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POPULATION AGEING AND URBAN SPACE

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ABSTRACT

Population ageing and urban growth are two processes that will mark the twenty-first century. Because the population is ageing rapidly, urban areas should be appropriately adapted to the needs of ageing society. One of the future criteria of the quality of life in cities will be the degree to which cities are equipped and adapted to the needs of the elderly.

This article presents the main features of population ageing in urban areas based on the author's analyses of statistical data and literature. The measures that cities will use to meet the needs of ageing society are then stated. The author proceeds from the criteria of age-friendly cities that enable the elderly to age actively and lead a quality life in urban environments. The results of the analysis indicate that the needs of changing society will have to be taken into account as soon as possible in Slovenia. Only a well-maintained and age-friendly urban environment can provide access to all other areas of active and high-quality ageing in cities, and thus enable social inclusion of the elderly in the immediate and wider social community.

Keywords: population ageing, urban growth, urban population, urban space, urban development

INVECCHIAMENTO DELLA POPOLAZIONE E SPAZIO URBANO

SINTESI

L'invecchiamento della popolazione e la crescita urbana sono processi che segneranno il XXI secolo. Lo spazio urbano dovrebbe essere opportunamente adeguato alle esigenze della società che invecchia poiché la popolazione sta invecchiando rapidamente. Soprattutto nelle aree urbane, infatti, uno dei criteri di qualità della vita sarà appunto il livello di attrezzature e di adattamento alle esigenze dei più anziani.

Sulla base dell'analisi dell'autore dei dati statistici e della letteratura vengono dapprima presentate nell'articolo le caratteristiche essenziali dell'invecchiamento della popolazione nelle aree urbane, poi sono riportate le misure con cui le città intendono soddisfare le esigenze di una società che invecchia. Nella sua analisi l'autore specifica i criteri delle città amiche degli anziani che garantiscono un invecchiamento attivo e una qualità di vita. I risultati della sua analisi mostrano che anche da noi sarà necessario seguire al più presto le esigenze di una società che cambia. Solo uno spazio urbano ordinato e adeguato alle persone più anziane consente, infatti, di accedere a tutte le aree per poter trascorrere la vecchiaia in modo attivo e in qualità, nonché di includere socialmente i più anziani in una comunità sociale più stretta e ampia.

Parole chiave: invecchiamento della popolazione, crescita delle città, popolazione urbana, spazio urbano, sviluppo delle città

INTRODUCTION

Population ageing is the most pronounced demographic process in modern society. It is characterised by an increase in the share of the elderly in society and an increase in the average age of the population. Simultaneously with population ageing, the world is facing rapid growth of cities and the urban population. Population ageing and urbanisation are largely conceived of as problems of the modern world: among other things, population ageing increases public expenditures, and urbanisation leads to an increase in built-up areas, excessive use of natural resources and pollution. Nonetheless, both processes represent the apex of human development in the past century and at the same time the main challenges for this century. People live longer primarily thanks to improved healthcare and social conditions, and urban growth is linked to society's technological and economic development. Therefore, population ageing and urban development should be two closely linked and interconnected processes because "cities are of exceptional importance to humankind: a major part of economic potential and production is located in cities, they are centres of exchanging goods, services and information, they are centres of power and decision-making, and centres in which cultural life and social reproduction are formed" (Rebernik, 2008, 9). Because cities are the centre of cultural, social and political activity, they must provide conditions that ensure a good quality of life to all their residents, including the elderly. According to the Brasilia Declaration on Ageing adopted by the World Health Organization (WHO) in 1996, "healthy, older persons are a resource for their families, their communities and the economy" (1996, 2). The more active they are, the more they can contribute to society (Kalache & Keller, 1999). Therefore, respecting and taking care of the elderly must become or remain a constant in human culture. Issues connected with the life of the elderly thus must not be addressed separately, but as an important and necessary component of the entire development process of human society. This need was also acknowledged as one of the three priorities of a sustainable human development plan at the second international conference on ageing called *Building society for all ages*, organised by the UN in Madrid in 2002. Cities adapted to the needs of ageing society, also known as "age-friendly cities", are thus a necessary and logical response to promoting the wellbeing and quality life of the elderly in urban environments, in which elderly residents can function as a social resource that contributes to the city's success. This is one of the most effective approaches to addressing the issue of population ageing because it enables the elderly in urban environments to remain active members of society as long as possible. This paper presents the most important characteristics of planning cities to meet the needs of ageing society; these characteristics follow the criteria of age-friendly cities (cf. WHO, 2007) and thus make it possible for the elderly to age actively and lead a quality life in urban environments. The article proceeds from the assumption that an urban space planned in this manner is vital for the future development of society because the world is increasingly facing two inevitable processes: population ageing and urbanisation. It is based on statistical data from censuses, the latest data from the Slovenian Statistical Office, data from other European and international databases, and an analysis of literature on population ageing and spatial planning.

AGEING OF THE WORLD'S POPULATION AND URBAN GROWTH

The world is ageing rapidly. According to Malačič (2006), a society's demographic age is measured by the share of people over sixty-five (or sixty according to some definitions) in the entire population. He distinguishes between young, mature and old populations. In a young population, the share of the elderly is below 5%, in a mature population this share is between 5 and 7%, and in an old population the share is above 7%. The two most important reasons for population ageing are decline in the fertility rate and the subsequent decrease in the number of children under fifteen, and longer life expectancy. The first is the result of a changed lifestyle, and the second is the result of improved quality of life and healthcare. In addition, the age of the population is affected by migration due to its selectivity by age; usually it is young people that decide to move, which means that migration results in a younger population in areas that people move to, and an older population in areas that people move away from (Josipovič 2003; Javornik 2006). According to the projections of the United Nations Department of Economic and Social Affairs (UNDESA; 2014a), the number of elderly people (over sixty-five) is expected to triple by 2060; specifically, to increase from 0.5 billion in 2010 to 1.7 billion in 2060, which will account for 18.3% of the entire world population. In the next decade (in 2020's), more elderly people than children (under fifteen) are expected to live on the planet for the first time in human history. Due to the low fertility rate and longer life expectancy, increased population ageing is primarily typical of developed countries, where the share of the elderly increased from 7.9% in 1950 to 15.9% in 2010, and is expected to rise to 26.2% by 2060. According to the predictions of the United Nations Population Fund (UNFPA; 2014), due to the rapid decline in the fertility rates as a result of successful reproductive health and family-planning programs, in the future this process will also accelerate significantly in less developed parts of the world. This means that, in five decades, a full three-quarters of the world's entire elderly population will be living there; for example, in

2010 this share was still below 40%. Over the next fifty years, the share of elderly people will increase the most in Asia and Latin America (by more than a third compared to 2010), and will be 2.3 times larger in Africa (albeit still fairly low at 8.1%). Among all areas around the globe, the growth rate of elderly people will be the lowest in Europe and North America during this period (the share of the elderly will increase 1.7 times), but the majority of people over sixty-five will continue to live in Europe (i.e., 27.6%). Because people will live longer, the structure of the elderly population will also change significantly: the number of people over eighty will increase significantly. In developed countries, the share of this population will increase from 4.3% to 10% by 2060. A significantly more rapid increase than that will be recorded in the developing countries, where the number of elderly people is expected to increase nearly seven times over the next fifty years. Median age—the age that divides a population into two numerically equal groups, which means that half the people are younger than this age and half are older—is the key indicator of a population's ageing. In 2010, the global median age was 29.2, and in fifty years it will be ten years higher. Even in 2010, nineteen countries had a median age over forty (they were all developed countries, including Slovenia; UNDESA, 2014a), but by 2050 this group will already expand to ninety-nine countries (UNFPA, 2014).

