

# **Best of Bodø**

# Universal design for active and social lives in the European Capital of Culture 2024





#### KOMMUNESEKTORENS ORGANISASJON

The Norwegian Association of Local and Regional Authorities

FRONT PAGE: Stormen Cultural Centre in Bodø, read more on page 32. (Photo: Fredrik Naumann/ Felix Features)

**Responsible editors:** Anne Gamme and Christian Hellevang, KS

Development and production: Lena Storvand and Marianne Alfsen/ Felix Media

Journalists: Lena Storvand and Marianne Alfsen/Felix Media

Photographer: Fredrik Naumann/ Felix Features

Graphic design: Bly

**Translation:** Silje Berggrav/Felix Media & Totaltekst

Printing: Byråservice

Year of publication: 2024

ISBN: 978-82-93866-50-3

#### This is KS

The Norwegian Association of Local and Regional Authorities (KS) is Norway's largest public employer organisation. Members include all of Norway's 357 municipalities and 15 county councils. STORMEN LIBRARY: Read more about how Stormen Library has been built to welcome everyone, regardless of their functional

ability, on page 26.

### Contents

- 3 A cultural capital for everyone
- 4 A new City Hall with old roots
- 10 A local school for everyone
- 18 The end of heavy lifting
- 22 Bringing an historic landmark up to date
- 26 The hub of the city
- 32 A barrier-free concert hall
- 40 From orientation lines to equality
- 44 This is how universal design is defined in Norway

### A cultural capital for everyone

The Northern Norwegian city of Bodø is the European Capital of Culture 2024.

The Northern Norwegian city of Bodø is the European Capital of Culture 2024. The European Commission initiative dates back to 1985 and has, to date, been awarded to more than 60 cities across the European Union (EU) and beyond. Bodø is the first Capital of Culture above the Arctic Circle.

The purpose is to highlight the richness and diversity of cultures in Europe, and bring people together through culture, history and nature. Bodø is all set to welcome everyone. Not only through an extensive programme, but also through years of actively developing a city for everyone.

The celebrated, universally-designed Stormen Library and Stormen Cultural Centre have become the heart and soul of the new and improved Bodø city centre. In this booklet, you can read more about Stormen, as well as a number of other good examples of universally-designed municipal projects in Bodø.

Bodø Municipality is a member of KS' Network for Universal Design, established in 2013. The goal of the network is to contribute to an inclusive society, by sharing best practices and removing barriers.

All projects encounter challenges. The examples presented in this booklet are not intended to serve as perfect examples, but rather as an inspiration and for learning. That is why we often challenge the people we interview to indicate what they could have done differently, in hindsight.

We congratulate Bodø on being the European Capital of Europe 2024, and look forward to what's next for one of the fastest growing cities in Norway.



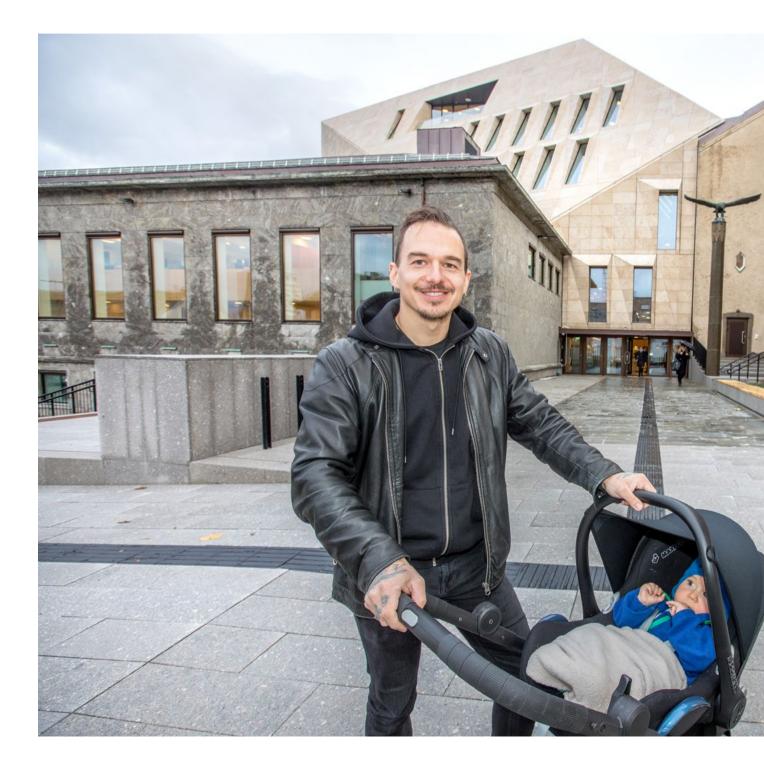
Anne Gamme, Chief adviser The Norwegian Association of Local and Regional Authorities (KS)



Christian Hellevang, Senior adviser The Norwegian Association of Local and Regional Authorities (KS)

## A new City Hall with old roots

Four times the visitors. Close to 700 annual events. This is what has been achieved since the Bodø Public Library moved out of outdated, cramped quarters and into a large, flexible new building ten years ago.





Marcus Zweiniger stands in front of the new City Hall in the centre of Bodø with a stroller. The landscape architect and universal design consultant for the City of Bodø is currently on paternity leave. After his colleagues moved into the new City Hall in the autumn of 2019, he can easily stop by with his son Aron in a stroller. This was more complicated with the old City Hall.

"Before, it was not possible to enter with either a stroller or a wheelchair," says Zweiniger.

If you were attending a meeting in the City Council room, for example, you had to go through the back entrance, through the basement and then take an old service lift up.

"In other words, it was a truly horrible solution when it came to offering everyone a dignified welcome," he adds.

According to the consultant, in order to satisfy today's requirements, it was essential to address how visitors are welcomed: The main entrance needed to be moved and the entire new entrance area given a universal design. While the old main entrance faced Kongens gate, the new one faces Torvgata. If you are attending a meeting outside

#### PAST AND FUTURE: Marcus

Zweiniger and little Aron can now finally take a stroll to the new City Hall in Bodø. The new building, designed by Danish architectural firm Atelier Lorentzen & Langkilde, is connected to the old City Hall (right) and a former Norges Bank building (left).



**OPEN HOUSE:** The atrium and People's Forum in the City Hall are open to all residents of Bodø. The office furniture along the wall on the left is part of the artwork *Poetry for the Bureaucracy* by Per Kristian Nygård.

of regular opening hours, there is a separate public entrance on Kongens gate with a lift that goes directly to the City Council room.

#### THREE BECOMES ONE

With a price tag of around NOK 650 million, 6,400 m<sup>2</sup> of space, 400 employees and six floors, Bodø City Hall looms large in the urban landscape. On the outside, the buildings still stand side by side – old and new that together make up the City Hall. Inside, they flow seamlessly into each other.

"The architects should be commended for succeeding in connecting three completely different buildings – the bank, the new City Hall and the old City Hall – almost without it being possible to know in which of the three you are standing. I still get lost," says Zweiniger with a chuckle. "Before, everything was spread all over town. It's now much easier to reach people. And for people like me in a wheelchair, it's possible to access everything."

