



Powell
Welcome Home.

Pedestrian Scale Design Guidelines Manual

Powell, Ohio

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ARCHITECTURE

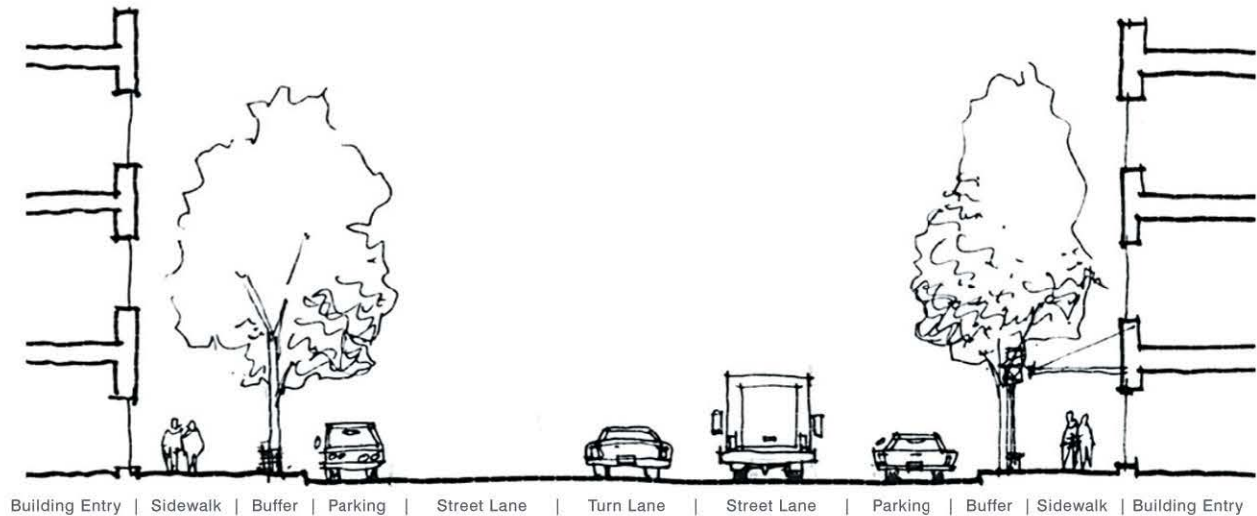
Adopted by Ordinance 2009-27; November 4, 2009

Pedestrian Friendly

An area or neighborhood designed to encourage and support pedestrian traffic.

Pedestrian: A person traveling on foot; a walker

Friendly: 1. favorably disposed; inclined to approve, help, or support 2. easy to understand or use;



Successful Pedestrian Friendly Streetscape



Successful Pedestrian Friendly Streetscape

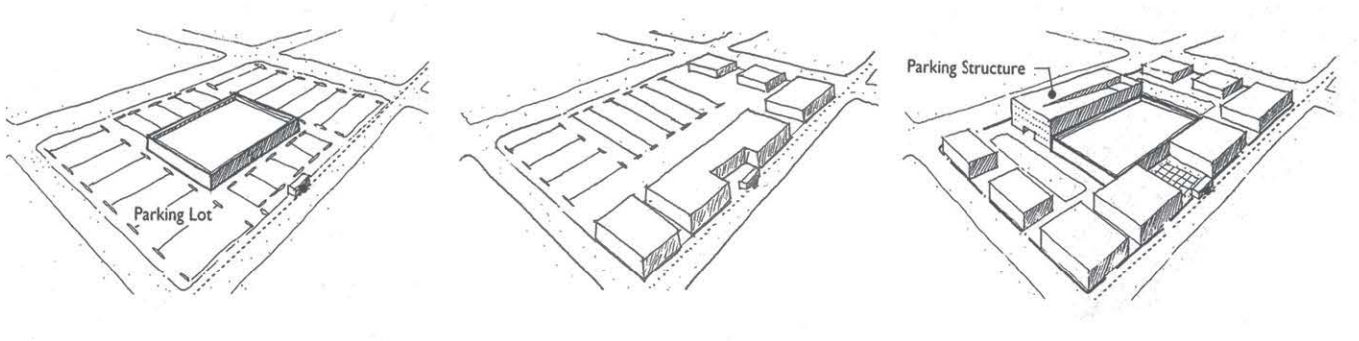
Pedestrian Friendly Zones: Pedestrian friendly zones are defined primarily by three things:

1. The destinations in the pedestrian friendly area must be within walking distance from residences or vehicular collection points. Essentially, the pedestrian must be able to arrive in the area, and be on foot.
2. The combination of routes and destinations throughout the area must be safe and supportive (friendly) to pedestrians. The pedestrian must feel comfortable walking from one place to the next and then ultimately back to where they entered the area.
3. The area should be attractive to pedestrians. Once they have arrived and are presented with the functional requirements of safe and manageably walkable routes, the finishing touches are needed to encourage the pedestrian to actually walk.

Pedestrian Friendly Design: The above requirements can be achieved through good design that carefully considers basic architectural concepts like site planning, circulation, massing, proportion, etc. The following pages discuss these ideas in greater detail.

Site Planning

The organizational stage of the design process that involves an analysis of composition and placement of a building within its surrounding environment.



Above: Planning diagrams of the same site; left depicting vehicular based planning, middle showing vehicles accommodated in a pedestrian area, and right strongly pedestrian based traffic. Diagrams by P. Calthorpe, *The Next American Metropolis*.



Site planning with parking in front of building.



Site planning with main parking behind the buildings.

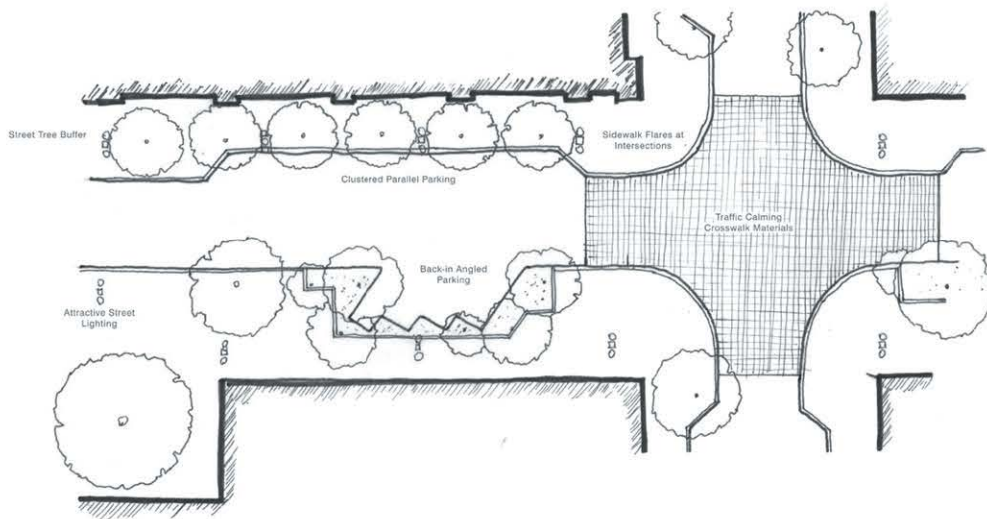
Site Planning and Context: A building should participate with the language of its environment. More importantly, successful pedestrian friendly buildings should maintain strong contextual elements in order to contribute to the “sense of place” of a particular city, region, or area. By continuing the quality and the character of its surroundings, the building facilitates the continuity of the vernacular style.

Site Planning and Connectivity: Good vehicular, bicycle, and pedestrian circulation ensures connectivity to and from the building, while accommodating successful links of the entire urban fabric. Sidewalks, walkways, intersections, crosswalks, signage, landscaping, and lighting should be considered from a master site planning scale in order to fully understand the building’s impact on the surrounding area. Discontinued sidewalks and bike paths are just as pedestrian un-friendly as not having any of these amenities.

