Reinhabiting the Courtyard: Adaptive Interventions in Qingdao's Liyuan for Contemporary Collective Life

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

This design thesis investigates how adaptive reuse intervention can return Qingdao's liyuan (里院) to residential use as a site of contemporary collective living. The liyuan is a form of courtyard housing unique to Qingdao, shaped by a combination of Western urban planning and building structure with the Chinese courtyard typology. From the late nineteenth century through the early twentieth, it served as the predominant residential form for the city's working class, and it remains one of the most distinctive expressions of Qingdao's local character. Each compound functioned as a small neighbourhood, where residents shared daily life across generations and formed bonds sustained by living in close quarters. This everyday collective life, held in the shared courtyards and corridors, became part of the city's collective memory. From the 1990s onward, most liyuan were demolished as the city developed. In the Dabaodao district, where a portion survived, most remaining compounds have been converted into tourism and commercial destinations in the past decade, displacing residents and erasing the collective life the typology once supported. The renovation preserves the built shell while the way of living it once held disappears.

Through the redesign of Tiande Tang and Jiuru Li in Dabaodao, this project proposes an adaptive reuse intervention that works with the existing spatial logic of the liyuan to accommodate older residents, young adults, and families. The residential framework centres on intergenerational living, placing residents of different life stages in independent units connected through shared space, with a co-living model for younger residents and small families. The courtyard remains the social core of each compound, with shared program concentrated at the ground floor. Reading how the liyuan's interstitial spaces once

carried everyday encounters between residents, the project develops staircases, corridors, and doorways as points of social contact and not only circulation.

This thesis explores how the existing form of the liyuan can be retained while its way of collective living is carried into a contemporary community. Each of the collective spaces developed here is drawn from elements common to the liyuan typology, and can be read as a prototype that other compounds may adapt to their own fabric. By keeping the liyuan lived in, the design offers adaptive reuse as an alternative to the touristic redevelopment now erasing this local residential culture.

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Chapter 1
Introduction

1.1 Introduction and Problem Statement

The liyuan (里院) is a courtyard housing typology that emerged in Qingdao, a coastal city in eastern China, during the German colonial period in the late nineteenth and early twentieth centuries. The term combines li (里), meaning inner neighbourhood, and yuan (院), meaning courtyard. The type fuses western building techniques with the spatial logic of the Chinese courtyard house, and its compounds take a range of plan forms, from a single built side to a fully enclosed courtyard, with the enclosed type being the most common. An official definition by the Qingdao Historical Urban Area Protection and Renewal Headquarters describes the liyuan as courtyard-style collective housing formed between the late nineteenth century and the 1970s, combining ground-floor commerce with dwellings above (Nie 2025). For much of the past century it was the main form of housing for the city's working-class residents. Qingdao's liyuan are concentrated in the old city across the Shinan and Shibei districts, where the largest and densest cluster is Dabaodao (Nie 2025) (Figure 1.1). Growing up in Qingdao, the author knew the liyuan as part of the everyday life of the old city, and it remains one of the most distinctive expressions of Qingdao's local character and history.

LI
里
Inner / Neighborhood

YUAN
院
Courtyard / Enclosed space

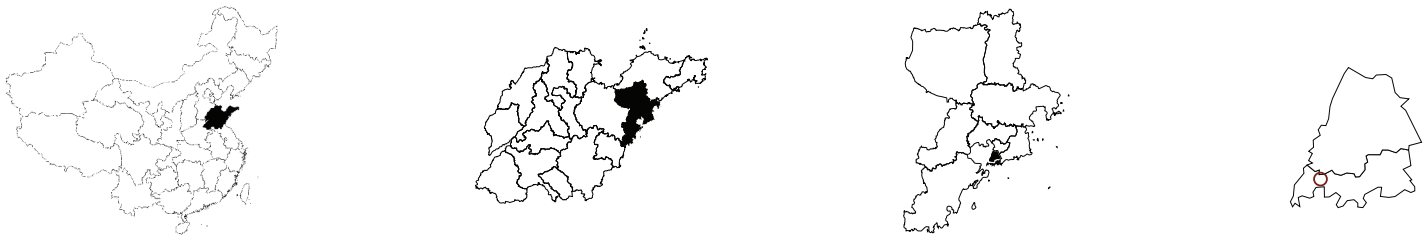


Figure 1.1. Location of the site, from China and Shandong Province to Qingdao, the districts of Shibei and Shinan, and Dabaodao. Diagram by the author, 2025.

However, in the course of rapid urban development, many liyuan compounds across Qingdao have been demolished. Those that survive are concentrated largely in the Dabaodao district, where the typology first developed and where many compounds were subsequently listed as protected buildings. In recent decades, redevelopment in the area has followed a pattern of resident displacement and commercial conversion. Living neighbourhoods have been repackaged as tourist destinations, and the spatial conditions that once structured collective daily life have largely been dismantled in this process. Walking through the newly renovated streets of the Dabaodao district and looking at those clean and uniformed liyuan buildings reveals a sharp psychological and physical contrast. While the architecture has been meticulously repaired, the systematic removal of the original residents has turned these courtyards into museumized, tourist-attracting shells. The lively domestic spaces have been replaced by visitor-oriented stores and temporary exhibition stages that sit vacant during off-peak seasons, reducing the rich living culture to a curated commercial backdrop.

The value of the liyuan lies in the everyday social life its spatial structure once sustained, as much as in its architectural form. The current preservation model shows that saving the building as a commercial backdrop is not enough if the social life inside vanishes. The historic conditions of the liyuan were themselves far from ideal, marked by extreme overcrowding and deteriorating infrastructure. What is needed is therefore an intervention that keeps the social life of the liyuan while removing the hardship that came with it. This thesis proposes architectural intervention as an alternative to both tourist gentrification and passive museumification. The shared spatial infrastructure of the liyuan, including its courtyards, corridors, staircases, doorways, and the interstitial spaces between compounds, is understood here as the material basis of collective life. By integrating a contemporary intergenerational model of collective living into this existing framework, the design examines how the traditional spatial sequences can be adapted to modern needs, bringing a permanent community back into the historic core of Qingdao.

1.2 Design Scope and Assumptions

This thesis does not seek to document or accurately record the historical fabric of the liyuan, nor does it aim to recreate the exact living conditions of the past. Instead, the investigation is based on historical floor plans and archival records, using them to examine how the spatial and typological logic of the liyuan can support a contemporary model of intergenerational collective living. The design proposition concentrates strictly on the programmatic reorganization of the compounds, the development of new housing units, and the creation of shared social infrastructure designed for contemporary intergenerational collective living.

To maintain an architectural focus, certain socioeconomic and operational realities are intentionally placed outside the scope of this study. Questions of property rights, financing, ongoing commercial tenancies, and the management of the proposed interventions fall outside this research. The objective of this design is not to address the commercial leasing issues of the district or solve economic displacement, but to propose a functional alternative that explores the capacity of this historic housing typology to host a newly introduced, permanent collective community.

1.3 Thesis Structure

The first chapter introduces the thesis, establishing the problem of resident displacement and spatial erasure in Qingdao's historic liyuan districts, and framing the design proposition that follows.

Chapter two then builds the historical and spatial context, tracing the liyuan's development as a residential typology, examining its characteristic spatial organisation, and documenting the current conditions of commercial redevelopment in the Dabaodao district.

From this foundation, chapter three develops the theoretical argument for why the spatial logic of the liyuan is well suited for intergenerational collective living, drawing on theories of space and social life and introducing precedent projects that inform the design direction.

Chapter four then brings these arguments into the design proposition itself. Working from the existing spatial logic and plan configuration of two adjacent liyuan compounds, and drawing on the living patterns and communal culture historically associated with the typology, it proposes a new residential model organised around intergenerational collective life.

Chapter 2
From Living Fabric to Hollow Heritage

2.1 The Transformation of Liyuan

Phase I: The Origin (1900s - 1940s)

Qingdao was formerly known as “Jiaoao,” referring to Jiaozhou Bay and its surrounding areas (Nie 2025). On November 14, 1897, the German Empire occupied Jiaoao under the pretext of the “Juye Incident.” Following the signing of the Treaty of the Lease of Jiaozhou on March 6, 1898, the German government secured a 99-year lease of Jiaozhou Bay, marking the beginning of the German colonial period. After the outbreak of World War I in 1914, German forces withdrew, and the Japanese military took control, largely maintained the German urban planning framework. In 1922, Qingdao was officially returned to Chinese administration (Nie 2025).



Figure 2.1. The Dabaodao Lutheran Church, Qingdao, 2020. Photograph by User:A001a001. Wikimedia Commons, CC BY-SA 4.0.

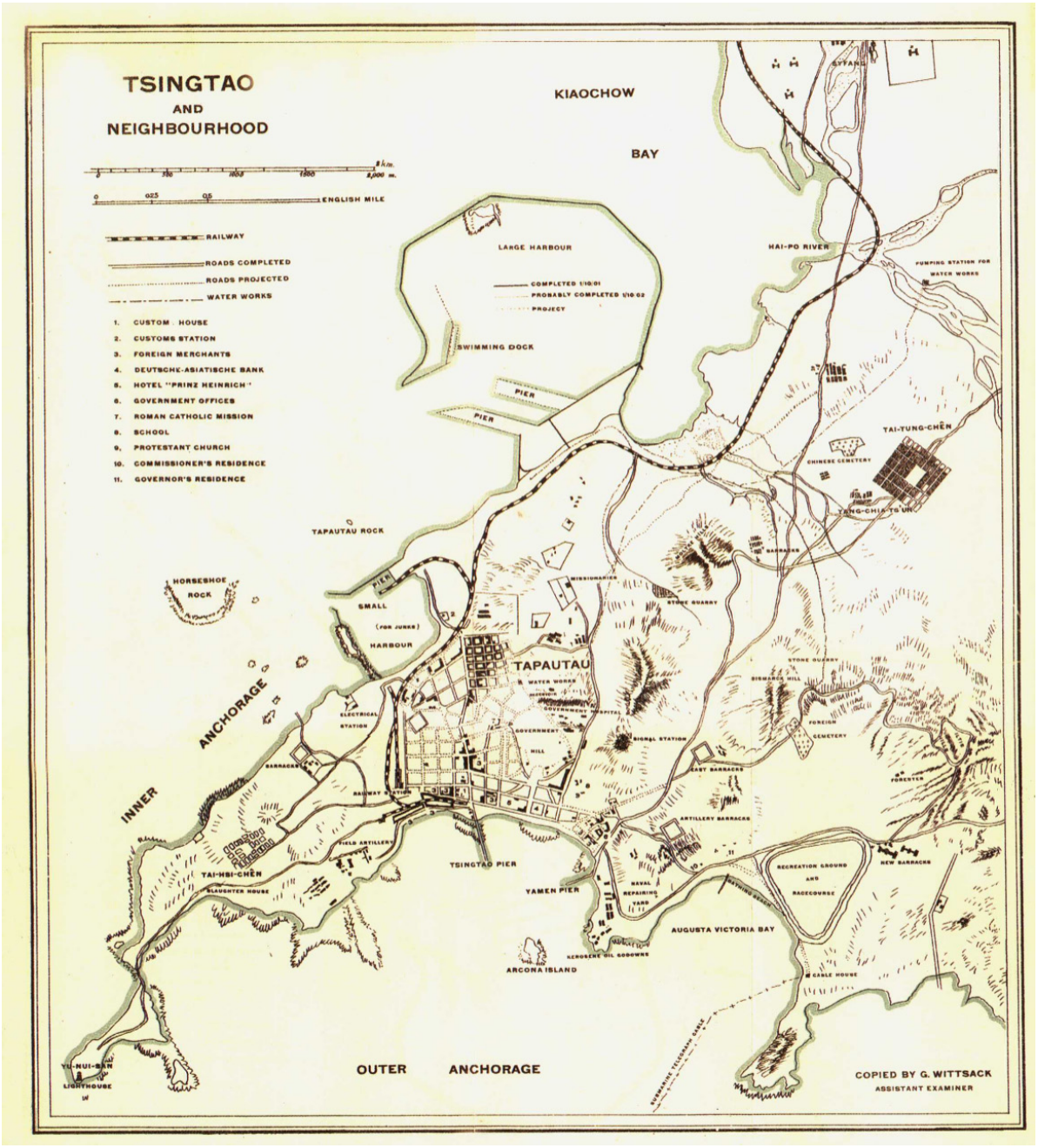


Figure 2.2. Map of Qingdao (Tsingtao) and the surrounding area, c. 1901, showing the early layout of the Dabaodao district (labelled “Tapautau”). Copied by G. Wittsack. Source: Qingdao Municipal Archives 2002.

Philipp Demgenski, an urban anthropologist whose research focuses on heritage politics and intangible cultural heritage, offers a detailed account of Dabaodao's early planning. In the 1898 Qingdao urban plan, the Dabaodao village, located north of the European district, was designated as the "Chinese Town" (Figure 2.2). Colonial authorities imposed strict building regulations: facades had to be constructed of solid brickwork, and buildings were only allowed to occupy three-quarters of their designated land parcels. However, traditional Chinese timber-frame techniques were permitted for interior structures. Under these regulations, the earliest collective housing for Chinese residents took shape with shops on the ground floor, living quarters above (Figure 2.4), and a central courtyard for access and daily social interaction (Demgenski 2019).

Subsequently, merchants from Qingdao, Shanghai, and Guangdong moved into Dabaodao, bringing their construction traditions. Chinese owners continually adapted this early housing form to meet local needs. They removed the high walls between individual units and replaced separate entrances with external galleries and shared staircases (Gao et al. 2022). This evolution gradually formed the unique spatial logic of liyuan, where the courtyard and corridors served as the skeleton of public life. According to statistics from 1933, there were 506 liyuan complexes comprising 16,701 rooms in Qingdao (Shao and Kanekiyo 2013).



Figure 2.3. Aerial view of Dabaodao district, Qingdao, 1910s. Unknown author. Wikimedia Commons, Public Domain.



Figure 2.4. Liyuan building on Block XXV, Qingdao, c. 1900–1901. Unknown author, 1908. Wikimedia Commons, Public Domain.

Phase II: Transition and Decline (1949-1990s)

Under the socialist transformation of private property after 1949, the way people lived in the liyuan changed. The state took over ownership of many liyuan buildings from private landlords, and many were integrated into the work-unit system, serving as housing for factory workers, teachers, or government staff (Demgenski 2019; Zhao 2008).

It was during this time that the sense of sharing and community became more significant. A building originally designed for a few merchant families was subdivided to house dozens of households. This era turned liyuan into what locals called “Dazayuan,” a multi-family compound where private space was minimal and daily life was forced into the shared courtyards and corridors (Beijing University of Civil Engineering and Architecture [BUCEA] 2015). With domestic interiors reduced to a single room per household, cooking, washing, and rest spilled into the shared space, and this constant proximity allowed residents of varied professional backgrounds to form neighbourhood bonds that felt like family. Sharing kitchens, bathrooms and courtyard water taps created a culture of mutual assistance; daily rituals, such as neighbours gathering for a festival or taking turns at the laundry stone sink, became the foundation of a shared community identity that lasted for decades (Shao & Kanekiyo 2013).

Through the 1980s and 1990s, as Qingdao expanded, the city demolished and redeveloped many of its older inner-city neighbourhoods (Demgenski 2019). Residents who could afford to do so moved to newly built housing on the urban periphery, and as the buildings fell below contemporary living standards, the liyuan that remained served mainly as low-rent accommodation (Demgenski 2019).



Figure 2.5. Aerial view of the district west of Zhongshan Road, Qingdao, 1991. Photograph by User:A001a001. Wikimedia Commons, CC BY-SA 4.0.



Figure 2.6. Wooden galleries of a Liyuan building on Haipo Road, Qingdao, 2007. Photograph by User:Siyuw. Wikimedia Commons, CC BY-SA 2.5.

Phase III: Marginalization and Crisis (2000s – Present)

By the early 2000s, the position of the liyuan had grown precarious. Across Qingdao, urban renewal continued to demolish many buildings. Dabaodao also had not been a designated protected area, and parts of it were demolished. Larger redevelopment schemes for the district were repeatedly proposed but failed to materialize, as the cost of renewal could not be balanced against expected returns (Demgenski 2019, 19). In 2009, Dabaodao was included in Qingdao's historical preservation planning for the first time, on account of its relatively intact historical character (Demgenski 2019, 19). Through a combination of stalled redevelopment and this belated recognition, most of the city's surviving liyuan became concentrated here. As of March 2023, 370 liyuan buildings remained within the Qingdao municipal area, with 187 of them in Dabaodao (Nie 2025).

From this point, the standing of the liyuan shifted from dwelling to heritage. Beginning around 2015, residents were progressively resettled as courtyards were acquired for renewal, and from 2019 protection and renewal proceeded at the scale of the district as a whole (Liu 2022). In April 2022 a city-wide program placed a large body of historic liyuan into active reconstruction, with seventy-two projects breaking ground across the old city (Liu 2022). In 2023, the Dabaodao district was designated a national-level tourism and leisure district (Yu 2023). The following section examines the physical decline that preceded this shift and the conversion of the courtyards into spaces of consumption.



Figure 2.7. A renovated street in the Dabaodao historic district, now lined with restaurants, themed signage, and tourist stalls. Photograph by the author’s father, Wenhua Shen, 2026.

2.2 Structural Decline and Informal Adaptation

By the time preservation debates gained momentum in the 2000s, liyuan buildings had already undergone decades of physical deterioration. Essential structures like staircases, corridors, and water taps had undergone some repair in the past (Demgenski 2019). However, deferred maintenance left the timber-framed interior and brick facades rotting and cracking. Shared amenities inside a liyuan, such as kitchens, washrooms, and facilities, were no longer meeting contemporary living standards.

Over the years, people who lived there adapted to these conditions informally. Gao et al.'s survey of 25 liyuan buildings found that 96% exhibited unauthorized additions, averaging 10.5 additional rooms per building, with courtyard kitchens, washrooms, and corridor storage enclosures as the most common interventions (Gao et al. 2022).

Beginning in the 1990s, Qingdao's rapid urban expansion led to the creation of new residential areas throughout the city, prompting residents who could afford it to move out of liyuan. More than 90% of the people living in the Huangdao Road Liyuan cluster were migrant workers by 2015. Less than one in ten were original inhabitants. The remaining residents were predominantly elderly, many having lived in the same courtyard for over half a century (Sun 2015). They were either unable to afford to leave or unwilling to abandon personal memories and a bygone way of life (Demgenski 2019). The shared infrastructure was further strained by the high turnover of short-term migrant renters, ultimately resulting in a community that could no longer sustain the environment it occupied.

