



Into the wild

Universal design and outdoor recreation



KOMMUNSEKTORENS ORGANISASJON

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Design, established in 2013. The
goal is to contribute to an inclusive
society by sharing best practices and
removing barriers.

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is defined in Norway



MINOR CHANGES, GREAT RESULTS: To make nature more accessible to all can be challenging, but sometimes it only takes ingenuity. Some slight alteration to the trail and a new accessible toilet was all it took to make a coastal trail outside Stavern in South-eastern Norway better for all: "I like the fact that nothing radical has been done, just simple adjustments to make the trail more accessible," says Athletic Trainer Per Enok Baksjøberget – here in the company of 18-year-old Edvard Berg Jacobsen, who is recovering from an operation at Stavern Coastal Hospital. Baksjøberget uses nature as much as he can when working with his rehabilitation patients. (Photo: Fredrik Naumann / Felix Features)



Mountain hike for everyone

You can roll, be pushed or you can walk. On the universally designed path at Sognefjellet, everyone can enjoy the immense nature in Jotunheimen National Park.

“**WOW, HOW** amazing is the new path! I can’t believe we haven’t tried it until now!”

Mariann Brattland (41) routinely maneuvers her wheelchair, smiling at fellow hiker Inger Marie Bleka (66), who walks alongside her at a fast pace using walking poles.

We meet the two happy ladies, mother and daughter from Vågå, at The Norwegian Trekking Association’s cabin named Sognefjellshytta, on the mountain pass 1 410 metres above sea level, midway between east and west in Norway. Here the landscape opens up with a magnificent view of glaciers and high mountain peaks in Jotunheimen. To the southwest: the mountain Fanaråken and Fanaråkbreen glacier. To the east: Smørstabbreen glacier surrounded by a ridge of peaks. Norway’s highest mountain Galdhøpiggen is not far away, but is not visible from this point.

“Galdhøpiggen is often difficult to spot, it’s sort of hidden,” says Mariann Brattland. She knows these mountains like the back of her hand. She and her mother have been to the mountainous area Sognefjellet many times, but not after the new hiking trail was ready in 2018.

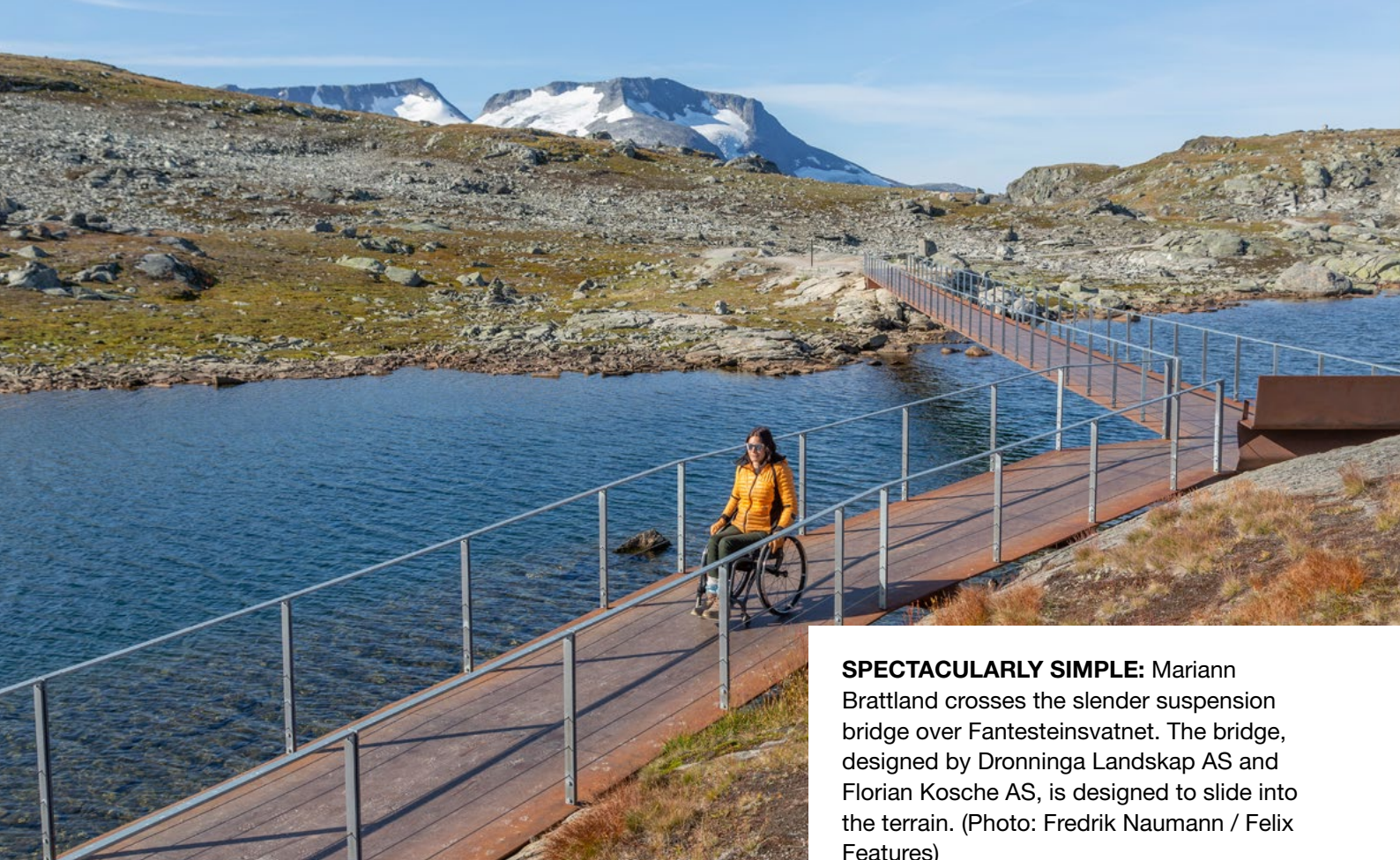
The project, called Innfallsport (“Gateway”) Jotunheimen National Park, is a pilot project managed by the Norwegian Environment Agency and the National Park Board. The goal is to

lower the barriers for getting out into nature. Previously, hikers had to start the hike into the mountains by walking along a trafficked road. For wheelchair users it was practically impossible to get out into the terrain.

