

Thresholds as Healing Interfaces : A Research Exploration of Architecture in Substance Use Recovery

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Janvier 2024

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I would like to thank the director of the ABS Foundation, Matthieu Rouèche, the team coordinator and director of Quai 9, Vincent Carruzzo and the director of the CONTACT Bern facility, Bubi Rufener for giving me their precious time and allowing me to interview them.

I would also like to thank Marilyne Andersen and Clemens Waldhart for following my thesis and guiding me through this process.

Introduction

Substance Use Issue Worldwide

Urban spaces across the globe are grappling with the complexities of substance use in public settings, a crisis that has reached alarming proportions in recent years. The 2023 World Drug Report by the United Nations Office on Drugs and Crime (UNODC) estimates that over 296 million people globally use drugs, a 23% increase over the last decade. Among these, approximately 64 million people are estimated to suffer from drug use disorders, representing individuals whose dependence on substances severely disrupts their lives and compromises their health, relationships, and economic stability. Despite the scale of this crisis, only 11 million individuals worldwide, less than 20%, receive any form of treatment¹. This vast treatment gap underscores systemic issues in addressing substance use, including insufficient healthcare infrastructure, societal stigma, and economic barriers that disproportionately affect vulnerable populations.

The crisis is most visible in urban areas, where socioeconomic inequalities and high population densities exacerbate its impact. For example, in the United States, the opioid epidemic continues to devastate communities, with an estimated 100,000 overdose deaths annually—a figure that has doubled in the past decade. Cities like Philadelphia have seen public drug use escalate into a humanitarian crisis, with open-air drug markets and widespread homelessness in neighborhoods like Kensington. In San Francisco, the rate of overdose deaths outpaces homicide rates, and fentanyl—a synthetic opioid 50 times more potent than heroin—has become a dominant factor in urban mortality rates. Similarly, European cities face mounting challenges: Barcelona, a cultural hub, struggles with rising heroin use in urban parks, while Amsterdam’s famed liberal policies are increasingly tested by the emergence of new psychoactive substances and heightened drug-related crime.

The strain on urban health systems is compounded by the social and economic consequences of substance use. Beyond the immediate health risks, such as fatal overdoses and the spread of infectious diseases like HIV and hepatitis, cities must contend with rising costs associated with emergency healthcare, law enforcement, and

1. UNODC, World Drug Report 2024. “Harms of world drug problem continue to mount amid expansions in drug use and markets”, 26 June 2024.

public sanitation. The economic impact is staggering: the United Nations estimates that illicit drug use costs the global economy hundreds of billions annually in lost productivity, healthcare expenses, and criminal justice operations. Furthermore, individuals with Substance Use Disorders (SUD) are often marginalized, facing significant barriers to housing, employment, and family support, which perpetuate cycles of poverty and addiction.

This pervasive issue reveals a dire need for coordinated responses that prioritize both harm reduction and long-term recovery. While cities have implemented measures such as safe consumption rooms, needle exchange programs, and opioid substitution therapies, their availability often falls short of meeting the demand. The insufficient integration of supportive services leaves many individuals to navigate unsafe public environments, further exacerbating their health risks and increasing the burden on urban infrastructure.

Substance Use in Switzerland

Switzerland has long been recognized for its pioneering harm reduction strategies, particularly in response to the heroin crisis of the 1980s and 1990s. However, urban centers like Lausanne and Geneva continue to face challenges related to public substance use, which creates tensions among authorities, residents, and vulnerable populations. According to the Swiss Federal Office of Public Health (FOPH), there were over 11,000 recorded deaths due to drug-related issues in Switzerland between 1981 and 2021, with urban areas such as Zurich, Geneva, and Lausanne experiencing the highest concentrations of substance-related health incidents. Despite significant progress—such as a reported 90% decrease in new HIV infections linked to intravenous drug use since the 1990s—the Swiss Four Pillars Policy (prevention, therapy, harm reduction, repression) continues to face implementation gaps in specific urban contexts. For instance, in Lausanne, Place de la Riponne has become a focal point for public substance use. According to the City of Lausanne Public Safety Report (2022), an estimated 50 to 70 individuals regularly gather in this area to consume substances or seek temporary shelter. This situation, while less severe than Zurich’s Platzspitz Park crisis of the 1990s—where over 3,000 individuals congregated daily—still raises significant public health and safety concerns¹.

Zurich’s experience during the 1990s heroin epidemic offers valuable insights. At the peak of the crisis, Platzspitz Park saw thousands of individuals injecting drugs daily in unsanitary conditions. The city’s response included implementing supervised injection sites and heroin-assisted treatment programs. By 2020, Zurich’s supervised injection sites had recorded over 2 million visits, contributing to an 80% reduction in overdose deaths and a 50% decrease in drug-related crimes. Despite these successes, cities like Lausanne and Geneva struggle to replicate such outcomes due to resource constraints and differing social dynamics.

Public opinion reflects both support for and skepticism about harm reduction initiatives. A 2008 referendum revealed that 68% of Swiss residents favor harm reduction programs such as supervised injection facilities², but concerns remain about their effectiveness in fostering long-term recovery. These findings highlight the

1. Ville de Lausanne, “Rapport de Gestion 2022.” Lausanne: ville de Lausanne, 2022. (156)

2. Office fédéral de la santé publique. 2024. “Législation Stupéfiants.” Révision 2008.

need for comprehensive strategies that integrate harm reduction with broader social services, including mental health care and housing support.

Geneva faces similar challenges, with certain districts becoming informal hubs for substance use. The Geneva Health Department shows a doubling of treatment for crack between 2021 and 2022³. This underscores the ongoing strain on urban healthcare systems and highlights the need for more integrated support services. In Lausanne, harm reduction facilities such as the L’Antenne supervised injection site handle approximately 6’000 visits monthly, yet visible substance use persists due to stigma, insufficient access to broader treatment programs, and societal barriers.

Urban design and architecture play a critical role in addressing these challenges. Harm reduction facilities, such as supervised injection sites, are not merely clinical spaces but also urban thresholds, bridging public and private realms. Poorly integrated facilities risk exacerbating stigma and reducing accessibility, whereas thoughtfully designed spaces can promote community acceptance and provide dignified environments for care. Zurich’s Langstrasse Pilot Project demonstrates how discreet and accessible designs can effectively reduce the visibility of public substance use while maintaining functionality for vulnerable populations.

Switzerland’s ongoing challenges with substance use highlight the necessity for continuous adaptation of harm reduction policies and infrastructure. The experiences of Lausanne and Geneva emphasize the importance of context-specific strategies that address the unique social and urban dynamics of substance use. Integrating harm reduction facilities into the broader urban fabric, supported by thoughtful architectural design, offers a critical opportunity to bridge gaps in public health and urban planning. By balancing safety, accessibility, and community acceptance, these facilities can meet the complex needs of individuals with SUD while enhancing urban livability.

3. République et Canton de Genève. 2023. Résultats de l’étude populationnelle genevoise sur les consommateurs de crack. Genève: Département de la sécurité, de la population et de la santé.

The Swiss Model

The Swiss harm reduction model has its roots in the late 20th century, particularly in the city of Zurich, where the visible failure of traditional drug policies prompted a rethinking of approaches to narcotic drug use. By the 1970s, Zurich had gained notoriety for its burgeoning drug problem, characterized by heavy drug users congregating in the city center, leading to an alarming rise in heroin overdoses, with the first recorded death occurring in 1972¹. In response to escalating drug use, the Swiss government enacted stricter federal laws in the early 1980s, imposing severe criminal penalties for drug-related offenses.

Simultaneously, the emergence of the HIV/AIDS epidemic posed significant public health challenges, with Switzerland reporting the highest prevalence of HIV in Western Europe by 1986. This crisis highlighted the interconnections between drug use, health, and societal stability, forcing policymakers and public health officials to seek alternative strategies beyond punitive measures².

A pivotal moment occurred in 1992 when the infamous “Needle Park” in Zurich was cleared by police, marking a shift from tolerance to enforcement. However, this was followed by the development of a more enlightened drug policy that embraced harm reduction principles. From the mid-1990s, Switzerland expanded syringe services, increased access to methadone, and permitted controlled heroin prescriptions. These measures were based on evidence of their effectiveness and have been emulated in various contexts worldwide. The Swiss drug policy framework, introduced in the early 1990s, is often described as a four-pronged approach that includes prevention, therapy, damage limitation, and repression. This strategy emerged as a direct response to the crises of the 1980s and 1990s and was characterized by cooperation among government agencies, public health officials, and law enforcement³. In 1994, Switzerland became a pioneer in providing controlled heroin prescriptions for chronic users, reflecting a shift towards prioritizing human well-being over criminalization.

1. Herzig, Michael, and Miriam Wolf. “Inside Switzerland’s Radical Drug Policy Innovation.” Stanford Social Innovation Review, 2019. <https://doi.org/10.48558/MQWP-3277>.
2. Andre Seidenberg. “The Incredible Story of Zürich’s Journey to Harm Reduction.” Druglawreform.com, 2020.
3. Gaby Ochsenbein. “Switzerland: A pioneer for a humane drugs policy.” swissinfo.ch, 2016.

The evolution of drug policy in Switzerland also saw the establishment of public and social services aimed at assisting drug-dependent individuals, including needle exchange programs and drug treatment facilities. These initiatives were designed not only to mitigate health risks but also to integrate marginalized communities into society.

As a result, Switzerland’s model of harm reduction has been recognized internationally as a successful paradigm for addressing drug-related issues while safeguarding public health and social order.

Substance Use Care Facilities

General Challenges and changes in trends

After Zurich’s emptying of “Needle Park”, a lot of users came back to their home city or county, adding pressure to the existing infrastructure. Most harm reduction facilities in Switzerland emerged at the turn of the 21st century with the creation of the four pillar strategy, which sought to reduce drug-related harm while promoting public health and safety.

The key components of this strategy elaborated in 1991 which are still standing today are¹ :

- Prevention** : The prevention pillar focuses on educating the public about drug use and its associated risks. This includes national drug prevention programs aimed at reducing the consumption of illicit substances and promoting healthy lifestyles.
- Treatment** : Under the treatment pillar, Switzerland has implemented various forms of therapy, including Heroin Assisted Treatment (HAT), which allows for the controlled prescription of heroin to chronic users under medical supervision.
- Harm reduction** : Harm reduction strategies encompass a variety of services, such as needle-exchange programs and safe consumption sites. These initiatives are designed to minimize the health risks associated with drug use, particularly for vulnerable populations.
- Law Enforcement** : The law enforcement pillar aims to address drug-related crime without compromising the health and safety of users. Authorities have learned that relying solely on punitive measures is not sustainable; instead, a coordinated approach that harmonizes public health initiatives with law enforcement strategies is essential to effectively manage the overdose crisis.

These facilities are part of the Treatment and Harm Reduction pillars, where the objective is to be able to reduce all barriers to access to care. Most care facilities for substance related issues are out of reach for the marginalised majority. Even going to the hospital can be a barrier, often due to long bureaucratic processes, alienating spaces and a general care not suited for users with often destructured lifestyles. This structure is called a low threshold access structure. The aim is then to offer a space

1. Office fédéral de la santé publique. “La politique des quatre piliers.” Office fédéral de la santé publique OFSP.

where users can easily access and is attractive for them to use and available to anyone in need.
Substance Use Disorder (SUD) has evolved from being seen as a moral failing or personal weakness to being recognized as a legitimate psychiatric condition. This shift acknowledges the role of genetics, brain chemistry, and environmental factors in driving addiction. However, despite this progress, SUD still lacks the robust infrastructure afforded to other mental health conditions. The complexity of SUD, involving both physical dependence and behavioral patterns, makes it harder to understand and treat, leaving many individuals without the comprehensive support they need.

As said previously, most low-threshold access facilities were created over 25 years ago. During that time, opioids like heroin were the prevalent substance used in Switzerland with an estimated 30’000 daily users by 1990. It was also the substance that brought the biggest sanitary issue with the spread of HIV through shared needles. Facilities were conceptualised accordingly, with the effects of these substances in mind. Heroin induces a tranquil state of mind, users often feel an intense physical and mental relaxation, with worries and stress melting away. This “rush“ is experienced preferably in calm places, with minimal noise pollution. Over-stimulation during their rush can quickly turn into a state of paranoia and anxiety.

Today, global trends in substance use have evolved into a more plural substance consumption. In recent years, Switzerland has experienced a notable increase in cocaine and crack cocaine use, presenting new challenges. Since 2020, Switzerland has faced a surge in crack cocaine use, particularly in public spaces fueled by the COVID-19 pandemic. Geneva has been notably affected, with an estimated 200 regular crack users as of 2023², doubling the number of patients in 10 years. The availability of inexpensive, high-purity cocaine has facilitated this rise, as dealers convert the powder into crack, which is then sold in small, affordable doses. The increased visibility of crack use in urban areas has raised concerns about public safety and health. Authorities have observed open drug consumption in multiple cantons, including Zurich, Vaud, and Ticino³. The rapid onset and short duration of crack’s effects often lead to frequent use, heightening the risk of addiction and associated health complications.

1. RTS Info. “Genève compte environ 200 consommateurs de crack, une drogue ultra-addictive.” RTS Info. Publié le 27 août 2023.
2. Swissinfo.ch. “Crack Cocaine Crisis Escalates in Switzerland.” Swissinfo.ch. Publié le 14 décembre 2020.

This new consumption and the new users it brings with it puts pressure on the existing infrastructure. The psychological effects of cocaine make it incompatible with heroin use due to their different impacts on the body and user behavior. New trends in substance consumption creates tensions that need to be addressed in the way different users interact with one another. The flow and separate distribution of the program enabled a rethinking of existing and new consumption spaces in Switzerland. This shows the constant need for adaptability within these spaces with the evolution of global trends in substance use. Facilities in Lausanne and Geneva are at full capacity, more than doubling the number of users in their lifetime, which shows the trend of growing substance use.

Another challenge is inclusivity in the structures. As the facilities show a male dominated “clientele“ (80-90%) with an average age around 40 years old, it often fails to explain the gap in gender. Substance consumption is prevalent for men but it may not explain a disparity this big in care admission.

In sum, there are numerous challenges that harm reduction facilities face with a constantly changing substance market, where there is a need for adaptability in spaces and flow. There is also a growing demand for these spaces that puts pressure on existing infrastructure and creates tension with different consumers. Within this context, there are an unknown number of individuals that do not seek help in these infrastructures. It is difficult to estimate the percentage or number of people that are in need of such facilities but it seems that there is a barrier with women and young individuals to cross this boundary which could lead to a higher health risk for this population if the issue of this barrier is not addressed. In general, substance use disorder, while experiencing similar symptoms than other psychiatric conditions, lacks in comparison the right infrastructure to address it, as it requires a different approach to seek help.