Svein Ivar Leithe

"That is not necessarily a good thing in terms of universal design, in which easy navigation is important. But it shows that it is possible to create a new space spanning several historic eras," adds Zweiniger. "And this has been done in a way that solves the challenges posed by the numerous differences in levels between the buildings."

#### **COMPLETE ACCESSIBILITY**

The historic façades of the buildings have been preserved, but inside the City Hall is brand-new from end to end. The building has a universal design and is equipped with all the amenities expected in a modern workplace – an open landscape, activity-based zones and no assigned desks for employees.

Through one of the corridors on the first floor, Svein Ivar Leithe rolls over in a wheelchair. He is an accountant in the accounting department and has just attended a meeting in the City Hall with external partners. They ate lunch in the cafeteria on the sixth floor of the building and had a meeting in one of the meeting rooms situated around the open atrium on the first floor, referred to as the People's Forum (Folkeforum).

"I can go anywhere in City Hall, either using a lift or the various ramps," says Leithe.

When he returns to the accounting department, appropriately located in the old bank, he will need to go up a sloped ramp.

"There are quite a few level differences around the building, but they don't pose a problem," he says.

In the department itself, there are adjustable height desks, like everywhere else in the building. And when Leithe needs to work in one of the quiet rooms, he puts his laptop on his lap and wheels right in.

"There are no door thresholds here and all computer connections are on top of the desks, making it easier for me to plug in everything," he adds.



**ON WHEELS:** Accountant Svein Ivar Leithe works in the old bank building, with views of the slanted façade of the new building, inspired by Northern Norwegian nature and the mountains surrounding Bodø.



**RAMP ENTRANCE:** Located half a floor down from the service centre, the People's Forum can be accessed by ramp or lift.

Leithe describes the old City Hall as "utterly hopeless" in terms of universal design and accessibility. He didn't normally work in the old building because the accounting department had its offices elsewhere in the city.

"But I did have to go to City Hall occasionally and had no choice but to use the back door and take the service lift."

#### PARTICIPATION

A few weeks after moving into the new building, Leithe has yet to encounter any major problems, although a few minor issues have cropped up in the meantime.

"I think the door frames of the main entrance and other entrance doors are a bit high, probably due to legal requirements. But I overcome this problem by going through the door backward instead of lifting the wheelchair with the front wheels first." In the People's Forum, which is used for various events for employees and city residents, the seating is at different heights. "There are no dedicated wheelchair areas along the rows, but I can sit at the top or bottom level. That works just fine. The point is that I can participate in whatever is happening, just like everyone else." All in all, he thoroughly enjoys his new everyday work environment.

"It has turned out very well, especially the fact that all municipal departments and agencies are now all under one roof. Before, everything was spread all over town. It's now much easier to reach people. And for people like me in a wheelchair, it's possible to access everything."

Since this article was first published in 2020, Marcus Zweiniger has switched to a different job and no longer works for the City of Bodø.



Marcus Zweiniger, adviser for universal design in Bodø municipality

#### Solutions :

- Link together old and new buildings
- Integral approach to both building and outdoor areas
- Level main entrance threshold
- Automatic doors
- Direct access to service desk
- Easy access to lift to all floors from the first floor
- Sound-absorbing materials in the main area, as well as the City Council room
- Car park with plenty of accessible parking spaces a few blocks away. Accessible parking is also available on the street, located where the road is most level
- The building is designed for easy interior adaptations to meet changing needs
- Universally-designed workstations with adjustable height desks
- Unisex and accessible cloakrooms/ restrooms
- Changing table on first floor
- Clearer signage at the main entrance was installed after the opening because it was not clear that the building was Bodø City Hall

**THREE IN ONE:** An old Town Hall, a former bank and a new building make up the new Town Hall. The outdoor space guides visitors to the main door.

#### In hindsight:

- More user involvement.
- The solution was integrated before it was common to use as many natural orientation lines as possible. Everything is in light granite – from the façade to the kerbstones. Additional orientation lines are therefore needed.
- Clearer zone layout outside.
- Clearer signage inside the lift.
- Coordination of signage that meets different requirements at the staircase.
- Better contrast and readability of signs on glass walls leading to meeting rooms and various floors from the main staircase.
- Office floors face the atrium and sound carries up from here.
- Better acoustics in the meeting rooms with hard surfaces and lots of glass. This has been analysed and resolved in part with different flooring, curtains and other noise reduction measures.
- Solutions largely developed based on knowledge and recommendations on universal design, especially navigation and solutions for those with a visual impairment.



**ACTIVE IN THE SCHOOLYARD:** Sixth-grader Mathilde likes being active. Although she lives with cerebral palsy and cannot walk very far without her wheelchair, a raptor, she can participate in school life on an equal basis with her fellow pupils at Mørkvedbukta School and Kindergarten. This is a big step up from her old school.

1000

# A local school for everyone

Everyone should be able to go to school where they live. This was the premise when Bodø municipality planned a new combined primary school and kindergarten in Mørkvedbukta. In autumn 2020, the magnificent building was ready.



**CREATIVE TEAM:** Sissel Olga Pettersen and Marcus Zweiniger, respectively project manager and adviser for universal design in Bodø municipality, together with school inspector Trond Strømsvik in the school hall.

"The old local school, Støver School, was not able to accommodate students with major physical needs. This meant that parents in some cases chose to send their children to other schools. Parents have a right to choose a school within their municipality. Therefore, it was important to us that the new school could accommodate everyone who lives in the community, regardless of their functional ability," says school inspector Trond Strømsvik.

"The same feedback came from school staff, who were invited to participate and imagine what the ideal school would look like," he adds. According to Strømsvik, this has been the project's biggest success factor: extensive participation.

#### LISTENED TO THE USERS

"One of the young people from the participation council, who uses a wheelchair, said that she wants to correct her make-up in the mirror in the toilet, but the sink is always in the way. So we pulled the mirror out to the side, past the sink," says Sissel Olga Pettersen, project manager in Bodø municipality.

"Without broad participation, you just continue to do what you have always done," adds Marcus Zweiniger, adviser for universal design in Bodø municipality. He adds:

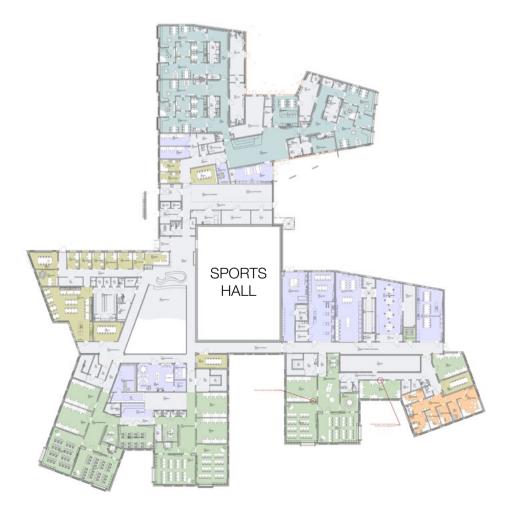
"Measures that would be easy to do during construction often become complicated and expensive to fix after completion. At Tverlandet School, which was ready in 2019, they realised too late that the facilities for students who needed care during the school day, were not adequate. The accessible toilet was by then too small to rebuild. Mørkvedbukta has an accessible changing room with a reclining shower, in addition to an exercise room for those who need physiotherapy," says Pettersen. "Without broad participation, you just continue to do what you have always done"

#### **GROWING FAST**

Broad user participation from day one is now included in the terms of reference for all new projects in the municipality. This is vital: Bodø is one of Norway's fastest growing cities with 50,000 inhabitants. You can hear construction work wherever you go.