IN STEP WITH NATURE

Today the path goes from Sognefjellshytta, crosses two bridges and passes along the lake Fantesteinsvatnet. The path is 1.1 kilometres long, universally designed and developed with minimal slope making it possible to roll, be pushed and walk the route. The path is between one and two metres wide, laid with local gravel and stone, and it is adapted to the terrain to avoid “scarring” the landscape. The steel bridges are also designed to blend in with nature: The longest bridge, a suspension bridge, is 47 meters long, but still ultra-thin, only two centimeters thick.

The new path connects to existing trails further inland in the mountains, where hikers can continue on other routes. Those who have to stay on the universally designed trail, can either turn around and take the same route back to Sognefjellshytta, or continue on a route that ends with a trail that parallels the trafficked road, county road 55.



SPECTACULARLY SIMPLE: Mariann Brattland crosses the slender suspension bridge over Fantesteinsvatnet. The bridge, designed by Dronninga Landskap AS and Florian Kosche AS, is designed to slide into the terrain. (Photo: Fredrik Naumann / Felix Features)

OFF THE TRAFFICKED ROAD

Mariann Brattland is excited after her first hike.

“This hiking trail works great with a wheelchair,” she says.

“The climb is not too steep, and the surface is easy to roll on.”

“Is the hiking trail a bit short with its 1.1 kilometres?”

“No!” She answers readily and explains:

“The route is long enough for me to be satisfied. The most important thing is that I get away from the trafficked road and out into the terrain. Very often I find that the only option for me is to roll on the road alongside cars, and it feels neither safe nor particularly nice.”

Mariann Brattland stresses that wheelchair users and disabled people are individuals with varying abilities.

“People have different prerequisites.

For many, this hike will be more than demanding enough,” she says.

LONG FIGHT

Ten years have passed since the accident when Mariann Brattland’s hang-glider crashed to the ground during landing in her hometown Vågå. In a few seconds, the young mother’s life was turned upside down. Her back was broken. Three of her vertebrae were completely crushed. She was paralysed from the chest down. At Sunnaas Rehabilitation Hospital, she received the brutal message that it would take five years to retrain her body to master her new life in a wheelchair.

“Five years! I thought ‘no, no, no!’ . For me, who is very impatient, this was impossible to imagine,” she says.

“And how long did the training take?”

“Seven years.”



OUT AND ABOUT: “It always feels good to get outside into nature, both physically and mentally,” says Mariann Brattland. (Photo: Fredrik Naumann / Felix Features)

A WELCOME BREAK: The picnic area at the starting point of the hiking trail is also universally designed. One side of the table is without a bench, so that wheelchair users like Mariann Brattland can move right up to and under the table, while Inger Marie Bleka can take a seat on the bench on the other side of the table. (Photo: Fredrik Naumann / Felix Features)



She knew she wanted to get out into nature after the accident. But she was forced to take it gradually. On her first trip she rolled her wheelchair 100 metres and was completely exhausted afterwards. The first night out in a tent took place at home in her own garden. These days, she embarks on proper camping trips. She rides a hand bike. Uses a sledge with skis as runners. And not least: In recent years, she has been back up in the air again. The hang-glider has been left on the ground, but she has completed her pilot's licence and can fly a glider, specially adapted with all the control in hand levers.

“I love flying,” she says.

“But for me it's not about chasing an adrenaline kick. It is about challenging myself and feeling empowered. As a wheelchair user I have the feeling that no one expects much from me – and so I have to set my own ambitions.”

PEAK HIKE AGAINST ALL ODDS

This spring she hiked to the top of Galdhøpiggen for the first time after the accident. She was challenged by her son, who is now 15 years old:

“Mum, you used to love hiking to the mountain peak. Do you want to join us if we pull you up?”

She sat in her ski sledge and they took the “easy” route up, from Juvasshytta across Pigg-green glacier. As they approached the top, the snowy patch ended and she had to be carried over the steep rocky outcrop.

“It was a fantastic family trip, but very heavy for those who pulled me. They haven't asked me if we should do it again,” she laughs.

Mariann Brattland is ambivalent about being presented as a sporty wheelchair user who fixes everything and ends up on the front page of the local newspaper, as she did after the hike to Galdhøpiggen.



”It’s about challenging myself and feeling empowered.”

MARIANN BRATTLAND

IMMENSE LANDSCAPE: The universally designed trail winds from Sognefjellshytta, over Fantesteinsvatnet and through the landscape, 1410 metres above sea level. (Photo: Fredrik Naumann / Felix Features) ↓

“I would rather that people see the barriers to venturing out into nature as low. Today, with all the social media posting, I think many people get the impression that the best outdoor experiences are extreme. This puts a lot of people off, including many who are non-disabled.”