Local Community Integration

The integration of care facilities for individuals with substance use disorders (SUD) into local communities is a critical but challenging aspect of their creation. Despite the undeniable public health benefits these facilities provide, their establishment often faces significant resistance, political hurdles, and logistical barriers. Care facilities, such as harm reduction centers and supervised injection sites, are not isolated entities; their functionality depends heavily on their interaction with the surrounding community. Effective integration ensures accessibility for the populations they serve. However, integration is fraught with complexities, as communities often perceive these facilities as threats to safety, property values, and neighborhood aesthetics. This resistance creates a significant barrier to their establishment.

A major challenge is the prevalence of the “Not in My Backyard” (NIMBY) phenomenon¹, where residents support harm reduction initiatives in principle but oppose their presence in their neighborhoods. This opposition often stems from fears of increased crime, visible drug use, and declining property values. For example, a 2022 survey by Addiction Suisse revealed that while 66% of Swiss residents supported harm reduction programs², a substantial portion expressed concerns about their potential impact on community safety and livability. Public or political support for funding and site selection is often limited, as policymakers hesitate to endorse these projects due to perceived voter backlash or fiscal constraints. Many facilities rely on a combination of public funds and private donations, but inconsistent funding often limits their scope and sustainability.

The process of site selection further complicates community integration. Urban centers, where the need is highest, tend to face the strongest opposition. Each center navigates this challenge in its own way, adopting strategies that range from affirming their presence to maintaining discretion. Some facilities actively engage with their

1. Keiger, Dale. 2016. “Do drug treatment centers bring more crime to a neighborhood?” Johns Hopkins Magazine, Spring 2016. Accessed January 13, 2025. <https://hub.jhu.edu/magazine/2016/spring/nimby-drug-treatment-centers/>.
2. Addiction Suisse. 2023. Rapport d’activité 2023. Lausanne: Addiction Suisse. Accessed January 13, 2025. <https://www.addictionsuisse.ch/notre-engagement/rapport-dactivite/>.

communities to build trust and normalize their presence. This includes hosting informational sessions, inviting community members to participate in planning committees, and offering shared spaces, such as community gardens or multipurpose rooms.

Other facilities opt for a more discreet approach, blending into their surroundings to minimize visibility. Lausanne's L'Antenne injection site, for instance, prioritizes user accessibility while maintaining a low profile. This strategy often involves locating facilities in inconspicuous buildings or industrial zones and avoiding overt identification as harm reduction centers. Architectural and urban design play a crucial role in mitigating resistance by addressing aesthetic and functional concerns.

The challenges of community integration highlight broader issues within the architecture and planning of care facilities. These facilities function as threshold spaces, mediating between the needs of vulnerable populations and the expectations of the surrounding community. Their design must navigate this tension, creating environments that are welcoming to users but non-disruptive to the public. Resistance to harm reduction facilities often reflects deeper societal biases against marginalized groups, challenging urban planners to advocate for social justice while managing community concerns.

The inconsistent support for these facilities, both politically and financially, raises questions about their long-term viability. Ensuring that facilities can sustain their operations while adapting to evolving community dynamics is a critical issue. Future strategies for community integration could include participatory design processes that involve community members, patients, and staff in planning, public education campaigns to raise awareness about the benefits of harm reduction facilities, and incentivized funding models to encourage municipal support. By balancing safety, accessibility, and community acceptance, these facilities can meet the complex needs of individuals with SUD while enhancing urban livability.

Conception and specific needs of harm reduction facilities

The first aspect in the conception of a low threshold access structure is the site placement. Geographical accessibility is an essential component for users. Their daily routine can vary a lot from one another but the most marginalized individuals typically revolve where access to substances is most prevalent and tend to spend their time around these places. The use of psychotropic substances disrupts any kind of daily life structure and perception of time and space, which does not encourage them to move out of their direct familiar area. This vicious cycle can be difficult to break to access a harm reduction facility that is not strategically placed. The result is an under-used space because it is too far. The Passage space created by the ABS foundation in Lausanne experienced this effect, being barely 500 meters from the Place de la Riponne, considered the epi-center of substance use and dealing platform in Lausanne.

The program of the structures can vary slightly based on location and types of users, but generally have common denominators:

A reception/ welcome area where users are greeted and basic information is taken .

A waiting area or resting zone where users can be redirected after entry or after their use.

There is often a kitchen and cafeteria to offer hot meals to the individuals in need, it also serves as a community activity where people are encouraged to participate in the cooking.

Some larger facilities have consultation rooms for a more private and individual examination by a health professional.

The safe consumption rooms, often divided by type of substance consumed to avoid friction from different types of reaction to it that can be in opposition.

An often neglected space that is rarely part of the conception is an outdoor semi-private space where users usually wait before entering.

In the distribution of the program, there is a particular focus on spatial hierarchy and flow within and between spaces. As users are in a state where their senses are heightened or vice versa, diminished, it is important that the spaces are easy to

navigate. As large amounts of people and noise can be over stimulating for them, it’s important that the user’s path is well defined and without interruption. This path is, in newer facilities, a one way walk to ease as much as possible the flow inside and avoid a clash between two users of different substances. To circumvent this even more, different spaces are attributed for different substance use, as well as different exits sometimes.

Outdoor spaces are frequently looked over in the conception of a harm reduction structure. Priority is given to the private inside spaces when operations are done but a large part of users come to rest while waiting to get in or after leaving the facility. This creates a gathering of people in the streets at the entrance or exit where users sometimes even consume and rest. These public spaces are sometimes cobbled together with separation walls or plants to create a semi-private space, hidden from the eyes of the public.

Security is another important aspect for both staff and users. Spaces are created to be wide with no hidden dark volumes. Everything is well lit and the rooms are entirely visible by the staff at all times. Some private consumption rooms have large windows to offer some intimacy while staff can monitor the place at all times.

There are generally staff offices that are inaccessible to users.

Finally, materials used are often close to what can be found in a hospital. Attempts to create a welcoming space are in most cases swept away to accommodate a functionalist design with materials that can be easily cleaned and sterilised like aluminium or resin. Everything is designed to be as hippo-stimulant as possible.

It is important to note that most of these places were created with low initial budgets and most of the time just created the spaces with the site and materials available to them at the time. As the foundations are getting more financial and political support, new spaces with actual conceptualized strategies are beginning to emerge in Geneva or Lausanne.

Perception of the Facilities

While the external community’s view of the building is often observable and tangible, understanding how the facility facilitates an individual’s acceptance of their need for help is far more nuanced and challenging to assess. This duality highlights the layered impact of architectural design, particularly the role of thresholds, which extend beyond mere functionality to carry psychological and symbolic significance. The external community often forms opinions about care facilities based on their architectural presence, location, and integration within the urban fabric. Facilities that are visibly institutional or stark may inadvertently reinforce negative stereotypes about substance use disorders (SUD) and create resistance among community members. In contrast, designs that blend seamlessly into their surroundings tend to attract less attention.

However, public perception is not solely shaped by aesthetics. The facility’s visibility, the type of activities it hosts, and its users’ behavior in the vicinity also play critical roles. For instance, facilities designed with open, transparent façades can symbolize accessibility and openness, promoting a message of support rather than secrecy. Conversely, buildings that appear isolated or fortified may inadvertently convey exclusion and heighten stigma.

From the perspective of users, the building itself can serve as a mediator in the difficult process of accepting help. Individuals with SUD can face profound stigma, internalized shame, and resistance to seeking care. The architecture of a facility, particularly its thresholds, can play a role in either facilitating or hindering this acceptance. Thresholds, in this context, refer not only to physical entry points but also to transitional spaces that symbolize a shift from one state to another, such as from public to private, or from isolation to support.

A welcoming and non-intimidating entry space can ease the anxiety often associated with seeking help. Elements such as natural light, warm materials, and clear signage can create an environment of trust and reassurance. For example, the reception area of a facility is more than a functional space; it serves as an initial point of human interaction, setting the tone for the user’s experience. Thoughtfully designed thresholds can help users feel a sense of safety and dignity, which is crucial in building their willingness to engage with the services provided.

Thresholds in care facilities transcend their utilitarian purpose of facilitating

movement between spaces. They act as symbolic and psychological markers of transition and transformation. For users, crossing a threshold into a care facility represents more than entering a building; it is a significant step toward seeking support. For the community, these thresholds symbolize the boundary between public urban life and the private, introspective process of recovery.

The concept of thresholds serves as a natural bridge between the architectural design of harm reduction facilities and their perception by both users and the community. Thresholds embody the intersection of functionality and symbolism, mediating the user’s internal experience of seeking help and the external community’s acceptance of the facility’s presence.

In this way, thresholds become an essential element in both the architectural identity and the social narrative of care facilities. They provide opportunities for architects and planners to challenge the perception of the facility and create spaces that are not only functional but transformative. As a result, thresholds can serve as tools in shaping perceptions and building bridges between vulnerable individuals, the facilities designed to support them, and the communities in which they operate.

Crossing Thresholds: Exploring Spaces of Transition

Concept of threshold in architecture

Rooted in the Latin word “limen,” meaning the boundary or limit, thresholds are spaces that mediate between two distinct realms, facilitating movement, interaction, and transformation. These transitional spaces are far more than mere entry points; they carry rich cultural, social, and psychological connotations that influence how architecture is experienced and understood¹.

Thresholds as Transitional Spaces

In architectural terms, a threshold marks the boundary between different spaces, such as inside and outside, public and private, or sacred and secular. It is not confined to physical boundaries like doors or gates but extends to any spatial configuration that signals or facilitates a change in state. The threshold is a space of passage, where movement between zones is negotiated, and it often embodies a moment of pause, reflection, or anticipation².

Architectural theorists argue that thresholds are critical to the spatial experience because they create a sense of liminality. Liminality, a term derived from anthropology, refers to the in-between state where transformation occurs. In architecture, this liminality allows thresholds to become spaces of both separation and connection, serving as bridges between contrasting environments. This dual role makes thresholds essential tools in defining spatial relationships and user experiences.

Historical and Cultural Dimensions of Thresholds

Throughout history, thresholds have carried significant cultural and symbolic meanings. In traditional architecture, thresholds often signify moments of transition that are deeply ritualized. For example:

Religious Architecture: The portals of churches, temples, or mosques serve as symbolic markers between the sacred and the profane. Passing through these thresholds often involves physical rituals, such as bowing or removing shoes, that reinforce the significance of the transition³.

1. Norberg-Schulz, Christian. *Genius Loci: Towards a Phenomenology of Architecture*. New York: Rizzoli, 1980.
2. Zumthor, Peter. *Atmospheres: Architectural Environments - Surrounding Objects*. Translated by Maureen Oberli-Turner. Basel: Birkhäuser, 2006.
3. Eliade, Mircea. *The Sacred and the Profane: The Nature of Religion*. San Diego: Harcourt, 1959.

Domestic Spaces: In vernacular architecture, the threshold of a home is not merely a functional entry but a marker of hospitality and protection. It delineates the boundary between the private sphere of the household and the public domain of the street⁴.

Cultural practices further imbue thresholds with meaning. For instance, many traditions include rituals at doorways to ward off evil or welcome prosperity. These practices underscore the threshold’s role as a charged space of transformation and interaction.

Threshold analysis parameters

The design of thresholds involves various elements that contribute to its creation. In his book *Threshold space, Transition in Architecture: Analysis and design tools*, Till Boettger⁵ outlines “Threshold analysis parameters“ that provide a framework for understanding how transitional spaces in architecture function and are perceived. These parameters can serve as tools to dissect the physical, sensory, and symbolic qualities of thresholds:

Materiality: The use of distinct materials to differentiate thresholds from the spaces they connect. For example, a stone threshold might signify permanence and stability, while wood conveys warmth and approachability.

Delimitation: This refers to the use of boundaries, such as walls, fences, or markings, to define and separate spaces. Delimitation provides clarity and structure while signaling the transition between distinct zones.

Topography: The physical elevation or terrain at a threshold influences how users perceive and interact with it. Steps, ramps, or changes in elevation create distinct physical transitions that emphasize the act of crossing into a new space.

Geometry: The shape and configuration of thresholds influence how they are perceived and experienced. Arched doorways, narrow corridors, or open foyers each evoke different emotional and spatial responses.

Furnishings: The physical objects that furnishes a space, flower pots, couches or bookshelves can define spaces and create delimitations.

Sequence and Layering: Complex thresholds often involve a sequence of spaces that gradually transition from one zone to another. This layering creates depth and amplifies the sense of journey or transformation.

4. Ibid
5. Boettger, Till. “Theshold Spaces”. Basel: Birkhäuser, 2014.

Thresholds in Architectural Theory

In architectural theory, thresholds are seen as key to understanding the relationship between space, movement, and experience. Influential thinkers have emphasized their importance: Christian Norberg-Schulz described thresholds as integral to the phenomenological experience of architecture, where they mediate between “place” and “non-place.”⁶ Peter Zumthor highlighted the tactile and sensory qualities of in-between spaces, noting their ability to evoke emotional and atmospheric responses⁷. Rem Koolhaas approached thresholds from a functional and urban perspective, exploring how they organize flows and create interactions within cities⁸. These perspectives underscore the versatility of thresholds, which can serve as tools for storytelling, wayfinding, or social interaction.

Psychological, social and symbolic dimensions

Thresholds in architecture are rich with psychological, social, and symbolic dimensions that influence how spaces are perceived and experienced. As transitional spaces, thresholds carry notable implications for human behavior, societal interactions, and cultural meaning.

Psychologically, thresholds can influence how individuals perceive their surroundings and their emotional responses to entering or leaving a space. Studies in environmental psychology highlight how well-designed entry spaces with warm materials, natural light, and clear sightlines reduce anxiety and promote comfort. For example, research by Kaplan and Kaplan on restorative environments shows that smooth transitions with natural elements are perceived as more welcoming and calming⁹. Thresholds also embody the concept of liminality, a transitional state where individuals experience change and transformation. Anthropological studies by Victor Turner emphasize that liminal spaces evoke both excitement and uncertainty, making thresholds significant markers of change¹⁰. Furthermore, thresholds provide behavioral cues, subtly guiding how people act and feel, such as prompting introspection in narrowing corridors or encouraging social interaction in wide, open foyers.