As already highlighted in the introduction, simultaneously with population ageing, the world is also dealing with a rapid growth of cities and urban population. In 2009, more than half of the world's population, or 3.5 billion people, lived in cities. This happened for the first time in history. This number is astonishing, especially considering that only 730 million or 28.8% of people lived in cities in 1950. According to the UN-DESA projections (2014b), by 2050 the urban population will have increased to 6.3 billion or 68.7% of the entire world population. The highest urbanisation rate (i.e., 90%) will be recorded in North and Latin America, whereas it will increase the most sharply in Africa and Asia, where the share of urban population will increase by more than a fifth over the next forty years. Despite the high urbanisation rate in the developed countries, in 2050 the less developed parts of the world will have five times more urban population than the developed countries. Megacities (i.e., cities with a population over 10 million) will also continue to grow. From 1950 to 2010, their number increased from two to twenty-one. Nine percent of the world population lived in them in 2010, and by 2025, when there will be twenty-nine megacities around the world, this percentage will increase to 10.3%. The growth and expansion of megacities receives a great deal of attention from the public all around the globe. However, according to the UNFPA (2014), primarily cities with a population with less than five million will grow in the future.

POPULATION AGEING IN SLOVENIA AND ITS URBAN AREAS

According to Malačič's classification of demographic types (2006), which is already somewhat outdated given the current demographic trends, Slovenia's population has never been young in the past hundred years. The period of young population in Slovenia ended around 1870. This was followed by a stage of mature population, and from 1931 to 1961 by a stage of old population. Since then, Slovenia has been ranked among very old populations, together with other countries in Europe and some elsewhere (Ramovš, 2003). In line with theory and demographic models, a population begins ageing with a demographic transition or the part of this transition in which the population's fertility in a society begins falling. In Slovenia, this happened at the end of the nineteenth century and the beginning of the twentieth century (Malačič, 2006). The period between 1869 and 1910 saw an increase in both the share of people over sixty-four and the share of children under fourteen. The share of children then continued to fall until 1953, whereas the share of the elderly continued to increase. According to theory, the demographic transition in Slovenia ended in the period between the 1953 and 1961 censuses (Malačič, 1989). Since then, Slovenia's population has been ageing at an accelerated pace. Due to relatively high fertility and high net migration, this process was not yet that rapid in the 1960s and 70s. It became more intense in the early 1980s, when the average age of women giving birth began to increase, life expectancy exceeded seventy years, and the fertility rate dropped below 2.1, which can no longer sustain population levels. The next important period in the process of the ageing of the Slovenian population was the early twenty-first century. In 2000, the number of women of childbearing age began to decrease, and in 2003 the number of elderly people exceeded the number of children for the first time; in 2004, the share of working-age population (fifteen to sixty-four years) stopped increasing and began to fall (Šircelj, 2009). Nonetheless, population ageing slowed down a little during this period. There are two reasons for this. First, compared to the 1990s, in 2006 the fertility rate again increased a little and by 2010 it reached the level from the end of the 1980s (see Slovenian Statistical Office, 2014). This is connected with the population's age structure and deciding to have a child later in life. Second, during this same period, the generation of people born during the Second World War and a year after that, which was not large in numbers, began to join the ranks of the elderly. Because the generation of women (twenty-five to thirty-five years old) that are currently having babies to the greatest extent has already begun to shrink and the people born after 1946, when the birth rate started increasing again, are beginning to pass the threshold of sixty-five years, the population ageing curve again turned upwards in 2013.

Longer life expectancy at birth is behind the fact that, since the demographic transition, the ageing process has not stopped despite periods with higher birth rates and higher net migration. From 1961 to 2012, this increased by more than ten years in Slovenia (from 69.2 to 79.5 years), and it continues to rise (cf. UNDESA, 2014c).

The share of elderly people in Slovenia was 16.8% in 2012 (and already 17.1% in 2013), which is slightly less than the EU average (17.8%). Nonetheless, Slovenia is among the countries (immediately behind Lithuania and Latvia), in which the share of the elderly has increased the most over the past twenty years (cf. Eurostat, 2014). In addition to the increasing share of the elderly, the process of Slovenian society's ageing is also evident from other indicators, such as the ageing index, the average age of population and the age dependency ratio. The ageing index is calculated as the number of people over sixty-five per one hundred children. The average age of population is calculated by dividing the sum of the ages of all inhabitants by the number of inhabitants, and the age dependency ratio is the ratio of elderly people to the working-age population. Similarly to the share of the elderly, all of these indicators show that Slovenia's population began to age rapidly in the mid-twentieth century:

- According to UN data (cf. UNDESA, 2014), the average age of Slovenians increased from 27.7 in 1950 to 41.7 years in 2010, or by fourteen years, and it continues to grow. In 2013, it was already 42.1 years, which was above the EU average (41.5 years). In addition, over the past twenty years Slovenia has recorded the largest increase in the average age among all EU countries: 7.6 years (cf. Eurostat, 2014);
- From the end of the demographic transition to 2012, the ageing index increased by a factor of 4.1, in which the greatest increase was recorded from the early 1990s onwards, when it increased from 53.1 to 117.3, or by a factor of 2.2. Ever since 2003, when it exceeded the value of 100, the ageing index has been above the EU average (cf. Portdata, 2014). In 2013, Slovenia already had 118 elderly people per 100 children;
- From 1950 to 2010, the age dependency ratio increased constantly. It rose from 10.7 to 23.6%; the only exception was the mid-1980s, when the working-age group of the population increased due to the age structure. This means that, at the beginning of this period, 100 working-age people "provided for" eleven people over sixty-four. However, at the end of the period, twenty-three elderly people already depended on the same number of working-age people (cf. UNDESA, 2014). In 2012, this ratio was even worse: according to Eurostat (2014), it amounted to 1:4.1, which means that only four working-age individuals "provided for" an elderly person. The age dependency ratio in that year already amounted to 54.1% of the total dependency ratio of the population (including those under fifteen).

