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City Blues pilot in Stavanger

D 2.1 Reports on the implemented watershed pilots

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Summary

This report provides a comprehensive overview of the Nytorget redevelopment project in Stavanger, a multi steps initiative aimed at transforming a car-dominated area into a vibrant, green, and accessible public space. The primary objective is the completion of the main square and adjacent streets by Stavanger's 900-year city jubilee in 2025.

The project is part of a decade-long planning process that included an architectural competition, extensive public and stakeholder engagement, and detailed technical site investigations. A key feature of the engagement was the "Palleparken" pilot project, a temporary park that allowed for real-world testing of design concepts and gathered crucial user feedback.

Key challenges identified and addressed through risk management include the handling of historically contaminated soil, the replacement of aging underground infrastructure, and the management of stormwater through nature-based solutions such as rain gardens. The project is guided by a collaborative governance model involving multiple municipal departments, external consultants, and a robust legal framework.

The project's success is assessed through a range of metrics, including specific environmental key performance indicators such as reducing stormwater discharge and ensuring a minimum of permeable surfaces in the park area. Other critical success factors include adherence to the 2025 timeline, effective mitigation of all identified risks, the implementation of universal design principles, and the positive reception and use of the new public space by the community.

1. Planning of the pilot

1.1 General planning

The planning phase for the redevelopment of Nytorget in Stavanger has been a multi-stage process aimed at transforming a car-dominated area into a vital centre area with accessibility and facilities for all users. The plan includes the development of new buildings and public spaces with aesthetic and functional features, as well as an underground parking facility (Stavanger kommune, 2024).

Nytorget has a long and layered history that continues to shape its identity today. Originally a sloping terrain, the square was reshaped in 1922 with the construction of the central retaining wall separating its upper and lower levels. Photographs from 1910 show the site before this transformation, with St. Petri Church — a neo-Romanesque landmark designed by Conrad Fredrik von der Lippe and inaugurated in 1866 — already anchoring the northern edge of the square (Figure 1). By the 1950s, Nytorget had become a busy bus terminal, serving routes to destinations such as Sirdal, Madland, Høle and Hunnedalen.







Figure 1. Historical and contemporary views of Nytorget.

Top left: Nytorget as an open slope before the construction of the retaining wall (ca. 1910, photo by Narve Skarpmoen). Bottom left: Nytorget functioning as a central bus terminal in the 1950s (Stavanger Byarkiv). Right: Present-day Nytorget as a traffic-dominated square awaiting redevelopment (Stavanger Kommune / Byarkiv).

For many locals, it is remembered as the starting point for holiday and Easter trips. In 2013, the City Council decided that Stavanger kommune should begin a comprehensive planning process for Nytorget. To enable a strong public programme in the area, the municipality began acquiring properties. Stavanger Utvikling KF (SUKF) was given responsibility for overseeing this holistic redevelopment, which culminated in the launch of an architectural competition in 2018. The competition addressed not only the urban space itself but also the surrounding building stock on the southern edge of the square, including the former

police station, a cluster of wooden houses along Kongsteinsgata, and the Jugendstil building that houses Rogaland Kunstsenter and Studio17. Figure 1 illustrates this historical development, from the open square in 1910, via the bustling transport hub of the mid-20th century, to its present-day condition as a traffic-dominated intersection.

Before the redevelopment, a significant portion of Nytorget was used as a transit and parking area. The area exhibits a height difference between the upper and lower sections. The main route for bicycle traffic passes through Nytorget without a designated cycling infrastructure. There are existing underground petrol/diesel tanks located within the central area of the square, from previous public transport operations. Waste management involves a mix of individual and underground containers in certain areas.

The need for a new plan for Nytorget was identified with plans for a new Tinghus (courthouse). The goal was to strengthen Nytorget as an attractive place for cultural industries and a modern urban space. The existing regulatory plan from 2006 lacked detailed mobility solutions and needed a regulatory change. An architectural competition was mandated by both the existing regulatory plan and the municipal central area plan. The design process was significantly influenced by an architectural competition held in 2018-2019, where the winning proposal was "Tre hus og et langbord" (Florian Kosche AS et al., 2019). This concept aimed to establish a green urban space for activity and culture in the heart of Stavanger.

The development of the street use plan (gatebruksplan) involved collaboration with various municipal departments, neighbours, and businesses. A workshop was held on June 2022 with stakeholders to discuss mobility, water and drainage and blue-green infrastructure, as well as cultural, neighbour, and business interests.

"Regular cyclists were good at being considerate and were not a particular problem or source of conflict with businesses. The challenge was the escooters, where users were often less considerate. To handle this, we implemented a geofence solution... to automatically reduce their speed within Nytorget." (Grete Bastlid, Stavanger Kommune)

The challenge was to determine the

best solution for bicycle traffic, as the central area plan called for a separate cycle path, which conflicted with a shared space prioritising pedestrians. The proposed solution in the gatebruksplan leaned towards a shared space concept where pedestrians have the highest priority, with a visually marked cycle route.

From the project management's perspective, this conflict was less about traditional cyclists, who were generally considerate, and more about e-scooters ("elsparkesykler"). To mitigate the risk of high speeds from e-scooters, a geofencing solution was implemented in collaboration with the municipality's road and traffic department to automatically reduce speeds within the Nytorget area.

Another challenge was incorporating nature-based solutions (NBS) for stormwater management in coordination with the adjacent development. The solution was a joint stormwater note to ensure that public areas on Nytorget are utilised for stormwater management.