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6. Norberg-Schulz, Christian. *Genius Loci: Towards a Phenomenology of Architecture*. New York: Rizzoli, 1980.
 7. Peter Zumthor, *Thinking Architecture*, 3rd expanded ed. (Basel: Birkhäuser, 2010).
 8. Koolhaas, Rem. *Delirious New York: A Retroactive Manifesto for Manhattan*. New York: Monacelli Press, 1994.
 9. Kaplan, Stephen, and Rachel Kaplan. *The Experience of Nature: A Psychological Perspective*. Cambridge: Cambridge University Press, 1989.
 10. Turner, Victor. *The Ritual Process: Structure and Anti-Structure*. Chicago: Aldine Publishing, 1969.

Socially, thresholds mediate interactions between individuals and groups, acting as boundaries that regulate access, control visibility, and facilitate encounters. Semi-private thresholds, such as porches or courtyards, foster casual interactions while maintaining boundaries, as Jan Gehl observed in his studies of public spaces¹¹. Thresholds also define inclusion and exclusion, shaping social hierarchies and group dynamics. A well-designed threshold can promote inclusivity by signaling openness, while uninviting designs risk reinforcing social exclusion. In public architecture, thresholds often symbolize democratic ideals, as seen in civic buildings with inviting steps and plazas, while restricted or fortified thresholds convey authority and exclusivity.

Symbolically, thresholds hold cultural and contextual meanings. In many traditions, thresholds mark the transition between sacred and profane spaces, as seen in the Torii gates of Shinto shrines in Japan, which delineate the boundary between the everyday world and the sacred. Thresholds also represent personal transformation, symbolizing moments of change in rites of passage such as weddings or graduations. In contemporary architecture, thresholds are used to tell stories and communicate identity, as exemplified by Peter Zumthor’s designs, which employ thresholds to evoke historical continuity and emotional resonance. Research underscores the measurable impact of thresholds, such as the effects of geometry in transitional spaces on stress¹².

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11. Gehl, Jan. *Life Between Buildings: Using Public Space*. Washington, DC: Island Press, 2010.
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Thresholds in therapeutic architecture

Therapeutic architecture focuses on creating environments that promote healing, well-being, and emotional recovery. It draws on evidence-based design principles to address the psychological, emotional, and physical needs of users, particularly in healthcare and rehabilitative settings. The concept of thresholds in therapeutic architecture provides a critical lens for examining how architectural design can support individuals navigating substance use disorders (SUD).

The Groot Klimmendaal Center, Netherlands

The Rehabilitation Center Groot Klimmendaal in Arnhem, Netherlands, designed by Koen van Velsen, exemplifies the principles of therapeutic architecture, particularly the role of thresholds in shaping the user experience. Completed in 2011, this building integrates natural surroundings, architectural fluidity, and user-centric design to create an environment conducive to healing. The care concept is based on the idea that a positive and stimulating environment increases the well-being of patients and has a beneficial effect on their revalidation process. The design ambition was not to create a centre with the appearance of a health building but a building as a part of its surroundings and the community¹.

The Groot Klimmendaal rehabilitation center is situated within a forested landscape, and the design leverages this natural setting to create seamless transitions between indoor and outdoor spaces. The facility is clad in brown anodised aluminium panels, and despite its size, makes the building dissolve within its surroundings [Fig 2.]. Expansive glass walls and terraces blur the boundaries between the built environment and nature, creating a discreet yet open interface with its surroundings². As said by the architects, the spaces that are needed to accommodate the program take particular importance in this context. It is within this scope that architecture for him, occurs, where “architecture speaks and where the building acquires a use and a right to exist with more meaning than the strictly functional.”³ This materialises with a focus

1. Koen van Velsen Architects. “Revalidatiecentrum Groot Klimmendaal.” Accessed January 5, 2025. <https://www.koenvanvelsen.com/nl/projects/107/revalidatiecentrum-groot-klimmendaal>.

2. Etherington, Rose. “Rehabilitation Centre Groot Klimmendaal by Architectenbureau Koen van Velsen.” Dezeen, March 25, 2011. Accessed January 5, 2025. <https://www.dezeen.com/2011/03/25/rehabilitation-centre-groot-klimmendaal-by-architectenbureau-koen-van-velsen/>.

3. Gregory, Rob. “Rehabilitation Centre Groot by Architectenbureau Koen van Velsen, Klimmendaal, Arnhem, The Netherlands.” The Architectural Review, May 27, 2011. Accessed January 5, 2025. <https://www.architectural-review.com/today/rehabilitation-centre-groot-by-architectenbureau-koen-van-velsen-klimmendaal-arnhem-the-netherlands>.

on internal transitional spaces such as corridors, stairs and a careful placement of the program within it. The circulation is carefully thought to minimise the impact of its size. On the ground floor, circulation spaces run around the building with a double-height ceiling with extensive glass facades [Fig 1.], offering generous spaces to minimise the impact of its length. Natural light is abundant and horizontal and vertical circulation are always linked to avoid dead ends. Color cues help guide patients through the program to avoid the feeling of disorientation [Fig 4,5,6.]. The portico, while striking in its scale and design, initially feels somewhat disconnected from the overall integration of the plan and the refined circulation strategies. However, as explained by van der Heijden, this space is designed with a broader purpose in mind for the second phase of the project. It is intended to become a grand entrance and a central connector to an expanded rehabilitation center. For now a transitional space serves as a buffer zone between the monumental portico and reception area inside. It articulates this change of state with a small square space where individuals turn to enter instead of transitioning straight to the reception, offering individuals a moment of reflexion in a glass covered space [Fig 3.].

In the future, additional floors will be added between the pre-formed column heads that currently extend from the columns, transforming the structure further. For now, the oversized canopy and columns serve a functional purpose by providing shelter to the building entrances, while the space beneath hints at the ambitious vision for the facility’s evolution.



Figure 1. Groundfloor plan of Groot Klimmendaal

tural-review.com/today/rehabilitation-centre-groot-by-architectenbureau-koen-van-velsen-klimmendaal-arnhem-the-netherlands.



Figure 2. Exterior of Groot Klimmendaal

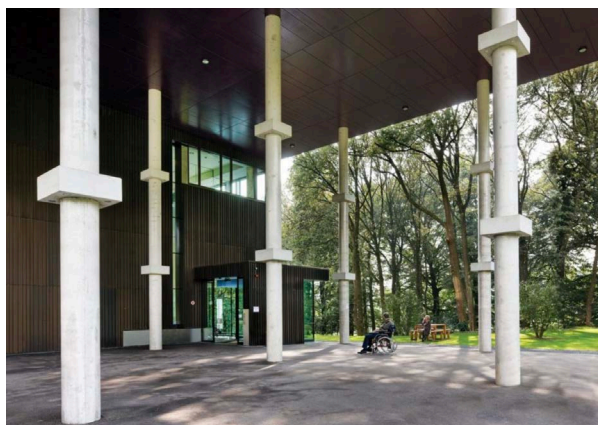


Figure 3. Exterior portico and transitional entrance

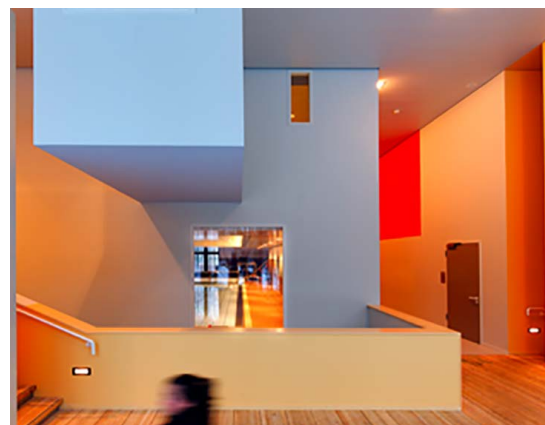


Figure 4. Changing volumes of the circulation inside

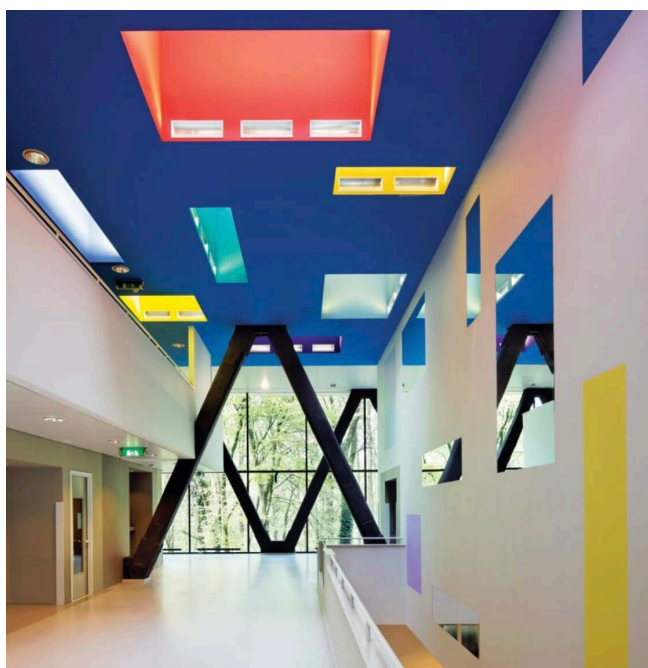


Figure 5. Abundant natural light

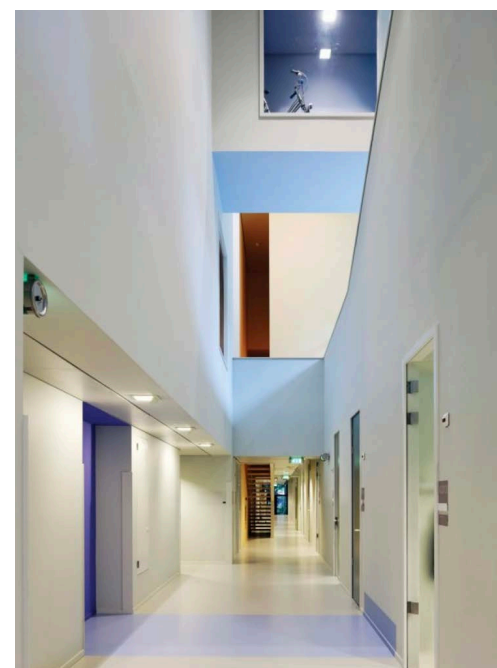


Figure 6. Color cues and double height in the corridors

The Sister Margaret Smith Addictions Treatment Centre, Canada

The Sister Margaret Smith Addictions Treatment Centre in Thunder Bay, Ontario, is also notable for its architectural design that supports therapeutic goals, blending functionality with an emphasis on creating a calming, healing environment. Designed by Montgomery Sisam Architects, the facility integrates key elements of therapeutic architecture to address the unique needs of individuals recovering from addictions¹.

Large windows and skylights ensure abundant natural light, fostering openness and reducing stress, while secure, landscaped courtyards provide transitional outdoor spaces that connect users with nature and offer moments of reflection [Fig 8.]. The inclusion of a circular spiritual space inspired by Ojibway culture highlights the center's commitment to cultural inclusivity, creating a welcoming environment for its diverse user base. Inside, a warm material palette of wood accents and natural textures creates a comforting, non-institutional atmosphere. The functional layout balances privacy and accessibility, with clear circulation paths and adaptable spaces that can accommodate evolving program needs. These architectural choices align with contemporary principles of therapeutic design, where built environments actively support recovery and foster dignity. The main entrance of the facility is deliberately understated, featuring a simple wooden roof that provides shelter for visitors before they enter through a standard wooden door [Fig 10.]. This modest design contrasts with the monumental portico and expansive glass door of the Groot Klimmendaal Rehabilitation Centre. However, both facilities share a similar design principle at their entry points: the use of a turn and buffer zone that mediates the transition from the outside to the interior. This highlights a emphasis on the sequencing of transitions at the threshold, ensuring a gradual shift in spatial perception. Then individuals are introduced into what they call the "Recovery Hall" [Fig 12.], where curved walls orient patients into the program².

Within the facility, attention to transitional spaces extends into the interior design. Like Groot Klimmendaal, the corridors are designed to avoid dead ends, instead looping around courtyards and leading to communal areas such as the spiritual

1. Montgomery Sisam Architects. "Sister Margaret Smith Addictions Treatment Centre." Accessed January 5, 2025. <https://www.montgomerysisam.com/project/sister-margaret-smith-addictions-treatment-centre/>.
2. ArchDaily. "Sister Margaret Smith Addictions Treatment Centre / Montgomery Sisam Architects." February 22, 2011. Accessed January 5, 2025. <https://www.archdaily.com/109414/sister-margaret-smith-addictions-treatment-centre-montgomery-sisam-architects>.

room, gym, or activity spaces. These design choices aim to mitigate the oppressive, institutional feel often associated with long, monotonous healthcare corridors. By punctuating pathways with communal nodes and incorporating natural light, whether from courtyard adjacency or skylights, the facility fosters a sense of openness for its users. Warm materials like wood and color cues further enhance the therapeutic quality of these spaces [Fig 9,11.]. Nevertheless, the Groot Klimmendaal center excels in deconstructing the traditional corridor geometry. Its larger volumes and original spatial configurations contribute to a more dynamic and less hospital-like atmosphere. This comparison underscores the nuanced approaches to transitional space in therapeutic architecture, demonstrating how both facilities prioritize user experience while addressing the challenges of institutional design [Fig 7.].

While following similar principles than the Groot Klimmendaal facility in the Netherlands, the Sister Margaret Smith Addictions Treatment center differs in the layout of its program with a much wider footprint to include private courtyards and accomodate all the program on one floor. The focus is less to blend with its surroundings but more to create an outer shell where the relationship with outside is made through the courtyards.