"In Mørkvedbukta, universal design has been a premise for concept development. It informs all involved sectors," says Zweiniger. He adds that technical regulations are only a minimum requirement.

"In fact, TEK 10 has stricter requirements for universal design than TEK 17. Handrails in two heights, for example, are no longer a requirement. We still included it in the outdoor amphitheatre," adds Pettersen.



#### **TOGETHER AND SEPA-**

RATE: Each grade has its own separate zone, with two classrooms connected by a small communal room in the middle. Each zone has its own colour, for easier orientation. And most importantly: each classroom has two group study rooms. One of them has an entrance from the communal room, one from the back of the classroom: "Some children need quiet time, but they don't necessarily wish to leave in front of the whole class," says Sissel Olga Pettersen. (Illustration: The Architect)

Marcus Zweiniger



**WAY-FINDING:** Bright colours, clear contrasts and tactile way-finding make it easy to locate the stairs in the school hall – for everyone.

"This also applies to locating lifts and stairs near each other, which is important for equal access. Such measures are not necessarily spelled out in regulations, but are shared among professionals and in guiding documents," says Zweiniger.

From the construction of Tverlandet School they further learnt that universal design is about more than ticking the boxes on the list of requirements in the technical regulations.

"For Mørkvedbukta, we identified what universal design involves in both tenders and contracts. Such as the wide mirror, building the lift next to the stairs and double handrails," Pettersen adds.

#### THE SOUND OF SILENCE

"The first thing you notice when entering the building is the good light and the muted sound," says Trond Strømsvik, as we walk through the

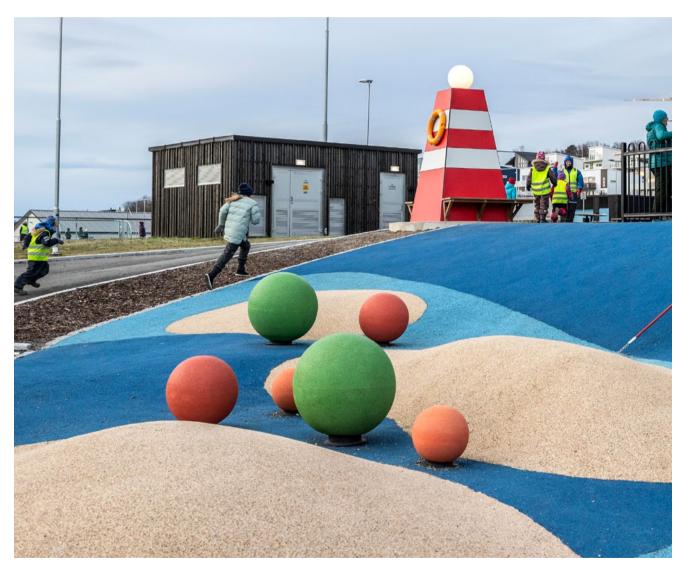


Sissel Olga Pettersen, project manager, Bodø municipality

"Our main challenge was finding solutions that not only meet today's needs, but also the needs of future pupils. To do so, we included various user groups in the early stages of planning, to uncover as many needs as possible. Technical regulations are only minimum requirements. The real needs and best solutions are uncovered when we talk to the people concerned." bright corridors and rooms painted in maritime colours. Sound-absorbing elements have been carefully incorporated into the decor and one classroom on each level with a sound equalisation system – all developed in collaboration with an acoustician.

"This is good for everyone, not just for children with hearing impairment! Research shows that noise control makes learning easier also for the easily distracted pupils," continues Strømsvik. "Mørkvedbukta has without a doubt become Bodø's finest and most accessible school and kindergarten," says Sissel Olga Pettersen.

Since this article was first published in 2023, Marcus Zweiniger has left Bodø municipality.



**A VISUAL SCHOOL BELL:** When the school bell rings, the dome on top of the red-white cone lights up, as a visual signal in addition to an audio signal – inspired by one of Bodø's hallmarks: Landegode lighthouse.

### Seven smart solutions

It is not expensive or complicated to meet user needs – as long as you implement them from the start, rather than adapt later. Here are some clever solutions from Mørkvedbukta School and Kindergarten.



**SMALL BENCH, BIG DIFFERENCE:** A small fixed bench at the end of the change room makes it easier for Mathilde (11), who has cerebral palsy, to put on and take off her shoes.



#### SIMPLE SOLUTION:

A loose box on the bottom step is all that is needed for a wheelchair user to be able to sit knee-to-knee with fellow pupils in the amphitheatre.



MIRROR, MIRROR ON THE WALL: When the mirror is pulled out to the side of the washbasin, wheelchair users can get right up close and check their make-up.



HINGING DOOR IN THE SHOWER: A simple hinged door in the shower means that a normal shower can be quickly and easily expanded if needed.



**TIMES TABLE AS A MARKER:** The times table is marked on the steps, so that everyone can practise on the stairs – and the visually impaired can easily see where they are going.



#### **TWO HEIGHTS AND WIDTHS:** Wheelchair users can hang their clothes without help. A little extra width on the bench below makes it easier to move from the wheelchair to the bench.



SIMPLE AND SMART: Rubbish bins often end up under the sink, where they are in the way of wheelchair users. The solution? Hang them on the wall!

## The end of heavy lifting

At the new Tverlandet School, there is no longer a need for learning support teacher Marius Moen to carry pupils up stairs. The working day has become a lot easier.



FINDING THEIR WAY: Each year group has its own entrance with an associated colour.



Brightly-coloured entrances show the way. Each entrance at Tverlandet School has its own colour – making it easy for both children and adults to know where they belong. The newly built school is located in the heart of Løding, outside the city centre of Bodø. The school was finished for the start of the new school year 2019/20. It replaced two old schools and has about 600 pupils from years 1 to 10. The school is built according to the principles of universal design and for today's requirements for inclusivity.

"A big and positive difference is that it is much more spacious here at Tverlandet School, compared to the old Løding School," Marius Moen says.

He assists a pupil in year 5, who uses a wheelchair. More space has great practical implications for both of them in their everyday life at school.

"The pupil can use an electric wheelchair here and drive it himself. It has made it much easier to play with his classmates," Moen says and emphasises the importance of that. "Now, he has the opportunity to be more independent."