More generally, challenges encountered during the planning phase include the threat of relocation or displacement for almost all of Nytorget's cultural institutions due to the construction of a large office building. There was also a lack of clarity and communication surrounding the project, with uncertainty about the future of existing structures. Furthermore, despite numerous participation measures, there's

little indication that input and desires from residents, neighbours, and interested parties were adequately incorporated into the final plan.

1.1.1 Architect competition

In 2018–2019, Stavanger Utvikling KF, in collaboration with the municipality and landowners, launched an architectural competition for Nytorget. The site was described as a strategic area in the city centre, intended to strengthen Stavanger's urban core and improve connections to the eastern districts.

The competition area comprised three building plots (BS1, BS2, C11) in addition to the square itself (Figure 2). The winning proposal, "Three Houses and a Long Table" by Ghilardi+Hellsten Architects, Karres en Brands Landscape Architects, and Dipl.-Ing. Florian Kosche, was praised as a well-defined upgrade that reinforced Nytorget's historical character while creating new urban qualities. The "three houses" refer to the historic buildings along the southern edge of the square, while the "long table" symbolises an open, democratic public space for meetings, activities, and cultural life (Florian Kosche AS et al., 2019).

The jury emphasised that the proposal succeeded in balancing preservation with innovation, offering a framework to vitalise the area with cultural and social functions while ensuring accessibility. It was, however, also clear that the winning concept required further refinement, particularly concerning mobility and the integration of shared space for pedestrians and cyclists (Palleparken Thesis, 2022).

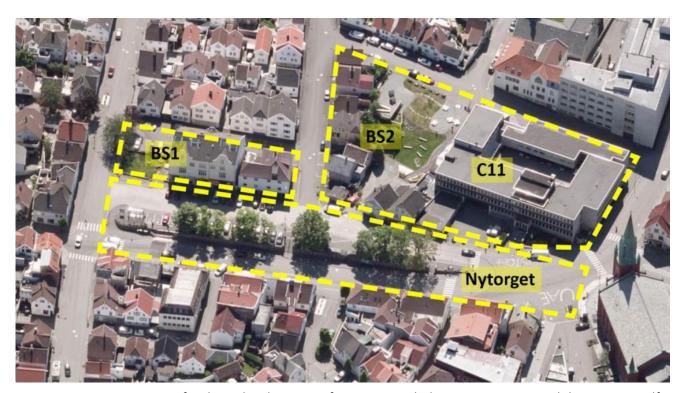


Figure 2. Competition area for the redevelopment of Nytorget, including BS1, BS2, C11 and the square itself.

Source: Stavanger Kommune.

The architectural competition became a pivotal moment in the redevelopment of Nytorget. It established a clear vision for the square's transformation and served as the foundation for subsequent planning processes, including temporary interventions such as Palleparken (Figure 3).



Figure 3. Winning architectural competition proposal for Nytorget ("Three Houses and a Long Table") by Ghilardi+Hellsten Architects, Karres en Brands, and Florian Kosche (2019).

Source: Stavanger Utvikling / Ghilardi+Hellsten.

1.1.2 Lead-up to Palleparken

Because Nytorget's full redevelopment was not expected to be completed for several years, Stavanger kommune began planning a temporary installation in autumn 2019. Inspired by the architects' idea of creating a "living lab," the concept was to establish a provisional park where different groups could cocreate with the designers. This vision had to be adjusted when the COVID-19 pandemic struck in early 2020 (Palleparken Thesis, 2022).

"The biggest potential risk was the business owners, especially the many restaurants and pubs along the strip. Our strategy from day one was to be highly aware of the great interest from many parties. We created an overview of all stakeholders, categorised them by how closely they needed to be followed up, and had a dedicated neighbourhood contact from the start." (Grete Bastlid, Stavanger Kommune)

In March 2020, the proposal for a temporary park, presented under the title "Strakstiltak Nytorget" (Immediate Measure Nytorget), was discussed in the City Executive Committee. The stated aim was to provide residents with a tangible impression of how the future public space might look and to involve them in the transformation process. The political documents described the installation as a prototype: "The park will function as a

prototype (...) and is intended to test solutions together with future users" (Stavanger Kommune, 2020).

At this stage, the idea of using pallets had not yet been finalised, but the plan was for platforms, planting boxes, and simple structures to mark the transition from parking lot to park, and to introduce activities on a human scale. In this way, Palleparken was conceived as both a communication tool and an early participation exercise, providing the public with an accessible entry point into the complex and long-term redevelopment of Nytorget.

Figure 4 illustrates how the temporary installation evolved from early design sketches into a built environment, where pallets, planting boxes, and colourful structures transformed part of the square into an experimental public space.

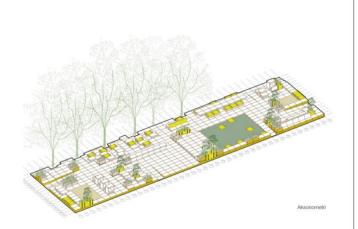




Figure 4. Design and implementation of *Palleparken*.

Left: axonometric sketch showing the modular use of pallets and planting boxes as a prototype for the future square. Right: photographs of the completed installation at Nytorget, with pallet structures, vegetation, and informal seating. Source: Stavanger Kommune (2020).

