AGE-FRIENDLY URBANISM

The Pattern Book.

Lotte Wiegers

Urbanism MSc 2025

Colophon

Age-friendly urbansim
A pattern language for age-friendly communities in the Netherlands.

Master thesis - Pattern Book
Delft University of Technology
Faculty of Architecture and the Built environment
Department of Urbanism

Graduation studio: Metropolitan Ecologies of Places

Author: Lotte Wiegers
Studentnumber: 5071569

First mentor: Remon Rooij - Spatial Planning and Strategy
Second mentor: Martijn Lugten - Environmental Technology and Design

Table of contents

01

Introduction

1.1 A pattern language

Developing a pattern language is one of the main methodologies used throughout this research. In this pattern book, the concept of a pattern language, originally introduced by Christopher Alexander in 1977, is applied to the context of age-friendliness, with the aim of identifying spatial and systemic patterns that contribute to age-friendly communities.

In a pattern language, each individual pattern identifies a problem and offers a corresponding solution. This method of Christopher Alexander helps to deconstruct the complex and dynamic process of planning and design into smaller, individual interventions (Rooij & van Dorst, 2020). Additionally, each pattern is linked to other patterns through either supportive or conflicting relations. By doing so, the total collection of individual patterns and relations is understood as a comprehensive whole again, thereby forming a language (Alexander, 1977).
This structured approach addresses the complexity of the design process and applying patterns can be done more systematically and theory-based, rather than through isolated design implications (Salingaros, 2000). Because the method allows for the translation of scientific

knowledge from literature researches into planning and design principles (Rooij & van Dorst, 2020).
This is particularly valuable when designing age-friendly communities, which requires the integration of various factors, such as population size and diversity, city density, and other contextual elements (Buffel et al., 2012). Thus, applying a pattern language to the case study location helps to simplify and operationalise the interventions to these complexities by breaking them into smaller spatial and systemic interventions.

Sections 5.2 and 5.3 of the thesis report explain the structure of an individual pattern and the key components, while section 5.4 presents and discusses the interrelations between patterns in the pattern field. The full set of patterns can be found in this Age-friendly Urbanism Pattern Book.

The age-friendly urbanism pattern language is based on theory drawn from multiple scientific disciplines, including gerontology, social sciences, health sciences, and architectural and urban studies. Since this thesis aims to explore the nexus between ageing and the built environment, the integration

of insights from these diverse fields forms the theoretical foundation for developing a pattern set that reflects the potential of age-friendliness in urban planning. The analysis of age-friendly communities resulted in four different categories that structure the 44 possible patterns, translating social and health-related knowledge into the built environment.
The primary function of this pattern set is as a design tool. The set offers spatial and systemic interventions that can be applied to the context of the case study location, thus creating age-friendly communities. Additionally, the pattern language serves as a learning tool for understanding the context of the city. Providing a theoretical foundation for urban planners and designers to identify both the existing and missing components of age-friendliness in the current urban context, particularly in the earlier phases of a project. Given that the patterns bridge multiple disciplinary sciences, the method also functions as a communication tool. Concepts such as active and healthy ageing or independence can be difficult to visualize. By representing these concepts through tangible design interventions, the pattern set facilitates communication between planners, policy makers, and the general public.
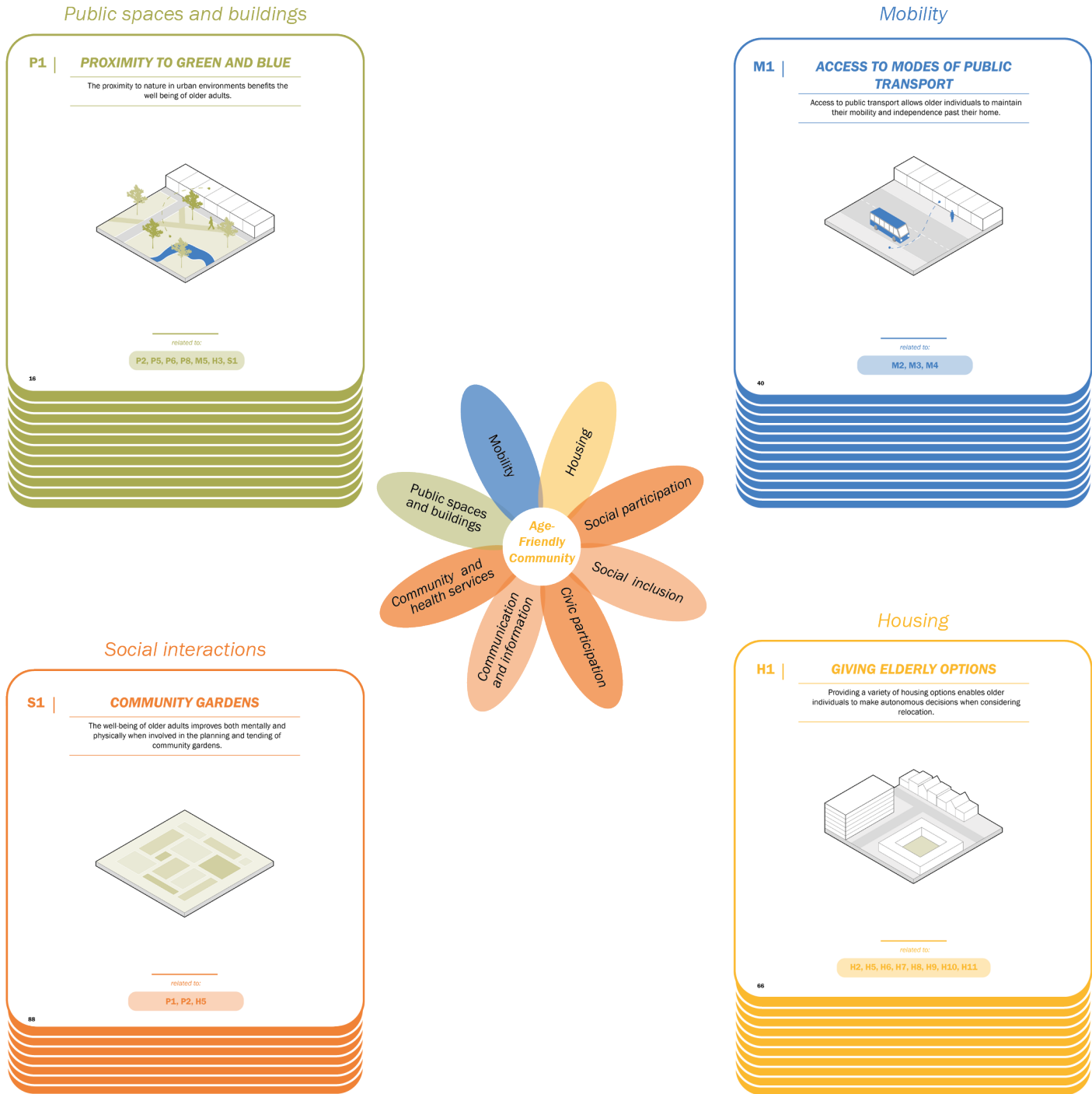

Figure 1. Pattern set. (own image)

1.2 The patterns

The patterns available in the Pattern Book are a collection of mostly spatial implications in order to create an age-friendly community. The patterns are categorized in four categories, based on the domains of the age-friendly community framework. Since the use of a pattern language mostly consists of spatial implications, the three domains of the physical environment each have their own set of patterns providing solutions. The last category encompasses all domains of the social environment and municipal services. The patterns are categorized in this way because the physical environment has a significant influence on the other two clusters, facilitating opportunities for interactions and services. Thus, the pattern set is grouped into four categories, the public spaces and buildings, mobility, housing, and social interactions. The colour of the pattern indicates which category they are part of (figure 1).

In figure 2 the structure of a pattern is shown through one example. A pattern consists of a number, title, and diagram to introduce the concept. Additionally, the hypothesis shortly states what the pattern entails in relation to how the implication contributes to the quality of life for older individuals. Beneath the diagram, the numbers of other patterns relating to this implication in either the same or another category are shown. On the right side of each pattern a theoretical background supports the hypothesis with literature and the practical implication exhibits what the pattern would look like when applied. Lastly, the scale of the implication is identified and whether the pattern is elder specific or contributes to the larger community.

1.3 Pattern example

Figure 2. Pattern example. (own image)

1.4 Pattern field

The patterns developed in this thesis are interconnected, and these relations are visualised in the pattern field (figure 3). This diagram illustrates the connections between patterns and in doing so is valuable because the connective structure of a set, shown in a pattern field, validates the pattern language to be comprehensive (Salingaros, 2000).

The pattern field is structured along two axes, one representing the four categories of the patterns and the other indicating the scale of intervention, ranging from individual objects to the city scale. This way, not only the connections between the patterns in the same category are identified, but also which patterns connect to patterns in different categories.
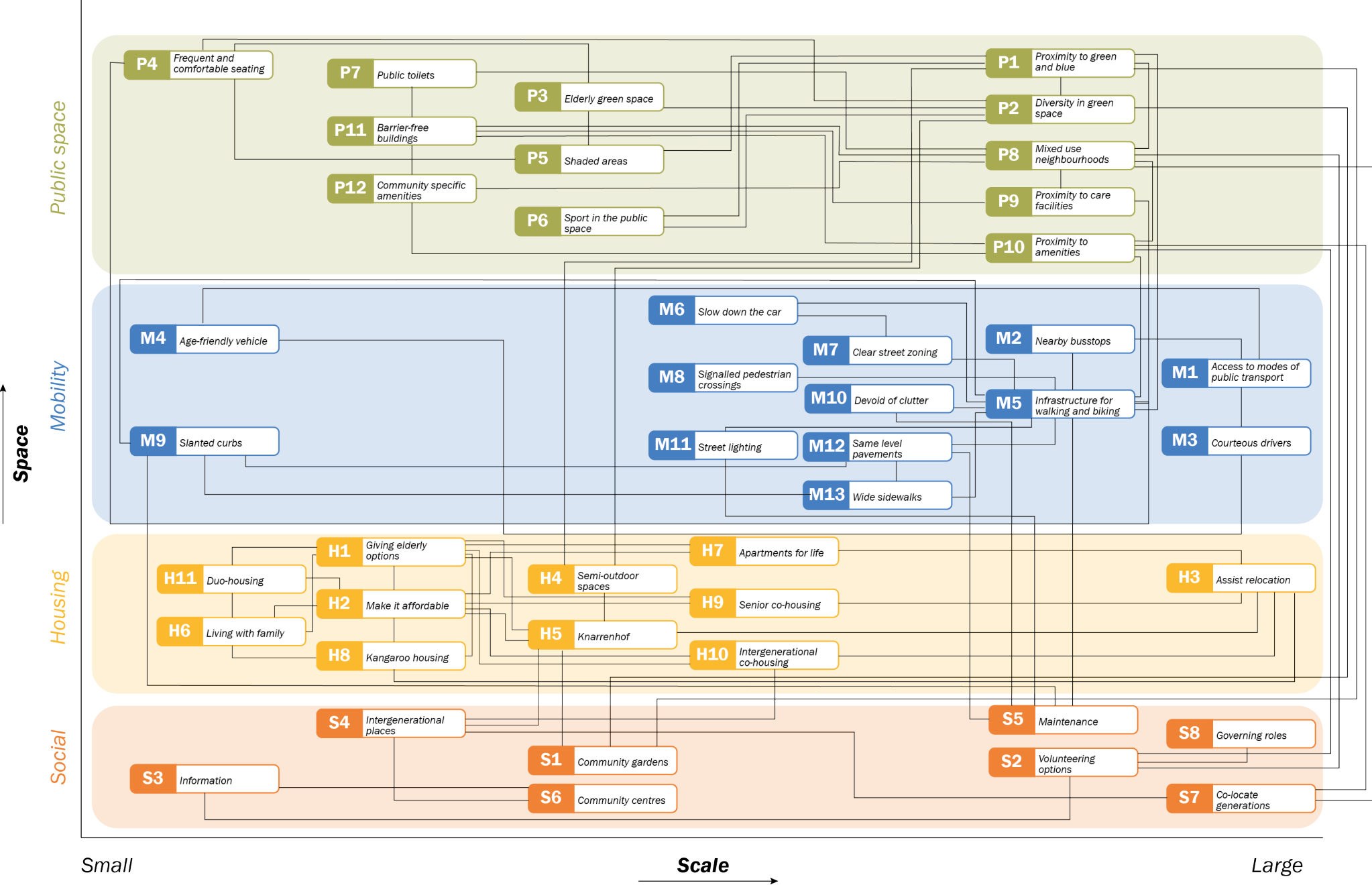

Figure 3. Pattern field. (own image)

Based on this pattern field multiple observations can be done.

Firstly, the pattern field helps to identify key patterns with a high number of connections, suggesting a significant role in achieving age-friendliness. Patterns such as Infrastructure for walking and biking and Mixed-use neighbourhoods emerge as crucial interventions, as they are supported by, and contribute to patterns across the domains of mobility, public space and social interactions. These key patterns illustrate how smaller-scale interventions can support larger strategies. For example, smaller-scale patterns like, adding seating, ensuring wide sidewalks with same-level pavement, and installing street lighting can collectively support a larger infrastructure where walking and cycling is encouraged, rather than car-oriented streets.

A notable structural insight is the relative isolation of the patterns in the housing category. Unlike the other categories, housing patterns are predominantly connected to one another, with fewer relations to other categories. This distinction can be explained by the fact that the housing patterns focus predominantly on the private space of an individual, while the other categories engage more with the public space and community interactions. Therefore, it is more common for patterns related to social interaction to be supported by a public space and buildings pattern. For example, how the availability and accessibility of amenities can offer volunteering work and promote community engagement.

Nonetheless, this underlines the significance of the housing category, since age-friendly communities and ageing in place both emphasize quality of life, which extends over both private and public spaces. Therefore, incorporating housing typologies that support older adults in their private home, regardless of the form, is an essential component of age-friendly communities.

While many patterns are complementary, the field also reveals some possible tensions between patterns. Certain interventions may limit the ability to implement other patterns. These conflicts show the real-world complexity of urban planning and the context-dependency for implementing the pattern language. One example of a potential conflict is between patterns promoting housing typologies with single-family homes, such as H5 Knarrenhof, H6 living with family, H8 kangaroo housing, and H11 duo-housing against proximity and density based patterns, like P1 and P10 focusing on proximity to green and blue and amenities, which are more commonly realised in higher-density, mixed-use neighbourhoods. While single-family typologies might offer privacy, they require more land to achieve mixed neighbourhoods, multi-family typologies however create opportunities for effectively integrating housing, healthcare, retail, and green spaces within short walking distances. This proximity is especially important for older adults, as it reduces mobility barriers and supports independence.

02

The patterns

The 44 developed age-friendly patterns will be illustrated and described in this chapter, grouped in the four established categories showing their function and relations.