#### LIFTING WAS NECESSARY

The old Løding School was cramped in many places, like in the changing rooms. At Tverlandet School there are large changing rooms for all pupils, and the younger ones have both a mudroom and a changing room. There is a parking space for wheelchairs in the changing rooms. There are several accessible toilets in the building, large enough to turn a wheelchair, so that users have the opportunity to manage themselves.

From the entrance and the changing rooms there are lifts going up to the classrooms on the first floor. The main lift is centrally located inside the main entrance, next to the school hall which is used for school assemblies.

"We come in on the ground floor and take the lift straight up to the classroom," Moen says.

At the old school there was no lift. Marius and his pupil had their classroom on the ground floor, but as soon as they were going somewhere else, they faced problems.

"The library was on the first floor and I had to carry the pupil up the stairs."

Marius smiles. Both for the pupil, and for his own sake, he is glad the days of heavy-lifting are over. "It sort of worked when he was in year 4, but now he is in year 5 and he gets heavier every year."

#### **A LITTLE EXTRA**

Pia-Helen Pedersen from the Planning and Buildings Department in the Municipality of Bodø emphasises that universal design was at the core throughout the construction process.

"Our experience is that this has become a school with room for all groups to move around. We have gone above and beyond the national standard requirements," she says.

"For instance, we have prioritised height adjustable desks in the school kitchen and the science labs. The rooms are furnished so that it is easy to change the layout to fit with different needs. In the lecture hall some chairs have been removed to enable wheelchair users to sit on the same row as their classmates."

Marius Moen nods.

"Yes, when we're in the lecture hall, my pupil sits with the rest of his class and that works very well," he says.



"Our experience is that this has become a school with room for all groups to move around."

> Pia-Helen Pedersen Planning and Buildings Department



#### **TOGETHERNESS:**

Chairs are removed in the lecture hall for wheelchair users to be able to sit side by side with their classmates. For visually-impaired people, attention has been paid to navigation aids, both natural and artificial, as well as sufficient lighting and contrasts. For hearing-impaired people, emphasis has been put on good acoustics and the reduction of ambient noise. Key rooms have a hearing induction loop and there are microphone systems in others.

The goal is to enable education to take place in a dignified way, including for hearing-impaired pupils.

#### WELLBEING FOR ALL

Landscape architect and universal designer Marcus Zweiniger in the Municipality of Bodø has, among other things, worked on the outside areas of the school. He knows the school well, as his children go there.

"What we've succeeded with here, is that we have fulfilled the minimum technical standards and, additionally, managed to think about how the building and individual solutions can work for both employees and pupils, for the wellbeing of everyone," he says.

What the universal designer has experienced is that people's everyday challenges exceed what is listed in the national standards.

"Finding out what is needed demands knowledge and flexibility from commissioners, advisers and architects," he says.

At Tverlandet School a choice has been made to provide entrances and changing rooms for each pupil entrance, regardless of age. The pupils move a lot during their schooling and the school building is made to work from years 1 to 10.

"The entrance solutions are important," says Marcus Zweiniger.

"Everyone should be able to use the same entrance as their mates or colleagues – and feel part of the group".

Since this article was first published in 2019, Marcus Zweiniger has switched to a different job and no longer works for the City of Bodø.



**CLEVER APPROACH:** A clear contrast between the door and wall colours, as well as an obstruction free hallway, provide good accessibility. The strip of lights in the floor leads the way to the emergency exit.



Marcus Zweiniger, adviser for universal design in Bodø municipality

#### In hindsight:

- We quickly discovered that the outdoor area is too small. It is well within the legal requirements, but the choices made regarding the positioning of the parking area, pedestrian walkways and cycle paths infringe on the size of the play area. The municipality should have prioritized differently: moved the car park and made the play area bigger.
- In hindsight, we see that the outdoor stairs were unnecessary, and should have been exchanged for a more accessible solution.
- We tried to make all playground equipment accessible, but a child with reduced mobility can still only be a spectator to some of the equipment, such as he climbing net.

**INSPIRED BY THE ORIGINAL:** 

The new annexes feature the same characteristic shapes in an updated aesthetic and with new capabilities, giving Aspåsen School sorely needed group rooms and universal access.

### Bringing an historic landmark up to date

It could have caused an uproar, but the result has been very well received. With respect and consideration for its history, Aspåsen School's 1960s architecture has been given a painstaking facelift. The building is finally free of obstacles and large enough to accommodate modern education.

"The school was the City of Bodø's gift to itself on its 150th anniversary in 1966. Many of today's teachers have been pupils here and have strong feelings about the building," says Morten Handberg, who served as project manager on behalf of the municipality of Bodø for the renovation of one of the city's most iconic buildings.

"Reusing buildings is, of course, in perfect keeping with the 'green transition', but is challenging in terms of universal design. There are often quite a few conflicting interests," he says. The key was to listen and involve the right people from day one. Teachers, the Parents' Committee and the National Council for Disabled Persons all participated in the Aspåsen project.

#### CHALLENGING

Two aspects were particularly challenging: access and space. The solution was to kill two birds with one stone. Access to the building was steep on the outside and the entrances included landings between two floors without a lift. An annex on each end that is visually entwined with the characteristic façade made it possible to build universally-designed entrances by lowering the entrance to the first floor. The annexes also house spacious group rooms. It was both challenging and costly since a lot of rock needed to be blasted away, but the result makes deputy head teacher Nils H. Weglo Severinsen smile broadly as he welcomes us inside.





**EQUALITY & LIGHT:** The entrance is bathed in light both from above and the common rooms in the new building. And all pupils can now enter through the same door, which is important for a sense of belonging and community, according to Morten Handberg, project manager on behalf of the municipality of Bodø.





**EVERYONE CAN HEAR:** Teacher Evy Eriksen uses a head mic and the pupils have microphones on their desks that can be connected to hearing aids or loudspeakers.

#### **NEEDS AND POSSIBILITIES**

"Universal design involves so much more than access for wheelchairs. It's important to open our minds and not only consider technical regulations, but also needs and possibilities," says Severinsen.

"We included the requirement for the contractor to have a designated consultant for universal design in the tender. But the reality is that, as the commissioning party, we need to be very attentive to finding good solutions," adds Handberg.

The result is a school that has not only preserved architectural details – such as a faceted façade, tile walls and angled windows – but has also become more user-friendly for everyone: soundproofing, sound amplification, varying and adapted lighting, school kitchen with adjustable height counter, special physical therapy or withdrawal rooms, good orientation lines, tactile signs and a separate space for charging electric wheelchairs, to name just a few of the features.

#### IN THE WAKE OF THE PANDEMIC

In the middle of the renovation work, the pandemic hit. The events made it clear that awareness of how needs evolve must be continually refreshed. "We had incorporated elbow switches, but due to the pandemic, switched to hands-free door openers. We had to jump through a few hoops, but we made it happen in the end," says Handberg and adds:

"It's always cheaper and easier to do it right the first time instead of having to correct it later. Another reason why it is so important to have the right focus and good universal design consultants from day one."



**GOOD SOUND:** A hearing loop is installed in central areas. This technology is developing so rapidly that they opted to wait to purchase it until the need arose.



