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INTRODUCTION

The creation of an exterior space is a fundamentally human act. ‘Space is basically formed by the relationship between an object and a human being who perceives it.’¹ Like connections, a multitude of exterior spaces are constantly being created and disappearing in a continuous flow. Exterior space is firstly an event. As Yoshinobu Ashihara observes,² when a family places a picnic tablecloth on the ground in a field, all of a sudden, an exterior space is formed, one that stands out against the surrounding nature. And it is a space that will disappear as soon as the cloth is folded away. Similarly, when a couple walking in the rain opens an umbrella, a personal space ‘just for two’ is formed that will vanish once the umbrella is closed.

Public space is more important than buildings and should be designed carefully. It is the matrix of urban space, the scenography for its buildings, the image and experience of the neighbourhood. Much of our built heritage and its evolution show how streets and squares were arranged before the buildings. The public space came first³.

Several thousand years ago, with the universal invention of houses built around a central courtyard (from ancient China, to ancient Greece and Roman Empire, to the Kathmandu Valley), the courtyard spatial pattern became the model of both the private and community spheres. In Chang’an, the capital of Tang dynasty China, *siheyuan* houses, rooms were arranged around a central courtyard like houses would be around a square. Thus, courtyard patterns were linking private and public life from the family scale to the community scale. This organization encourages engagement in the community life.

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1 Ashihara 1981.
2 Ashihara 1981.
3 This approach continued until the first years of 20th century. This tradition has been lost. Architectural education tends to focus on buildings and often ignores the fact that buildings define outside spaces; it is the quality of the public space that we enjoy or suffer above all else. The social responsibility of buildings to contribute positively to civic life has often been neglected. The adaptation to the motor vehicle has also created many qualitative challenges, manifest in highway design standards, parking requirements, signage or safety measures. The tendency has been to end up dealing with the ‘remaining’ space after addressing planning, highway and building considerations.
Town squares are the oldest form of urbanization. They began with the grouping of houses around an open space. The courtyard frequently came to bear a symbolic value. It shaped the construction of holly or highly meaningful civic places: Agora, Forum, cloisters, mosques, Chinese temples or Imperial Forbidden City, Durbar squares in the Kathmandu Valley.

Exterior spaces have an essential function in the social life of a community. ‘It is difficult for us,’ Raymond Unwin notes, ‘to realize, for instance, the importance of the agora in the life of a Greek city or of the forum in that of a Roman town. We find some parallel to this in the market-place of the English country town, which in many places is still on market days a very real centre of the communal life of the district.’4 The traditional heart of civic life is centred on the square, the high-street and park, elements of the public realm, around which community life revolves and civic pride is focused. Civic space traditionally suggested a mode of behaviour reflecting either the importance or use of the space, or the civic function of the day. Hence a town square may be a market place one day and a place of remembrance on the next.

From squares and boulevards to neighbourhood gardens and children’s playgrounds, the public realm frames the neighbourhood image and inhabitants’ experiences. It forms the skeleton of the neighbourhood upon which all else rests. Public space, including parks and streets, should constitute half of the total neighbourhood area. It takes many spatial forms, including parks, streets, sidewalks and footpaths that connect, recreation playgrounds, market places, but also edge space between buildings. This does not mean that all public spaces are ‘open spaces’ – a library, a school, or other public facilities, are also public spaces. Public space forms the setting for human activities: the ceremonial festivities of the multicultural city, the trade of the commercial city, the movement of goods and people. It connects people to people with a continuum of the public realm.

Strong civic life is essential to a healthy and thriving community – a community where people trust each other, trust local institutions, and actively work together to meet local priorities. Civic life develops with the design and maintenance of the public realm – from streets and squares to parks and public buildings. As cities seek to bridge social divides, it is important to

4 Unwin 1909.
prioritize a fair distribution of investments in the public realm so that all residents can benefit. This means that more resources should go to neighbourhoods that need them most. It also means involving various groups—especially those whose voices have been overlooked in the past—in design and decision-making processes.

This chapter is divided into six guidance sections.

ENCLOSURE AND POSITIVE PUBLIC SPACE
EMBEDDING AND PROPORTION
GROUPS OF SQUARES
SEQUENCES OF PUBLIC SPACES
ACTIVATING PUBLIC SPACES
MAINTAINING THE PUBLIC REALM

The chapter presents in detail four historical case studies.

Piazza del Campo, Siena
Piazza San Marco, Venice
Capitoline Hill Square, Roma
Dam Square, Amsterdam

They are completed by three contemporary projects with a linked network of public realm.

King’s Cross, London
Manhattan High Line and Hudson Yards, New York

ENCLOSURE AND POSITIVE PUBLIC SPACE

Detail of the Turgot plan (1734-39) showing the walls of Paris at the Porte Saint-Antoine, near the Bastille. Place Royale (1605-12, today Place des Vosges) was one of the first squares planned by the king. It is recognizable by its geometric regularity (a perfect square), which is cut through the irregular plot subdivision of the 17th century.

The urban fabric is a meshing of solids and voids, of buildings and the spaces in between. The quality of urban life and its connectivity depend on the structure of these spaces, and on whether they display a character that is orderly and meaningful or, to the contrary, chaotic, amorphous and senseless.

5 Centre for Active Design 2018.
Architecture—ancient, classical architecture, or Baroque, and even up to the nineteenth century—constructed empty space. Buildings essentially constituted the walls of these large outdoor lounges in the form of squares and of these openings in the form of streets, offering perspectives onto monuments, nature and the sky. As Nolli’s plan for Rome shows, solid masses and empty spaces did not rigidly oppose each other. Large indoor public spaces in churches and semi-public spaces in palaces and courtyards created a shifting boundary between the solid and the empty, between what is open to the sky and what is sheltered under large vaults, between the public and the private, the crowded and the secluded. This highly complex urban landscape gave rise to a multiple connected order\(^6\).

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\(^6\) Salat et al. 2011.


La Pianta Grande di Roma (literally “The Great Plan of Rome”) is one of the most revealing and beautiful urban plans of all time. The first accurate map of Rome, it captures the city at the height of its cultural and artistic achievements. Because the historical center of Rome has changed remarkably little over the last 250 years, the Nolli map still remains one of the best sources for understanding the contemporary city. Surveying almost eight square miles of rolling terrain which included dense city fabric, surrounded by a sparsely populated but intricate pattern of farms, vineyards, villas, monasteries, and ancient ruins, and indexing 1,320 sites, Nolli achieved an extraordinary technical feat that represents a milestone in the art and science of cartography\(^7\).

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\(^7\) Salat et al. 2011.
THE FORMATION OF EXTERIOR SPACE

Limits are what make the exterior space architecture. And since it is a roofless architecture, the ground and the walls acquire all the more importance. Designing exterior spaces is more complex and difficult than designing interior spaces because their elements are seen from a great variety of distances. The changing perception of textures at different distances as well as the viewing angles from which the vertical obstacles are perceived must be mastered by the designer. Depending on whether a wall is above or below eye level, it will separate or unite spaces. The direction of the sun and its movement in the course of the day have to be studied. Certain squares like the piazza del Campo in Siena can mark the hours of the day like a sundial.\textsuperscript{8}

The enclosure of space and concavity are essential characteristics of successful urban spaces. Concavity has its roots in an Aristotelian concept of place as a container, different each time, defined by enveloping surfaces, in contrast to the empty, isotropic and undifferentiated modernist space. The orientation of surfaces to present maximal information generates concave spaces in which most of the information is presented in a viewing angle of 90°. This process leads to what Christopher Alexander calls ‘positive space’, which he considers a fundamental property shared by all coherent structures.\textsuperscript{9}

POSITIVE PUBLIC SPACE

‘Positive’ space is a space with an identifiable shape and direction\textsuperscript{10}. ‘An outdoor space is positive when it has a distinct and definite shape, as definite as the shape of a room, and when its shape is as important as the shapes of the buildings that surround it.’\textsuperscript{11} Positive public space traditionally comprised streets, squares and gardens, and the interior of large buildings, such as palaces courtyards and interiors of churches. There was no separation between street and buildings but rather a continuum of the public realm, which was the stage of urban life. The open space in Rome is carved out of the building mass as a continuous flow linking interior and exterior spaces and activities. Space is conceived as a positive entity in an integrated relationship with the surrounding solids. This is the opposite of the modern concept of space, where the buildings are free-standing, figural objects, and space is an uncontained void. In Nolli map of Roma drawn in the 18\textsuperscript{th} century (below left), the void is the figure with empty spaces as well defined and designed as built forms.

