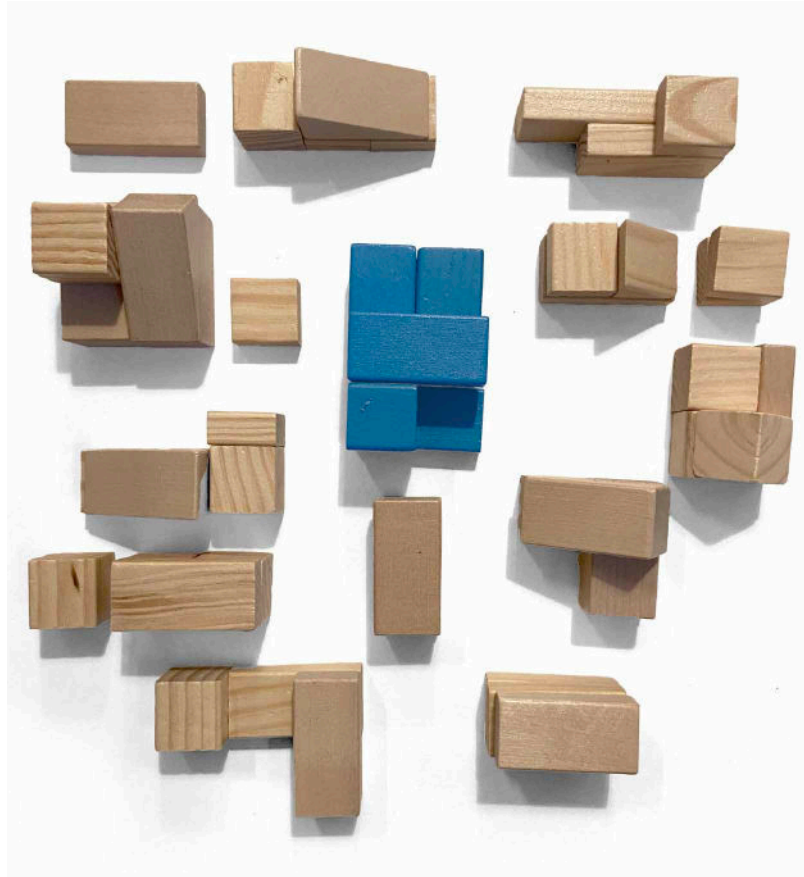
SMALL STEPS, BIG CITY

- Kindergartens that foster belonging in urban communities

In a dense city like Bergen, where everything seems magnified for a child, from its impressions to its buildings and environments, there is a need for intimate spaces to foster a sense of security.

Therefore, I believe that we need small kindergartens to accommodate safe meeting points that serve as the initial stepping stones for exploring the unexplored.

| | |
|------------------|----|
| TODAYS SITUATION | 6 |
| STARTING POINT | 9 |
| A COMMON GROUND | 10 |
| POTENTIAL SITES | 12 |
| CHARACTERISTICS | 14 |
| THE KIDS | 16 |
| STEP BY STEP | 18 |
| EFFECT | 22 |



today's situation, one big kindergarten with a small outdoor area



a cluster of smaller kindergartens with a shared bigger outdoor area

TODAYS SITUATION

The municipality of Bergen aims to encourage more families to live in the city, with a vision for Bergen to become “the walking city” (gåbyen). Currently, many urban parents rely on cars or buses to transport their children to and from kindergarten (and bicycles). Studies indicate that eliminating the stress of morning commutes by walking can better prepare children for their day and provide a pleasant debrief on the journey home. Additionally, in Bergen, opportunities exist to take detours through a “smau,” opting for longer routes instead of shortcuts. Research suggests that breaking routines stimulates the brain, which is particularly important for children, aiding in mental stimulation and expanding their understanding of their neighborhood.

“we are setting ourselves a higher goal, namely that everyone who desires it should have childcare places in their local community. It’s a big job, but we are starting that work now, having childcare close to where one lives reduces stress and improves the lives of both adults and children. Therefore, this is an important and positive step for Bergen.”