#### ATTRACTIVE EDGE INDICATION:

In the auditorium, a darker shade of wood was chosen for edge indication instead of the more traditional and cheaper metal edging. Deputy head teacher Nils H. Weglo Severinsen eagerly awaits a visit by Statped (national service for special needs education) to determine whether the indication is sufficiently clear. Under-step lighting not only shows where to walk, but is also visually attractive.

> "It's always cheaper and easier to do it right the first time instead of having to correct it later."

> > Morten Handberg

Mats Eirik Ellingsen, manager in charge of the expansion

#### Solutions

- A new annexe on each end with a universally-designed lift
- New group rooms
- Utilise previously unused basement area
- Incorporate new 'hanging' classrooms under the auditorium ceiling in the middle to create more space for special rooms
- Implement limited use of hearing loops due to continuous technological development

#### In hindsight:

 The amphitheatre style seating in the auditorium should have been according to the knee-to-knee principle for wheelchair users.

## The hub of the city

Four times the visitors. Close to 700 annual events. This is what has been achieved since the Bodø Public Library moved out of outdated, cramped quarters and into a large, flexible new building ten years ago.



**OPENED IN 2014:** Bodø Public Library also houses the children and youth library, café, meeting rooms, study rooms, an art showroom and exhibition room.



**FOCUS ON LIGHT:** Smart use of light creates contrasts that make navigation easier. Avoiding reflection and glare is also important.

At a prime waterside location, two landmark buildings stand side by side: Stormen Concert Hall and Stormen Library. The majestic building with ocean views is quite a contrast to the old library, which was housed in the former city hall built in the 1950s.

"The library was in very poor condition. If you used a wheelchair and wanted to go up to the second floor, you had to ask the staff for help and be escorted to the lift, which was accessed from a hallway at the back," recalls Sissel Hughes, head of collection development at Stormen Library. It was also a cramped space that was poorly suited to anything other than the lending of books.



**PLENTY OF SPACE:** Head librarian Stine Qvigstad Jenvin (left) and departmental head Sissel Hughes point out that good aisle width between the rows of bookshelves makes it easy to get around.

#### A WHOLE NEW WORLD

"We barely had room for people to stand, so there were only around 12 events each year," says Hughes of the old site.

By way of comparison, the new building organised 684 events in 2022, ranging from intimate readings to major productions by the Norwegian Broadcasting Corporation (NRK). Stormen Library replaced the outdated main library and four branches, with around 120,000 annual visitors combined.

"The number of visitors has quadrupled with Stormen," adds Hughes. She has worked at the Bodø Library for 20 years and has witnessed major changes.

"The library is no longer restricted to the lending of books. The Public Libraries Act clearly states that libraries are to be an activity and meeting place for everyone," she says.

#### **INDEPENDENCE IS KEY**

This means that both the building and its contents must be one-size-fits-all. Several groups were involved in this process, including Jarle Arntzen and Sidsel Agathe Ofstad Simonsen from the Bodø branch of the Norwegian Association of the Blind and Partially Sighted.

"It is important to obtain input early on so that you can avoid having to correct mistakes afterwards," says Arntzen.

"Exactly, and although we were involved a little late in the process, the overall results turned out well," adds Ofstad Simonsen.

She lives a 30-minute walk away and likes to visit the library often, preferably in the company of others. She especially enjoys coming here with her children and grandchildren. She and Arntzen, both of whom were born with a severe visual impairment, believe the library meets the required criteria.

"It is important that aspects like surface indicators and contrasts are incorporated,

because otherwise we are completely dependent on an escort wherever we go. That limits our independence," says Ofstad Simonsen.

During their tour of the library, they point out that the markings on the steps should be clearer.

"Because it's difficult to distinguish the tread edge," says Arntzen.



**UP CLOSE:** The signs, both with white lettering against a dark background and vice versa, work well. "What's most important is that there is nothing in front of the signs because we need to be able to read them from close up," notes Jarle Arntzen.



**SIMPLER SOLUTION:** Instead of the traditional categorisation system, Stormen has opted to organise books in a simpler way. "Making things easier to find is also part of universal design," says departmental head Sidsel Hughes.



**MORE CONTRAST, PLEASE:** The stair tread edges have faded over the years. Sidsel Agathe Ofstad Simonsen's wish to see a more distinct contrast will soon be granted.



**ROOM FOR MAGIC:** The enchanting multipurpose room is often used for performances and storytime. Only steps lead down to the floor but a ramp can be placed when needed.

Better markings are to be implemented. The municipality has identified the improvement potential of the building and measures to rectify previous mistakes and shortcomings have already been taken.

#### **FOCUS ON LIGHT**

On their way up the stairs, Arntzen and Ofstad Simonsen commented positively on the lighting under the double handrail. The smart use of light creates contrasts that make it easier to get around the building.

"The more severe the visual impairment, the greater the need for light. But it is important that it be the right kind of light, namely from above. Otherwise, you end up blinded by the glare, they explain, emphasising that there is no one solution that works for everyone," says Arntzen and Ofstad Simonsen, adding that:

"There are a wide range of needs, so what is most important is to find solutions that work for the majority. One thing is for certain: universal design not only benefits the groups that truly need it, but offers advantages for everyone."

#### **FLEXIBLE BUILDING**

The objective with the Stormen Library was clear from the very start. It was to be a flexible building.

"How libraries are used has changed considerably over the past ten years, and we can now easily adapt the building to different needs and events," says head librarian Stine Qvigstad Jenvin.

The mobile bookshelves are especially convenient. But to make sure the solutions are used properly, the staff needs to understand what universal design actually means in practice.

"We are acutely aware, for instance, that there should be no obstacles and that it should be easy for everyone to access everything," says the head librarian and departmental head.

They also have a focus on enhancing knowledge in other areas.

"That is why we have had experts from the assistive technology centre visit and everyone who reserves a room is strongly urged to use the sound system. Someone once said that they didn't have a need for it. To which we responded that hearing impairments cannot be seen with the naked eye," says Sissel Hughes.



Head Librarian Stine Qvigstad Jenvin

#### **Solutions:**

- Custom lighting that creates contrasts for easier navigation
- The right brightness in every area: 200 lux in the corridors, 300 lux in the information boards and reading lights that can be adjusted up to 800 lux, brighter light in the reception area than elsewhere
- General lighting principle is smart lighting, with the amount of light emitted adjusted according to the natural daylight
- Shielding to avoid reflection and glare
- Bookcases with lighting
- Flexible furnishings with wheeled bookshelves
- Double handrails with lighting
- Signs with good contrast
- Clear contrast between doors and walls
- Orientation lines leading to information desk
- Simple book categorisation
- Soundproofing
- Heated pavement
- Sufficient width between bookshelves
- Hearing loop
- Lift with voice announcement
- Floor-to-ceiling sound-absorbing walls in auditorium
- Computer with large print keyboard and flexible monitor
- Uniformed staff

#### In hindsight:

- Better marking on columns
- Clear stair tread edges
- Less information on some of the signs, especially directory signs on each floor with only supplementary information for that floor
- Orientation lines directly inside the main entrance
- Orientation lines to the desk in the children's department on the third floor
- Braille under the handrails with floor information
- Different placement of accessible parking
- Better braille information in the lift
- Book return machines may be too high for some users (return desks are right next to them)
- Signs in Sámi
- Sound carries from the courtyard outside the library

A number of these issues are already being improved.