Figure 7. Plan of Sister Margaret Smith Addictions Treatment Centre



Figure 8. The gym from the courtyard

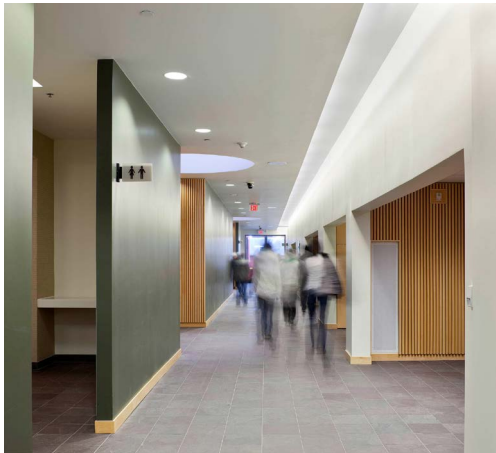


Figure 9. Plurality of materials and colors in transitional spaces

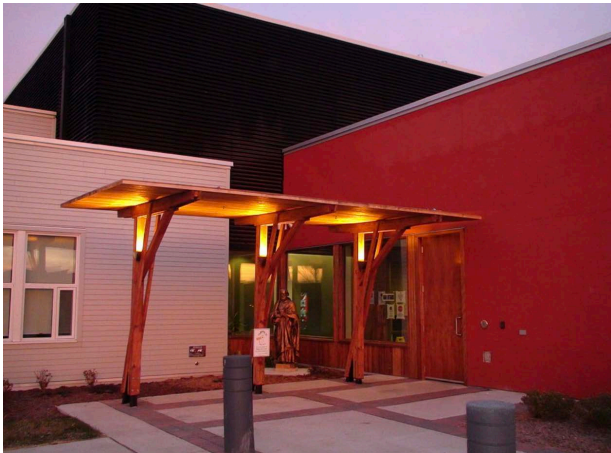


Figure 10. Entrance of the facility



Figure 11. Abundant natural light

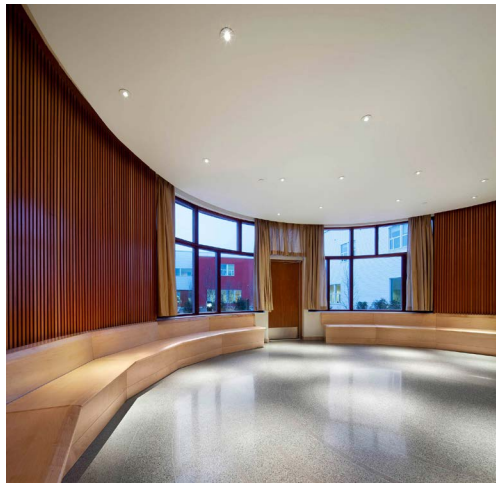


Figure 12. "Hall of Recovery" space after the entrance

Types of thresholds within Substance Use Care Facilities

The concept of transition in therapeutic architecture emerges from the previous examples as an important aspect of the design process. In harm reduction care facilities, thresholds align with the specific challenges these centers face. To understand the role of thresholds in harm reduction facilities within Switzerland, it is essential to first identify and understand the unique challenges associated with these spaces.

Three primary challenges can be delineated. First, one of the most significant barriers for individuals with Substance Use Disorder (SUD) is the psychological and symbolic act of acknowledging their need for help and physically entering a care facility. This initial threshold is critical, as its design can either encourage or deter users from seeking assistance. Second, the internal flow of the facility presents another challenge. Once users enter, clear and supportive transitions between spaces, such as reception areas, waiting rooms, and therapy zones, are vital to avoid confusion, discomfort, or heightened anxiety, particularly in a context where substance use trends are evolving. Finally, substance use care facilities often encounter resistance from their surrounding communities due to stigma and fear of what it would bring to the area. The integration of the facility into the urban fabric, can play a significant role in fostering local acceptance and even facilitating dialogue between the center and the community. As such, thresholds are going to be categorised here through these three main issues.

1. Thresholds as Spaces of Entry and Welcome

The entrance threshold defines the moment of crossing into the facility. The entry threshold is pivotal in addressing the challenge of user acceptance. It represents the first step for users acknowledging their need for help and accessing the facility. This threshold is both a physical entry point and a symbolic gateway that can influence whether a user feels welcomed or hesitant. These thresholds are designed to convey a sense of safety and openness, while balancing discretion to minimize stigma. They are defined by their ability to transition users from the public realm into the semi-

private or private domain of the facility. Entry thresholds can include features such as doors, canopies, ramps and signage. These elements define the approach and crossing into the facility.

Examples such as the Glostrup Hospital Neurorehabilitation Centre in Copenhagen, designed by NORD Architects, expresses the importance of healthcare facility entrance. The building's entry is intentionally designed to feel homelike, utilizing warm materials such as wood and soft colors to blur the line between clinical and domestic spaces. The entrance area is surrounded by greenery and large windows, allowing natural light to flood the space, creating a welcoming and uplifting environment. The transition into the welcome area is seamless, with clear visual cues and intuitive navigation. The open layout and visible connections to communal spaces within the facility reinforce a sense of belonging and accessibility. This approach reflects the importance of psychological comfort and dignity, especially in facilities catering to vulnerable populations such as those with substance use disorders¹.

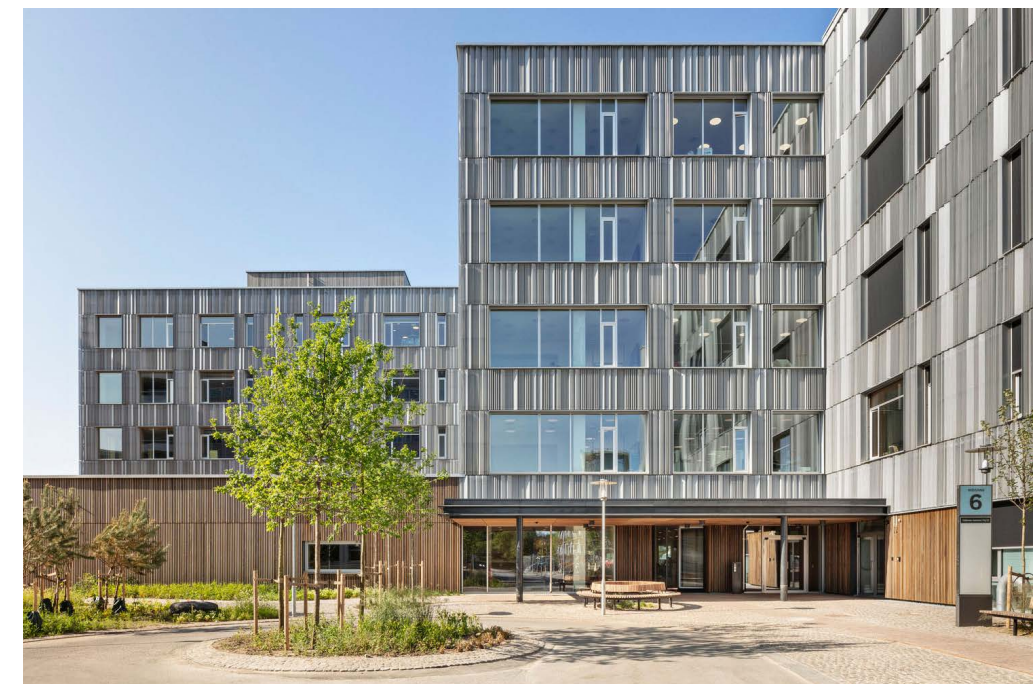


Figure 13. Unassuming entrance of the Glostrup Hospital Neurorehabilitation Centre

1. Buro Happold. "Glostrup Hospital Neuro Rehabilitation Centre." Accessed January 5, 2025. <https://www.buro-happold.com/projects/glostrup-hospital-neuro-rehabilitation-centre/>.

2. Thresholds as Spaces of Transition and Liminality

The transitional thresholds inside the facility address the issue of flow and functionality. These spaces guide users through the building, ensuring clarity and ease of navigation while maintaining a therapeutic atmosphere. Transitional thresholds are designed to connect different functional zones within the facility, such as reception areas, counseling rooms, and consumption spaces. They create a sequenced experience that gradually transitions users through varying degrees of privacy and functionality. Corridors, hallways, staircases, internal courtyards, and waiting areas are key components of transitional thresholds. These spaces may also incorporate lighting, flooring patterns, or color coding to assist navigation. These thresholds are defined by their linear or looping layouts, often delineated by changes in materiality (e.g., from hard flooring to softer textures) or spatial markers such as doorways and alcoves. Natural light from windows or skylights, as well as visual connections to outdoor spaces, enhances the perception of openness and reduces the institutional feel.

The Psychiatric Centre Bolzano, designed by MoDus Architects, integrates transitional spaces that connect functionality with therapeutic intent. The inner courtyard and patios serve as light-filled, tranquil zones for reflection and interaction, while bridging terraces and open hallways enhance circulation and spatial orientation. These design elements ensure seamless transitions between private and communal areas, fostering a sense of openness and community while maintaining privacy—key for the center’s therapeutic goals².

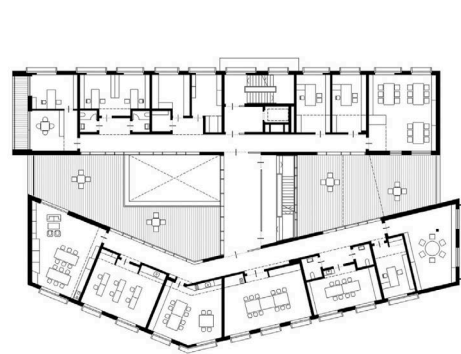


Figure 14. Plan of the 2nd floor

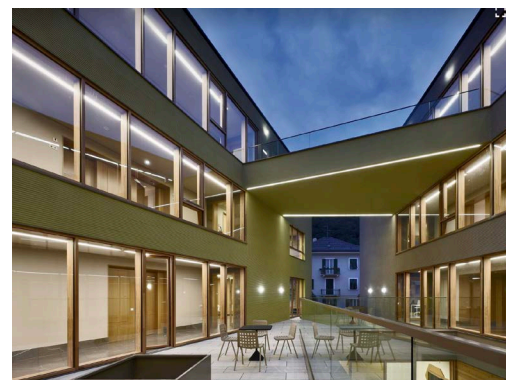


Figure 15. The inner courtyard surrounded by

2. Archello. “Psychiatric Centre Bolzano.” Accessed January 5, 2025. <https://archello.com/project/psychiatric-centre-bolzano>.

3. Thresholds as Interfaces with the Community

The community-facing threshold is central to addressing the challenge of local acceptance. These thresholds mediate the relationship between the facility and its surrounding urban or residential context, shaping how the facility is perceived by the public. These thresholds must balance visibility with discretion, fostering a sense of integration while minimizing potential stigma or resistance from the community. They often act as physical and symbolic connectors between the facility and the surrounding environment. Community-facing thresholds include facades, signage, fencing, outdoor spaces, and landscaping. These elements frame the facility’s public-facing identity. The boundaries of community thresholds include the edges of the property, such as fences or landscaped buffers, and the façade elements that signal the facility’s purpose. Materials, colors, and patterns on the exterior can convey messages of openness or solidarity, while physical barriers like low walls or gates provide security and delineation.

The Belmont Community Rehabilitation Centre, designed by Billard Leece Partnership, exemplifies the integration of thresholds as community interfaces. Located in Australia, this facility offers an active, goal-focused rehabilitation program within a residential setting. The facade follows the architectural cues of surrounding buildings to blend in. The design emphasizes accessibility and openness, fostering a welcoming environment that encourages community engagement. By incorporating universal design principles, the center ensures inclusivity and ease of access for all individuals, promoting a sense of belonging and support within the community.³



Figure 16. The facade following surrounding architectural style

3. ArchDaily. “Belmont Community Rehabilitation Centre / Billard Leece Partnership.” September 25, 2013. Accessed January 5, 2025. <https://www.archdaily.com/431771/belmont-community-rehabilitation-centre-billard-leece-partnership>.

Case Studies : How Facilities in Switzerland Deal with Thresholds

Case study I : Fondation ABS, Lausanne

The Antenne facility, located on the Place de La Riponne 10 in Lausanne was opened the 24th of May 2024. It is a low-threshold accessibility structure, meaning it is designed for individuals in precarious situations that cannot afford clinical care. It complements the existing structure Le Passage, situated 700 meters away from L'antenne at the Place du Vallon 4, a 10 minute walk [Fig 17.]. It welcomes individuals 6 days a week from 7 am to 9:30 pm in a space where they can consume their substance with professional support, obtain first aid and get a follow-up for a re-introduction in society with various activities and therapy sessions. Its aim, said by the foundation is to “improve the health status of consumers, participate in reducing the consumption of narcotic drugs in public spaces, reduce the number of waste and limit the nuisances for the neighbourhood in order to improve the cohabitation between the different populations of the sectors concerned”

This facility is the newest addition to harm reduction structures in Switzerland. As the most recent one, it has had over 30 years of experience to inform the design of the space to meet the demand as best as possible. Its design should inform of the best practices in terms of healing environments and harm reduction. The discretion of the entrance and its blending into the urban context makes the facility a compelling example of how the threshold as an entry and welcome is articulated in the context of Lausanne.

The facility is located beneath a public building, with access limited to one side where a paved road passes through. The entrance features exposed concrete, complemented by floor-to-ceiling translucent glass blocks that provide natural light while maintaining privacy. Aluminum frames are used for doors, windows, railings, and handrails, reinforcing the functional design. The facade emphasizes straight lines and orthogonal geometry, with a recessed entrance sheltered by an overarching roof structure. Accessibility is ensured via an elevated sidewalk with aluminum railings and a ramp, alongside stone-clad stairs for direct access.

Inside, the layout is simple and functional, divided into three main zones: a welcome area for greeting users, a waiting/resting area, and a consumption room. The

welcome and resting areas are part of an open L-shaped layout, separated from the consumption room by a partition wall to ensure privacy and prevent the mixing of substance use methods. Staff offices and services are located around these central spaces.

Natural light is limited to the welcome and resting areas through glass blocks, while the consumption room relies on blocked windows for privacy and artificial lighting via square ceiling lights. Materials and colors, including white and pale blue walls, light gray resin floors, and aluminum furniture, prioritize cleanliness and functionality. The uniform design creates a clinical, hypo-stimulant environment, focusing on practicality over aesthetic diversity.

The facility is almost invisible from neighbors, blending under a building. The entrance balances functionality, discretion and accessibility within a constrained urban environment. But how does this threshold mediate between public and private realms ? How does the threshold of this entrance engage with its users and is it affecting the perception of the facility of individuals in search of help ?

When arriving to the facility, users are met with a first threshold. It is less a line between spaces but more a buffer zone bridging the public and private realms [Fig 18.]. It is a space articulated by the road going under the building, delimited by its guarded sidewalk, creating a dark space that precedes the entrance [Fig. 25]. The threshold's design prioritizes functionality, but its recessed and hidden position under the larger building above diminishes its visibility. While this helps maintain discretion, it may unintentionally convey a sense of isolation. The use of mute materials, such as concrete and aluminum, further reinforces this understated aesthetic, potentially lacking the warmth and openness addressed in therapeutic architecture such as in Groot Klimmendaal's center. This could be expected in a space intended to foster trust and welcome. The roof structure extending over the road creates a sheltered zone, offering protection from the elements and privacy while subtly gilding users towards the entrance. This neglected space, half-way between the public and private worlds, serves as an intermediary, where individuals often pause and rest before entering the facility or after leaving it. Its popularity as a meeting and buffer zone has even been noted by the staff, who placed construction barriers in peak times to further privatize the area with ephemeral equipment. As the road itself is public property, no durable interventions could be made. However, the dominant use

of industrial materials and the limited access to natural light and biophilic elements such as greenery may fail to alleviate the anxiety often associated with entering a facility of this nature.