According to the Eurostat population projections, the Europop2010 (cf. Slovenian Statistical Office 2011), the ageing of the Slovenian population will continue or even intensify in the following decades. Compared to 2010, the share of the elderly will nearly double and reach 31.6% by 2060, which will be above the EU average (29.5%), as projected by the European Commission (2011). This means that nearly every third resident of Slovenia will be at least sixty-five years old. During this period, the life expectancy at birth will increase from seventy-six to eighty-four years for boys, and from eighty-two to eighty-nine years for girls. Because people will live longer, the

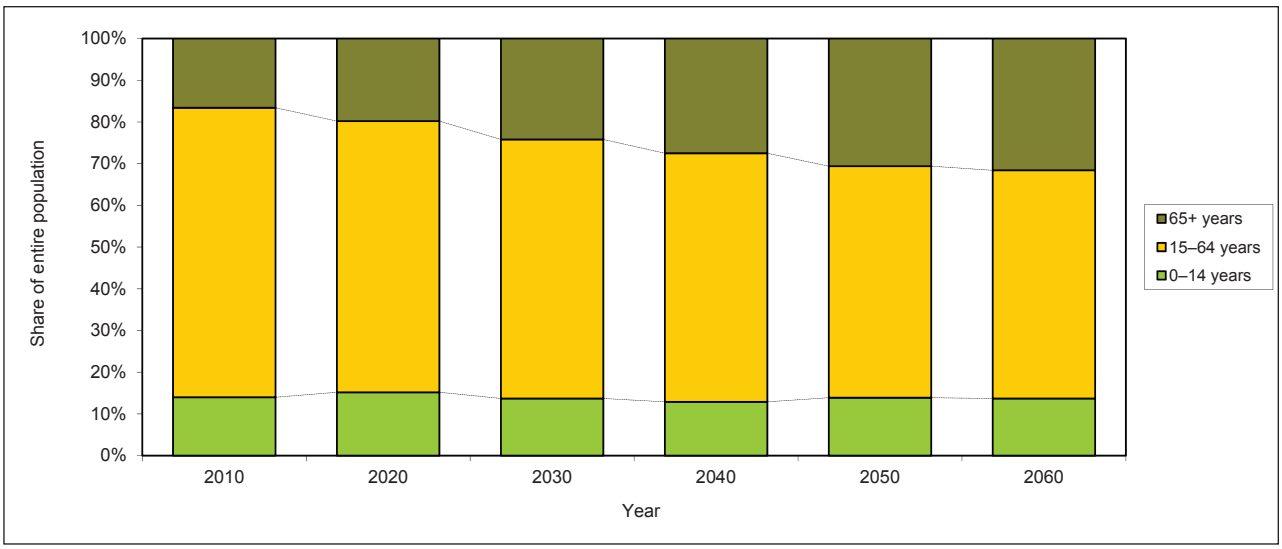

Figure 1: Share of the elderly and other age groups in the entire Slovenian population, 2010–2060 projection (source: Slovenian Statistical Office, 2011)

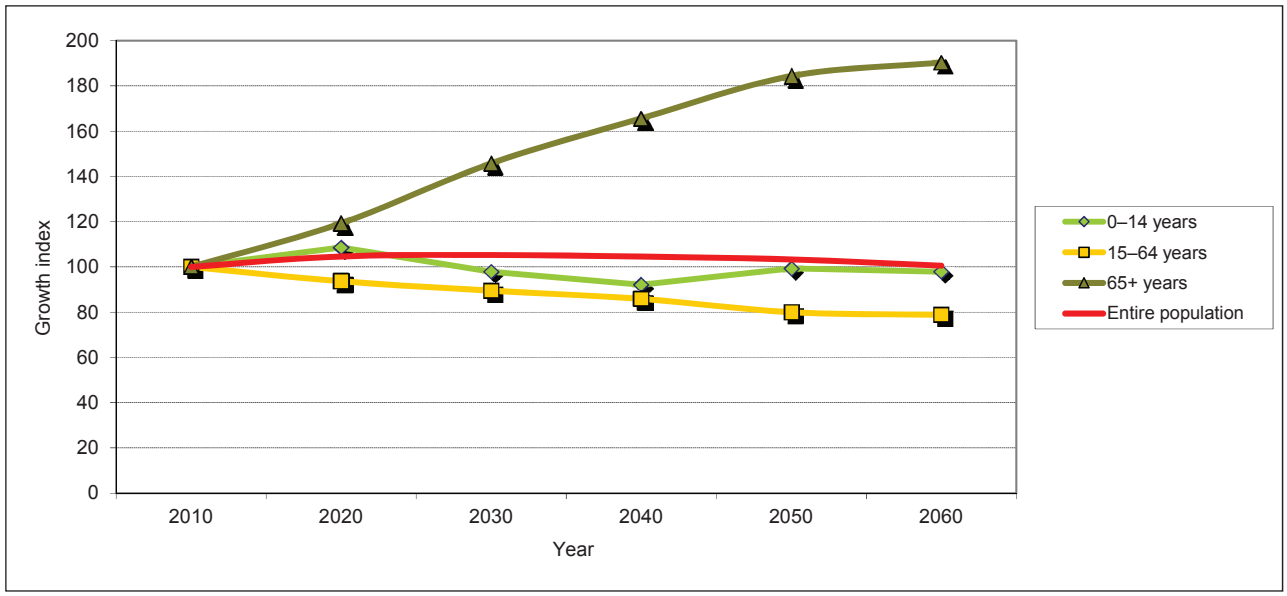

Figure 2: Slovenian population growth indexes for various age groups and the entire population, 2010–2060 projection (source: Slovenian Statistical Office, 2014)

structure of the elderly will also change significantly: the number of people over eighty will increase significantly and is expected to double by 2040, and more than triple by 2060, thus increasing from approximately 82,000 in 2010 to approximately 262,000 in 2060. The share of this group of the elderly (12.7%) will thus become almost the same as the share of children (13.7%). Because of this kind of ratio between the elderly and the young, the ageing index will increase significantly; most notably over the next twenty and thirty years, when it will increase by a total of 82.7. According to predictions for 2060, 230 elderly people per 100 children are expected to live in Slovenia, which is eight times more than a century earlier (in 1961). Due to the increasingly smaller number of young people that will be joining the ranks of the working-age population, the age dependency ratio will increase significantly; specifically, it will grow to 57.6%, which will be above the EU average (52.5%; cf. European Commission 2011). A full 40% of this value will be accounted for by those over eighty. Thus in 2060, already nearly fifty-eight elderly people are expected to depend on 100 working-age individuals or, in other words, fewer than two (1.7) working-age individuals will "provide for" one elderly person.

In addition to the general trends, such as a decline in the fertility rates and longer life expectancy, population ageing manifested in space is primarily a reflection of the population's migration. After the demographic transition, two types of migration were typical in Slovenia: (1) in the 1960s and 70s, due to accelerated urbanisation, people moved from the marginal, less developed and remote areas to towns and other employment centres (Klemenčič, 1991); and (2) from the second half of the 1980s onwards, due to suburbanisation, people (including those from the city centres) began moving to the outskirts and the nearby peri-urban and other slightly more remote settlements with good and fast access to cities (Ravbar, 2000). Both types of migration influenced the spatial distribution of the ageing process of the Slovenian population: areas, from which people move are characterised by accelerated ageing, whereas ageing is less pronounced in areas to which people move. In 1981—that is, before migratory flows began shifting—the share of the elderly in the urban population was 9%, and the share of the elderly in non-urban areas was four percentage points higher (13%). Twenty years later (during the 2002 census), the same share of people over sixty-five (i.e., 14.7%) already lived in both types of settlements, and in 2013 the share of the elderly in urban settlements (17.9%) exceeded the share of the elderly in non-urban settlements (16.4%). In 1981, only 27.8% of urban settlements had a higher share of the elderly than the Slovenian average, whereas in 2013 the percentage of these settlements had already increased to 75.9%. A full quarter had a more than twenty-percent share of the elderly, including Maribor, Lendava, Murska Sobota, Tolmin, Ilirska Bistrica and Gornja Radgona. Even more than from the share of the elderly, the "spatial transition" in population ageing is evident from the population ageing index and the age dependency ratio (Table 1).

If the calculation for the period following 1981 did not include the urban settlements that are close (in terms of both time and distance) to major urban centres (e.g., Ljubljana and Maribor) and which people move to (e.g., Trzin, Vrhnika, Kamnik and Slovenska Bistrica), the ageing indexes in other settlements would be even higher.