Her wheelchair easily fits under the table in the picnic area outside Sognefjellshytta. She pours coffee from a thermos.

“I have changed after the accident. Before I used to always want to reach the highest peaks. Today, I have become better at finding trips closer to home and enjoying them. I don’t take for granted that I am able to get outside on my own, without assistance, as I have today. And I’m grateful for that. Just being able to sit here, out in nature, and drink my coffee, is a fantastic experience.”



She adds: “On certain days it can be hard to motivate myself to go outside. But I have to. If I can’t get outside at least once a day, I get moody.”

SIGNAGE IS VITAL

There is an ongoing discussion about whether nature should be developed and facilitated so that more people can use it. Mariann Brattland thinks the hiking trail at Sognefjellshytta has been solved in a good way.

“They have found a good compromise. No major interventions have been made that ruin the nature experience, but the adjustments make it possible for me to get out into the terrain and not just roll on a paved road. I need these experiences too, but of course I understand that there will never be a universally designed path up to Galdhøpiggen.”

She will happily recommend the hiking trail at Sognefjellshytta to others. She still has one tip on how the destination can be even more accessible: Clearer signage starting at the parking lot.

“It was a bit difficult to figure out how to get from the parking lot to the starting point of the hiking trail itself,” she says and explains:

“I am always afraid of getting stuck with the wheelchair, especially if the terrain is a bit hilly. It is important for me to know where I am going, and it would be helpful with a sign that showed the way to the hiking trail. Wheelchair users and other disabled people need much more information to feel safe, than non-disabled people.” She had no problem finding her way from the picnic area in front of Sognefjellshytta.

“There is a clear sign with a wheelchair symbol, which makes it very clear that this walking route is also for ‘people like me’,” says Mariann Brattland.



RETURN TRAIL: The hiking trail is 1.1 kilometres long – enough to get off the trafficked road and out into the wild. (Photo: Fredrik Naumann / Felix Features)

Gateway to Jotunheimen National Park

- On Sognefjellet, 1410 metres above sea level
- Universally designed hiking trail of 1.1 km
- Stepless route without steep inclines, suitable for everyone who rolls and walks
- Starts at Sognefjellshytta, goes over and along Fantesteinsvatnet
- Picnic area with benches, tables and information about Jotunheimen National Park
- Accessible toilet at Sognefjellshytta
- Completed in 2018
- Builder: The National Park Board and the County Governor of Innlandet
- Landscape architect: Dronninga Landskap AS
- Partners: Sognefjellshytta, the State-owned Land and Forest Company (Statskog) and Norwegian Scenic Routes



A wet and wild experience

Can you leave Skjervsfossen waterfall in Granvin with dry feet? You have to find out for yourself. Whether you get there on four wheels or two legs.

“**SOMETIMES** you can get a proper shower here,” says Bjørn Egil Tolås.

We have reached the point that has been named, tellingly, “The Shower”. Above us towers Skjervsfossen, one of the Vossa region’s many spectacular nature attractions. On this particular day, the water trickles calmly after a hot and dry summer. But when spring thaw sends melt water down the cliff, it rumbles like thunder.

Bjørn Egil was diagnosed with spinal muscular atrophy as a teenager. For a young man who loves to be active in nature, it was hard to receive the message that his body’s muscles would gradually weaken.

“It means a lot to me to be able to access nature experiences like this without having to plan every step, be afraid of falling or having to ask for help all the time. Being able to travel here by myself and be independent makes a

huge difference,” says the 29-year-old.

He can get around on crutches where the terrain is flat and safe, but usually relies on an electric wheelchair. Or a quad bike. Or even a six-wheeler. Using an ATV he can travel along forest roads far up into the mountains.

“If you can’t be active, it affects your mental health. Your mental and physical health are equally important,” says Tolås.

He is a trained wood carver, is politically active and passionate about bringing local young people with various challenges outdoors to experience empowerment and the joy of nature.

FOCUS ON WELLBEING

It all started with a project to develop a picnic area at the top of the waterfall. There were few places to stop along the hairpin turns, and Skjervsfossen was difficult to access for both



ACTIVE ON WHEELS: Bjørn Egil Tolås loves nature and activity. “It doesn’t always take so much to give people better access to the wild. Often, there are small simple steps, such as building gravel roads, perhaps with an extra turn around a knoll. Sometimes it’s a matter of utilising natural elements that are already there, like here at Skjervsfossen.” (Photo: Fredrik Naumann / Felix Features)



”Being able to travel here by myself and be independent makes a huge difference.”

BJØRN EGIL TOLÅS



locals and tourists. Østengen & Bergo Landscape Architects saw several possibilities:

“We thought that it would be fantastic to move down along the waterfall and feel the water spray,” says landscape architect Kari Bergo, who was in charge of the project.

The landscape architects proposed to create universal access both at the top and bottom part of the waterfall, with a stone staircase that connects the two via several vantage points. And so it was.

“We wanted to create a nice space that can be enjoyed by everyone, whether you are in a wheelchair, non-disabled or visually impaired.

That is what universal design is all about,” says Bergo.

Today, those who depend on wheels can experience the waterfall from both the top and the bottom. Extreme sports enthusiasts can rappel down the waterfall. Hikers can get a good workout for their thighs climbing the stone stairs that bind the upper and lower part together. If you need a breather on the way up, there are benches both along the stone stairs and the universally designed trails.