1.2 Detailed planning / Construction design

The primary goal of the Nytorget investment is to transform the area into a car-free, vibrant, and adaptable central public space, prioritising pedestrians and cyclists. This involves establishing a continuous cycle connection, linking surrounding streets, and creating dedicated cycle parking areas. The general layout is based on concepts from the preliminary project. The design is centred around three main ideas:

"Rommet" (The Space): Creating a clear, elongated urban space on both sides of the Jugendmuren (the old retaining wall) by aligning the facades of the surrounding buildings.

"Gulvet" (The Floor): Unifying the surrounding structures by using a consistent material identity across the ground surface to create a cohesive feel for the entire area.

"Langbordet" (The Long Table): Introducing a central green element, which refers to park areas and potentially the linear arrangement of features like seating and vegetation.



Figure 5. Nytorget – proposed plan (source: Ghilardi+Hellsten Architects)

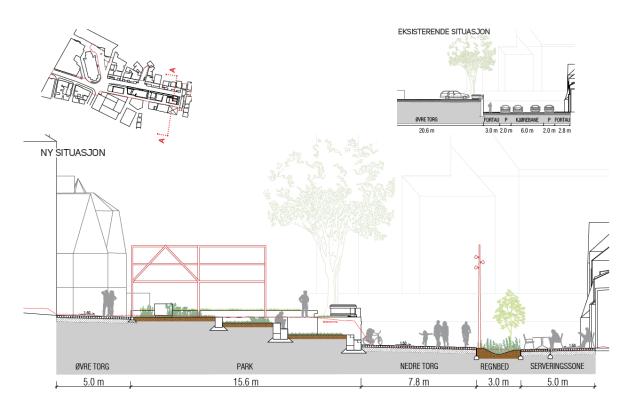


Figure 6. Nytorget – proposed plan (Section A) (source: Ghilardi+Hellsten Architects)

The plan divides the area roughly into three main zones:

"Nedre Torg" (Lower Square): Located on the lower level, this area is intended to support existing city life and activities associated with businesses, cafés, and restaurants. It will have opportunities for outdoor seating and potentially food trucks or smaller stands along the Jugendmuren. Integrated, fixed public seating will be provided outside the uteservering (outdoor dining) zones. An integrated fountain with ground-level jets is planned for this area.

"Parken" (The Park): Situated on the upper level, this area is envisioned as a quieter space with multifunctional zones for activities like a used market, recreation, play, a rainbow place, and smaller events. Light, transparent structures such as pavilions, pergolas, and play equipment are permitted here. The western part of the upper square will have a 150 m² area specifically designed for activities like the used market and a stage, which a pergola or other open roof structure can cover.

"Området ved St. Petri Kirke" (The Area by St. Petri Church): This space provides an outdoor area for church events and potential for more significant events and markets.

Key components of the investment's layout include:

Pedestrian and cycle priorities: The plan aims to remove car traffic from Nytorget and prioritize pedestrians and cyclists. Cycle parking will be located at the eastern end of the park, as well as by St Petri church. Speed-reducing measures for cyclists entering Nytorget will be implemented.

Green infrastructure: A significant aspect is the establishment of a continuous green structure, including a park area on the upper level (above the Jugendmuren) and rainbeds on the lower square. These

rainbeds will be a pilot project for local, open surface water management. New trees will also enhance the green structure. The rainbeds will generally be a minimum of 3 metres wide.

Surface water management: The layout incorporates nature-based surface water management with open flow to water channels and blue-green solutions (Marino et al., 2025). Roof runoff from nearby buildings will be connected where possible.

Flexibility for events: The design allows for both large and small events, market activity, and outdoor dining. Consideration will be given to protecting rainbeds during large events.

Accessibility: The plan emphasises accessibility for all users. In collaboration with the heritage authorities, parts of the ends of the Jugendmuren may be demolished and replaced with new stairways to improve connections across the height difference. Jugendmuren will be preserved from the initial layout and represent the central wall separating the lower and the upper sides of the square.

Servicing and waste management: Access to essential services, such as goods delivery and emergency vehicles, will be maintained, although the area will generally be closed to private car traffic. Areas for underground waste containers for households are planned.

2. Construction phase

2.1. Overview of the transformation

The project's execution is reliant on a series of preparatory works, phased construction activities, and close coordination with urban development projects, with an emphasis on integrating green infrastructure and sustainable water management. A suite of detailed plans was required before physical work could commence, including technical outdoor plans, documentation for nature-based stormwater management, traffic and tree preservation plans, and environmental follow-up protocols.



Figure 7. Nytorget – Start of demolitions (source: Stavanger Aftenblad)

2.2. Challenges and integrated solutions

The construction process faced a series of significant difficulties. One of the primary obstacles was the discovery of contaminated soil. To address this, a mandatory remediation plan was executed, ensuring that the soil was responsibly managed according to its contamination level to safeguard the health of the new park and public areas.

Furthermore, the project had to cope with a dense and ageing underground infrastructure. The presence of century-old water and sewer pipelines necessitated a complete system replacement as a critical step, coordinated with utility providers to relocate power supplies and lay new gas lines. This work was linked to the challenge of managing water in a changing climate.

This complex network of old cables was a known risk, but the full extent and inaccuracy of the existing maps were only confirmed once construction began. An even more significant unexpected physical challenge was the discovery of far more rock than preliminary site investigations had indicated. Because surveys were limited by existing underground infrastructure, they had missed large rock formations, the removal of which was a primary driver for project delays of several months.



Figure 8. Nytorget – Old pipelines replacement (source: Stavanger Kommune)

The solution was to embrace nature-based stormwater management, creating a network of rain gardens. In areas with high groundwater, these gardens were designed as sealed structures with direct drainage to the municipal network, preventing water intrusion into nearby building foundations.