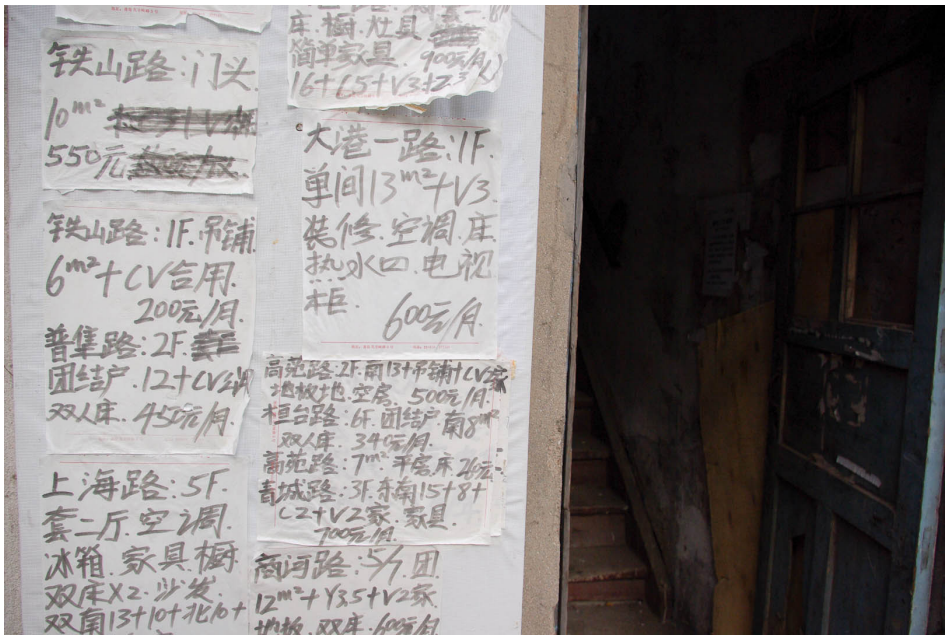


Figure 2.8. Rental notices posted at a liyuan entrance in Dabaodao district, advertising rooms ranging from 6 to 16 square metres at monthly rents between 200 and 700 yuan. Photograph by author's father, Wenhua Shen, 2008.



Figure 2.9. Interior of an abandoned dwelling unit in a liyuan in Dabaodao, Qingdao, 2026. A single room of this kind housed one household. Photograph by the author's father, Wenhua Shen, 2026.



Figure 2.10. Interior courtyard of a vacated liyuan, following government acquisition and prior to renovation. Photograph by author, 2023.

2.3 Heritage Commodification and Museumification

Since 2019, the Qingdao municipal government has implemented a large-scale renewal program across the historic district, systematically converting liyuan compounds from residential environments into cultural and tourism destinations. This transformation typically involves replacing domestic tenancy with a mix of cafés, design studios, and boutique guesthouses. The redevelopment strategy remains explicitly framed around economic activity and younger demographics.

Depending on the scale of the courtyard, these interventions vary from cultural venues and creative hubs to fragmented retail units. According to a 2023 report, the Dabaodao cultural tourism and leisure block reached a peak daily attendance of approximately 62,000 visitors during the 2023 National Day holiday (Yu 2023). However, while these projects successfully attract significant investment and footfall during peak tourism periods, the district often experiences a sharp decline in vitality on a daily basis and during the winter season, reflecting a precarious reliance on seasonal tourism rather than sustained urban life.



Figure 2.11. A renovated street within the Dabaodao historic district on an ordinary weekday, with not much visitors present. Photograph by author, 2025.



Figure 2.12. Courtyard interior of a renovated small-scale Liyuan for commercial use. Photographs by the author's father, Wenhua Shen, 2026.

While the relocation process offered many residents an escape from deteriorating and overcrowded living conditions in the historic district, it simultaneously stripped the neighborhood of its defining social fabric. Under the current development model, the program and character of a liyuan are determined by top-down capital interests rather than the needs of the local community. As Shenjing He and Fulong Wu argue, urban renewal in post-reform China is often driven by pro-growth coalitions between local governments and capital, where the exchange value of historic land consistently overrides its residential use value (He and Wu 2005). For instance, in the Dabaodao area, newly renovated courtyards are frequently repurposed as venues for temporary events like drama festivals and art exhibitions. At Guangxingli, the largest single-courtyard liyuan in the district and one of the earliest to be restored, the central courtyard has been fitted out as a performance stage (figure 2.13). This focus on the courtyard as a stage often leaves the building interiors underutilized or vacant, as the architectural fabric survives as a commercial backdrop rather than an active living space.





Figure 2.13. A renovated liyuan courtyard converted into an event stage. Photographs by the author's father, Wenhua Shen, 2026.

This transformation marks a deep split between how space is actually lived and how it is consumed, which connects to a concept introduced by the French sociologist Pierre Bourdieu in his book Distinction. He describes habitus as the set of habits, tastes, and ways of acting that people build up over time from the conditions they live in and that come to feel natural to them. As shown in the diagram (figure 2.14), the original life of the liyuan was built on a collective habitus of functional use. Everyday objects like communal kitchens, shared water taps, rattan chairs, and drying racks were not decorations; they directly structured how working-class residents lived together and relied on each other every day.

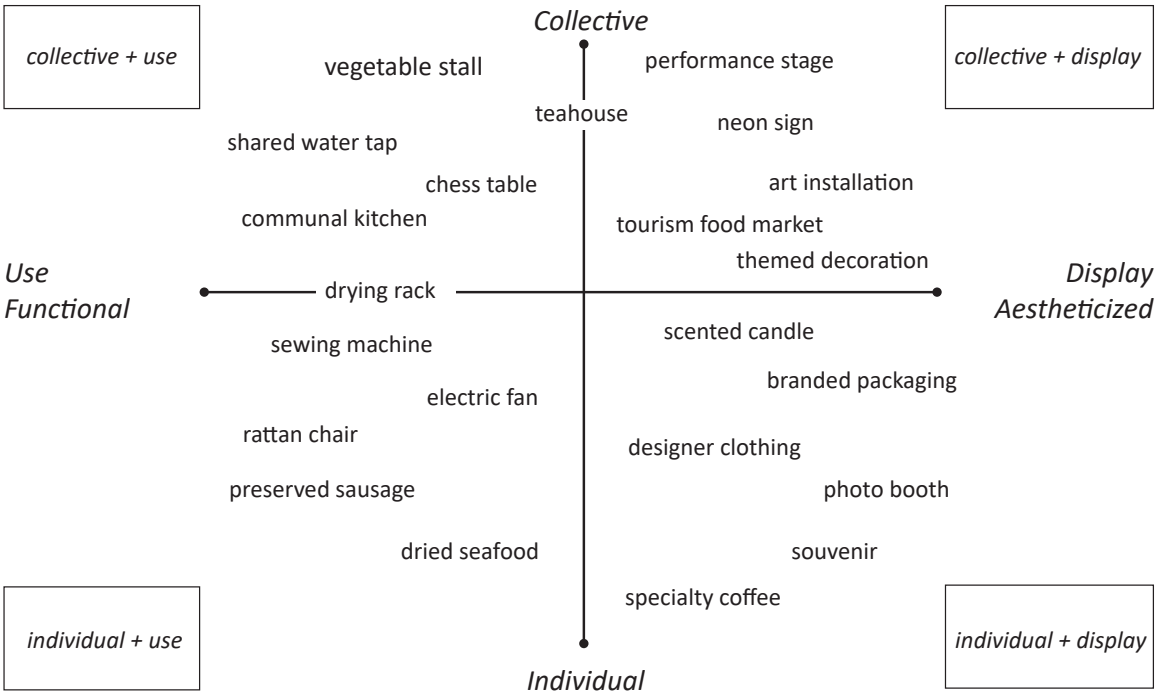


Figure 2.14. Mapping everyday objects of the liyuan along two axes: functional use versus aestheticized display, and collective versus individual. Diagram by author, 2026.

The current redevelopment replaces this lived reality with a space designed purely for visual consumption. Even when local cultural elements, such as traditional pastry shops, historic tea houses, or Tsingtao Beer tourism experience outlets, are found on-site, they no longer serve their original community purpose. Instead of meeting the daily needs of a real neighbourhood, these activities are curated into packaged local experiences for temporary visitors. Traditional passageways and historic arched doorways are physically overlaid with oversized, trendy pop-up installations, novelty tourist props, and neon branding signs that aggressively claim the space as commercial hubs. In certain instances, renewal projects intentionally construct simulated historical thresholds (figure 2.15 and 2.16), such as faux-nostalgic corridors adorned with staged artifacts, retro telephone booths, and hand-painted signs advertising traditional services like watch repair. However, these setups contain no actual workshops or functional trades, operating instead as vacant, curated backdrops designed exclusively for tourist photography and the consumption of an illusion of authenticity.

Meanwhile, the adjacent streets are lined with standardized food stalls and uniform retail canopies designed to capture transient tourist spending. By turning functional pieces of daily life, native thresholds, and collective courtyards into branded retail displays, the renewal process turns the liyuan into a commercial backdrop, celebrating the historic shell while the actual domestic life inside has completely ceased to exist.

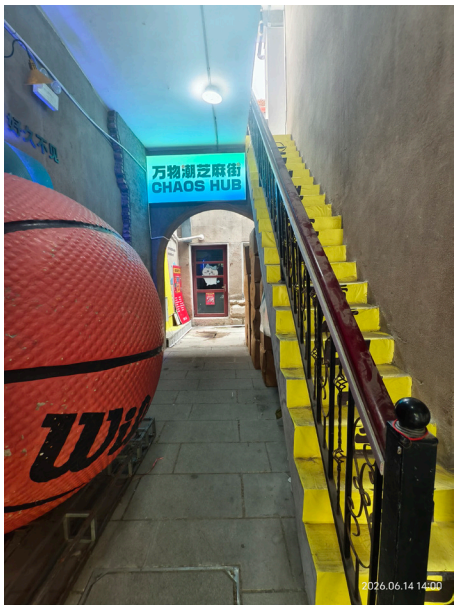




Figure 2.15 and 2.16. Renovated commercial and simulated historical liyuan thresholds in Dabaodao district. Photographs by the author's father, Wenhua Shen, 2026.

2.4 Form, Material and Urban Cluster

Form

The preceding sections traced how the liyuan reached its present condition, emptied of residents and given over to tourism. To understand what that process has displaced, this section returns to the liyuan as a spatial type. The account here draws on Qingdao Liyuan Jianzhu, a survey published by Beijing University of Civil Engineering and Architecture, for which the research team recorded 275 liyuan compounds across the old city between 2013 and 2014, documenting their form, structure, elements, and construction details (Beijing University of Civil Engineering and Architecture [BUCEA] 2015).

Liyuan buildings share a consistent courtyard-centred organization, but their plan forms vary considerably depending on plot conditions and decades of subdivision. The most common configuration is the square-shaped (口) courtyard, in which dwelling units encircle a fully enclosed central courtyard on all sides. Where plots are irregular or narrow, buildings take on L-shaped or C-shaped forms, leaving one or more sides open and relying on adjacent structures to complete the courtyard boundary. More complex compounds combine multiple courtyards in sequence, producing 日-shaped or E-shaped configurations with greater spatial depth (BUCEA 2015). This thesis groups these variations into three broad categories (Figure 2.17): open-ended forms (I, L, C-shaped), enclosed single courtyard (口-shaped), and enclosed compound courtyard (日-shaped and above). Individual liyuan compounds are rarely isolated. Within Dabaodao, most blocks bring together multiple courtyards along shared street frontages, their walls built directly against one another. Each courtyard maintains its entrance passage to the surrounding streets, operating as a self-contained unit within a densely packed block.

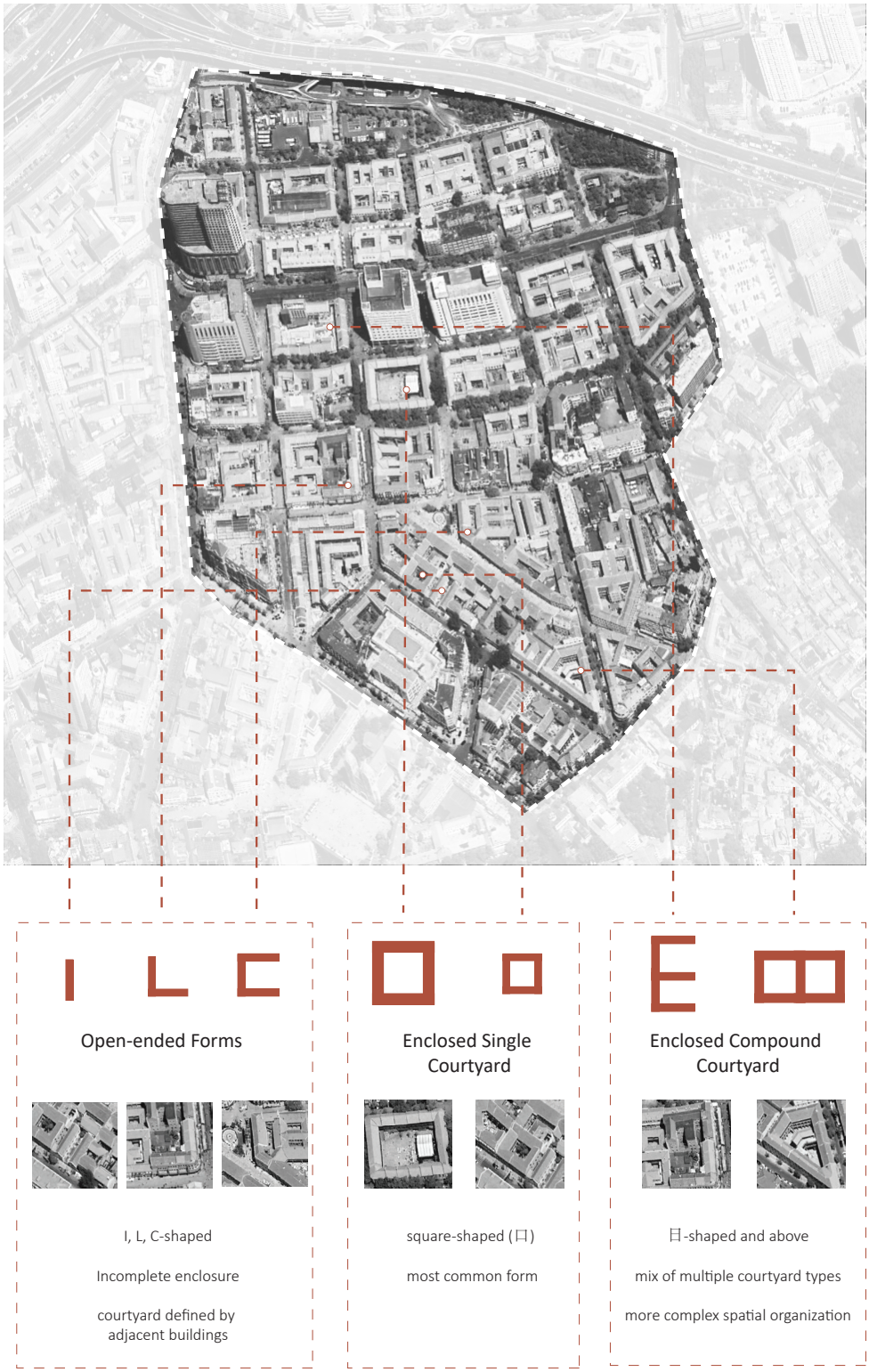


Figure 2.17. Classification of existing liyuan building plan forms in the Dabaodao area. Diagram drawn by author based on Google Earth imagery, 2026.

Material

The materials of liyuan buildings come from both Chinese and German building traditions. Early buildings used granite bases, brick outer walls, and timber structures inside. This came from German building rules and from the local supply of stone (BUCEA 2015; Demgenski 2019). The rules allowed Chinese building forms in the Chinese quarters, so the timber frames carry brackets and beams that are not found in German construction (BUCEA 2015). Brick and timber remained the most common combination. Brick carried the ground floor and timber the floors above, which kept the base stable and reduced the load on the lower walls. Later buildings used brick-concrete and reinforced concrete, which let them rise to three and four storeys (BUCEA 2015). Street facades follow a Western style with arched windows and decorative brickwork. Inside the courtyard, the detailing stays Chinese, with wooden railings and carved screens (Shao and Kanekiyo 2013). Most liyuan have a pitched roof, carried on a Western timber roof frame and covered with red tiles (BUCEA 2015). A smaller number use a flat roof.



Figure 2.18. Red-tiled liyuan roofs in Dabaodao. Photograph by the author's father, Wenhua Shen, 2026.



Figure 2.19. Exposed interior wood roof structure of a liyuan in Dabaodao. Photograph by the author’s father, Wenhua Shen, 2026.



Figure 2.20. Granite stone base and brick facade of a liyuan building. Photograph by the author's father, Wenhua Shen, 2008.

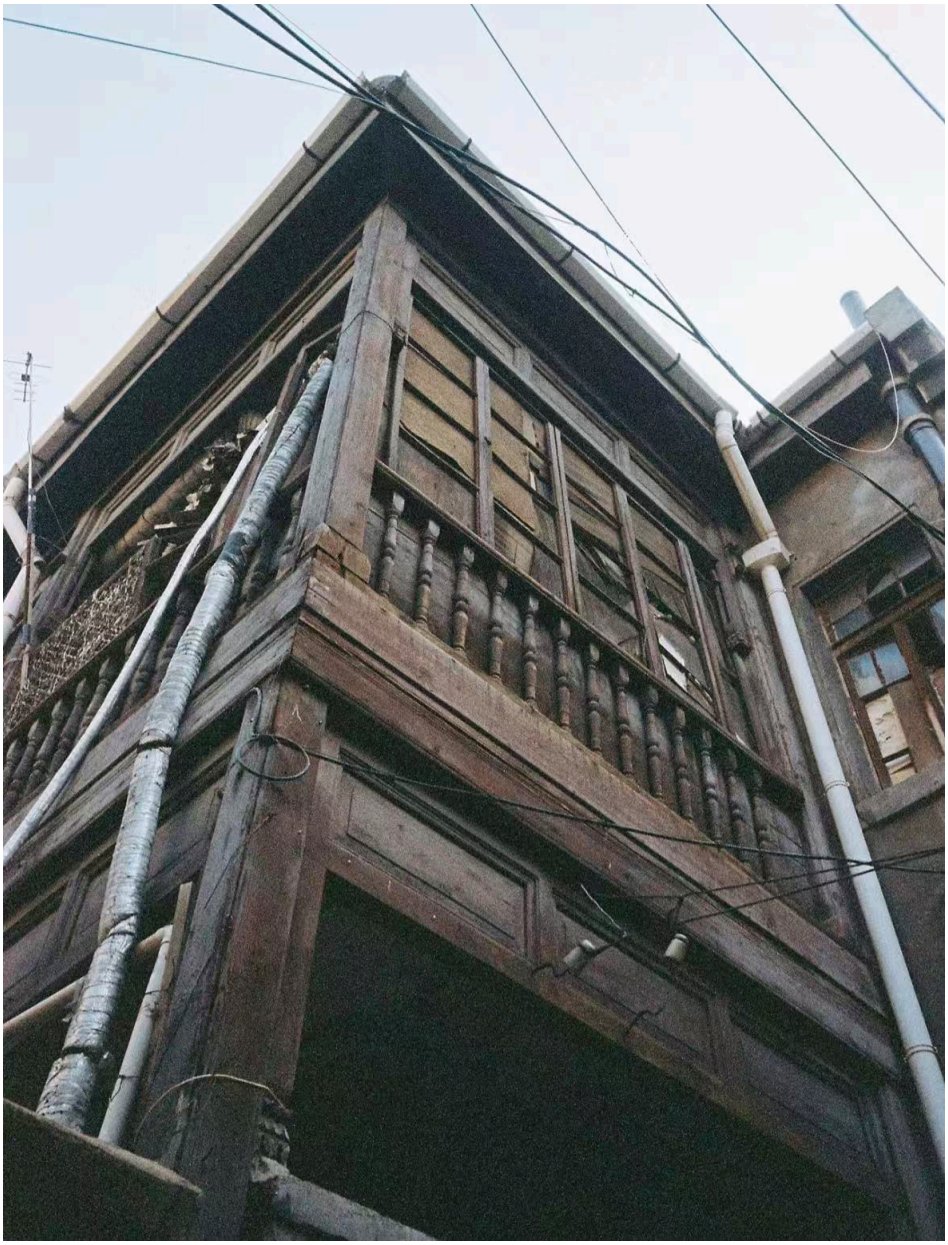


Figure 2.21. Interior courtyard view of a liyuan on Zhongshan Road, Qingdao, showing the preserved original timber corridor structure and turned baluster railings. Photograph by 韦斯顿的胡椒, 2022, reproduced with permission.