\textsuperscript{8} Salat et al. 2011.
\textsuperscript{9} Alexander 2002.
\textsuperscript{10} Negative spaces are empty spaces left between buildings without shape, sense of direction, or purpose.
\textsuperscript{11} Alexander, Ishikawa and Silverstein 1977.
Positive public space versus disconnected urban objects. Two very different figure/ground representations of urban space. Left: Map of Roma, by Giambattista Nolli, 1748, with 'figure' (public space) in black over 'ground' (built form) in white. The continuity and positivity of public space is fundamental in the traditional city. The map does not outline, like today, a division between interior and exterior spaces or between solid masses and empty spaces. The map creates a division between: (1) in black: the continuous public space of streets, squares, large churches, and interior palace courtyards; in white: the compact mass of private buildings. Right: Brasilia. The figure is still represented in black but, with the modernist movement, the figure has become the buildings and the ground (in white) is a shapeless empty space. The continuous public space is replaced by a formless empty space between buildings – a space divested of its positivity and which thereby becomes pure negativity. Source: Salat et al. 2011.

Extract of the original map of Roma, by Giambattista Nolli, 1748, with this time public space in white. The map shows that the public space has a well-defined shape and is designed as a hollow architecture.
Nolli’s method, consisting in extending the space of a street, alley, square, or garden into the empty interior space of a church or palace, expresses the unconscious sense of the relationship between plan and elevation in space. The voids and full spaces appear different in ordinary language and in phenomenal perception (of things), but, conceptually speaking, they are complementary aspects of one and the same medium. In the historical city, solid and empty spaces play an equivalent role on the horizontal and vertical planes. They are not different in nature. In addition, we know that buildings or bodies contain space and that what architecture calls solid masses actually enclose interior voids. Space in and between architectural objects are part of the same continuous medium, the definition of which is the very subject of urban architecture. In a group of squares, in a square, or in an interior room, the solid body and the delimited void are but modes of manifestation of a single phenomenon: architectured space. This logic of continuous space is translated by Nolli’s representation technique. In it, the square space extends right into a church nave of a or a palazzo peristyle.

Compared to the continuous historical city, modernism shows a great discontinuity of drifting elements in an undifferentiated space. Comparison of Parma in 1830 (right) and Brasilia in 1960 (left), area of 350 m × 530 m. Urban density in central Parma is 12 times higher than Brasilia’s. The average distance between intersections is 400 m in Brasilia whereas it is five times less in Parma. Source: Salat et al. 2011.

CASE STUDY: POMPEI FORUM

Before 79 A.D.

The classical city room is an effective means of organising the community life. It links public and semi-public spaces of various functions. It provides a unified framework to connect diverse buildings and open spaces. The ancient forum was closed on all sides by architectural constructions and decorated with frescoes and statues. Sitte compares it to a theatre, in terms of both the enclosure and the focalisation, and describes the plan of the forum of Pompeii in the following terms: ‘it was tightly edged on four sides by public buildings. the only building to project into the forum was the temple of Jupiter, on the small north side, and immediately to its right, the vestibule to the temple of Lares seems to adjoin the square itself. The rest of the forum is surrounded by a peristyle in two stories. The centre is left empty, while the perimeter is occupied by numerous monuments of various sizes whose pedestals, still extant, are covered in inscriptions. What kind of impression could this square have produced? Probably something along the lines of a huge concert hall today with its balcony but without a ceiling, comparable to a hypaethral assembly hall. This effect is linked to the strict closure of the square.’

The number of streets leading to the square was limited. The streets behind buildings did not

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12 Salat et al. 2020.  
13 Sitte 1889.
lead to the forum; some streets were gated and to the north also, access to the square was through monumental gateways. And Sitte to conclude, ‘the forum is for the whole city what the atrium represents in a single-family dwelling: it is the well-appointed, richly furnished main hall. In keeping with this, an unusual quantity of columns, monuments, statues and other artistic treasures was lavished on this place too, because it was the intention to create a sumptuous hypaethral interior.’

Space becomes positive when it is contained by unambiguous edges. Enclosure largely determines people’s image and reaction to a space. Positive space can be measured. It has definite and identifiable boundaries. It is discontinuous in principle, closed, static, yet serial in composition. Negative space, on the other hand, is shapeless, continuous, lacking perceivable borders or form. The Piazza del Campo in Siena is positive space, while Le Corbusier’s ‘Ville Radieuse’ is immersed in a flow of amorphous negative space.

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14 Sitte 1889.

15 ‘Ville Radieuse’ (Radiant City) was an unrealized urban design project designed by the French-Swiss architect Le Corbusier in 1930. It constitutes one of the most influential and controversial urban design doctrines of European modernism. Le Corbusier had already exhibited his ideas for the ideal city, the ‘Ville contemporaine de 3 millions d’habitants’ (Contemporary city of 3 million inhabitants) in the 1920s. The principles of the Ville radieuse were incorporated into his later publication, the Athens Charter published in 1933, which became the set of rules for the modernist movement. The ‘Ville Radieuse’ concept lacks of human scale and connection to its surroundings. It is, in Lewis Mumford’s phrase, ‘buildings in a parking lot’. 'The space between the high-rises floating in a superblock became instant wastelands, shunned by the public.' (Kunstler, J. H. 1993. *The Geography of Nowhere*. Simon & Schuster).
Left: The piazza del Campo in Siena. Positive space is defined by a boundary and conveys a strong sense of image and place. Right: Brasilia with a master plan designed in 1957 by Lúcio Costa according to the principles of Le Corbusier is immersed in a shapeless flow of negative space. Exterior space does not convey any sense of place.

Exterior space should be the force that gives definition to the architecture at its edges, establishing the walls of the outdoor room. External urban space, if conceived as designed volume rather than structureless void, can reverse the ‘figure-ground’ relationships between buildings and open spaces. The best check whether outdoor space is positive is to prepare a figure-ground drawing, with constructions as ground and public space as figure.

The success of an edifice depends on its ability to make a positive contribution to public space: face the street, make it vibrant, and ensure that all adjacent open spaces are perceived as outdoor rooms. Urban design should connect the form of the buildings to the site structure or twist and turn the building facades to create positive exterior space. Buildings and open spaces should constitute a whole. This interaction between buildings and the public domain determines the relationship between the inside and the outside, built and open, public and private, the individual and the community.

Piazza del Campo in Siena is an ‘outdoor room’ where the strong interaction between buildings and the piazza define clearly the edges of the room that becomes a place for the community. Photo: Georges Jansoone.

The easiest way to achieve positive space is to work with a horizontal building mass where the public space is carved out of the volume like in Plaza Mayor in Madrid or Place des Vosges in Paris. There should be no ambiguity or leftover space. This can be done by giving each outdoor space a definite function, character and shape, and clarifying boundaries through the positioning of adjacent buildings, walls, colonnades, and trees like in Place des Vosges in Paris.
CASE STUDY: GEOMETRY AND EDGE DEFINITION ACHIEVE POSITIVE SPACE IN THREE SQUARES IN PARIS AND REIMS

The three squares analysed here (Place des Vosges and Place Dauphine in Paris, Place Royale in Reims) show how a clear geometry (square and triangle) and a coherent built front create a positive public space and a strong sense of place.