Site Planning and Parking: The placement of parking says a lot about a building’s pedestrian friendly nature, as evident in the two diagrams above. A building engaged with the street edge and its environment is important for pedestrian accessibility, whereas a building surrounded by a parking lot is isolated and unapproachable.

Circulation

The path of movement conceived as the perceptual thread that links the spaces of a building, or any series of interior or exterior spaces together. A vehicle requires a path with smooth contours that reflect its turning radius; however, the width of the path can be tailored tightly to its dimensions. Pedestrians can tolerate abrupt changes in direction, but require a greater volume of space relative to their bodily



This sample block plan demonstrates successful integration of vehicular and pedestrian circulation routes.



Pedestrians Buffered from Vehicles



Sidewalk Flared at Intersection

Circulation and Sidewalks: As the primary means of pedestrian circulation, sidewalks are an important part of pedestrian friendly design. Sidewalks should be continuous from block to block and neighborhood to neighborhood. They should provide a clear and direct route and be wide enough to comfortably accommodate expected traffic levels and the street furniture that enhance pedestrian oriented areas.

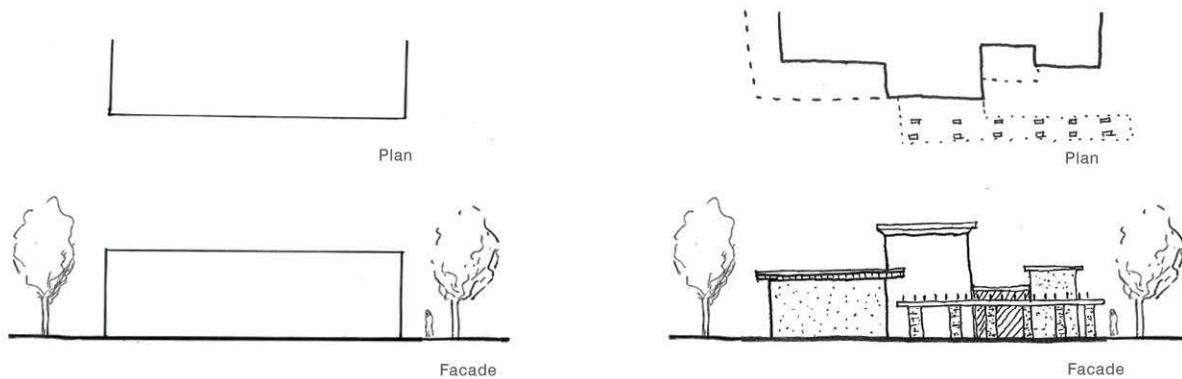
Circulation and Intersections: Pedestrian friendly intersections should have a turning radius of 5 to 10 feet. A tighter radius makes turning vehicles more aware of pedestrians than large sweeping turns where cars barely need to slow down. Narrow turns also reduce the distance of street that the pedestrian must cross.

Circulation and Crosswalks: All crosswalks should be well marked and well lit. Crosswalk markings vary and can include crosswalk signs, unique paving, raised plateaus, sidewalks that flare into the parking lane, and simple street marking lines.

Circulation and Traffic Buffers: Pedestrian circulation paths should be buffered from vehicular circulation by parking lanes, street trees, bollards, street furniture, and street lights. Not all of these elements are required all of the time but the idea is that an actual, firm barrier exist and not simply a narrow strip of grass.

Massing

The three-dimensional volume of a building, with an understanding of its overall impression of weight, density, and bulk.



Above: Diagrams depicting massing based on a vehicular scale (left) and massing based on a pedestrian scale (right).



Monolithic Target.



Pedestrian Scaled Target.

