

# REHAB 2015

2<sup>nd</sup> International Conference on  
Preservation, Maintenance and Rehabilitation  
of Historical Buildings and Structures



**Edited by**

**Rogério Amoêda  
Sérgio Lira  
Cristina Pinheiro**

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## Strolling city centers: the issue of accessibility versus the recovery and conservation of historical pavements

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**ABSTRACT:** The historical center of a city is the place where urban functions are mainly concentrated and where architectural language plays a relevant role into setting the system of relationships between public and private spaces. In this context, the system of pavements takes a relevant role, helping to shape the public spaces and their prevailing use. We cannot deny the role that a welcoming, accessible and easily walkable urban environment plays for the social inclusion in the community. The issue of the pavement's accessibility is important for the use of public spaces, influencing the opportunity to make them walkable, thus deeply affecting their full usability and safety in use. Working on pedestrian pathways in urban areas requires a cultural exchange among different disciplines, in order to identify strategies and methods of intervention to upgrade the practicability of the whole city.

### 1 INTRODUCTION

Streets and squares, path and nodes represent relevant urban marks, which contribute to shape the image of the town (Lynch, 1964); their identification and recognition help to get the structure of the city itself, the specificity and the interrelation of its road system. The streets permeate the building fabric and provide access to housing units and basic services.

The usual rides are the most important experiences for the citizens, and the concentration of uses gives the streets evidence to the mind of the user; spatial qualities being able to strengthen the image of specific routes and the continuity of paving materials representing the ingredient basing on which the physical and functional continuity can be reliably built (Lynch, *ib.*).

In the historical centers, the network of paths plays a relevant role in relation to the use of public spaces, and it represents their regulatory tool; paving's texture is a unique value that has contributed in the past to identify the specific characteristics of the routes and the recognition of the functional hierarchy of roads and squares.

The historical center of a city is the place where urban functions are mainly concentrated and where even today architectural language plays a relevant role into setting the system of relationships between public and private spaces, indoor and outdoor spaces. In this context, the system of decorative pavings takes a relevant historical meaning, helping to shape the public spaces and their prevailing use (displacement, rest). The historical core embodies signs from the past which give character to places, where the sense of community and its prevailing activity is expressed during the time, deeply rooted in the feeling of the usual inhabitants and, frequently, in the imagination of the occasional visitors.

In several housing context, urban public spaces are conceived and lived as an extension of the house interiors and the care to keep them can be compared to the one for the domestic areas. In

many villages of central and southern Italy, it is still a common habit to clean outer spaces overlooking the house, as they are private and to furnish them as part of an open-air room (Fig. 1).



Figure 1. Historic street stone paving as a floor of an “open air” living room. South Italy village.

Lastly the historical paving of the urban areas witness the close relationship between the use of space and resources in a context, with traditional use of materials and technologies handed down until today.

A welcoming, accessible and easily walkable urban environment plays a role to foster social inclusion in the community and for confirming its identity, even more strongly when the open public spaces "enable" people, regardless of age, ability or status in life, to easily use and experience them.

## 2 NEW FUNCTIONS, NEW USERS. MEETING NEW REGULATIONS AND REQUIREMENTS

Historical city centers hold perceptive values of the ancient environment that may conflict or interfere with current needs generated by the use of the spaces themselves - such as the management of vehicular traffic, the placement of signage and sub-services (sewers, power lines, wiring), the provision of street furniture and facilities.

Over time, the promiscuity of vehicular and pedestrian traffic, especially in city centers has resulted in decisions regarding the treatment of road surfaces that were highly detrimental for the maintenance of the traditional types and have indeed generated a strong degradation of the surfaces of historical interest.

A recurring solution in several historical city centers was the overlay of the road surface with asphalt, to remove the paving irregularities and to stabilize them, allowing the traffic flow on a smoother and less noisy surface. This solution, together with the choice to allow the entrance and the parking of cars in the narrow spaces of the old city core, and the improper behavior of users who very often violate the most elementary rules of civic education, generated a deep decay of urban spaces in the most representative and ancient areas of the cities.