**SIMPLIFICATION:** According to head librarian Stine Qvigstad Jenvin, the sign contains much too much information, so all excess information will be removed.

### Clear message

Not only should the building be designed for all users, but so should the library's Facebook page and website.

Film without subtitles? Long texts? Small print? Text with poor contrast? The library makes every effort to avoid such things. In 2016, an EU directive established the minimum accessibility standard for websites in the public sector. This requires, among other things, audio descriptions of video recordings online and a universally designed intranet and extranet. At the Stormen Library, staff strive to make communications as accessible and clear as possible, both on the website and Facebook pages. "We do not have a separate communications department, so there are a number of different individuals who post on our channels. That is why we are working to increase everyone's awareness about universal design," says head librarian Stine Qvigstad Jenvin.

"Universal design involves much more than removing barriers in the building itself; it also includes how our services are presented," says departmental head Sissel Hughes.

# Light that calms

The children's department is located at the far end of the top floor of the library, so that kids can play and make noise without disturbing other library users.

And when it comes to sound, Stormen has learned an important lesson.

"When we first opened, we simply switched on all the lights here. It turned out that the light triggered much higher levels of activity in the children. So, we dimmed the lights. This created a completely different and much calmer atmosphere, which has had a clear effect on the children," explains departmental head Sissel Hughes.



## A barrier-free concert hall

Universal design alone does not make the Stormen Concert Hall a place for everyone. There has also been a change in philosophy.



**BODØ'S CULTURAL HEART:** The celebrated, universally-designed Stormen Library and Stormen Cultural Centre have become the heart and soul of the new and improved Bodø city centre.



**OUTSTANDING ACOUSTICS:** Director Rasmus Adrian in the very heart of the Stormen Concert Hall. The main performance hall has been called one of the world's best concert halls thanks to its outstanding acoustics.

"The mental barrier also needs to be broken," says Rasmus Adrian, the director of the Stormen Concert Hall since 2020.

"From a purely physical perspective, the building itself is accessible, of course. But physical access alone is by no means sufficient. We need to make sure that people actually use the concert hall. This means facilitating usage and creating content that lowers the barrier," he explains.

#### **DIVERSITY GUARANTEE**

The objective is clearly defined in Stormen's strategy: The concert hall is to guarantee diversity.

"It is a fantastic concept that means that we need to create a wide range of offerings for a diverse audience. We need to keep in mind at all



**LOTS OF QUESTIONS:** Do you have a lift to all floors of the building? Where is the wheelchair seating located in the hall? These are the most common questions asked of ticket coordinator Marianne Hammersten. The answers? Yes, and in rows 14 and 19.

times that it is our job to actually reach as many people as possible," says Adrian, who believes that this also includes universal design.

"One of the ways this objective is expressed is through how we think about our programme profile," says Adrian.

A dedicated programme department is one of the measures that has been implemented since he began working here.

"In the past, the concert hall was primarily organised with a focus on renting out the space. Content and profile were therefore the responsibility of external organisers and their markets. Renting out the venue continues to be an impor-

#### "What is most important is a genuine desire to invite all people inside."

Rasmus Adrian



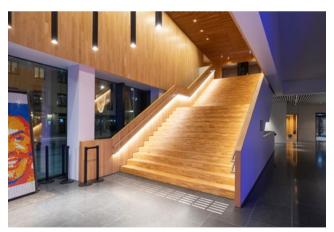
ROOM FOR WHEELCHAIRS: Rows of chairs can easily be removed to make room for wheelchairs.



**FREQUENT VISITORS:** "I grew up in the 1960s and 1970s and like music that is a bit rough. I can enjoy that here and go to several concerts a year," says Jarle Arntzen. Sidsel Simonsen has a different taste in music, but is equally as fond of the concert hall. Both are active members of the Bodø branch of the Norwegian Association of the Blind and Partially Sighted.



**BRIGHT AND AIRY:** Lighting was also a main consideration during the design phase of Stormen. Good light from above and minimal glare also makes the building easy to use for Jarle Arntzen and Sidsel Simonsen, both of whom have a visual impairment.



**SMART LIGHTING:** The lighting along the stairs makes navigation easier. Both Sidsel Simonsen and Jarle Arntzen would like to see clearly marked stair tread edges – and can expect just that before long.

tant part of our economy and purpose, but the focus has changed," explains the director.

#### **CHIC AND CHALLENGING**

The concert house was originally built primarily for rental purposes. It has a large foyer with a counter, stairs and a lift up to the four performance halls.

"It's a fantastic building, but was clearly not designed with respect to free events for everyone, so it does not really feel like a cultural centre," says Adrian.

"That is why we are making changes. There is very easy access directly from the street – which has heated pavements. You enter right into the foyer, which can be utilised much better. There will be a lot more concerts and events here," says Director Rasmus Adrian.

He believes the key to creating a gathering place for everyone is not to focus on legislation, strategy or rules.

"Obviously, those things are important, but what is most important is a genuine desire to invite all people inside." •



Director Rasmus Adrian, Stormen Concert Hall

#### Solutions:

- Custom lighting: lighting that creates contrasts for easier navigation
- The right brightness in every area: 200 lux in the corridors, 300 lux in the information boards and brighter light in the reception area than elsewhere
- General lighting principle: smart lighting, with the amount of light emitted adjusted according to the natural daylight
- Shielding to avoid reflection and glare
- Double handrails with lighting
- Signs with good contrast
- Clear contrast between doors and walls
- Orientation line leading to information desk
- Heated pavements outside the entrance



**UP CLOSE:** The writing next to the lift is sufficient for Sidsel Simonsen, but it is important that she can read it from close up.

#### In hindsight:

- Clear stair tread edges
- Braille under the handrails with floor information
- Better signage: understanding where the lift is located is not easy, for example
- Level difference between seat rows and other walking areas in the hall

A number of these issues are already being improved

## A comfortable and welcoming performance

A smart measure has been implemented to attract more people to the Stormen Concert Hall.



#### **ART FOR EVERYONE:**

"The artistic content is not adapted. The goal is to make adaptations that enable as many people as possible to experience the performances," explains Charlotte Gjertsen, who works with sales, audiences, diversity and inclusion at the Norwegian Arctic Philharmonic.

The concept? 'Relaxed Performance', which emerged in England in the 1990s.

"The goal is to communicate culture to everyone," explains Charlotte Gjertsen, whose work focuses on sales, audiences, diversity and inclusion at the Norwegian Arctic Philharmonic Orchestra. In Norway, Relaxed Performance is referred to as Relæxt. The initiator is Hålogaland Theatre, which has worked together with UiT The Arctic University of Norway and Volda University College in drafting the concept. The Norwegian Arctic Philharmonic joined the partnership almost immediately and the concept has gradually spread to a wide array of cultural institutions in Northern Norway.