P1 | *PROXIMITY TO GREEN AND BLUE*

The proximity to nature in urban environments benefits the well being of older adults.
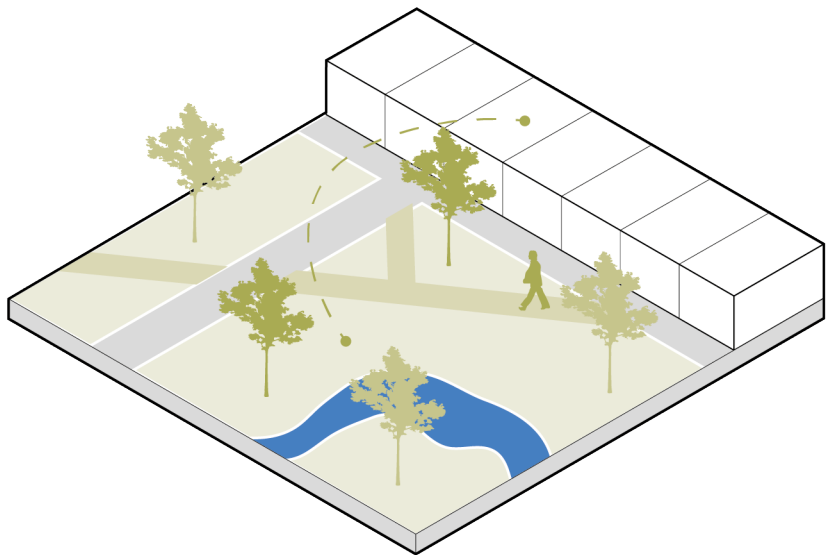
related to:

P2, P5, P6, P8, M5, H3, S1

The proximity of nature in urban environments offers several benefits to the well being, including a better mental and physical health, reduced stress, and an increased life span (ARUP, 2019). Older adults who live within walking distance of a park are less likely to develop mobility issues. Additionally, studies show that individuals experience a 42% increase in stress levels when living more than one kilometer away from a green space, like a park (United States Department of Agriculture, 2018). Therefore, the proximity to accessible green and blue spaces is essential for the well being of older adults.

practical implication

Age-friendly neighbourhoods should all comply to the 3-30-300 rule, which provides a guideline for ensuring access to nature in neighbourhoods. According to this rule, an individual should be able to see three trees from their home, live in a neighbourhood with at least 30% tree canopy coverage, and live within 300 meters of a high-quality green space. Following this rule provides the proximity to green and blue spaces and benefits the well being of elderly in the neighbourhood.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with
declined mobility

P2 | *DIVERSITY IN GREEN SPACE*

Diverse green spaces allow elderly to choose their prefered space and go outdoors.
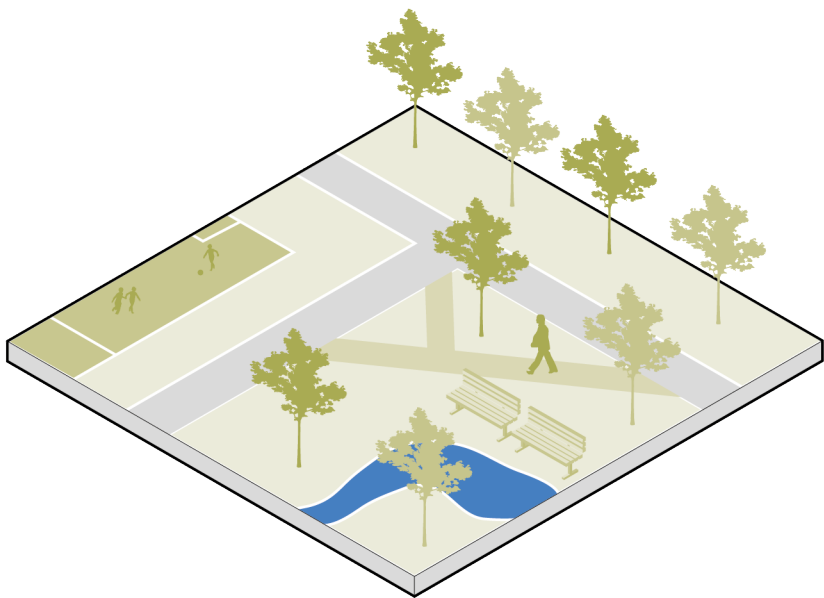
theoretical background

The presence of green spaces positively impacts the well being of people, particularly older people, by supporting both the mental and physical health (Salmistu & Kotval, 2023). Green spaces help combat isolation and inactive lifestyles, encourage social engagement and outdoor activity. The variety of green spaces, such as parks for enjoying nature, community gardens for social interaction, or more quiet spaces for rest and relaxation, further benefits the quality of life as it creates opportunities for going out and staying active (Salmistu & Kotval, 2023).

practical implication

Neighbourhoods should offer a diverse range of green spaces, providing older adults with a sense of independence by allowing them to choose where and how to engage in the social environment. These green spaces should cater to variouw needs, including personal relaxation, social interaction, exercise, and community gatherings, ensuring inclusivity and accessibility to the outdoor environment for all.

Scale: object
building
block
street
neighbourhood
city

Age-friendly to: elderly specific
children
all ages
individuals with
declined mobility

ELERLY GREEN SPACES

Smaller, enclosed green spaces provide more attractive and quieter spaces for elderly.
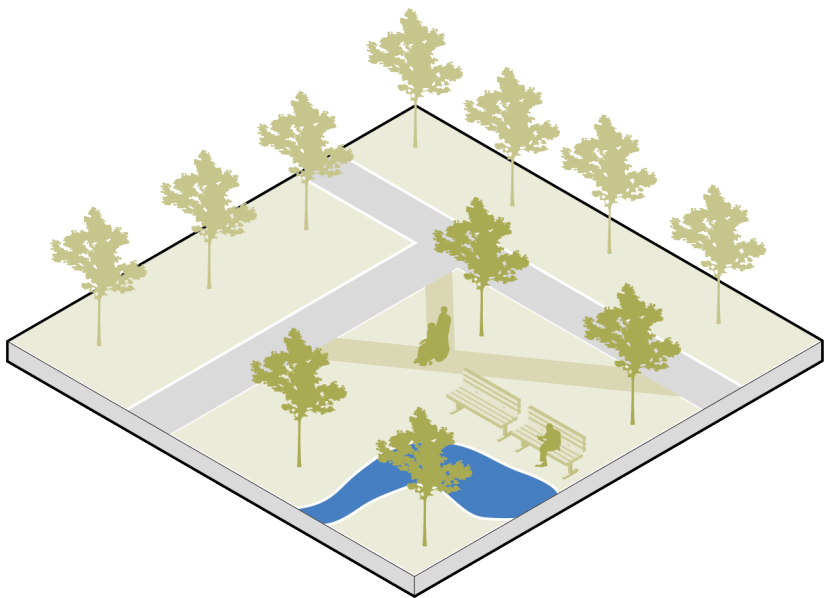
related to:

P2, P4, P5

theoretical background

Green spaces are essential features of age-friendly design, as those spaces contribute to the well being of people in general, but in particular older adults (Salmistu & Kotval, 2023). However, the bustling atmospheres of large, open parks can sometimes act as a barrier, discouraging their use by older individuals. In contrast, smaller, quieter and enclosed green spaces are more appealing, providing older adults autonomy in chosing where and how to interact in the community (ARUP, 2019).

practical implication

Smaller, quieter green spaces within neighbourhoods are often more inviting for older adults. While larger parks accommodate a wide range of users, more contained green provide environments for those who seek tranquility while still engaging in the public outdoors. An alternative approach is to designate seperate sections within the larger parks, providing dedicated areas where people who seek relaxation can retreat.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: **elderly specific**
children
all ages
individuals with declined mobility

FREQUENT AND COMFORTABLE SEATING

Frequent and inviting seating along paths and within parks encourages older adults to go outdoors.
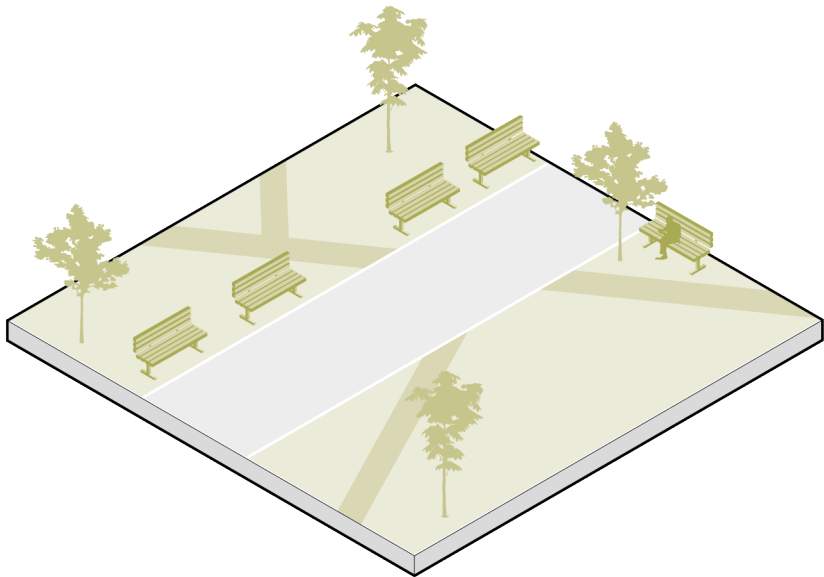
related to:

P2, P3, P5, M5

theoretical background

Research by the OECD (2003) highlights the importance of seating for older adults. Many older individuals find it challenging to walk long distances without the availability to rest, which can discourage them from going out and staying active. Therefore, the availability and comfort of public seating are essential features (Buffel et al., 2012).

practical implication

When elderly go outside for a walk, they often need to take breaks and rest. Therefore, providing sufficient public seating every 200 meters is essential to encourage outdoor activity. Beyond the frequency, seating should also be comfortable and inviting, offering proper back and arm support.

Scale: **object**
building
block
street
neighbourhood
city

Age-friendly to: elderly specific
children
all ages
individuals with
declined mobility

SHADED AREAS

Shade provided by buildings and trees provides comfortable outdoor spaces while mitigating climate threats.
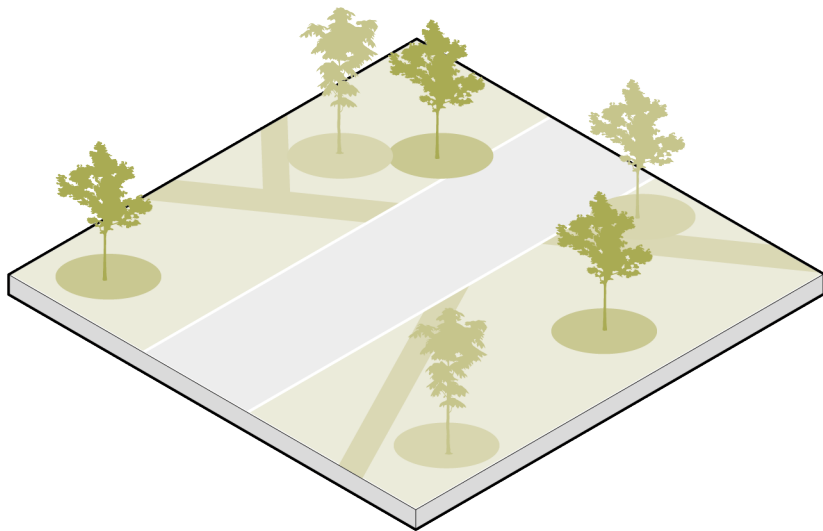
related to:

P1, P3, P4

theoretical background

Older adults are particularly vulnerable to environmental changes, like extreme heat waves. As temperatures rise due to climate change, days with hotter weather become more frequent. Studies show that during heat waves, the majority of fatalities occur among older people in urban areas (Buffel et al., 2012). Natural features, such as trees, shrubberies and green land cover, play a crucial role in mitigating these threats by providing shade and cooling the environment (ARUP, 2019).

practical implication

Trees, shrubs, green land cover, and other vegetation provide essential shade, help mitigate the urban heat island effect, and reduce energy consumption. Integrating greenery into urban environments is a crucial strategy for creating comfortable outdoor environments, particularly for older individuals who are more vulnerable to excessive heat.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with declined mobility

SPORT IN THE PUBLIC SPACE

Sports facilities in the outdoor public space enables older adults to stay active and benefits their physical well being.
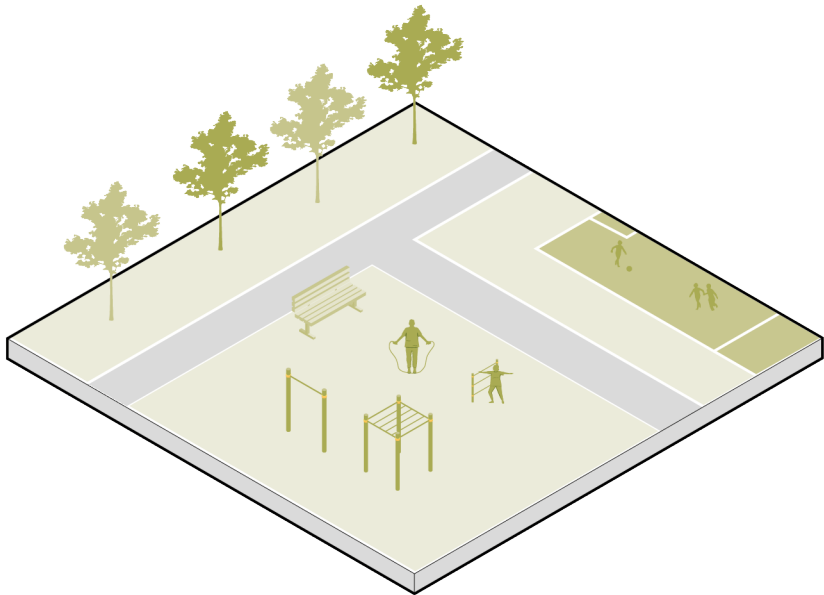
related to:

P1, P2

theoretical background

Sports and exercise play a crucial role in maintaining an active lifestyle, contributing to overall well-being. Integrating exercise equipment into public spaces provides accessible, low-pressure opportunities for physical activity while fostering a welcoming environment that normalises exercise (ARUP, 2019). Additionally, it encourages individuals to spend time outdoors, further enhancing also the mental well-being.

practical implication

Designing outdoor environments with possibilities for physical activity encourages people, including older adults, to engage in activities such as walking, excercising, and running. Adding low-pressure, easy-to-use equipment in public green spaces provides older individuals with a safe and accessible way to stay active while accomodating their varying abilities.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with declined mobility

