

Friendly and accessible public spaces: the Venetian case

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Abstract: The population of Venice is falling drastically and its people are ageing steadily and living a unique existence as regards the town's morphology. Venice has no car traffic and thus urban accessibility for elderly people is neither straightforward nor always safe. The reasons which make it difficult to live in the historic centre are bound up with its specific features: its town framework is made up of 120 islands linked together by bridges, alleyways and *fondamenta* canal side streets frequently free of rails, all of which are accessible primarily on foot as the public ferry service cannot link up all its urban spaces and areas. In the light of this, it is important to enable elderly people to get out into open spaces for both health reasons and in relation to the passage of the seasons as well as for socialising. This research work enquires into the physical barriers in the town which can make moving around its open spaces difficult, the various technical and architectural solutions which have been adopted over the years to improve public transport and urban policies designed for an age-friendly town.

Keywords: age-friendly cities; urban accessibility; Venice; elderly people

Age-friendly and accessible cities: the Venetian case

The United Nations' population scenarios forecast world population growth to over 9 billion by 2050 with an over-60s segment increasingly significantly all around the world, with the exception of Africa. "The number of older persons in the world is projected to be 1.4 billion in 2030 and 2.1 billion in 2050, and could rise to 3.1 billion in 2100. Over the next few decades, a further increase in the population of older persons is almost inevitable" (United Nations New York, 2017). In this context Italy has one of the oldest populations in the world and forecasts for 2065 confirm this trend with a percentage of over-65s which will rise to 32.6%, an increase of 10% over 2015¹. The future holds an ageing population, then, and an ability to cope with this is a must, above all in urban decision making and urban planning terms.

Specifically we must orient ourselves to what the World Health Organisation defines Active Ageing (WHO, 2002) which takes the form of a process in which health, participation and safety opportunities are optimised to improve quality of life for the ageing.

¹ <http://www4.istat.it/it/anziiani/popolazione-e-famiglie> (Date of access: 19/05/2019)

The backdrop to this action may be the towns, given that it is in these that half the world's population lives. "More older people are also living in cities. The proportion of the older adult population residing in cities in developed countries matches that of younger age groups at about 80%, and will rise at the same pace" (WHO, 2007).

Age-friendly cities must be the future, then, in which the urban, social and physical space will be designed to foster urban and architectural scale life styles. The essential characteristics of age-friendly cities relate to external spaces and buildings, transport, housing, inclusion, participation in social life, communication, information, health services, public support services and also the potential for employment. In particular, on the subject of the outdoor environment, WHO project consultations highlight that elderly people and those interacting significantly with them focus attention on a vast range of urban landscape and built environment characteristics which contribute to solidarity to elderly people. Recurring themes in cities all around the world are living standards and safety, which take the concrete form of practices such as: a pleasant and clean environment, green spaces, somewhere to rest, age-friendly pavements, accessibility, a secure environment and age-friendly buildings.

The majority of these characteristics might seem specific to Venice, a town whose morphology and life organisation are exceptional, moreover if compared with other cities. Inherently traffic free, Venice's transport is slow and takes place primarily on foot: here people meet in its alleyways and chat in the squares and this favours social contact, nurtures neighbourhood relationships and limits isolation, above all for the elderly and those living alone. The data regarding the resident population in the historic centre of Venice shows the over-65s accounting for 31%² - above the national average - while the number of residents has been drastically dropping over the last ten years. Thus whilst, on one hand, the town centre is depopulating, on the other it is increasingly the elderly who lead their everyday lives in it. Despite its 'positive' urban space characteristics, the lagoon city is, in actual fact, not an easy one for the elderly as there are a great many architectural barriers, and because the absence of pavements and roads with traffic is offset by over 430 bridges linking the 120 islands making up the historic centre (Figure 1). These bridges, built over the centuries and each different from the next by shape and materials used, are an impassable constraint for people with motor disabilities using wheelchairs and also for those whose ability to move around is reduced. Originally built without side barriers at a time when the town's life was changing and, in particular, as the use of horses was diminishing, these are, for the most part, without handrails. Those in stone and brick - the majority - comprise no end hand rail to support people by their very conformation and this makes them challenging both up and down, especially in adverse weather conditions.

² Data from Venice town council dating to 31/12/2018 from sestieri San Marco, Castello, Sant'Elena, Cannaregio, Dorsoduro, San Polo, Santa Croce and Giudecca. Accessible on the following link: <https://www.comune.venezia.it/it/content/classi-det-2018> (Date of access: 19/05/2019)



Figure 1. View of the Venetian *insule* (islands) and their over 430 bridges (highlighted in red).

