EVALUATING AGE-FRIENDLINESS OF A SHRINKING URBAN COMMUNITY: *Case Study of Saviniemi Neighbourhood in Myllykoski, Finland*

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Abstract: Population aging in Finland requires urban environments that enable older adults to live actively, independently, and safely. This study evaluates the current level of age-friendliness in the Saviniemi neighbourhood of Myllykoski, Kouvola, applying the World Health Organization's (WHO) Age-Friendly Cities framework. The evaluation was conducted using the WHO checklist across four domains within two walking-distance boundaries (500 m and 1.2 km) around the Saviniemi neighbourhood, informed by site observations and spatial mapping. Results indicate strengths in green space quality, pedestrian-friendly walkways, and community safety, but significant gaps in availability of sufficient services, access to public transportation, pedestrian crossings, and accessible housing. Development strategies include targeted infrastructure improvements, decentralized service provision, and creation of dedicated senior community spaces. Recommendations include adding public amenities, improving pedestrian safety, distributing essential services within accessible range, and creating a multipurpose senior hub. The findings provide a targeted improvement plan and a replicable method for assessing age-friendliness in similar communities.

Keywords: *Age-friendly planning, WHO framework, Ageing population. Shrinking city*

1. Introduction

The concept of age-friendly cities has emerged as a critical response to the global demographic shift towards aging populations. These cities are designed to promote active aging, social inclusion, and overall well-being for older adults by addressing their unique needs through urban planning and design. The World Health Organization (WHO) has been instrumental in promoting this concept through its Global Age-Friendly Cities and Communities (AFC) movement, which emphasizes eight key domains: outdoor spaces and buildings, transportation, housing, social participation, respect and social inclusion, civic participation and employment, communication and information, and community and health services.

2. Literature Review

The term "shrinking city" is increasingly used to describe cities that are reducing in size either in terms of population or economic activity and are struggling to adapt to these changes (Schmeidler, 2014). The factors driving urban shrinkage in Europe are multifaceted and interconnected. Demographic changes, such as aging populations and low birth rates are primary contributors. Many European cities are experiencing a decline in population due to aging and outmigration, particularly of young and working-age individuals (Wichowska, 2023). Urban planning strategies and policy decisions have also contributed to urban shrinkage. In some cases, urban sprawl and the lack of effective land-use regulations have led to the expansion of low-density residential areas, reducing the economic viability of city centers (Ustaoglu & Jacobs-Crisioni, 2022). At the national level, policies that favour urban growth over regional development have often exacerbated the problem. For example, the concentration of resources and investment in capital cities and other major urban centers has left smaller cities and regions with limited access to funding and support (Postsocialist shrinking cities, 2022). Additionally, the lack of coordinated regional development policies has hindered the ability of shrinking cities to adapt to changing economic conditions (Schmeidler, 2014).

2.1 KEY PRINCIPLES OF AGE-FRIENDLY URBAN PLANNING

the World Health Organization (WHO) has established a comprehensive framework for creating age-friendly cities, which are designed to promote active aging and enhance the quality of life for older adults. This framework is built around eight core domains that address various aspects of urban living, ensuring that cities are inclusive, accessible, and supportive for all residents, regardless of age. These principles have been widely adopted and adapted by cities worldwide.

Outdoor Spaces and Buildings: The design of outdoor spaces and public buildings is critical for promoting mobility and social interaction among older adults. Age-friendly cities ensure that public areas, such as parks, sidewalks, and plazas, are accessible, safe, and well maintained. Features like benches, adequate lighting, and green spaces encourage older adults to spend time outdoors and engage with their communities (Plouffe & Kalache, 2010). For instance, New York City's initiative

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DOI: https://doi.org/10.31705/FARU.2025.38

to add thousands of new benches and redesign bus shelters has significantly improved walkability and accessibility for older residents (Boufford, 2017).

Transportation: Affordable, accessible, and reliable transportation is essential for older adults to maintain their independence and participate in social and economic activities. Age20 friendly cities prioritize public transportation that is easy to use, with features such as low-floor buses, clear signage, and affordable fares. Additionally, pedestrian-friendly infrastructure, such as crosswalks with adequate crossing times, ensures that older adults can navigate their surroundings safely (Plouffe & Kalache, 2010; Boufford, 2017).

Housing: Housing in age-friendly cities is designed to support aging in place, allowing older adults to live in familiar environments while maintaining their independence. Key features include barrier-free designs, such as ramps and grab bars, and proximity to essential services like healthcare, grocery stores, and community centers. Housing options should also be affordable and adaptable to meet the changing needs of older adults (Plouffe & Kalache, 2010; Labus, 2011).

Social Participation: Social participation is vital for the emotional and mental well-being of older adults. Age-friendly cities foster opportunities for social interaction through community centers, cultural events, and volunteer programs. These initiatives help combat loneliness and isolation, which are common challenges faced by older adults (Plouffe & Kalache, 2010).