Following this initial space, the path to the facility is met with yet another threshold. Between the underground road and the facility there is an elevated sidewalk approximately 40cm high, too high to be crossed comfortably. This sidewalk is delimited by a metal railing, enclosing the space and making access to the facility only possible through its openings, where stairs allow users to cross the boundary only in front of the main doors [Fig. 26]. This threshold serves as an accessibility ramp for people with reduced mobility, supposedly bringing access to the facility for everyone. But its entry point is more than 25 meters away from the entrance, making a significant detour whereas the steps for most are right in front. Its slim 1.2 meter width extends along the length of the building, effectively dividing the road and facility. In contrast to the road below, this narrow enclosed geometry creates an ambiguous space elevated from the road where it acts as a path and another buffer zone, elevated from the first one [Fig 27.].

After crossing the last threshold outside, users are met with a glass and metal double door, with views of inside spaces [Fig 19.]. The transparent materials and the small thickness of the door itself allows for a seamless transition into the welcome area where they are directly taken care of by the staff behind the desk on the right of the entrance. The crossing from the outside to inside, public to private realm is smoothly executed by the glass doors inviting individuals inside with a direct initial interaction in front for a quick handling of users, leaving little time to wait [Fig 20.]. According to the director, it is important that individuals don't roam around without knowing what they're doing. Having the reception desk right at the entrance reduces the risk of waiting inside the facility, as not to bother the users resting in the area next to them. It is followed by a waiting/resting area in the same open space [Fig 21.]. This linear progression supports the functional program and aligns with the therapeutic goals of clear and purposeful circulation. However, the welcome area is in the middle between the consumption room and the resting area. As the main entrance is also the exit, it can create in the welcome space a bottleneck where users enter and leave through the same door, piling up where they are supposed to be greeted and start their journey inside the facility [Fig. 24]. If attendance is high, the accumulation of people, noise and lack of space can deter users even more from crossing this threshold. The lack

of more inviting design features, such as warm materials or human-scaled elements, could hinder as well the potential to create an environment that fosters psychological safety and comfort.

As flow and accessibility was a particular point of attention during the renovation, the thresholds as spaces of transitions can also be analysed here. As seen in the plan, conventional transition spaces such as corridors or entrance halls have been completely removed from the plan. In the user's path, the transition from the reception area to the waiting area is almost unnoticeable. No material differences allow us to differentiate the two programs. The geometry in a L shaped form and the delimitations of the three adjacent walls define these spaces, the basic furnishing also indicates the intended use [Fig 23.]. The director pointed out the issue of noise as a key factor for the users well-being. But the transitions from a place to another and even when waiting at the reception area in a state of in-betweenness obviously increases the volume of the sound in the room which, without phonic separation, hyper-stimulates users resting in that same room. The separation between this large space and the consumption room is, however, clearly stated with a partition wall [Fig 22.]. A standard door with a glass window in it controls entry and exit. The transition is clear however with the issue of different reactions induced by the different substances, having them both in one place with a single entry and exit point might not follow the flow principles he addresses in the interview.

Due to its limited space it makes sense that the functional program takes up all the space, effectively blurring the sequencing of the path of users through the facility. But removing conventional transition spaces means that the program itself becomes also a place of passage, where movement from one point to another is made. As observed before this is especially true for the reception area, where its central location becomes a choke point between newcomers, users leaving the consumption rooms to go rest and individuals waiting to go in the consumption room, crossing the reception area. The director noted that when there is too much stagnation inside or in front of the facility, it can deter users from coming. In this matter, the two other centers analysed have a much more defined layering of spaces to accompany users through their journey.

In conclusion, for returning users familiar with the facility, the sequence of thresholds and its clear circulation likely support ease of use in most cases. However, for new

users, the crossing of multiple layers of uninviting thresholds coupled with the hidden nature of the entrance could exacerbate feelings of uncertainty and hesitation [Fig 28.]. While the functionality of the spaces between the exterior and interior is commendable, a more thoughtful integration of inviting elements, such as natural materials, greenery or visual cues like color accents, could enhance the psychological impact of the threshold, making it more welcoming and supportive for vulnerable individuals seeking help. The pathway through the layered thresholds outside, into the tunnel-like road, then stepping in the sidewalk through the railing, constitutes visual barriers that do not make the entry into the facility easy and seamless. Of course there is little the foundation could do here, as the emphasis was put on having a central, understated location and this space was the only one available to them.

The absence of conventional transition areas like corridors creates a dynamic where program spaces double as passageways. This blurring of transitions could amplify some challenges raised by the director, particularly in the reception area, which becomes a congested hub for multiple user flows. Although the partitioned separation of the consumption room provides some clarity, the single entry and exit point raises concerns regarding the management of diverse user behaviors. The lack of distinct transitional zones impacts noise levels and user comfort, highlighting the importance of layered spatial sequencing seen in other centers.

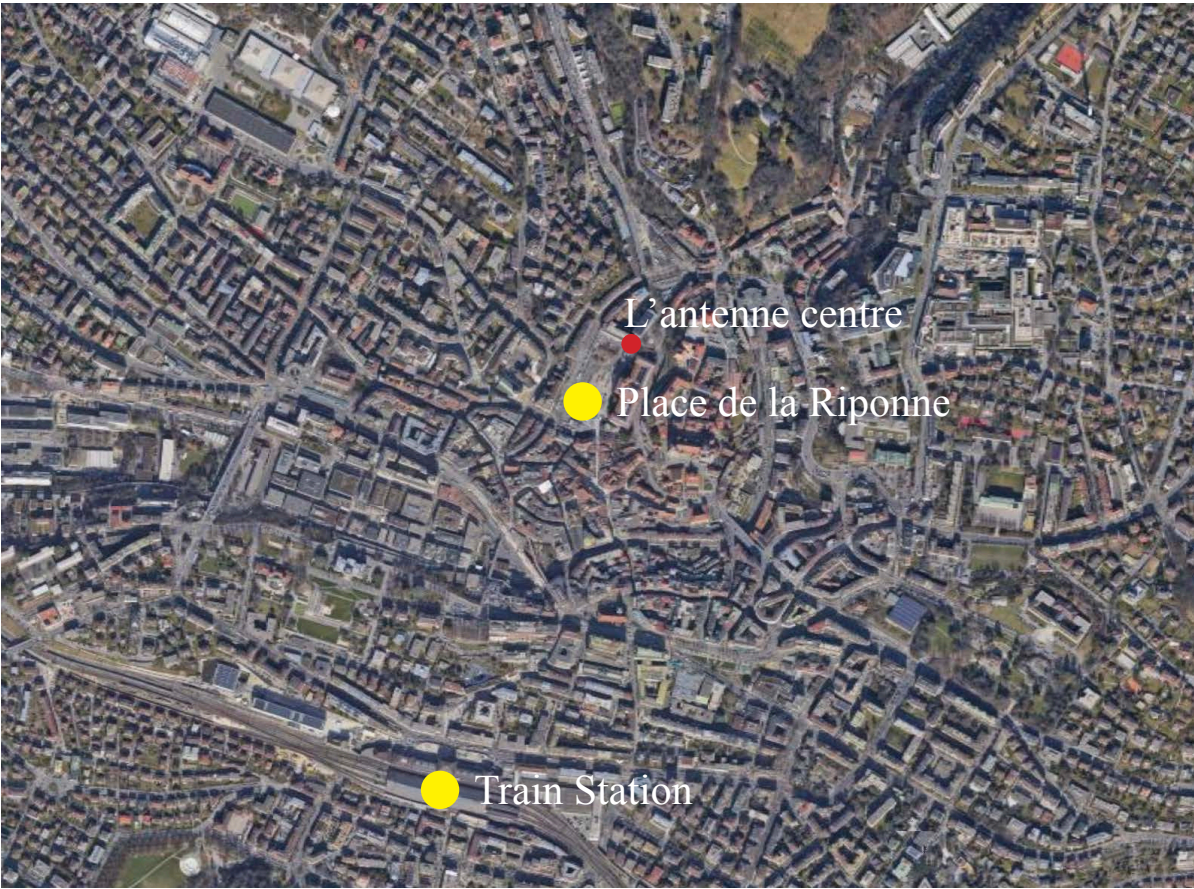


Figure 17. Location of the facility within the city of Lausanne



Figure 18. The “buffer zone” under the building



Figure 19. Entrance of the facility



Figure 20. The reception desk next to the entrance



Figure 21. Interior waiting / resting area



Figure 22. The passage from the consumption room to the welcome area

Figure 23. Programmatic plan



Figure 24. Path of users inside and bottlenecks

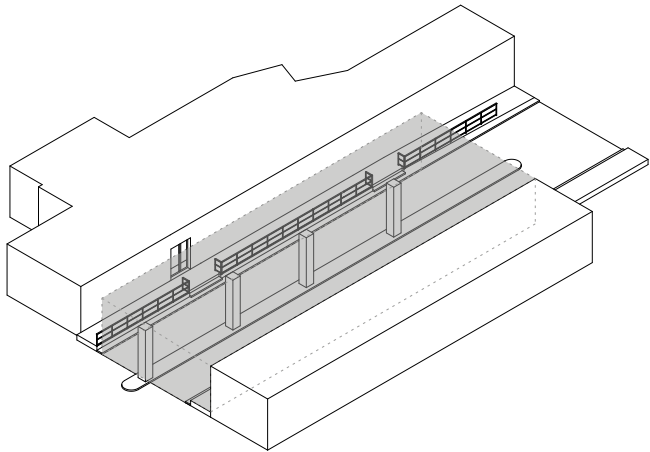
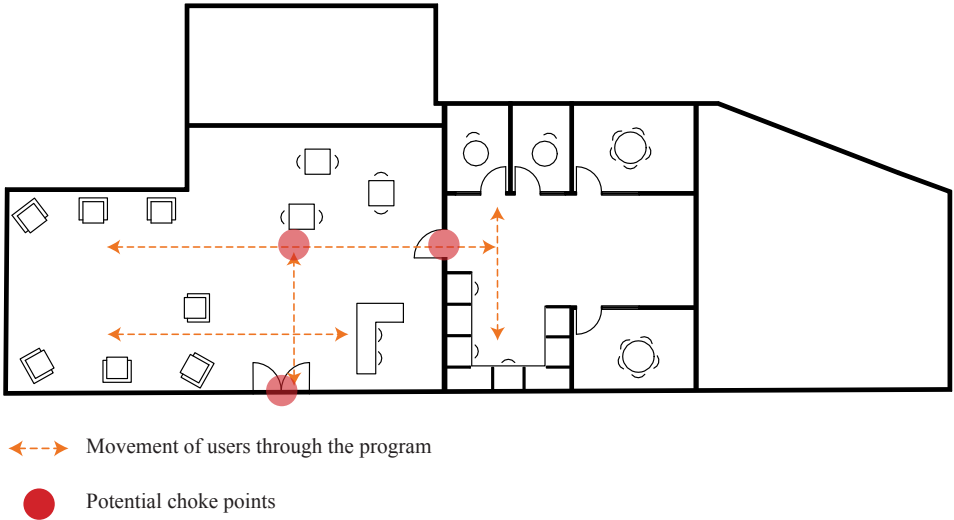


Figure 25. Buffer zone, the first threshold

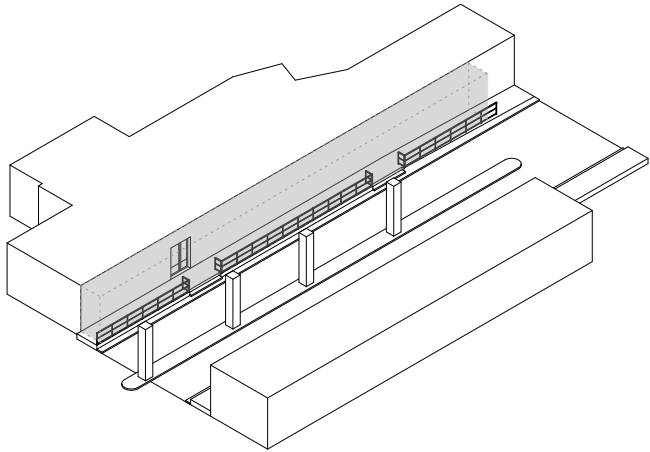


Figure 26. Protected sidewalk, the second threshold

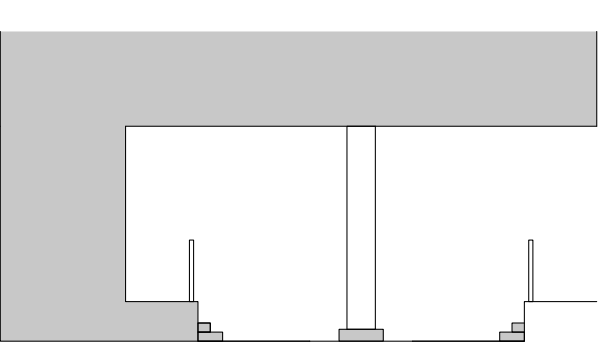


Figure 27. Section of the topography of the thresholds

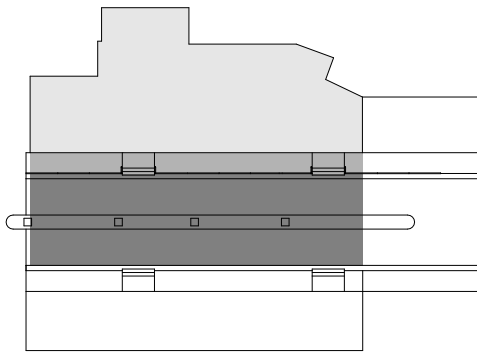


Figure 28. Layering of thresholds

Case study 2 : Contact, Bern

The CONTACT facility in Bern is part of a larger network of harm reduction care facilities in the canton of Bern with other structures in Biel and Thoune. The CONTACT foundation is larger and older than its counterparts in Geneva and Lausanne with over 50 years of activity in the region and a much wider range of services in addiction treatment and care, with care centres (with and without a consumption room), outpatient addiction treatment, social work outside the walls, awareness raising in the nightlife environment, job and housing offers.

The facility is situated next to the train station, on the edge of the historic old city [Fig 29.]. It is open only afternoons from noon to 7pm 6 days a week, less than in Geneva or Lausanne that have between 10 to 14 hours a day. The major difference is that CONTACT only accepts individuals residing in the canton of Bern, which significantly reduces the number of consumers able to access care. Still the facility welcomes close to 240 visitors a day, more than the two others.