PUBLIC TOILETS

Accessibility of qualitative public toilets encourage daily outdoor activity.
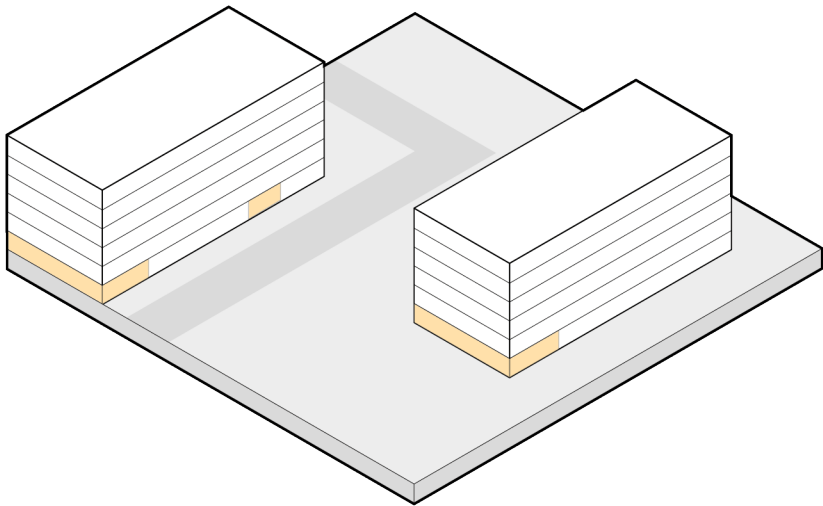
related to:

P8, P11

theoretical background

Public toilets are important factors that may impact the quality of daily life and engagement in the outdoor environment (Buffel et al., 2012). The Community Toilet Scheme in the UK is an initiative with local businesses and institutions that allows the public to access already existing restrooms. Participating shops, restaurants, libraries and other venues offer restroom access without requiring a purchase. These participating locations can be easily identified through special stickers displayed on storefronts and an interactive online map where the locations can be seen (ARUP, 2019). By implementing this initiative, the neighbourhood promotes daily outdoor activity for everyone, and in particular elderly.

practical implication

Age-friendly communities should offer a sufficient amount of public toilets available in a neighbourhood, either as a designed building or accessible in public amenities. They should be easy to find, with the use of special signs or stickers and online maps. Setting up an initiative like the Community Toilet Scheme creates a vibrant neighbourhood through fulfilling the needs of all, but in particular elderly.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

P8 | *MIXED USE NEIGHBOURHOODS*

Multifunctional neighbourhoods allow elderly to reach amenities and facilities in a short distance.
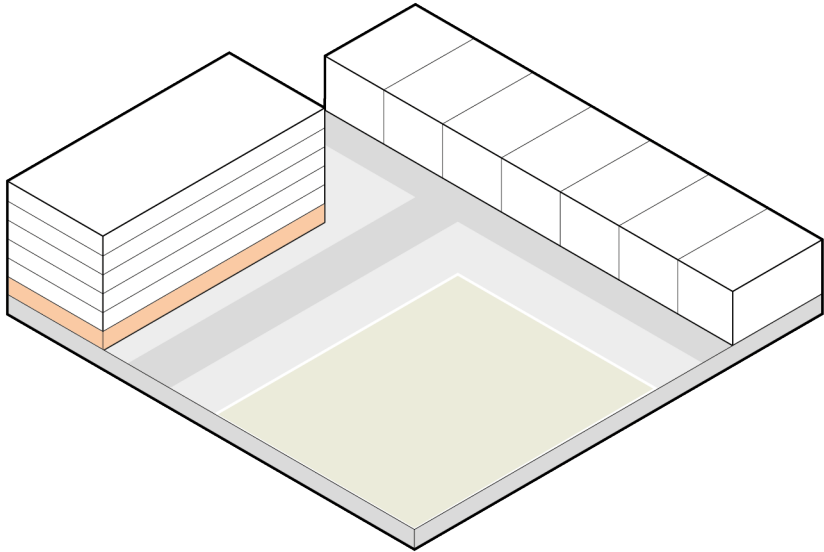
related to:

P1, P7, P9, P10, P11, P12, S2

theoretical background

Vibrant, mixed use places foster multigenerational communities while also supporting local businesses and services (Building Design Partnership, n.d.). Mixed-use neighbourhoods enable older people to remain active consumers and participants in society. Additionally, these dynamics stimulate individuals experiencing early signs of dementia, as informal, lively, mixed use settings are seen as more welcoming and safe than formal spaces (Buffel et al., 2012). Moreover, the multifunctionality creates more accessibility for elderly, as walking is the primary mode of mobility for many older adults. This is because neighbourhoods with mixed uses allow for smaller radiuses to preferred amenities and facilities (Cammelbeeck, 2012).

practical implication

Age-friendly communities should incorporate mixed-use neighbourhoods, where private, residential places are combined with public facilities. Each neighbourhood should include amenities that serve community, civic, leisure or health functions, creating vibrant places that ensure essential services and social opportunities in close proximity for older adults to participate in.

Scale:
- *object*
- *building*
- *block*
- *street*
- **neighbourhood**
- *city*

Age-friendly to:
- *elderly specific*
- *children*
- **all ages**
- *individuals with declined mobility*

P9 | *PROXIMITY TO CARE FACILITIES*

Elderly need care facilities to be in close proximity to their home in order to maintain their health and independence.
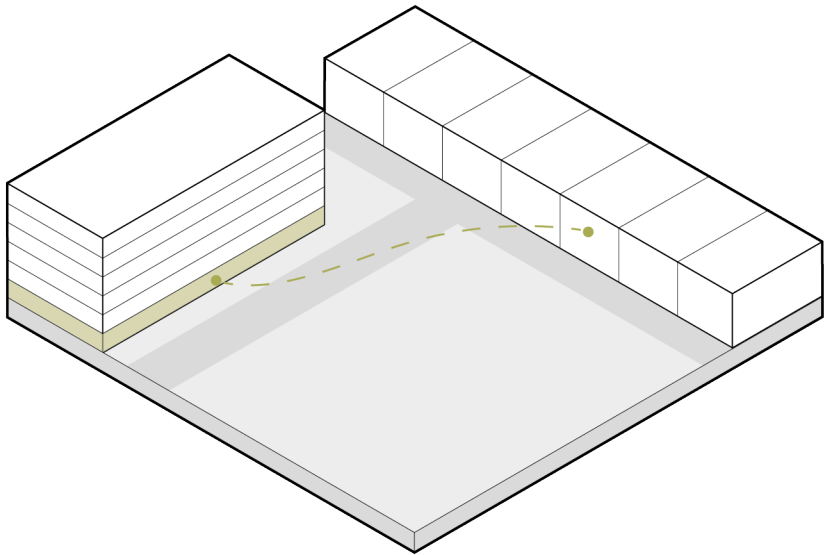
related to:

P8, P11, M5

Older adults often rely on care facilities and the proximity is essential for the access of the necessary healthcare. When these facilities are located beyond a 500 meter walking radius of the home, it becomes increasingly difficult for older adults to access essential healthcare. The 500 meter distance accounts for the reduced mobility of frail elderly (Smets, 2012). In addition, it is essential hospitals are easily accessible by public transport. A lack of proximity to care negatively impacts the quality of life for older individuals and their ability to stay a participant in a larger community (Khoddam et al., 2020).

practical implication

In age-friendly communities, healthcare services and facilities should be easily accessible to older adults. Facilities such as general practitioners, pharmacies, physiotherapists, and other care providers should be consciously located to ensure that older individuals can reach the service within a 500 meters walking distance. For larger facilites, like hospitals, accessibility through reliable public transportation is crucial to accomodate those who do not drive anymore.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with
declined mobility

PROXIMITY TO AMENITIES

Services and facilities in close proximity to their home helps older adults to stay independent and part of the community.
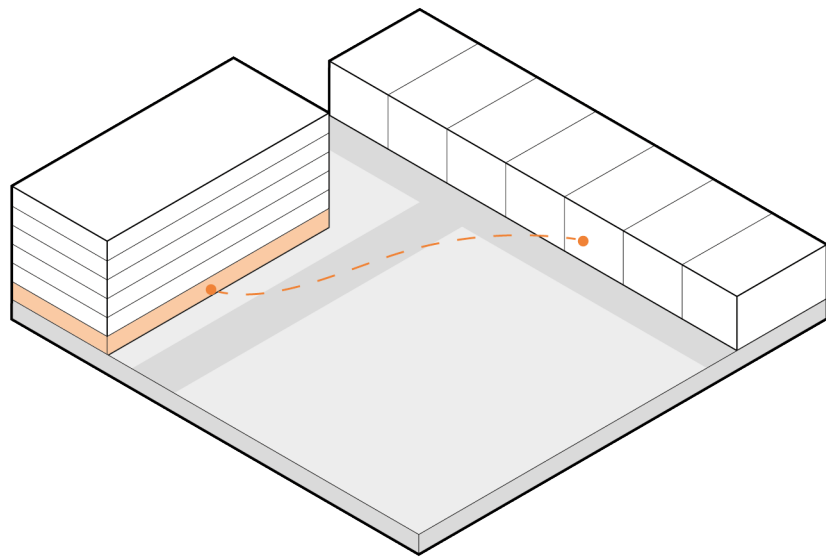
related to:

P8, P11, P12, M5, S2

theoretical background

To ensure easy access to services and amenities, these facilities should be located in close proximity to residential areas. As older adults struggle more with physical and social limitations, the proximity is an essential factor in the accessibility to these facilities (Buffel et al., 2012). Nearby services and amenities enable older individuals to carry out daily activities independently (ARUP, 2019). Additionally, the accessibility to amenities as a result of the proximity, allows older adults to remain active consumers and users, thus fostering social participation.

practical implication

In age-friendly communities, services and amenities should be easily accessible to older adults. Social, cultural, religious, and civic amenities should be consciously located nearby residential areas to ensure that older individuals can reach a range of amenities within a 500 meters walking distance. For monumental amenities, like churches or musea, accessibility through reliable public transportation is crucial to accomodate those who do not drive anymore.

*Scale:*
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with
declined mobility

Elderly need amenities and facilities to be barrier-free in order to stay independent.
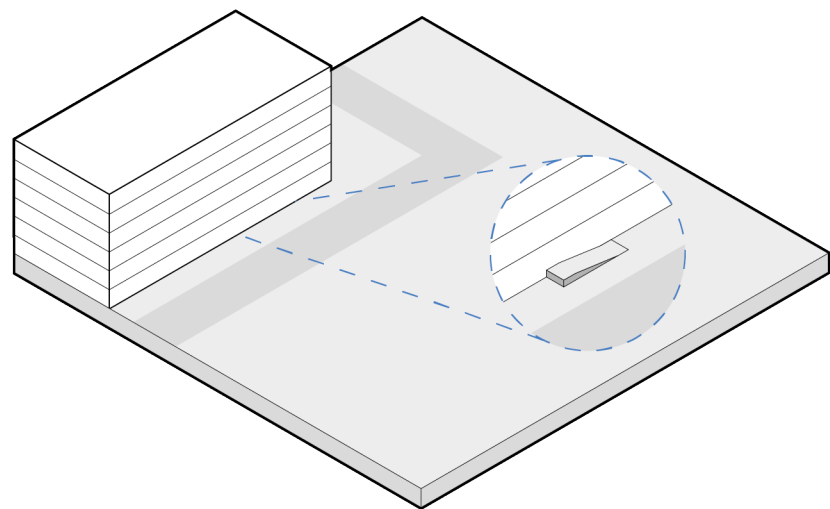
related to:

P7, P8, P9, P10, P12

theoretical background

Structural features creating barriers in the urban environment can reduce the quality of life of elderly (Buffel et al., 2012). These barriers, like broken stairs without ramps, uneven pavements, or a lack of visibility, impact the psychological accessibility for older adults. Therefore, public buildings should be designed with clear entrances without physical mobility barriers.

practical implication

To reduce psychological barriers for elderly with declined mobility, public buildings should not further complicate entering. Amenities and facilities should have accessible and straightforward entrances, including clearly visible entrances and adding a ramp for raised entryways with steps. The elimination of these obstacles creates a more welcoming environment for older individuals to participate.

Scale:		*Age-friendly to:*	
	object		*elderly specific*
	building		*children*
	block		*all ages*
	street		**individuals with**
	neighbourhood		**declined mobility**
	city		

Diverse cultural amenities allow for social connections in communities of affiliated individuals.
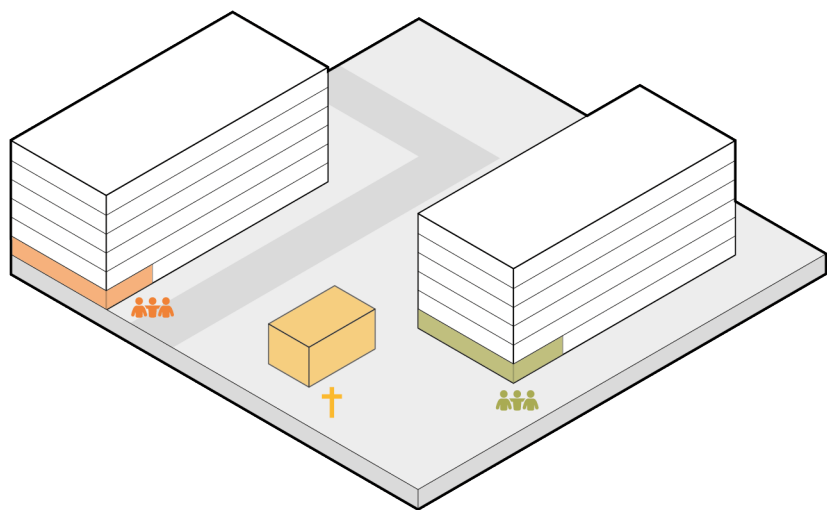
theoretical background

The accessibility of public places, such as parks, neighbourhood centres, churches or other communual spaces are important in the well being of older adults. Providing a range of opportunities that ask for social or civic participation helps prevent social exclusion and loneliness (Buffel et al., 2012). Cultural and religious specific community buildings offer opportunities for developing a social network with others of the same culture or religion. Research has shown that older individuals with access to public amenities tend to have higher levels of social and cultural participation, contributing to their overall quality of life.

practical implication

Older individuals are a very diverse group with varying needs and preferences. Therefore, amenities in the neighbourhood should offer a range of functions and reflect diverse cultural backgrounds. Creating inclusive spaces where different communities can come together fosters social connectedness, strengthens community ties, and enhances the overall well-being.

related to:

P8, P10, P11

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

M1 | *ACCESS TO MODES OF PUBLIC TRANSPORT*

Access to public transport allows older individuals to maintain their mobility and independence past their home.

related to:

M2, M3, M4

People tend to drive less frequently as they get older, making them more dependent on alternative types of mobility, one of which is public transport (ARUP, 2019). However, unreliable services and low quality public transport can pose barriers to its use, limiting older adults' participation in daily activity and reducing their sense of independence. Thus, access to public transit is crucial for enabling older adults to get from their homes to destinations, including amenities, healthcare facilities, family, and jobs.

practical implication

Access to public transportation allows elderly to travel beyond their direct neighbourhood, conencting them to other people and destinations. A public transport stop should be located within a walkable distance of 400 meters from the home, to provide an equal proximity. Additionally, the routing and scheduling of public transport should be reliable to reduce possible barriers for its use.