- Linn Katrin Pilskog, (former) councilor for childcare, education, and sports. (2023)

In an already densely populated city, accommodating new kindergartens with 80+ children poses challenges. Most existing kindergartens in Bergenhus fail to meet national guidelines regarding required space per child, lacking adequate facilities for staff such as spacious wardrobes and storage. The focus has been on maximizing space for children, resulting in hardships for the staff.

Rethinking the System and looking at the possibilities

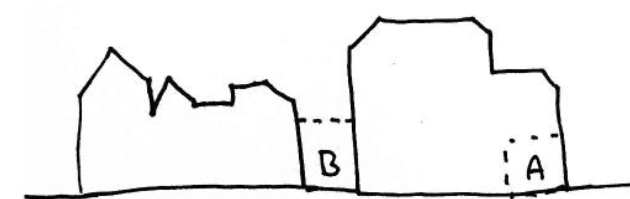
The demand for more kindergartens within walking distance necessitates a creative approach. There is not that much room to make big kindergartens, especially to get enough outdoor play area. But the city of Bergen has some green areas that are already used by the kindergartens in Bergenhus today that somewhat meet the guidelines.

Instead of large institutions, smaller kindergartens accommodating 10-20 children, repurposing existing houses, apartments, or infill land, could be a viable solution. By establishing numerous smaller kindergartens dispersed throughout the city, the goal of “the walking city” can be achieved. Nevertheless, this approach presents two challenges.

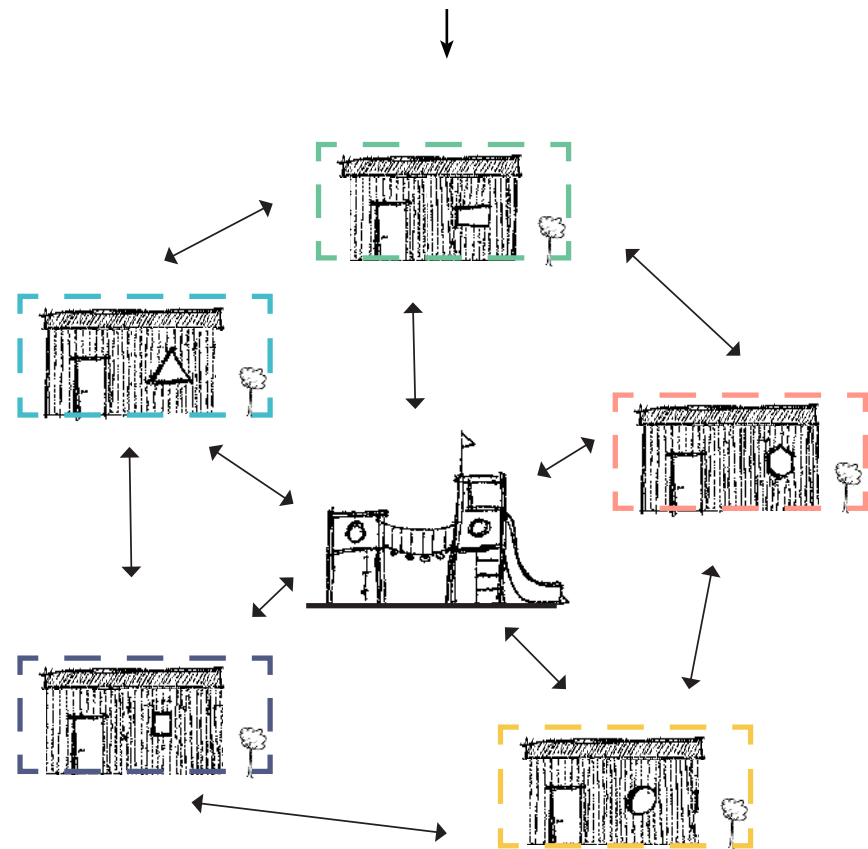
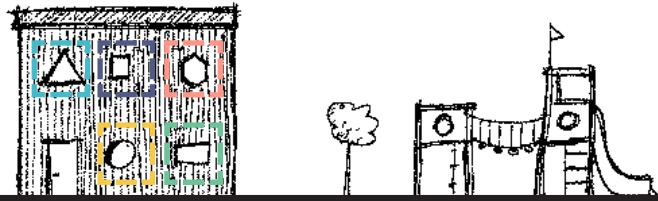
Firstly, the advantage of larger kindergartens with 80+ children lies in staffing; there are sufficient personnel to cover absences. This challenge can be addressed by creating clusters of smaller kindergartens, allowing staff to collaborate and support one another when they work as a unit.