Respect and Social Inclusion: Creating a culture of respect and social inclusion ensures that older adults feel valued and integrated into society. Age-friendly cities promote intergenerational activities and combat ageism through public awareness campaigns and educational programs. This domain also emphasizes the importance of addressing social exclusion, which can have negative impacts on the health and well-being of older adults (Chau & Jamei, 2021).

Civic Participation and Employment: Older adults should have opportunities to contribute to their communities through civic participation and employment. Age-friendly cities encourage older adults to engage in volunteer work, advisory roles, and other forms of civic engagement. Additionally, policies that support age-friendly employment practices, such as flexible work arrangements and anti-age discrimination laws, are essential for promoting the economic participation of older adults (Plouffe & Kalache, 2010; Labus, 2011; Chau & Jamei, 2021).

Communication and Information: Access to clear, timely, and accessible information is crucial for older adults to navigate their surroundings and make informed decisions. Age-friendly cities ensure that information about public services, transportation, and community events is available in formats that are easy for older adults to understand, such as large print materials and accessible digital platforms (Plouffe & Kalache, 2010; Chau & Jamei, 2021) (Boufford, 2017).

Community Support and Health Services: Community support and health services are essential for maintaining the health and well-being of older adults. Age-friendly cities ensure that older adults have access to affordable and accessible healthcare, as well as community-based support services, such as home care and adult day programs. These services enable older adults to maintain their independence and quality of life (Plouffe & Kalache, 2010; Labus, 2011; Chau & Jamei, 2021).

The eight key factors that contribute to age-friendly cities, with three of these— housing, outdoor environments, and transportation—being directly related to urban planning (Verma, 2024). These factors are interconnected and must be addressed holistically to create inclusive and sustainable urban environments. The WHO's framework for age-friendly cities provides a comprehensive approach to creating urban environments that support active aging and enhance the quality of life for older adults. By addressing the eight core domains, cities can ensure that older adults are able to live independently, participate fully in their communities, and maintain their well-being. The successful implementation of these principles requires collaboration among various stakeholders and a commitment to creating inclusive and accessible urban environments for all.

Universal Design theory provides the theoretical foundation for this study by offering a set of design principles that aim to ensure environments are usable by people of all ages and abilities. Unlike the WHO Age-Friendly Cities framework—which functions primarily as a policy guideline and evaluative checklist—Universal Design provides a conceptual and theoretical lens through which the built environment can be analysed. Applying UD allows this study to conceptualise age-friendliness not as a checklist outcome but as a measure of how well the neighbourhood environment anticipates and accommodates varying physical, sensory, and cognitive abilities. This framing strengthens the analysis by situating Saviniemi within broader debates about accessibility, inclusivity, and the ethical responsibilities of urban design.

Research shows that while the WHO Age-Friendly framework provides practical guidance, its implementation across cities has been inconsistent. Scholars argue that the framework often lacks theoretical depth and does not fully address context-specific social, economic, and spatial dynamics (Buffel et al., 2012). Moreover, critiques highlight that the framework

tends to prioritise physical environments while under-emphasising systemic challenges such as service distribution, governance structures, and long-term housing adaptability.

Universal Design addresses several of these gaps by offering a holistic, user-centered approach that foregrounds inclusivity in everyday interactions with the built environment. Recent studies emphasise that integrating UD into age-friendly planning can help bridge the divide between policy aspiration and practical implementation, especially in neighbourhoods where ageing populations depend heavily on accessible local infrastructure (Verma, 2024).

In the Finnish context, gaps persist in adapting suburban neighbourhoods to support ageing in place. Limited access to essential services, insufficient pedestrian infrastructure, and dispersed urban structures pose challenges to operationalising age-friendly principles. By combining the WHO checklist with Universal design theory, this study contributes to understanding how neighbourhoods like Saviniemi can transition from broadly age-supportive environments to genuinely inclusive and universally accessible places.

3. Urban Analysis of Age-friendliness at Myllykoski

WHO has prepared a checklist of essential features for age-friendly cities to assess a city's initiatives for implementing the age-friendly planning strategies. The checklist is based on the global age-friendly cities project consultation in 33 cities in 22 countries. Through this checklist, a city can measure the level of age-friendliness in its urban areas by assessing the strategies and features implemented in the areas. Through this checklist the residents of a city can also self-assess their urban areas based on their own experience of the city's positive and negative characteristics. This checklist also provides valuable insights regarding the scope of improvement to make the urban areas more age-friendly (Pan American Health Organization, 2022).

This thesis utilizes the checklist made by WHO to assess the level of age-friendliness of the neighborhoods around Saviniemi school in Myllykoski, Kouvola. The aim of the assessment is to determine how age-friendly the Saviniemi neighborhood in Myllykoski is for its senior residents and find out which aspects in the area needs further attention to increase its age-friendliness. The checklist helps to do the assessment of urban areas based on 8 major categories, which are: Outdoor spaces and buildings, Transportation, Housing, Social participation, Respect and social inclusion, Civic participation and employment, Communication and information, and Community and health services. Within each category, there are several sub-categories to ensure an in-depth assessment. (World Health Organization, 2007). The data needed for the assessment in this thesis is collected by visiting and observing the site and its surrounding areas in person.