Place des Vosges, Paris

The Place des Vosges, originally Place Royale, is the oldest planned square in Paris. It was a fashionable and expensive square to live in during the 17th and 18th centuries, and one of the central reasons for the trendy nature of Le Marais among the Parisian nobility. Place des Vosges was created by Henri IV from 1605 to 1612. A true square (140 m × 140 m), it embodied the first European program of royal city planning. Place des Vosges is a prototype of European cities residential squares. The house fronts were all built to the same design, probably by Jean Baptiste Androuet du Cerceau, of red brick with stone strips over vaulted arcades sitting on square pillars. The steeply-pitched blue slate roofs are pierced with discreet small-paned dormers above the pedimented dormers standing upon the cornices.

Place des Vosges, a perfect square 140 m side.

The plan is symmetrical. The axes are orthogonal and diagonal, respecting a perfect geometry of the four sides. Before arriving at the centre where the statue stands, we are surrounded with low vegetation. This ‘garden’ part, with vegetation on the ground, surrounds four fountains, each on one side of the square. The second layer is the tall vegetation, the trees, which in a way protect the interior from the exterior, delimit it, and highlight the four accesses. A fine metal fence, less high than the trees, follows. After the trees, we find the street. And finally, apartment buildings on all sides, which are themselves symmetrical to each other as seen on the brick facades. The garden offers views in X and at the same time perpendicular views. You can then decide to look at the facades diagonally or perpendicularly. It offers different sequential visions.

It can be understood as a game of perception, of shifting gazes.

Colours of nature, almost complementary colours (shades of green, shades of red that has rubbed off over time, and shades of blue / grey). Analysis by Charline Roizon-Monserrat. École Spéciale d’Architecture, Paris.

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Two pavilions rise higher than the unified rooftop of the square centre the north and south facades. They offer access to the square through triple arches. Left: arcades at the Pavillon de la Reine. Photo: Gryffindor. Right: Pavillon de Reine at the north side. Photo: Beckstet.

Place Dauphine, Paris

In Place Dauphine in Paris, a strong edge definition and clear geometry contrasting with the Seine river create positive public space. The Place Dauphine is a public square near the western end of the Île de la Cité in the first arrondissement of Paris. It was initiated by Henry IV in 1607, the second of his projects for public squares in Paris, the first being the Place Royale (now the Place des Vosges). Land was conveyed to Achille de Harlay with instructions to execute a project according to a general plan in which the houses would adhere to a specified and repetitive facade. The development consisted of two components: a triangular square and a row of houses across from the base of the triangle on the eastern side of the rue de Harlay, with returns extending further east along the quays. The square had two entrances: one in the middle of the eastern range and the second at the western point, opening onto the Pont Neuf. The western (‘downstream’) gateway was formed by paired pavilions facing the bridge and the statue of Henri IV on its other side. Originally, the houses were all built with the specified facades, which were like those at the Place Royale, although the houses were more modest. Behind the facades, the houses themselves, built by separate buyers, varied regarding plan and area. Since its construction, most of the houses surrounding the square have been raised, given new facades, rebuilt, or replaced with imitations of the originals. Only two retain their original appearance, those flanking the entrance facing the Pont Neuf.
The Place Dauphine as depicted on the 1739 Turgot map of Paris
Bottom: The transformations of the Île de la Cité western tip and the Palais de la Cité between 1380 and 1620 with the Pont Neuf and Place Dauphine construction.

Place Royale, Reims

From top to bottom:
1. Place Royale developed like an open book showing the regular rhythm of built and open space.
2. and 3. Place Royale developed like an open book showing the horizontal line of roofs and the regularity of facades.
4. Materiality and facade detailing.

Drawings and analysis by Alexandre Pham. École Spéciale d’Architecture, Paris.

Place Royale in Reims is a visually enclosed space. The facades have a regular height with rhythmic openings and the wealth of detailing.

Three key components of positive space

- **The three-dimensional frame**

  It defines the edges of the space, the degree of enclosure, and the characteristics of the ‘space wall’. Rhythm, transparency, opacity, openings, and surface ornaments have significant impact on the character of space, as does the relationship of vertical mass to horizontal space. The proportion of the ‘wall’ compared to human scale and the way this frame meets the ground plane are also major factors in the delineation of the three-dimensional edge.

- **The two-dimensional pattern**

  It refers to the treatment and articulation of the ground plane—its materials, texture, and composition. Examples are Piazza del Campo in Siena and the Capitoline Hill in Roma.
Objects in space

Elements such as sculpture, water features, and trees provide accents or focal points and make the space memorable. Objects can be used to anchor the centre and to give vitality to spaces. Examples are the equestrian statue of Marcus Aurelius on Capitoline Hill in Roma or the column in the centre of Place Vendôme in Paris.

Place Vendôme in Paris embodies the three key components of positive public space: a strong three-dimensional frame, a two-dimensional pattern and a central vertical object in space, the Vendôme column.

Place Vendôme in Paris. Photo by Giorgio Galeotti.


V. Antier. Painting of the place Louis-le-Grand (Place Vendôme), bird’s-eye view looking west with the domed Church of the Daughters of the Assumption visible on the south side of the Rue Saint-Honoré. 1705. Musée Carnavalet.
Place Vendôme, earlier known as Place Louis-le-Grand, is a square in the first arrondissement of Paris, to the north of the Tuileries Gardens. Its regular architecture by Jules Hardouin-Mansart and pedimented screens canted across the corners give the rectangular place Vendôme the aspect of an octagon. The original Vendôme Column at the centre of the square was erected by Napoleon I to commemorate the Battle of Austerlitz. Place Vendôme was laid out in 1702 as a monument to the glory of Louis XIV armies. The site of the square was formerly the hôtel of César de Bourbon, Duke of Vendôme. The king purchased the plot and commissioned Hardouin-Mansart to design a house front that the buyers of plots around the square would agree to adhere to. At the centre of the square’s long sides, Hardouin-Mansart’s range of Corinthian pilasters breaks forward under a pediment, to create palace-like fronts. The architectural linking of the windows from one floor to the next, and the increasing arch of their window heads, provide an upward spring to the horizontal formed by ranks of windows.

**CREATING A SENSE OF ENCLOSURE**

Inside a city, an open space only becomes a square if it is effectively closed. According to Raymond Unwin, ‘A place, then, in the sense in which we wish to use the word, should be an enclosed space. The sense of enclosure is essential to the idea; not the complete enclosure of a continuous ring of buildings, like a quadrangle for example; but a general sense of enclosure resulting from a fairly continuous frame of buildings, the breaks in which are small in relative extent and not too obvious. If we examine a series of ancient places, we shall see that, whether from accident or design, the entrances into them are usually so arranged that they break the frame of buildings very little, if at all.’

In medieval squares in Siena or Toledo, for instance, when we enter the square from one of the streets, we do not see another street straight ahead on the other side. Much ingenuity went into masking the entrance to certain streets. As Unwin observes picking up Sitte’s analyses, ‘A photograph of the Piazza Erbe in Verona reveals no break in the line of surrounding buildings, and yet if we examine the plan we shall find that no less than eight different streets enter this place. In the north-west corner is shown an instance of a not uncommon plan by which two roads enter a place by the corner, in such a way that when looking across the place no direct view down either street is open, but the buildings at the corner – in this case, the tower – block the view and complete the frame.’

The enclosure of squares gives the character of a concave space and offers an appropriate frame to the different facades of public buildings that are integrated

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17 Unwin 1909.

18 Unwin 1909.
into a continuous urban fabric. Historical public buildings are not usually isolated or in a central position. They are on one side of the plaza and are either connected to neighbouring buildings or the separations are so narrow that they are imperceptible to someone looking across the square.