Hence, policies arise aiming to return city centers to the original values and functions and the rise of special attention to the recovery of decorative paving according to the new use of public spaces. In particular, the return to pedestrian destination is achieved in connection with the making up or the revision of traffic plans already adopted, to allow those necessary services that require the use of cars, or to allow private vehicles to get home, even with temporary access.

Working on the redevelopment of the paths in the historical centers, necessarily we have to satisfy the requirements of usability and safety for all users, with particular reference to those of slow mobility and vulnerable groups.

At the purpose, any recovery work should meet minimum requirements of multifunctionality, assuring:

- continuous, safe and barrier free footpaths, with a proper presence of parking and meeting areas, quite large and enjoyable, to be covered with the highest autonomy as possible by people according to their physical and psychological conditions (with orienteering systems especially useful for people with cognitive or sensory disabilities);
- continuous, safe and enjoyable cycle lanes;
- “therapeutic” spaces for socialization with furniture and equipment to suit different groups of users (as, i.e., comfortable, safe and easy to supervise play grounds).

Public space provides room for social and cultural interaction and can foster a sense of belonging and pride in an area. These spaces shape the cultural identity of local communities; they often refers as being “the poor man’s living room” which hints at its particular importance for the recreation of vulnerable groups, but also its ability to foster integration between different socio-economic groups (Future of Places, 2015). Improving accessibility of public space for the most vulnerable residents represents a tool to improve equity, to foster inclusion and to combat discrimination.

When restoring and recovering city centers, original paving should be upgraded to be accessible to the largest groups of users. The issue of accessibility is one among the actions for the promotion of cultural existing heritage, as stated by the law (art. 6 “Enhancement”, D.Lgs 22 January 2004, Codice dei Beni Culturali) and by operative guidelines for cultural heritage (Guidelines to overcome architectural barriers in cultural heritage sites, 2008). Laws and technical regulations represent an essential point and updated guidance supported by two important cultural references:

- ICF (International Classification of Functioning) which favoured the development of the concept of disability, from the medical to the bio-psycho-social model, drawing the attention to the possibility to actively take part to social life, denied or supported by environmental conditions;
- Design for All approach, which foster design solutions not addressing to particular type of user (people with disabilities) but, on the contrary, targeting the widest number of people. Such a design approach, generally valid, produces special benefits when it affects ancient contexts, since it forces a cross - thinking – by reasoning about the context as a whole up to the details. It allows choices that cover all the requirements without the need of additions (which being functional on one hand, on the other perceptively and materially affect in a negative way the building).

Design for All implies the sense of limit both with respect to the solution (each solution can be difficult for a specific user) and to the situation (the complexity of the man is due to immutable patterns: there will always be situations that require customized solutions).

The definition of “architectural barrier” itself, as regarded by the Italian laws and regulations, embeds the above-mentioned cultural references: “any physical impairment for the social and personal life”. Thus, a definition that includes existing obstacles in a concrete terms as well as any lack, which can be considered a barrier. Everything related to anyone.

The issue of accessibility is a design question when working at urban scale; it can be addressed in two diametrically opposite ways:

- some aspects of the pavements, such as the complexity of the path, presence of steps, steep slopes, road crossing and path crossing to private entrances, may be sources of discomfort or weariness for pedestrians, or rather obstacles for vulnerable users;

- other aspects, like the ground patterns, the color contrast, the materials of which they are composed, may be used as tools to orient people, especially persons with low vision impairments, to define spaces and suggest the use of places (Lauria, 2004).

The Italian regulation (D.P.R. 24 July 1996, n. 503) requires for pedestrian paving a not slippery, smooth and regular surface, (difference of level lower than 2mm) with joints between slabs less than 5mm.

In case of public spaces, the needs of maintenance are relevant for perceptive values of the ancient environment, often in a seemingly conflicting way to several different other needs. Working on pedestrian pathways in urban areas does not mean only dealing with technological and formal aspects: it requires an active cultural exchange among different disciplines, in order to identify strategies and methods of intervention to upgrade the practicability of the whole city. A very critical element for conservation is the occurrence of mechanical stress acting on historical road surfaces. Heavy strains from urban traffic and from temporary or permanent concentrated loads owed to heavy vehicles passing or stopping during public events (such as markets, fairs and festivals, concerts, etc.) can cause historical paving to sink and rut, the road plane to deform and, as a consequence, trigger damage to people and things.