Table 1: Population ageing indexes by type of settlement in 1981, 1991, 2002 and 2013

Year and index/type of settlement	Urban settlements	Non-urban settlements
1981		
Share of the elderly	9.0%	13.0%
Ageing index	39.3	56.6
Age dependency ratio	13.4%	20.3%
1991		
Share of the elderly	9.8%	12.1%
Ageing index	47.4	58.9
Age dependency ratio	14.0%	18.0%
2002		
Share of the elderly	14.7%	14.7%
Ageing index	103.4	89.9
Age dependency ratio	20.7%	21.4%
2013		
Share of the elderly	17.9%	16.4%
Ageing index	132.5	107.7
Age dependency ratio	26.2%	24.0%

Source: Slovenian Statistical Office (2014)

Thus, for example, in early 2013 the ageing index was 181.1 in Maribor and 98.6 in Slovenska Bistrica; it was 128.5 in Ljubljana and 81.3 in Kamnik, 82.6 in Logatec, 94.5 in Trzin, 95.0 in Litija, 95.5 in Postojna, 97.3 in Grosuplje, 100.2 in Vrhnika and 100.7 in Domžale. The redirection or shift in the migratory flows is the most obvious in the case of Ljubljana. In addition to being the largest urban settlement in Slovenia in terms of population, this is also the result of significantly higher prices of land and housing in this city than in other settlements nearby. For example, if the shares of elderly people in the (former) municipalities around Ljubljana in 1981 are compared to the shares in spatially comparable administrative units in 2013, it can be determined that in 1981 the former municipalities of Postojna (which included the now separate municipalities of Postojna and Pivka), Logatec (which had the same size as the present administrative unit), Grosuplje (which included the current municipalities of Grosuplje, Ivančna Gorica and Dobrepolje), Trebnje (the municipalities of Trebnje, Šentrupert, Mokronog–Trebelno and Mirna), and Litija (the municipalities of Litija and Šmarno pri Litiji) had an above-average share of the elderly, whereas in 2013 this share was already below average. These were also the administrative units in which the shares of the elderly increased the least during this period (from 2.2 to 3.3%). People moved to other (mostly nearby) areas of Ljubljana even before 1981 because the former municipalities of Vrhnika (which included the current municipalities of Borovnica, Vrhnika and Log–Dragomer), Domžale (the municipalities of Lukovica, Mengeš, Domžale, Moravče and Trzin) and Kamnik (the municipalities of Kamnik and Komenda) had a below-average share of the elderly even as early as 1981 and retained it until 2013 as administrative units. A more detailed analysis based on the ageing indexes shows that in 2013 all municipalities bordering the City of Ljubljana or in relatively close proximity to it had a lower ageing index (mostly below 100). To a lesser and less-pronounced degree this is also typical of some other Slovenian urban municipalities, such as Celje, Ptuj, Nova Gorica, Maribor, Kranj and Murska Sobota. With others, the differences between the nearby municipalities are hardly noticeable (Novo Mesto, Koper, Velenje and Slovenj Gradec). However, a detailed analysis at the level of settlements shows that this phenomena is nonetheless present, but the nearby non-urban settlements with lower ageing indexes (mostly lower than 100) belong to the same urban municipality or a neighbouring municipality. Thus the ageing index was 106.7 in Novo Mesto (99.5 at the municipal level), 146.9 in Koper (25.1 at the municipal level), 114.7 in Slovenj Gradec (98.8 at the municipal level) and 98.7 in Velenje (96.4 at the municipal level). Something similar is also typical of other Slovenian urban settlements.

The coastal region must be given special emphasis in terms of the ageing of the Slovenian population in the past thirty years. Compared to other Slovenian areas, the share of elderly people in all three coastal administrative units increased significantly during this period. A major increase during this period has only been recorded in

the Hrastnik, Maribor and Ravne na Koroškem administrative units—that is, in former industrial and mining areas, from which people began to move after 1991. The share of elderly people increased by 8.8 percentage points in the Koper administrative unit, by 9.4 percentage points in Izola and by 9.2 percentage points in Piran. In terms of settlement type, this share increased the most in urban settlements: it increased by 13.1 percentage points in the urban settlements of the Koper administrative unit, and by 10.2 percentage points in the urban settlements of the Izola and Piran administrative units (Table 2). Due to a decreased number of young people (all administrative units had fewer young people in 2013 and 2002 than in 1981; in Koper and Piran, this was also the case in 1991), the total population increased primarily on account of a larger number of people fifteen to sixty-four years old, and those over sixty-five. In all three administrative units, the increase in the population was largely due to a greater number of people over sixty-four (they accounted for 40.9% of the total population increase in the Koper administrative unit, 44.2% in the Izola administrative unit and 48.5% in the Piran administrative unit). Hence it can be concluded that this group of the population moved to these administrative units, which (in addition to the ageing of local residents) caused (such) a great increase in the share of the elderly. This is a case of elderly population moving to areas with a more favourable climate (the Koper, Izola and Piran administrative units). According to Josipovič (2009, 25–26), "a specific or non-typical age structure of migrants has specific consequences . . . one of these specifics is when relatively old population moves to the 'sunbelt' (e.g., the coast or health resorts)."

AGEING IN AN URBAN ENVIRONMENT

The fact that the population is ageing at an accelerated pace, especially in urban areas, led to the idea of cities adapted to the ageing society. This idea is based on the principles of active ageing, which enables the elderly to preserve their physical, social and psychological wellbeing, and take part in the society in line with their needs, preferences and abilities, while enjoying appropriate protection, security and care when needed. Therefore, the WHO defines active ageing as "the process of optimising opportunities for health, participation and security in order to enhance quality of life as people age" (2002, 12). In age-friendly cities, policies, services and structures enable and support active ageing by (WHO, 2007): (a) Recognising the wide range of capacities and resources among the elderly; (b) Predicting and responding flexibly to ageing-related needs and preferences; (c) Respecting the decisions and lifestyle choices of the elderly; (d) Protecting those elderly people that are the most vulnerable; (e) Promoting the inclusion of the elderly in society and their contribution to all areas of community life. Active ageing depends on a variety of influences and factors, which include both material conditions and social factors that lead to specific types of behaviour and activity (Marmot 2006). All of these factors and the interactions between them have an important impact on elderly people. Many aspects of urban environments and services reflect these factors and constitute the characteristics of age-friendly cities.