#### LOWERING THE THRESHOLD

The director of the concert hall, Rasmus Adrian, points out that Stormen is intended for everyone.

"It is virtually impossible to talk about universal design without talking about accessibility. It's all about inclusion in the broadest sense of the word, and includes such things as respect, understanding and openness," says the director. That is exactly why Stormen has partnered up with the Norwegian Arctic Philharmonic for the Relæxt concerts.

"It goes without saying that all concerts are for everyone. But there are many people who for different reasons find it challenging to go to a regular classical concert. So, the threshold to visit Stormen may be too high for them. The solution is Relæxt," explains Charlotte Gjertsen.

"We do not adapt the artistic content. Everyone should have access to the same type of concert, so the adaptations we make allow more people to enjoy the experience."

#### **MEANINGFUL ADAPTATIONS**

One of the adaptations made is to keep the lights on in the performance hall.

"We only dim the lights slightly. This makes navigation easier for those with visual impairments and, of course, it makes it easier for everyone to go in and out. After all, during a Relæxt performance, audience members can go in and out of the hall as often as they need to," emphasises Gjertsen.

"Some need to use the bathroom often, while others need to withdraw from the stimulus and take a break."

The sound and length of the performance is adapted by reducing the sound level during the loudest parts and by shortening the concert duration. Relæxt is also a 'hush-free' zone, which means that involuntary movements, crying, laughing and shouting are all acceptable, but no one is allowed to 'hush' anyone else. Spacious furnishing is also important to ensure enough space for everyone.

#### **INFORMATION IS KEY**

Detailed information is another focal area.

"This refers to information on what you can expect at the concert or performance. A trigger list has also been developed in close partnership with various organisations, i.e. a summary of what can be experienced as difficult or uncomfortable," explains Charlotte Gjertsen.

The information also covers purely practical matters, such as parking, access, cloakroom and everything that makes a visit to Stormen more predictable – and therefore safer. As part of this, a visual guide has been prepared that describes a visit to the concert hall from A to Z. All adaptations are developed in close collaboration with users.

"After all, we can't just infer what, for example, is light or dark enough, high or low enough. It is the users themselves who need to let us know what is needed to ensure a good cultural experience," adds Gjertsen.

There are also two trained attendants in the hall during concerts to assist audience members as needed.

"The attendants are non-judgmental, helpful, trained to read people's signals and have plenty of time for each individual."

#### **POPULAR ALTERNATIVE**

Who exactly attends the Relæxt concerts – and why – has not been analysed.

"Do many people attend these performances because the programme is interesting or because of the adaptations make them feel more at home? We don't really know, but what we do know is that they are very popular," says Charlotte Gjertsen of the Norwegian Arctic Philharmonic.



LAY OF THE LAND: After a thorough analysis, maintenance technician Frank-Tore Hauan knows where improvements are needed, at both Stormen Library and Stormen Concert Hall.

### From good to better

What is good and what can be better? After learning the answers, the municipality took action.

The reason for the analysis is found on the floor of the hall at the Stormen Concert Hall: a small, barely visible edge between the seat rows and the rest of the floor.

"The level difference caused an incident, which resulted in a deviation," says maintenance technician Frank-Tore Hauan at the Stormen Library and Concert Hall.

So, they decided to take a closer look at the now almost ten-year-old buildings. In the autumn of 2023, they sought the help of external analysts to help gain an overview of the situation. "When Stormen was built, the requirements were different from today," points out Hauan.

"We now also have experience with the buildings after ten years of use."

Wear and tear has taken its toll.

"The stair tread edges, for instance, are barely visible after ten years," says the maintenance technician. He underscores the importance of gaining an overview before taking action.

"Of what can and should be done, so we do not just end up with patchwork changes." •

# From orientation lines to equality



**EYE-OPENER:** Stormen Cultural Quarter has turned out to be a real eye-opener when it comes to universal design. In the picture, we see Sidsel Simonsen and Jarle Arntzen from The Norwegian Association of the Blind and Partially Sighted.

#### Until recently, universal design focused primarily on concrete solutions. But the concept has evolved and the focus in Bodø is now on equality. This affects urban development in the city.

"Barrier-free access, orientation lines and a main entrance for everyone naturally continue to be very important for the City of Bodø. But even more important is that universal design also factors in our values and attitudes," says Kristin Stavnes Jordbru, head of urban development for the City of Bodø.

The shift in focus has been gradual, and one that is increasingly taking hold.

"It is initially based on physical analyses. These results in turn have increased awareness about physical barriers. While working on this, both structural and social barriers have been discovered. It is an awareness that has evolved here in Bodø over the past four or five years," she explains.

#### **EYE-OPENER**

In the middle of the city centre is one of the projects that has turned out to be a real eye-opener: Stormen Cultural Quarter, which opened in 2014. It encompasses a library and cultural centre in the heart of the city, which now also have a new shared outdoor space. Throughout the entire area, comprising the quayside, public square and surrounding streets, new granite paving stones have been laid that are easy to roll over and have good friction properties. Street lighting, outdoor furnishings and trees make the different zones more distinctive. A run-down Storgata has been transformed into a distinctive pedestrian street with contrasts and orientation lines. The universally-designed waterfront promenade was completed two years later and winds towards the cultural quarter. The promenade is lined with a sitting wall and is paved with stone. The sections of the promenade along the working dock have raised yellow markings that match the bright yellow mooring bollards for ships. That



**INCREASED UNDERSTANDING:** In recent years, Kristin Stavnes Jordbu, head of urban development in Bodø Municipality, has increased her understanding of what universal design is really about. (Photo: Private)

"We can't just spend our working day talking about values and attitudes, but need to translate them into operational and concrete terms."

Kristin Stavnes Jordbru

→ same year, 2016, the City of Bodø was presented with a government award for sustainable city and urban development (Statens pris for bærekraftig by- og stedsutvikling).

#### **CONCRETE AND OPERATIONAL**

The City of Bodø is currently working to incorporate the UN Convention on the Rights of Persons with Disabilities into a plan of action.

"The Convention covers all areas of society. Implementing this into an action plan for an urban community involves focusing on rights and actual opportunities for equal participation. And, of course, we have also considered the UN Sustainable Development Goals. This has raised our urban development efforts to a more global level," says Kristin Stavnes Jordbru.

"And with this awareness of why universal design is desirable, comes an understanding of its underlying intention. This is not something we do for ourselves, but to ensure that everyone can take part in community activities."

According to the head of urban development, the goal is to translate the values into a plan of action for persons with disabilities.

"We can't just spend our working day talking about values and attitudes, but need to translate them into operational and concrete terms."

#### **ENTHUSIASTS**

To spread knowledge and increase awareness, the city focused on broad, internal competence development in 2023.

"Greater awareness is still needed, but there are now enough people with this competence who can inspire and inform others. Including a number of enthusiasts and the Council for Disabled Persons," boasts Stavnes Jordbru.