To conduct the assessments in Saviniemi neighborhood, first a boundary needed to be defined to determine the limit for the assessment. Figure 1 shows two types of boundaries, keeping the Saviniemi School at their center. The secondary boundary (shown in blue) has a radius of nearly 1.2 km, which is the standard distance radius for a 15-minutes walking city. The primary boundary (shown in red) has a 500-meter radius, which is the suitable distance of independent movement for senior residents. As the thesis focuses on the ageing population of Saviniemi neighborhood and age-friendly strategies, the primary boundary is the prioritized focus area for the site analysis.

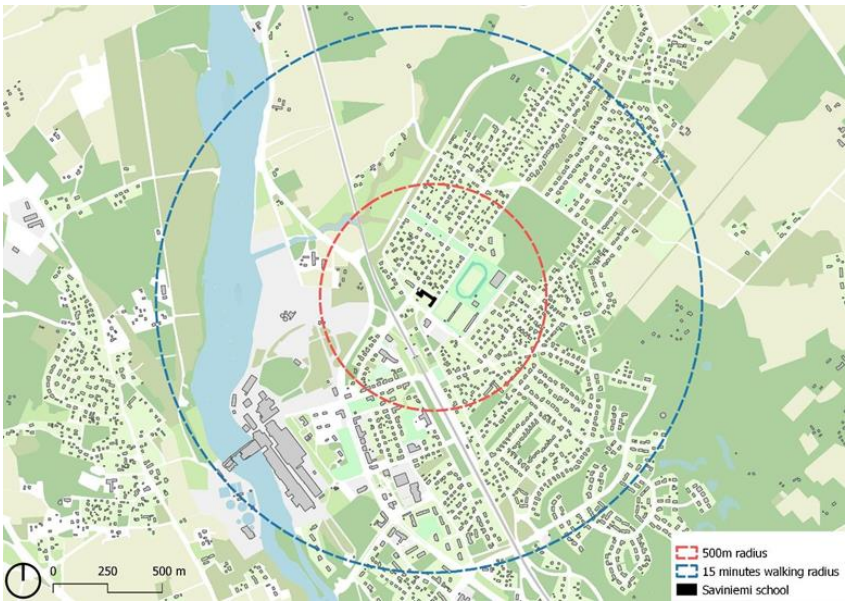

Figure 1: Boundaries for age-friendly assessment on an urban scale
(Source: Author)

3.1 CHECKLIST FOR AGE-FRIENDLY OUTDOOR SPACES

Table 1 shows the checklist to measure the level of age-friendliness of outdoor spaces. The assessment result from the table shows that the area inside the boundaries does not have sufficient traffic lights, especially on the roads with heavy traffic.

Table 1: Checklist for age-friendly outdoor spaces
(Source: Global age-friendly cities: A guide, by World Health Organization, 2007)

Checklist sub-categories	**Details**	**Yes**	**No**	**N/A**
Environment	The public places in the area are clean	✓		
	The noise level is within limit	✓		
Green spaces and walkways	Green spaces are well-maintained and safe	✓		
	Walkways are sufficient and pedestrian-friendly	✓		
	Walkways are free from obstructions	✓		
Outdoor seating	Outdoor seating in public spaces is sufficient	✓		
	Outdoor seating is safe and accessible to all	✓		
Pavements	Pavements are well-maintained and non-slip	✓		
	Pavements are free from obstructions	✓		
	Pavements can accommodate wheelchairs	✓		
Roads	Roads have adequate pedestrian crossings	✓		
	Roads have overpasses or underpasses	✓		
	The area has sufficient traffic lights		✓	
	Traffic lights allow adequate time for the elderly			✓
Cycle paths	Roads have separate cycle paths for cyclists	✓		
Safety	Public spaces and buildings are safe	✓		
Services	Services are close to where the elderly live		✓	
	Services are spread equally all over the area		✓	
	Special customer services for the elderly			✓
Public toilets	Public spaces have sufficient public toilets	✓		
	Public toilets are accessible to all			✓

Note. Yes- Agree/ Present, No- Disagree/ Absent, N/A- Information not available.

The commercial center is the only junction where the traffic lights are present as shown in Figure 2. However, it is not known whether the existing traffic lights allow enough time for the older adults to cross the road. Table 1 also shows that the area lacks sufficient services near the residences of the older adults. The services inside both boundaries are not well suited to the needs of the elderly. They are not located close to where most of the older people live, which can make it difficult for them to access essential facilities and support. Moreover, the existing services and shops are not equally distributed all over the area, so that all the residents have easy access to a nearby service or shop.