In addition to the management needs of vehicular traffic and the associated signs - in particular the horizontal one that overlaps the floorings - streets and squares accommodate underground services: any consequent alterations of the layers composing the road may cause the surface to sink or become dangerously bumpy. Then, the need arises to get an efficient and durable reinforcement, compatible with the conservation of the historical value of the pavement and able of guaranteeing a planar regular surface.

Conservation demands, therefore, great care and respect in terms of approach, materials and methods of construction used.

### 3 DIFFERENT APPROACHES TO THE RECOVERY AND THE RE-DESIGN OF ANCIENT PATHWAYS

The aim of recovering historical city centers is to give back enjoyable space to residents and to pedestrians; in particular, to achieve the goal it needs to combine policies and actions, aiming to design layout solution to foster traffic calming and the renovation of surfaces to upgrade the existing roads to the new functions.

The decorative paving represents the "horizontal face" of the cities and its ancient cores, and as well as the facades of historical buildings, they are often protected as cultural heritage. Since the law n. 1089 from 1939 and the more recent "Codice dei Beni Culturali e del Paesaggio" (2004) Italian regulations imposed the preservation of the paving in the historical centers.

When focusing on paving, design questions arise dealing with different issues, related to technical factors as well as to formal ones. Definitely, the legibility of the city cannot disregard from its accessibility and functionality; when conservation requirement is not prevailing, we can consider if referring mainly to the need to preserve formal appearance is justified or if it makes sense to re-shape images of the past with new materials, even if affecting functionality. Finally yet importantly, design choices related to the pavements may affect accessibility, as previously reported. It is, therefore, a design issue to compose and to mediate between the demands of conservation of matter and the functional requirements.

When dealing with the recovery of historical centers, and it needs to work on paving while maintaining the legibility of the city, which cannot be separated from its practicability and functionality, the standpoints of the Restoration discipline are very different. In some cases, the protection of the image strongly prevails, in other cases the reference to this position is not justified because "it is anyway absurd recomposing images of the past with new material: when we have to fill gaps there is no real need to protect, but functional and formal requirements. For example, an old cobbled paving should be preserved, even if not very functional; but it is a non-sense to replace an existing asphalt paving with a new cobbled paving for a supposed need to fit the surrounding environment. The perceptive relationship between the new floor and the surrounding scene is an architectural problem, to deal with keeping freed by false dogmas of the handbooks retrospective" (Della Torre, 1997) (Fig. 2). In the specific case of cobbled paving, as well as for similar surfaces, solutions to make them accessible provide the identification of pathways to

move, cross and reach the different points of urban spaces according to lines without marking “dedicated” and separated routes. It is clear the big efforts faced from the design to meet the dynamics of pedestrian mobility: this implies to shape the image of the urban space and suggest users to move according along eligible courses, with the possibility to track the underground services, to let them easily identifiable and inspected.



Figure 2. Refurbishment of historic cobble paving in Milano (left) and Merano (right)

To upgrade urban public spaces requires considering the overall system of internal relationship, but also for outdoor space. Therefore, the design project cannot be developed in a self-referring way, without considering the influence of the surrounding context, as it suggests the demand of pedestrian mobility. Therefore, we should not consider the space to upgrade as a paddock but we cannot miss its integrity as a unitary set. The reflection is vital to identify key design choices to be proposed:

- it is not necessary to make accessible the entire pedestrian public space but, in principle, conditions of comfort and safety for pedestrian mobility must be guaranteed along the prevailing desired course, through the achievement of suitable routes;
- the prevailing desired course should be pointed out basing on the function developed in the space (inner relationships) or close to it (outer relationships).

Pedestrian paths should meet geometric technical specifications and be accessible: their dimensions should consider only the space actually used by people while moving (width) less the unused space (obstacles, urban and functional fittings) from the gross area. Regarding the concept of effective width implies a significantly different dimension of the space for pedestrian movement, to advantage all users with reduced mobility. Moreover, particular attention should be paid to the correct connection between the different existing thresholds along the path (interior - exterior in a building, connections between different paving); the use of accessible paving should be the key to understanding the pathways and their qualifying elements for the whole width.