Venice and the slow mobility paradox, from urban obstacles to action to overcome them

To gain an understanding of the current accessibility situation in Venice the authors carried out research whose objective was to capture the situation in the lagoon and collect information on and describe the great deal of work done on it over the years (Tatano, 2018). This first phase was then followed by a further two, one linked to scientific study³ of the ramps used to solve the bridge accessibility problem and the other to outline certain accessible itinerary hypotheses for people with limited motor capacity. In this third phase, in particular, all the town centre's bridges and differences in pavement level were mapped for the purposes of outlining a knowledge base on Venetian accessibility and understanding how accessible the town really was. Given the complexity and variability of the town's solutions, some routes were totally accessible and others 'elderly person friendly'. Focusing attention on the elderly, then, the situation is relatively positive, although a range of action remains to be done to guarantee independent movement to this segment of the population. In actual fact, even before the 2004 Piano per l'Eliminazione delle Barriere Architettoniche (PEBA) 55% of the bridges were normally equipped with a sort of handrail (iron railings with an easy to grip rail for the elderly at the top), as shown in Figure 2.

³ The research was funded by the European Social Fund and enabled the various types of existing ramps to be assessed scientifically.



Figure 2. Map of Venice's *insule* highlighting (in blue) bridges with handrails.

If, on the other hand, both action to place handrails on walls (Figure 3) and action taken to make bridges accessible to the disabled in wheelchairs (Figure 4) are considered, the percentage of bridges accessible to the elderly rises to 85%.



Figure 3. Map of Venice's *insule* highlighting (in light blue) bridges with added handrails.

The data thus shows that almost all Venice's bridges are 'elderly friendly'. If we consider only fully accessible bridges (Figure 4), however, the percentage drops drastically to 8% and this shows how

much work still remains to be done in the town in the light, furthermore, of the fact that not all elderly people are independent in their movements and that many are obliged to use wheelchairs outside.



Figure 4. Map of Venice's *insule* highlighting (in yellow) bridges with access ramps.

In addition to pedestrian access routes (overland routes) there are water-based routes used by public ferries (very few people have private boats, especially motor boats). Such services do not link up all urban spaces, however, which can be reached on foot for all purposes and in any weather conditions, although this can involve a series of urban 'obstacles' represented, above all, by bridges but also by steps and differences in ground level along them.

Both of these have been made more accessible over the years, equipping boat services and implementing a range of work to ensure access to some bridges and improving the user friendliness of the majority of these.

Over the last twenty years the town council has undertaken a range of work, regarding new ramps and handrails where these were not present, in particular. The rails on Venetian bridges, added over the centuries for the purposes of guaranteeing safety and avoiding people falling into the water, are made of various materials: wood, brick and iron. Brick walls, in contrast with iron railings (Figure 5, left), do not enable people to grip them for support and thus these have been equipped with new handrails (Figure 5, right) to facilitate use both up and down and providing a fundamentally important support⁴. This work increased the percentage of bridges accessible to the elderly by approximately 30%.

⁴ In conjunction with the board of cultural heritage, Venice town council drew up specific guidelines for the positioning of handrails on bridges with brick walls (Comune di Venezia, 2016).



Figure 5. (Left) Example of a bridge with an iron rail. The top of the rail is used as a support by the elderly both up and down the steps as it allows for good grip. (Right) Example of a bridge with a brick wall and added handrails on both sides.

More tangible and complex work - above all architecturally speaking - relates, on the other hand, to the addition of ramps on bridges of various types and gradients, incorporated into the structure of the bridge or added to it to ensure removal if required (Figure 6). In addition to linear 8% gradient ramps, facilitated step ramps have also been used in Venice (Figure 7), an ‘alternative technical solution’ (Comune di Venezia, 2011) in which linear gradients have been replaced by a series of elongated, sloping steps linked by a chamfer or a triangular profile instead of a riser. This type of ramp is less elderly friendly, however, as it does not allow for full step stability, but as these ramps are generally positioned to one side of a pre-existing bridge, people can choose the method they prefer (either ramp or steps).



Figure 6. Ponte delle Sechere, an example of a fully accessible bridge. In this case the bridge has been equipped with both handrail on its brick wall (left) and a facilitated step ramp.



Figure 7. Example of facilitated step made up of two units (gradient 14% - 6%) and a triangular chamfer (gradient about 42%). Average step gradient is 13.4%.

There are also temporary linear ramps put in on some bridges for the Venice marathon which, although they remain in place for much longer than is required for the race itself, are removed for several months.

Lastly, certain small steep gradient ramps were installed on Ponte Contarini in 2017 to facilitate passage with shopping trolleys. This is an experiment designed to help people using trolleys and carts.