Second, the issue of limited outdoor space can be achieved by establishing a shared play area at the center of each cluster. This arrangement fosters interaction among children from different kindergartens, potentially forming friendships that endure into their school years. Something that is normal in the bigger kindergartens.

Furthermore, clustering small kindergartens offers the opportunity to provide each space with unique qualities or focuses. For instance, one kindergarten might focus on gardening, growing carrots that could be used for communal lunches with neighboring kindergartens within the cluster.



A: transform and repurpose existing buildings B: create small infills for completely new structures



STARTING POINT

why a new approach?

The average kindergarten in the city center of Bergen, Bergenhús, has room for 49 kids. According to the guidelines, there should be "4 square meters of net play and living space for children over 3 years old and approximately one third more per child under 3 years old. Outdoors: Approximately 6 times the play and living space indoors." However, almost none of the kindergartens in Bergenhús have enough outdoor space as the guidelines dictate. But the city have other qualities that is important for kids to interact with when growing up.

To build a new kindergarten for 49 kids, which is qualified as a small kindergarten (under 80 kids), you need at least 250m² just for indoor play area, so storage, toilets, office etc. is on top of that. In a dense city like Bergen, it's hard to find space to a new kindergarten, especially considering the outdoor play area.

The new approach is to split up the "standard" kindergarten to fulfill the space requirements and use existing smaller buildings or infills. That would utilize the space without having to demolish existing buildings and we can transform some parts of the parks to function as a common outdoor area for the cluster of kindergartens. They should work together as one unit while being separate units.

The broken-up kindergartens should maintain different functions while still ensuring they have all the necessary indoor facilities required for a kindergarten. They should also be close enough to each other to function as a unit, so staff can rotate when there is a need for more staff. Additionally, children should be able to move around to be accommodated in the kindergarten that will meet their needs if and when needed. There is not any options in the city center for kindergartens with specialised focus for kids in need.

A COMMON GROUND

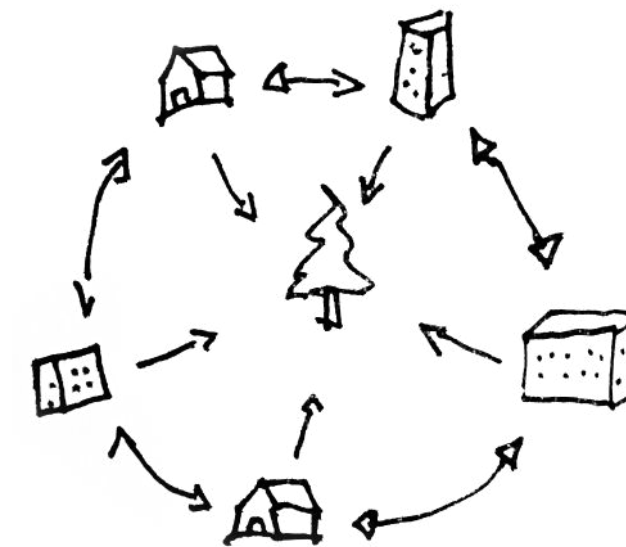
Outdoor area is calculated at **24m² per child** regardless of age, this is the typical standard for Bergen Municipality. For urban kindergartens, it is permissible to go up to **40% below** the recommended standard; provided that the outdoor area is compensated with other qualities. If a kindergarten goes below this percentage each case will be assessed individually.