"The most unexpected problem was finding much more rock than the ground surveys suggested. The surveys couldn't be done everywhere because of existing cables... This meant we had to remove enormous quantities of rock, which delayed the project by several months. This was a bigger challenge than the complex, old cable network, which was a known uncertainty." (Grete Bastlid, Stavanger Kommune)

All this work had to be conducted with respect for the historical context. The preservation of the mature tree line and the historical integrity of the central wall required attention. A detailed tree preservation plan, overseen by a certified arborist, ensured the protection of these landmarks. At the same time, all modifications to historical structures were made in close consultation with the City Antiquarian.

Throughout this complex process, maintaining the life of the city centre was vital. To minimise disruption, the construction of the underground parking facility was phased, ensuring a portion of the square always remained accessible. A robust communication and traffic management plan kept residents and businesses informed while providing safe passage for pedestrians, cyclists, and emergency services. Finally, the project's timeline was deeply interdependent with neighbouring developments, demanding constant coordination to sequence street works and share logistical spaces, such as using the future park area as a temporary preparation site for the adjacent works.

2.3. Phased timeline of construction

The initial phase, dedicated to preparatory and underground infrastructure, was successfully concluded by the summer of 2024. This vital stage included the final adoption of the street plan and the complete overhaul of the stormwater system, laying the groundwork for all subsequent surface-level work.

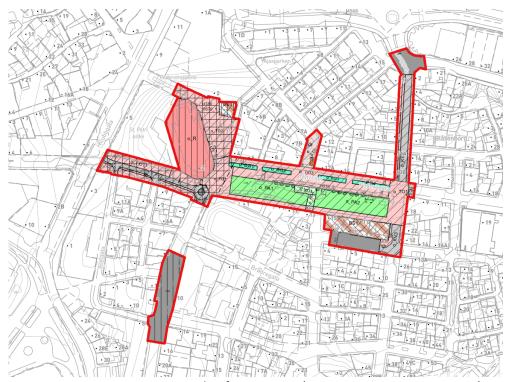


Figure 9. Nytorget – Zoning plan for Nytorget (source: Stavanger Kommune)

Following this, the project transitioned into its second phase. This phase has concentrated on the visible transformation of the lower square. The development of the sensitive rehabilitation of the central wall has progressed in parallel with the main square. The final phase, the creation of the upper park area, is planned to commence after its logistical role for the neighbouring development is concluded, marking the last significant step in Nytorget's renewal.

2.4. Assessing the performance

The success of the construction phase is being assessed through a holistic set of metrics. Foremost is the adherence to the timeline, with the most visible measure of success being the completed upgrade of the lower Nytorget for the city's jubilee. This achievement was enabled by the on-time completion of the foundational stormwater works in 2024.

Beyond scheduling, success is defined by the project's environmental and green infrastructure goals. Performance is measured by the function of its NBS, including the rain gardens that now comprise at least 80% of the designated blue-green area, and the planned 60% permeable surfaces in the future park.

The health of the urban canopy is another key indicator, tracked by the preservation of existing trees and the establishment of new ones, with targets for the square, streets, and parks. The commitment to using

emission-free machinery during construction further serves as a benchmark for the project's sustainability.

Success is evaluated by the quality of the public space, including its accessibility and the management of the new car-free zone. The safety of pedestrians and cyclists, alongside guaranteed access for emergency services, remains an operational metric.

Finally, the project's ability to manage risk is assessed by the successful mitigation of all vulnerabilities, from unstable ground to contaminated soil, ensuring a safe and resilient outcome for the city.

2.5. Key lessons

Several key lessons have emerged that will inform future urban revitalisation in Stavanger. The challenge of balancing competing demands in a finite urban space requires creative design compromises. It also reaffirmed the great value of comprehensive site analysis, which allowed for tailored solutions to complex underground issues.





Figure 10. Nytorget – Pallet park (before start of construction) (source: Stavanger Kommune)

Furthermore, the success of some temporary interventions like "Palleparken" demonstrated a powerful method for engaging the community and gathering invaluable user feedback. Most critically, the project has highlighted the importance of inter-project coordination and the need to achieve early consensus on core principles to maintain momentum and avoid the significant delays and costs associated with later plan revisions.

3. Citizen and stakeholder engagement

3.1. Dialogue with stakeholders

The transformation of Nytorget involved a continuous dialogue. The stakeholder engagement process was a detailed journey, evolving through the technical rigours of design and planning. While explicit quantitative indicators did not measure the success of this engagement, it can be assessed through the tangible incorporation of public feedback and the plan's alignment with a shared, community-driven vision for Nytorget's future.

3.2. The journey of stakeholder involvement

This process began back in 2015 with a broad participation initiative to define Nytorget. A diverse range of groups, from residents and cultural actors, local youth and businesses, were invited to share their vision. The input from children and youth was particularly insightful, as they articulated a desire to move away from a "messy traffic image" towards a space filled with varied activities, art, play, and green spaces.

As the project evolved, this vision was formalised through the architect competition of 2018-2019. This phase, guided by existing regulatory plans, translated visions into design. Through a series of participation meetings and exhibitions, the public continued to shape the project, leading to the selection of the winning proposal, "Tre hus og et langbord," which became the bedrock of the subsequent pre-project phase.