#### 4 PROJECTS AND PROPOSALS FOR RECOVERING HISTORICAL PATHWAYS AND PAVEMENTS: RECENT WORKS IN ITALY

Moving from theory to practice, the following paragraphs present three selected meaningful projects for the recovery of decorative pavements, developed in the historic core of some Italian cities in the last years. The relevance refers both to the subject (a square, a system of pathways, a material of high symbolic value), and to the approach assumed by the Municipalities that face and mediate the claimed needs of protection (by the Superintendence or by committees) and the need to guarantee modern, durable and economically sustainable design solutions.

##### 4.1 *An historical square in Trieste*

Town built on a first roman and later medieval core, Trieste knew a formidable development since the 18<sup>th</sup> century, when the Austro-Hungarian Empire, with the Habsburg authorities, embarked on the first major expansion of the port facilities, reaching a more rational reorganization with large infrastructures.

The city spreading was combined with an extensive paving process: the roads surfaces were dressed with *masegni*, heavy boulders of sandstone, very hard and abrasive material, not slippery by nature. From the Latin word *machineus* (big millstone because used for mills) the paving stones were the original surface for public spaces, made of blocks 25-30cm thick and with irregular surface chisel tip produced. Thanks to a considerable economic effort, the use of paving stones represented a great progress for the city, in terms of hygiene and aesthetics.

Urban development suddenly stopped in 1914, and the years between the wars put a strain on the city. After II World War, the economic boom of the '50s led to an upheaval of the road conditions, and the ancient paving was overlaid with asphalt.

In the late '70s, the municipal administration started a slow recovery process aimed to return a specific image to the city and to its historical centre; during the '90s the first detailed plans and ideas were drawn up and competition launched, addressed to prestigious professional offices.

With the aim of bringing back the city to its natural European context, the aesthetic and formal component prevailed: image that the spaces must give is largely more important of the intrinsic value they would have if restored as before. The project ideas on urban paving usually provide two options: the replacement / reintegration with new slabs of sandstone and white Istrian stone; the asphaltting of the streets with the elimination of the old paving stones.

The results of the 1999 competition probably aroused the of Co.sa.pu. - Committee for the Preservation of Urban Heritage of Trieste, with the aim of converging the public opinion on the protection of the historical urban paving material that, still present under the asphalt of city streets, began to be systematically removed and destroyed.

Although the meaningful cultural heritage represented by this paving, and despite the considerable documentation preserved in the municipal archives that gives indications of the way the materials were processed and implemented, there is no plan drawn up to identify where the stones should be maintained, where restored, where we can proceed removing it and providing new paving stone.

Nowadays the guidelines to intervene on the paving come from current PRGC tow planning, that in the articles dedicated to the paving of open urban areas indicates

"interventions in town centres and areas of historical, cultural or environmental interest, the original flooring must be preserved and restored avoiding uses not compatible with the quality and strength of materials. Any renovations where it is not possible to document the original materials should develop solutions with typical materials and dimensions of the contemporary building tradition. In all other cases they are made with materials typically employed in the city".

Among the most recent intervention carried out by the Municipality of Trieste there is the redevelopment of Ponterosso Square, one of the more experienced urban spaces and enjoyed by citizens; approved in 2012, the project is now under construction. "The area was reclaimed because of its strategic location (...) and paved in 1821 (...), to become the site of a vibrant fruit

market. The square, unchanged until the middle of the 20<sup>th</sup> century, was covered with a mantle of asphalt in the '50s' (Atlante dei Beni Culturali, 2006); today the space suffers from the heavy traffic and parking requirements, it is divided by a road and consists of two different areas (parking on the one side, the market place on the other).

As in every redevelopment project of the historical centre, some difficulties arose for the Municipality, the Superintendent and associations (asked to give their opinion) to find a compromise to satisfy the needs of protection, accessibility and budgeting. The ongoing project has two main goals: 1) the recovery of the idea of the square unit 2) the restoration of the ancient *masegni* material while providing adequate levels of usability.