The determinants of active ageing should be understood from a life course perspective that recognises that elderly people are not a homogenous group and that individual diversity increases with age: functional capacity increases during childhood and reaches its peak in early adulthood, after which it gradually begins to decline. The rate of functional capacity decline is largely influenced by factors connected with one's lifestyle. According to Schoenborn and Adams (2010), the inactivity of the elderly increases with age; according to the Health Interview survey, more than 80% of people over seventy-five no longer take part in regular physical activ-

Table 2: Population ageing indicators by settlement type in 1981 and 2013 in the coastal region

Administrative unit	Koper			Izola			Piran		
Year and index/type of settlement	Urban	Non-urban	Total	Urban	Non-urban	Total	Urban	Non-urban	Total
1981									
Share of the elderly	5.5%	12.8%	8.7%	7.6%	15.2%	8.3%	7.4%	13.4%	8.8%
Ageing index	23.5	61.7	39.1	35.0	77.4	38.8	33.6	67.3	40.3
Age dependency ratio	7.7%	19.6%	12.6%	10.7%	23.6%	11.9%	10.5%	20.0%	12.5%
2013									
Share of the elderly	18.6%	15.9%	17.5%	17.8%	17.5%	17.7%	17.6%	19.2%	18.0%
Ageing index	146.9	107.4	125.1	135.6	134.6	135.3	166.0	138.1	156.9
Age dependency ratio	27.0%	23.1%	24.8%	25.4%	26.2%	25.6%	24.5%	28.7%	25.5

Source: Slovenian Statistical Office (2014)

ity. Remaining physically active in old age significantly reduces the likelihood of functional impairment, disease or disability, and improves the quality of life (Wagner et al., 1992; Clark & Nothwehr, 1999; Satariano & McAuley, 2003). The rate of functional capacity decline is also connected with external social, environmental and economic factors. From the viewpoint of the individual and society as a whole, it is important to know that the speed of the functional capacity decline (and hence the reduction in the public expenditure) can also be influenced through public policy measures, such as promoting the planning of age-friendly living environments. Remaining physically active in old age entails being able to perform daily activities in the living environment, such as walking (one of the most common forms of physical activity among the elderly), and various leisure-time activities (Michael et al. 2006a). Therefore, elderly people are very sensitive to changes in the built environment, especially in the neighbourhoods where they live (Pastalan & Pawlson, 1985; Glass & Balfour, 2003). First, as they grow old, their living environment shrinks to the vicinity of their home or their immediate neighbourhood, and resources in their community become increasingly more important (Lawton, 1978; Glass & Balfour, 2003). Second, factors connected with ageing, such as physical vulnerability, mobility limitations, and sensory and cognitive impairment, reduce the elderly's ability to interact with the environment. However, even small adaptations of the physical environment can help maintain the level of independence among elderly residents (Pastalan & Pawlson, 1985).

However, because active ageing is a lifelong process, an age-friendly city is not only "elderly-friendly", but it also provides an obstacle-free urban environment for the disabled and other functionally impaired people, who can move around it freely and independently. These types of environments are also less stressful for the family members because their elderly relatives have access to community support and health services when needed. Active participation of the elderly in voluntary or paid activities benefits the entire community, and their active participation in society in the role of consumers benefits the local economy. An age-friendly city is thus an inclusive and accessible urban environment that encourages active ageing. Therefore, from the social perspective, planning cities and adapting urban environments to the needs of the elderly are sustainable activities.

DESIGNING URBAN SPACE FOR THE NEEDS OF THE AGEING SOCIETY

In the book *Global age-friendly cities: A guide*, the WHO used the results of a survey on living in cities to define eight areas that should be planned and developed to meet the needs of ageing society. The first three refer to the built (physical) environment, which is a multi-dimensional concept. Handy et al. (2002) divide it into three areas: (a) land-use patterns, (b) micro-level urban design and (c) transportation system. Land-use patterns include various types of land use (e.g., residential, office, commercial, industrial, and open or green areas) and activities in the neighbourhood, and also include the distance to the travel destination, such as stores, event venues, recreational facilities and parks. A micro-level urban design refers to the design of the city and its micro-elements (e.g., pavements, paths, benches and so on). It also refers to the layout, complexity and appeal of the urban space. Transportation systems are composed of the physical infrastructure that provides connections between people, places and activities. In addition to public transport, the key elements of this system also include the traffic levels and the pedestrian safety level (Handy et al., 2002; Cunningham & Michael, 2004). The WHO combined the first two areas of the built environment as defined by Handy et al. (2002) into a single area of outdoor spaces and buildings. The second area is the same as described above (i.e., transportation), and "housing" is added as the third area. In addition to these three areas that refer to the built (physical) environment, the WHO also distinguishes between other areas: the next three are social participation, respect and social inclusion, and civic participation and employment. These areas reflect various aspects of the social environment and culture that affect participation and psychological wellbeing. Respect and social inclusion deal with the attitudes and behaviour of other people and the community as a whole towards the elderly; social participation refers to the inclusion of elderly people in recreation, socialisation and spiritual activities; and civic engagement and employment refer to unpaid and paid work, which is connected with the social and economic determinants of active ageing. The last two areas include communication and information, and community support and health services. They contain both the social determinants and the health and social services of active ageing.

Areas that should be planned and developed in cities to meet the needs of the elderly interact with and complement one another. However, in the author's opinion, the physical (built) environment is the most important determinant of active ageing because only a built environment that is well-maintained and adapted to the elderly can provide access to all other areas of active and high-quality ageing in cities, thus allowing the elderly to remain active members of society, and especially the local community they live in despite age-related mobility, sensory and cognitive problems. Thus the task of urban planning is to manage and adapt the built environment in order to meet the changing needs of society in a sustainable manner. The most important features of individual areas of the built environment are described below. They enable the elderly to age actively and lead a quality life in urban environments, following the criteria of age-friendly cities (cf. WHO, 2007).

Outdoor spaces and buildings

Well-maintained and adapted outdoor spaces and buildings form the basis for the mobility of elderly people. The basic features of outdoor spaces and buildings in this regard are as follows: (a) A pleasant and clean environment: regulations must be imposed to limit noise and air pollution; (b) Sufficient and well-maintained green areas and walkways: green areas must be regularly maintained and safe, they must have appropriate shelters, seating areas and public restrooms; the walkways must be without obstacles and not slippery; (c) Available seating areas: benches have to be available in parks, at transport stops and in other public areas; they must be placed at appropriate intervals, and safe to sit on; (d) Pavements adapted to functionally impaired people: pavements must have a smooth, level and non-slip surface, they must be sufficiently wide to accommodate wheelchairs and have dropped curbs that taper off to the road level; they must be obstacle-free (e.g., without parked cars, flower boxes, street vendors, trees and overhanging branches, dog droppings, snow and so on) and must be pedestrian-only; (e) Safe pedestrian crossings: pedestrian crossings must be appropriately spaced, have a non-slip surface and be outfitted with audio and visual signals; the green traffic light must not change too quickly; pedestrian crossings on busy roads must have traffic islands or suitable underpasses; regulations must clearly state that pedestrians have the right of way; (f) Accessible services adapted to the elderly: services are combined in one place, are located in the immediate vicinity of where elderly people live and are easily accessible (e.g., on the ground floor); special arrangements are in place for elderly customers, such as separate queues and service counters; (g) A secure outdoor environment: public safety in all outdoor areas and buildings is a priority that must be promoted; for example, by adopting measures for reducing the risk of natural disasters, installing street lights, introducing regular police patrols, and supporting community or personal safety initiatives; (h) Well-maintained walkways and cycle paths: cycle paths are separate from walkways; (i) Buildings adapted to functionally impaired people: easy to access and properly marked (outside and inside), with

Figure 3: Available seating areas for the elderly in cities (photo: the author)

easily accessible elevators, ramps, stairs that are not too high or too steep, non-slip flooring, rest areas with comfortable seating and a sufficient number of public restrooms; (j) Adequate public restrooms: clean, regularly maintained, easily accessible to people with various impairments, adequately and clearly marked, and placed in suitable and convenient locations.