Mendong

The mendong is the passage between the street and the courtyard. Almost every liyuan has only one public entrance. It usually sits at the centre of the street frontage, allowing even access to the courtyard from the street. Where the frontage is narrow and shops take the ground floor, the entrance moves to a corner or opens onto a side lane (BUCEA 2015). The opening is either square or arched. Some arched passages are vaulted through their full depth, while others are arched only at each end. In plan, most passages run straight into the courtyard. Some turn once as an L, where the entrance is at a corner, and some divide as a T, where a compound holds several courtyards (BUCEA 2015). Residents have adapted the passage over time. In some compounds a timber board fitted under the vault turns the space above into storage.

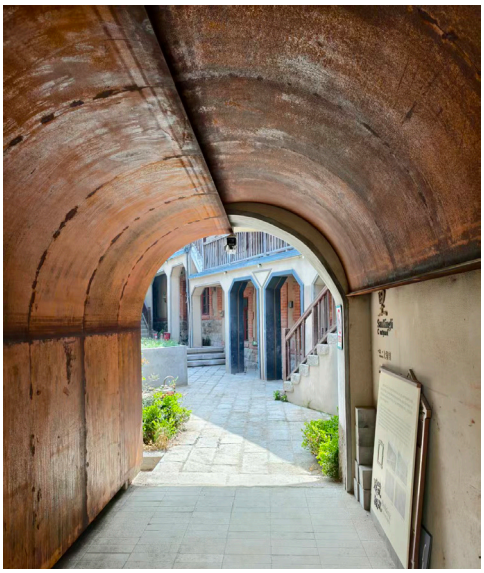


Figure 2.22. One renovated mendong entrance of a liyuan. Photograph by the author's father, Wenhua Shen, 2026.





Figure 2.23 and 2.24. Pictures of emptied liyuan buildings in Dabaodao. Photograph by the author's father, Wenhua Shen, 2026.

Stair

Most liyuan have an outdoor stair in the courtyard rather than an enclosed stairwell inside. Residents climb in the open and reach each room from a corridor entered from outside, in the way a traditional Chinese house works (BUCEA 2015). Early stairs were timber and set in a Y shape across the middle of the courtyard. They gathered residents on one flight and then divided them toward each side of the building. Most stairs sit at a corner or an end of the courtyard, and fewer stand at the centre (BUCEA 2015). Some timber stairs survive, but most were rebuilt in concrete, stone, or rendered brick. Later buildings copied the Western enclosed stairwell, and compounds rebuilt in that period gave up the Y-shaped stair for a straight flight along one side of the corridor (BUCEA 2015).

Corridor

The external corridor runs along the courtyard side of the upper floors. It is one of the most used spaces in the liyuan (BUCEA 2015). Most corridors are half-open, and the layout follows the building's design, taking the form of a □, ⊏, L, or — shape. The traditional width is about 1 to 1.2 meters. This width comes from the corridor of the Chinese house, and it lets a resident pass and pause (BUCEA 2015). Corridors are built in timber or reinforced concrete, painted in red, and the two are often mixed in one compound (BUCEA 2015).



Figure 2.25. View of a emptied liyuan corridor. Photograph by the author's father, Wenhua Shen, 2026.



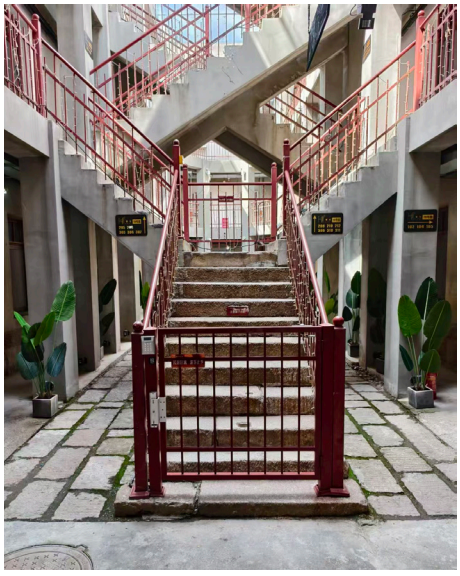


Figure 2.26 and 2.27. Examples of different stairs in Liyuan buildings. Photograph by the author's father, Wenhua Shen, 2026.

2.5 Threshold, Courtyard, Corridor, and the Social Life of Shared Space

The social life described in this section belongs to the liyuan as it was lived before redevelopment. It is recalled here not for nostalgia, but because the everyday collective life of the liyuan offers a working example of how shared space can sustain a community, one this thesis carries forward into its design. Liyuan buildings shared a consistent spatial logic regardless of plan variation. The architectural essence of a liyuan lies in the spatial sequence of shared spaces that connect the street to the dwelling and social infrastructure for collective living.

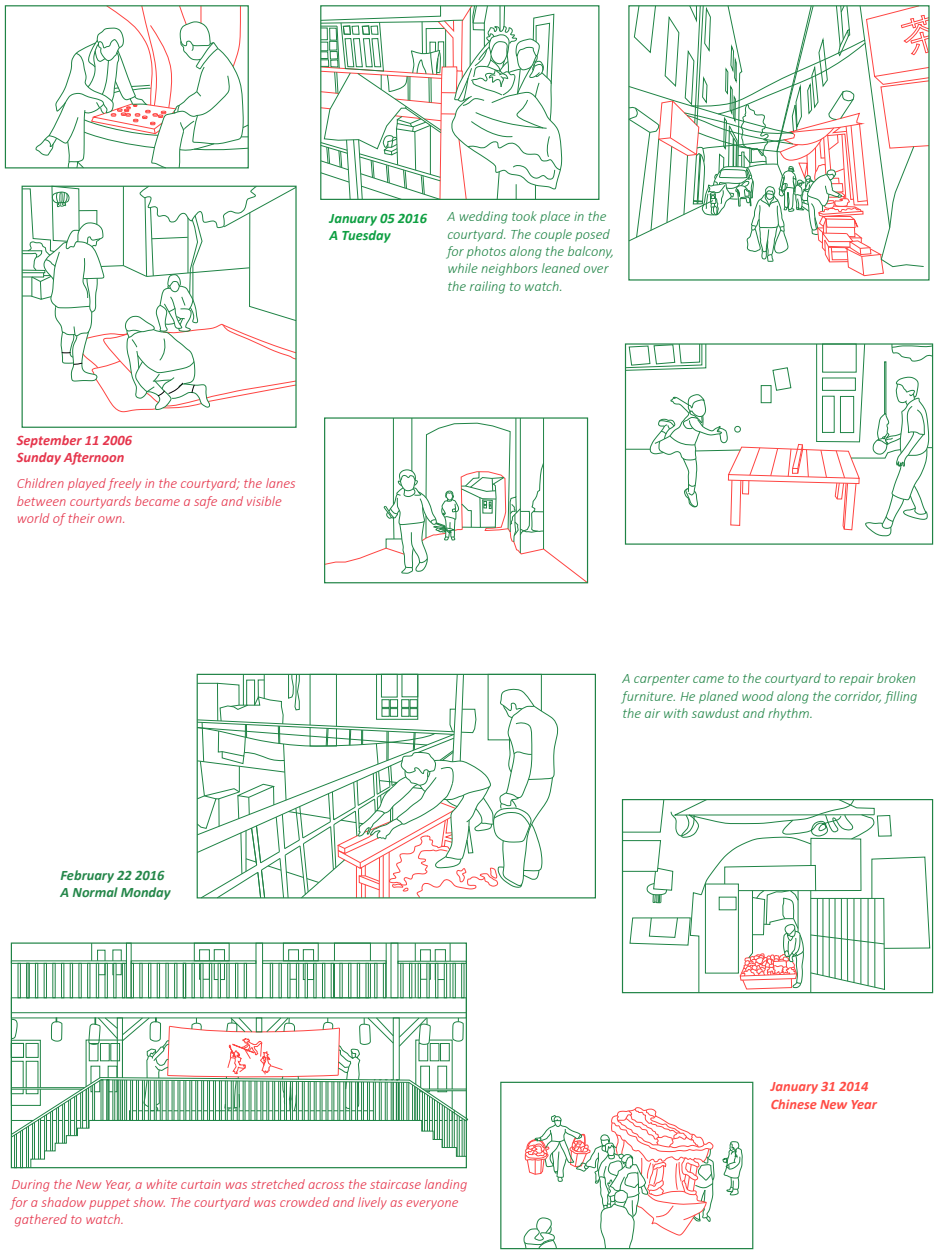


Figure 2.28. Vignettes of daily life and social interactions within the Liyuan courtyards, 2025. Diagram by author.

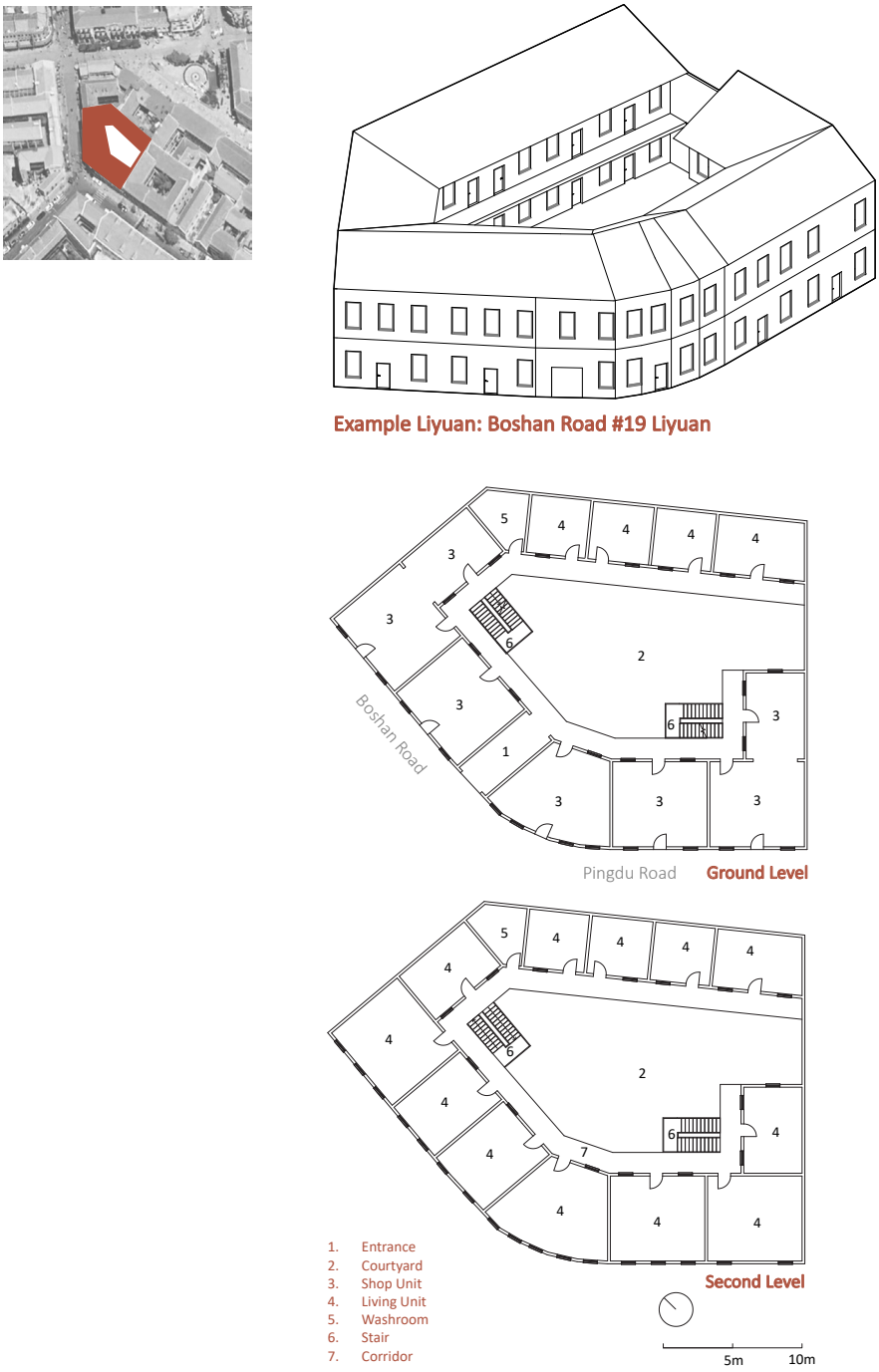
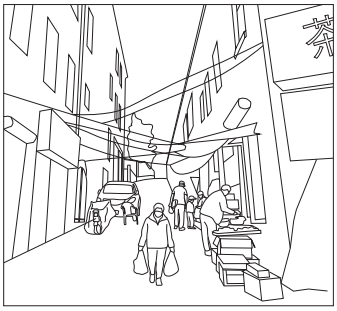
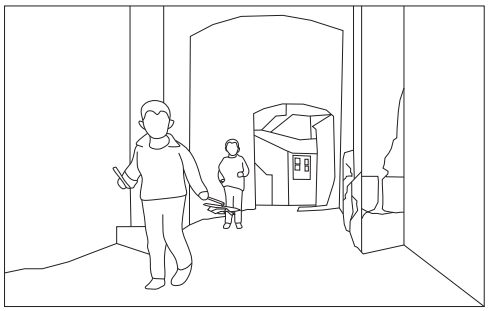


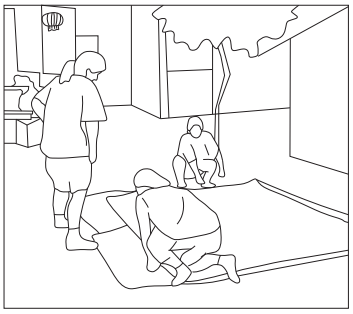
Figure 2.29. Spatial sequence and everyday life in the a liyuan. Left: axonometric and floor plans of Boshan Road No. 19 as a representative example, showing the typical ground-floor commercial units and upper-floor dwellings organized around a shared courtyard; plans were redrawn by the author based on plans in Qingdao Liyuan Jianzhu [青岛里院建筑], 2026. Right: illustrations of daily activities at each shared node, from the outer alleyway and entrance passageway to the courtyard and shared corridors. Drawings by author, with reference to historical photographs of liyuan daily life, 2026.



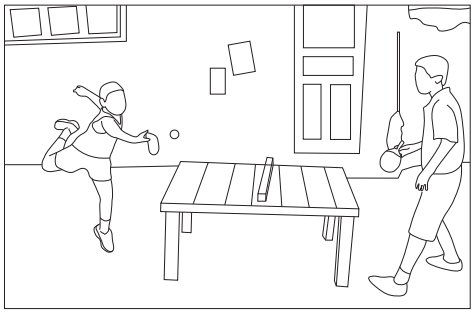
Alleyway Outside of Liyuan



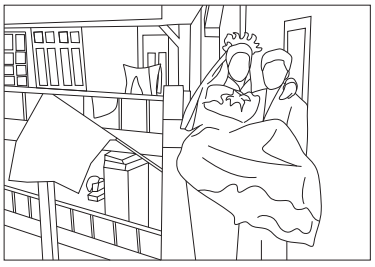
Entrance to Liyuan



Courtyard Space



Courtyard Space



Shared Corridor



Shared Corridor

Ground-floor units typically housed shops opening directly onto the street, with some also maintaining interior doors facing the courtyard (Shao and Kanekiyo 2013). Residents could meet their daily needs in the immediate neighbourhood, buying groceries, breakfast, and household goods from the ground-floor stalls in the compound itself. These active ground floors hosted various small convenience businesses that served the local community, including barbershops, tailor shops, and hardware stores. This mixed-use ground floor meant that the boundary between domestic life and commercial activity was never sharply drawn, and the courtyard entrance served as a flexible threshold between the two. During major traditional holidays, these surrounding streets became vibrant venues for collective celebrations, such as dragon dances or lantern festivals, bringing the entire neighbourhood network together.





Figure 2.30 and 2.31. Small grocery store opening onto the street beside liyuan entrances. Photograph by author's father, Wenhua Shen, 2008.

The Mendong (passageway) mediates the transition from the urban street to the domestic realm, functioning as a spatial filter. As a deep threshold, the gatehouse compresses the scale of the street, filtering out urban noise and creating a psychological boundary. This area is more than a mere entrance; it is a transitional node where the public character of the city begins to dissolve into the semi-public intimacy of the courtyard. Passing through this threshold means entering the specific daily social network of an individual liyuan compound. Within this shaded passageway, the walls typically served as a community information hub, lined with public notice boards and neighbourhood posters. It was also where rows of small metal mailboxes and milk boxes were mounted, allowing residents to collect their daily newspapers and fresh milk as they stepped inside.





Figure 2.32 and 2.33. Two liyuan entrance passageways (mendong). Photographs by the author's father, Wenhua Shen, 2008.

Once through the passageway, the courtyard emerges as the “communal living room” of the entire complex. The courtyard is the social core of the compound, providing shared water taps, laundry space, and room for daily activity. The standard configuration included two to three shared staircases, a corridor running along the courtyard side of the upper floors, and communal toilet facilities (Gao et al. 2022). This open layout operated as a shared, semi-public extension of domestic life. Neighbours routinely helped each other air out heavy quilts under the sun, shared space to dry local seafood or salted vegetables, played chess, or practiced Tai Chi in the early morning. For women and children especially, the courtyard formed a natural, secure safety net. Children could play freely in a naturally supervised environment because neighbours were always watching. In an era before smartphones, parents could simply stand on the open upper-floor corridor and call down across the courtyard to tell their children it was time for dinner. Historically, the courtyard also transformed into an intimate cultural space for the compound, where neighbours gathered together like an extended family to watch outdoor movies or perform in local operas (Shao and Kanekiyo 2013).



Figure 2.34. Interior courtyard of a liyuan. Photograph by 韦斯顿的胡椒, 2022, reproduced with permission.