EMBEDDING AND PROPORTION

EMBEDDING

Sitte notes that churches were never isolated and free-standing in the past, especially in Italy. Their embedding contributed to making interesting squares with very irregular forms. In Rome, from 255 churches: 41 have one side attached to another building, 96 have two sides, 110 have three sides, 2 have four sides obstructed by other buildings, 6 are free-standing. In Rome, churches, as a rule, were never built as free-standing entities. This was, with some exceptions, true throughout Italy. Buildings can only be set off properly if they can be seen from an appropriate distance and on a square that is not too large. Surrounding a building with a uniformly empty space prevents the achievement of varied effects. According to Sitte, when a building is isolated ‘its effect is not concentrated anywhere but is scattered all about it. Such an exposed building will always appear like a cake on a serving platter. To start with, any lifelike organic integration with the site is ruled out. Also excluded is any successful achievement of perspective effects, for which it would be necessary to have deeper space – a plaza of a shape similar to a theatre in the background of which the too intrusive facade could be relegated.’

THE PROPORTION OF SQUARES

The impression of magnitude of a square is unrelated to its actual dimensions because, as Sitte points out, ‘The relationship of proportion plays a greater role than absolute size.’ The effect of squares depends on their relative proportions and on the relationship between their dimensions and the dimensions of the main building on the square. Sitte recommends that the dimension of the square be at least equal to the height of the building and no greater than double its height. The form of urban squares has to be in a relationship to that of the buildings that line it. Form factors and the relationship between depth and width are as important for squares as they are for buildings. Piazza Santa Croce in Florence is a square in depth since everything is organized in relation to the main facade of the church. A deep square works well if the building at the rear (on one of the short sides) is sufficiently high. If the square is in front of a wide building, it must be similarly organized.

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19 Sitte 1889.
20 Sitte 1889.
### Hemming


Italian churches never stand isolated at the centre of squares. They are leaning against or hemmed in by others on several sides. In Verona, all the churches are hemmed in, the only aim being to create a square in front of the main entrance. This is the case for the cathedral, for San Fermo Maggiore, and for Santa Anastasia.

### The continuous enclosure of space and the square in the form of turbine arms


The defining condition of a square or a room is the spatial enclosure. The simplest case is when a gap is made in the mass of houses facing a monumental building. For instance, in the small Piazza Santo Giovanni in Brescia, the continuity of the enclosure created by the buildings is there from the start. When several streets open onto the square, the continuity is maintained by openings in the form of turbine arms. The Piazza del Duomo of Ravenna is one of the purest examples. Each street enters the square from its own direction, so that, thanks to perspective and to how the buildings conceal each other, the visual continuity is not broken from any point in the square.

### Breaking lines of sight


In Piazza della Signoria in Florence as in Brescia and Palermo, the infinite perspectives are broken because the streets opening onto the square are set at an angle to the line of sight instead of being parallel to it. This technique was used in Italy with great refinement.

### Dimensions and shapes


Squares are arranged in width and height. A deep square will only yield a pleasant effect if it is facing a tall edifice like in the Plaza Santa Croce in Florence. If, on the contrary, it faces a building of great width, it too must be wide rather than deep. Two adjacent squares are in the centre of Modena, one wide, the other deep. The dimensions of squares must be directly related to the building that dominates them.

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21 Source: Salat et al. 2011.
- **Irregularity**


The strong irregularity of ancient squares stimulates interest but is tempered by our perceptual tendency to idealize and regularize them. This is the case for the famous Piazza Erbe in Verona and for Piazza Santa Maria Novella in Florence. A great many people retain an image of them as quadrilateral when they actually have five sides. This is because it is only possible to see three sides of the square at once.

- **Groupings of squares**


Historical cities generally feature a group of contiguous squares. They form the heart of the city. This phenomenon is linked to the enclosure of squares and the placement of monuments. The sequence of different squares offers different views of church facade. Therefore, the squares are logically built in depth and then in width, as is the case in Modena with the sequence of Piazza delle Legna and Piazza Grande. The squares are separated, and sometimes closed off by arches over the streets. This works to create sequences of spatial narrowing and closing before opening onto a bright expanse. In Modena, Piazza de la Torre constitutes a third autonomous entity designed to give prominence to the tower.

**HUMAN PROPORTIONS**

Public space size, shape and detailing should **correspond to human scale**. Distance plays a key role in personal interaction. At 300 to 500 metres, humans can identify other people as humans instead of objects. From 25 to 100 metres, individual characteristics and body language can be observed. At less than 25 metres, people enter a social field of vision where richness of detail and communication intensify dramatically, metre by metre. These distances set the limits of human scale. The most highly regarded public squares in Europe are almost all smaller than 10,000 square metres; most are smaller than 8,000 square metres.

Yoshinobu Ashihara examines the emotional impact of square sizes and maintains that there must be a ratio of 8 to 10 to yield the admissible range of sizes for public squares. The smallest squares (from 21 m to 27 m) correspond, for instance, to Venetian campi where one can make eye-to-eye with everyone on the square. The biggest public spaces (72 m by 144 m) correspond to the biggest European squares. Ashihara also proposes to use a square module of 21 metres to vary the height, texture, and rhythm of exterior spaces so as to reinforce the sense of enclosure by dividing the big squares into subcomponents and thus avoid monotony. From the point of view of the visual structure of space, the size must not be too small or too big. Composing exterior spaces of 1 to 5 modules of 21 m is ideal. Beyond 8 to 10 modules, the space loses its coherence. It is preferable to decompose exterior spaces in groups of squares, like in the historical urban textures described by Sitte. This is similar to designing a house composed of rooms with different qualities, forms and sizes.
GROUPS OF SQUARES

The pattern of contiguous squares is so frequent in historical cities that the presence of a group of squares around the main public buildings in the centre of ancient cities can be seen as the rule and the existence of a single square as an exception. This phenomenon is linked to the enclosure of squares and the fundamental device of framing monuments among other buildings. ‘Camillo Sitte quotes the universal custom of the ancients to prove that buildings are not seen to the best advantage when seen in isolation. Where it is desired that several sides of a building shall be visible from a distance, instead of placing it in the centre of a place, places may be arranged on its different faces with other buildings approaching or connected at the corners, in such a way that they will form a frame for each view, and from no point will the building be completely detached and isolated in the pictures obtained from it.’

Place du Cardinal Luçon, Reims

In front of the cathedral, the heights of the buildings show heterogeneous mixed buildings with different rhythms due to the morphological evolution of the neighbourhood. We therefore have a skyline with a cathedral framed from distinct viewpoints and highlighted by the height difference (cathedral: 81 m, buildings: 15–20 m).

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22 Unwin 1909.


Main square of Malá Strana in Prague

Malostranské náměstí is the main square of Malá Strana in Prague. The St. Nicholas Church and the adjacent building complex divide the square into an upper (west) and lower (east) part. Top left: Prague, Malostranské Náměstí, 1606. Top right: Prague, Malostranské Náměstí, 1884. Bottom left: Prague, Malostranské Náměstí, 2017.

Group of squares in San Gimignano
San Gimignano. Photos: © Françoise Labbé.
In urban design, the emphasis should be on the groups and sequences of ‘outdoor rooms’ and on the open-air space structure of the neighbourhood as a whole, rather than on individual isolated entities. Public realm should not be static. It should generate a variety of human responses. ‘Public spaces in cities are also places that allow people to enjoy solitude. Our urban spaces become much richer when there are many different layers of public spaces and meanings’23. Public space should establish rhythm in urban life, in space and in time. It should contract and open, and include places we can enjoy. This cadence is about moving and stopping. Light is an important part of the rhythm in time. The course of the sun through the day and across the seasons creates tempo in urban space.

23 Maki 2008.
In the medieval city, the unfolding of squares reflects both continuity and differentiation of functions. Prague, the system of market squares in the heart of the old city. Source: Lorenc Vilén, Nové Mesto Prazské.