The decision to restore the ancient paving stones in good conditions in the most monumental part of the square, and to use new paving sandstone slabs for ensuring adequate accessibility conditions of pathways, allowed to meet the above mentioned requirements, giving a track of historical memory and allowing at the same time the usability of the space.

The use of new slabs, with a smooth surface, is recurring to redevelop most of the footpaths of the city centre; where the choice is to restore the ancient *masegni*, ensuring the practicability even for the more vulnerable users, the applied technique is to seal joints (originally dry provided). This generally happens where the condition of paving stones (chipped, broken edges or corners) prevents the necessary regularity of the joint.

The use of sandstone, a native material that can mitigate the contrast between the ancient stone originally hand split and the new one with the characteristic cut saw finishing, gives the whole a pleasant and harmonious aesthetic result. However, this is not enough to assure good accessibility conditions required by regulations.

Essential elements for a good usability are the quality of the material itself, and the quality of the bedding. Of course, it is desirable that the plates do not exfoliate; previous developed works (Unità d'Italia Square area interested by a redevelopment project in 2000 with a complete replacement of old paving stones) highlighted the problem due to the selection of material for the new slabs. Too rich of marl sandstone, more tender and friable especially for saw cut and not split blocks, they turned into rapid decay on the walking surface. About the quality of bedding, it is undeniable the weight of the ability and the care with which to carry out operations of levy and rest of the slabs: this necessarily involves the use of highly qualified skill labour on one hand, but also an expertise that is being lost.

#### 4.2 Pathways to visit Cidneo Hill and the Castle in Brescia

Next to a historical vital city centre, Brescia has a place with great potential and ability to facilitate relationships, around which since long time ago turned the urban development of the city: the Cidneo Hill. By the time, this central area suffered a progressive decay and abandonment up to lose its identity and to brand itself as urban unusable, inconvenient empty space, difficult to change. Walls and moat are a delicate margin, a boundary among old and new town: urban development transformed the hill in a breaking strip, surrounded and bypassed by roads infrastructure system.

The area of the Castle, rich of relations but historically close to the city, was a military place of defense, locked to public and inaccessible by nature. The different Public Administrations that ruled over the time since many years ago aimed at recovering the urban centrality of the hill and the castle, and to return it to the City; however, without finding a solution that would start the planning and operational phases.

The impasse that characterizes the story of Cidneo Hill and Castle certainly has many causes, the first of which is the size of the entire complex (about 150.000m<sup>2</sup> open areas and about 10.000m<sup>2</sup> - covered spaces) and consequently the huge economic investment for its recovery. In 2013 a research work has been published (Berlucchi, 2013) which reports in a systematic way the state of places and proposes a first feasibility study. Within this study, the recovery of the pathways, which reach the Cidneo Hill and the Castle from the City center, represents a meaningful example of different use of materials and techniques for historical paving.

At urban scale, reachability to the Hill and the Castle is provided by asphalted tracks (practicable by car), by paths partly realized in cobblestones (practicable by of small to medium size vehicles), and uphill alleys characterized by the presence of steps. In addition to the barrier represented by steps, it must also consider the length of the paths, which can be regarded as an

'urban architectural barrier'. Several barriers characterize the spaces within the walls: other than steps, lack of adequate signage and the pavements surface make difficult to walk around: along the same route, paving differs from cobblestone to sandstone slabs, from loose gravel to compacted mix of earth and gravel, from irregular stone slabs to grass. Somewhere cobblestone paving presents stone runners with a minimum width of 50cm, not sufficient to transit with the all four wheels of a wheelchair; somewhere else the width of the path is suitable and compatible for walking or running with the wheelchair, strollers and for women with high heels. The solution with the sandstone runner also helps blinds and people with severe visual impairments because the different texture of the surface gives useful information related to the legibility of the pathway, with a different tactile perception and chromatic contrast (really marked indeed), functioning as a natural guideline. Moreover, all the underground services take place beneath the runner.

The best usability could be achieved enlarging the runner up to 150cm, with color and texture with high contrast, to be perceived by feet from blinds and with the residual vision by the visual impaired, alternating the use of smooth stone slabs, stabilized gravel and blade-laying bricks. The different use of materials can be a distinguish feature for different areas of the Castle, becoming a further element that facilitates orientation and way-finding for all.