The shared staircases and corridors function as the vertical equivalent of the street, operating as dynamic, semi-public spaces designed for spontaneous encounter. Running along the courtyard edge of the upper floors, this 1.2-meter-wide wooden or concrete corridor is where residents cross paths and interact multiple times a day (Shao and Kanekiyo 2013). These daily movements encourage frequent, casual meetings in which neighbours naturally exchange community information, share personal stories, and build deep social bonds over time. Residents often personalized these shared thresholds, growing bonsais and placing flower pots along the corridor edges near their entry doors. People would routinely bring their chairs outside, sitting right by their doorsteps to eat meals, do housework, or chat with passersby along the balcony.

Read across its thresholds, the liyuan reveals a remarkably rich everyday life. Its courtyards, corridors, and passageways were never formally programmed as social space, yet at each of these nodes a dense fabric of neighbourly relations took shape almost on its own. This collective life was sustained by shared space and daily proximity, the same spatial conditions on which contemporary forms of collective living also depend. The chapter that follows asks how this capacity of the liyuan can be carried into the present, and why the community it now invites should be an intergenerational one.



Figure 2.35. Views from the upper-floor corridor of a liyuan. Photograph by 韦斯顿的胡椒, 2022, reproduced with permission.

2.6 Common Problems of the Liyuan

That collective life was carried in spaces that planning had been overlooked for decades, and services had aged. Over time, this neglect produced a set of conditions common to liyuan across the district. Neighbours gathered, but the corridor was too narrow to pause in. People grew plants, but the pots blocked the stairs. There was nowhere to dry laundry but the shared space, and nowhere proper to sit and talk. These are the residents' own responses to spaces that no longer served them, and they show what people needed from the shared spaces even where the fabric could not provide it.

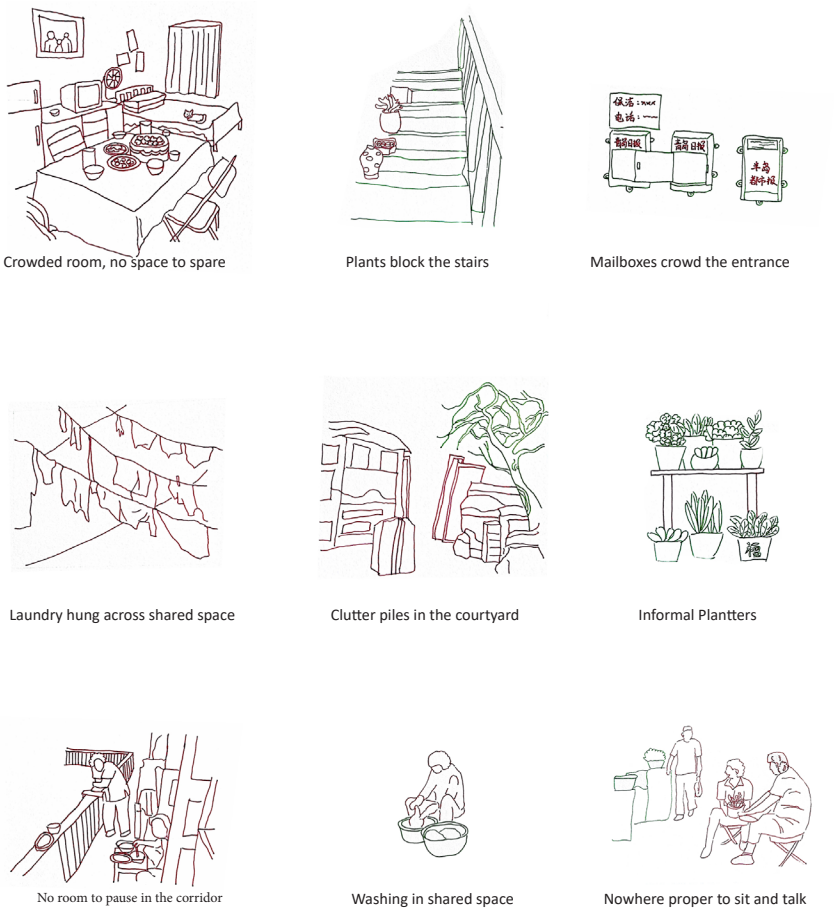


Figure 2.36. Common spatial problems observed in the liyuan. Drawings by author, 2026.

Chapter 3
Intergenerational Collective Living

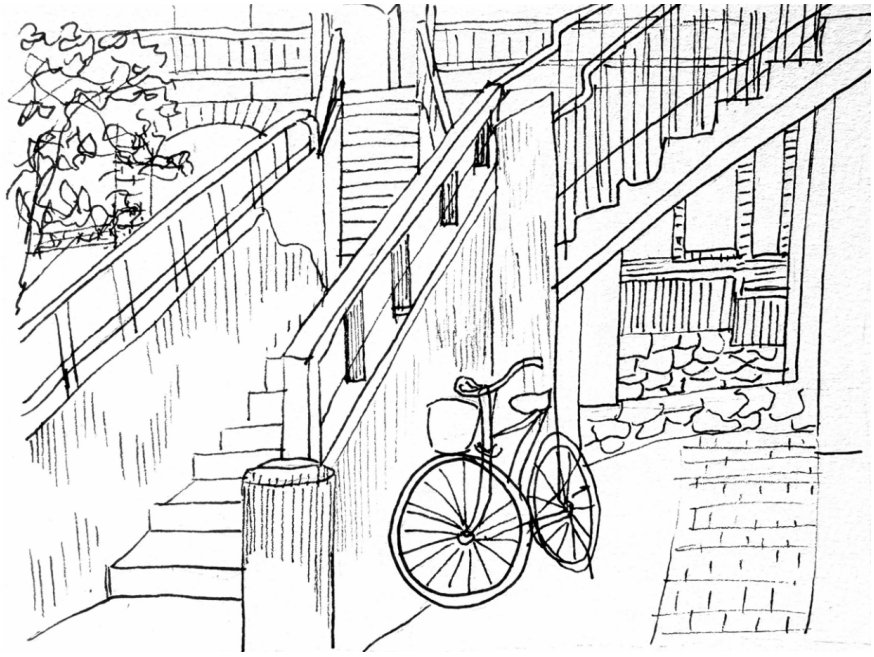


Figure 3.1. Sketch of a liyuan courtyard. Drawn by author, 2025.

How can a contemporary form of intergenerational life continue to take place in the liyuan, and why is intergenerational living still needed?

Chapter two showed that the collective life of the liyuan was produced by its shared spatial structure. The current redevelopment cleared residents from the courtyards and dismantled the conditions that once sustained collective life. The traditional life of the liyuan is often dismissed by market-driven urbanism as outdated. Yet housing does not have to break from its history to belong to the present. This chapter asks what form of collective life could return to these courtyards today, and why that life should be intergenerational.

3.1.1 The Demographic Crisis in the Historic Core

As described earlier, most residents who remained in the liyuan until the recent acquisitions were elderly people, many of whom had lived in the same courtyard for decades (Sun 2015; Demgenski 2019). Their situation is not unique to the liyuan since China is aging quickly. By 2023 the number of people aged 65 and above had reached 15.4 percent of the population, and those aged 60 and above had reached 21.1 percent, marking the country's entry into what is officially termed a moderately aging society (The State Council 2024). At the same time, the migration of younger family members to larger cities and the steady shift toward smaller, nuclear households have left many older people increasingly isolated, with the traditional family less able to provide daily care and companionship (Smith, Strauss, and Zhao 2014). Returning only the elderly to these courtyards would rebuild that isolation at the scale of a neighbourhood. For the liyuan's future, bringing different generations into one community offers something the contemporary city has made rare, which is regular contact across age and stage of life within the spaces of everyday life.

The liyuan is well suited to hold this kind of community, because it once fostered a strong sense among its residents. In The Practice of Everyday Life, Volume 2: Living and Cooking, the sociologist Pierre Mayol describes how repeated and habitual daily use makes a neighbourhood a direct social outgrowth of the private dwelling. In his view, a neighbourhood holds together through the coexistence of people bound by proximity and repetition (de Certeau, Giard, and Mayol 1998). This is what the liyuan's spatial sequence produced (Figure 3.2). Daily movement passed through the shared courtyards and corridors, bringing residents into repeated, low-pressure contact, and a sense of

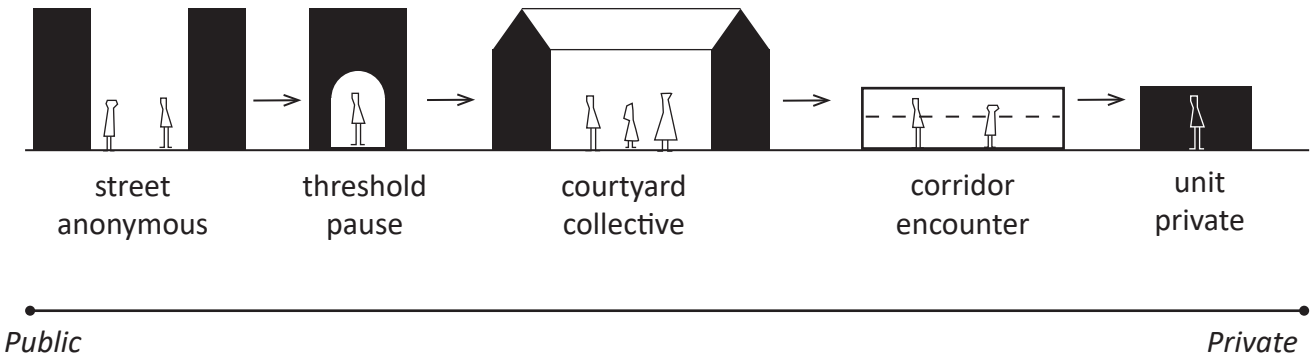


Figure 3.2. The Spatial Sequence of the Liyuan: From Street to Unit.
Diagram by author, 2026.

3.1.2 Intergenerational Living and Cohousing

The cohousing model is a useful place to start, since it offers a clear way to organise a community around shared daily life while keeping each household its own. In Creating Cohousing: Building Sustainable Communities, Kathryn McCamant and Charles Durrett describe cohousing as a model where each household keeps its own private home, while daily life is shared through common space. They argue that this depends on good environmental design, where the layout of the site brings residents together. This approach turns Mayol's account of everyday space into an active design method, where shared daily functions are placed to guide people through communal areas (McCamant and Durrett 2011). The liyuan already holds this spatial logic, since a resident moving between their unit and the street passes through the shared courtyard and corridors as a matter of course.

Beyond this layout, cohousing also shapes who lives together and how their homes are arranged. McCamant and Durrett plan for a deliberate mix of households at different stages of life, with homes for small families, for couples both young and old, and for singles both young and old (McCamant and Durrett 2011). Cohousing keeps this range within one community, where a small set of unit types lets different households share the same courtyard while each keeps a home of its own.

Moreover, the idea of cohousing design dwellings well below the size residents are used to, by combining functions so that each space serves more than one use, and by moving part of daily life outward into shared rooms (McCamant and Durrett 2011). Functions such as cooking, dining, and gathering are held in common ground that every household can draw on, which keeps each private home small while daily life expands into space shared by all.

Cohousing also concerns the edge between the home and shared space. In cohousing, the kitchen and dining area, the room where a household spends most of its day, faces the common walkway, so a resident can watch children play or chat with a passing neighbour without leaving home (McCamant and Durrett 2011).

3.1.3 Intergenerational Contact Zones

Cohousing offers a reference model for the overall direction of a new intergenerational collective life in the liyuan. To design for the contact between generations more closely, this thesis also draws on the framework of the Intergenerational Contact Zone. Developed by Matthew Kaplan, Leng Leng Thang, Mariano Sánchez, and Jaco Hoffman in Intergenerational Contact Zones: Place-based Strategies for Promoting Social Inclusion and Belonging, the concept names the places where different generations meet, spend time, and build relationships. And the book sets out several dimensions through which such places can be understood and designed (Kaplan et al. 2020).

They set out eight interconnected dimensions for an intergenerational contact zone: the physical, temporal, psychological, sociocultural, political, institutional, virtual, and ethical (Kaplan et al. 2020). Whithin them, the physical dimension and temporal dimension are especially important for liyuan's adaptive design. The physical dimension concerns spatial configuration, the making of focus points or nodes for intergenerational interaction, together with pathways that let people exit such interaction in comfort (Kaplan et al. 2020). The temporal dimension concerns the rhythms of use across a day and a year. Generations keep different daily and seasonal schedules, and these differences can quietly push ages apart, since a school child and a retired neighbour move through a building at different hours (Kaplan et al. 2020). A space designed as a contact zone must hold this rhythm, so that the same node serves a child after school and an older resident at midday rather than belonging to one age alone.

3.2 Precedents Review

This section uses two built projects, Xiaoxihu in Nanjing and zwei+plus intergenerational housing in Vienna, to show how the reuse of existing historic housing neighbourhoods and intergenerational living have been carried out in practice. Xiaoxihu in Nanjing is an adaptive reuse of a historic courtyard block. It shows how a dense, inherited fabric can be upgraded for contemporary living without clearing the residents already there, with spaces between buildings reworked as shared ground.
The zwei+plus intergenerational housing in Vienna is a purpose-built intergenerational housing project that offers a working model for how a small set of dwelling types and shared rooms, with common functions placed to bring generations into regular contact.

3.2.1 Xiaoxihu Block, Nanjing, China

Xiaoxihu Block in Nanjing is an adaptive reuse of a dense historic courtyard block, close to the liyuan in both fabric and circumstance. Xiaoxihu shows that a dense historic block can be improved for contemporary living while keeping its residents, which is one direction that the liyuan can also take. Nanjing is a Chinese city with a long history, and Xiaoxihu Block is one of the few areas in Nanjing that have kept their internal courtyards and alleys, and it has been a residential and commercial district for around a thousand years (Castle 2025).

Like the liyuan buildings in Qingdao, residential buildings in Xiaoxihu Block also underwent the shift from private ownership to public tenancy after 1949 and filled courtyards and alleys with illegal additions. By the early 2000s, living conditions had badly deteriorated (Castle 2025). The regeneration began as a pilot in 2015 under Han Dongqing's team at Southeast University. Its method centred on restoring the historic street pattern and supporting community participation (Bao et al. 2025), and it was the first project in Nanjing to adopt a voluntary, progressive resettlement policy. Residents who chose to leave were offered resettlement apartments. For those who chose to stay, a co-living courtyard model was developed, with kitchens and bathrooms added. Of an original 810 households, about 45 percent remained by 2022 (Castle 2025).

The project also shows how shared life can be rebuilt in a courtyard on a small scale, in ways similar to how the Intergenerational Contact Zone defines spaces of contact. Formerly enclosed courtyards were reworked into shared and co-living courtyards. Historic spatial nodes were turned into community centres and places for cultural activity, drawing residents to perform opera, dance, and hold festivals. Alongside everyday commerce, the project introduced cultural uses such as a tea house, a bookshop, and craft activities (Castle 2025). For the liyuan, this retention of existing everyday culture alongside modern upgrading is the aspect that is most worth following.

3.2.2 zwei+plus Intergenerational Housing, Vienna, Austria

The zwei+plus is a subsidized social housing project in Vienna, Austria, designed by trans_city TC and completed in 2018. It is a housing project built on an innovative concept of intergenerational living, with various flexible living arrangements and a variety of shared spaces (trans_city 2021). Its design reflects features found in both cohousing and the Intergenerational Contact Zone. The way it organizes shared functions within a courtyard layout and the way it handles the edge between private and shared space has value for a contemporary intergenerational collective living design in the liyuan.

The project is made of four L-shaped buildings, and the gaps between the L-shapes form a sequence of open green courtyards where residents can meet (trans_city 2021). The ground floor holds a set of collectively programmed spaces: a community café, a children's playroom, a laundromat, and a four-group kindergarten, all meant to support contact across generations (trans_city 2021). An assisted living centre for seniors is also placed on the ground floor, and a cooperative arrangement lets the seniors take part in caring for the preschool children, bringing the two generations into regular contact (Architizer 2020).

The circulation system is designed to be social. Some units have semi-private loggias set along the open galleries, where neighbours can stop for a chat as they pass by, and the large glazing onto these loggias provides the apartments with daylight from two sides and cross ventilation (trans_city 2021). In terms of dwellings, the project offers a range of unit types. Most are self-contained apartments. There is also a type called the “all-smart” unit, a flexible dwelling that lets households share one home more freely. For example, an older and a younger generation of one family can live together while sharing a living-dining space yet keep more private rooms of their own. Moreover, the wooden detailing on the balconies and the ground floor brings a sense of warmth to these shared edges, where people come into contact with the building (trans_city 2021).

Chapter 4
Design

Building on the preceding discussion of the relationship between collective living and spatial structure, this section takes Tiande Tang and Jiuru Li in the Dabaodao district as the site for a design of collective living within the liyuan.

The two compounds are adjacent, long-established, and culturally significant within the city, and they present a range of liyuan layout types. Both have been expropriated and are now uninhabited, with their street frontages given over to commerce while partial interiors and upper floors stand vacant. Their courtyards adjoin one another, holding the potential to form a complete and generous shared space. This section analyses their spatial form and capacity for adaptation, and explores how new program, dwelling units, and collective space can be introduced while retaining the cultural appearance, layout, and courtyard pattern of the buildings.



Figure 4.1. Hand-drawn axonometric view of the selected site. Drawing by author, 2026.

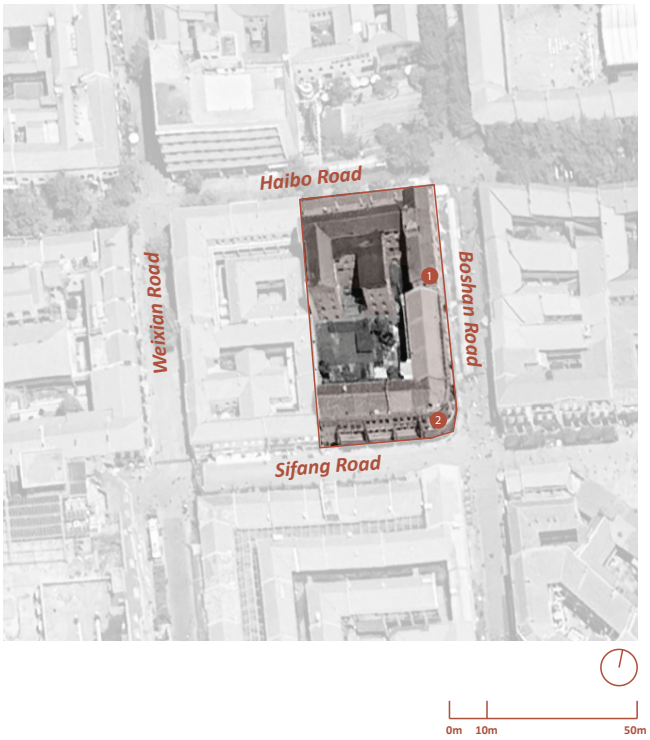


Figure 4.2. Location of the two selected liyuan compounds in the Dabaodao district, bounded by Haibo Road, Boshan Road, Sifang Road, and Weixian Road. 1: Tiande Tang. 2: Jiuru Li. Diagram drawn by author based on Google Earth imagery, 2026.