These latter are used on a daily basis by the elderly to carry their shopping and avoid carrying heavy bags by hand and also to lean on, as a support (in the same way as a walking frame).

It is not only Venice's bridges, however, which act as barriers and the urban space itself is full of obstacles, such as small differences in height in the various parts of the town or unfenced off canal sides which can lead to people falling into the water, especially the sight impaired and the blind. Since 2017, to cope with the former type of obstacle (generally just a few steps), the town council has been building low gradient ramps (Figure 8) to connect up alleyways, *fondamenta* and squares at different heights. These ramps are being built in brick and covered in trachyte and Istrian stone, like the existing pavement, and only a few of these have handrails.



Figure 8. Ramp with a gradient of 5% to get over a pavement height difference between two alleyways.

The issue of canal side streets with no railings is a more complex one. These rarely have walls, although their traditional design makes for good visibility thanks to the colour contrast between the grey trachyte pavement and the pale coloured Istrian stone edge. Tactile pavements for the visually impaired have been used only in certain parts of the town to highlight dangers (the Piazzale Roma bus terminal and ferry services stops) and gates have been restored at landing quays. Acting on all the town's *fondamenta* and alleyways directly facing onto the water is impossible, as it would radically modify the very nature of Venice.

Old people's homes in the town centre

In this unique and, at the same time, complex urban system, the 2018 data shows that two out of every five elderly people live alone⁵, mainly as a result of the death of a spouse. To enable everyone - including those who are no longer independent - to remain in their home town, the town council generally has to supply home care and provide services to make urban spaces more user friendly. Using open spaces and green areas contributes to the wellbeing of the elderly, maintaining their sense of the seasons and the passage of time and combating isolation and the loss of autonomy and social relations. Keeping elderly people in their own social contexts without isolating them is to be preferred, therefore (Iacomoni, 2009), but it is not always possible as a result of a lack of home care services and opportune home technological solutions. Furthermore, elderly, non-independent people need care and spaces suitable to their physical and illness related needs. Thus when necessary, the elderly tend to be grouped into residential complexes, old people's homes and care homes, with attempts being made to keep people in the nearest building to their home area.

In Venice, too, a range of buildings have been adapted for use by independent and non-independent elderly people and, in some cases, Alzheimer's sufferers. The care homes, old people's homes and communities for elderly people in the town centre include some which are large (such as Residenza San Lorenzo in Castello with 180 beds⁶) and smaller ones (such as the two communities in Dorsoduro which host 4 people each at most). So that elderly people will not live in isolation and alienation, residences for elderly people must enable the latter to keep up their contacts with the outside world and thus be suitably situated in the urban fabric and a direct extension of it. To this end, Residenza Zitelle on Giudecca island⁷ is a virtuous example of incorporation into the urban context: in a project designed to renovate a 1930s building, access to the alleyways was restored and an urban courtyard was added, including spaces open to the whole district (urban vegetable gardens, day centre, meeting room, medical and assistance services, boules court, etc.). The Zitelle *insula* itself (Figure 9) - the site of this building - is linked to the rest of the town by a public ferry service and to the Giudecca's other *insule* via 'elderly friendly' bridges (all the Giudecca's bridges have handrails or accessible ramps). This enables the elderly people in the residence to go out for a walk and avoids them feeling isolated from the rest of the urban context.

⁵ <https://assistentsociali.veneto.it/1191/anziani-soli-nelle-citta-venete-buone-prassi-per-rispondere-allemergenza/> (Date of access: 19/05/2019)

⁶ The residence is owned by IRE, Istituto di Ricovero e di Educazione.

⁷ Ibidem.