Transportation

In addition to outdoor spaces and buildings, transportation is also one of the main factors influencing elderly people's activity in other areas of active ageing. The main features of transportation systems in age-friendly cities include the following: (a) Availability: various types of public transport and other transport-related services must be available in cities; (b) Affordability: public transportation must be affordable and thus accessible to as many people as possible, especially the elderly; the prices must be constant (not conditioned by weather, days of the week, season and so on), the same for everyone and clearly displayed; (c) Reliability and frequency: public transport must be reliable and frequent, including at night, on weekends and during holidays; (d) Travel destinations: public transport must be available for elderly people to reach their key destinations or services (e.g., hospitals, health centres, parks, shopping centres, banks, retirement homes, senior centres and so on); all areas within and outside the city must be well serviced with well-connected transport routes; the routes must be well connected with other transport options; (e) Age-friendly vehicles: public transport vehicles must be well and regularly maintained, they must use clear signage (e.g., route numbers), and must be accessible without obstacles (e.g., with low floors); (f) Specialised transport services: sufficient specialised transport services must be available and adapted to people with various functional impairments; (g) Priority seating: public transport vehicles must have sufficient and appropriately adapted priority seating, which must be respected by other passengers; (h) Friendly drivers: the drivers of public transport vehicles must be polite, follow traffic rules, stop at designated stops alongside the curb, so that passengers can get on more easily, and only drive off when the passengers are seated; (i) Safety and comfort: public transport modes are free from crime and are not overcrowded; (j) Well-maintained stops and stations: public transport stops and stations must be close to elderly people's homes, they must be located in appropriate places, be easily accessible (the stops must be set up in line with the building layout recommendations), marked well, adequately lit, outfitted with seating and shelter from the weather, and have friendly, helpful and polite staff; (k) Taxi service: taxis must be affordable (taxi fares must be subsidised or discounted for elderly people with low incomes), available everywhere, comfortable and adapted to functionally impaired people; taxi drivers must be helpful, polite and friendly; (l) City transport diversity: in addition to public transport, other means of transport must be available (e.g., volunteer drivers and shuttle services); (m) Appropriate information: all information on timetables and routes must be available to passengers; the information must be clear and legible, and must also indicate any details regarding the transport of functionally impaired people; (n) Adequate driving conditions: the roads must be well maintained, sufficiently wide and well lit; they must have covered drains, be without obstructions that might block drivers' vision; the traffic flows must be well regulated, the traffic-calming devices must be appropriately designed and placed; traffic signs, traffic lights and intersections must be appropriately placed and clearly marked; road signage must be clearly visible; (o) Driving competence: traffic rules must be strictly obeyed; ongoing training is provided in this regard and refresher courses are promoted; (p) Available parking: there must be sufficient areas available for parking and stopping, and especially a sufficient number of priority parking spots for functionally impaired people, which must be close to buildings and transport stops.

Housing

There is a clear connection between appropriate housing and access to community and social services that influence the independence and quality of life of elderly people. Housing and support that allow the elderly to age comfortably and safely in their community are understood as a universal value in society. The main features of age-friendly housing include the following: (a) Affordability: sufficient affordable housing must be available for the elderly; (b) Essential and affordable services: affordable services must be provided for the elderly to allow them to remain at home as long as possible; elderly people must be regularly informed of the services available and advantages of using them; (c) Proper design and furnishing: housing must be made of appropriate materials, it must be appropriately equipped and adapted to various weather conditions (air conditioning and heating); it must be sufficiently spacious to allow the elderly to move around freely; access, interior furnishings and layout must be adapted to the elderly (even surfaces without thresholds, sufficiently wide passages for wheelchairs, appropriately designed bathrooms and kitchens); (d) Modifications: housing alterations/modifications must be affordable; financial assistance (subsidies) must be provided; there must be various modification solutions and options available; individual needs and preferences of elderly people must be taken into account; elderly people must be able to receive advice and information on modifications and available subsidy options; (e) Regular maintenance: there are appropriately qualified and reliable experts and service providers available to perform maintenance work; maintenance

Figure 4: "Watch for elderly pedestrians" – the elderly in traffic (Wichary, 2008).

services must be affordable for the elderly; rented housing and its common areas must be regularly and well maintained, and safe; (f) Appropriate location: the residential neighbourhoods where elderly people live must be close to services and public transport stops, and integrated into the surrounding community, which allows elderly people to remain at home as long as possible; other types of housing for elderly people (e.g., retirement homes) must be located in appropriate places and integrated into the urban environment; (g) Housing options: a wide range of appropriate and affordable housing options must be available to the elderly, including frail and disabled elderly people, in the local area; they must be regularly informed of the available housing options; (h) Appropriate living environment: residential buildings must not contain too many units; the residential neighbourhood must not include too many buildings; elderly people must be allowed to feel comfortable and safe in their living environment (e.g., residential areas must not be located in areas prone to natural disasters, or areas exposed to crime, discrimination and various forms of pollution).

CONCLUSION

Population ageing poses a great challenge to society. The demographic changes that led to ageing have been long-lasting and cannot be changed rapidly. Therefore, ageing societies must face these issues and adapt to changes as best as they can. Elderly people must be allowed to the greatest extent possible to live full, healthy, safe and happy lives as inseparable components of the community. Due to population ageing, especially in urban areas (as demonstrated by the analysis of Slovenia), one of the future criteria of the quality of life in cities will be the degree to which cities are equipped and adapted to the needs of elderly people. Spatial and urban planners will thus have to start observing the needs of the changing society as soon as possible, especially because the built environment is the most common determinant of active ageing; namely, only a well-maintained and age-friendly built environment can provide access to all other areas of active and high-quality ageing in cities, and thus enable the social inclusion of the elderly in the immediate and wider social communi-