4.1 Selected Site and Existing Conditions: Tiande Tang and Jiuru Li

Tiande Tang stands at 56 Boshan Road, at the corner of Boshan Road and Haibo Road, and was completed in 1930 (Zhao et al. 2019). It was the largest public bathhouse in old Qingdao, serving surrounding merchants and residents. In the old days, there was a saying among the people of Qingdao: “Go to Zhonghe for a play, to Chunhe Lou for a meal, and to Tiande Tang for a bath.” (Zhao et al. 2019). Tiande Tang was one of the representative cultural venues and formed a distinctive part of old Qingdao’s cultural heritage. The building comprises a three-storey volume to the north and a five-storey volume to the south, with a narrow courtyard set between them (Mu 2018). Between 2001 and 2008 only two floors operated as a sauna while the remaining floors stood empty, and from 2008 the building was left vacant (Zhao et al. 2019). Field observation in 2026 found the surrounding area converted into a tourist and cultural street, with Boshan Road operating as a food street and ground-floor units given over to commerce, while the upper floors remained unused.

Jiuru Li lies between Haibo Road and Sifang Road, a mixed commercial and residential building completed in 1932 (Zhao et al. 2019). It comprises three storeys and, unlike the traditional courtyard layout, has an ‘L’-shaped floor plan. Satellite imagery indicates that the wing facing Boshan Road collapsed and was rebuilt during renovation in 2022. The building now operates in its entirety as a restaurant. Field observation in 2026 found the internal courtyard shared between Jiuru Li and Tiande Tang standing empty, with an unauthorised single-storey addition enclosed by hoarding.



Figure 4.3. Tiande Tang viewed from the corner of Haibo Road and Boshan Road, with the food street operating along the ground floor and the upper floors unused. Photograph by author, 2026.



Figure 4.4. Internal courtyard of Jiuru Li, showing the vacant upper floors and the unauthorised single-storey addition. Photograph by author, 2026.



Figure 4.5. Street frontage of Jiuru Li from Boshan Road, now operating as a restaurant, with food stalls along the ground floor. Photograph by author, 2026.

Conditions and Liyuan Common Problems

Despite their differences in layout, the two compounds share a set of conditions that are common to liyuan across the Dabaodao district. The conditions described here concern the liyuan as residential space before commercial conversion, concern both the collective spaces between dwellings and the dwelling units themselves.

First, the collective spaces have been eroded. The unauthorised structures occupies much of the courtyards' common spaces, leaving little room for shared use and no clear provision for communal space. Several courtyards are narrow, and the limited width restricts sunlight reaching the lower floors. The external corridors, mostly around 1.2 metres in the two compounds, are narrow. Even so, residents have long used them as social space, growing flowers along the edge, sitting out with tea, and eating by their doors. The width allows this only in passing, and there is no room to pause or gather properly.

The interiors and dwelling units have also fallen out of step with contemporary living. Interior fittings and spaces are dated, individual rooms are small, and the internal divisions are disordered. Circulation within the buildings is unclear, and the existing staircases are awkward in dimension and inconvenient in daily use.

The collective life of the old liyuan grew partly out of hardship. Toilets and water taps were shared, kitchens opened onto the corridor, and a single small room often held a whole household. People met and helped each other because the conditions left them little choice. This closeness built strong social habits, but by today's standards the spaces are hard to live in. For older residents and families with children who stay for the

long term, the lack of privacy, the shared facilities, and the small rooms make daily life difficult. The design keeps the social life of the liyuan and removes the hardship that came with it. Each household is given its own kitchen and bathroom, while the shared spaces that brought neighbours together are kept and improved.

These conditions are not particular to Tiande Tang and Jiuru Li. They recur throughout the liyuan of the district, which allows the responses developed here to extend beyond the two sites.

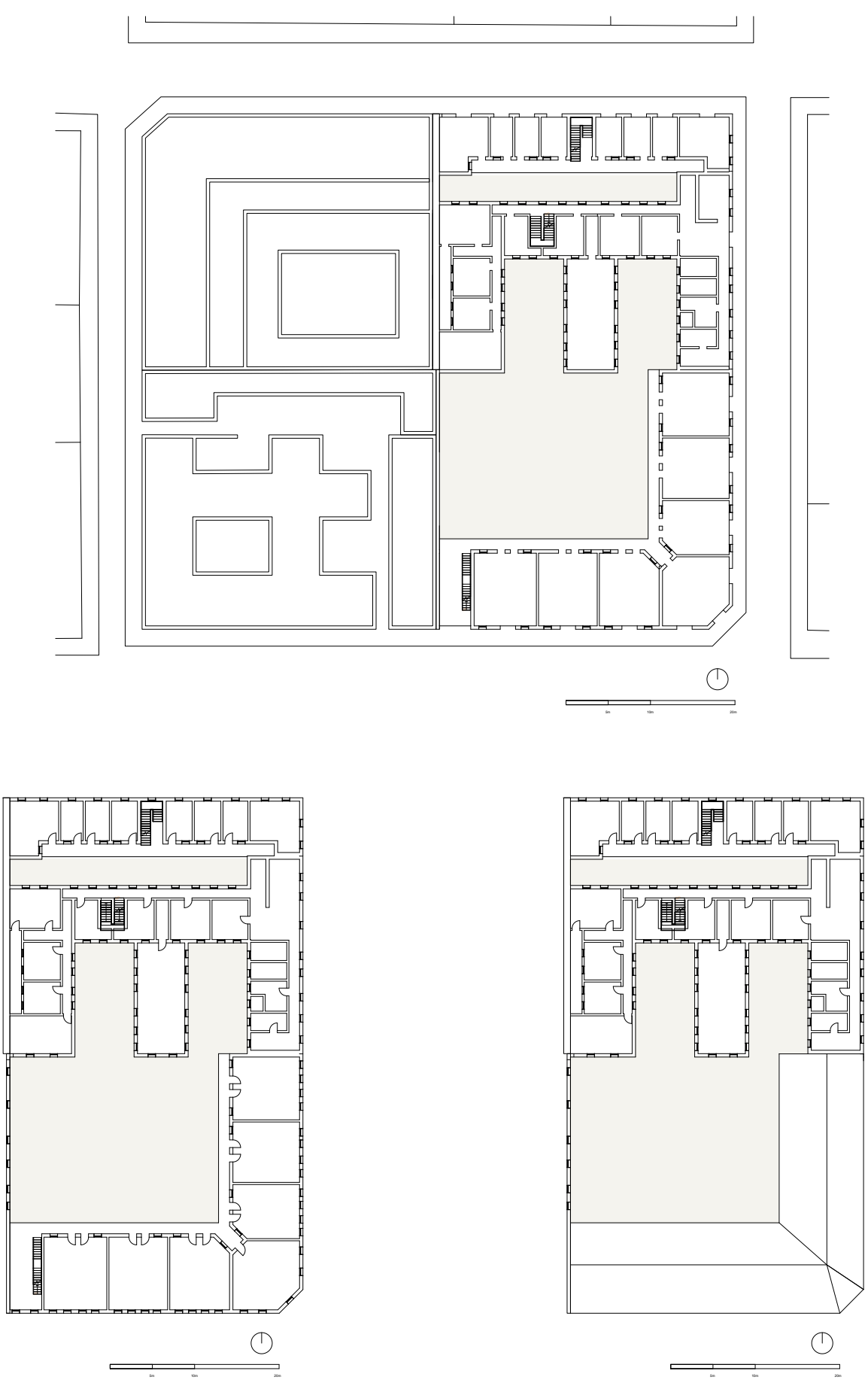


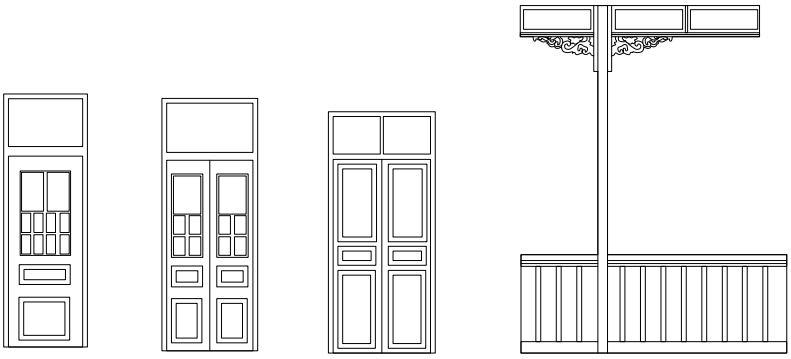
Figure 4.6. Original plans of Tiande Tang and Jiuru Li, redrawn based on Mu (2018, The Liyuan Building: Survey and Revitalization of Historic Architecture in Dabaodao). Diagram by author, 2026.

4.2 Heritage Intervention Strategy

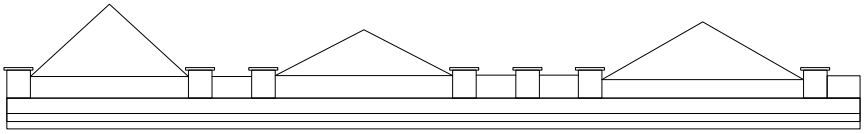
The approach to conservation here works with the liyuan as a living type rather than a historical object. The aim is to keep the courtyard form and the typological logic that gives the liyuan its social life, the sequence of entrance, courtyard, stair, and corridor, and the vertical circulation and shared programs that this sequence supports. The design does not record or reconstruct the past. It reads the spatial logic of the liyuan from historical plans and archival records, and carries that logic into a contemporary model of intergenerational collective living.

At the scale of the building, the existing appearance and the courtyard layout are kept. Unauthorised additions are removed to recover the full space of the courtyard, while the compound form and the outer character of the buildings are retained. The old brick and stone walls are repaired. New and renewed work uses warm, local materials that belong to the liyuan and to Qingdao, such as timber, local Laoshan granite, and clay roof tiles, so that the additions sit alongside the historic fabric.

Each compound keeps what it has. Some liyuan still have carved timber brackets and railings along the corridor, while others have almost none of this detail left. Where a compound has a feature worth keeping, the design repairs it. Tiande Tang and Jiuru Li have several decorated gable faces, the shanhua, along the street. They are weathered, but they still give the buildings their character, so the design restores them and keeps them in view. This holds for any liyuan. Each compound keeps the details it still has, rather than following one fixed set applied everywhere.



Licun Road No. 14 Liyuan: door and corridor railing



Jiuru Li Liyuan: Shanhua on roof

Figure 4.7. Traditional liyuan details, redrawn by the author. Door, window, and corridor railing profiles from Licun Road No. 14 (Zhao et al. 2019, 43). Shanhua from Jiuru Li (Mu 2018). Diagram by author, 2026.

4.3 Site and Surroundings

The site sits within a dense and well-served part of the old city. Mapping the area by walking distance shows that a wide range of daily facilities lies within a short walk of the two liyuan compounds (Figure 4.8).

Around the site, there are everyday amenities that support routine life within five-minute to ten-minute walk, including schools, a kindergarten, a church, a shopping mall, markets and restaruants. Within a ten-minute walk the range broadens to include several medical facilities, like the Qingdao Municipal Hospital and University-affiliated hospitals, both are large general hospitals serving the city. This area also holds a range of community and cultural amenities, including parks and a number of cultural institutions along the bay. Meanwhile, the railway station and the metro extend this reach well beyond the walkable area, connecting the site to the rest of the city.

This concentration of facilities is significant for the kind of living this design proposes. The presence of schools within a short walk supports households with children, while the cluster of hospitals and the nearby park serve all residents especially the older residents, for whom walking distance is a real constraint on daily independence. The same catchment that brings a primary school and a hospital within reach of one another is what allows different generations to live in the same place and meet their daily needs on foot. The site therefore offers the conditions for the intergenerational collective living set out in the earlier chapters, with the design developed in the following sections for older residents, families with children, and younger adults sharing a single compound.



Figure 4.8. Walkable catchment of the site, showing daily facilities within a five- and ten-minute walk, corresponding to approximately 300 and 600 metres at a pace of one kilometre per fifteen minutes. Drawn by author, 2026.

4.4 Design Proposal

This section brings the ideas and theory of the preceding chapters into design. Working from the existing fabric of Tiande Tang and Jiuru Li, it develops a model for intergenerational collective living in the liyuan, set out across three parts: the ground-floor program, the dwelling units, and a set of collective space prototypes. Each works with the two compounds while setting out an approach that other liyuan across the district can adapt, since the historic fabric differs from one compound to the next but the way of organizing collective life can be shared.

The housing model is intergenerational collective living, in which private dwellings and shared space work together within the retained fabric of the two compounds. Residents hold self-contained homes while daily life extends into collective areas for cooking, eating, and gathering. The two compounds take on different roles within this model. Tiande Tang, with its larger and varied massing, holds a range of dwelling units for households across different stages of life, while Jiuru Li operates as a co-living building organized around shared domestic space. Across the two compounds, thirty-two units accommodate approximately 70 to 95 residents, from single occupants to intergenerational households and co-living groups.



Figure 4.9. View of the central courtyard. Render produced by author, 2026.



Figure 4.10. View of the corridor. Render produced by author, 2026.

4.4.1 Program

The ground floor carries the collective life of the proposal. It serves as the public base of the two compounds, gathering shared functions and returning the courtyards to common use. The selection and arrangement of these functions draw on the cohousing model and the Intergenerational Contact Zone discussed in Chapter 3, as well as on two precedents: Xiaoxihu in Nanjing, where enclosed historic courtyards were reworked into shared courtyards and the ground floor opened to communal and cultural use, and zwei+plus in Vienna, where a set of collective functions along the ground floor brings generations into regular contact.

The ground floor holds the functions that each household shares, following the cohousing principle that daily life can extend from private homes into communal spaces. A shared kitchen, dining space, and shared living room allow cooking and gathering to take place in a collective space, which keeps the dwellings above compact. Everyday services line the street frontage, with an everyday goods shop and a neighbourhood pharmacy facing Haibo Road, and an activity hall and residents' service hub toward Sifang Road. The pharmacy, goods shop, tea room, and activity hall along the street also give older residents places for daily exchange, keeping them within the public life of the block. This arrangement continues the liyuan tradition of commerce along the street while drawing the surrounding neighbourhood toward the block. Three main entrances, one from each street, lead from these frontages into the courtyards.

At the centre, the courtyards are restored as the core of collective life. As at Xiaoxihu, where formerly enclosed courtyards were opened as

shared social space for residents, the courtyards here are returned from private occupation to common use. The courtyards are organized as a set of spaces with distinct characters, following the physical dimension of the Intergenerational Contact Zone, which calls for nodes where generations meet and pathways that let them withdraw in comfort. The largest courtyard serves all ages and adjoins the activity hall, holding the everyday collective life of the block, where residents exercise, practice tai chi, play chess, dry goods, and talk while children play. A quieter green yard sits beside the ground-floor-accessible units, giving older residents a calmer and more private outdoor space. The daycare and its adjoining play area form a protected setting for children, drawing on zwei+plus, where collective functions on the ground floor bring younger and older residents into daily contact. A narrow courtyard to the north retains the slender courtyard form of the original liyuan, reworked to carry circulation while keeping its historic character.

These functions return the shared daily life of cohousing and the contact zones to the courtyard structure of the liyuan, so that different generations each have a place of their own while meeting in common ground.



Figure 4.11. Ground-floor program distribution, with public-facing functions along the street edges and shared communal functions organized around the central courtyard. Diagram by author, 2026.

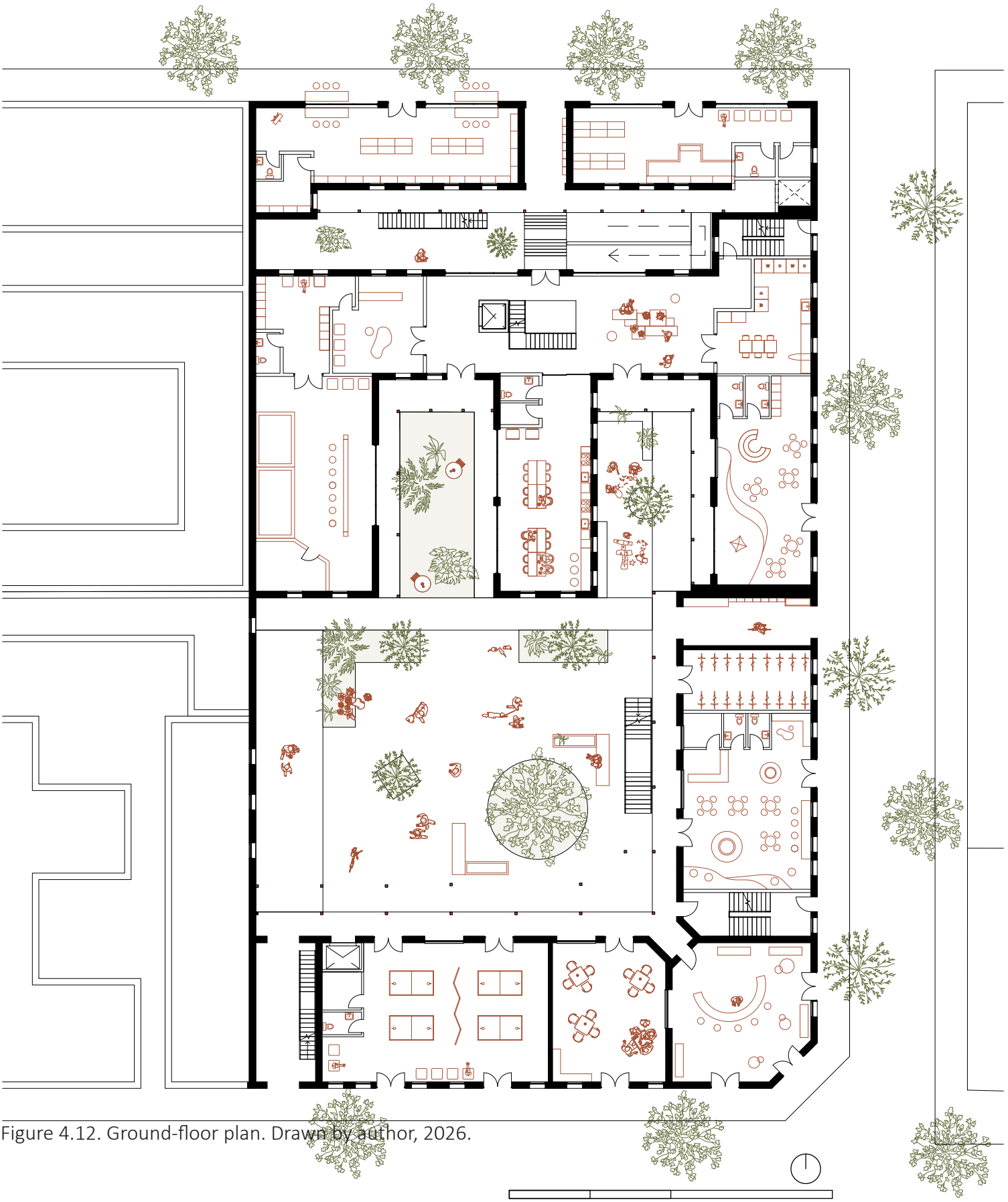


Figure 4.12. Ground-floor plan. Drawn by author, 2026.