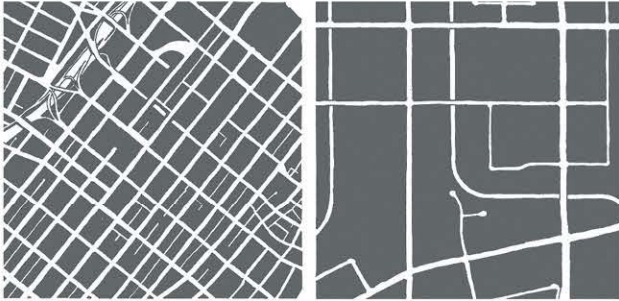
Massing and the Human Scale: Pedestrian oriented massing should reflect the human scale within its overall composition. The interplay of solid and void can be used to help break down the general volume of the building and relate it back to human proportion and scale. Additionally, window size and placement can help facilitate the scalar difference from the overall building massing and the pedestrian.

Massing and the Ground Level: Irregularities in the design of a façade are important to break down massing, especially on the ground level where a pedestrian interacts with the building. Composition pertaining to columns, doorways, arches, awnings, niches, corners, covered walkways, and other details is as important as the overall building itself. These items provide a varied visual stimulus and further break down the building's massing to keep the pedestrian engaged within his / her surroundings.

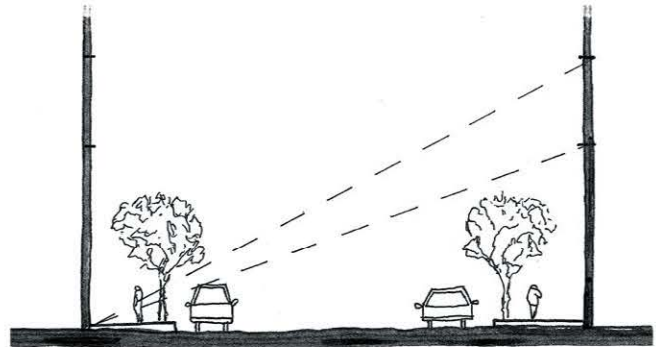
Massing and Density: The semblance of density can also be achieved by a building's massing, as evident in the above right diagram. A strong street edge is successful to a pedestrian friendly environment, therefore massing that breaks down the composition into a smaller, denser series of volumes should be considered.

Proportion

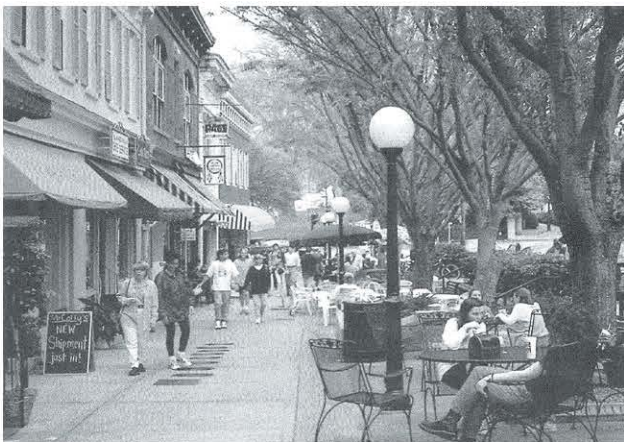
The proper or harmonious relation of one part to another or to the whole with respect to spatial quality. Proportional theories have been prevalent throughout architectural history, and remain a guiding force in design. Renaissance architect Alberti called beauty, “the harmony of all parts in relation to one another” and thus analogous to proportion.



A figure ground study of downtown Los Angeles (left) and Irvine California (right) shows how the proportions of city blocks affect walkability.