Prague, the Market Square in the heart of the old city. A complex, multifocal composition, where the curved urban space closes and opens, expands and contracts. Photos: ©Françoise Labbé.

Each neighbourhood should thus be structured with a diversity of public spaces. Design should articulate their hierarchy. Their treatment should contrast according to the space (be it a square, a street, a garden, or a market), character (whether used for informal recreation or leisure purposes or have an official civic status) and their size. Streets, squares and parks should be a linked variety of ‘outdoor rooms.’ Their nature should differ according to whether people

- go to places, or destinations for staying, eating, meeting or events.
- go through or past spaces, such as favoured streets or squares.
- stop in places, to sit and watch the world go by.
- or a combination of all these — providing multi-functional spaces where people live, work and entertain.²⁴

²⁴ Lleelyn Davies 2000.
Reclaiming underutilized infrastructure and converting it creatively into the public realm are effective ways of connecting public space. The history of urban growth has left many cities with difficult physical barriers – elevated highways, rail tracks, large industrial sites, or underutilized parking. These obstacles have often weighed disproportionately on low-income residents. Many communities are working to transform barriers, reconnect fractured neighbourhoods and create new public spaces for interaction and activity. Recommendations for action are

▪ Clean up, rezone, and redevelop underused sites to establish dynamic public gathering spaces.
▪ Leverage transportation infrastructure to design linear parks and trails. Successful examples are the Atlanta BeltLine and Manhattan High Line. The Atlanta BeltLine is converting the city’s peripheral abandoned rail yards into trails and linear parks, ultimately creating a 22-mile network that will link the city’s diverse neighbourhoods.
▪ Enhance pedestrian and bicycle connections across large-scale infrastructure projects such as highways, rail yards, and bridges.

ACTIVATING PUBLIC SPACES

DESIGN AND PROGRAMME MULTIPURPOSE SPACES

Design versatile neighbourhood spaces. People from distinct cultural or age groups, including children, the disabled and the elderly, use public spaces in diverse ways. Rather than separating types of activities and therefore user groups, it is beneficial to design multipurpose spaces that allow varied people to enjoy different activities in the same place. Sufficient and flexible space of all sizes should be available for public gatherings. Most parks shouldn’t be single-use passive recreation areas. Some cities create ephemeral parks to liven up underutilized spaces. An ephemeral park is a temporary use of a vacant or underused space: a parking lot can become a farmers’ market; an urban square, a place for lunch during the day, can host concerts or open-air films at night.

Check list for deciding on the relative positioning of activity zones

▪ Visibility – allows people to have a view of the spaces while offering them a choice of areas to sit or linger in relation to activity ‘hot spots’.

▪ Orientation – sunny and well-sheltered areas with south-facing seating are the most popular areas for lingering.

▪ Seating and stopping facilities in squares and parks at activity nodes and crossings.

▪ Places where children can play, not just in designated areas. In the vicinity of housing, create places for children to play and for parents to meet.

People attract people. The most effective way to ensure that an urban park or square is well used is to introduce a source of activities next to or inside the space. Examples are a cafe or food stand, with quiet areas for rest and observing the surrounding activity.
Life in public places is potentially a self-reinforcing process\(^{25}\). When someone begins to do something, there is a tendency for others to join in either to participate themselves or just to experience what the others are doing. In this manner, individuals and events can influence and stimulate one another. Once this process has begun, the total activity is nearly always greater and more complex than the sum of the originally involved component activities. People and events are assembled in time and space so that the individual activities get a chance to grow together to larger, more meaningful and inspiring sequences of events. The process becomes positive: *something happens because something happens*. A self-reinforcing process can begin. This is the case because larger, more complex community activities can develop naturally from the many small daily activities. To enhance activity levels, spaces can be created for

- encouraging street performers.
- transforming squares into an auditorium or movie theatre in the evening.
- hosting markets, carnivals or parades.

**Programming** is often a quick and cost-effective solution that can produce instant results. Simple programming, such as street festivals, health fairs, and sporting events, can bring people out and into the community. Social engagement can be spontaneous or planned. In most cases, to support social interaction, spaces need to be energized and programmed. Due to the inexpensive nature of programming, communities shouldn’t be afraid to try new ideas and tactics. Pilot projects or unplanned interventions can serve as test cases at the local level. Since community places involve a mix of public and private domains, cooperation between landowners and local authorities is crucial. Existing regulations often need to be amended to allow temporary use permits or land rezoning to allow for mixed-use activities\(^ {26}\).

Programming, often through a dedicated manager or a Business Improvement District (BID), keeps public spaces active and welcoming at all times and in all seasons. Examples of possible activities include play streets, movies in the park, yoga classes, food streets, art festivals, chess tournaments, etc. Ephemeral parks explore which activities suit the citizens of a particular neighbourhood and how these activities can energize these public spaces. Parklets – small temporary parks built by extending sidewalk platforms to traffic lanes or parking areas and adding seating, landscaping, artwork and bicycle parking – create more animated streets. San Francisco, which launched the first formal parklets in 2010, now has 38 developed and maintained by community organizations, local businesses and residents. These ‘outdoor living rooms’ also attract customers to retail stores and cafes\(^ {27}\).

**MAKE THE PUBLIC SPACE WELCOMING**\(^ {28}\)

Design can play an important role in bolstering civic trust and encouraging all community member to actively participate in public life.

- **Create welcoming entrances**

  Noticeable signs and gateways that accentuate the entry to a park can foster participation by inviting people inside. Strategies are

  - Visually articulate entrances to parks, plazas, and other public spaces.
  - Improve the ‘front porch’ of civic edifices with modest enhancements such as seating, plantings, or lighting.
  - Make it easier to see into public spaces and buildings. Minimize walls and fencing around parks and plazas; use windows and glass facades to increase transparency and perception into public buildings.
  - Clear sight lines make activities more visible and can attract passers-by.

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\(^{25}\) Gehl 2008.

\(^{26}\) Eitler et al. 2013.

\(^{27}\) ULI 2013.

\(^{28}\) This section draws on Center for Active Design 2018.
- **Use positive messaging**

  Positive messaging can impact perceptions among visitors and increase civic trust.

- **Make navigation user-friendly**

  ‘Way-finding’ refers to information signals that guide people through their physical surroundings, such as maps, directional signs, and other symbols. Effective orientation helps visitors navigate public spaces and buildings, facilitating participation in public life. Strategies are
  - Use signs, symbols, and maps to point the way to local civic assets. For example, offer directional and distance information tailored to those who are walking.
  - Support intuitive navigation within public spaces and buildings by providing clear, easy-to-read signs and enticing pathways.
  - Install information boards or service desks at entrances

**MAKE THE PUBLIC SPACE COMFORTABLE**

Comfortable public spaces encourage visitors to stay longer and return more often.

- **Provide seating options**

  Various kinds of seating can meet different needs – providing places of refuge, observation, or interaction – and a mix of options can promote broad use of public spaces. Strategies are
  - Provide moveable seating in public spaces and buildings. This fosters a sense of agency, allowing visitors to tailor spaces to suit their needs.
  - Create nodes of shared seating such as long picnic tables, parklets, or amphitheatre-style seating that places different groups in close proximity.
  - Place stationary benches throughout the community to provide predictable places to rest, wait, or socialize.
  - Design quality public seating that reflects local identity and character.

- **Illuminate public spaces and buildings**

  Good lighting may boost participation in public life by making streets and places feel safer and more inviting. Strategies are
  - Tailor lighting to the needs of pedestrians rather than cars.
  - Position lamps to minimize glare and shadows.
  - Install festive lighting to illuminate outdoor spaces at night.
  - Improve lighting around public buildings, particularly those that host evening events and activities such as schools, libraries, and community centres.

- **Provide water and restrooms**

  Surveys show that well-maintained drinking fountains are associated with higher levels of confidence, participation, stewardship.