The center in Bern is an interesting case to study under the category of thresholds as a space of transition and liminality because of the flow of the journey of individuals through the center. Users' path to treatment is made of an intricate series of thresholds each signaling a transition into the next step of harm reduction. It also sets itself apart from the two other cases as the only facility that was fitted into an existing building with no changes of spaces, only a few interior design modifications detailed later on.

The facility is housed between an old two story house and an outdoor space adjacent to the road. The journey of users starts when they cross the initial metallic fence and encounter a modest check-in area framed in untreated plywood that serves as the reception desk and a glass and metal waiting shelter [Fig 30.]. Beyond this point, the courtyard opens up as a shared semi-public space, bounded by simple wooden and metal structures that maintain an informal but ordered atmosphere. Benches and small gathering spaces further articulate this transition zone, creating opportunities for social interaction. In contrast with the centers in Geneva or Lausanne, the reception is almost directly on the street, with the equivalent of the outside "buffer zone" situated inside the private realm of the facility. The center points out the wish of users to have a private space far from the public eye. The surrounding materials, including the

wooden fence with graffiti and the corrugated roof of the entrance canopy, present a mix of organic and industrial aesthetics. While the graffiti-covered wooden fence might unintentionally reinforce stigmas associated with such facilities, the canopy provides a functional shelter for visitors, creating a private buffer zone between the street and the program. This architectural element, while rudimentary in materiality, adds a layer of privacy and protection, especially in adverse weather conditions. A strong point then, compared to Lausanne where the outdoor space is simply the consequence of the existing urban fabric. This protected courtyard holds its importance according to the director of the facility, as it serves as the central meeting point where the program radiates around it. From there, individuals can enter separate consumption rooms, depending on the type of substance consumed, effectively addressing issues seen in the Lausanne and Geneva centers. Turning left after the reception, a standard door immediately introduces a large inhalation consumption room. The consumption room is a rudimentary space, designed with practicality and simplicity in mind within their small budget. The walls are clad in oriented strand board complemented by exposed wooden beams that subtly define zones.

Back to the central meeting space, on the right is the old house where the other consumption rooms and the cafeteria are situated. The entrance to the building itself is marked by a modest door, framed by a utilitarian metal and wood design. The elevation features small steps leading up to the door, creating a minor elevation change that subtly signals a transition into a different zone. Once inside, the narrow hallway functions as a clearly defined circulation space, its simplicity emphasizing movement toward the cafeteria. Neutral tones, clean lines, and minimal decoration reinforce the utilitarian purpose of this transitional space, guiding users forward. The hallway opens into the cafeteria, where the visual openness and arrangement of tables contrast with the narrowness of the preceding hallway. The layout encourages users to pause and engage in communal activities. The transition is further softened by the natural light streaming through the windows, which aligns with the cafeteria's role as a welcoming and communal area [Fig 31-36.].

To get to the injection and nasal consumption rooms, users need to go back to the central space. Upon entering from the exterior path, users are guided through a narrow outdoor corridor partially sheltered by a rudimentary roof structure. A standard metal door leads into the interior space with a small difference in height. This entry point marks a clear boundary between the external environment and the

controlled indoor facility. The door acts as a threshold, transitioning from the public-facing space into the operational core. Inside, the pathway splits, with clear signage and directional cues directing users to the respective consumption rooms for different methods of use. The internal transition space prioritizes separation of users based on their specific consumption needs, mitigating potential conflicts and ensuring privacy. The spaces leading to the consumption rooms are characterized by their stark, whitewashed walls, industrial lighting, and functional materials such as steel and resin flooring. This pathway to the nasal room is narrower, defined by modular walls, with minimal visual distractions. The signage is simple, and the room's small dimensions reinforce its single-purpose function. As discussed with the director, consumption spaces are defined by their functional prioritization, as seen in the center in Lausanne. However he argues that other spaces (the cafeteria in this instance) don't need to uphold this clinical design, addressing therapeutic goals far neglected in the ABS facility. Although one could argue the cafeteria does not abandon the clinical aesthetic completely.

This center highlights its utilitarian and functional design, where thresholds and transitions prioritize clarity, safety, and efficiency over aesthetics. The progression through spaces, from the exterior entrance to the specific consumption rooms, reflects a deliberate emphasis on segmentation and harm reduction [Fig 37,38.]. The stark materiality, modular layout, and minimal ornamentation underscore its purpose-driven approach, while clear directional cues and designated zones ensure smooth flow and user privacy. However, the rudimentary build and utilitarian finishes may limit its capacity to foster a more welcoming or therapeutic environment, focusing instead on practicality and operational effectiveness.



Figure 29. Location of the facility within the city of Bern



Figure 30. Entrance of the facility

Sequence of spaces to access the cafeteria



Figure 31. Reception area



Figure 32. Central space



Figure 33. Entrance to the cafeteria

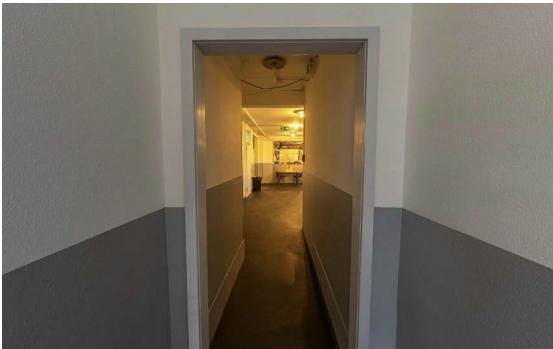


Figure 34. Narrow corridor



Figure 35. Cafeteria space



Figure 36. Cafeteria bar

Figure 37. Programmatic plan

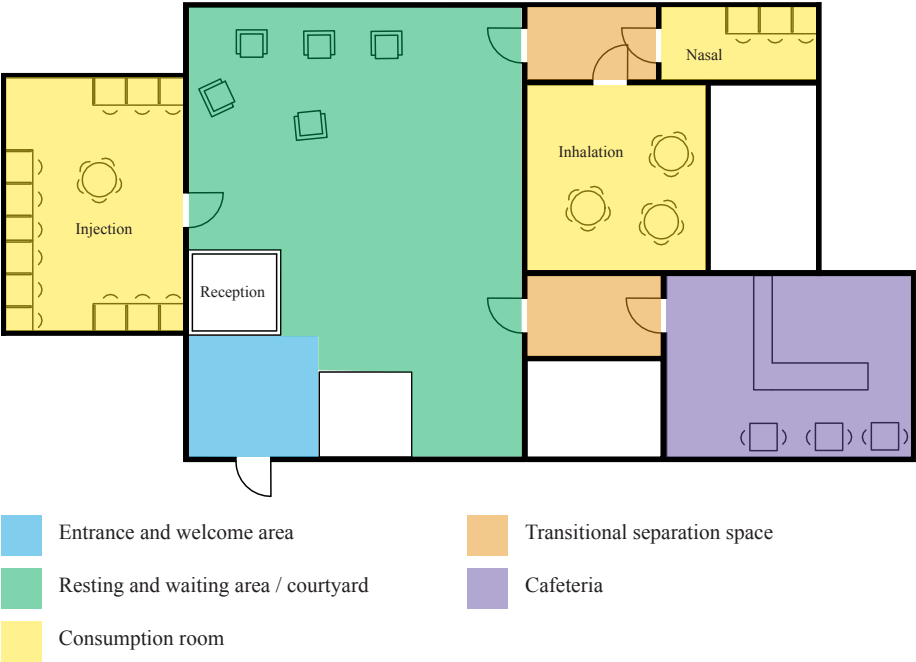
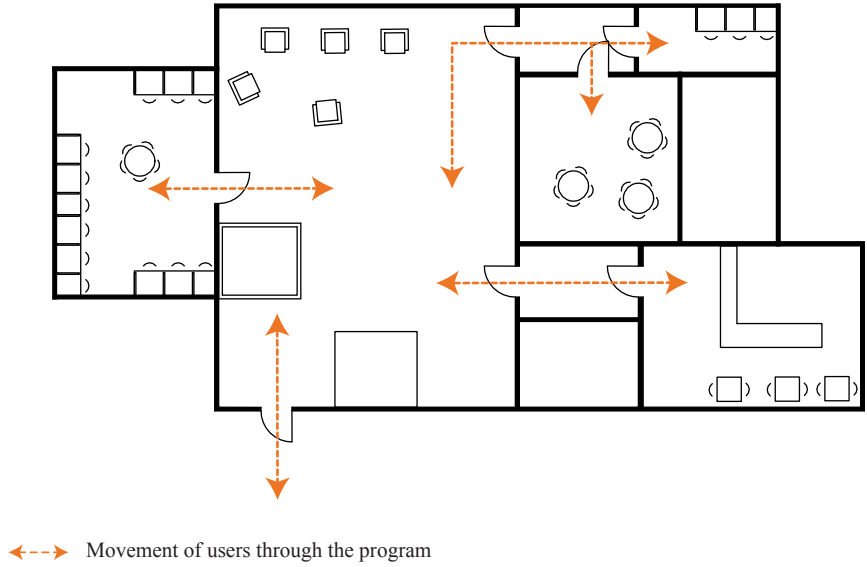


Figure 38. Path of users inside and bottlenecks



Case study 3 : Quai 9, Geneva

The Quai 9 is situated in the middle of a crossroad next to the train station in Geneva. Similarly to L'Antenne in Lausanne, Quai 9 welcomes individuals on the basis of a low-threshold accessibility. It is open everyday of the week but for a shorter period of time. It shares the same mission: Promote health, social stability, inclusion, and community harmony for people who use substances by reducing risks, combating stigma, providing accessible information and ensuring high-quality, supportive services. The facility opened in 2004 as a temporary infrastructure for substance related issues in the vicinity of the train station [Fig 39.].

Quai 9 stands out as the only facility in Switzerland specifically designed for its purpose, setting it apart from similar establishments in Lausanne or Bern in both appearance and urban integration. Its relationship with the surrounding environment makes it an interesting case study, particularly in how the physical and symbolic boundary between the facility and the community acts as an interface between them. These thresholds are crucial for users' experiences, yet a strategically placed facility must also avoid resistance from nearby residents, a challenging balance to achieve. As said by its director, Quai 9 exemplifies the tension between openness and privacy in harm-reduction architecture. So why did Quai 9 opt for such a bold design, while most other facilities prioritize discretion ?

The building stands out with its vibrant lime-green facade, which immediately establishes a distinct visual identity within its urban context [Fig 40.]. The exterior walls are composed of wooden panels with a uniform finish, punctuated by rectangular windows of varying sizes that introduce natural light into the interior spaces. The roof is flat, with no decorative elements, reinforcing the building's functional and pragmatic character. Around the perimeter of the entrance, small outdoor spaces with planters and greenery soften the otherwise geometric and industrial appearance of the structure.

The surrounding urban context is marked by a busy intersection, tram lines, the main train station and residential buildings, situating the facility within a dense and active area of the city. The entrance is a simple 90 centimeter wide door with the same finish as the facade. It is discreet, blending into the building's structure while remaining

identifiable due to its central placement and slight recess.

The building is enveloped on two sides by a parking lot, which delimits the boundary of the facility on these sides. The rest is marked by a low metal fence that delineates the property while maintaining a visual connection to the surrounding streetscape. The presence of signage, including the message "Support. Don't Punish." prominently displayed on the facade, signals the building's purpose and advocacy, aligning it with broader social goals.

The vibrant lime-green facade is the most immediate and striking feature of the building, acting as a visual landmark within the urban fabric. This bold choice ensures the facility's presence is unmistakable, which can be interpreted as a statement of transparency and accessibility. This aesthetic choice positions the building as an advocate for its cause, aligning with the social message displayed on the facade: "Support. Don't Punish.". The director of the center argued that the point was not to invisibilize the place but to show and accept this issue among the community. However, the intensity of the color might polarize community perceptions, as it simultaneously attracts attention and marks the building as distinct from its surroundings. The balance between openness and discretion is crucial in such facilities, and while the building succeeds in advocating for its mission, it may not fully address the psychological barriers that some users might face when approaching the facility.

The pathway to the facility is met by numerous steps, thresholds, to cross to access it. Firstly, as a more urbanistic than architectural element, three roads isolate the building in the middle of an island that can only be (officially) accessed by one pedestrian pass on the south end [Fig 48.]. This barrier sets a distance with the place upon arrival on site. The building is not integrated into the urban fabric but sets itself as a standalone object within the city. The linearity and scale of the surrounding roads create physical fragmentation, emphasizing the facility's detachment from the public realm and limiting its integration into the urban fabric. These roads act as a spatial threshold, delineating the boundaries of the facility while amplifying the perception of the building as an object of intervention within its urban context. The absence of adjacent pedestrian-friendly urban spaces, such as plazas or promenades, limits the opportunity for more fluid integration with the surrounding cityscape, creating a stark transition between the public realm and the private program of the facility. This also creates security hazards, the entrance opens directly on the northern road where

trams run both ways [Fig 49.]. Once outside the gate and onto the sidewalk, there are no clear urban elements, such as a change in elevation or a fence, that prevent individuals from simply crossing this road if they want to go north [Fig 43.]. coupe de la rue Having a single pedestrian access situated on the opposite side of the entrance can create significant security challenges for both users and locals, especially when under the influence of substances. The director mentions the importance of flow inside the building but the path to the facility should maybe go beyond the immediate private realm.

After crossing the road in a secure way or not, individuals enter the perimeter of the facility through a low metal fence [Fig 46.], which creates a physical boundary outside the private realm of the place. Similarly to the L'Antenne center in Lausanne, it acts as a buffer zone, a semi-private space to traverse while maintaining visual permeability. This allows the facility to remain approachable and connected to its surroundings without compromising security for users. While the fence ensures visual permeability, it may not fully address the tension between visibility and the anonymity sought by many users. The director of the CONTACT centre in Bern says the opposite here, that users seek privacy within this exterior space. The presence of greenery and planters along the perimeter serves to humanize the otherwise geometric and industrial architecture. These elements soften the visual impact of the building, creating a subtle buffer between the facility and the surrounding streetscape. However, the greenery is relatively minimal and could be expanded to further integrate the facility into the urban context, creating a more inviting interface for both users and passersby. The director discusses the tensions around managing external public spaces adjacent to the facility, which often become zones of informal gathering and substance use. This dynamic underscores the need for well-designed external spaces that clearly delineates public and private domains while fostering a positive relationship with the surrounding community [Fig 47.].