CAREFUL INTERVENTION

The landscape architects did not want railings,



CAREFUL INTERVENTION: Nature plays the lead in Østengen & Bergo Landscape Architects' careful planning of the universally designed access to Skjervsfossen. (Photo: Fredrik Naumann / Felix Features)

NATURAL ORIENTATION LINES: By utilising the environment, the landscape architects created natural orientation lines. Green nature against dark asphalt provides a visual orientation line, beautiful kerbstones a physical one. (Photo: Fredrik Naumann / Felix Features)



high walls or other construction in the lower part. It would ruin the experience of wild nature.

“This is always a balancing act. Too much facilitation spoils the experience, and is not good universal design. At Skjervsfossen there were areas where we could increase access, and other areas where it would be wrong,” Bergo explains.

They went to work, starting with a comprehensive landscape analysis. The result, which was ready in 2016, is an area where the universally designed trails meander in harmony with nature. The orientation lines are natural, dark kerbstone in contrast to the lush nature. The

paved path does not rise too high in the terrain, making it safe without railings. A stone staircase built by Sherpas from Nepal winds gently through scrub forest and around boulders. Nature is allowed to play the lead.

“There are so many experiences at Skjervsfossen,” Bergo says enthusiastically.

In some places you hear the waterfall, in other places you see it. When you come right up to it you can also touch and feel it. There is a lot of interesting geology and history associated with the waterfall, which visitors can read about on small plaques scattered around the landscape. The beautiful accessible toilet building in



FUN FOR EVERYONE: In the Vossa region, outdoor activities play a major role – preferably of the extreme kind! Skjervsfossen has a stone staircase built by Sherpas from Nepal leading from the bottom to the top, and is a popular spot for exercise. (Photo: Fredrik Naumann / Felix Features)



ALWAYS ON THE MOVE: When he is not renovating his house in Evanger, Bjørn Egil Tolås is often on the move. Vehicles are his passion. (Photo: Fredrik Naumann / Felix Features)



“I don’t think people take notice of the fact that this is a universally designed space when they come here. It just is. Then I think we have succeeded.”

KARI BERGO

the picnic area, clad in slate and with a view to trickling water, won the Small Spaces Award for its unique architecture in 2016.

FEELS NATURAL

“I don’t think people take notice of the fact that this is a universally designed space when they come here. It just is. Then I think we have succeeded,” says Kari Bergo.

Bjørn Egil Tolås agrees:

“It is important that facilitation is done in a way so that you don’t feel separated. The facilitation should fit in naturally.”

He hopes to see more projects like Skjervsfossen, where Norway’s wild nature will be accessible for more people, without too much intervention.

“We are born to live close to nature,” says Tolås.

He describes the feeling of freedom he gets when being in close contact with the elements, moving in three-dimensional nature, feeling the rocks and vegetation, and experiencing rugged terrain.

“My best nature experience? When I tried paragliding for the first time, I got to see the landscape from a bird’s eye view. I felt such a rush of adrenalin!”



PARTICIPATION: Bjørn Egil Tolås encourages Norwegian municipalities to involve more disabled people when new areas are to be universally designed. (Photo: Fredrik Naumann / Felix Features)

NATIONAL TOURIST ROAD
The road past Skjervsfossen waterfall is part of the National Tourist Route Hardanger, one of 18 selected stretches in western and northern Norway that have been facilitated to give everyone access to the experiences along the way. Hardanger National Tourist Route consists of four sections of a total of 165 kilometres. Granvin-Steinsdalsfossen (road 79/49), where Skjervsfossen is located, is one of them.

Illustration: Østengen & Bergo Landskapsarkitekter

Full speed on tough hiking trails

A floating bridge over the sea. A passage cut by wire saw through the rock: Untraditional methods were used to create a spectacular path by Hafrsfjord.







THE THREE-WHEEL BIKE IS BRAND NEW

and shiny red. Othilia got it for her third birthday. She proudly sets off on the new walkway, which is literally a stone's throw from the sea.

"This trail is a superb intervention. Both now that she wants to ride a bike, and when we wheeled her in a stroller," says her father, Claus S. Petersen. Claus works in Stavanger Municipality as a parks and roads architect, and is a member of the Universal Design Contact Network of The Norwegian Association of Local and Regional Authorities (KS) – but has not been involved in this project.

CUT THROUGH

Two years ago, the new, last part of the path

opened in an area that was previously almost impassable. For a long stretch, it was easy. But all of a sudden there was a stop: Steep rocks and the sea, as well as a military shooting range. How to solve it? Using a floating bridge over the water! A second bridge on the outside of the rock. And by literally cutting a passage through the rock.

The hiking trail starts by the "Sword in the mountain" – a nine metre high monument that was erected in memory of the battle of Hafsfjord. It was here that King Harald Hårfagre, around 872, sailed into the fjord. He fought down local kings, united western Norway – and thus all of Norway.

In 2016, the spectacular part of the hiking



NEW BIKE: Othilia got the red bike for her third birthday. (Photo: Fredrik Naumann / Felix Features)



MUCH USED: The hiking trail has become a favourite for many. (Photo: Fredrik Naumann / Felix Features)

trail was opened. This part of the walking route has cost Stavanger municipality NOK 14 million. And with it, the recreational area project is approaching its goal: A coherent, green hiking network, around twenty miles in total. Over the years, the municipality has secured about 2000 acres of recreational areas. It has not been an easy feat.

“On the one hand, you have the community’s wishes and need for a walkway. On the other, you have those who do not want a path crossing their beach property,” says Stig Wathne, advisor for the Stavanger Municipality real estate unit.