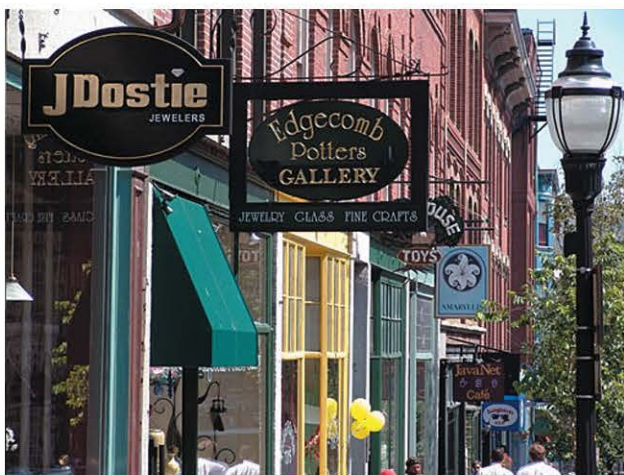
A street section showing common street width to building height ratios that create visual enclosure.



Visual Enclosure.

Proportion and Block Length: New developments should utilize short to medium length blocks. A higher proportion of intersections along a roadway creates more opportunities for pedestrians to cross streets, slows traffic, and provides more relief to the pedestrian than long uninterrupted blocks. Blocks 300 to 500 feet are good for pedestrians. Blocks over 600 feet should not be considered pedestrian oriented.

Proportion and Street Oriented Buildings: The ratio of building height to street width is important for creating visual enclosure for pedestrians. Visual enclosure occurs when bordering buildings on a street occupy most of a pedestrian's cone of vision. Successful visual enclosure creates an "outdoor room" that the pedestrian occupies.



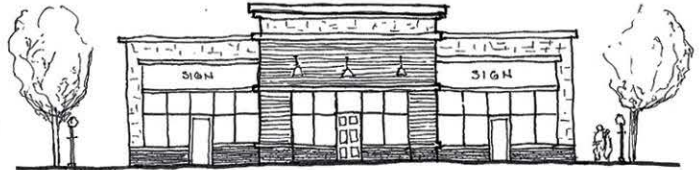
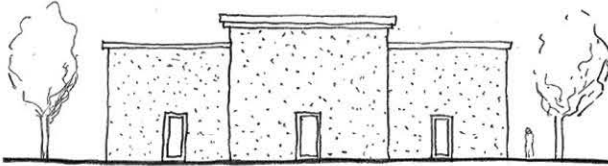
Pedestrian Friendly Signage.

Proportion and Facade Design: The proportion of various architectural elements also has an affect on the pedestrian. The dimensions of windows, doorways, arches and columns are most accommodating when they are not overwhelming in size. Formidable elements are difficult for the pedestrian to interact with while human scaled elements are comfortable and relatable.

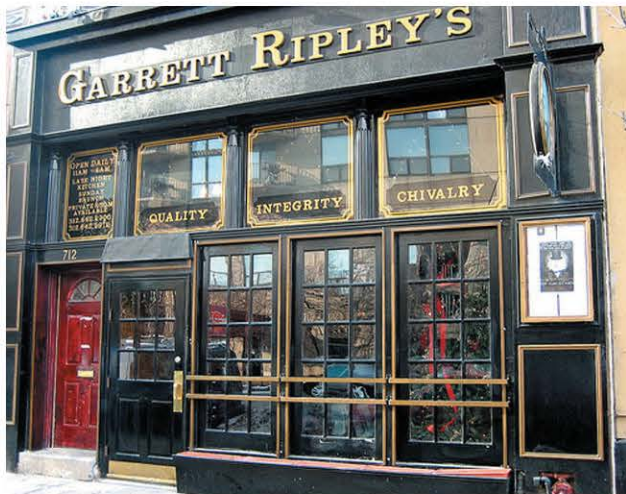
Proportion and Signage: Signage should be designed with consideration of street width, traffic speed and land use. For a pedestrian oriented area, signs should be mounted at a comfortable height and be clear and legible from the close range at which a pedestrian encounters the sign.

Materiality

The concept of, or applied use of, various materials or substances in the medium of building.



Above: Different material qualities as depicted on the same building.



Proportion and modularity based on materiality.



Uniformly material building facade.