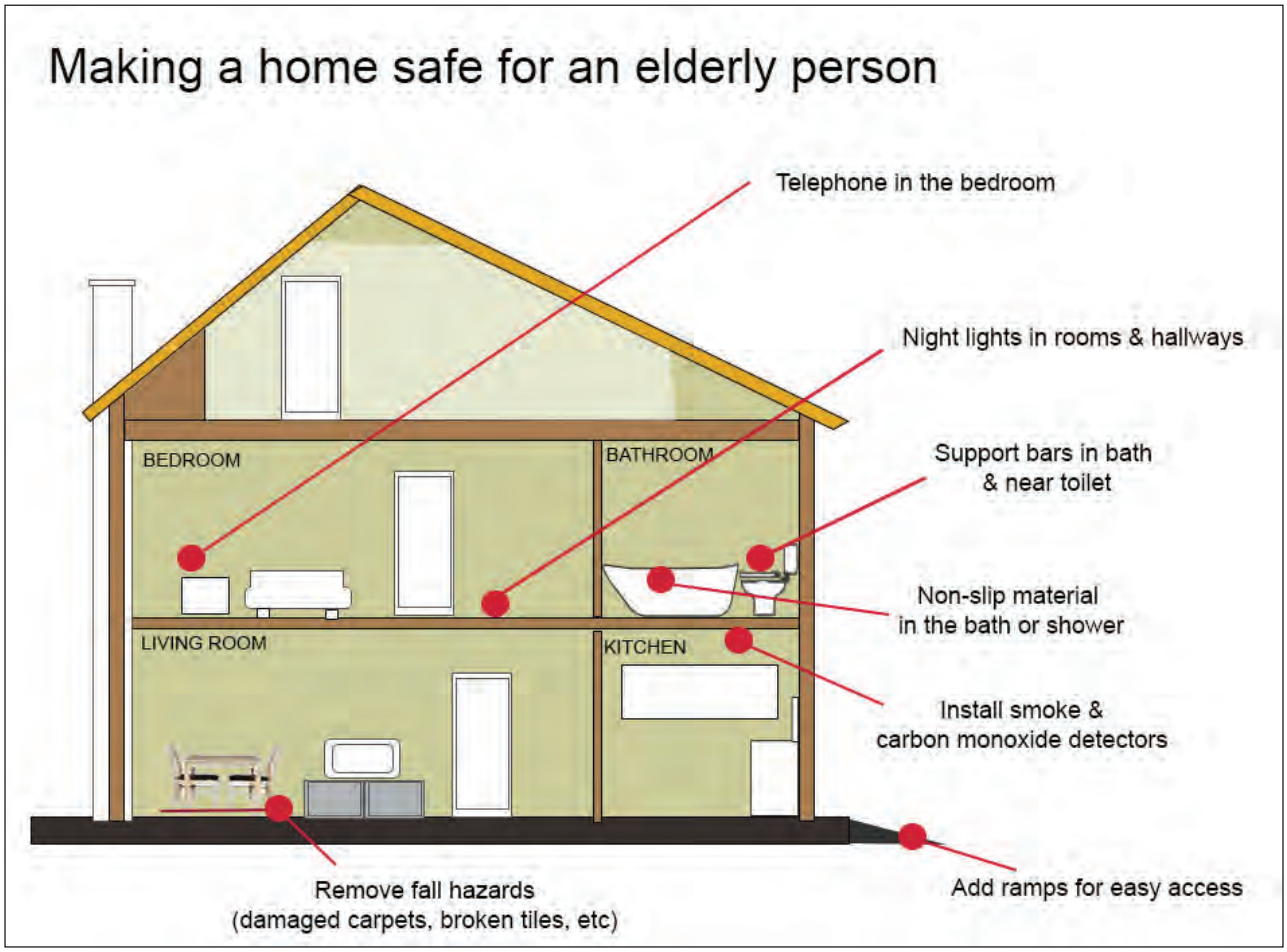

Figure 5: Making a home safe for the elderly (source: Elderly Care Café, 2012).

ty. In Slovenia, an important step was taken in 2008, when the Anton Trstenjak Institute of Gerontology and Intergenerational Relations in collaboration with the World Health Organization started activities to develop age-friendly cities in Slovenia. From the very beginning, they met with a very positive response from the mayors of Slovenia's three largest cities: Ljubljana, Maribor and Celje. In each of these cities, citizens became involved in observing what could be improved to make cities healthier, better and friendlier for the elderly. By 2014, the program had joined other cities and municipalities in Slovenia, including Velenje, Ruše, Ravne na Koroškem, Kostel, Kobarid, Ivančna Gorica, Novo Mesto, Grosuplje, Radlje ob Dravi and Šentrupert. A national committee of age-friendly cities was also established, consisting of municipal coordinators and representatives of seniors from various cities. All of the cities seek to follow the criteria for age-friendly cities. In 2008 and 2009, the Anton Trstenjak Institute conducted a survey based on the methodological protocol of the World Health Organization for an age-friendly city in Ljubljana, dedicated to increasing knowledge about ageing in urban environments. Its aim was to raise awareness of local needs, gaps and enhancement of ideas, thereby facilitating the development of age-friendly urban spaces. Senior citizens in Ljubljana felt that the city is generally quite friendly for older people, but they made several comments and recommendations for further improvements toward a friendly urban environment. In the category "Outdoor spaces and buildings" they suggested that sidewalks should not be occupied by parked cars and that there should be more park benches, longer green signals at traffic lights, barrier-free access to all public spaces and public buildings, and more public toilets (with obstacle-free access). In the "Transportation" area, bus stops should be adequately equipped, better flow of urban traffic was suggested, and more parking spaces should be reserved for people with disabilities. For "Housing", subsidies for housing adaptations tailored to the elderly were proposed, as well as more alternative forms of housing (e.g., housing communities). The elderly also want to remain in their homes as long as possible, and therefore services should be adapted to ageing at home (e.g., volunteering). On this basis, the action plan "Age-friendly Ljubljana" was adopted for the period from 2013 to 2015, containing ninety-eight measures. Other cities included in the age-friendly cities network are also following this example, but in Slovenia much remains to be done. Among others things, a shift in the mentality of the entire society should take place in this regard as soon as possible. An age-friendly city is or will (some day) become "friendly" to every single one of us. Therefore, designing and planning of the urban space and their realisation in practice must become mutual and thus sustainable from a societal point of view.

STARANJE PREBIVALSTVA IN MESTNI PROSTOR

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POVZETEK

Svetovno prebivalstvo se vse bolj stara. Sočasno s staranjem prebivalstva se svet sooča s hitro rastjo mest in mestnega prebivalstva. Ker so torej mesta središča kulturnega, družbenega in političnega delovanja, morajo zato zagotoviti pogoje za dobro počutje in bivanje vseh svojih prebivalcev, torej tudi starejših. Kot nujen in logičen odgovor na spodbujanje dobrega počutja in kakovostnega bivanja starejših ljudi v urbanih okoljih in prispevek starejših meščanov, da kot družbeni vir prispevajo k uspešnosti mest, so zato mesta, ki so prilagojena glede na potrebe starajoče se družne, t.i. starosti prijazna mesta (ang. age friendly cities*). Mestni prostor, ki je ustrezno prilagojen za starejše namreč omogoča, da ostajajo starejši v mestnem okolju čim dlje časa aktivi člani družbe. V članku bodo zato predstavljene bistvene značilnosti načrtovanja mest za potrebe starajoče se družbe, ki po kriterijih starosti prijaznih mest zagotavljajo aktivno staranje in kakovostno bivanje starejših v urbanih okoljih. V članku izhajamo iz predpostavke, da je tako zasnovano načrtovanje mestnega prostora za prihodnji družbeni razvoj nujno, saj se svet vse bolj sooča z dvema neizogibnima procesoma, staranjem prebivalstva in pospešeno urbanizacijo. Kot osnova za delo so nam služili statistični podatki popisov prebivalstva, najnovejši podatki Statističnega urada Republike Slovenije in podatki drugih evropskih in svetovnih podatkovnih baz ter analiza literature s področja staranja prebivalstva in načrtovanje prostora. Rezultati so pokazali, da glede staranja prebivalstva Slovenija ni izjema. Še več, slovensko prebivalstvo se stara celo hitreje od evropskega povprečja. Pri tem se v zadnjih dveh oziroma treh desetletjih najbolj pospešeno stara prav prebivalstvo na mestnih območjih v Sloveniji, kar je posledica suburbanizacije. Glede tega se je izkazalo zelo prizadeto območje Obale, saj se je na to območje v obravnavanem obdobju pospešeno priseljevalo starejše prebivalstvo. To je poleg staranja domačega prebivalstva povzročilo (tako) velik porast deleža starejših. Dokazano pospešeno staranje prebivalstva, zlasti na mestnih območjih, podpira zamisel o mestih, ki naj bi bila prilagojena za starajočo se družbo. Svetovna zdravstvena organizacija je v knjigi, z naslovom Global age friendly cities: A guide na podlagi izsledkov raziskave o življenju v mestih opredelila osem področij, ki jih je treba načrtovati in razvijati za potrebe starajoče se družbe. Prva tri se nanašajo na grajeno (fizično) okolje, ki zajema (a) odprti prostor in stavbne površine, (b) transportni sistem in (c) stanovanja. Po našem mnenju je fizično (grajeno) okolje najpomembnejša determinanta aktivnega staranja, saj le urejeno in starejšim prilagojeno grajeno okolje omogoča dostop do vseh drugih področij aktivnega in kakovostnega preživljanja starosti v mestu ter tako omogoča starejšim, da kljub s starostjo povezanimi mobilnostnimi, senzornimi in kognitivnimi težavami ostanejo aktivni člani družbe, zlasti lokalne skupnosti, v kateri bivajo. Mestni prostor, ki je torej prilagojen za starejše, je oziroma bo (nekega dne) postal »prijazen« za vsakogar od nas.*