*"In areas where outdoor spaces are scarce, an individual assessment is made on how the missing area can be compensated. The lack of size in the kindergarten's outdoor play area can be compensated with suitable play areas near the kindergarten. Compensatory areas must provide facilities for toilets and sheltered space from weather conditions for eating if needed."**

The key here is to center the cluster around a park and find a suitable indoor space that can be used, and a roof that functions as an extra outdoor space and shelter from wind and weather. As well as it has facilities like kitchen, toilets etc. It is advantageous if it is within a short walking distance, but distance is not specified by the Bergen municipality. But common sense, and experience gained from people working in kindergartens work as a guideline.

The advantage of using a park as a communal outdoor area is that children become familiar with a larger circumference of their local area compared to a regular kindergarten where everything is in one place; it broadens their perspective and mental map. In addition, it becomes a meeting place for multiple departments, and children form bonds with other children and new friends they see every day, whom they will likely start school with.

*Functional and area program for public kindergartens, Bergen Municipality



the cluster working together as a community

POTENTIAL SITES

OUTDOOR

Space is important when choosing a site for infill or the transformation of an existing house or apartment. Very few buildings have a private garden or outdoor space. If you were to choose just an apartment with a small backyard, you should calculate that you need **9.6m2** for each child. When creating a small kindergarten for **10-12 kids**, you need at least **110 -120m2**. That leaves few available sites. However, if the kindergarten is close to a park or other qualities that can compensate, there is room for dispensation from the municipality. So, if there is site with high quality within walking distance to the park, and not on a heavily trafficked road, there is a possibility. Another point is that the city has lots of exciting places and situations for kids where the ground isn't grass. With a 'city-kindergarten,' the focus on outdoor qualities can be challenged.

INDOOR

For an apartment without elevator, it can be a possible site if it is room for everything on one floor. It could be to costly or difficult to put in an elevator in an exisiting building without removing and keeping the rest of the apartments as is. Its a question of cost-benefit. The entrance should also be on level with the street or there should be put in a ramp.

Depending on the age of the kid there are rules for how much playarea you need per child. **5,3m2** for kids under 3 years and **4m2** for kids over 3 years. So for a group with **10 children you need 53m2 or 40m2 depending on the age group**. *"Indoor areas included in the play and recreation areas comprise main rooms, common areas, assembly rooms, kitchens, and are the spaces available for children's activities. These areas require direct daylight exposure. The space is suitable for children's play and should be utilized throughout the daycare's opening hours."*

*Functional and area program for public kindergartens, Bergen Municipality

"Areas that are not included in the play and recreation areas comprise: Entrance area, Cloakroom, Changing room/toilet, Storage, Staff areas, Traffic and communication areas, such as corridors, stairs, and elevators, Structural areas, such as walls, columns, and shafts/conduits for HVAC, electrical, telecommunication, and data.

The Bergen Municipality has made an example of recommended sizes of the different rooms. There is not a specification of the kids group size. Following is a comparison to an existing transformation of an old home that is now a kindergarten. (3 floors, no elevator)

| | Bergen Municipality example | Sandviken Kindergarten 29 kids |
|-------------------|-----------------------------|--------------------------------|
| - Storage room | 5 m2 | 2,5m2 |
| - Changing room | 7m2 | 8m2 |
| - WC | 2m2 | 1,6m2 |
| - Kitchen | 27m2 | 15,5m2 |
| - Staff area | undefined | 9,9m2 |
| - Cloakroom staff | undefined | 2m2 |
| - Cloakroom fine | 14,5m2 | 19,4m2 |
| - Cloakroom dirty | 17m2 | 10,3m2 |
| - Laundry room | 5m2 | 2m2 |
| - Technical areas | undefined | 4,6m2 |

If you add the sizes of the other rooms that do not qualify as play and recreation areas, you need a ground floor that is at least **110m2** for 10 children over 3 years or a minimum of **120m2** for 10 children under 3 years.