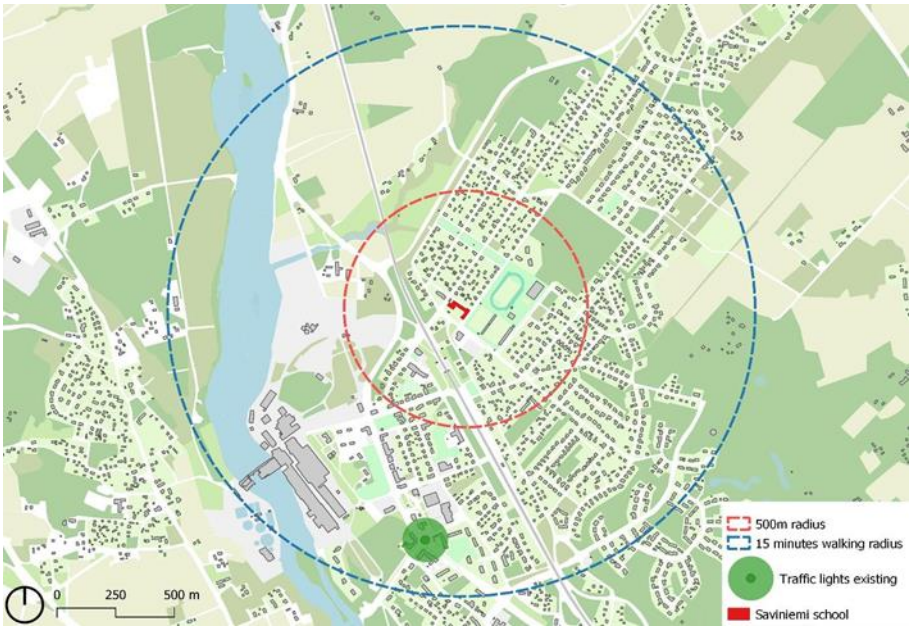

Figure 2: Location of existing traffic lights
(Source: Author)

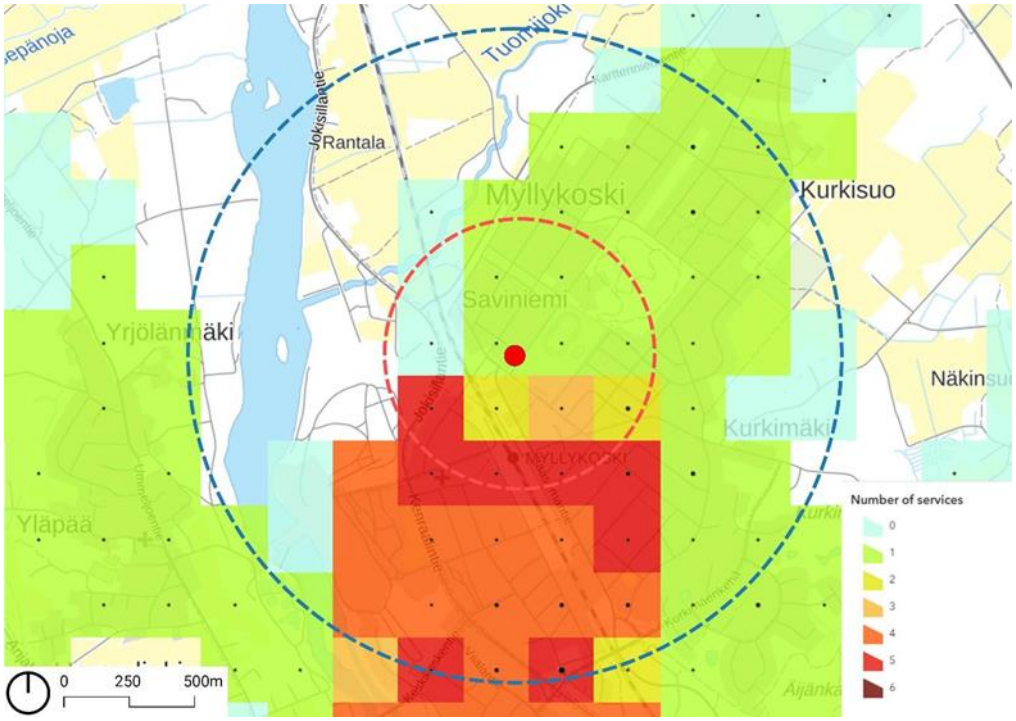

Figure 3: Existing retail shops withing walking distance
(Source: Age-friendliness atlas of urban areas, 2025)

Figure 3 shows the concentration of retail shops near the commercial center, while most of the residential areas do not have easy access to them. The retail shops include Myllykoski's major business and retail services, such as groceries, restaurants, pubs, gas stations and shops. As all of these are concentrated in the commercial center, this leaves the rest of the area in a situation where they either must take public transportation or use private transportation to access the services.