She is very pleased with these local enthusiasts.

"A lot of progress can be made when there are people who dedicate their time and energy to creating a community that is fair and equal, and in which everyone can participate regardless of access needs. They are passionate about this and have an inner motivation, and accomplish a great deal in terms of physical facilitation in schools, kindergartens, urban and outdoor spaces. But this topic needs to be taken seriously by everyone. These interest groups should be focusing on the details, not carrying the entire load. This is why it is so important to have responsibility clearly anchored in a strategy. A plan of action can provide guidelines for the universal design of the community as an integral part of Bodø's municipal services."

She also mentions the Council for Disabled Persons.



#### AN ACCESSIBLE CITY CENTRE:

"Now that we have an accessible pedestrian street from the upper part of the city centre down to the harbour area, it is much easier to get around the city," says Ståle Normann, former head of the Bodø division of the Norwegian Association of the Disabled. (Photo: Per-Inge Johnsen/City of Bodø)

"A user council contributes a great deal to a municipality – and not only in terms of input regarding physical spatial development. The council has a significant impact on attitude change itself and has been a bit impatient about the progress being made on the action plan. It is extremely important that the council set the agenda and priorities," she says.

#### **VULNERABLE GROUPS**

The head of Bodø's urban development also feels strongly about input from those whose voices are not often heard.

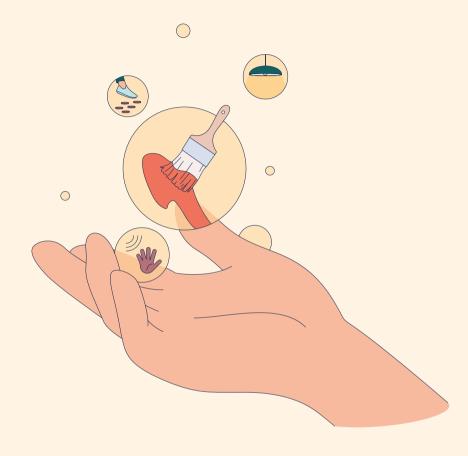
"When it comes to spatial development, there is usually room for improvement in terms of participation. This applies especially to vulnerable groups. We need to make sure that we also have their input. If we are planning a park, for instance, we want to talk to future users of that park, such as the local Youth Council and Older People's Council. But these council members cannot speak for everyone. We need to work more closely together with all those who will be using this park or urban space. Mobilising residents to participate in community projects is a science in itself, one that involves trust. People need to feel that it is safe to provide input." Stavnes Jordbru's hope for the future is that people experience being met with a different attitude on the part of city employees.

"And that many of them experience that participation barriers have actually been lowered in different areas, not just that we think they have been. It is the users themselves who own their own understanding of reality and who are the best evaluators."



**EYE-OPENER:** Stormen Cultural Quarter has turned out to be a revelation when it comes to universal design.

### This is how universal design is defined in Norway



Norway bases the understanding of universal design on the 1997 definition and seven principles by Center for Universal Design, North Carolina State University (US).

The principles were developed by a group of architects, product designers, engineers and environmental design researchers, led by the late Ron Mace. Universal design is the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

#### **Equitable Use**

The design is useful and marketable to people with diverse abilities.

#### **Guidelines:**

- 1a. Provide the same means of use for all users: identical whenever possible; equivalent when not.
- 1b. Avoid segregating or stigmatizing any users.
- 1c. Provisions for privacy, security, and safety should be equally available to all users.
- 1d. Make the design appealing to all users.



#### **Flexibility in Use**

The design accommodates a wide range of individual preferences and abilities.

#### **Guidelines:**

- 2a. Provide choice in methods of use.
- 2b. Accommodate right- or left-handed access and use.
- 2c. Facilitate the user's accuracy and precision.
- 2d. Provide adaptability to the user's pace.



#### Simple and Intuitive Use

Use of the design is easy to understand, regardless of the user's experience, knowledge, language skills, or current concentration level.

#### **Guidelines:**

- 3a. Eliminate unnecessary complexity.
- 3b. Be consistent with user expectations and intuition.
- 3c. Accommodate a wide range of literacy and language skills.
- 3d. Arrange information consistent with its importance.
- 3e. Provide effective prompting and feedback during and after task completion.

# 4

#### **Perceptible Information**

The design communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.

#### **Guidelines:**

- 4a. Use different modes (pictorial, verbal, tactile) for redundant presentation of essential information.
- 4b. Provide adequate contrast between essential information and its surroundings.
- 4c. Maximize "legibility" of essential information.
- 4d. Differentiate elements in ways that can be described (i.e., make it easy to give instructions or directions).
- 4e. Provide compatibility with a variety of techniques or devices used by people with sensory limitations.



#### **Tolerance for Error**

The design minimizes hazards and the adverse consequences of accidental or unintended actions.

#### **Guidelines:**

- 5a. Arrange elements to minimize hazards and errors: most used elements, most accessible; hazardous elements eliminated, isolated, or shielded.
- 5b. Provide warnings of hazards and errors.
- 5c. Provide fail safe features.
- 5d. Discourage unconscious action in tasks that require vigilance.

#### Low Physical Effort

The design can be used efficiently and comfortably and with a minimum of fatigue.

#### **Guidelines:**

6a. Allow user to maintain a neutral body position.

- 6b. Use reasonable operating forces.
- 6c. Minimize repetitive actions.
- 6d. Minimize sustained physical effort.

## 7

#### Size and Space for Approach and Use

Appropriate size and space is provided for approach, reach, manipulation, and use regardless of user's body size, posture, or mobility.

#### **Guidelines:**

- 7a. Provide a clear line of sight to important elements for any seated or standing user.
- 7b. Make reach to all components comfortable for any seated or standing user.
- 7c. Accommodate variations in hand and grip size.
- 7d. Provide adequate space for the use of assistive devices or personal assistance.

#### Source:

Centre for Excellence in Universal Design

### The UN Convention on the Rights of Persons with Disabilities (CRPD)

Norway also follows the Human Rights based approach to persons with disabilities, and the definition of universal design as stated in Article 2 of the convention: "The design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design", not excluding "assistive devices for particular groups of persons with disabilities where this is needed."

#### **Equality and Anti-Discrimination Act**

Universal design is embedded in several laws and regulations, such as the Planning and Building Act and Regulations on technical requirements for construction works (Tek17). The Equality and Anti-Discrimination Act, Chapter 3, section 17, defines universal design as:

«Universal design» means designing or accommodating the main solution with respect to the physical conditions, including information and communications technology (ICT), such that the general functions of the undertaking can be used by as many people as possible, regardless of disability.



#### **KS IN ENGLISH**

Read more about KS' work on universal design on our website: <u>https://www.ks.no/om-ks/ks-in-english/</u>

ISBN 978-82-93866-50-3

Postal address: Postboks 1378 Vika, 0114 Oslo

Visiting address: Haakon VIIs gt. 9, 0161 Oslo

Telephone: 24 13 26 00 E-mail: ks@ks.no

www.ks.no