- **Tailor design to local climate**

  - Mitigate heat through tree planting, shade structures, and water features such as fountains.
  - In colder climates, design public spaces to reduce wind exposure, maximize sunlight, and accommodate winter activities.
  - Connect civic life and sustainability goals. For instance, plantings and permeable surfaces can capture stormwater, create a buffer against severe weather, and strengthen health by increasing access to nature.

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29 This section draws on Center for Active Design 2018.
30 Center for Active Design 2018.
Good maintenance of a community public domain stimulates civic life. The cleanliness of streets, the state of trees and greenery, and the condition of vacant lots can shape people’s perceptions and collective behaviours. Signs of neighbourhood disorder may negatively impact civic trust\textsuperscript{31}. Well-maintained public spaces have the potential to establish confidence, promote feelings of safety, and encourage community stewardship\textsuperscript{32}. Maintenance requires the participation of multiple stakeholders. When public agencies, local institutions and individuals work together to take care of community assets— including parks, playgrounds, sidewalks, and buildings—they demonstrate respect for the community as a whole. This can reinforce a virtuous cycle of community pride and stewardship\textsuperscript{33}. Effective maintenance requires three key actions\textsuperscript{34}.

- **Mitigate litter**
  - Upgrade trash and recycling receptacles. Install visible and attractive bins at appropriate intervals in parks and public places and along high traffic sidewalks. Ensure that waste control initiatives are frequent and noticeable to residents.
  - Encourage stewardship with playful and informational clean-up campaigns. Motivate inhabitants, businesses and community organizations to preserve their neighbourhoods clean and garbage-free. Provide signage and equipment such as dog waste bags to facilitate clean up.
  - Increase garbage and recycling collection and street cleaning. Target collection efforts in communities where waste is the most problematic.
  - Build collaborative partnerships to address concerns around litter and upkeep. For instance, work with park advocacy groups, and associations to ensure sidewalks, parks, and public spaces are spotless and well maintained.

- **Clean up vacant lots**
  Reimagining a space like a vacant lot is key to giving people a different image of what their neighbourhood can become.
  - Sustain basic maintenance conditions in all publicly owned vacant lots. Regularly remove trash, weeds, and graffiti and ensure safety before opening for public use.
  - Enforce property maintenance standards for privately owned vacant lots. Update ownership records and require landlords to meet minimum standards, pay fines, or cover the costs of upkeep.
  - Foster community-based stewardship (and ownership) of vacant lots. Adopt policies and provide resources that help neighbourhood groups maintain and beautify vacant lots, and activate them with gardens, public art, local markets, and other functions.

- **Maintain what matters most**
  The condition of amenities for children is connected to civic trust. The maintenance of street lighting enhances civic confidence and perception of safety.
  - Prioritize maintenance of park amenities catering to children, young adults, and families.
  - Ensure lighting is well maintained and designed for pedestrian comfort. Repair broken street lamps immediately. Use softer lights scaled to pedestrians that minimize glare or deep shadows.
  - Invite civic organizations and residents to participate in maintenance efforts.

\textsuperscript{31} Ross et al. 2001; Perkins et al. 1992.
\textsuperscript{32} Cialdini 2003; Wood et al. 2008.
\textsuperscript{33} Center for Active Design 2018.
\textsuperscript{34} Center for Active Design 2018.
European squares

European squares are perfectly inserted in the surrounding urban fabric as demonstrated by the few examples below, which are analysed in further detail.

Siena, Piazza del Campo

Venezia, Piazza San Marco

Capitoline Hill Square, Roma.

Amsterdam, Dam square

Comparison of European squares. Their insertion in the urban fabric in a circle of 300 m radius.
The Piazza del Campo in Siena is the point of maximum intensity of a network of piaze which constitute the nodes of the urban structure.
Transverse section of the Piazza

Planimetry of the Piazza and its environment (G. Rohault de Fleury, 1873)
Enclosure is created by a continuous concave urban wall which is made continuous by gates framing arrival streets.

Streets lines of view are blocked by a circular street behind the piazza.
CASE STUDY: PIAZZA SAN MARCO, VENICE

One of the loveliest combinations of two squares is formed by the Piazza di San Marco and Piazzetta in the centre of Venice. ‘The first is a square having depth with respect to Saint Marks and an expansive square with respect to the Procuraties. Similarly, the second is expansive with respect to the Palace of the Doges and, primarily, deep with respect to the superb scene formed by the Grand Canal with the Campanile San Giorgio Maggiore in the distance. There is a third small square before the lateral facade of Saint Marks.’

A dense mass of buildings, cut through by narrow streets and canals, surrounds Piazza San Marco. ‘Highly differentiated, rich and intricate, it stands in sharp contrast to the general character of the city and to the narrow, twisting spaces of its immediate approaches. Yet it ties firmly to the major feature of the city, the Grand Canal, and has an oriented shape that clarifies the direction from which one enters. It is within itself highly differentiated and structured: into two spaces (Piazza and Piazzetta) and with many distinctive landmarks (Basilica, Palazzo Ducale, Campanile, Procuratie). Inside, one always feels in clear relation to it, precisely micro-located, as it were.’

35 Sitte 1889.
36 Lynch 1960.
Although the buildings at the edge are from diverse periods, they are relatively uniform in height. An arcade unifies the space, while a dramatic paving pattern ties the two arms of the L-shaped square together. The campanile acts as a vertical focal point and as an articulation between the two piazzas. The plan of Piazza San Marco shows how a strong and coherent space can be carved out of irregularities in its physical configuration. Although nothing follows traditional precepts of plan design, the strength of the architectural edge holds the space together before it dramatically opens to the water.
The Piazza San Marco, School of Canaletto. Photos: © Françoise Labbé

The Piazza San Marco, School of Canaletto.
CASE STUDY: CAPITOLINE HILL SQUARE, ROMA

Positive space with a ‘slowed perspective’

Michelangelo’s masterly square on the Capitoline Hill shows the creation of a coherent space despite diverse architecture, steep topography, and an irregularly shaped site. By altering the facades and alignments of existing buildings and connecting new edifices to them, the architect artist transformed a derelict piece of land into a composition at once powerful and subtle. He took advantage of the triangular site to develop a ‘slowed perspective’ emphasizing the monumental staircase he designed in front of the Palace of Senators. The elliptical paving pattern provides a stable centre to the piazza punctuated by Marcus Aurelius equestrian sculpture. The oval paving arrangement brings the piazza to rest, counteracting the directional pull established by the angles of the buildings.

Even with the new facades centring the lateral buildings on the new palazzo at the rear, the space was a trapezoid, and the facades did not face each other squarely. Worse still, the whole site sloped. Michelangelo’s solution from 1538 was radical. The three remodelled buildings enclose a harmonious trapezoidal space, approached by the ramped staircase called the ‘Cordonata.’ The stepped ramp of the cordonata lifts its visitors toward the sky and deposits them on the threshold of municipal authority.

Photo: © Françoise Labbé.
Michelangelo’s solution to the spatial problems in the Piazza del Campidoglio.

Giovanni Battista Piranesi. The Capitol and the steps of S. Maria in Aracoeli (Veduta del Romano Campidoglio con scalinata che va alla chiesa d’Araceli) ca. 1775. Source: The Metropolitan Museum of Art.
The Campidoglio is an anti-perspective square. Both the square and the staircase are trapezoidal, expanding toward the Palazzo Senatorio in the background, to create a slowed-down perspective that makes it appear wider and closer. Furthermore, the trapezoid plan resolved in a regular space the presence of a pre-existing angle of 80° between the Palazzo Senatorio and the Palazzo dei Conservatori. Instead of trying to force the Campidoglio into a rectangle, Michelangelo welcomed the anomaly and made it a strong point of his project.

Photo: © Françoise Labbé.
Amsterdam in a circle 300 m radius around Dam Square. Drawing by Louhann Brocard. École Spéciale d’Architecture, Paris.