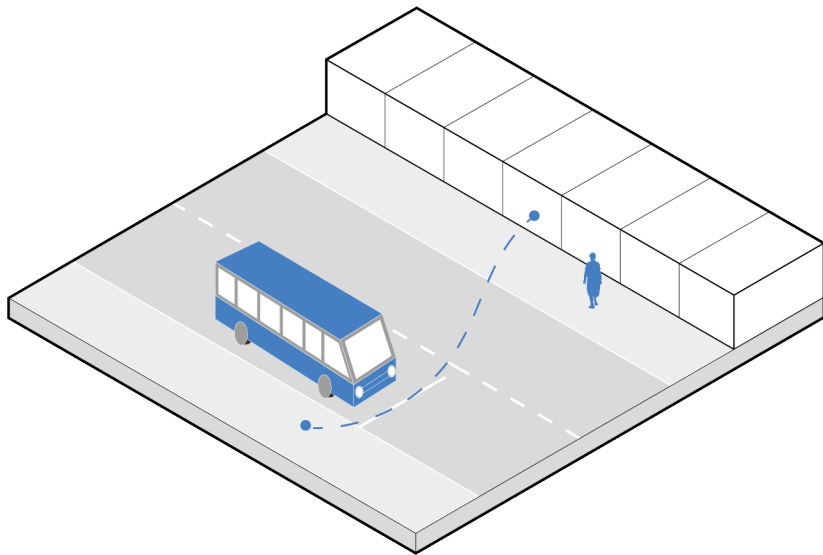**Scale:**   *object*
                building
                block
                street
                neighbourhood
                city

Age-friendly to: *elderly specific*
                          children
                          all ages
                          individuals with declined mobility

M2 | *NEARBY PUBLIC TRANSPORT STOPS*

Public transport stops in close proximity to the home enables elderly to broaden their community and stay active.

theoretical background

People tend to drive less frequently as they get older, making them more dependent on alternative types of mobility, one of which is public transport. However, too distant busstops and low quality public transport can pose barriers to its use, limiting older adults' participation in daily activity and reducing their sense of independence (ARUP, 2019). Therefore, the proximity to busstops is essential for the social connections and well-being of older adults. As reliable public transport grants access to a larger community (ARUP, 2019).

practical implication

Access to public transportation allows elderly to travel beyond their direct neighbourhood, conencting them to other people and destinations. A public transport stop should be located within a walkable distance of 400 meters from the home, to provide an equal proximity. Additionally, the stop should provide seating for (older) adults awaiting the vehicle.
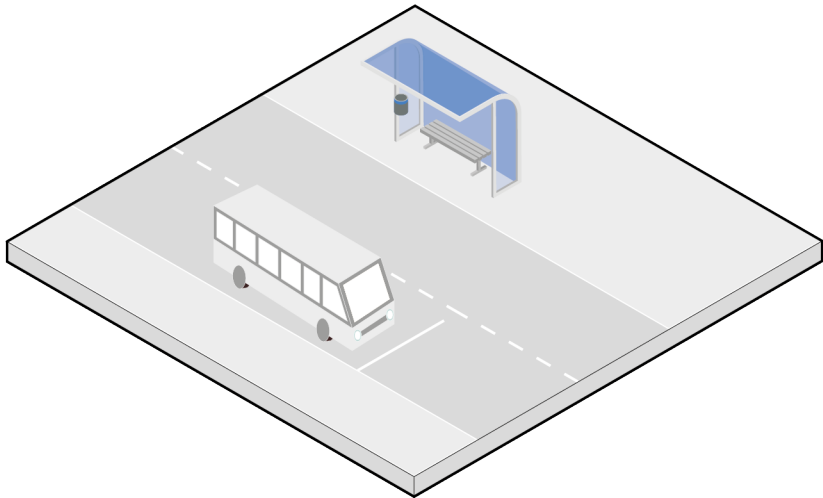
related to:

M1, M5

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with
declined mobility

M3 | *COURTEOUS DRIVERS*

The courtesy of public transport drivers towards passengers is crucial for encouraging older individuals to use this mode of transport.

related to:

M1, M4

To encourage older individuals to use public transport, the behaviour of the driver in a taxi or bus is as important as the vehicle itself. Many elderly voice the insensitivity of drivers as a barrier to using public transport (World Health Organization, 2007). This insensivity manifests in actions such as not waiting for older passengers to be seated before departing, which increases the risk of falling. Another concern is drivers not stopping close enough to the curb, making it more difficult and unsafe for older adults to get on and off the bus. Additionally, careless driving further increases the barrier for older individuals (World Health Organization, 2007).

practical implication

Public transport drivers should be informed and, ideally, educated about the concerns of older passengers and their use of transport services. It is essential for drivers to wait until all passengers are seated before departing, ensure getting on and off the vehicle is possible, and adhere to traffic regulations. These considerations help create a more accessible and safe opportunity for older adults as mode of transport.

Scale:
- *object*
- *building*
- *block*
- *street*
- *neighbourhood*
- **city**

Age-friendly to:
- **elderly specific**
- *children*
- *all ages*
- *individuals with declined mobility*

Making public transport vehicles age-friendly takes away extra barriers for elderly to use public transportation.
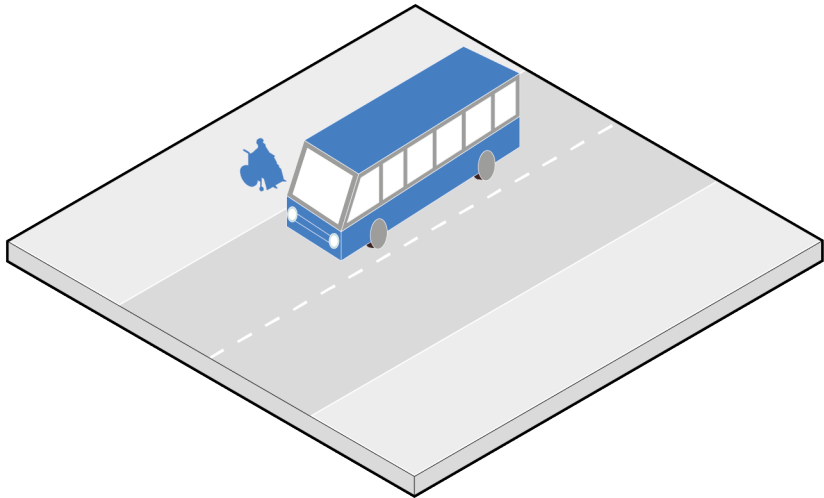
theoretical background

To encourage older individuals to use public transport, the design of the vehicle is as important as the driver of the vehicle. Many elderly voice barriers like, high steps, lack of wheelchair accessibility, and an absence of elderly seating (WHO, 2007). These barriers limit older adults in their ability to participate in daily life as it reduces their access to different modes of transport.

practical implication

Public transport vehicles should have clear signage, low-floor access, elderly designated seating, and a clean, safe interior. These considerations help create a more accessible and safe opportunity for older adults as mode of transport.

related to:

M1, M3

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with declined mobility

M5 | *INFRASTRUCTURE FOR WALKING AND BIKING*

A good infrastructure supporting active mobility for walking and cycling allows elderly to stay active and independent.
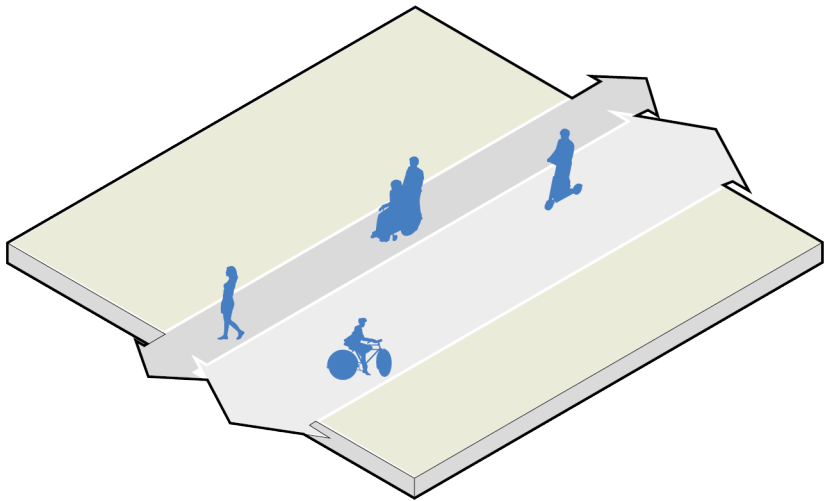
related to:

M2, M6, M7, M8, M9, M10, M11, M12, M13, P1, P4, P9, P10, S5

theoretical background

Older adults often rely more on walking and public transportation as their main mode of transport. Active mobility, supported by appropriate infrastructure, is essential for maintaining independence and promoting health (Salmistu & Kotval, 2023). In contrast, the lack of supporting infrastructure, such as unsafe sidewalks with obstacles and crossings with high car speeds, can limit older adults' ability to stay active and in turn accelerate the decline in mobility (ARUP, 2019).

practical implication

Infrastructure that supports active mobility and walkability for older adults includes accessible walkways and bicycle paths, clear street zoning that designates specific areas for different modes of transport, and reduced car speeds in areas where pedestrians and cyclists have priority. Additionally, features that enhance visibility, safety, and encourage are essential in creating walkable and cyclable infrastructures that foster active mobility and independence.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

SLOW DOWN THE CAR

Smart implications reduce the use of the car and slow the speed, avoiding busy and hazardous traffic.
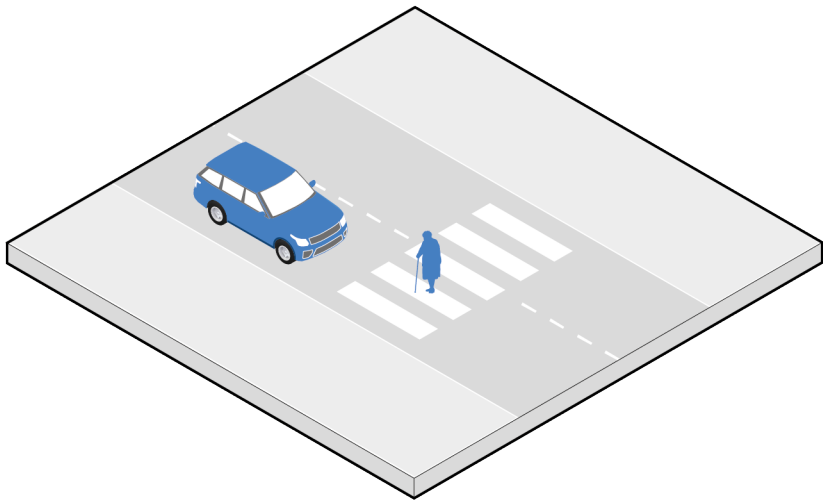
theoretical background

The interaction between older individuals and high-speed vehicles, such as cars, presents significant challenges, often leading to accidents. Studies show the safety of older pedestrians in cities to be a critical concern. For instance, in New York between 2006 and 2008, nearly 47% of pedestrian fatalities were individuals aged 60 or over (Buffel et al., 2012).

practical implication

Design features can significantly influence driver behaviour and encourage individuals to opt for alternatvie modes of transport instead of driving. Measures, such as road markings and signs, can serve as reminders of low speed zones, while narrower roadways and bends naturally reduce speeds and increase a drivers attention.

related to:

M5, M7

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly
children
all ages
individuals with declined mobility

M7 | *CLEAR STREET ZONING*

Clear street zoning supports elderly in navigating infrastructure and decreases feelings of unsafety.
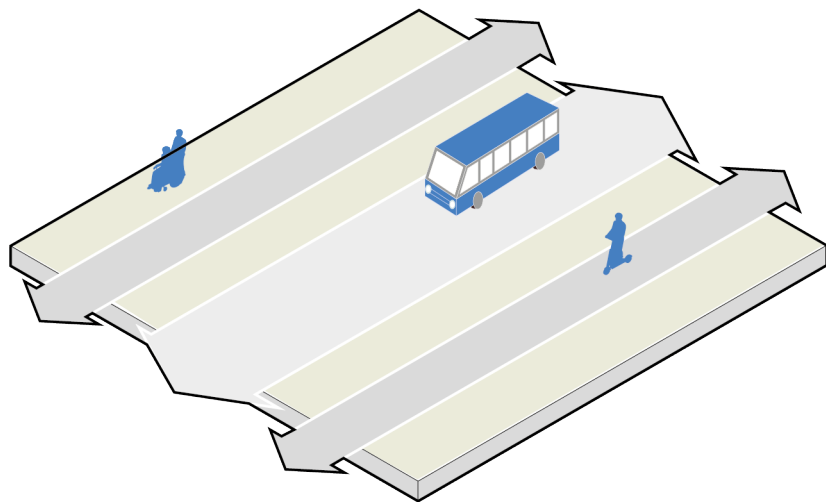
related to:

M5, M6

theoretical background

The clarity of spatial organization within streets significantly affects older adults' navigation and safety, as unclear zoning allows different modes of transport to get mixed and increase the chances of accidents (Cammelbeeck, 2013). On the contrary, well-zoned streets, with seperated zones for walking, cycling, driving, and parking reduce confusion. Thus creating safer mobility for older adults (Forsyth et al., 2019).

practical implication

Streets should have clear zoning, seperating the different types of transport. Design elements to further differentiate the zones are different surface materials, slanted curbs between zones, and green barriers. Such clear street designs foster independence among older adults and supports them in navigating the community.

Scale: object
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with declined mobility

M8 | *SIGNALLED PEDESTRIAN CROSSING*

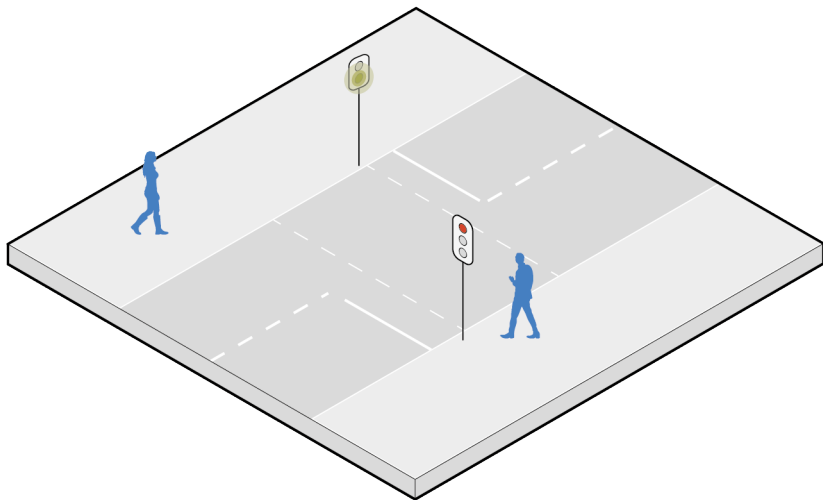Clear and safe crossings allow elderly to move freely through the neighbourhood.

related to:

M5

theoretical background

Research of Buffel et al. (2012) identified insufficient crossing times at pedestrian traffic lights as a major hazard for older pedestrians, especially for frail elderly. As individuals age, their walking ability and speed decline, resulting in older pedestrians to require more time to cross the streets compared to most younger pedestrians. Insufficient time reduces the sense of safety of elderly when crossing the street, and unsafety can further limit a person's mobility. A study on the walking speed of elderly found that 76% of older men and 85% of older women walk at speeds below 1.2 metres per second (ARUP, 2019).

practical implication

Pedestrian crossing lights should allow sufficient time for older adults to cross the road. Depending on the distance required to cross the street, the crossing time should be based on the rate of 1 meter per second as a walking speed. Additionally, clear audio and visual signals indicating when to cross and how much time remains are essential features that support elderlyin safely navigating pedestrian crossings.