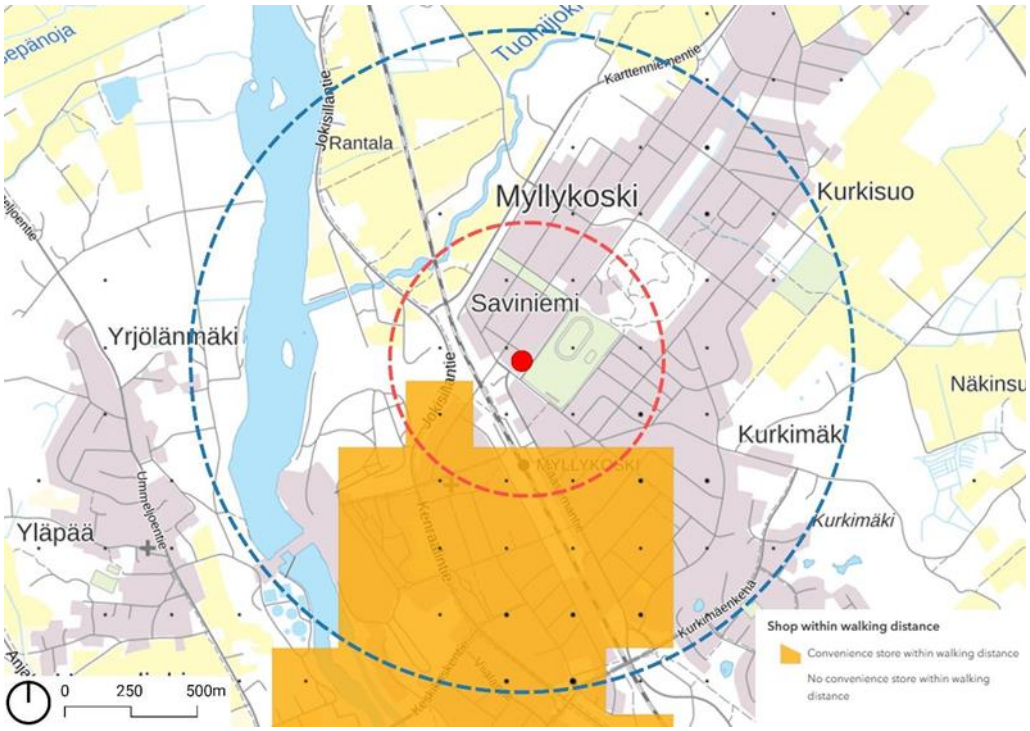

Figure 4: Number of services within walking range
(Source: Age-friendliness atlas of urban areas, 2025)

Figure 4 shows that most of the services are located in or around the commercial center. The services are not evenly spread throughout the area, leading to unequal access depending on where someone lives. Overall, the current location of services does not appear to fully support the needs of older residents.

3.2. CHECKLIST FOR AGE-FRIENDLY TRANSPORTATION

Table 2 shows the checklist to measure the level of age-friendliness of transportation system. The table shows the public transport inside the boundaries is not very frequent. Also, many areas do not have access to any mode of public transportation.

Table 2: Checklist for age-friendly transportation
(Source: Global age-friendly cities: A guide, by World Health Organization, 2007)

Checklist sub-categories	**Details**	**Yes**	**No**	**N/A**
Affordability	Affordable public transport for the elderly	✓		
Reliability and frequency	Public transport is very frequent		✓	
	Public transport serves at night and weekends	✓		
Travel destinations	Public transport takes to all public places	✓		
	Public transport takes to healthcare services	✓		
	All areas have access to public transport route		✓	
	Multiple modes of transport are available	✓		
Age-friendly vehicles	Vehicles are accessible to the elderly	✓		
	Vehicles have clear and visible signage	✓		
Specialized services	specialized transport services for the disabled	✓		
Stops and stations	Stops are close to where the elderly live	✓		
	Stops are accessible to the elderly	✓		
Community transport	Volunteer drivers are available for the elderly			✓
	Shuttle services for the elderly	✓		
Taxi service	Subsidized taxi fares provided for the elderly	✓		
Parking	Affordable parking facilities for the elderly	✓		
	Priority parking is provided for the elderly	✓		
	Sufficient parking for the disabled people	✓		
	Drop-off and pick-up bays close to buildings	✓		

Note. Yes- Agree/ Present, No- Disagree/ Absent, N/A- Information not available.

Figure 5 shows the frequency of public transport in the area. It indicates the low frequency of public transportation, which can make it difficult for people, especially the elderly, during the peak hours when they move from one place to another.