“The community’s need for paths that can be used by everyone, is strong in Stavanger. Through negotiations the matter was resolved

in the end. The separation between the hiking trail and private properties is marked in several places with markers made of local stone called *rennesøystein*.

CHALLENGES

The biggest technical challenges were the large rocks and inaccessible terrain.

“This had to be solved to create a path that is accessible to everyone. We had in mind that grandparents, mothers, fathers and children should be able to use this area, regardless of their functional abilities. The path should have a good surface and not be too hilly. And we did it.” The width of the path varies.

“In some places it is three metres, while

other parts were negotiated by property owners down to one and a half metres,” says Wathne, and shows us a place where the path used to come to a full stop for most hikers.

CARRIED HIS BIKE

Not so for Lars Tveter, who has taken his grandchildren – twins Henrik and Joakim – for a bike ride. The sporty pensioner used to find his own solution.

“I should perhaps not tell you how I cheated, but I used to carry my bike up this steep slope, and come down on the other side. But it would have been difficult for the boys, and would have complicated the trip,” he says, adding:

“I used this path before it was officially opened,” he laughs, very pleased with the result:

“This path is absolutely amazing! We waited a long time for it. With the new network of paths we can start here, ride our bikes on to the Tanangerbroa bridge, and further on to the Alexander Kielland Memorial. The path is close to home, which makes it possible to get out quickly. It is flat and safe for the boys.”

On this particular day, Tveter is testing out his new bike.

“It can be taken apart and carried on the back.”

Tveter likes to keep fit, and works out on average seven kilometres a day.

“I use my bike or my legs. I work out enough to take part in Birken (a cycling event of 86 kilometres), but I am starting to feel my age. I’m 67 years old, and the older you are, the more important it is to stay fit. But it is important to stay at your level, not to pretend that you are 27.”

ADDED BONUS

The new trail gives him not just the exercise, but an added bonus:

“The fantastic bridge architecture is a visual experience. Friends of ours are geologists. They



like to stop where the rock has been cut through, to look at the different layers. It brings an extra dimension.” Stig Wathne agrees.

“It’s awesome! They have cut right through the rock, 25-30 metres inwards, and maybe ten metres down. Huge amounts of rock have been removed.”

AWARD

The project has received an award for good lighting. Both bridges have recessed lights in the railing, the smallest also has lights in the wooden deck facing the cut rock. On the stretch where the path passes through the cliff, there are mounted skylights. In addition, there is regular outdoor lighting.

Wathne’s only concern is the slope of the path through the passage.

“I have wondered if it slopes a bit too much,



HAPPY TRIO: Grandpa Lars and eight-year-olds Joakim and Henrik on a bike ride. (Photo: Fredrik Naumann / Felix Features)



“I should perhaps not tell you how I cheated, but I used to carry my bike up this steep slope, and come down on the other side.”

LARS TVETER

but I have not heard any complaints so far. We have only had positive feedback.”

The praise has not only come from the many enthusiastic users of the trail. In 2017, Multiconsult was honored with the DOGA (Design and Architecture Norway) Award 2017 for good design and architecture for the new path and bridge along Hafrsfjord.

“They have shown respect for the landscape and focused on highlighting it, instead of trying to beautify it. This is a very successful cultivation of a lovely landscape, which testifies to a good understanding of the uniqueness of the space and a willingness not to choose the path of least resistance”, reads the reasoning of the jury.

This story first appeared in the magazine “Viser vei til et samfunn for alle” (2018).



Self-serviced cabins at the mouth of the fjord

The Haugesund Trekking Association's cabins called Flokehyttene, outside Haugesund, are built so that everyone has the opportunity to spend the night in fantastic nature and architecture. Wheelchairs are no obstacle.





“PEAK HIKES AREN’T FOR EVERYONE. We still believe that everyone should get outside and enjoy nature, and so we have to facilitate to make it happen,” says Audhild Sannes of the Haugesund Trekking Association.

The five self-serviced cabins are located at the far end of the coastal rock slope at Ryvarden lighthouse in Sveio, right out on the mouth of the fjord. They are managed by the Haugesund Trekking Association. Non-disabled guests will have to walk the last kilometres to the cabins, but if you need to drive all the way, you can get a permit from Sveio Municipality.

Audhild Sannes leads the way along the wooden walkways that lead to the cabins.



“When spaces are universally designed, you feel more on par with everyone else. At Flokehytta I didn’t need help with anything. ”

GRO EILERAAS



SMART DETAILS: The benches that run along the panoramic windows can also be used as beds. During the day, the bedding is hidden under the benches. “Practical and easy,” says Audhild Sannes in the Haugesund Trekking Association. (Photo: Fredrik Naumann / Felix Features)

They are built to safely maneuver wheelchairs, walkers and prams.

IN THE MIDDLE OF NATURE

The entrances are narrow. But once indoors, the cabins become wider and open up to the sea. The entire end wall consists of panoramic windows with unobstructed views of the North Sea and the exposed stretch called “Sletta”. Sitting on the sofa, you have the feeling of being in the middle of nature. If you are lucky, you can see porpoises and sea eagles passing outside.

“You don’t get any closer to the sea when you build a cabin,” says Audhild Sannes.

“The cabins are verging on the limit of what

is possible. When the storm takes hold, the waves come crashing against the windows,” she says.

The cabins were completed in the autumn of 2020. They were designed by architect Roald Bø in Holon Arkitekter, on behalf of the Haugesund Trekking Association. They are built so that they do not leave lasting marks in the landscape. The cabins stand on pillars that are wedged down into the rock. There was no need for blasting, leveling or ditching to get them in place.