Scale:		*Age-friendly to:*	
	object		*elderly specific*
	building		*children*
	block		*all ages*
	street		**individuals with**
	neighbourhood		**declined mobility**
	city		

M9 | *SLANTED CURBS*

Slanted curbs make the transition on and off the sidewalk smaller and safer for older pedestrians.
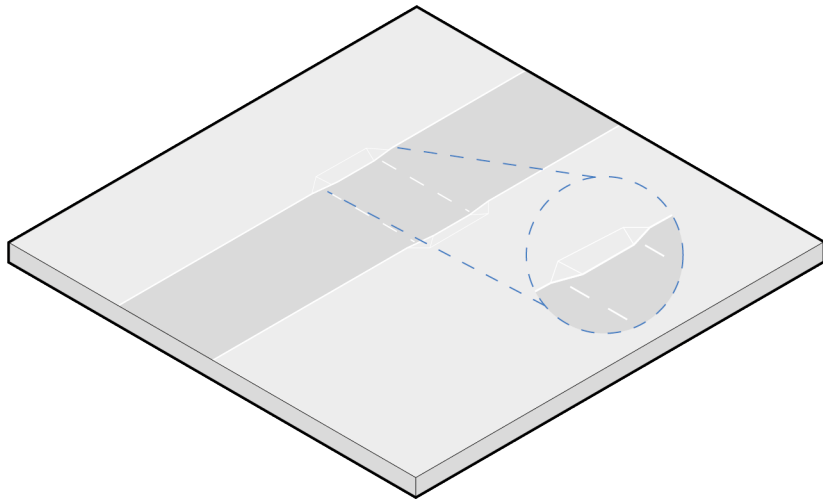
related to:

M5, M12, M13, S5

theoretical background

Falling is the leading cause of injury and death among individuals aged 60 and older, with the risk increasing with age (Salmistu & Kotval, 2023). Physical decline, including poor mobility, cognitive impairments, and imbalances, are conditions further heightening this risk (Salmistu & Kotval, 2023). Moreover, the fear of falling alone significantly impacts the quality of life, discouraging older individuals from going outdoors and participating in the community. Outdoor hazards, like uneven pavements, sidewalks obstructions, and excessively high curbs, further contribute to this fear.

practical implication

Sidewalk curbs should have a slanted shape to minimize height differences and facilitate easier transitions. This design feature reduces the risk of falling for older pedestrians with mobility issues, making it easier to step on and off the sidewalk while still maintaining the clear distinctions between pedestrian and vehicular areas.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

Sidewalks without obstacles ensure a safe walking environment for elderly without the risk of falling.

related to:

M5, S5

theoretical background

Falling is the leading cause of injury and death among individuals aged 60 and older, with the risk increasing with age (Salmistu & Kotval, 2023). Physical decline, including poor mobility, cognitive impairments, and imbalances, are conditions further heightening this risk (Salmistu & Kotval, 2023). Moreover, the fear of falling alone significantly impacts the quality of life, discouraging older individuals from going outdoors and participating in the community. Outdoor hazards, like uneven pavements, sidewalks obstructions, and excessively high curbs, further contribute to this fear.
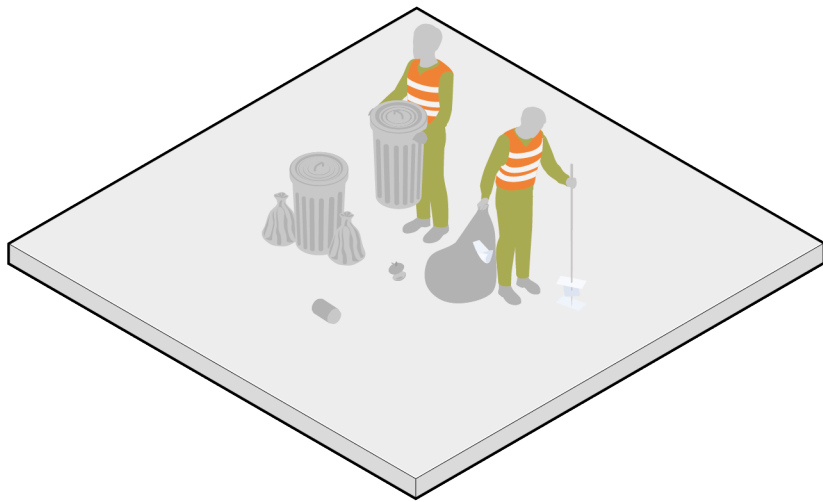
practical implication

To reduce the risk and fear of falling among older adults, but also other physically declined individuals, pavements in age-friendly communities should be designed to be smooth, level and free from obstacles. Additionally, regular maintenance is essential to prevent cracks, obstructions, and uneven surfaces, ensuring constant safety and accessible walking environment.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

Well-lit streets are crucial features for fostering a safe environment in the dark.
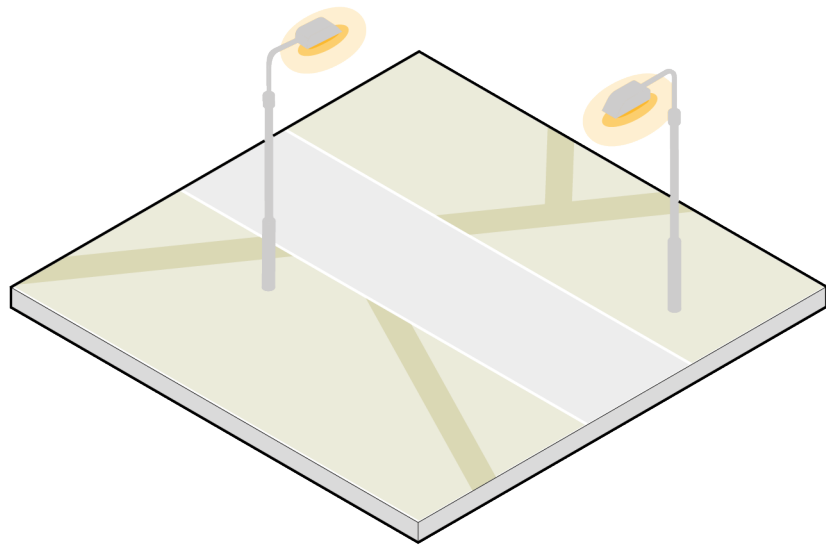
related to:

M5, S5

theoretical background

Poor street lighting can significantly impact the sense of safety among older adults, creating psychological barriers that discourage from engaging in outdoor activities (Salmistu & Kotval, 2023). Many older people experience visual impairments, and limited lighting conditions further increase the risk of falling by making their surroundings less visible. When combined with high crime rates, these feelings of insecurity and vulnerability deter older adults from going outside after dark (Buffel et al., 2012). Well-lit streets are therefore crucial for fostering a safe environment.

practical implication

Every street and path requires adequate street lighting for ensuring safe places in the dark. Evenly distributed lighting along paths enhances visibility and allows older adults to travel even in the evening, as the risk of falls and crime is reduced.
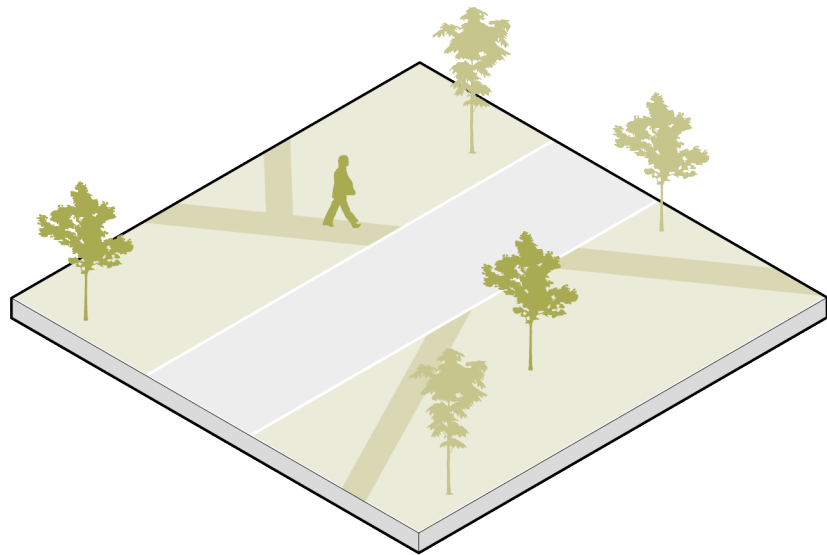
Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

M12 | *SAME LEVEL PAVEMENTS*

Smooth and even pavement without obstacles ensure a safe walking environment for elderly without the risk of falling.

related to:

M5, M9, M13, S5

theoretical background

Falling is the leading cause of injury and death among individuals aged 60 and older, with the risk increasing with age (Salmistu & Kotval, 2023). Physical decline, including poor mobility, cognitive impairments, and chronic illnesses, are conditions further heightening this risk (Salmistu & Kotval, 2023). Moreover, the fear of falling alone significantly impacts the quality of life, discouraging older individuals from going outdoors and participating in the community. Outdoor hazards, like uneven pavements, sidewalks obstructions, and poorly designed infrastructure, further contribute to this fear.

practical implication

To reduce the risk and fear of falling among older adults, but also other physically declined individuals, pavements in age-friendly communities should be designed to be smooth, level and free from obstacles. Selecting appropriate materials is crucial to maintain these qualities over time. Additionally, regular maintenance is essential to prevent cracks, obstructions, and uneven surfaces, ensuring constant safety and accessible walking environment.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with
declined mobility

M13 | *WIDE SIDEWALKS*

Wider sidewalks ensure a safe walking environment for elderly without the risk of falling.
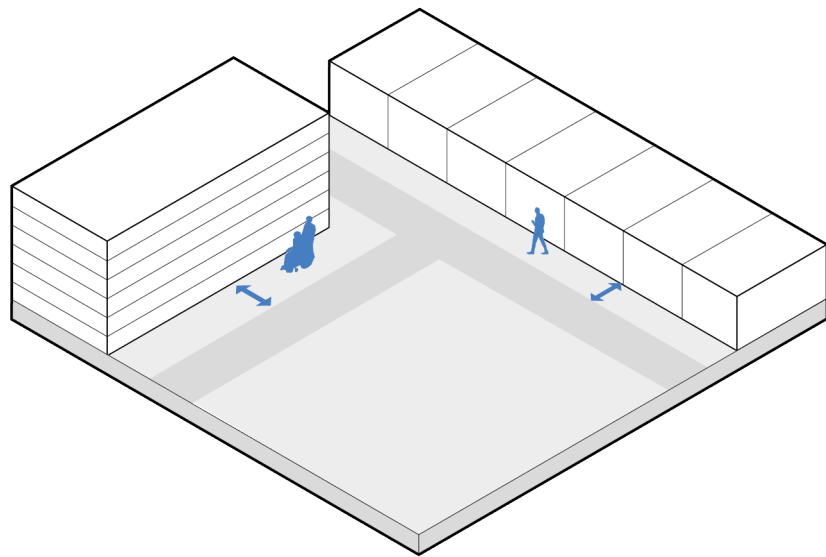
related to:

M5, M9, M12

theoretical background

Falling is the leading cause of injury and death among individuals aged 60 and older, with the risk increasing with age (Salmistu & Kotval, 2023). Physical decline, including poor mobility, cognitive impairments, and imbalances, are conditions further heightening this risk (Salmistu & Kotval, 2023). Moreover, the fear of falling alone significantly impacts the quality of life, discouraging older individuals from going outdoors and participating in the community. Outdoor hazards, like uneven pavements, sidewalks obstructions, and excessively high curbs, further contribute to this fear.

practical implication

Wider sidewalks make it easier for pedestrians to navigate around one another. Since older pedestrians often walk slower than younger pedestrians due to mobility issues, others may need to pass by them. With more width designated to the sidewalk, this can be done safely, reducing the fear of elderly being bumped into and fall. This design feature reduces the risk of falling for older pedestrians with mobility issues, making it more accessible for older pedestrians to walk at their pace without feeling rushed.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

GIVING ELDERLY OPTIONS

Providing a variety of housing options enables older individuals to make autonomous decisions when considering relocation.
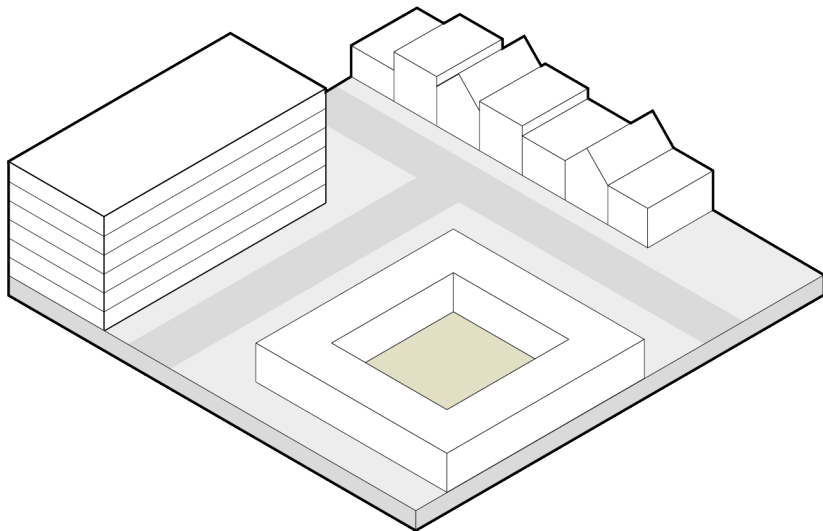
related to:

H2, H5, H6, H7, H8, H9, H10, H11

theoretical background

Elderly are a diverse group with different needs, depending on factors such as health, income, and social networks. As a result, their preferred living arrangement differs and should accommodate to these different needs and lifestyles (Salmistu & Kotval, 2023). Providing a range of living arrangements would enable older individuals to consider relocating to more supporting housing options.