CHARACTERISTICS

The new kindergartens, which don't resemble standard kindergartens, should incorporate certain elements that resonate with the children, allowing them to explore and become familiar with them. Additionally, the streets require new and safe connection points to the common park and within the cluster, ensuring defined paths between the different kindergartens.

Thus, there needs to be a set of rules:

1. - When defining a kindergarten, there should be a common denominator. This could be a color, an object, or a type of window. Something that fits into an overall plan with neighboring buildings and serves as a landmark for the children.
2. - Marking the paths: The paths, roads, and "smaus" between the kindergartens should feature specific pavement usage, color-coding, or even small objects working as "breadcrumbs". These aids would help guide the children, provide hints, and expand their mental map of their neighborhood. Moreover, they aid in acquainting the children with unique objects and situations that leave an impression and keep them intrigued.
3. - The park serves as the new communal playground and is already in use by the city. Placing a fence and closing it off is not a good idea. We need open green spaces in a dense city, not more fences. The buildings already resemble long walls that break up our sightlines. Instead, we should find alternative methods to preserve the park and divide it into zones using safe markers. These markers would serve as points where children know they can stop and be safe. Combined with a space that is easy to monitor without visual barriers, it can function as a controlled playground without fences. It's important to consider that city kindergartens should emphasize early-age mobility, as it's already a significant aspect of daily life for children in dense urban settings.



THE KIDS

Defining the group of kids can be challenging without fresh data, but there are some things we know:

- Krohnengen school districts will need a new kindergarten in the near future.
- There is already 4 kindergartens in the school district.
 - Mulesvingen with 65 kids - waiting list 20
 - Christinegården with 49 kids - waiting list 28
 - Sandviken barnehage 29 kids - waiting list 8
 - Ladegården 85 kids - waiting list 30
- People can be on the waiting list for multiple kindergartens, so that can affect the numbers.
- The average size of a Kindergarten in Bergenhus is 49 kids

So, if we know that Krohnengen needs a new kindergarten and we use the numbers above, it should be a new kindergarten with around 50 kids.

But there is another factor that can be vital for the design of the new kindergartens.

“In section 37 of the Kindergarten Act, it states that children with disabilities are entitled to a suitable individually adapted kindergarten offer. This is also supported by section 20 of the Equality and Anti-Discrimination Act. Kindergartens also have a duty of universal design (section 17). It is the municipality’s responsibility to ensure that the child receives the offer it is entitled to under section 37 of the Kindergarten Act. The municipality must also fulfill the right to special educational assistance for children residing in the municipality (section 31). This concerns children whose needs are not met through the regular mainstream educational offer.”

There are no kindergartens in Bergenhus with a defined focus on children with special needs; there is one outside Bergenhus in Seljadalen in Fyllingsdalen.

There should be opportunities to look at how one of the kindergartens in the cluster can make it possible to be functional for that group of children to shorten the daily travel route.

IMPORTANT NOTES

“The kindergartens are designed so that they can be used by the local community and various users outside of the kindergarten’s opening hours. Parts of the kindergarten can be rented out with access to some rooms and functions in the building. Therefore, functional access is provided for the building users during rentals, ensuring that they do not have access to the rest of the kindergarten building. This should be accompanied by a lock and security plan for the building. The kindergarten’s main kitchen and assembly rooms are the relevant rooms for rental, and in addition, the tenants must have access to toilets and utility/cleaning rooms.”

“The kindergarten site should be well-suited for its purpose, which means that the site has good ground conditions. Good climatic conditions need to be ensured in terms of sun and light exposure, varied terrain, good access for vehicles, cyclists, and pedestrians, as well as good connections to public transportation. Additionally, consideration should be given to protection against traffic, noise, and pollution. The size of the site is crucial for the size of the kindergarten.”