The pre-project development between 2020 and 2021 faced the unique challenge of the COVID-19 pandemic, which limited traditional physical meetings. In response, the project team innovated with the creation of "Palleparken", a temporary park established on the traffic areas scheduled for removal (Haga, 2020). This installation was a success, serving as a physical testing ground where the public could directly experience and provide feedback on a greener, car-free concept. The response highlighted a collective desire for varied and wild vegetation, open water elements, and informal seating and play areas. Simultaneously, meetings with commercial actors led to practical design adjustments, such as modifying the space between new rainbeds and building facades to accommodate outdoor dining.

This concluded in the development of the detailed Street Use Plan from 2022 onwards. The process was further refined through a professional workshop involving municipal experts and local actors, who delved into the technical details of mobility, blue-green infrastructure, and cultural integration. The plan was then subjected to a formal public hearing in the autumn of 2023, where alternative design proposals for elements like a roundabout and a separate bike lane were presented, demonstrating that earlier feedback had already encouraged the exploration of different options. Comments were formally submitted by a wide range of public bodies and private entities, including the Statsforvalteren, Rogaland Fylkeskommune, Syklistenes Landsforening, and numerous local businesses and citizens, ensuring a comprehensive and documented final round of public input.

3.3. Reflections on the engagement process

Reflecting on this extensive process, it is clear that the strength of the engagement process lies in its inclusive nature. The project team employed a diverse and adaptive range of methodologies, from broad visioning exercises to the innovative and highly effective "Palleparken" installation, creating multiple avenues for meaningful feedback. The project demonstrated a consistent responsiveness to this feedback; the initial visions of the youth were directly addressed in the final plan, input from businesses led to design changes, and accessibility concerns were acknowledged and integrated through a commitment to universal design.

However, the process was not without complexities and conflicts. The engagement revealed disagreements on key design elements, most notably the debate over a separate bike lane versus a shared-space concept. This placed the project at the intersection of competing stakeholder priorities, with cycling advocates demanding dedicated infrastructure while others argued for the flexibility of a mixed-use square. The administration also had to manage expectations, explaining why specific suggestions, like re-establishing public toilets in a historic facility, were not feasible due to regulatory and resource constraints. Throughout, the project navigated concerns about traffic displacement and the constant risk that fundamental plan changes could trigger years of delays and financial consequences.

However, from the internal project management perspective, the direct stakeholder engagement was characterised by a good, solution-oriented tone. The project team was prepared for the risk of strong public opposition, but this did not generally materialise. A key challenge in public meetings was not conflict, but rather that residents often used the forum to raise concerns about other issues in the neighbourhood (e.g., traffic in adjacent streets) that were outside the Nytorget project's direct scope.

3.4. Assessing the success of the dialogue

The most powerful indicator of success is the documented incorporation of public feedback at every stage. This is illustrated in the administrative responses to every comment received during the public hearing, creating a transparent and accountable record. The final plan strongly aligns with the overarching goals established in the early visioning phases — to create a car-free, lively, accessible, and green city centre. The successful mitigation of societal and safety risks within the project's Risk and Vulnerability analysis further suggests that concerns raised by the public and experts were heard and effectively addressed. Ultimately, the commitment to universal design principles, ensuring the new Nytorget is welcoming to all, stands as proof of a process that remained rooted in a dialogue with the community it is built to serve.

3.4.1 Community frustrations due to timeline

While the project documentation demonstrates that stakeholder dialogue has been both comprehensive and transparent (*Stavanger kommune, 2024; Ghilardi+Hellsten Arkitekter, 2023*), recent community voices suggest that the perception of success is uneven. The article "*Flytt på gjerdene!*", published in *Storhaug Bydelsavis* in May 2025, highlights how prolonged construction schedules and fenced-off areas continue to frustrate residents (Bækholt, 2025). The piece emphasizes that the upper square may remain inaccessible until 2031, a timeline far beyond what many neighbours initially expected.

However, from the project management's perspective, this frustration may have been misdirected. The Nytorget project and the adjacent "Mediebyen" project were two separate developments sharing a large,

continuous construction site. The "Mediebyen" project faced more public controversy, and it is believed this article may have been aimed at that project, as the Nytorget development team itself did not receive this feedback directly. This highlights a key challenge in urban redevelopment: the difficulty for the public to distinguish between parallel projects, leading to potential misattribution of frustration.

The public appeal to "move the fences" illustrates a growing demand for interim access and incremental benefits during the lengthy redevelopment. Community members argue that even partial access — whether temporary green pockets, cultural installations, or safe passages — would help sustain trust in the project and provide tangible improvements during the construction years. Events such as the *Nytorget nedenfra* festival, where

"I am not familiar with that slogan and I believe it was aimed at the neighbouring project, "Mediebyen," which was more controversial. For outsiders, the two projects look like one large construction site, which creates confusion. Our strategy to avoid "project fatigue" was a continuous, proactive dialogue with neighbours, a dedicated contact, and regular meetings." (Grete Bastlid, Stavanger Kommune)

neighbours gathered for concerts, shared meals, and workshops around the fenced site, show that local actors are eager to activate the space despite physical barriers (Bækholt, 2025).



Figure 11. Messages on the fence surrounding the Nytorget construction site

This dynamic underscores a critical lesson in assessing dialogue success: formal responsiveness to comments and inclusive planning processes must be matched by visible, short-term improvements in the lived urban environment. Otherwise, delays risk eroding the credibility of engagement efforts. In this sense, while the final plan reflects many community inputs, the ongoing presence of construction fences has become a symbolic barrier between citizens and their envisioned square. Addressing these concerns with transitional interventions—such as staged openings or temporary cultural uses—could reinforce the perception that dialogue truly results in co-created urban spaces.