Ključne besede: staranje prebivalstva, rast mest, mestno prebivalstvo, mestni prostor, razvoj mest

SOURCES AND BIBLIOGRAPHY

Clark, D. O. & Nothwehr, F. (1999): Exercise selfefficacy and its correlates among socioeconomically disadvantaged older adults. Health Education & Behavior, 26, 4. Thousand Oaks, 535–546.

Cunningham, G. O. & Michael, Y. L. (2004): Concepts guiding the study of the impact of the built environment on physical activity for older adults: A review of the literature. American Journal of Health Promotion, 18, 6. Troy, 435–443.

Elderly Care Cafe (2012): Making a home safe for the elderly. http://www.eldercarecafe.net/making-a-home-safe-for-the-elderly/ (4. 6. 2014).

European Comission (2011): The 2012 ageing report: underlying assumptions and projection methodologies. http://ec.europa.eu/economy_finance/publications/european_economy/2011/pdf/ee-2011-4_en.pdf (29. 5. 2014).

Eurostat (2014): Population database. http://epp.eurostat.ec.europa.eu/portal/page/portal/population/data/database (30. 5. 2014).

Handy, S. L., Boarnet, M. G., Ewing, R., Killingsworth, R. E. (2002): How the built environment affects physical activity: Views from urban planning. American Journal of Preventive Medicine, 23, 2, supplement 1. La Jolla, 64–73.

Glass, T. A, Balfour, J. L. (2003): Neighborhoods, aging, and functional limitations. In: Kawachi, I., Berkman, L. F.: Neighborhoods and health. New York ,Oxford University Press, 303–334.

Javornik, J. S. (2006): Socialni razgledni 2006. Ljubljana, Urad za makroekonomske analize in razvoj.

Josipovič, D. (2003): Geografski dejavniki rodnosti prebivalstva. Acta geographica Slovenica, 43, 1. Ljubljana, 111–125.

Josipovič, D. (2009): Demografska, etnična in migracijska dinamika v Sloveniji. In: Žitnik Serafin, J.: Demografska, etnična in migracijska dinamika v Sloveniji in njen vpliv na slovensko vojsko. Ljubljana, ZRC SAZU, 13–40.

Kalache, A. & Kickbusch, I. (1997): A global strategy for healthy ageing. Journal of Public Health, 50, 4. Geneve, 4.

Kalache, A. & Keller, I. (1999): The WHO perspective on active ageing. Promotion & Education, 6, 4. Thousand Oaks, 20–23.

Klemenčič, V. (1991): Tendence spreminjanja slovenskega podeželja. Geografski vestnik, 63. Ljubljana, 25–40.

Lawton, M. P. (1978): The relationship of environmental factors in changes in wellbeing. Gerontologist, 18, 2. Oxford, 133–138.

Malačič, J. (1989): Staranje prebivalstva ter njegove socialne in ekonomske posledice. Elaborat. Ljubljana, Ekonomska fakulteta.

Malačič, J. (2006): Demografija: teorija, analiza, metode in modeli. Ljubljana, Ekonomska fakulteta.

Marmot, M. (2006): Harveian Oration: Health in an unequal world. London, Royal College of Physicians.

Michael, Y., Beard, T., Choi, D., Farquhar, S. & Carlson, N. (2006): Measuring the influence of built neighborhood environments on walking in older adults. Journal of Aging and Physical Activity, 14, 3. Champaign, 302–312.

Pastalan, L. A. & Pawlson, L. G. (1985): Importance of physical environment for older people. Journal of the American Geriatrics Society, 33, 12. Hoboken, 874.

Portdata (2014): Poulation. http://www.pordata.pt/en/Europe/Search+Environment/Table (30. 5. 2014).

Ramovš, J. (2003): Kakovostna starost: socialna gerontologija in gerantagogika. Ljubljana, Inštitut Antona Trstenjaka in Slovenska akademija znanosti in umetnosti.

Ravbar, M. (2000): Regionalni razvoj slovenskih pokrajin. Geographica Slovenica, 33, 2. Ljubljana, 9–81.

Rebernik, D. (2008): Urbana geografija. Geografske značilnosti mest in urbanizacije v svetu. Ljubljana, Filozofska fakulteta.

Satariano, W. A. & McAuley, E. (2003): Promoting physical activity among older adults: From ecology to the individual. American Journal of Preventive Medicine, 25,3, supplement 2. La Jolla, 184–192.

Schoenborn, C. A. & Adams P. F. (2010): Health behaviors of adults: United States, 2005–2007. Vital Health Statistics 10. Hyattsville, National Center for Health Statistics.

Statistical Office of the Republic of Slovenia (2011): Population projections for Slovenia, 2010–2060 – final data. Ljubljana. http//: www.stat.si (1. 7. 2013).

Statistical Office of the Republic of Slovenia (2014): SI-STAT Data Portal. Demography and social statistics. Ljubljana. http://: www.stat.si (24. 5. 2014).

Šircelj, M. (2009): Staranje prebivalstva v Sloveniji. V: Hlebec, V.: Starajši ljudje v družbi sprememb. Maribor , Arsitej, 15–43.

United Nations Department of Economic and Social Affairs – UNDESA (2014a): Population devison, polulation estimates and projections section. New York. http://esa.un.org/unpd/wpp/unpp/panel_indicators.htm (22. 5. 2014).

United Nations Department of Economic and Social Affairs – UNDESA (2014b): World urbanization prospects. New York. http://esa.un.org/unpd/wup/index.htm (22. 5. 2014).

United Nations Department of Economic and Social Affairs – UNDESA (2014c): World population prospects. Internet: http://esa.un.org/unpd/wpp/unpp/panel_population.htm (22. 5. 2014).

United Nations Population Fund (2014): Population ageing: A larger and older population. New York. http://www.unfpa.org/pds/ageing.html (22. 5. 2014).

Vertot, N. (2010): Starejše prebivalstvo v Sloveniji. Ljubljana, Statistični urad Republike Slovenije.

Wagner, E. H., LaCroix, A. Z., Buchner, D. M. & Larson, E. B. (1992): Effects of physical activity on health status in older adults. Annual Review of Public Health 13. Palo Alto, 469–488.

Wichary, M. (2008): Watch for elderly pedestrians. http://www.flickr.com/photos/mwichary/2711699659/in/photostream/ (14. 6. 2014).

World Health Organisation – WHO (1996): Brasilia declaration on ageing. Geneve.

World Health Organisation – WHO (2002): Active ageing: A policy framework. Geneve.

World Health Organisation – WHO (2007): Global agefriendly cities: A guide. Geneve.