practical implication

An age-friendly community should offer a variety of housing options to accommodate older individuals in their different lifestyles. It is essential to provide housing in different price ranges, as well as options with different types of care.
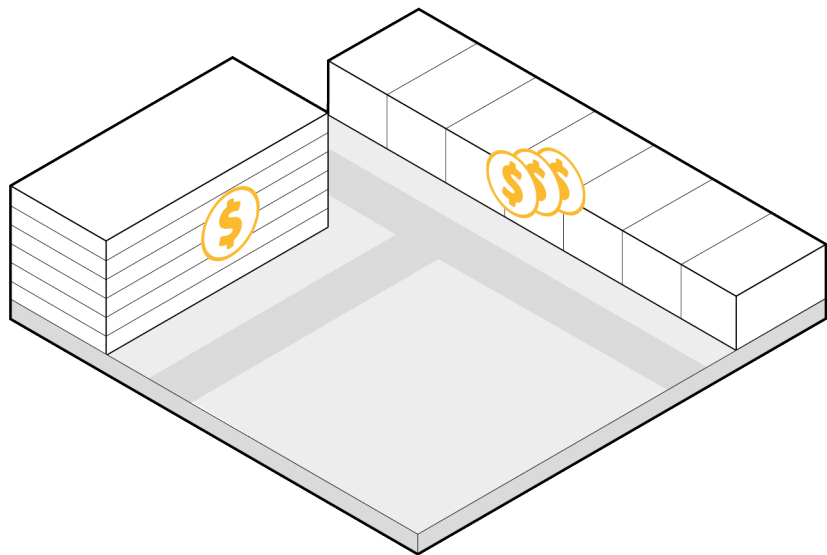
Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

MAKE IT AFFORDABLE

Social and affordable housing options offer opportunities for elderly to consider their preferred living arrangement in later life.

related to:

H1, H5, H6, H7, H8, H9, H10, H11

According to the OECD (2003) research, housing significantly impacts the ability to live independent amongst elderly. When individuals consider relocation as their households shrinks, most of the time the high prices and scarce availability makes it hard to realise (de Groot et al., 2013). Thus, for the lower and middle income seniors it is important to offer social and affordable housing regardless of socio-economic development, since the cost of housing is a major factor in the quality of life of older individuals (van Hoof et al., 2021).

practical implication

Every senior housing typology offered in an age-friendly community should be available across both the social and private housing sectors. This ensures that lower and middle income seniors also have access to diverse and suitable living arrangements, who otherwise would not be able to make such decisions. While some typologies may be more implemented in the higher income sector, equitable distribution is essential to provide all older adults with affordable housing opportunities.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

Assisting elderly in their relocation process increases the accessibility to live in a suitable dwelling.
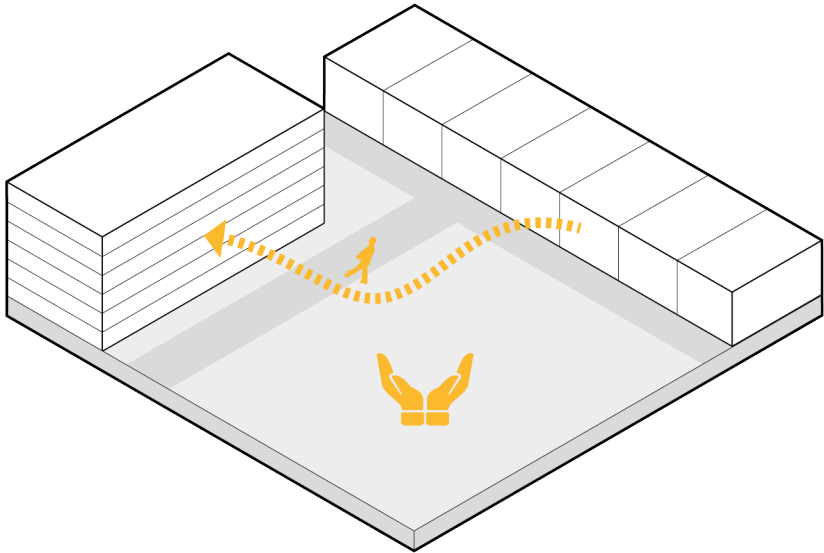
related to:

H1, H2, H5, H7, H8, H9, H10

theoretical background

In order to facilitate relocation among elderly who are willing to move, municipalities must take an active role in supporting this process (Regio Stedendriehoek, n.d.). By offering dedicated services, such as relocation advisors or financial incentives and subsidies, municipalities can significantly improve housing mobility within this demographic (Geuting & Timmen, 2022).

practical implication

Municipalities can stimulate the flow in the housing market by offering targeted services and subsidies specifically aimed for older adults. Moving coaches, care packages or financial incentives can significantly prevent relocation from becoming a destabilising experience. Allowing older adults to move into a dwelling suitable for their needs and lifestyle.
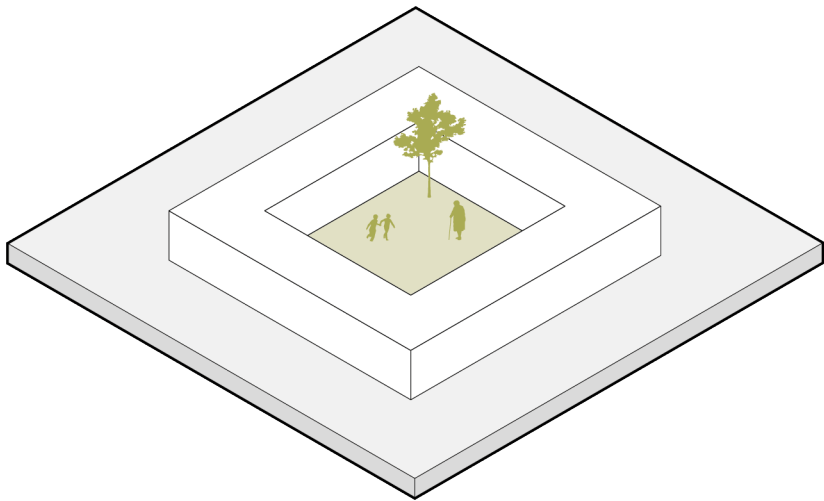
Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with
declined mobility

SEMI-PUBLIC OUTDOOR SPACES

Semi-public outdoor spaces benefit the well-being of older adults and enables independence and social inclusion.

theoretical background

Green spaces are essential features of age-friendly design, as those spaces contribute to the well being of people in general, but in particular older adults (Salmistu & Kotval, 2023). However, the bustling atmospheres of large, open parks can sometimes act as a barrier, discouraging their use by older individuals. In contrast, semi-public, enclosed green spaces create a safer environment and takes small effort as it is close to home. Additionally, it guarantees a place for social interactions with neighbours, enabling older adults for social inclusion and independence (Ikink, 2024).

practical implication

Semi-public green spaces of a housing block are often more inviting for older adults. While larger parks accommodate a wide range of users, more contained green provide environments for those who seek tranquility while still engaging in the public outdoors and interaction with neighbours.

related to:

H5, P1, P2

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with declined mobility

KNARRENHOF

Elderly living in a Knarrenhof are socially supported by their neighbours while maintaining their independence.
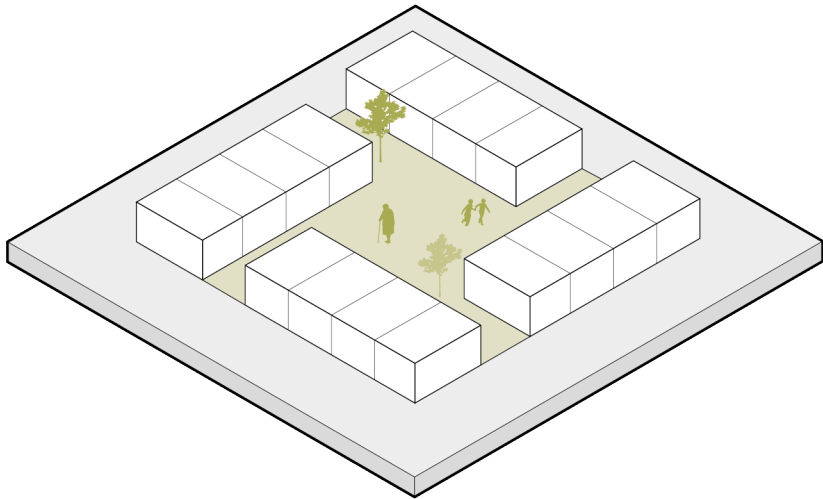
related to:

H1, H2, H3, H4, S1, S4

theoretical background

There is a growing need to develop housing typologies that align to the lifestyles and preferences of older residents (Regio Stedendriehoek, n.d.). Given the heterogeneity of the ageing population, it is essential to also provide a variety of housing typologies that cater to different needs and lifestyles. In particular, new types that emphasize collaborative living can contribute to the well-being of elderly. Because older individuals with high levels of social interaction and support are two times more likely to avoid developing dementia (ARUP, 2019).

practical implication

A Knarrenhof is a typology not exclusively for elderly, but it functions as a small, close-knit community. Where single-family homes are enclosing a collective courtyard, replacing private backyards with a larger semi-private courtyard. While residents give up some individual outdoor space, they gain acces to a supportive social network of neighbours. Those who choose to live in a Knarrenhof commit to mutual support, fostering social interaction. This living arrangement facilitates informal care, such as helping with groceries or gardening with them.

Scale: object
building
block
street
neighbourhood
city

Age-friendly to: elderly specific
children
all ages
individuals with declined mobility

H6 | *LIVING WITH FAMILY*

Living with family allows elderly to live in a safe environment close to family members.
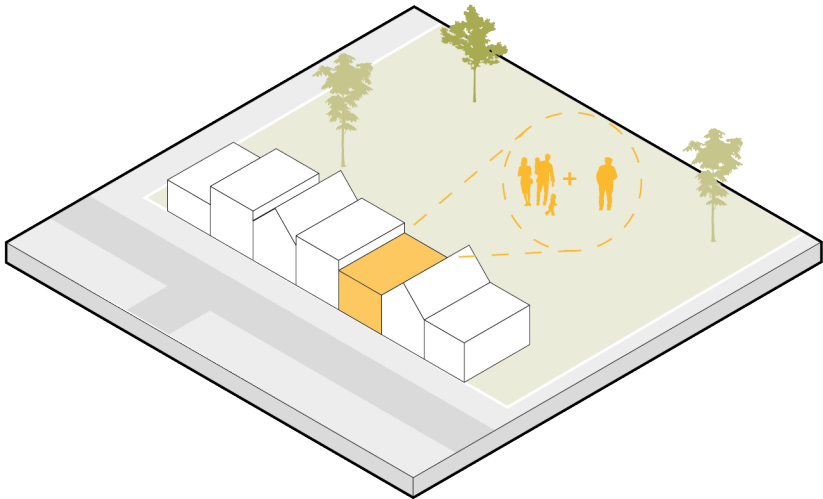
related to:

H1, H8, H11

theoretical background

There is a growing need to develop housing typologies that align to the lifestyles and preferences of older residents (Regio Stedendriehoek, n.d.). However, sudden relocation can be destabilising for the well-being of older adults (ARUP, 2019). Therefore, investing in housing solutions that do not facilitate relocation for elderly or is a secure move as it brings family closer, could be beneficial. Such solutions could offer informal care and social support, which contribute to the well-being of elderly (ARUP, 2019). Because older individuals with high levels of social interaction and support are two times more likely to avoid developing dementia.

practical implication

Living with family is a typology in which either the family moves in with the older adult(s), or where elderly move in with family members. This living arrangement enables families to remain close together and provide easier informal care. Unlike kangaroo housing, which involves a separate unit, this typology involves everyone in the household sharing the main house, rather than having a seperate dwelling.

Scale: *object*
    building
    block
    street
    neighbourhood
    city

Age-friendly to: ***elderly specific***
    children
    all ages
    individuals with declined mobility

APARTMENTS FOR LIFE

Apartments for life caters to all older residents, whether living independent or in need of assisting care.
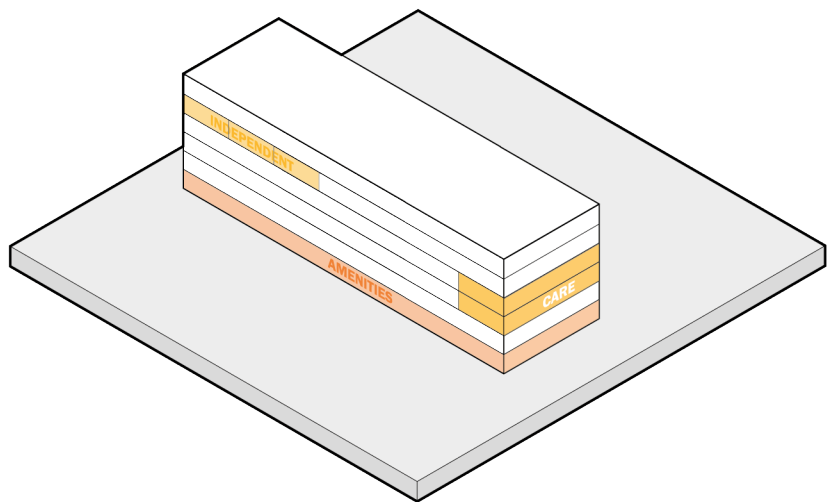
related to:

H1, H2, H3

theoretical background

There is a growing need to develop housing typologies that align to the lifestyles and preferences of older residents (Regio Stedendriehoek, n.d.). Given the heterogeneity of the ageing population, it is essential to also provide a variety of housing typologies that cater to different needs and lifestyles. In particular, new types that emphasize collaborative living can contribute to the well-being of elderly. Because older individuals with high levels of social interaction and support are two times more likely to avoid developing dementia (ARUP, 2019).

practical implication

Apartments for life is a typology where elderly can live, regardless of the need for care. These apartment buildings are exclusively for seniors, but with public amenities on the ground floor that are open to outside community. The apartments vary in size, just like the assisting services. Older residents could live in apartments for life completely independent, with the occassional need for a general practicioner based at the ground floor. But as people age, increasing levels of care can be provided by professional caregivers, adjusted to their needs.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: **elderly specific**
children
all ages
individuals with declined mobility

KANGAROO HOUSING

A kangaroo house enables older adults to be supported by small care services, while maintaining independent.
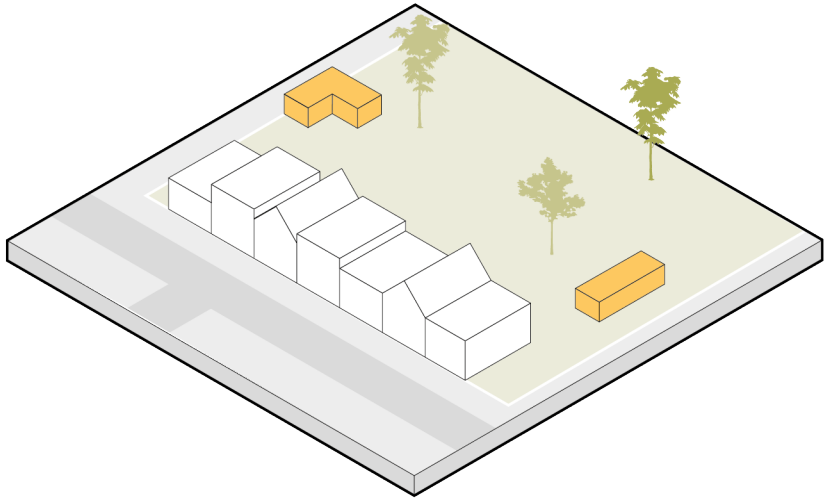
related to:

H1, H2, H3, H6

theoretical background

There is a growing need to develop housing typologies that align to the lifestyles and preferences of older residents (Regio Stedendriehoek, n.d.). However, sudden relocation can be destabilising for the well-being of older adults (ARUP, 2019). Therefore, investing in housing solutions that do not facilitate relocation for elderly or is a secure move as it brings family closer, could be beneficial. Such solutions could offer informal care and social support, which contribute to the well-being of elderly (ARUP, 2019). Because older individuals with high levels of social interaction and support are two times more likely to avoid developing dementia.

practical implication

A kangaroo dwelling is an additional unit attached to or situated in the yard of a single-family home. This typology is based on an older person living in the unit while a caregiver, family member, or tenant occupies in the main house. Or vice versa, with the older adult living in the home, while the caregiver lives in the unit. This enables informal care and fosters daily social interactions, where the older person could be helped with things like cooking and eating together or more care related services, depending on what the older adult needs.