As previously mentioned, the Nytorget process has included a broad range of participatory tools — from early visioning workshops to the architectural competition, statutory hearings, and the innovative Palleparken pilot — which ensured that different voices were heard and integrated into the design. These measures clearly reflect Stavanger's tradition of participatory planning.











Figure 12. Messages on the fence surrounding the Nytorget construction site

At the same time, participation is not only a matter of good practice but also a legal responsibility. According to the Norwegian Planning and Building Act (Plan- og bygningsloven, § 5–1), municipalities are obliged to facilitate early and broad involvement of affected groups throughout the planning process. In the case of Nytorget, this duty has been formally fulfilled through the measures described above.

However, the concerns raised in 2025 about long construction timelines and fenced-off areas indicate that legal compliance alone may not be sufficient to sustain trust. The spirit of the PBL, which emphasizes meaningful and continuous dialogue, suggests that participation should extend into the implementation phase. This means not only responding to formal comments but also ensuring that

"We were absolutely prepared for the risk of opposition, but we haven't had any particularly difficult meetings. What often happened at neighbourhood meetings was that 99% of the questions were about other problems in the neighbourhood... not our project. Our proactive strategy... (info posters with QR codes, knocking on doors)... led to very little 'noise' and few complaints." (Grete Bastlid, Stavanger Kommune)

residents remain active co-creators during the years of transformation. Mechanisms such as staged openings, temporary cultural uses, and regular communication could bridge the gap between legal compliance and lived community expectations, reinforcing the perception that dialogue continues until the square is fully realised.

4. Risk management

4.1. Introduction

The transformation of Nytorget, visible in the ongoing construction, is based on a deep foundation of detailed planning and proactive risk management laid over more than a decade. The journey from initial concept to the final, approved plan was a chronological progression of vision-setting, technical analysis, and public dialogue. While the success of this preparatory phase was not measured in explicit performance indicators, it can be understood through the comprehensive nature of the studies conducted, the successful mitigation of all identified risks, and the ultimate creation of a robust, resilient, and community-informed plan.

4.2. The chronological journey of planning and risk mitigation

A pivotal moment in de-risking the project's social acceptance and functional design came in the summer of 2020 with the "Palleparken" pilot. In response to the challenges of the pandemic, this temporary park served as a real-world laboratory, allowing for the in situ testing of a greener, car-free concept. The positive public feedback on its informal character, varied vegetation, and play elements provided invaluable, practical lessons that were directly incorporated into the final design, validating the project's green ambitions.

Following this successful pilot, the project entered a phase of detailed technical investigation between 2021 and 2023. Adhering to national and international quality standards, geotechnical ground investigations were conducted to understand the area's stability, revealing pockets of poor rock and frost-susceptible fill materials. In parallel, environmental studies assessed the soil contamination, confirming the presence of pollutants like oil from the site's past use. This discovery triggered a risk mitigation strategy, mandating a detailed action plan for the safe handling and disposal of contaminated soil, ensuring that park areas would meet strict health standards.

This period of analysis finished in early 2023 with the completion of a formal Risk and Vulnerability Analysis, which served as the project's risk management plan at the regulatory level. This systematic review, following the methodology of the Directorate for Civil Protection, assessed a wide range of potential unwanted events during both construction and

"The most important advice is to involve the neighbors... from day one. The single biggest risk you must plan for is the people around you. Technical challenges in the ground are known problems you can solve. A bad relationship with neighbors and businesses can destroy a project." (Grete Bastlid, Stavanger Kommune)

operation. The crucial finding of this analysis was that there were no unacceptable risks. However, it did identify several risks requiring consideration for mitigation. In response, the plan integrated several key solutions, including the requirement for further ground investigations for building applications, the mandate of radon barriers in new constructions, the design of nature-based stormwater systems to

handle extreme weather, the provision of robust fire access in coordination with emergency services, and the requirement for a detailed construction safety plan to protect vulnerable road users.

The final stage of this journey was the public hearing and political adoption process from late 2023 to March 2024. This phase brought all the technical analyses and stakeholder feedback into a final, decisive dialogue. The debates over alternative proposals, such as the bike lane and the roundabout, were robust. Still, they were informed by a rich body of evidence, including traffic analyses, environmental notes, and an understanding of the severe economic and time consequences of any late-stage, fundamental design changes.

While this formal analysis covered technical risks, the project management team's primary concern for 'moderate risk' was the complex, poorly mapped underground cable network. This risk was mitigated by involving the utility companies as active partners in the process from the very beginning. The most significant unexpected physical risk that emerged was the large quantity of rock, which was not fully identified in the initial analysis.

Beyond the physical and technical, the project team identified the primary project risk as social: the potential for conflict with neighbours and local businesses. The core risk management strategy was therefore built around continuous, proactive, and accessible dialogue with all stakeholders (e.g., dedicated neighbourhood contacts,

"The [technical] risk we are always worried about in old city areas is what's hidden underground, especially cables and pipes. To reduce this risk, we involved the utility companies from day one. They were part of the construction meetings and the entire process." (Grete Bastlid, Stavanger Kommune)

"knock-on-door" visits, and public info-posters with direct contact details) to maintain trust and collaboration throughout the disruptive construction phase.