*Functional and area program for public kindergartens, Bergen Municipality

STEP BY STEP

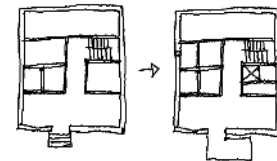
1.

Find a suitable “shelter” close to an park. It could be a community center / “bydelshus”. Temporary addons can also be used if the available indoor space is not big enough or has the necessary facilities



2.

Make small interactions to make it “kid safe” and be sure that it has universal design.



3.

Make the path between the park and the building safe for feet and wheels. Keep natural terrain but use ramps with a light footprint to make it available. If possible use the ramp as a way to fence off areas of park but don’t close it off completely, keeping it open for public.



4.

Now that the base is set up, the demand will determine how many nodes you need. You should start with the closest nodes for the youngest kids. Considering travel distance.



5.

Finding a suitable node:

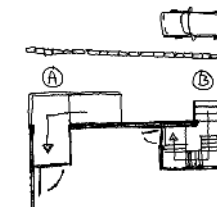
- Entrance on the first floor, with easy access for a small ramp.
- Ground floor area of preferably 100m².
- Small buffer area outside, with a small garden preferably.



6.

Transforming the inside:

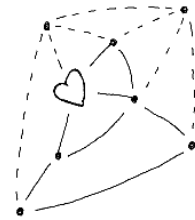
- Create a new entrance to avoid disrupting the existing flow in the building.
- Maximize the use of natural light for play areas.
- Adhere to the requirements for universal design and national guidelines for kindergartens.



7.

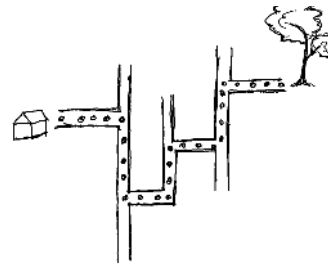
Extending the cluster of nodes:

- The demand for more kindergartens will determine the number. When there is around 4-5 nodes it will equal the size of a "regular" kindergarten in Bergenhus.
- The older kids could be placed further away from the center.
- Keep in mind a five/ten-minute walking radius.



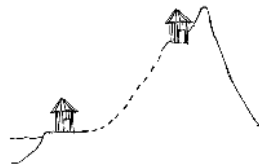
8.

Remember to keep the paths easy to understand. The floor or "objects" will work as "breadcrumbs".



9.

"Day trip cabins" can expand the circle of nodes and only need the standard facilities.



10.

When there is no longer a need for one of the nodes, you will have an apartment that fulfills universal design and can be used for other activities or be put back on the market.



A POSITIVE SIDE EFFECT

By facilitating more urban spaces for children, they will have more places in their neighborhood to discover, expanding their mental map of the area.

As Bergen lacks urban playgrounds, kids need more space to play. These new spaces could also become neighborhood parks for the rest of the day and on weekends. By creating new meeting places with diverse qualities, these areas would naturally become spots for neighbors to gather, fostering a sense of community and belonging.

Ultimately, facilitating more urban play spaces for children leads to a win-win situation for everyone involved. Children will have more places to explore, expand their horizons, and feel safer within their own neighborhoods. This joyful side effect of the new kindergarten system would also encourage a walkable city.

Parents would enjoy shorter commutes and spend more quality time with their kids, instead of being stuck in traffic with children in the backseat.