Amsterdam 1876.
Amsterdam in a circle 300 m radius around Dam Square. Drawing by Louhann Brocard. École Spéciale d'Architecture, Paris.

Like Nolli’s plan of Rome, this drawing shows the civic realm around Dam Square in Amsterdam. It highlights the sequence of interior and exterior public spaces and the routes allowing access to these spaces.

This drawing displays the elevation facades transposed like an open book around the plan of Dam Square. It shows the relationships that buildings have with each other. Their scale is similar. The houses have a scale coherent with that of monumental edifices.

*Dam square facades architectural composition in Amsterdam. Drawings by Louhann Brocard. École Spéciale d’Architecture, Paris.*

These drawings present an elevation of all the facades around Dam Square. Here are highlighted the voids and the building rhythm. The horizontal relationships are well proportioned, with a coherence between the edifices around the square.

**Material coherence**

*Left: brick. Right: stone.*
*Photos by Louhann Brocard. École Spéciale d’Architecture, Paris.*

In terms of materiality, brick is the main building material in Amsterdam. The stone is also very present. For monuments it is more common to see stone, for example, the Nieuwe Kerk or the Royal Palace on Dam Square.
The Royal Palace, the main building in Dam Square, is in dressed stone. Its mouldings are very detailed. The facade colours are warm. Photo: Diego Delso.

1. On this edifice, mainly made of white stone, the architect employed two shades of stone to create a contrast between the base and the upper part. Here the facade is bathed in morning light which makes it pale. We can still see that the use of stone makes the building luminous.

2. The materials are almost identical as in the architecture above: dressed stone of different colours, with a black-tiled roof.

3. Stone plays a major role in Dam Square. However, brick is one of the main building materials in the Netherlands. The Dutch have building principles which they master perfectly. In this building, brick and stone form a duo, the facade is a succession of stone and brick layers. It delineates the volume.

Photos by Louhann Brocard. École Spéciale d’Architecture
An example of linked contemporary public spaces is King’s Cross Central regeneration in London. Within the 27-ha project, £250 million (USD 312 million) have been invested to create 20 new streets, 10 new public spaces, and 5 major squares totalling 3.2 hectares. The planning team ‘spent a lot of time thinking about the spaces in between buildings, about how people would use those spaces’\(^{37}\). Some 40% of the development will be devoted to open space. Some of

\(^{37}\) ULI 2014.
the built space will also include public spaces, such as courtyards and gardens. The design of King’s Cross connects people to people with a continuum of outdoor areas and in some cases large indoor areas, such as the west concourse at the King’s Cross Station. It encompasses streets, parks, squares, pedestrian areas, canal promenades, cycle paths, and trails as a continuum of linked spaces. They encourage a wide variety of activities. A goal is to generate pedestrian movement and activity. King’s Cross illustrates how both high-quality design and long-term management strategies help establish a good public realm. The uninterrupted flow of spaces, routes, and views and the vibrancy of interactions within the public realm is supported by high-quality detailing. They create a rich and constantly changing information and activity field for pedestrians. Special attention to paving, planting, orientation, light and shadow, shelter, signage, and street furniture makes spaces accessible, safe, and legible.

In 2006, planning permission was granted for 750,000 gross square metres of mixed-use development. Spread over a site that totals 27-ha, there will be 270,000 m² net of new workspace; up to 46,000 m² of retail, cafes, bars, restaurants and leisure facilities; close to 2,000 new homes; a new university; and a range of educational, hotel and cultural facilities. All set in 10.5 ha of public space. The built urban density is 2.8. The FAR at block scale (including associated courtyards and gardens) is 4.6.

Critical to the success of King’s Cross Central is the achievement of a legible, human centric and attractive public realm. The developer followed other London examples where the public realm is owned and managed privately but used by the public without restrictions. Argent St George balanced access and quality, and managed the space with the public in focus. Clear definition between the public realm and the private domain is provided with built form rather than walls, fences, or planting. Where it was desirable to limit access or use to residents or employees, features such as rumble strips, different road surface (by colour or texture), pillars, and narrower carriageway, delimit the private space. They give the impression that the area beyond is less public and more private.

38 Gross Floor Area/Site area
A Framework for Regeneration states: ‘To facilitate and accommodate diversity and opportunity, and, ultimately, to deliver our vision of a human city, we need to establish a basic structure or framework. This means an arrangement of routes and public spaces – be it traditional streets and squares or other links and connections – to and through the surrounding city. Establishing the right framework is very important. It will provide the template, overtime, for buildings, new land uses and activities.’ The public spaces at King’s Cross Central set out to achieve much more than just high-quality spaces and physical components. They are the long-lasting framework of spaces which would endure not just because of their physical quality but also because of their capacity to house activity, diversity, social exchange, and cultural enrichment. By identifying King’s Cross Central as ‘a place for people’, the developer understood that ‘the public realm is at the heart of these aspirations. It should connect places together, integrate communities and their neighbourhoods, and make the city safe to use and easy to understand. It should put people first, working for all groups in society.’

The new neighbourhood at King’s Cross is being built around a framework of leafy parks, squares, streets and pathways. This network of routes and green spaces is as important as the buildings themselves, and a whole 40% of the development is given over to open space for everyone to experience and enjoy. Today, the popularity of King’s Cross owes much to the success of the new public spaces. The events and activities bring them to life. On the banks of the Regent’s Canal, the Granary Square was first to open. It was followed in 2013 by the beautifully landscaped Handyside Gardens and in 2015 by four more major new parks and squares – Lewis Cubitt Park, Lewis Cubitt Square, Gasholder Park and Pancras Square.

At King’s Cross, water, light and earth combine to create a public realm that is rich in natural green life. The open spaces at King’s Cross involve play and relaxation, public art and horticulture – the chance for delight and surprise. Multiples use and events create active streets and public spaces. Streets with retail stores, bars, cafes, and restaurants keep the neighbourhood lively throughout the day. All ground-floor units are, or will be, leased to these types of occupants. The approach goes beyond individual streets. It creates a network of safe pedestrian routes. They link key sites in the development and closely connect it with the surrounding communities in Camden and Islington. The site design includes a variety of promenades for various times and people, each with a different emphasis or theme. These trails integrate places for people to walk or linger. Tiered stone seating and steps cascade from Granary Square to Regent’s Canal, enhancing the south-facing aspect and reinforcing the historic relationship between the canal and the Granary, the geographic heart and heritage soul of King’s Cross. To the west of the site is Camley Street Natural Park. Created within a relatively small space, it expresses a unique fusion between Central London’s density, rich industrial archaeology, green space, and nature conservation. The focal point is a floating platform that brings architecture and nature closer together, allowing people to take in unrivalled views of both Regent’s Canal and the Camley Street Natural Park. Inspired by the rocky islands off the Nordic coastline, the platform is an important new learning facility for the park.

London has a language of streets, squares and gardens that is successfully reflected in the development. A variety of triangular, curved, elongated shapes revisits the typology of London’s human-centric public spaces.

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Argent St George 2002.
The Western Concourse is a shell-like diagrid roof of glass, steel, and aluminium that rises 20 metres above the ground at its highest point. The vast canopy splay out from a great steel funnel located a few feet from the historic station’s western façade. Intersecting branches of steel spread downward, spanning out in a 74-meter radius from that central point. A ring of 16 supporting columns at the outer edge takes the load. With no supporting columns in between, the Western Concourse is now the largest single-span structure in Europe. The visible façade of the historic station and the clear separation between the two structures make the Western Concourse a blend of inside and outside space, of brick heritage and steel contemporaneity. The shell-like space offers passengers a comfortable feeling of dynamic enclosure.