Scale:
- *object*
- ***building***
- *block*
- *street*
- *neighbourhood*
- *city*

Age-friendly to:
- ***elderly specific***
- *children*
- *all ages*
- *individuals with declined mobility*

SENIOR CO-HOUSING

Older adults find social support and interaction in their collaborative living arrangements with like-minded neighbours.
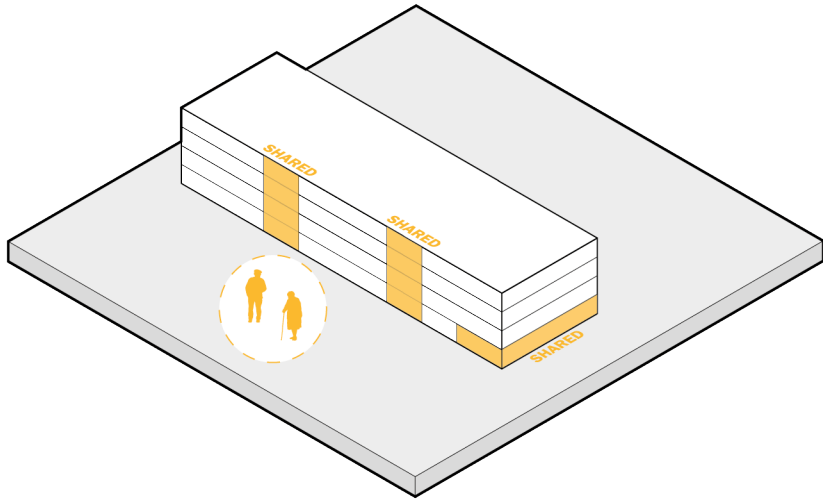
related to:

H1, H2, H3

theoretical background

There is a growing need to develop housing typologies that align to the lifestyles and preferences of older residents (Regio Stedendriehoek, n.d.). Given the heterogeneity of the ageing population, it is essential to also provide a variety of housing typologies that cater to different needs and lifestyles. In particular, new types that emphasize collaborative living can contribute to the well-being of elderly. Because older individuals with high levels of social interaction and support are two times more likely to avoid developing dementia (ARUP, 2019).

practical implication

Elderly co-housing is a typology focused on encouraging social interactions among older adults with similar lifestyles. This is a smaller-scale apartment building, where some private space is traded for shared communal areas, such as the dining room or kitchen. Exclusively intended for seniors, co-housing encourages a collective living model that promotes self-help, social support and interaction.

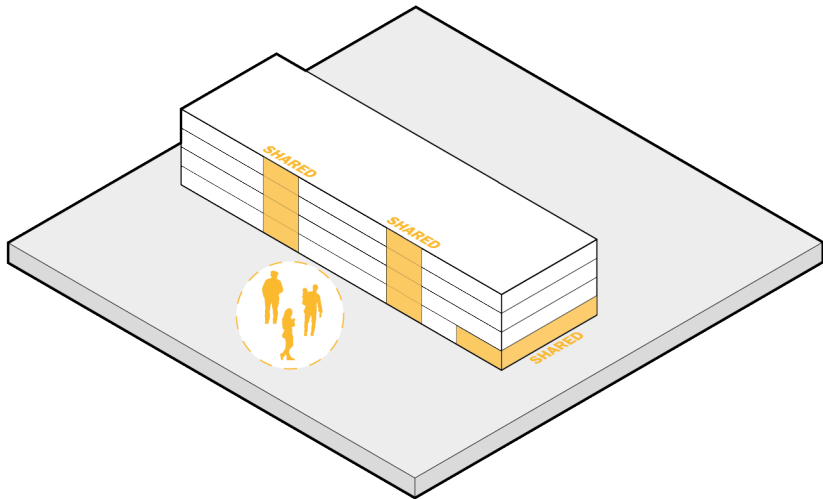| *Scale:*		*Age-friendly to:*	
	object		***elderly specific***
	building		*children*
	block		*all ages*
	street		*individuals with*
	neighbourhood		*declined mobility*
	city		

H10 | *INTERGENERATIONAL CO-HOUSING*

Older adults find social support and interaction in their collaborative living arrangements with younger generations.

related to:

H1, H2, H3, S4

theoretical background

There is a growing need to develop housing typologies that align to the lifestyles and preferences of older residents (Regio Stedendriehoek, n.d.). Given the heterogeneity of the ageing population, it is essential to also provide a variety of housing typologies that cater to different needs and lifestyles. In particular, new types that emphasize collaborative living can contribute to the well-being of elderly. Because older individuals with high levels of social interaction and support are two times more likely to avoid developing dementia (ARUP, 2019).

practical implication

Intergenerational co-housing is a typology focused on encouraging social interactions among different generations. This is a smaller-scale apartment building, where some space is traded for common shared space. The typology strives for a diverse resident mix of multiple generations, thereby encouraging a collective living model that promotes self-help, social support and interaction.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

Duo-housing helps both residents in maintaining independence while socially supporting each other.
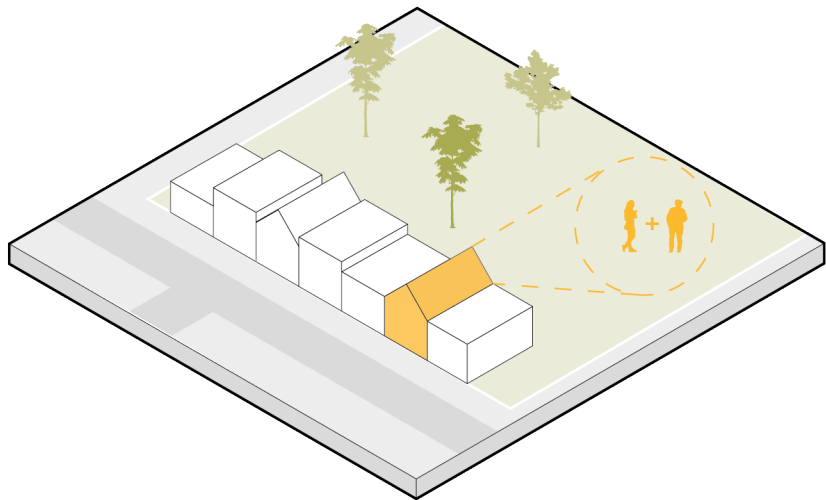
related to:

H1, H2, H6

theoretical background

There is a growing need to develop housing typologies that align to the lifestyles and preferences of older residents (Regio Stedendriehoek, n.d.). However, sudden relocation can be destabilising for the well-being of older adults (ARUP, 2019). Therefore, investing in housing solutions that do not facilitate relocation for elderly or is a secure move as it brings family closer, could be beneficial. Such solutions could offer informal care and social support, which contribute to the well-being of elderly (ARUP, 2019). Because older individuals with high levels of social interaction and support are two times more likely to avoid developing dementia.

practical implication

Duo-housing is a typology similar to living with family, but instead focuses on shared living arrangements between an older adult and a non-relative. This typology is particularly relevant when older individuals remain in large homes that may be underutilised, yet moving is either not affordable or destabilising. By renting out certain rooms of the house, older residents are supported to age in place. As the tenant can provide more informal care and social support for the older adult, such as cooking or gardening, mutually benefitting each other.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with declined mobility

COMMUNITY GARDENS

The well-being of older adults improves both mentally and physically when involved in the planning and tending of community gardens.
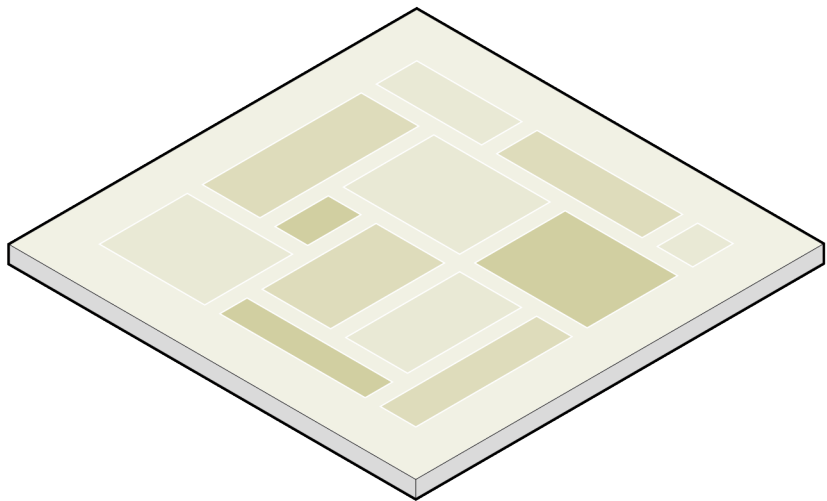
related to:

P1, P2, H5

theoretical background

Good health and well-being among older adults is closely tied to the access to outdoor spaces (Building Design Partnership, n.d.). Gardening offers both mental and physical stimulation, combining light exercise with social engagement. Community gardens in particular foster social interaction and shared purpose, encouraging connections through collaboration (Building Design Partnership, n.d.). Research also indicates that older adults are more likely to consume fruits and vegetables, have lower risk of depression and dementia when they are involved in community gardens (ARUP, 2019).

practical implication

Community gardens where neighbours or residents from an age-friendly community come together to plan and tend the area has positive effects on both mental and physical well-being. Including space for community gardens in age-friendly communities also adds to the diversity in green spaces and provides a quieter, more private, outdoor space for older adults to rest.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with declined mobility

S2 | *VOLUNTEERING OPPORTUNITIES*

Older adults remain active and socially included after retirement when volunteering opportunities are present.
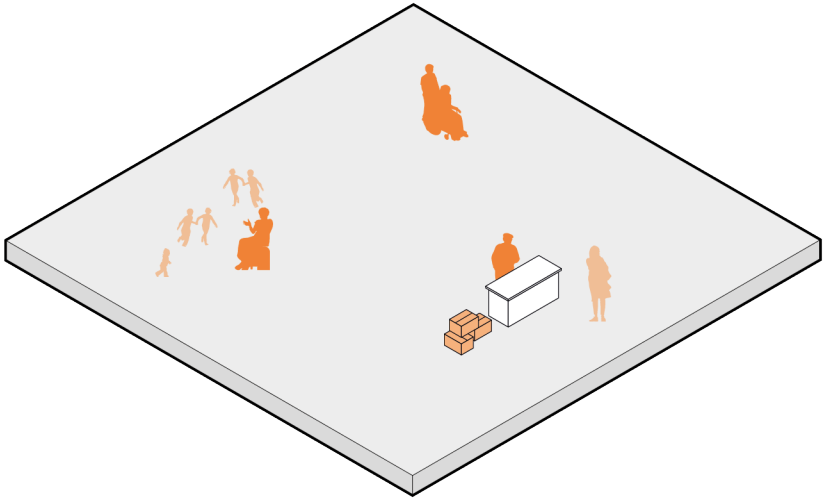
related to:

S3, S8, P8, P10

theoretical background

After retirement, many adults are motivated to engage in meaningful activities, contributing to the community (WHO, 2007). Continued participation in the workforce provides numerous benefits, such as enhanced social inclusion, a sense of purpose, and improved mental and physical health. Therefore, creating opportunities for older adults to contribute not only supports their well-being but also adds social and civic engagement to the community (WHO, 2007).

practical implication

Age-friendly communities should offer volunteering opportunities for older adults who want to remain active after retirement. Work, such as reading to children, supporting food bank, or assisting in thrift stores allow older individuals to stay socially included. Additionally, establishing a centralised platform that promotes the opportunities enhances accessibility and visibility. Volunteering can take many forms, older adults supporting peers, contributing to the community, or engaging with younger generations. Equally important is encouraging reciprocity, where younger individuals support elderly through volunteering work.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

INFORMATION

The accessiblity to information benefits the social inclusion of older individuals in the community.
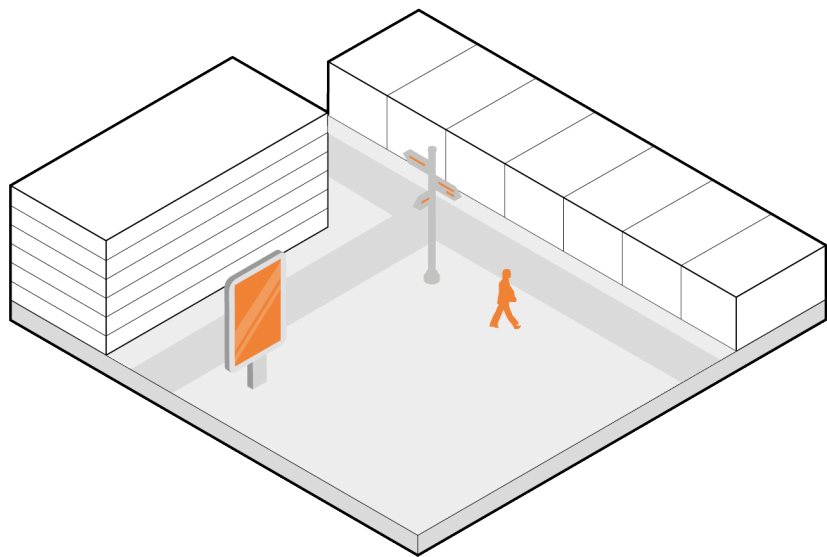
related to:

S2, S6

theoretical background

Information exists in many forms, but ensuring that it is accessible to older adults is essential in preventing social exclusion (Salmistu & Kotval, 2023). One form of information is wayfinding, where clear signage and visual cues help people navigate and orientate themselves (ARUP, 2019). Beyond the physical environment, access to informational resources such as health literacy, public events or local news are vital. In result, well-informed older adults are better equipped to participate in the community, thereby supporting social inclusion (WHO, 2007).

practical implication

Aside from clear signage in the public space, spreading information through a variety of channels increases its accessibility to elderly. This can be through direct personal delivery, over telephone, internet or physical distribution at key locations, such as community centres, libraries, or care facilities. Employing multiple formats ensures that individuals with different levels of digital literacy or mobility can still access essential information. Additionally, a dedicated online senior platform, with general information relevant for older adults, can serve as a comprehensive and user-friendly resource for information finding.