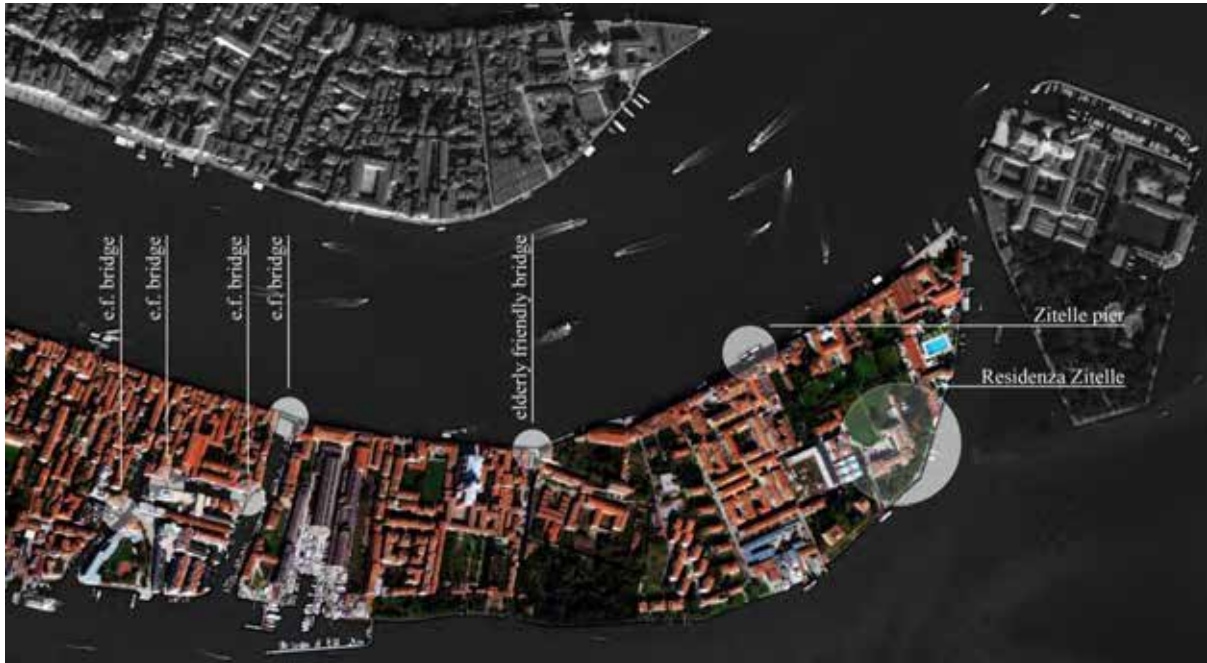


Figura 9. East side of Giudecca: localization of Residenza Zitelle in the urban context. Elderly people of the Residenza can reach the rest of the town from Zitelle pier and they can go around Giudecca using the ‘elderly friendly’ bridges.

Conclusions

Via an analysis of the de facto state of Venice’s accessibility we have seen that, in a town as complex as this from a town planning perspective, it is possible to create an age-friendly itinerary network thanks to the intelligent use of architectural solutions. The example of Venice and the solutions adopted to resolve its various ‘physical barriers’ can be a useful reference point for other towns with important historical heritage. The paradox is that while, on one hand, the town promotes projects designed to foster an increase in its accessible trajectories and thus the user friendliness of its public spaces for people with reduced motor capacities (physical action), on the other hand it has begun to adopt ‘protection’ systems for certain spaces which previously acted as public, meeting and sharing spaces from uncontrolled tourism⁸, closing them off and limiting their use as is now occurring for many small alleyways ending at the canals. And, to an even greater extent, it is closing itself off to protect itself from potential tourism, adding anti-bomb barriers in Piazzale Roma and at the foot of Ponte della Costituzione⁹.

⁸ An example is the recent Regolamento di Polizia e Sicurezza Urbana, approved on 16/05/2019 by the town council, whose 82 articles set out a series of behavioural rules for the town (<https://live.comune.venezia.it/it/approvazione-regolamento-polizia-urbana-venezia-16-maggio-2019>, date of access: 20/05/2019).

⁹ The flower pot barriers at the foot of Ponte della Costituzione, on the traffic access side of Piazzale Roma, were located there in 2011 after a car drove over it as a prank and got as far as Campo San Geremia.

At the same time, the private housing spaces which traditionally extended into the courtyards and alleyways are no longer used as shared spaces as they, too, are 'occupied' by large numbers of tourists: everyday living spaces tend increasingly to be confined to within the four walls of the home while open spaces now under siege from huge scale tourism no longer guarantee co-existence between residents and tourists. 'Physical' accessibility, then, cannot effectively guarantee the creation of an age-friendly town if the town loses its uniqueness and is transformed into a straightforward tourist destination. What is needed is thus no longer solely physical action but governance policies to reactivate these features.

What has been described makes clear that Venice is now facing three conflicting phenomena: a falling resident population in the historic centre, its progressive ageing and a huge surge in mass tourism. As a result of this latter factor, whilst physically accessible to the elderly, the town is actually closing off to them, obstructing the resident population in its use of public spaces and generating a certain aversion to visitors from residents (especially the elderly). For a town to be truly age-friendly, then, co-ordinated initiatives of a physical and managerial nature are required. On one hand urban spaces must be adapted via planning and technological action with accessibility in mind. On the other, public space creation for the community is required, with the latter understood as a physical space but also an activity incubator, especially devoted to the elderly in order to foster active ageing in harmony with local communities and the town.

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