Station Square (Battle Bridge Place)

Station Square is the hub between the two enhanced stations. It has high quality stone paving to form a carpet that unifies the space between the stations and the German Gym.
King’s Boulevard

King’s Cross Boulevard is the primary route linking the two stations and Station Square to Granary Square and the northern parts of the site. With a conducive mix of retail, the Boulevard is exceptionally vibrant, catering to all those who live and work at King’s Cross and all who would visit. The Boulevard is mainly walkable. It is lined with trees on one side and different shops on the other side, with many urban features, high quality stone paving and a pattern referring to past railways.

Google UN Headquarters Terraced Roof Garden

Google headquarters in King’s Cross is a £1 billion building. It is a 300 m long ‘landscraper’ with a rooftop garden. It has got space for more than 4,000 employees, a rooftop garden with a running track, and has been dubbed a ‘landscraper’ for being as long as a skyscraper is tall.

In a statement, designer Thomas Heatherwick said he’d been inspired by the site of the new office, which functions as a hub for much of the city’s transport links. ‘The area is a fascinating collision of diverse building types and spaces and I can’t help but love this mix of massive railway stations, roads, canals and other infrastructure all layered up into the most connected point in London,’ said Heatherwick. ‘Influenced by these surroundings, we have treated this new...
building for Google like a piece of infrastructure too, made from a family of interchangeable elements which ensure that the building and its workspace will stay flexible for years to come.41

A plan for the garden shows it’s split into a number of different zones, and includes a 200-meter running trail. Image: Google.

The roof will be covered in a 300-meter-long garden, divided into different zones, including a ‘pause area’ filled with wildflowers and woodland plants, a cafe, and a 200-meter ‘trim trail’ for runners. The garden is a multipurpose urban park, complete with an amphitheatre and 200-meter ‘trim track’ for jogs and brisk strolls set against a variety of landscaped environments – wildflower meadows, grassy fields, ornamental ponds and well-shaded thickets.

41 https://www.theverge.com/2017/6/1/15723642/google-london-office-pictures-headquarters-kings-cross
Pancras Square

Pancras Square with its cascading water feature is a place to take a break from the bustle of the city, or relax after day’s work.

Pancras Square. Triangular Pancras Square stepped water terraces framing the historic landmark tower. Photo: © Françoise Labbé.

Pancras Square is a triangular space with a visible change in level which slopes down toward its southern end, creating an accelerated perspective framing the landmark of the tower and clock. The change in level is used to considerable effect with the formation of terraces of high-quality stone paving, lawns and reflective water features that step down toward the south. Benches are designed as an integral part from the terrace arrangement and as such are orientated to maximize potential views across the square and the south-facing aspect. In contrast with the formality of the stone terraces, a loose arrangement of trees provides shade all year round.
Granary Square

Granary Square is at the geographical heart and heritage soul of King’s Cross Central. With its 1,080 fountains, is a busy London square and hosts a myriad of events throughout the year. Tiered stone seating and steps cascade from Granary Square to the canal enhancing the south-facing aspect and reinforcing the historic relationship of the canal and the Granary.
Regent’s Canal

The Regent’s Canal bisects King’s Cross Central forming an integral part of the development. Steps and ramps encourage people to stroll and explore the Canal and experience closer contact with the boats, locks, basins, and wildlife. Terraces from Canary Square step down to the Canal while the two bridges offer great views.

Camley Street Natural Park

The green space of Camley Street Natural Park has been created within a relatively small space and expresses a unique fusion between central London density, rich industrial archaeology, green space and nature conservation.
King’s Cross canal corridor is a series of interlocking public spaces along the Regent’s Canal and extending through the historic core of the estate, connecting Maiden Lane Bridge at York Way to the east and the railway bridge accessing St Pancras Station to the west. The corridor integrates the estate with the Canal, enhancing both and knitting in with surrounding neighbourhoods and communities.

**Lewis Cubitt Square**

*Lewis Cubitt Square. Photo: © Françoise Labbé.*
The four iconic Gasholders at King’s Cross were built in the 1850s as part of Pancras Gasworks. The gasholders remained in use until the late 20th century and were finally decommissioned in 2000. The four listed Gasholders have been reassembled. The ‘Gasholders Triplet’ frames the canal side apartments. Steps and terraces swirl around the base of the Gasholders offering places for people to sit and watch the activity around the canal. The fourth Gasholder has been left open to accommodate planting, footpaths, seating areas and a mirroring work of art that plays with light and reflections. It is one of the most intriguing spaces at King’s Cross Central.
CASE STUDY: MANHATTAN HIGH LINE AND HUDSON YARDS, NEW YORK

A Linear Connective Park: The High Line In Manhattan

Manhattan’s High Line, the 20-block-long park constructed on a former elevated freight rail line, has become a worldwide sensation. It brought over 3.7 million visitors to the city in 2011. The High Line spurred USD 4 billion private investment and property values near it increased 103% between 2003 and 2011. A revolutionary public space and

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42 According to a study by the New York City Economic Development Corporation, quoted in ULI 2013.
urban revitalization project, the High Line is a plant-lined elevated parkway converted from a long-abandoned freight line snaking above the West Side of Manhattan. Designed by Diller Scofidio + Renfro, the 2.4-kilometer parkway, which sits nine metres above street level, wraps around Hudson Yards as it curves toward the Hudson River, revealing sweeping waterfront views at its northern end. The High Line combines elements of the original railway with native flora and fauna. The characteristics of former tracks – flat, long, frequently running through historical areas – are appealing for various developments. New growth on the West Side can be attributed to the success of the High Line. It has spurred 12,000 new jobs, and 29 development projects since opening in June 2009. Despite its small width, the High Line makes an important surface area contribution to the on-site parks. Moore Park represents an area of 0.2 ha. Chelsea Park occupies 0.75 ha, 14th Street Park 0.25 ha. The High Line total length is 2.33 km. Its average width is 10 m. It represents approximately 2.3 ha.
Inspired by the melancholic, unruly beauty of this postindustrial ruin, where nature has reclaimed a once vital piece of urban infrastructure, the new park interprets its inheritance. It translates the biodiversity that took root after it fell into ruin in a string of the site-specific urban microclimates along the stretch of railway that include sunny, shady, wet, dry, windy, and sheltered spaces. Through a strategy of agri-ecture—part agriculture, part architecture—the High Line surface is digitized into discrete units of paving and planting which are assembled along the entire length into a variety of gradients from 100% paving to 100% soft, richly vegetated biotopes. The paving system consists of individual precast
concrete planks with open joints to encourage emergent growth like wild grass through cracks in the sidewalk. The long paving units have tapered ends that comb into planting beds creating a textured, ‘pathless’ landscape where the public can meander in unscripted ways. The design addresses a multitude of civic issues: reclamation of unclaimed public space, adaptive reuse of outmoded infrastructure, and preservation as a strategy for sustainability. The park accommodates the wild, the cultivated, the intimate, and the social.

Winning design competition (2004) proposal by James Corner Field Operations and Diller Scofidio + Renfro. Diagram illustrating varying relationships between paving (hardscape) and planting (softscape).


The High Line width varies between 6 m and 13 m. It cuts through the urban blocks creating slit window views on distinct Manhattan streetscapes.
Each section of the project has retained some portion of the self-seeded planting that had grown naturally on the structure before it was reclaimed, adding in wooden walkways, raised seating areas and viewing points. Image source: Diller Scofidio + Renfro.
A New Development Centred Around Spectacular Public Realm: Hudson Yards

In Hudson Yards, Manhattan, 50% (5.6 ha over 11.2 ha) of the area is set aside as open green spaces and parkland that winds through retail, residential and commercial buildings.

Hudson Yards. Image KPF.
The Vessel at Hudson Yards. This interactive artwork was imagined by Thomas Heatherwick and Heatherwick Studio. It is a focal point where people can enjoy new perspectives of the city and one another from different heights, angles and vantage points. Comprised of 154 intricately interconnecting flights of stairs – almost 2,500 individual steps and 80 landings – the vertical climb offers remarkable views of the city, the river and beyond.
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