#### 4.3 Horizontal monuments: Rome sampietrini paving

Vertical monumentality of Rome is reflected in the paving of its historical core, made with *sampietrini* and they represent *tout court* the horizontal face of the town.

The word "*sampietrino*" is undoubtedly among the best known by people who developed an antagonistic relationship of love and hate with the typical stone block, trunk of pyramid shaped in different dimensions, among which the one 12x12x17cm is the most recurring. This block was used since the XVI century to pave the most important streets the City of the Popes, starting from St. Peter's Square, from which the name. Later and from the mid-eighteenth century, the "*selci*" (hence the term "*selciato*" to indicate the paving) were used to pave all the streets of Rome. By extension, the same definition apply to pieces of other materials, for example porphyry, which have been used to pave the historical centers of many Italian cities. The most ancient blocks were cut from the old basole made of lava stone that covered the main consular roads. The laying according to a specific pattern (fish bone shaped or series of stacked and interlocking arcs), allow to get uniform and compact paved streets, able to contrast the loads due to running vehicles and transferring them to the edge of the track, which were gradually smoothed by the friction of the wagons wheels. The widespread use of this paving gave rise to the creation of two crafts: the *selciatori* (those who split the stone blocks) and *selciaroli* (who patiently placed the blocks along the streets with a technique that involved the bedding on a thick layer of sand). These crafts lasted long until the early years of the XX century, when the use of new materials introduced new types of paving stone (for example, granite and porphyry).

Only in relatively more recent times (in 1927 more than the half of the streets in Rome was still paved with *sampietrini*), the use of asphalt was preferred to stone blocks, because of its workability that allowed a higher daily output and easy and quick repair works. In recent years, as in the past, the redevelopment of the squares and streets in Rome has been the focus of extremely lively discussions, in particular on the use of this material for road paving.

The poor performance in terms of low grip wheel friction, the difficult restoration of the paving when working on it, the need to have sidewalks with continuous surfaces easier to use and the real difficulty in finding the material and the skilled labour often led to abandonment of this material. In several recent restoration and rehabilitation works on urban streets, the designers preferred the use of asphalted surfaces (for roads) or lava stone cut in thinner slabs on a bedding course of cement mortar (pavements). This does not mean that the modern techniques replaced the traditional ones, because as the history of the city shows, the asphalt already existed well before Rome was declared Capital and stone slabs were already used to pave the most important roads starting from the XV century.

In the last recovery and redevelopment works in the city centre (as for example in the Tridente Project) municipal Public Work Department, in agreement with the Superintendence, developed a careful project to harmonize the needs of enhancing the historical characteristics of the old paving and adapting it to the changed use. The project also provided for reviewing, if

required, the technological networks, and supplying new street furniture, to help proper use of public spaces.

In principle, the project maintained the original section of tracks (cradle and humpback) and only in special conditions the cross profile was changed. For what concerns pavements, a special care was paid to solutions for allowing the safe and suitable walking with slide to overcome steps, easily spotted near the crossings and intersections with other routes (for retained pavements). In some cases, only the track of the old pavement was retained and a runner realized on both sides, close to buildings, remarked by a row of metal stakes.

As for the paving stones, it has planned the re-use of old materials, in the most diffused layouts, arranging them according to original patterns reported by the ancient documents from the archives and traces of which remain in some streets, despite numerous refurbishing works developed in the past.

Willing to realize solutions that support the final goal of developing pedestrian areas, the planned design for paving provides the exclusive use by the pedestrian but compatible, in special cases and according to special rules, with the running of vehicles. In particular, the project consider only one type of paving pattern; this choice is quite unusual and represents a break in the traditional way to operate. The aim is to adopt a new vision which remarks the dating of the intervention, rather clear because of realized with a different technique for bedding the stones but mainly because it fosters the legibility, the uniformity and ease of walking in safety of tracks. Legibility is achieved with the use of only two types of stone blocks for the design patterns. For lateral runners, plates of basalt replace any existing platforms, while the central belt is realized with *sampietrini* laying on a course of sand and cement, underlying on a 30cm foundation in stabilized granular mixture of stones. Stones are 45° disposed (Fig. 3), with the central axe of the lane marked with larger basalt plates alternate to drains for collecting rainwater (for cradle cross section) or with smaller size plates along the longitudinal axe (for humpback cross section).