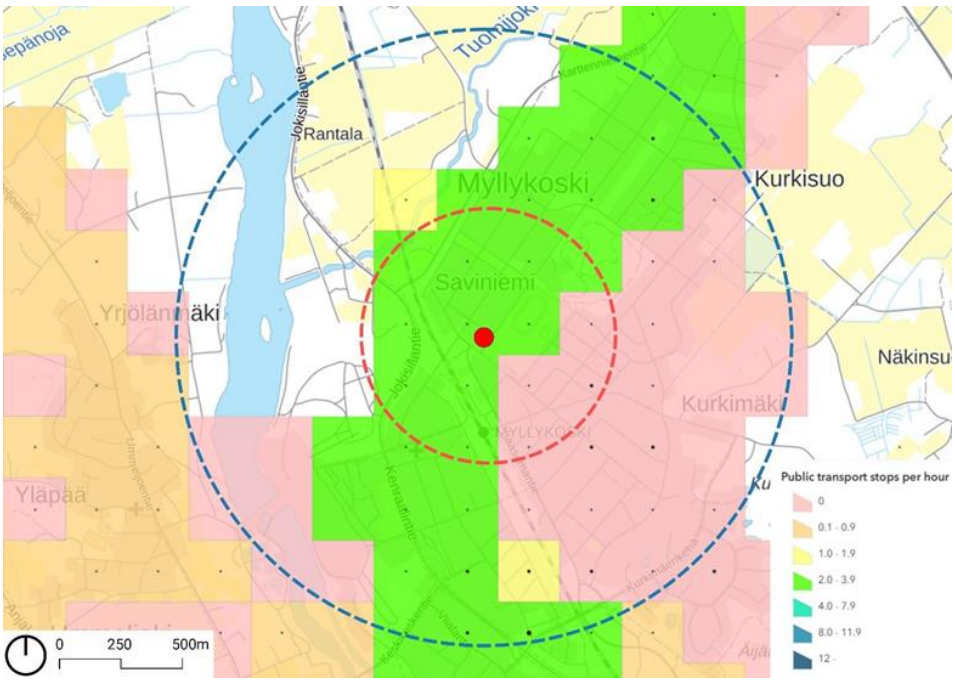

Figure 5: Frequency of public transport (stops per hour)
(Source: Age-friendliness atlas of urban areas, 2025)

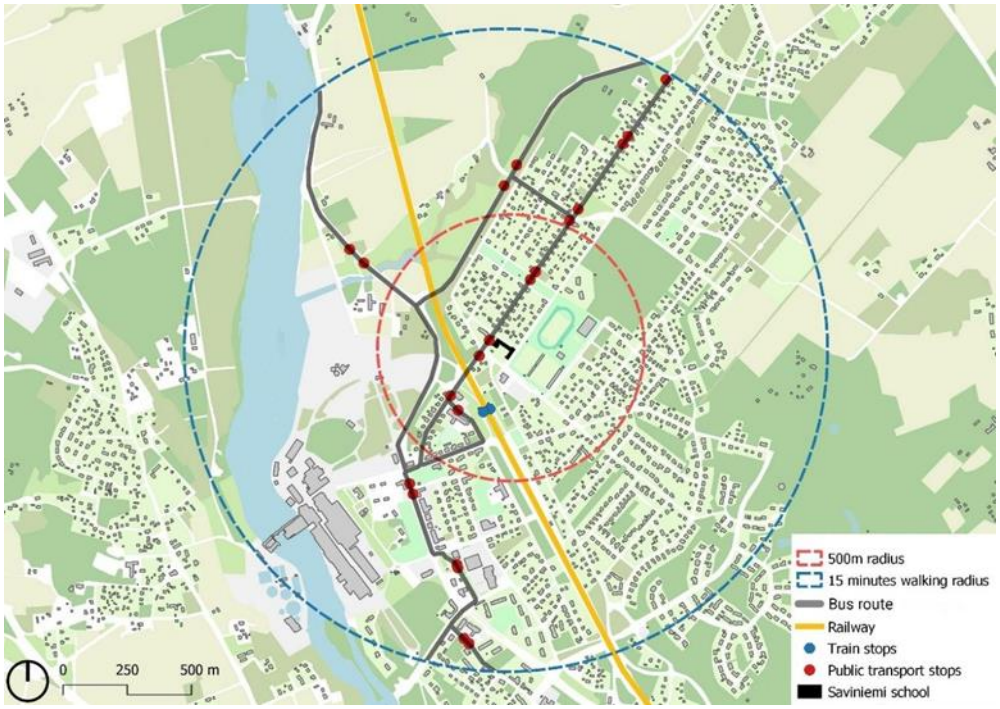

Figure 6: Existing public bus and train routes
(Source: Author)

Figure 6 shows existing public transport routes inside the boundaries. However, the residential areas on the south-east part inside both primary and secondary boundaries do not have any access to public transport. Although the existing bus routes connect some of the residential areas with most of the essential destinations in Myllykoski, not all residential areas have access to public transport routes, which limits mobility for those living in less connected neighborhoods.

3.3. CHECKLIST FOR AGE-FRIENDLY HOUSING

Table 3 shows the checklist to measure the level of age-friendliness of housing in the area. The table shows the assessment results, which indicate that the area lacks sufficient senior housing. As a result, older adults live in their own residences or owner-occupied houses. The results also show that most of the residential areas, where the older adults live, do not have designated activities, social interaction and recreational facilities for them. This might be a reason why there is a significant level of isolation and loneliness among the older adults in the area.