NORRØN HISTORY

The modern cabin project is named after the legendary Viking Floke Vilgerdsson, who sailed

from Ryvarden in the year 869 and became one of the first to settle in Iceland. Four cabins are the same size and are named after Floke's circle; mother Vilgerd, daughters Geirhild and Tjodgerd, and friend Faxe. The fifth cabin is named Horda-Kåre after his grandfather. It is twice as big as the others and universally designed. This cabin has accommodation for ten people, while the smaller cabins can accommodate five guests.

SMART DETAILS

Gro Eileraas tested the cabins on an overnight trip with friends last autumn.

"It was magical. I slept underneath the

window, and it was a unique experience to watch the wet and windy weather while the ships sailed past in the dark of night."

As she uses a wheelchair, her friends had booked the larger, universally designed cabin. It worked perfectly for her.

"The kitchen is so smartly fitted out that it almost worked better than my own kitchen," she says. She also liked how the bathroom was decked out:

"There are good handles on each side of the toilet, a sink you can roll under, mirrors placed so that you see more than just tufts of your hair, and low pegs to hang your towel on without

A ROOM WITH A VIEW: There is plenty of wheelchair space in the larger cabin. (Photo: Fredrik Naumann / Felix Features)



TO THE LIGHTHOUSE:

The five cabins are located by Ryvarden lighthouse in Sveio outside Haugesund. The cabin closest to the lighthouse is twice as big as the others, universally designed and accessible for everyone. (Photo: Fredrik Naumann / Felix Features)



NO OUTSIDE LAVATORY: The cabins have accessible toilets with enough space to move the wheelchair under the sink. (Photo: Fredrik Naumann / Felix Features)

having to ask for help from others. You really notice how universal design is integrated in every detail.”

These are features that the trekking enthusiast from Sveio does not take for granted. She travels a lot and often experiences practical problems in hotels and other accommodation.

“When spaces are universally designed, you feel more on par with everyone else. At Flokehytta I did not need help with anything, which is quite unusual when I travel,” she says.

POPULAR CABINS

The cabins have been fully booked every day since their opening in the autumn of 2020, including Christmas Eve and New Year’s Eve. Gro Eileraas and her friends have already booked their next trip, this autumn.

“It might become a tradition,” she says.

“We particularly enjoy the rough weather.”



Walkway on Norway's roof

At the foot of Galdhøpiggen, 1850 metres above sea level, in a barren and rocky landscape characterised by permafrost and frequent visits by the most angry weather gods, there is a universally designed walkway the likes of which you have never seen.





“We lacked a mountain destination that could be enjoyed by everyone.”

SANDER SÆLTHUN

THE MOUNTAIN TOWN OF LOM is the epicentre of some of the wildest and most beautiful nature Norway has to offer. The municipality contains three national parks: Jotunheimen, Breheimen and Reinheimen – as well as Galdhøpiggen and Glittertind, Norway’s two highest mountains.

The municipality can also offer the country’s most spectacular universally designed hiking trail. The 1.1 km long walkway over the plateau Juvflya to the ice tunnel in Juvfonne has opened up the mountains – and the history of the climate in Norway – to completely new groups.

“When we have school classes visiting with students in wheelchairs, it is incredibly fun to see that everyone can participate,” says Dag Inge Bakke. He works as a nature guide at the Climate Park 2469, an outdoor adventure park focusing on the history of the climate, hunting and trapping. The ice tunnel, where the public is invited right under the 7000-year-old ice, is the park’s highlight.

“In addition to disabled people, we have had several older people and families with prams visit since the walkway opened in 2014, Bakke continues.

A NEW MOUNTAIN DESTINATION

Tampering with Norwegian nature used to anger outdoor enthusiasts. But there is a growing understanding that it is both possible and desirable with interventions that make untouched natural treasures accessible to more people.



“We lacked a mountain destination that could be enjoyed by everyone,” says Sander Sælthun in Lom Municipality.

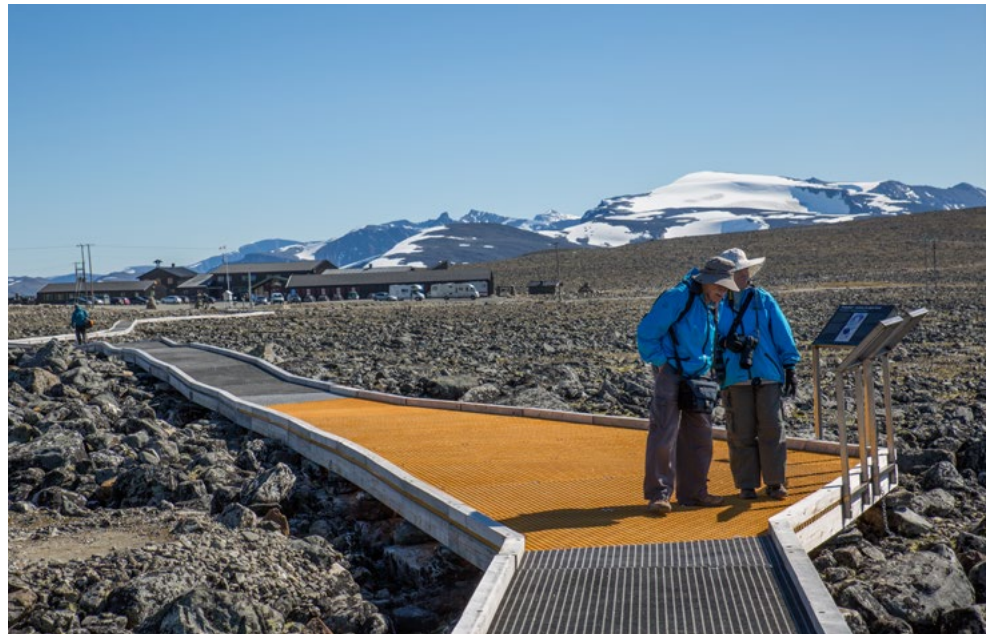
“Interventions had already been made in this landscape, including a new cabin built by the Norwegian Trekking Association, a summer ski centre and Norway’s highest road. This made it easier to justify such a project,” Sælthun continues.