Scale: *object*
building
block
street
neighbourhood
city

Age-friendly to: *elderly specific*
children
all ages
individuals with
declined mobility

INTERGENERATIONAL PLACES

Intergenerational places increase the social inclusion and cohesion by connecting younger and older generations.

COMMUNITY CENTRE
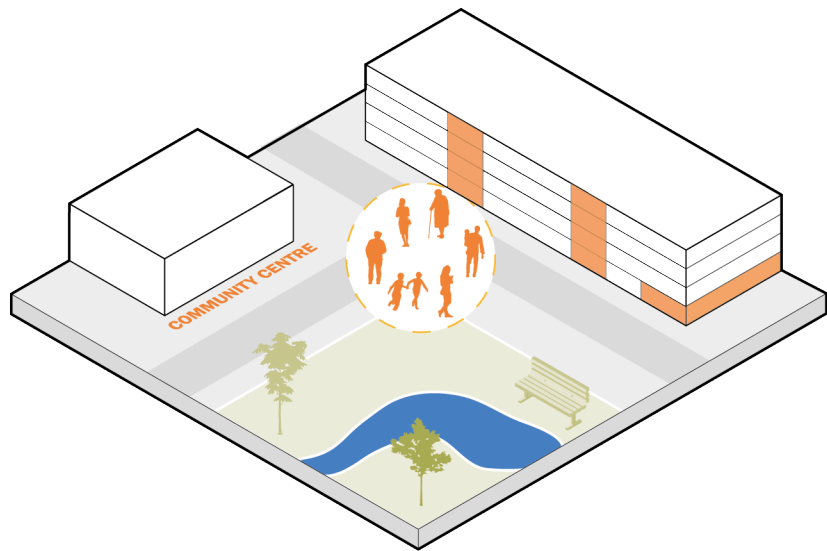
related to:

S6, S7, H5, H10

theoretical background

Public and semi-public spaces that welcome both younger and older generations play a crucial role in bridging divides (ARUP, 2019). Intergenerational places foster opportunities for shared experiences, interactions, and mutual understanding. These are all valuable elements in creating social inclusion where respect is present (Hernandez & González, 2008).

practical implication

Intergenerational places in both the public and the semi-public realm enables both young and old in social connectedness and decrease social isolation. Semi-public places occur as shared housing facilities, such as the kitchen or laundryroom, where residents connect. Public intergenerational places can be spaces where interaction is managed more subtly and voluntarily, such as parks and public buildings. Or specifically oriented for social interaction, like meeting places where activities are organised.

Scale:		*Age-friendly to:*	
	object		*elderly specific*
	building		*children*
	block		***all ages***
	street		*individuals with*
	neighbourhood		*declined mobility*
	city		

MAINTENANCE

Maintenance is necessary in order to keep the neighbourhood accessible for older individuals
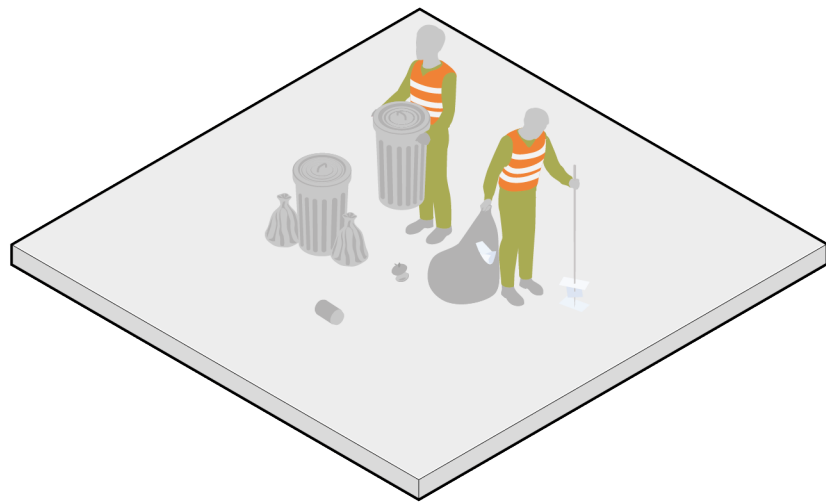
related to:

M5, M9, M10, M11, M12

theoretical background

Older adults often rely more on walking and public transportation as their main mode of transport. Active mobility, supported by appropriate infrastructure, is essential for maintaining independence and promoting health (Salmistu & Kotval, 2023). In contrast, the lack of supporting infrastructure, such as unsafe sidewalks with obstacles and crossings with high car speeds, can limit older adults' ability to stay active and in turn accelerate the decline in mobility. Additionally, poorly maintained infrastructure increases the risk of falling, which is already a significant barrier for many older individuals from going outdoors.

practical implication

Infrastructure that supports active mobility and walkability for older adults, including accessible walkways and bicycle paths, clear street zoning, and reduced car speeds are crucial design features of age-friendly communities. Equally important is the ongoing maintenance of these features to ensure safety and accessibility for older people. Therefore, responsible stakeholders must take accountability for the upkeep of public spaces.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

COMMUNITY CENTRES

Community centres are inclusive hubs fostering social inclusion and participation for older adults.
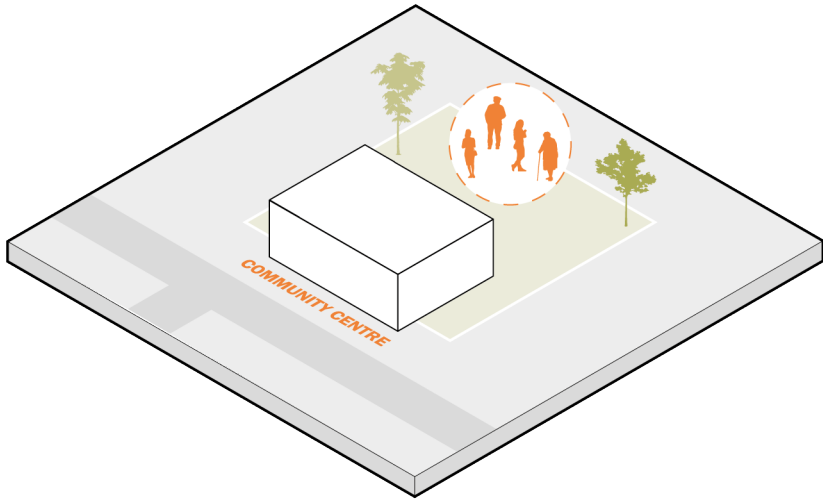
COMMUNITY CENTRE

related to:

S3, S4

theoretical background

Community centres can serve as vital hubs for older adults, offering inclusive, accessible, and familiar environments that support social participation and access to information (WHO, 2007). Their open and welcoming character makes the centres ideal locations for activities, services, and general engagement.

practical implication

Ensuring that community centres or smaller-scale meeting places are located within walkable distances is essential for fostering inclusion among older adults. These accessible spaces enable social participation without requiring significant physical efforts. Activities such as card games, bingo, creative workshops, and other low-intensity group events provide opportunities for engagement.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with declined mobility

CO-LOCATE GENERATIONS

Co-locating seniors with other ages creates spontaneous interactions and promotes inclusion.
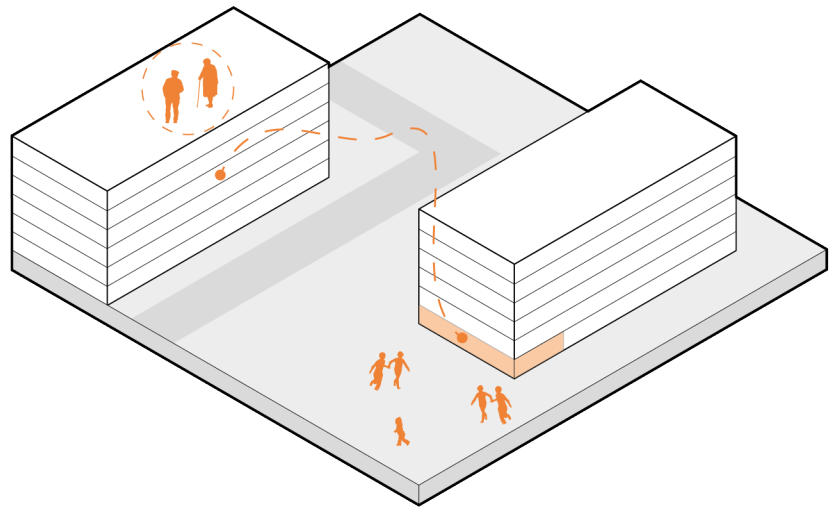
related to:

S4, P8, P10

theoretical background

To prevent the segregation and isolation of elderly, senior-focused buildings, such as senior housing or senior facilities, can be strategically co-located with other amenites used by people of other generations (ARUP, 2019). This intentional integration fosters a multigenerational community which supports spontaneous, small-scale social interactions and promotes inclusion. Additionally, dynamic communities can stimulate older individuals experiencing early signs of dementia through the vibrant and engaging settings (Cammelbeeck, 2012).

practical implication

Planning senior housing and senior facilities in close proximity to amenities used by people of all ages helps prevent segregation and encourages intergenerational interactions. Co-locating also ensures a closer proximity to amenities and facilities for the daily activities of older adults, reducing the distance older individuals have to travel.

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with
declined mobility

GOVERNING ROLES

Including older adults in governing decisions ensures inclusion and participation.
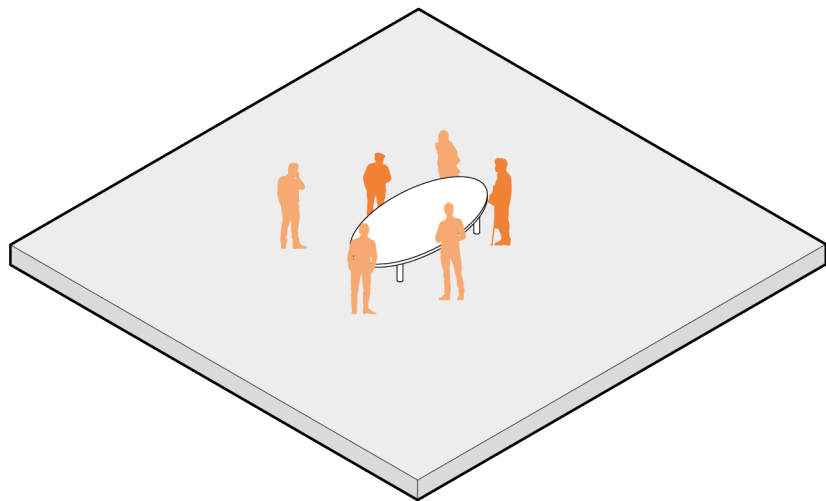
theoretical background

The knowledge and life experience of older people can be a valuable resource for communities. Engaging elderly in participatory roles not only strengthens community decision-making but also fosters a sense of ownership and involvement among older individuals (ARUP, 2019). Therefore, including older adults in governing roles or panels enhances older people's social inclusion and participation, while also ensuring decisions reflect a broad range of perspectives.

practical implication

Older adults should be included in decision-making processes and urban planning decisions. Their involvement ensures diverse perspectives are considered when making decisions and that the older population is represented and addressed.

related to:

S2

Scale:
object
building
block
street
neighbourhood
city

Age-friendly to:
elderly specific
children
all ages
individuals with
declined mobility

Reference list

ARUP. (2019). Cities Alive. Designing for ageing communities [Report]. Arup. https://foresight.arup.com

Buffel, T., Phillipson, C., & Scharf, T. (2012). Ageing in urban environments: Developing 'age-friendly' cities. Critical Social Policy, 32(4), 597–617. https://doi.org/10.1177/0261018311430457

Building Design Partnership. (n.d.). Reimagining Age-Friendly Living. https://bdp-beta-5l6ub8q1y-bdp-ab2794d1.vercel.app/nl/ideas/reimagining-age-friendly-living

Cammelbeeck, C. (2012). Design principles. Greying cities. [Master thesis, Delft University of Technology]. TU Delft repository.

Demirkan, H. (2007). Housing for the aging population. European Review of Aging and Physical Activity, 4(1), 33–38. https://doi.org/10.1007/s11556-007-0016-z

Forsyth, A., Molinsky, J., & Kan, H. Y. (2019). Improving housing and neighborhoods for the vulnerable: Older people, small households, urban design, and planning. URBAN DESIGN International, 24(3), 171–186. https://doi.org/10.1057/s41289-019-00081-x

Geuting, E., & Timmen, B. (2022). Veel te winnen met doorstroming van ouderen op de woningmarkt - Stec Groep. Stec Groep. https://stec.nl/veel-te-winnen-met-doorstroming-van-ouderen-op-de-woningmarkt/

de Groot, C., van Dam, F., & Daalhuizen, F. (2013), Vergrijzing en woningmarkt, Den Haag: PBL.

Hernandez, C., & Zubiaur González, M. (2008). Effects of Intergenerational Interaction on Aging. Educational Gerontology, 34, 292–305. https://doi.org/10.1080/03601270701883908

Van Hoof, J., Marston, H. R., Kazak, J. K., & Buffel, T. (2021). Ten questions concerning age-friendly cities and communities and the built environment. Building and Environment, 199, 107922. https://doi.org/10.1016/j.buildenv.2021.107922

Ikink, C. (2024). Pattern book. Working Women: advancing towards gender equal cities. [Master thesis, Delft University of Technology]. TU Delft repository.

Khoddam, H., Dehghan, M., Sohrabi, A., & Modanloo, M. (2020). The age–friendly cities characteristics from the viewpoint of elderly. Journal of Family Medicine and Primary Care, 9(11), 5745. https://doi.org/10.4103/jfmpc.jfmpc_1098_20

OECD. (2003). Ageing, Housing and Urban Development. OECD. https://doi.org/10.1787/9789264176102-en

Regio Stedendriehoek (n.d.). Regionale woondeal 2022-2030 [Report].

Salmistu, S., & Kotval, Z. (2023). Spatial interventions and built environment features in developing age-friendly communities from the perspective of urban planning and design. Cities, 141, 104417. https://doi.org/10.1016/j.cities.2023.104417

Smets, A. J. H. (2012). Housing the elderly: Segregated in senior cities or integrated in urban society? Journal of Housing and the Built Environment, 27(2), 225–239. https://doi.org/10.1007/s10901-011-9252-7

World Health Organization. (2007). Global age-friendly cities: A guide. https://iris.who.int/handle/10665/43755

United States Department of Agriculture. (2018). Urban Nature for Human Health and Well-Being.