4.4.2 Dwelling Units

The dwelling units are classified by spatial type, according to the number of bedrooms, the floor area, and the level of accessibility. The historic fabric of the two liyuan compounds is not uniform and cannot support a single repeated unit, so the units follow the existing spatial conditions of each building. This spatial classification holds the unit types open to a range of households, so that the same type can accommodate different residents and change over time.

The two liyuan compounds carry different unit logics according to their form. Tiande Tang has the larger floor area and varies in height, with a three-storey volume and a five-storey volume, which allows it to hold a wider range of intergenerational units, from a studio for a single resident to a two-bedroom unit for a couple or a small family, and larger units for an intergenerational household. Jiuru Li is an L-shaped building of three stories, designed as a co-living unit, where two to four private bedrooms share a kitchen and a dining space, and a communal laundry room is added at the corner of each floor to support the shared life of the building.

Each unit is self-contained, with its own kitchen and bathroom for independent daily living. The shared functions on the ground floor extend collective life beyond the individual home, giving residents more space to cook together, eat together, and gather. As McCamant and Durrett note, common facilities such as shared kitchens, laundry, and gathering rooms supplement and become an extension of the private home, which lets the individual dwellings stay smaller while everyday life expands into shared space (McCamant and Durrett 2011, 241).

A set of accessible units is provided for residents with mobility needs. These units follow the Chinese accessibility design code (GB 50763-2012), with a clear turning space of 1.50 meters in diameter in the bedroom and bathroom, doorway widths of at least 800 to 900 millimetres, level thresholds within 15 millimetres, and corridors of at least 1.20 meters. An elevator on every floor of each compound extends accessible reach beyond the ground level, so that residents with mobility needs are not confined to a single floor. The accessible units sit beside the main courtyard and the quieter green yard, giving these residents direct access to both the collective life and a calmer outdoor space. This arrangement follows the view in cohousing that the most effective support for older residents is community itself, where design fosters a sense of belonging and supports independent living without taking on the appearance of an accessible institution (McCamant and Durrett 2011, 267).

In total, the thirty-two units accommodate approximately 70 to 95 residents, ranging from single occupants in the studios to intergenerational households in the universal units and co-living residents in Jiuru Li. Taken together, this set of unit types accommodates residents across different stages of life within the retained fabric of the two compounds, from independent studios to the shared living of the co-living building, so that different generations live in the same block while each keeps a home of its own.

Compound	Unit Type	Bedrooms	Accessibility	Count
Tiande Tang	Studio	Studio	Standard	4
	1B1B	1 bed	Standard	6
	2B1B	2 bed	Standard	6
	2B1B	2 bed	Accessible	4
	3B2B	3 bed	Accessible	4
Jiuru Li (Co-living)	4B2B	4 bed	Standard	4
	3B2B	3 bed	Standard	2
	2B1B	2 bed	Standard	2
Total				32

Figure 4.13. Unit schedule for the two compounds. The mix ranges from studios and accessible units to shared co-living, supporting a range of household types across generations. Diagram by author, 2026.

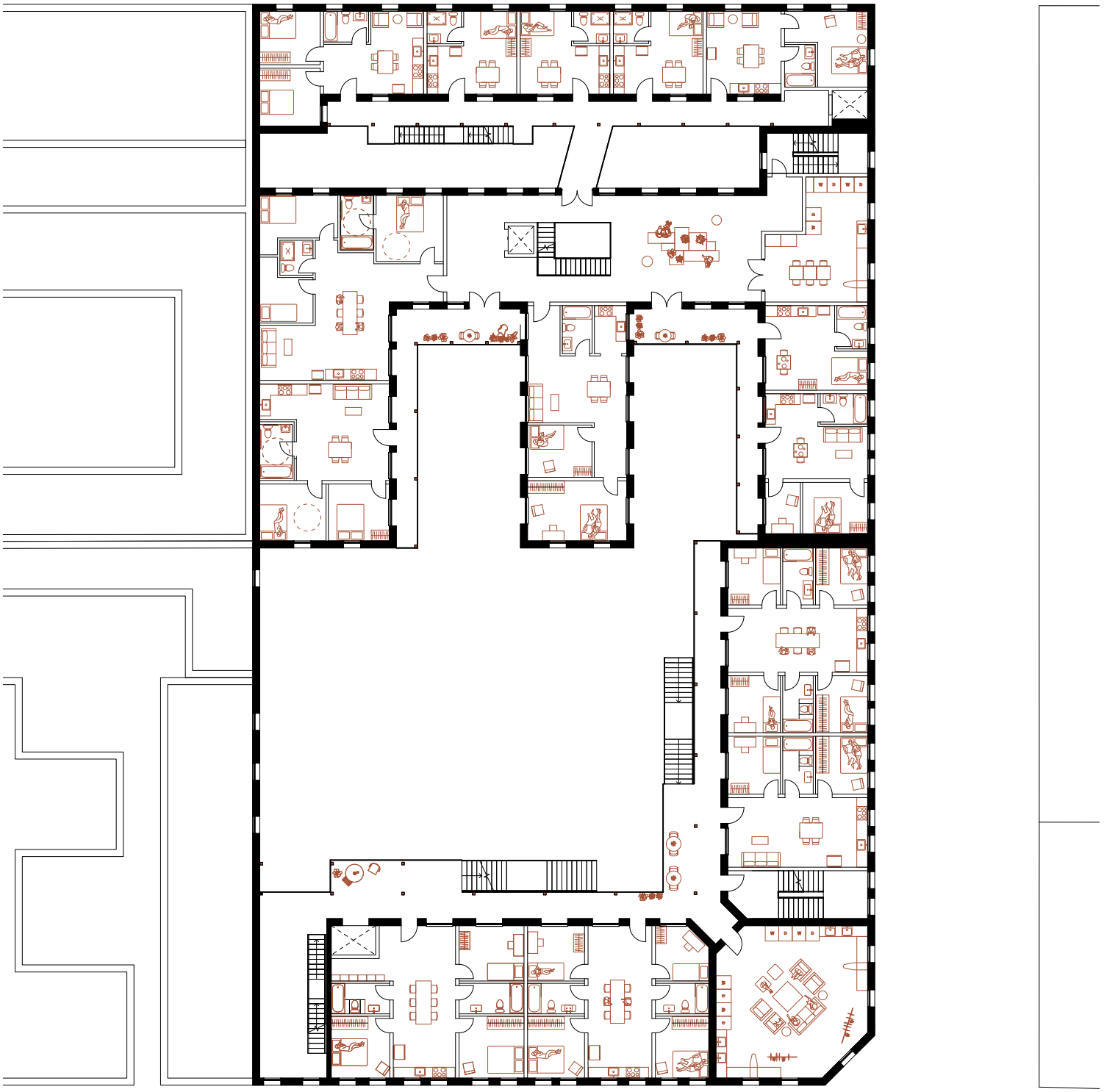


Figure 4.14. Second-floor plan. Drawn by author, 2026.



Figure 4.15. Third floor plan. Drawn by author, 2026.

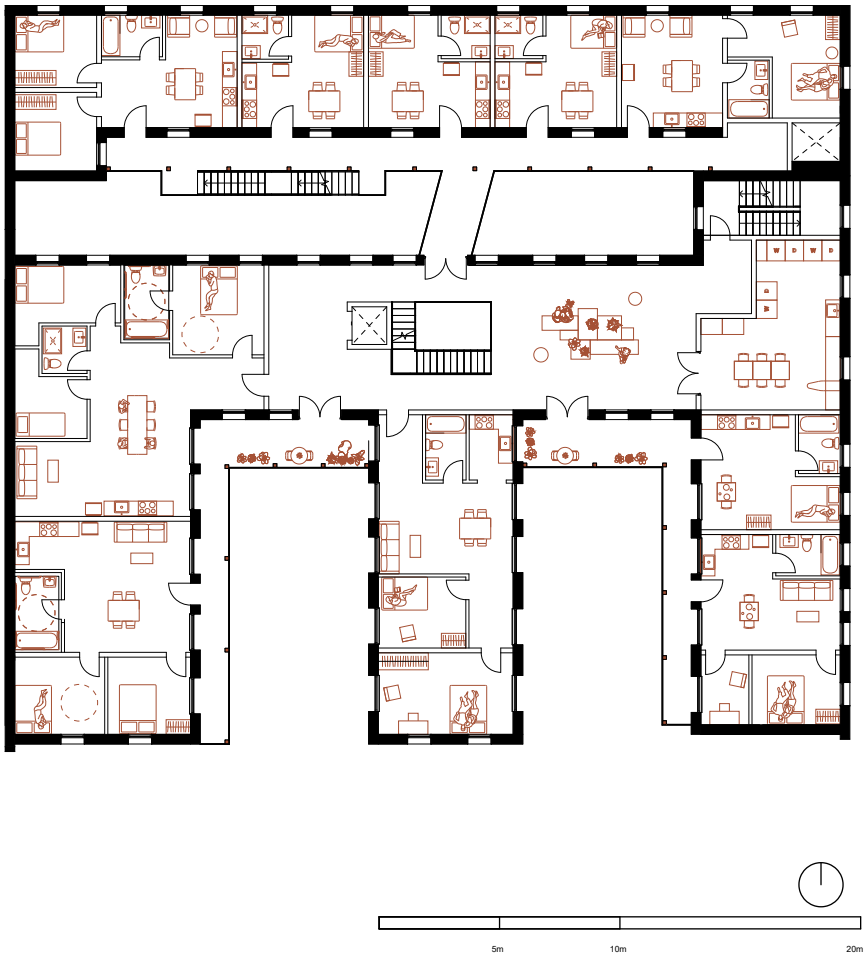


Figure 4.16. Floor 4-5 plan. Drawn by author, 2026.

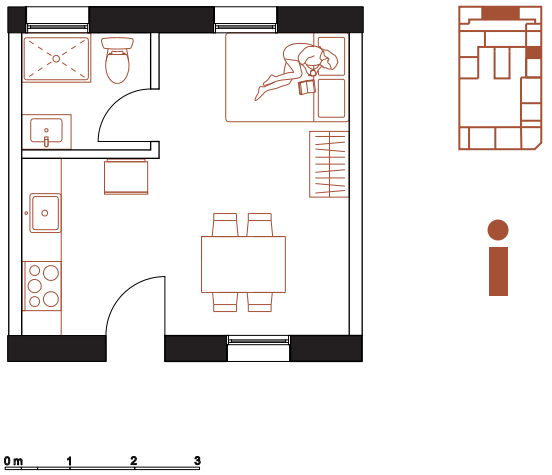


Figure 4.17. Section across the main courtyard between Tiande Tang and Jiuru Li. Drawn by author, 2026.



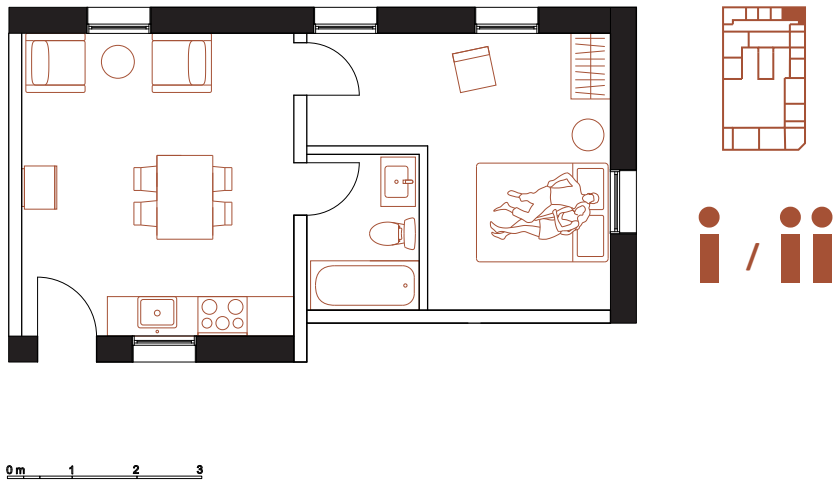
Units

The unit types respond to the fabric of the liyuan rather than being fitted into it. Liyuan buildings are shallow, with rooms arranged one deep along the corridor, and many bays are narrow, around five metres wide. The smaller units, the studio and the one-bedroom, take these narrow bays directly, keeping the original room widths and the rhythm of the facade. Larger units combine two or more bays where the fabric allows, opening the internal walls to form two- and three-bedroom homes. The co-living units use a longer run of the building, giving each resident a room along the corridor around shared space at the centre.



STUDIO

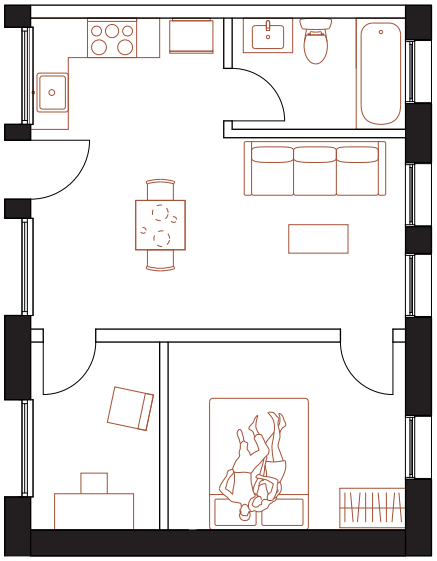
A compact self-contained unit for one resident, with an open-plan living and sleeping area, kitchenette, and bathroom. The studio fits within a single narrow bay of the liyuan, suited to independent living.

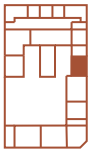


1 BEDROOM 1 BATHROOM

A one-bedroom unit for a couple or single resident. Separate bedroom with a shared living and kitchen area. Comfortable for two.

Figure 4.18. New Liyuan unit types diagram. Drawn by author, 2026.

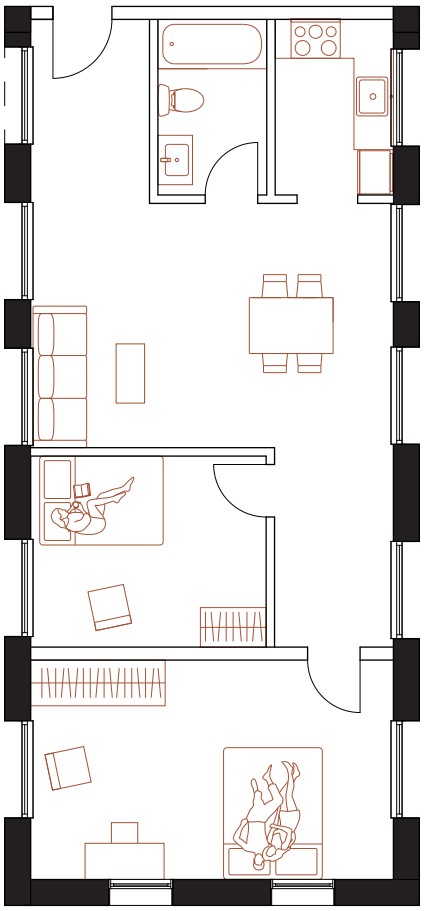


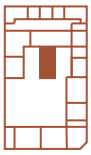




1 BEDROOM 1 BATHROOM

A one-bedroom unit for a single resident or a couple, with a private kitchen, bathroom, and separate sleeping room.

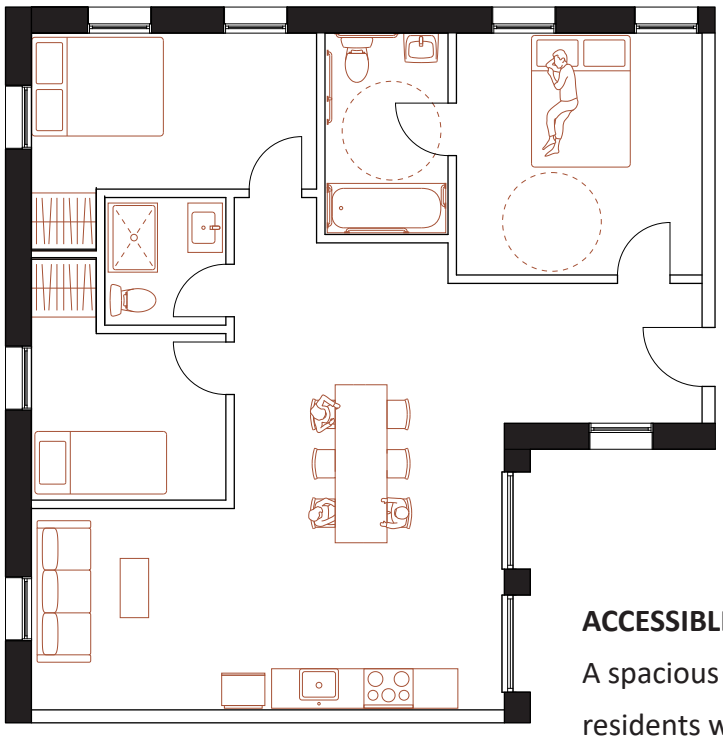






STUDIO

Two bedrooms and a shared bathroom, with a private kitchen and living space. Suited to a small family or two residents sharing.



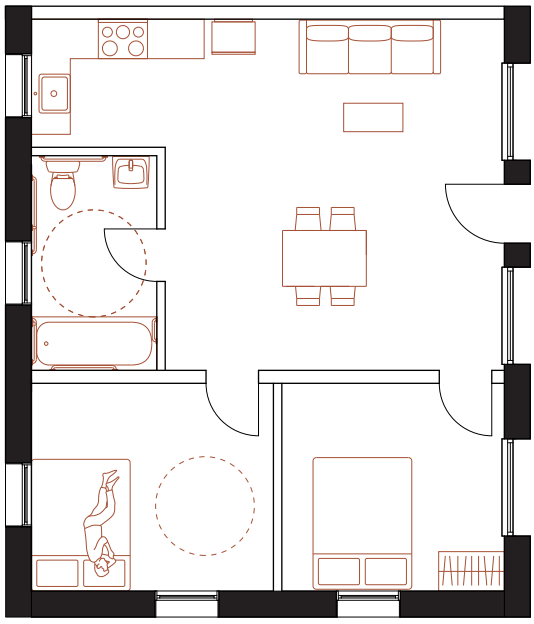


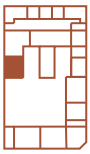




ACCESSIBLE 3 BEDROOM 2 BATHROOM

A spacious three-bedroom unit designed for residents with mobility needs. Accommodates a family or a multi-generational household living together. Wider circulation, adapted bathroom, and flexible bedroom configuration.