“We wanted to build a walkway that could be removed without a trace,” Bakke adds.

And so it was. In fact, the walkway helps to reduce wear and tear on the landscape. Everyone chooses the walkway, since the terrain is difficult to navigate.

IN SYNC WITH NATURE

The walkway traverses a so-called polygonal



SPECTACULAR IN LOM: The walkway at Juvflya in Lom Municipality was nominated for the Innovation Award for Universal Design by Design and Architecture Norway (DOGA) in 2014, and received honourable mention. The jury highlighted the innovative interventions to make it easier for more people to explore the mountains. In 2017, the project was honoured with an international award: Design for the All Foundation Awards Trophy. (Photo: Landskapsfabrikken AS and Espen Finstad / Klimapark 2469)

ground, shallow troughs with geometric patterns that are formed when the top layer of the permafrost freezes and thaws on top of each other.

Fiberglass gratings are placed gently in the landscape, based on an accurate aerial scan of the terrain, so that the climb is a maximum of 1:20 (one metre per 20 metres). The non-slip gratings are fixed into block stones, which are naturally anchored in the permafrost and edged with ore-pine. The wooden edge acts as an orientation line for the visually impaired, by being elevated and casting a shadow.

A yellow contrasting colour, which reflects the colour of the lichen on the stones, signals an upcoming flat area with information boards. The edge also prevents prams, walkers and wheelchairs from rolling downhill.

“To take part in opening the mountains

for more people has been absolutely fantastic,” says Andreas Nypan in Landskapsfabrikken AS, who has designed the walkway.

“The facility is visible, but does not appear as unsightly or disturbing in the landscape. The graying wood and the gray fiberglass gratings blend well into nature. The yellow gratings provide good orientation and the opportunity for distance assessment for all users, Nypan continues.

He commends Lom Municipality for visionary planning, flexibility and community goodwill throughout the project phase.

The article first appeared in the magazine “Viser vei til et samfunn for alle” (2018). Revised in 2021.



Universal view from Trollstigen

What do you do if you can't rebuild an existing vantage point so that everyone has access to it? You build another!

THE FAMOUS serpentine mountain road and pass Trollstigen in Møre og Romsdal is one of Norway's most visited tourist attractions, but for a long time it was anything but accessible to everyone.

So when the Norwegian Public Roads Administration and Norwegian Scenic Routes

upgraded this tourist magnet in 2012, they decided to build brand new walkways and a completely new vantage point, since the original was based on a staircase solution on which it was not possible to achieve universal design.

"We ended up with two vantage points! Both offer a formidable view of the mountains and



NEW VANTAGE POINT: The vantage point at the plateau is accessible for wheelchair users. (Both photos: Jarle Wæhler / Statens vegvesen. Architect: Reiulf Ramstad Arkitekter as Landscape architect: Multiconsult).



NEW WALKWAYS: Safe and accessible paths lead to the vantage points at Trollstigen by the Norwegian Scenic Route Geiranger-Trollstigen.

Isterdalen valley,” says Grete Kongshaug.

She currently works as a consultant in the Møre og Romsdal County Council, but previously worked in the Norwegian Public Roads Administration while they upgraded the Trollstigen facilities.

“You’ve probably been to both. Are they equally good?”

“Most definitely! In addition, we built a new walkway with access for wheelchair users and disabled people, and the parking lot was upgraded.”

New accessible toilets and a new cafe were also built.

She says that they have received a lot of praise after the upgrade, both from people with reduced mobility and others who generally

prefer not to climb stairs.

From the start of the renovation project, there was a great emphasis on achieving universal design.

“Møre og Romsdal County Council has contributed financially to the facility and we are very pleased that Trollstigen now complies with guidelines for universal design.”

Kongshaug believes that the interventions have had great significance for tourism, not just for Trollstigen.

“This has made Trollstigen accessible to everyone, which in turn means a lot for tourism to the county in general. Everyone wants to visit Trollstigen, and we see a spillover effect to many other tourist attractions in our beautiful county.”



International voices

KS Network for Universal Design was established in 2013, to contribute to an inclusive society, by sharing best practices and removing barriers. The network stretches far beyond the Norwegian borders. We have asked some of our international partners to comment on why universal design is important to ensure access to outdoor recreation in nature for all.



FRANCESC ARAGALL

President and Founder of Design for All Foundation

A non-profit organisation based in Barcelona, Spain, and working at an international level. The foundation aims to support companies, public institutions and education organisations to better adjust the design of environments, products and services to human diversity.

“It is essential to carry out processes of participation and co-creation, so that people who find it more difficult to get close to nature can explain their physical, sensory and emotional needs and requirements.”

“Norway can teach other countries a lot about how to make natural environments with snow and ice accessible. On the other hand, some countries have devised excellent methods to enjoy the water.”