Table 3: Checklist for age-friendly housing
(Source: Global age-friendly cities: A guide, by World Health Organization, 2007)

Checklist sub-categories	**Details**	**Yes**	**No**	**N/A**
Availability	Sufficient senior housing is available		✓	
	A range of housing options for the elderly		✓	
	Essential services are available in housing area		✓	
Affordability	Affordable housing for the elderly			✓
	Essential housing services are affordable			✓
Design of existing housing	Housing has stable structure	✓		
	Spacious housing to allow sufficient movement			✓
	Housing has sufficient heating and ventilation	✓		
	Housing is adapted for older people		✓	
	All features are accessible to the elderly			✓
Modifications	Housing is easily modifiable for the elderly		✓	
	Housing modifications are affordable			✓
Maintenance	Maintenance services are affordable			✓
	Qualified service providers for maintenance			✓
	Senior housing is well-maintained			✓
Ageing in place	Housing areas are located close to services		✓	
	Affordable services delivered at home			✓

Community integration	Housing areas facilitate community integration of older people		✓	
Living environment	Older people are happy		✓	
	Older people feel content with the services		✓	
	Older people feel safe	✓		
	Older people have space for activities		✓	

Note. Yes- Agree/ Present, No- Disagree/ Absent, N/A- Information not available.

Figure 7 shows the proportion of the elderly population over 75 years within both boundaries. The density of elderly population is the highest around the commercial center and lowest near the industrial zone. However, a good number of elderly people live far from the commercial center in the suburban areas of Myllykoski. Due to the lack of senior housing facilities, the senior residents spend their elderly age at their own homes depending on door-to-door home care. Normally these owner-occupied houses cannot be easily modified to create an accessible living environment for the older adults, because these houses are not built and adapted specifically for the older adults. This is why the need for senior housing is prominent in the ageing context of the area.

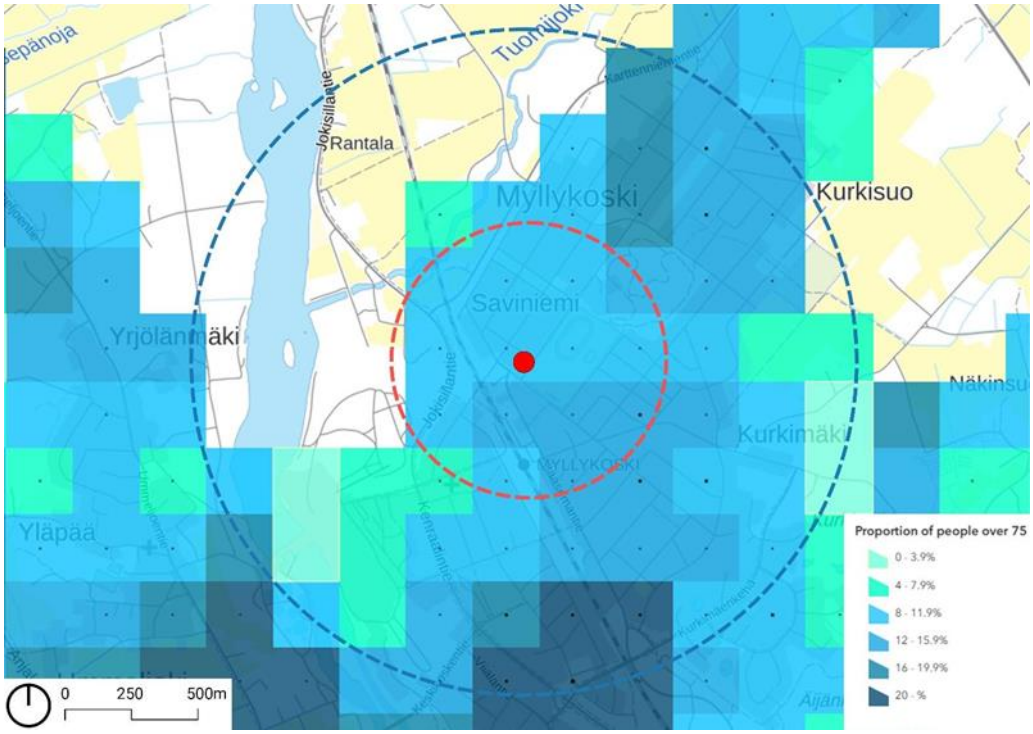

Figure 7: Proportion of people over 75 years old
(Source: Age-friendliness atlas of urban areas, 2025)

3.4. CHECKLIST FOR COMMUNITY AND HEALTH SERVICES

Table 4 shows the checklist to measure the level of age-friendliness of community and health services in the area. The assessment result points out the significant lack of healthcare and social services within the reach of the residents. Due to the absence of a healthcare center or hospital in the area, the residents cannot reach their nearest healthcare centers rapidly. Also, the area does not have adequate senior homes and nursing facilities for the senior residents, making it difficult for the older adults to get sufficient healthcare services.

Table 4: Checklist for age-friendly community and health services
(Source: Global age-friendly cities: A guide, by World Health Organization, 2007)

Checklist sub-categories	**Details**	**Yes**	**No**	**N/A**
Service accessibility	Health and social services are conveniently located		✓	
	Health services can be reached rapidly		✓	
	Senior and nursing homes are close to services		✓	
	Service centers are accessible for the disabled	✓		

Offer of services	Range of health and community support is sufficient	✓		
	Personal care and housekeeping service is provided	✓		
Voluntary support	Volunteers offer support to older people			✓
Emergency care	Services have sufficient emergency plan			✓
	Facilities can rapidly respond to emergencies		✓	

Note. Yes- Agree/ Present, No- Disagree/ Absent, N/A- Information not available.