Thresholds as transition spaces can also be discussed here. The director emphasizes the need for a well-thought-out circulation plan, particularly in addressing the issue of overlapping flows of individuals consuming different substances. For example, the separation of entry and exit points for different types of consumption was identified as essential to reduce tension and conflicts. It is the only facility to incorporate separate entrance and exit doors [Fig 44,45.]. Despite this, the existing design struggles with limited space, which creates grouping, especially in the reception

area. The lack of soundproofing exacerbates this issue, making the space noisy and stressful for both staff and users. The prefab nature of the building limits its ability to adapt to the evolving needs of the users, particularly with the increasing number of individuals requiring services [Fig 41.].

Quai 9 exemplifies the complexities of harm-reduction architecture in balancing advocacy, community integration, and user needs. Its bold design and prominent visibility advocate for transparency and social awareness, making it a landmark in its urban context. The facility's thresholds effectively delineate public and private realms, ensuring accessibility and functionality within the facility. However, the challenges of isolation due to surrounding roads, limited external public spaces, and the polarizing visual impact of the facade highlight areas for improvement. Expanding the integration of transitional elements, such as landscaping and pedestrian-friendly infrastructure, could better address the psychological and symbolic barriers faced by users while fostering a more harmonious relationship with the community. Similarly to ABS' L'antenne in Lausanne, the plan is relatively open, offering more ample space than a layered sequence of smaller transitioning spaces which can seem appropriate for the size of the place. The introduction of different exit points help alleviate congestions. However the mixing of the program as said by the director can quickly create choke points and tensions when attendance is high.

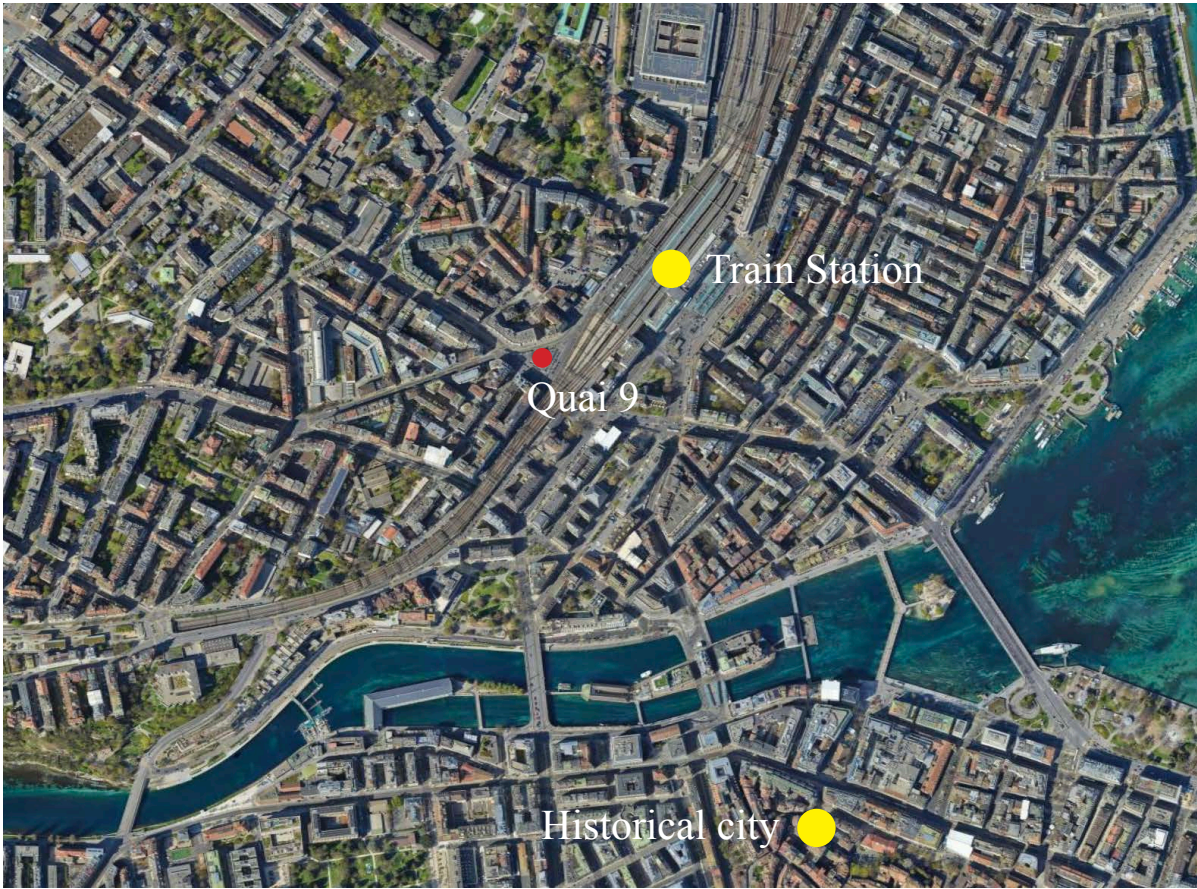


Figure 39. Location of the facility within the city of Geneva

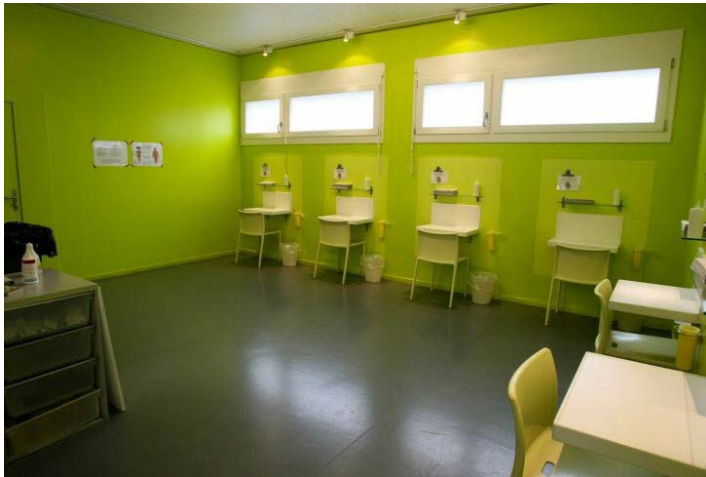


Figure 41. Injection consumption room



Figure 42. Open plan and minimal space inside



Figure 40. Entrance of the facility



Figure 43. The entrance opening directly on the road

Figure 44. Programmatic plan

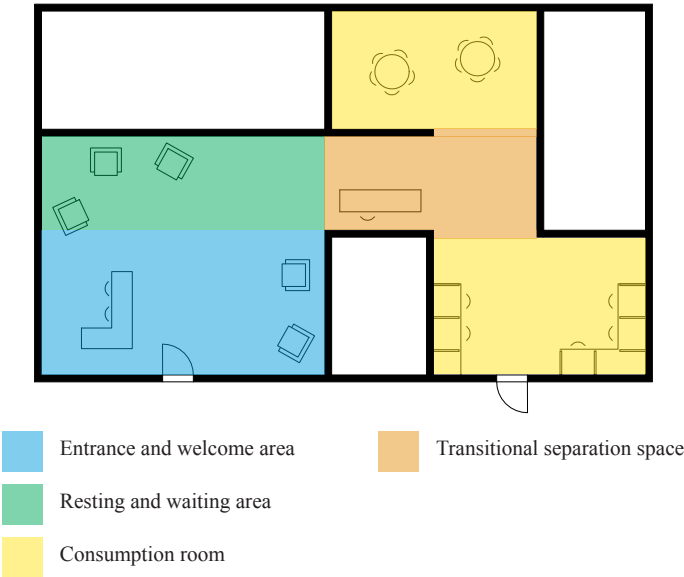


Figure 45. Path of users inside and bottlenecks

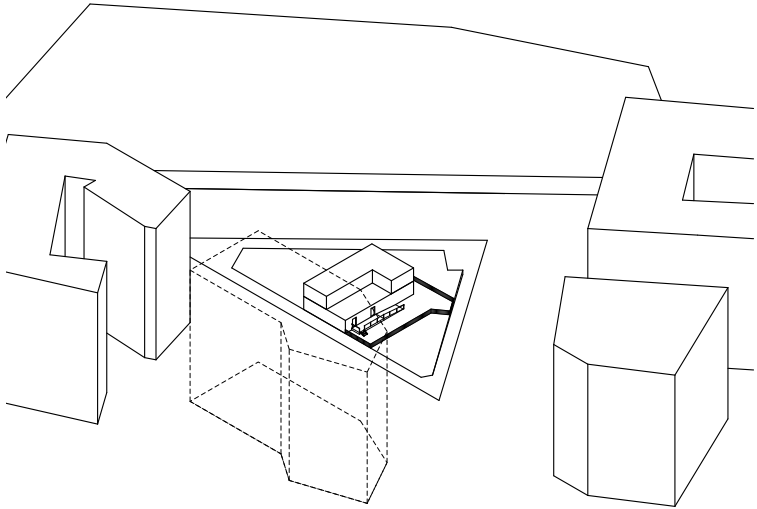
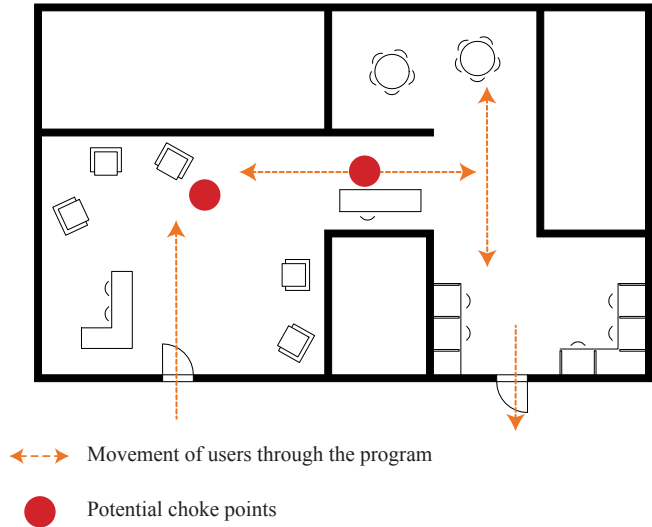


Figure 46. Axonometry of Quai 9

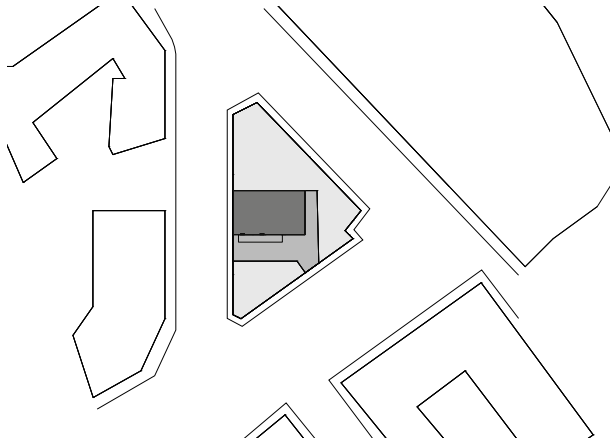


Figure 47. The levels of privacy

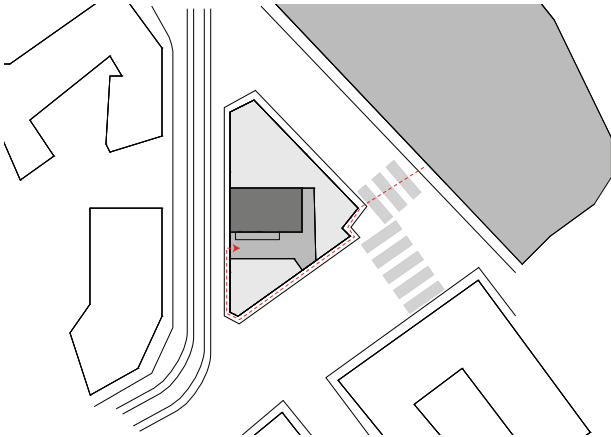


Figure 48. The legal path to the entrance

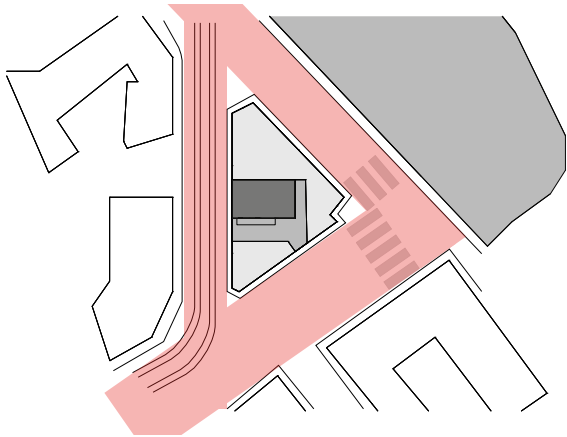


Figure 49. Roads circling the facility

Lessons from Case Studies

Lessons from Case Studies

Substance Use Disorder (SUD) is a complex psychiatric condition requiring care facilities that function not only as treatment spaces but as therapeutic environments supporting recovery. Thresholds, often overlooked, serve as psychological and symbolic tools crucial for patient acceptance and community integration. The case studies in this thesis reveal that while transitional spaces are often well-intentioned, they are frequently treated as isolated components rather than as interconnected elements. This chapter distills lessons from these facilities, emphasizing how cohesive design can enhance both patient experiences and community relationships.

Strengths

The case studies reveal several notable strengths in the architectural and operational design of harm reduction facilities, particularly when analyzed through the lens of thresholds. Across all three centers, the entrance and welcome areas highlight the importance of layered thresholds that bridge public and private realms. The articulation of these entry points is carefully designed to reduce psychological barriers, reflecting the shared emphasis from all three directors on creating a welcoming yet discreet arrival experience. The entrance designs are intentionally unassuming, typically consisting of simple doors or gates with a clear view of what lies beyond. This transparency and simplicity resonate with users, as the director of ABS notes, fostering a sense of discretion and safety. What was emphasized by staff and seen across all three facilities is human contact as soon as users cross the threshold between the public and private realms. The threshold where the privacy of the center is crossed, is immediately followed by the reception desk where a first contact is made, leaving as little time as possible for hesitation.

The exterior buffer zones further reinforce this layered approach. In Lausanne, the urban context naturally creates a discreet but defined pathway without direct intervention from the foundation. In Geneva, a small fence delineates the transition between public and private spaces, while in Bern, the central courtyard becomes a private buffer, ensuring privacy while serving as an intermediary space between the

street and the facility’s interior. The director of CONTACT highlights how these zones help address user fears of external visibility, particularly from law enforcement, underscoring the importance of privacy in these transitional areas. He also explained the importance of first contact as soon as possible, placing the reception area at the start of the user’s journey, in front of the entrance gate. This point has also been underlined by the ABS director, where the desk is right at the entrance.