4.3. Measures of a successful planning phase

The sheer volume and quality of the documentation, all adhering to established national standards, stand as evidence of the process's thoroughness. The definitive conclusion of the risk analysis, finding no unacceptable risks, is the most critical indicator of success, demonstrating that all foremost safety and vulnerability concerns were effectively addressed. Furthermore, the proactive formulation of specific mitigation measures for all identified moderate risks shows a commitment to foresight over reaction. The plan's consistent alignment with the strategic goals of a car-free, green, and accessible city centre, shaped by successful stakeholder engagement, signifies a process that successfully translated a shared vision into a buildable reality.

The complex debate around mobility solutions revealed that the most technically straightforward option, a separate bike lane, was not necessarily the best for the overall "square feeling" and functional flexibility of the space. It taught the value of integrated design that prioritises the holistic experience of a place. The analysis also provided a lesson in the real costs of indecision, quantifying the significant financial and time impacts of late-stage design changes. Above all, the journey from the initial vision of young people in 2015

to their reflection in the final adopted plan validates the power of early public participation in shaping a city for its future.

As previously mentioned, the assessment of planning success could be further strengthened by applying explicit process and outcome indicators. These may include the number and diversity of stakeholders involved, the proportion of community proposals integrated into the plan, and the timeliness of decision-making. Scenario testing and design simulations carried out in earlier stages could reduce the risk of costly late revisions. Likewise, structured feedback loops — such as published responses to public comments — would help ensure transparency and build long-term trust.

A key recommendation is to formalise cross-departmental governance structures already present in Stavanger's approach, ensuring that mobility, blue—green infrastructure, cultural heritage, and accessibility are integrated from the outset. Embedding these practices into municipal guidelines could provide a replicable model for other urban redevelopment projects in Norway and beyond.

5. Maintenance, monitoring, and retirement plans

5.1. Introduction

Before construction, a series of documents guides its future operation. A detailed technical outdoor plan serves as a master guide, specifying everything from drainage systems and high-quality material standards to the placement of waste collection equipment and the composition of its green spaces. A comprehensive lighting plan, emphasising warm, glare-free light and innovative controls that minimise environmental impact. An approved sign plan manages the traffic flow. The health of the area is secured through a tree protection plan. An environmental follow-up plan ensures ongoing compliance with all regulations. In contrast, detailed construction plans set a well-managed site from the beginning.

5.2. The concept of renewal over retirement

The concept of "retirement" is applied to the ageing infrastructure being replaced. This initiative represents the planned retirement of water and sewage lines that have served the city for over a century, along with the removal of the former underground parking facility. The planning documents frame this as a positive and necessary evolution. In a critical contingency scenario, it was noted that halting the project would mean reverting the area to its pre-construction state – a consequence presented as a significant loss, thereby reinforcing the commitment to the new design's permanence and long-term success.

5.3. Process of learning and adaptation

From the outset, planners sought to resolve the conflicting guidelines of past plans, demonstrating a clear intent to learn from the historical past. This learning process was expressed through public involvement. The desires of children and youth were acknowledged and integrated into the final street plan. The "Palleparken" pilot, born of necessity during the pandemic, became a learning tool, offering direct, real-world feedback that shaped the design's informal and green character.

5.4. Defining and measuring success

The overarching goal is to create an inviting cultural meeting place that is safe, functional, and green – preserving its historical identity while fostering innovation (Marino et al., 2025). Success will be seen in the vibrant life of the square, its ability to connect city districts, and its commitment to a fossil-free construction phase.

Quantitative targets strengthen this vision. The project's environmental performance is measured by its ability to manage stormwater, to reduce discharge to the municipal network significantly. The design mandates that the park must consist of at least 60% permeable surfaces and that the blue-green structures feature a minimum of 80% rain gardens. The health of the urban

"We had a strong focus on environment and reuse. It was a requirement that all new granite be local, and all cobblestones be reused from the municipality's depot. To reduce long-term maintenance and avoid salt, which damages the rain beds, we installed a snow-melting system (heat cables)." (Grete Bastlid, Stavanger Kommune)

canopy is tracked by a commitment to plant at least ten new trees in the park and another six in other green areas, preserving the existing historic trees.

Qualitatively, success is defined by the high standard of natural materials, the implementation of universal design, and the effective transformation of the area into one that prioritises pedestrians and cyclists. The preservation of cultural heritage, the flexibility of the space for events, and the positive user experience are all crucial measures.

Specifically, this included requirements for the use of local granite and the extensive reuse of old cobblestones and curb stones from the municipality's own warehouse. Furthermore, to protect the 100% nature-based stormwater system (rain beds) from damage, a snow-melting system is installed to eliminate the need for road salt. To guarantee the quality and function of the NBS, the construction contractor is contractually obligated to manage all maintenance and monitoring for the first five years after completion. This model ensures the contractor does not take shortcuts during installation and provides a robust framework for assessing the long-term success of the rain beds.

As previously mentioned in earlier chapters, success in Nytorget has been defined through both technical and qualitative indicators. To strengthen this approach, future monitoring could benefit from a wider set of methods. Postoccupancy evaluations, combining user surveys and observational studies, would provide insight into how the square is used in everyday life. Environmental monitoring systems, such as sensors for

"The stormwater management is 100% nature-based via rain beds... To ensure this works, the contractor who builds the facility is also responsible for its operation and maintenance for five years after completion. This ensures they don't take shortcuts. The municipality also has a defined control regime with testing and reporting to ensure it functions optimally, as there is no alternative." (Grete Bastlid, Stavanger Kommune)

stormwater, biodiversity surveys, and microclimate tracking, could document whether the blue-green infrastructure continues to meet its long-term adaptation goals (Marino et al., 2025).