“International collaboration is essential, as it prevents us from reinventing the wheel every time. It is essential to be informed about places that have made it possible for all users to enjoy a natural environment to get inspiration.”

“We must bear in mind that nature, by definition, is inaccessible to humans. We should not aspire to make the entire natural environment accessible as this would upset the ecological balance. But we can adapt small portions of the natural space so that we can all enjoy them.”

“Regardless of ability, age or physical condition, we all benefit from clean air and green and peaceful environments. Being in contact with nature is essential to ensure physical, psycho-logical and emotional balance. But not all of us can travel far, so it is necessary to bring nature close to the city as well.”



YUVAL WAGNER

Founder and Chair of Access Israel

Established in 1999, Access Israel is the first non-profit organisation in Israel promoting accessibility and inclusion, striving to make Israel a place where people with various disabilities are integrated into society with dignity, respect, equal rights and maximum independence. Covers many areas, such as promoting legislation and raising awareness, runs accessibility consulting services, a web portal and a complaint centre, and also offers accessibility awareness training to schools and companies – amongst others.

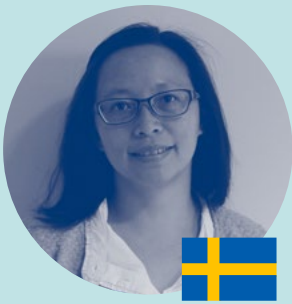
“It’s important [to ensure that everyone can participate in outdoor recreation] for many reasons – like personal wellbeing, health, avoiding loneliness and to be inclusive.”

“We have to remember that universal access is good for all.”

“Access to nature gives you energy and motivation to move forward.”

“You have to start with accessibility information, advertised so that people with disabilities will know what is accessible and where. Then it is the physical accessibility for all kinds of disabilities, such as wheelchair users and the visually impaired. We need information, signs, trails, picnic areas, observation points, parks, beaches – all universally accessible.”

“Currently, no, [universal access to outdoor recreation is not adequate or equal to the efforts made to make buildings and transport accessible to all], but it definitely should be.”



LENA MELLBLADH

Accessibility Adviser, City of Borås

Her department makes sure that the city offers residents healthy and efficient premises, as well as facilities for municipal activities. They are responsible for local resource planning, new and rebuilding, technical and financial management. The City of Borås won the Access City Award in 2015 for its commitment to making 'Borås accessible for all'.

"Everyone has the right to outdoor recreation."

"We can learn from each other on the cross-sectional aspect such as preserving nature and at the same time increasing opportunities for as many as possible to participate in outdoor recreation. Sharing handbooks and guidelines could also be beneficial."

"Participating in outdoor activities promotes good health."

"In Borås, we have increased accessibility in our outdoor environment by for example making fishing ramps, bath ramps, outdoor barbeques and paths universally accessible."

"It's important to keep in mind that accessibility in outdoor areas is not limited to, for instance, paths, ramps or accessible fishing ramps. Outdoor areas also include transport accessibility, both public and private, to and from the location. It includes parking, accessible toilets, using signs with pictures to make orientation easier, and guide services."



HELLE NEBELONG

Landscape Architect and Director at Helle Nebelong

Helle Nebelong works within health design, with the objective to create environments improving people's quality of life. She is especially passionate about designing spaces for children and how to adapt and improve the city for everyday life. She is based in Denmark, but works on projects both nationally and internationally, and also gives lectures around the world.

"It is crucial for our health to get out and recreate ourselves and interact with other people. Attractive green areas should be easily accessible where people live. It strengthens the public health and the cohesion of the local community."

"All places are unique, and you need to look closely at the context and consider what is possible to do with as small interventions as possible to get the best out of it and at the same time keep nature as original as possible."

"There's a steady growing focus on how to make outdoor recreation universally designed. During the covid pandemic, it has become even more obvious how important outdoor life is and that no one should be excluded from this."

"We learn from each other by working interdisciplinary and sharing best and worst practice and evidence."

"To me this is obvious: as human beings, we are part of nature, and we have a natural need for being in close contact with nature. We need to be out there in the green now and then to be well balanced. The eyes and the mind calm down and relax in natural, green environments. We recreate ourselves and get renewed energy."



PER-OLOF HEDVALL

*Director of Research at Certec, Department of Design Sciences,
Lund University in Sweden.*

His research deals with accessibility, participation, and universal design. His interest is particularly in the interplay between people and technology. He focuses on how human and artifactual assistance can be designed to support people.

“Every ‘one’ is part of ‘all’. Outdoor recreation for many people involves not only yourself but also children, family and friends. It is an essential part of life.”

“To me, universal design entails awareness of norms and stigma, e.g. thought patterns and beliefs that create a feeling of ‘us’ and ‘them’, in this case in relation to outdoor recreation.

“We can learn from each other’s design processes. I would concentrate more on learning from the processes, rather than from the end results.”

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.

1

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.
-

2

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.
-

3

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.
-

5

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.
-

6

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*](#)

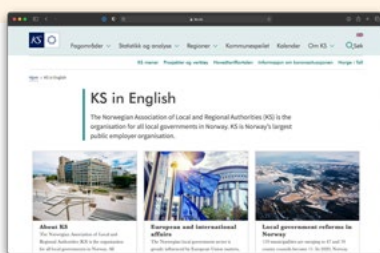
The UN Convention on the Rights of Persons with Disabilities (CRPD)

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: <https://www.ks.no/om-ks/ks-in-english/>

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