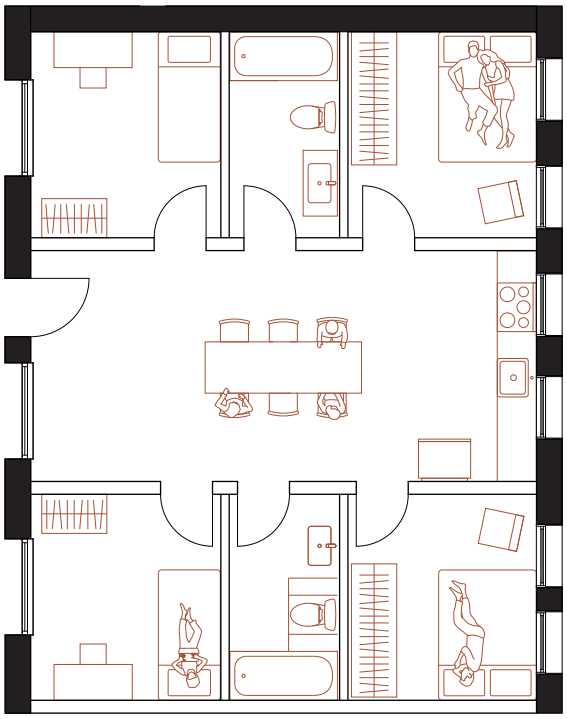






ACCESSIBLE 2 BEDROOM

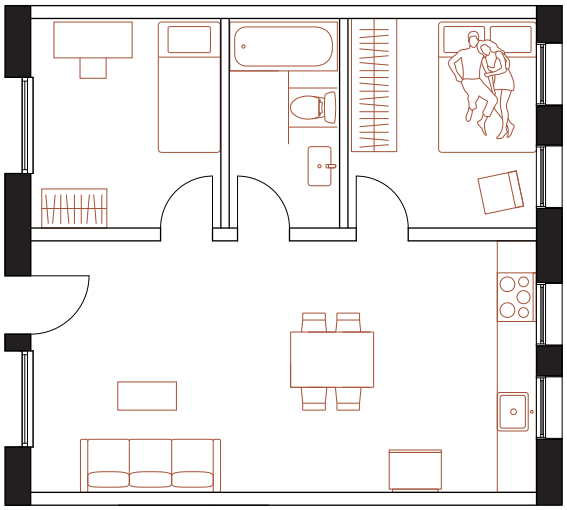
The two-bedroom layout built to full accessibility standards, with step-free access, a wider bathroom, and clear turning space. Suited to older residents or those with reduced mobility.





CO-LIVING (4B2B, 2B1B and 3B2B)

Shared units where each resident has a private bedroom around a common kitchen and living space. Two bathrooms serve the unit. This type suits younger residents, giving each their own room while sharing daily space, at a lower cost than a private unit.



4.4.3 Collective Space Prototypes

The design developed for the two compounds can be drawn out into a set of spatial prototypes. Each takes a spatial element common to the liyuan and reworks it to support collective life, so that the approach can extend to other liyuan across the district. Each prototype is presented as a small axonometric study with a short note on its use and its transfer to other sites.

Exchange Mendong (Passway)

The mendong is the passage between the street and the courtyard, and everyone who lives in a liyuan walks through it each day. It was never only a way in. The walls held notice boards and neighbourhood posters, and rows of small metal mailboxes and milk boxes were fixed along them, so residents collected the newspaper and the morning milk as they stepped inside. The passage worked as the information hub of the compound. In the two compounds today the passage is bare, and residents pass through without stopping.

The prototype returns these daily functions to the passage. Mailboxes and a milk box are set along one wall, together with a notice board and a directory of the compound. A bench sits in the widened part of the passage where the vault opens toward the courtyard. These give residents a reason to slow down at the point everyone already crosses, which is where the Intergenerational Contact Zone locates contact between generations (Kaplan et al. 2020). Every liyuan is entered through a single passage of this kind, and the passage carries the same daily traffic in each one.

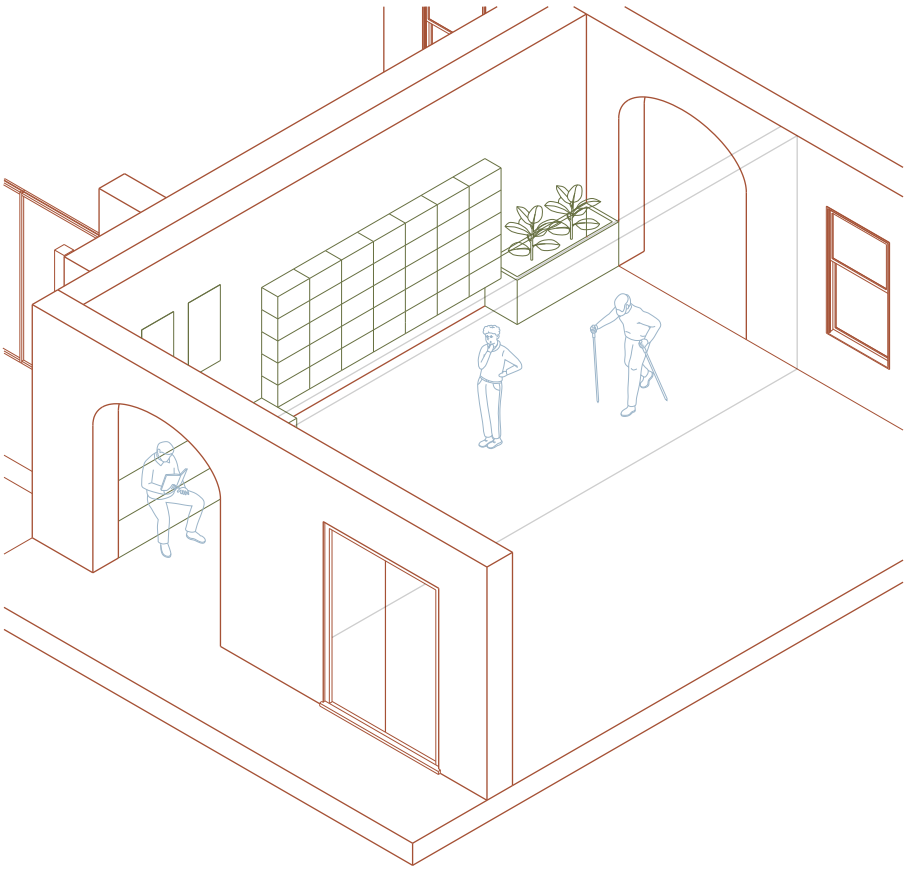


Figure 4.19. Exchange Mendong prototype, the entrance passage. Drawn by author, 2026.

Diversity Courtyard

The courtyard was always the social core of the liyuan, where neighbours dried food, played chess, watched over children, and gathered in the evening. It gave a dense, working-class block its open ground and its shared life. In the compounds today the courtyards are filled with unauthorised additions, and the open ground that held this life has been lost.

The prototype returns the courtyard to shared use, and it varies the character of each courtyard by its size and the ground-floor functions around it. A larger courtyard holds an open green space for gathering and shared daily life. The smaller courtyards take on quieter, more specific roles, such as a children's play courtyard or a planted courtyard for rest. Each follows a common ground, combining planting with paved space. The planting matters most in the narrow courtyards, where greenery softens the enclosure and eases the pressure of the tight walls, and it gives every resident a shared view, a place to sit in the shade, and contact with something growing.

Every liyuan is built around one or more courtyards of varying size, so the prototype adapts to the courtyard each compound already holds, giving each its own character while keeping the shared ground of planting and paving.

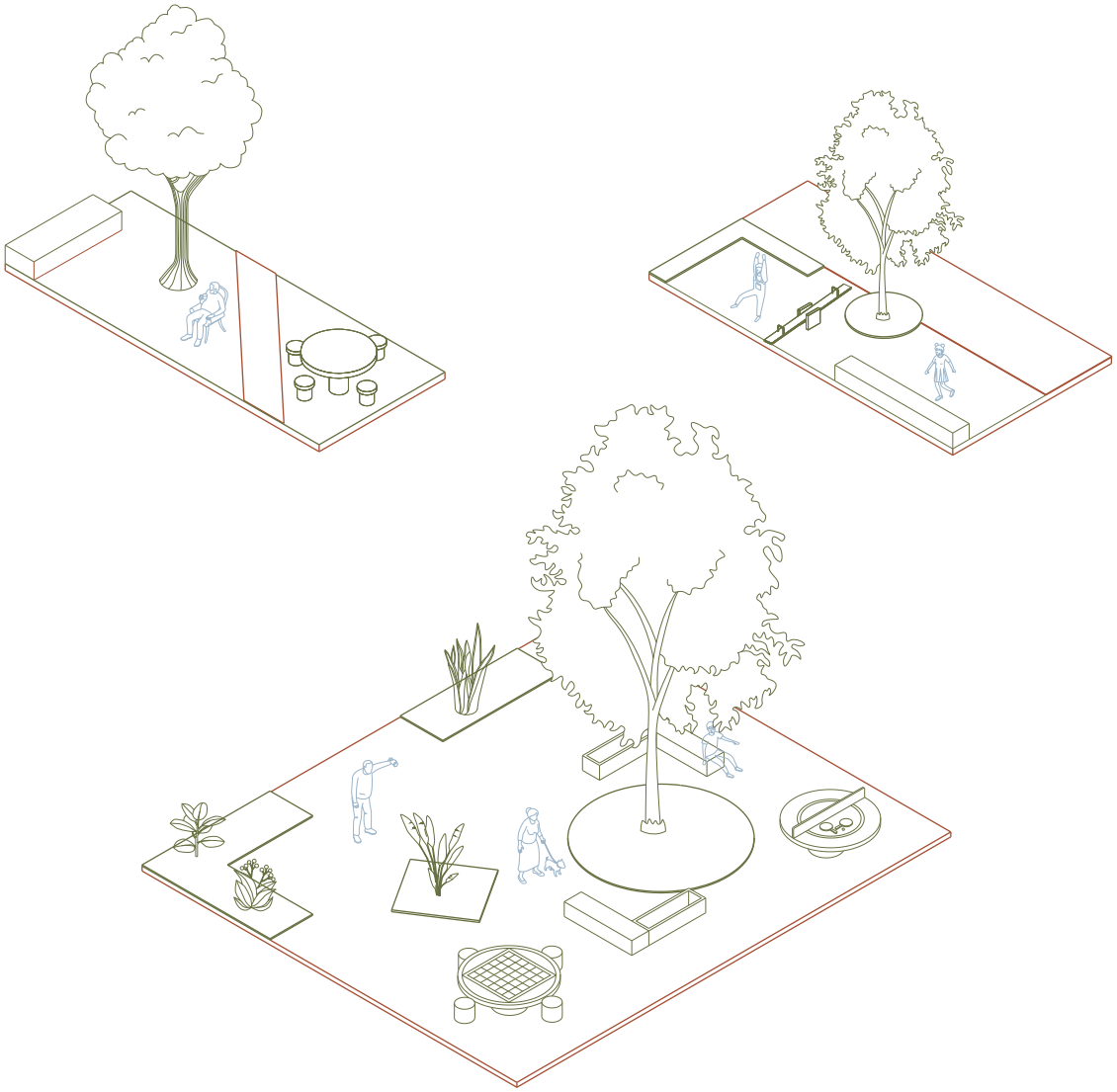


Figure 4.20. Diversity Courtyard prototype, showing courtyards of different size and character. Drawn by author, 2026.

Social Corridor

In the liyuan, the external corridor was never only a route to the unit. It faced the courtyard, and residents watched the yard below, called across to neighbours, and paused at the rail on the way home. This vertical social relationship is particular to the typology. The existing corridors, at around 1.2 meters, hold this potential but cannot support it, since the width allows passage and little else.

The prototype returns the corridor to use. It is widened to 1.5 meters, with the sections near the stair opening to 3 meters where residents already slow down. Planters along the edge bring greenery to each floor and keep the view to the courtyard open. A shared notice board and a place to display drawings and announcements give the corridor a collective identity and a reason to stop.

The external corridor is structural to the liyuan and every compound retains the same relationship between corridor, courtyard, and stair. The prototype therefore transfers across the typology, adjusting its width to the fabric each compound allows.

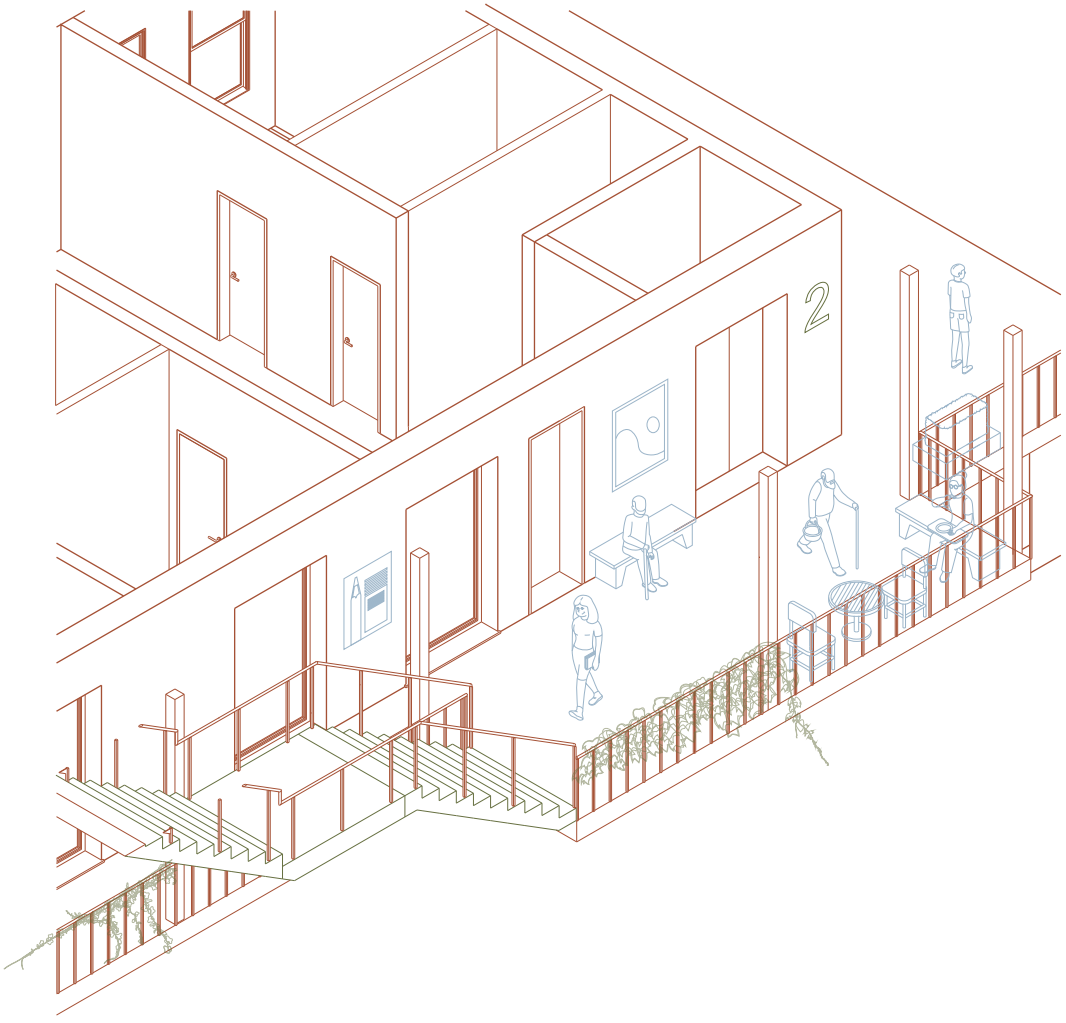


Figure 4.21. Social Corridor prototype. Drawn by author, 2026.

Community Living Room Close to Stair

The stair is where residents of a liyuan meet without arranging to. Everyone on the upper floors passes it each day, and neighbours have long stopped there to talk, rest between flights, and greet one another on the way up. The stair carries the heaviest movement in the compound, though it offers nowhere to remain, and contact at this point stays brief.

The prototype opens a communal living room on each floor beside the stair, where circulation is densest. The room is furnished with a modular system that residents arrange themselves, formed from a set of units that work as seating, low tables, shelving, and planting boxes. Older residents grow plants along the edge and exchange seeds, cuttings, and advice as they tend them, and the shared planting gives the floor a slow common task that draws people out of their units. Contact with plants indoors is one of the biophilic patterns associated with reduced stress and improved well-being in housing for older people (Karaman and Selçuk 2025). Books and objects accumulate on the shelves, and the arrangement of each floor changes as the households on it change. Cohousing holds that shared functions placed on the path of daily movement draw people into common space without requiring them to plan a visit (McCamant and Durrett 2011), and the stair is that path in the liyuan.

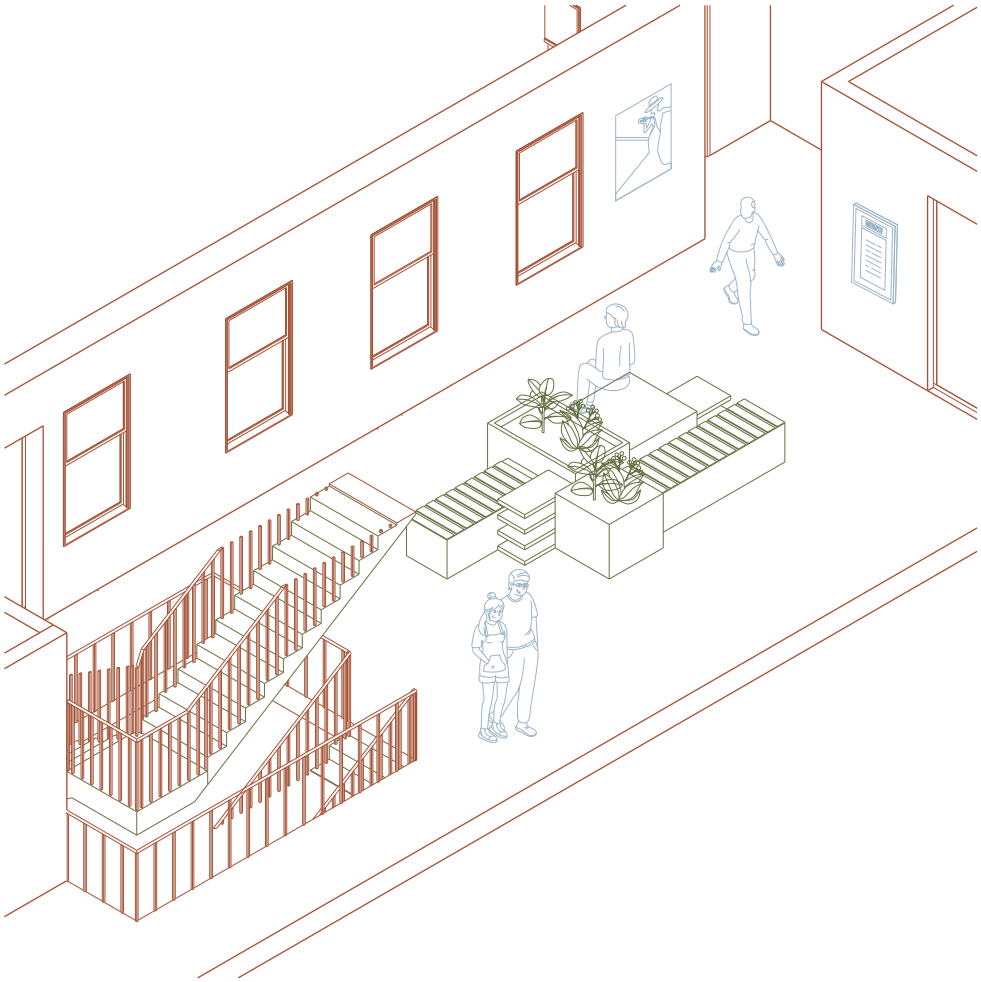


Figure 4.22. Community Living Room prototype, beside the stair. Drawn by author, 2026.