Equally important are participatory methods. Citizen science initiatives, participatory mapping, and digital engagement tools could allow residents to continuously feed back on the performance of the space. This would link the maintenance phase more directly with the participatory traditions described in Chapter 3, ensuring that local users remain co-managers of the site.

Building on these methods, several recommendations emerge. First, guidelines for adaptive management should be established, allowing success indicators to be revisited and adjusted every few years in light of changing climate and social needs. Second, collaborative governance models — for example, partnerships between the municipality and local cultural organisations — could secure both care and programming of the space, ensuring that Nytorget remains a living meeting place rather than a static infrastructure. Finally, aligning the assessment of Nytorget with broader frameworks, such as BREEAM Communities or EU guidelines for urban green infrastructure, could provide robust external benchmarks and make Stavanger's approach transferable to other cities (European Commission, 2013).

6. Pilot investments

6.1. The Financial Framework of Redevelopment

The transformation of Nytorget represents a significant municipal investment. While the final total investment cost will be clarified during the detailed design phase, the initial planning stages have encountered substantial expenditure. Approximately 9 million Norwegian Kroner (MNOK) was invested between 2019 and 2023 to develop the preliminary project and the street use plan. This figure does not include the preceding architect competition.

The final investment framework is envisioned as a collaborative financial model, incorporating significant contributions from the city's Water and Sewage budget and anticipated construction contributions from the adjacent private developments. The project's overall cost is being calculated based on a model for urban spaces, with high-quality elements. These will define the square's character and functionality, including fountains, flexible roofs, and granite benches.

The cost estimation has been broken down into detailed sub-areas, covering a combined area of over 6500 square meters. However, specific price points for these sections are pending the final design. It is also worth noting that while the "Palleparken" pilot was a crucial and successful part of the engagement process, its financing is not detailed in the project documentation.

6.2. Defining and measuring success

The project's success is rooted in its environmental and safety performance. A critical benchmark was the outcome of the comprehensive Risk and Vulnerability Analysis, which assessed all potential hazards. Environmentally, success is quantified with technical targets. The advanced stormwater management system is designed to limit total discharge to the municipal network to approximately 33 litres per second, a rate that is a full 14 litres per second lower than the maximum permitted amount. This high performance is achieved through NBS, requiring that the park area must consist of a minimum of 60% permeable surfaces and that the blue-green structures include at least 80% rain gardens. The management of historical soil contamination is also a key metric, and a clear action plan ensures that ground conditions meet established safety criteria for public use.

Safety and accessibility are measured by the provision of sufficient access and standby areas for fire trucks, with a water supply of 50 litres per second from hydrants. The project's commitment to universal design, ensuring accessible pathways and parking, is another measure of its success.

7. Governance model of NBS in Stavanger city

7.1. Integrated model for urban transformation

The realisation of the Nytorget project is proof of the complex integrated management model employed by Stavanger Kommune. This model is a collaborative ecosystem, merging multiple municipal departments, specialised external consultants, and the public, operating within a robust framework of national and local legislation. It is a system designed to manage complexity and mitigate risk.

7.2. Collaborative governance structure

Stavanger Kommune acts as the primary client and planning authority. Within the municipality, a network of departments shares responsibility for guiding the project. The Bymiljø og utvikling department, in close partnership with Urban and Community Planning, took the lead in preparing the street use plan, through public hearings and plan revisions. The final approval of detailed plans remain with the City Planning Manager. The project's technical integrity, through Technical Operations and the Road Authorities, examined and approved all plans for public areas. At the same time, the upgrade of the underground water and sewage infrastructure fell to the water and stormwater department. This internal collaboration was balanced with respect for cultural heritage, with the City Antiquarian being key in approving material choices and interventions in historically sensitive areas like the Jugendmuren.

According to the project management team, this collaborative model was highly successful. Despite the potential for disagreement between expert groups (e.g., heritage experts and engineers over the protected wall or tree preservation), the various partners and consultants were consistently solution-oriented, resulting in very few internal conflicts. This shared focus on finding solutions, rather than dwelling on disagreements, was a key factor in the project's successful governance.

"There were many factors to consider, for example the protected wall and the large trees, which required close dialogue with the City Antiquarian... Even so, there have been very few conflicts between the specialist groups. The various experts were generally very solution oriented." (Grete Bastlid, Stavanger Kommune)

To complement its internal expertise, the municipality engaged a team of external consultants. Multiconsult provided the data from its geotechnical and environmental ground investigations, which informed construction methods and contamination management. Norconsult contributed vital traffic engineering and fire safety plans, while a

collaboration between Head Energy and Asplan Viak produced the detailed stormwater memo. The overall design vision, conceived by Ghilardi+Hellsten Arkitekter and Karres+Brands, was established by Grindaker AS, creating a whole partnership between the municipal and specialised private sector.

7.3. The foundation of legislation and policy

This entire collaborative effort was grounded in a legal and policy framework. The Planning and Building Act provided the legislative authority for the project. A National Planning Guideline strengthened this,

which mandates climate adaptation and nature-based solutions, making the green focus a matter of policy compliance. At the local level, the Municipal Master Plan was more specific, stipulating that stormwater must be managed locally through green structures. This policy framework influenced detailed regulations from the handling of contaminated ground under the Pollution Regulations to radon prevention in new buildings, and the aesthetic and functional quality of public spaces as defined by the Stavanger Street Norm and the city's Lighting Plan.

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