The use of a clearly legible and “communicative” language of pattern, extended to all the interested roads in the target area, strengthens the overall image while the easiness of usability safely foster the best enjoyment for all categories of users, in particular people with disabilities, and in compliance with the current regulations concerning the elimination of architectural and sensorial barriers. At the purpose, the use of lateral runners, close to the building facades, realized with squared basalt plates 25x25cm, with a cross grade less than 2%, with a regular, smooth surface, and reduced difference in height – less than 2mm. The anti-slippery function is achieved by threating the plate surfaces (sawed and polished) as well as by using joints (less than 5mm width). In order to reduce the sources of danger and to strengthen the ability of orientation for people with visual impairments, the project considers the placing of stripes 90-100 cm wide, at the roads intersections, realized with the largest plates and useful to mark crossing areas between the building blocks.



Figure 3. Tridente Project in Rome: *sampietrini* paving new setting.

## 5 FINAL REMARKS

The pointed out case study, as well as several projects that in recent years involved the renewal of city centres, and in particular the cities of art, show how the recovery of paving can be properly considered as real language. Being an integral part of it, paving can help to return the continuity of the urban fabric presenting itself through "sentences" that can communicate its meaning, its role, compared to the current and envisioned urban context.

At this purpose, it is necessary and essential to acquire the technological knowledge by all, each for their own competence, to allow a proper recovery and rehabilitation procedure. Whenever possible, the favourite choice is to preserve and reuse the old slabs, "assumed that ancient workmanship on the stone surface, lighter and more gradual than the modern industrially produced, foster durability" (Pratali Maffei, 1999). It is also necessary to define appropriate intervention methods and criteria for recovery and restoration to extent to the whole city, for its higher legibility.

Moreover, we can remark that the design project can be assumed as the key tool to arrange the different, complex and very often conflictual needs, which rise from a new use of public spaces as well as from the will to preserve historical meanings and memory of specific building types, seemingly of less interest (such as paving). Any possible technical solution should also consider the needs of different users that ask for a real accessibility, very often far from the one guaranteed "by law". Hence, the need to get sustainable solution that, without favoring specific uses and developing as much as possible the potentialities of the historical context, fostering inclusion through a holistic approach that consider integrated solutions and not the result as a sum of single solutions for special problems.

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# REHAB 2015

## 2<sup>nd</sup> International Conference on Preservation, Maintenance and Rehabilitation of Historical Buildings and Structures

*REHAB 2015 2<sup>nd</sup> International Conference on Preservation, Maintenance and Rehabilitation of Historic Buildings and Structures* aims to proceed with the discussion on built heritage and the preservation of its legacy, that was established in the first edition of the event. The importance of conservation of historical constructions (built landscape, urban fabrics, buildings, and engineering works) are of utmost importance to preserve the cultural references of a community and was deeply discussed on March 2014, in Tomar.

Under the main topics of discussion, subjects of preservation and rehabilitation methodologies and technologies, as well the importance of the economic and social impacts of preservation practices are here covered as the main leading guidelines for the conference debate.

Furthermore, different communities' scales (local, regional national or even worldwide) raise different questions and approaches, and therefore different solutions that are worthy to study, to compare and to experience.

The sustainability approach is also covered, highlighting the importance of the commitment between heritage preservation and technical requirements related to its occupancy and use, such as energy efficiency or materials recovery.

Inclusivity is also an important aspect to be discussed as public historical sites and buildings need to be adapted to receive different kind of visitors (children, elderly or handicapped persons) and to establish an adequacy with the perceiving of the physical environment and information contents.

As a Special Chapter, Historical Centres are brought into a particular approach highlighting the complexity of their preservation, maintenance and rehabilitation. Historical urban fabrics raise unique problems of preservation and promotion, and have highlighted the needs of specific solutions to be applied.

### The Editors