Figure 8 shows that most of the residential areas within the boundaries do not have access to healthcare services through public transportation. Only the surrounding areas close to the commercial center have public transportation access, which can take the residents to the nearest healthcare center within 30-60 minutes. The residents living in the rest of the areas, especially in the eastern residential areas, require private cars to access the healthcare facilities.

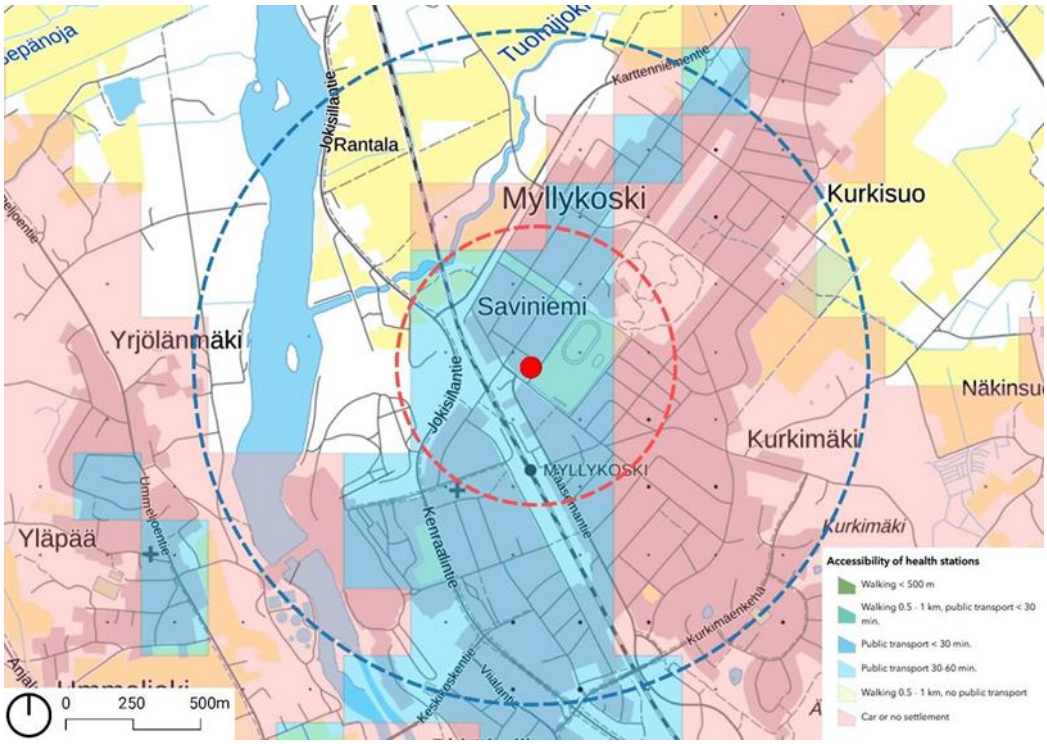

Figure 8: Accessibility of health stations
(Source: Age-friendliness atlas of urban areas, 2025)

4. Discussion

The WHO framework assessment reveals a neighbourhood with significant physical assets but uneven functional accessibility for older residents. Strong performance in outdoor spaces reflects well-maintained green areas and a coherent pedestrian network. These features align with Nordic best practices in public realm design, where walkability and environmental quality are prioritised.

However, low scores in housing, social participation, and community support suggest a gap between environmental capacity and service provision. The absence of age-adapted housing is a notable weakness, given evidence that proximity to services and accessible design are key to enabling older adults to age in place. Service clustering in the commercial centre is another structural issue. While retail and healthcare density in one location may improve operational efficiency, it increases travel demands for those in outlying residential areas, particularly those with reduced mobility. Comparable findings have been observed in smaller Finnish municipalities, where consolidation of services has inadvertently reduced accessibility for older residents. The lack of a dedicated senior hub and organised social programmes limit opportunities for structured interaction. Social participation is a protective factor against loneliness and cognitive decline (Buffel et al., 2012), and its absence here indicates a missed opportunity.

Mobility and transportation issues are relatively minor but impactful: adding pedestrian crossings and adjusting signal timings would significantly enhance safe access. These measures are relatively low-cost and could be implemented within municipal maintenance budgets. Finally, communication and information provision remain too reliant on digital channels.

Best practice in age-friendly communication combines digital tools with physical noticeboards, printed materials in large fonts, and local intermediaries (e.g., library staff) trained to disseminate information (WHO, 2007).

Synthesis of findings:

- The physical environment scores well but lacks sufficient resting points and public facilities.
- The social environment is underdeveloped in terms of formalised inclusion and participation opportunities.
- Service accessibility is compromised by spatial concentration.

Addressing these issues would require a balanced strategy: short-term tactical interventions (benches, crossings, toilets), medium-term programme development (social hubs, outreach services), and long-term structural change (housing retrofits, governance inclusion).

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