Corner Room Laundry and Communication Room

For narrow L-shaped and courtyard-form liyuan, the corner of each floor becomes a shared laundry and common room, with a drying area, a folding space, simple mending tools, and a place to rest. Holding the laundry in common follows the cohousing model of shared daily facilities, and field studies of senior housing have found the laundry room to be one of the spaces where residents gather on their own, folding clothes and talking as they go (McCamant and Durrett 2011; Humanics and UHN OpenLab 2020, 20). Any liyuan with a usable corner can take the prototype.

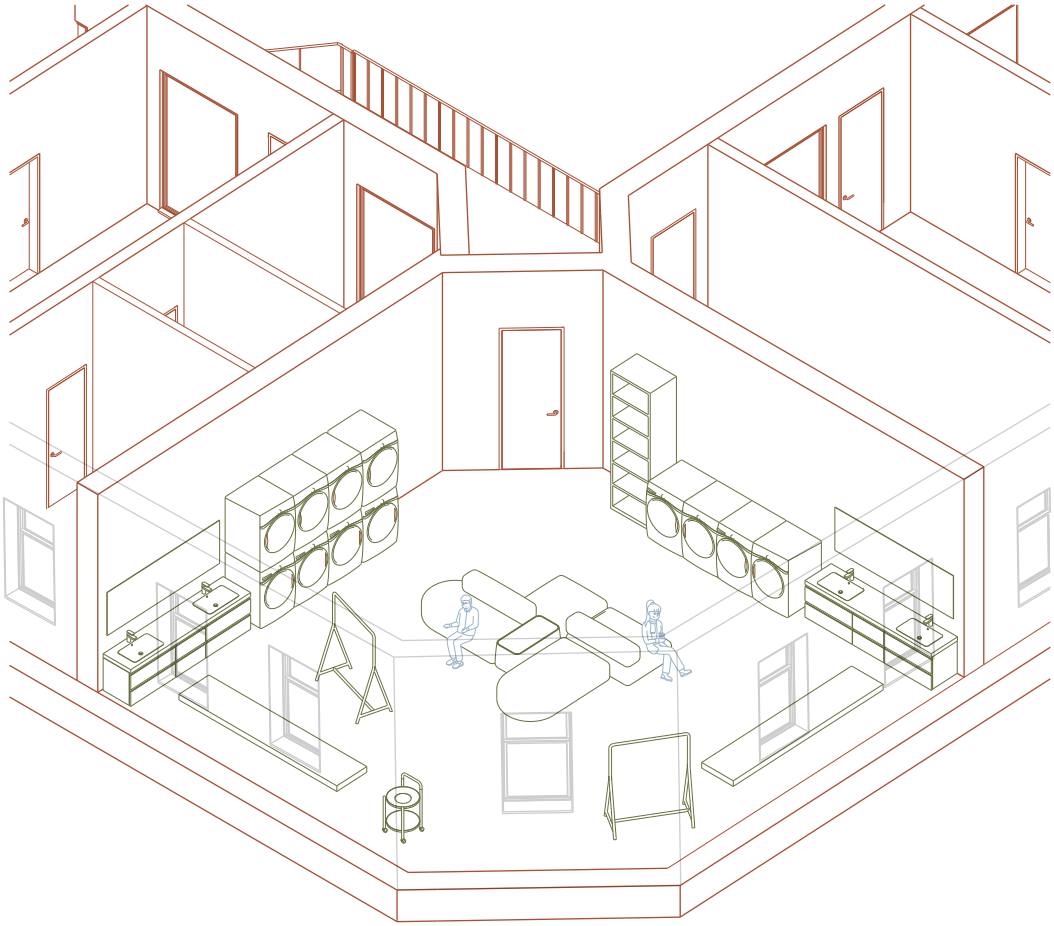


Figure 4.23. Corner Room / Laundry prototype. Drawn by author, 2026.

Conclusion

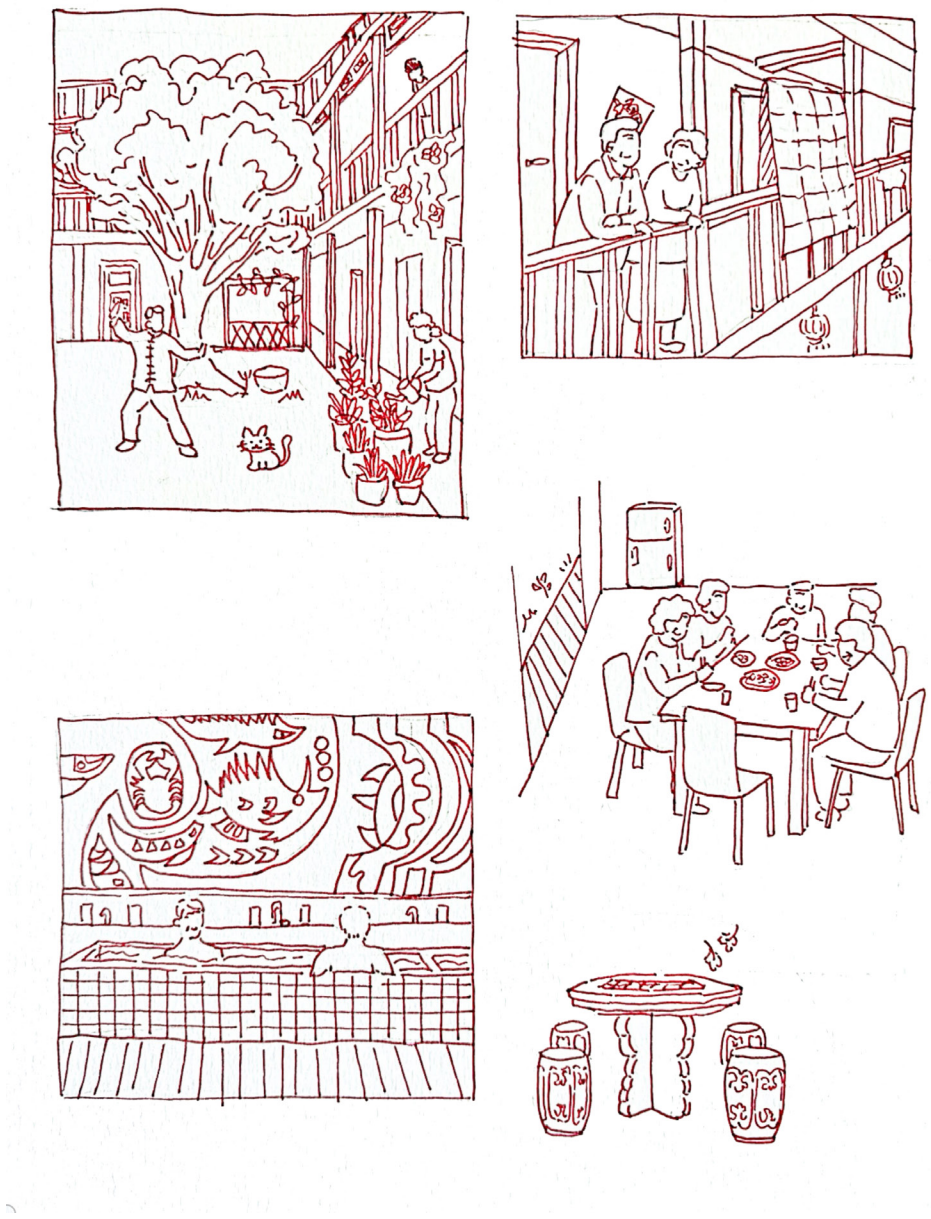
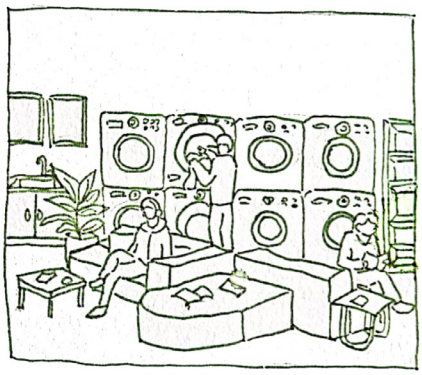


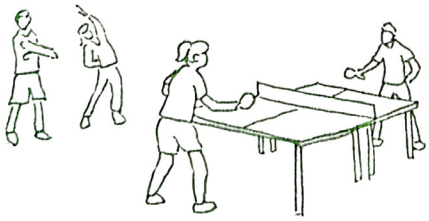
Figure 5.1. A day of shared life in the reinhabited liyuan, where residents of different generations meet through the spaces of everyday life. Drawing by author, 2026.













This thesis began from the loss of Qingdao's local living culture as the liyuan disappear and turn to tourism. The liyuan of Dabaodao are being repaired and reopened, but they now serve more as places to visit than places to live. The walls are kept and the courtyards are cleaned, while the daily life that once filled them has quietly gone. The argument here has been that the value of the liyuan lies in the life it once held as much as in its form, and that this way of living is worth carrying into contemporary life.

The design brings that collective life back in a contemporary form. It keeps the spatial structure and social logic the liyuan already holds and gives it a new community, an intergenerational one of older residents, families, and young adults. Through renovation, each household is given its own home with a private kitchen and bathroom. A type first built for a dense, low-income neighbourhood can now hold a range of dwellings, from studios and accessible units to family homes and shared co-living. Drawing on the everyday functions and the social life the old liyuan supported across ages, the design carries forward the habits and the neighbourly security that grew within it. The liyuan can adapt to more than its restored, tourist-facing form shows. That adaptability is what lets it hold a mixed contemporary community.

The design is set out so that it can extend beyond these two compounds. Each of the collective spaces developed here, the mendong, the courtyard, the corridor, and the room beside the stair, is drawn from an element every liyuan already holds, and each can be read as a prototype that other compounds may adapt to their own fabric. The thesis offers less a fixed scheme than a way of working with the liyuan, one that changes with each courtyard, each width, and each set of residents.

This approach treats historic housing as a spatial structure that can still be lived in and can still hold contemporary life. The situation of the liyuan is not particular to Qingdao. Historic residential districts in many Chinese cities are going through the same process, where the pressure of urban development on old quarters and the cost of repair often leave historic housing preserved as a museum or a commercial shell. Yet against the background of rapid urban aging, the dense, intergenerational neighbourly life the liyuan once held answers something the contemporary city has made scarce. Keeping such housing lived in, instead of freezing it into a picture of the past, is one way of carrying a city's living culture into the future. The liyuan is one sample of what that might look like.

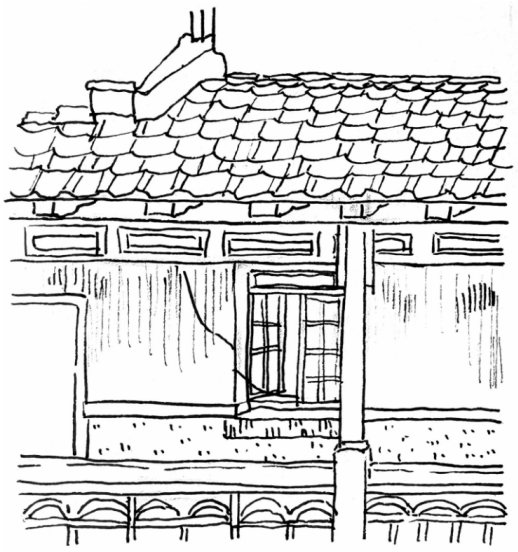


Figure 5.2. Sketch of a liyuan corridor. Drawn by author, 2025.

References

Architizer. 2020. “STA | zwei+plus Intergenerational Living.” Accessed June 21, 2026. https://architizer.com/projects/sta-zweiplus-intergenerational-living/.

Bao, Li, Yichang Sun, Han Wang, and Zixuan Liu. 2025. “Study on a Paradigm of Micro-Regeneration of Urban Community: Taking Three Cases of House Upgrading in Xiaoxihu Traditional Block, Nanjing.” In Urban Morphology versus Urban Redevelopment and Revitalisation, edited by Małgorzata Hanzl et al., 685–700. The Urban Book Series. Cham: Springer. https://doi.org/10.1007/978-3-031-77752-3_33.

Beijing University of Civil Engineering and Architecture, Center for Architectural Design and Art Research, and Institute for World Settlement Culture. 2015. Qingdao Liyuan Jianzhu [青岛里院建筑 / Qingdao Liyuan Architecture]. Beijing: China Architecture and Building Press.

Castle, Helen. 2025. “The Power of Incremental Rejuvenation: The Urban Regeneration of Xiaoxihu Block, Nanjing.” RIBA Journal, July 15, 2025. https://www.ribaj.com/intelligence/urban-regeneration-xiaoxihu-block-nanjing-china/.

de Certeau, Michel, Luce Giard, and Pierre Mayol. 1998. The Practice of Everyday Life, Volume 2: Living and Cooking. Translated by Timothy J. Tomasik. Minneapolis: University of Minnesota Press.

Demgenski, Philipp. 2019. “Dabaodao: The Planning, Development, and Transformation of a Chinese (German) Neighbourhood.” Planning Perspectives 34 (2): 311–333. https://doi.org/10.1080/02665433.2017.1389656.

Gao, Feng, Shu Yamane, Chong Zhao, and Yukihiro Kadono. 2022. “Spatial Characteristic of Liyuan Building and Its Transformation in Dabaodao Area, Qingdao, China.” Journal of Architecture and Planning (Transactions of AIJ) 87 (792): 337–348. https://doi.org/10.3130/aija.87.337.

He, Shenjing, and Fulong Wu. 2005. “Property-Led Redevelopment in Post-Reform China: A Case Study of Xintiandi Redevelopment Project in Shanghai.” Journal of Urban Affairs 27 (1): 1–23.

Humanics, and UHN OpenLab. 2020. Vertical Aging: The Future of Aging in Place in Urban Canada, Social Spaces (No. 3). UHN OpenLab. http://verticalaging.uhnopenlab.ca/wp-content/uploads/2021/10/SocialSpaces_21-10-8.pdf.

Kaplan, Matthew, Leng Leng Thang, Mariano Sánchez, and Jaco Hoffman, eds. 2020. Intergenerational Contact Zones: Place-Based Strategies for Promoting Social Inclusion and Belonging. New York: Routledge.

Karaman, Gülşah Doğan, and Semra Arslan Selçuk. 2025. “Restorative Design Matrix for Elderly Living in Care Home Facilities in the Light of Biophilic Design and Universal Design Principles.” In Sustainable Ecological Engineering Design, edited by Chris Gorse et al., 227–248. Cham: Springer. https://doi.org/10.1007/978-3-031-73947-7_14.

Liu, Chenglong. 2022. “Seventy-Two Historic-District Protection and Renewal Projects Break Ground Together 【七十二个历史城区保护更新项目集中开工建设】.” Qingdao Daily, April 29, 2022. https://epaper.guanhai.com.cn/conpaper/qdrb/html/2022-04/29/

content_18541_6072487.htm.

McCamant, Kathryn, and Charles Durrett. 2011. Creating Cohousing: Building Sustainable Communities. Gabriola Island, BC: New Society Publishers.

Ministry of Housing and Urban-Rural Development of the People's Republic of China. 2012. Codes for Accessibility Design (GB 50763-2012)【无障碍设计规范】. Beijing: China Architecture and Building Press.

Mu, Qipeng. 2018. Liyuan de Lou: Dabaodao Lishi Jianzhu Diaocha yu Huohua【里院的楼：大鲍岛历史建筑调查与活化 / The Liyuan Building: Survey and Revitalization of Historic Architecture in Dabaodao】. Beijing: China Building Materials Press.

Nie, Huizhe, ed. 2025. Qingdao Liyuan: The Discovery of an Urban Gene【青岛里院：一种城市基因的发现】. Shanghai: Tongji University Press.

Qingdao News, May 11, 2015. https://news.qingdaonews.com/wap/2015-05/11/content_11051809_all.htm.

Shao, Limin, and Hiroyuki Kanekiyo. 2013. "Research into Liyuan Buildings, the Spatial Composition of Liyuan Blocks and Liyuan Residents' Lifestyles in Qingdao, China." Art and Design Review 1 (1): 6–9. http://dx.doi.org/10.4236/adr.2013.11002.

Smith, James P., John Strauss, and Yaohui Zhao. 2014. "Healthy Aging in China." The Journal of the Economics of Ageing 4: 37–43. https://doi.org/10.1016/j.jeoa.2014.08.006.

Sun, Zhiwen. 2015. “里院最后的原住民 找寻老青岛记忆 [The Last Original Residents of Liyuan: Searching for Old Qingdao Memories].”

The State Council of the People’s Republic of China. 2024. “Over One-Fifth of Chinese Population Older than 60, Says Official Report.” October 12, 2024. https://english.www.gov.cn/news/202410/12/content_WS6709cb9ac6d0868f4e8ebbda.html.

trans_city ZT GmbH. 2021. “Stavangergasse.” Accessed June 21, 2026. https://trans-city.at/tc/portfolio/stavangergasse/?lang=en.

Wu, Shuqi, ed. 2002. Qingdao Cartographic Records 【青岛地图通鉴】. Jinan: Shandong Map Publisher.

Yu, Ruixin. 2023. “‘Dabaodao’ Shortlisted as a National-Level Tourism and Leisure Block 【大鲍岛入围国家级旅游休闲街区】.” Qingdao Daily, November 6, 2023. https://epaper.qingdaonews.com/qdrb/h5/html5/2023-11/06/content_18542_8499183.htm.

Zhao, Lin, Shuai Cheng, Feipeng Xu, and Hui Wang. 2019. Tujie Qingdao Liyuan Jianzhu 【图解青岛里院建筑 / Illustrated Architecture of Qingdao Liyuan】. Beijing: China Architecture and Building Press.

Zhao, Wensheng, ed. 2008. Liyuan: An Ecological Sample of Qingdao’s Common People 【里院·青岛平民生态样本】. Qingdao: Qingdao Press.

Appendix

CAD Block Drawing Resources

In the plans, sections, and axonometric drawings in Chapter 4, CAD blocks of people, plants, and furniture from Dimensions.com (https://www.dimensions.com), Toffu (https://toffu.co), and Studio Alternativi (https://studioalternativi.com) were used to support the narrative quality of the drawings and to indicate spatial scale. These assets were used under their respective non-commercial licenses. All other drawings in this thesis are by the author.

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