The internal flow and organization of spaces demonstrate another strength, particularly in CONTACT, where the separation of public and private areas minimizes conflicting movements and simplifies user and staff workflows. The center’s layered transitional spaces and clear programmatic separation enable it to manage higher user volumes without congestion, compared to the facilities in Lausanne and Geneva. The director of Quai 9 also emphasizes the role of flow in creating a calming experience, although the Geneva facility still faces challenges with congestion. To mitigate the issue, the use of different exit points has been underscored as a beneficial feature. While ABS and CONTACT have not implemented this solution, both agree on its relevance. CONTACT is the only facility out of the three where internal congestion does not seem to create any tensions, showing the potential effectiveness of a more defined movement between spaces. The central meeting point was highlighted as a key feature as both a transitional space where all the program radiates from, and exterior buffer zone as seen above, “killing two birds with one stone” as he says.

Thresholds as interfaces with the community, spaces that mediate the private realm of the facility and the public realm, are most prominently addressed in Quai 9. The Geneva facility negotiates a liminal space through its vibrant facade and semi-private exterior buffer, inviting community dialogue while delimiting an exterior space for users to rest or wait before entering. The director explains that the center’s visible yet secure design aims to normalize its presence within the urban fabric, fostering acceptance and reducing stigma. This balance of openness and discretion exemplifies how harm reduction facilities can integrate with their surroundings while fulfilling their mission.

Areas for Improvement

Despite their strengths, the case studies reveal recurring challenges and areas for improvement in harm reduction facility design. In concerns of the path to

the entrance, ABS and Quai 9 show more defined and potentially less accessible thresholds to cross to get to that entry point. Separation by roads without crossing and elevated sidewalks hinder accessibility for users and make it harder to cross this step, inadvertently creating thresholds as barriers. The buffer zones in Lausanne and Geneva, while important, further separates the beginning of the journey from the reception desk, the first contact, which was explained by all three directors as being vital to be as soon as possible in the path of users.

One common issue is the lack of clearly articulated transitional spaces inside the facilities, particularly in ABS, where the reception area becomes a congestion point due to overlapping flows of users arriving, resting, and leaving. While space constraints partially explain this, the absence of clear linear progression through the program blurs functional boundaries, potentially increasing user discomfort and operational inefficiencies. In addition the use of a single point of entry and exit further exacerbate this issue, creating bottlenecks. In contrast, CONTACT Bern benefits from its clearer zoning. Quai 9, while expressing a clear progression and transition through the program unfortunately suffers from a lack of space for the volume of visitors. Another challenge lies in addressing user-specific needs through adaptive design. For instance, while ABS and CONTACT Bern emphasize flow and privacy, the single room of the in ABS does not fully accommodate the diverse reactions of users to different substances. The single-entry and exit points in the Lausanne and Bern facility also limit flexibility, particularly in managing high-traffic periods. Both ABS and Quai 9 could benefit from more modular or adaptable layouts to better respond to evolving user behaviors and programmatic requirements.

A significant area of improvement across all case studies is the limited integration of therapeutic architecture principles. While functionality and harm reduction goals are prioritized, the design often neglects elements that could foster psychological well-being and create restorative environments. For example, the use of natural light, biophilic design, and sensory materials is minimal or absent in the analyzed facilities. Incorporating these elements, such as maximizing views of nature, introducing warmer materials like wood, and creating spaces with varied textures and lighting, could significantly enhance user experience and staff morale. The lack of these principles underscores a missed opportunity to elevate the spaces beyond their utilitarian purpose as shown with the Groot Klimmendaal facility for example.

Lastly, while efforts to create community interfaces are evident in Quai 9, these spaces often lack the dual functionality of fostering engagement while maintaining privacy. For example, the fenced buffer zone successfully delimits the space but offers limited opportunities for positive interaction with the surrounding neighborhood and subsequently fails to provide the wanted privacy seen at CONTACT. Similarly, Lausanne’s discreet pathway reduces visibility but does little to encourage dialogue or acceptance within the community. Designing community interfaces that both protect users and actively engage the public remains an ongoing challenge for all three facilities.

Limitations of the study

While this study provides insights into the role of thresholds in harm reduction facilities, several limitations must be acknowledged. These constraints influence the generalizability and depth of the findings.

Small Sample Size

The analysis is based on three case studies of harm reduction facilities in Switzerland. While these facilities offer diverse examples, the small sample size limits the breadth of the conclusions. A larger pool of case studies, encompassing facilities from different cultural and geographical contexts, would provide a more comprehensive understanding of architectural strategies and their impact.

Limited Data on Long-Term Impacts

The analysis primarily examines the immediate spatial and operational dynamics of the facilities. However, there is limited data on the long-term impacts of architectural design choices on user outcomes, staff efficiency, and community integration. More studies would be necessary to assess how these designs influence harm reduction goals over time with user assessments over a period of time.

Constraints in Facility Design and Construction

The facilities analyzed were often designed and built under significant budgetary and logistical constraints. These limitations influence their architectural features and operational capacities, which may not fully align with ideal harm reduction principles.

Limited User Perspectives

While the study incorporates input from facility directors, it lacks more feedback from users of the facilities. Understanding user experiences and perceptions of thresholds would provide a richer, more user-centered perspective on the effectiveness of the architectural strategies employed. Despite these constraints, the findings provide a starting point for exploring how architectural design can support harm reduction goals and improve the experiences of users, staff, and the surrounding community.

Implications for future design

Implications for Future Design

The insights gained from the analysis of thresholds in harm reduction facilities provide valuable guidance for the design of future centers. These principles, drawn from lessons learned in the case studies, emphasize the importance of addressing user needs, operational efficiency, and community integration. While some principles are universally applicable, others must be adapted to the specific context of each facility.

Universal Design Principles

Welcoming and Accessible Entry Thresholds

Future facilities should prioritize simple, discreet, and welcoming entry thresholds to reduce psychological barriers for users. Elements such as early reception points, sheltered entry points, and buffer zones between public and private spaces are essential. The entry point and the first contact need to be as close as possible to the beginning of the users path. The buffer zone should follow this initial entry point, marking the need for an internal courtyard.

Clear and Intuitive Internal Flow

The internal organization of spaces must support seamless transitions between different areas, minimizing congestion and confusion. This can be achieved through layered thresholds that guide users from public reception areas to private consumption or therapy spaces and resting rooms. The CONTACT center’s effective spatial zoning offers a strong example of how well-defined pathways can improve flow and reduce user stress. The user’s path should follow this order : reception area, buffer zone/courtyard, consumption room, and back to the courtyard through a separate exit. The path of users should not cross to avoid friction.

Community Integration and Visibility

The design of community-facing thresholds should mediate between the private realm of the facility and its public surroundings. While facilities like Quai 9 focus on a dialog with its surroundings, a more discreet interface such as ABS might ease the placement of a new facility in its urban context. Integration within an existing

building is then more appropriate within a densely urbanised context.

Flexibility and Adaptability

Harm reduction facilities must be designed to accommodate evolving needs. Modular layouts, movable partitions, and multi-functional spaces can ensure long-term adaptability. This is particularly relevant given the changing trends in substance use and the diverse behaviors of users, as observed in the analysis of Lausanne’s ABS center. The central space in CONTACT shows clear intentions in being a flexible and adaptable space with the articulation of the program around it. Large spaces can ensures this flexibility.

Integration of therapeutic architecture principles

Future harm reduction facilities should incorporate elements such as large windows for natural light, biophilic elements in exterior spaces, and sensory materials to create spaces that are calming and restorative. For example, maximizing views of nature, using warm and natural materials like wood, visual cues and introducing soft lighting can reduce stress and foster a sense of safety as seen in examples earlier on.

Context-Specific Considerations

Urban Context and Location

The placement of the facility within its urban fabric significantly impacts its success. The center needs to be positioned close to the local drug scene. Usually in the vicinity of the train station or major transportation hub in large cities. It should also avoid residential areas and prioritise commercial zones to facilitate community acceptance.

Adaptation to User Demographics

The demographic profile of users should inform the design. Facilities serving younger or more diverse populations may require dynamic and inclusive spaces, while centers with older users might prioritize comfort and accessibility.

Recommendations for New Designs

To inform the building of new harm reduction centers, designers should consider:

Integrating Layered Thresholds: These should support gradual transitions, from public to semi-private and private spaces, ensuring a smooth journey for users.

Designing for Privacy and Safety: Transparent yet secure interfaces, such as low fences or recessed entrances, can protect users while fostering openness.

Emphasizing Natural Light and Materials: Incorporating elements like courtyards, skylights, and warm, durable materials can create a therapeutic and welcoming environment.

Accommodating Evolving Needs: Spaces should be designed for adaptability, with modular layouts and flexible programming to respond to changes in user behavior and societal trends.

Encouraging Community Engagement: Public-facing spaces, such as shared gardens or community rooms, can promote interaction and reduce stigma, while maintaining boundaries that ensure safety and privacy.

By prioritizing these principles and adapting designs to local contexts, future harm reduction facilities can better meet the needs of their users, staff, and surrounding communities. These insights offer a roadmap for creating spaces that balance functionality, dignity, and integration, ultimately supporting the broader goals of harm reduction.

Applications of Findings

The findings from the case studies provide a comprehensive framework for evaluating and designing harm reduction facilities. This section applies these insights to the specific context of Lausanne, where a new site for a harm reduction facility will be proposed to replace the existing one. By leveraging the criteria established in the analysis, this process aims to identify a location that aligns with harm reduction goals while addressing the unique challenges of the city's context. This application will demonstrate how architectural principles and practical considerations can come together to create a facility that supports users, staff, and the broader community.

This process starts at the city level. The first step is to identify a location. The main criterias are areas with a high concentration of street users and eventually close to a transportation hub. This means the facility needs to be in a relatively dense area in the city of Lausanne. Two sectors in Lausanne fulfill these initial criterias: the train station and the Place de La Riponne. The train station is a known gathering place for users, and in other cities, we've seen that harm reduction facilities are always placed less than 300 meters from it. But in Lausanne the situation is slightly different. The market for psychotropic substances and its supply is largely found in the vicinity of the Place de la Riponne. As the square is well connected through public transport, it places itself as a major transportation hub in Lausanne with, notably, connections with the metro. This is why the area was chosen by ABS, because the large majority of users roam around this square. Physical proximity is paramount, as explained by the ABS director, he observes that users tend to stay in the proximity of the substance supply.

Now that the area has been chosen, the focus can be placed on a specific building. To enhance local acceptance, the facility should avoid residential zones and prioritize commercial areas. As it is a densely urbanised zone, the site will likely be in an existing structure, which aligns with the need for urban integration of such a center and the low budget usually allocated to them. The following criterias that should be searched for in this process is an exterior space able to accommodate a courtyard that can be privatised.

At this point, three locations have emerged from these criterias.

The first is very close to the existing center, in the same building in fact at the Place de la Riponne 10. On the other side of the roads lies a space that was once a popular student bar that closed its doors. It sits in an administrative building. The space inside could tightly accommodate the wanted program but the interest is found in its large exterior space that served as a terrace in summer for the bar. This ample space could accommodate a courtyard and the surrounding concrete structure could be fitted with programmatic and distributional spaces, effectively privatising the courtyard, creating new spaces around it while allowing natural light to enter the facility. Potential weaknesses could be the low elevation of the courtyard, which would be visible from the surrounding buildings. The majority of the existing inside spaces are also recessed into the building with natural light only accessible on one side.



Figure 50. Building with the terrace from above

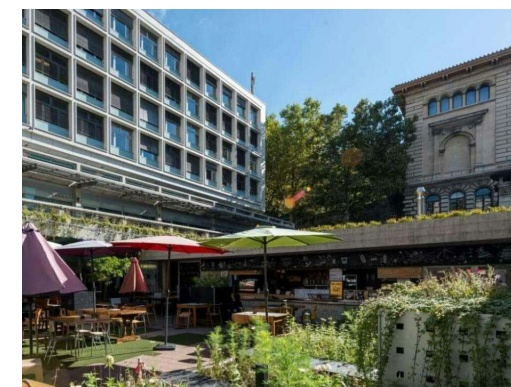


Figure 51. The bar in summer before closing



Figure 52. Exterior space with its surrounded structure

The second proposition sits on the other side of the Place. Perched over it, next to the Palais de Rumine is another bar with a generous terrace overlooking the Riponne. Its location higher up would offer users almost full privacy. The size of the terrace and vegetation could largely accommodate an ample courtyard and new construction around it to fulfill programmatic needs in addition to the interior of the bar. The space does not directly face residential buildings. Weaknesses of this place would be accessibility to the facility, as stairs are needed to access the terrace. New construction would be needed on the terrace which would significantly alter the urban tissue.



Figure 53. Building with the terrace from above



Figure 54. The terrace with generous vegetation

Lastly, another potential site could be on the Place du Tunnel, 200 meters away from the Place de la Riponne. On this intersection there is the building of the bus station that is now vacant. The large plaza, now mostly occupied by a parking lot, could make room in part for a courtyard and extension of the bus terminal to host the program. However, similarly to Quai 9, the site sits on a busy intersection which could create safety hazards. In addition, the site is surrounded by higher buildings, mostly mixed-residential, that offers a full view on the site below.



Figure 55. Place du Tunnel from above



Figure 56. The old bus station

This research highlights the transformative potential of thresholds as healing interfaces in substance use recovery facilities. These spaces, often overlooked in architectural discourse, are critical in shaping user experiences, promoting dignity, and fostering community integration. The analysis of harm reduction centers in Switzerland underscores the necessity of thoughtful architectural design to address the complexities of Substance Use Disorder (SUD) care.

Key insights reveal that well-designed thresholds serve not only as physical entry points but also as symbolic bridges, easing transitions from vulnerability to support. Facilities that prioritize layered thresholds—such as reception areas placed close to entrances, intuitive flow between spaces, and clear zoning—better accommodate the nuanced needs of users while minimizing operational frictions.

However, current designs often fall short in integrating therapeutic principles, such as natural light, biophilic elements, and sensory materials, which are proven to reduce anxiety and foster well-being. The case studies further emphasize the importance of balancing privacy with openness, especially in urban contexts where community acceptance remains a challenge.

Future designs must adopt adaptive and user-centered approaches, ensuring flexibility to address evolving substance use trends. Central to this is creating spaces that not only support recovery but also dismantle stigma, enabling these facilities to harmonize with their urban fabric and serve as beacons of progressive public health strategies.

By embracing these principles, architects and policymakers can design spaces that reflect the dignity and complexity of their users, bridging gaps between care, community, and recovery. This study thus contributes to a deeper understanding of the supporting role architecture plays in addressing substance use.

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