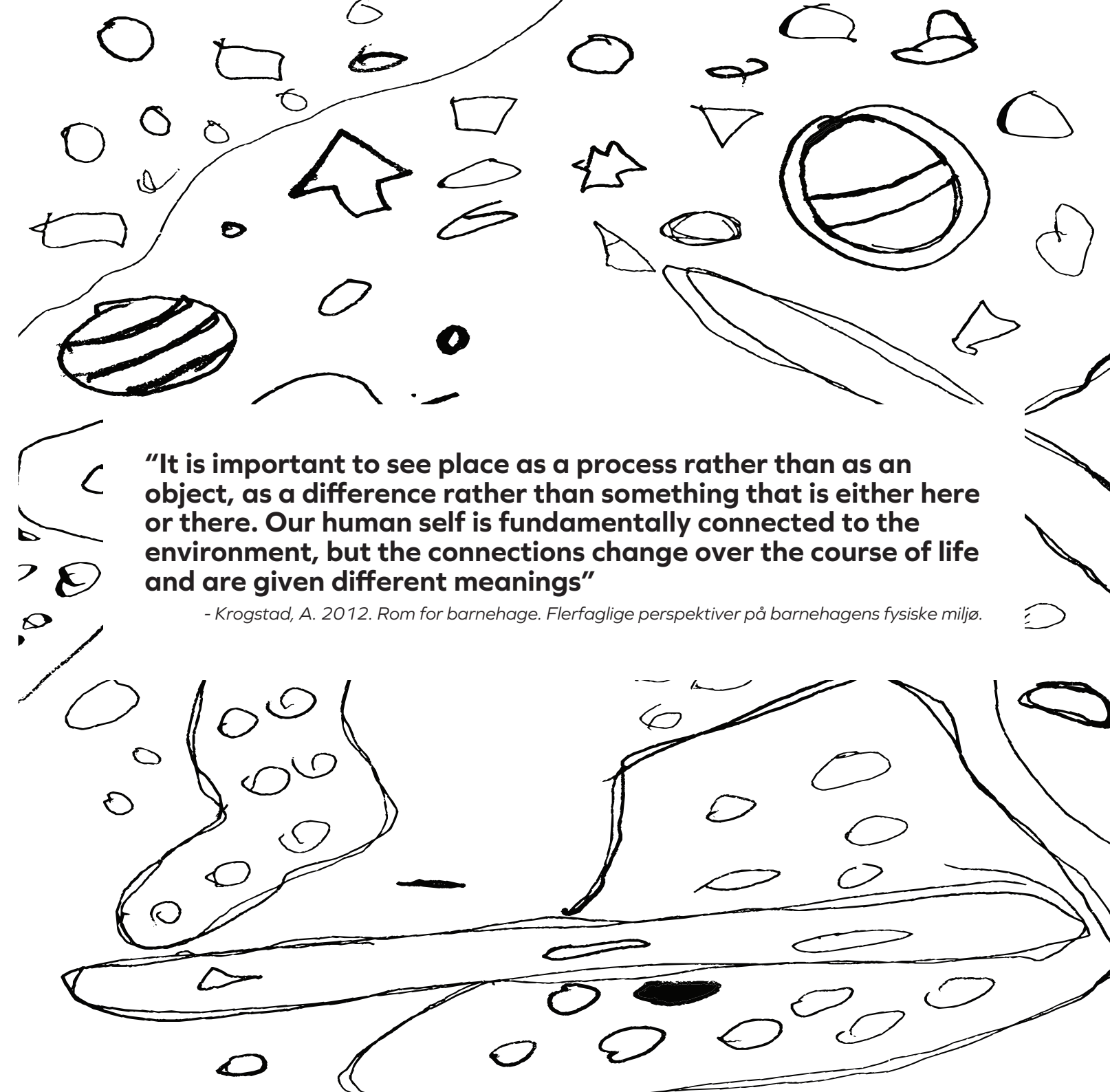
Less car traffic, happier kids, stronger communities – a win for everyone!

“What a child wanted to do most of all was to make a world in which to find a place to discover a self.”

- Cobb, Edith M. (1977). *The ecology of imagination in childhood.*

“children are a kind of indicator species, if we can build a successful city for children, we will have a successful city for everyone.”

- Enrique Peñalosa (Former Mayor of Bogota)



“It is important to see place as a process rather than as an object, as a difference rather than something that is either here or there. Our human self is fundamentally connected to the environment, but the connections change over the course of life and are given different meanings”

- Krogstad, A. 2012. *Rom for barnehage. Flerfaglige perspektiver på barnehagens fysiske miljø.*

morten øvreås
diplom 2024
bergen arkitektøgskole