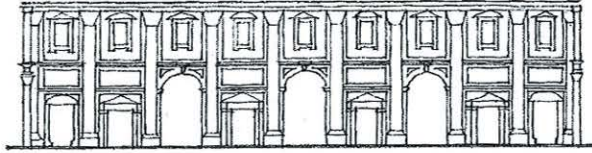
Materiality and the Pedestrian: Materiality gives a pedestrian tactile experience of the building's façade and streetscape. Weight and scale are perceived differently due to light and sound absorption, therefore, texture and color affect the overall perception of the building's façade. Materiality also adds depth to how a building is perceived: from afar through a visual understanding of form and color, and from closer inspection through texture and grain.

Materiality and External Elements: Humans are corporal creatures, relying on all of their senses to experience the world. Material differentiation can also be introduced through signage, landscaping, lamp posts, fencing, pavers, benches, planters, sculpture, café tables, chairs, art work, and other similar items. These external elements add to the ground floor design of a building allowing the pedestrian to relate to the building through its environment.

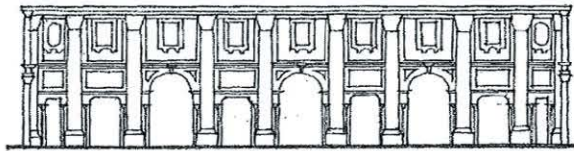
Materiality and Modularity: Modularities in window sizes, door sizes, brick and block dimensions, and other sheathing materials should be in direct proportion to the human scale. Likewise, material proportion should relate to the overall proportion of the building, creating a harmony of parts to the whole.

Rhythm

Movement characterized by a patterned repetition or alternation of formal elements or motifs in the same or a modified form. (F. Ching)



a · b · a · b · a · b · a · b · a
a · a · b · a · b · a · b · a · a
A · B · C · B · C · B · C · B · A



a · b · b · b · b · b · b · a
c · a · b · a · b · a · b · a · c
A · B · C · B · C · B · C · B · A

Above: Rhythm diagrams depicting repetitive moments in a building's facade.

Diagrams by F. Ching, *Architecture: Form, Space, and Order*.



Non-rhythmic facade.

Rhythm and Repetition: Most buildings incorporate elements that are repetitive by nature. Beams and columns create modules of space that are perceived as rhythmic. Likewise, repetitive elements on the exterior of a building, such as window and door spacing, create rhythmic components that are easily read by a pedestrian. Rhythmic pattern alludes to continuity and is vital for pedestrian life.

Vertical vs. Horizontal Rhythm: Most pedestrian friendly buildings incorporate vertical elements or rhythms along the ground floor of the façade. Horizontal rhythms tend to represent a long expanse, leaving the pedestrian feeling overwhelmed with large distance to travel. A better perspective for eye-level is short and staccato vertical elements, such as columns or window framing, that move the pedestrian from "column to column" and keep them engaged with the building's rhythm.

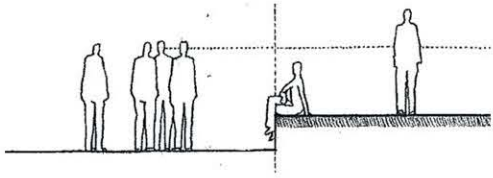


Rhythmic facade based on the repetition of a modified form.

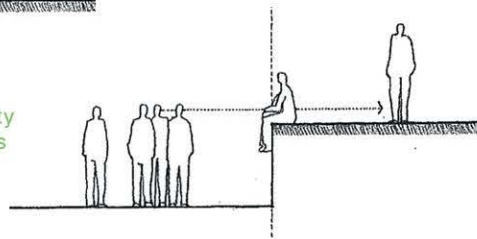
Rhythm and Context: Rhythm should also extend to the overall building block or street edge. Continuity of rhythm from one building façade to the next can be done using similar proportionate and scalar elements, such as window and door placement and sizes, or the continuation of an architectural detail, such as a cornice or roof edge.

Transparency

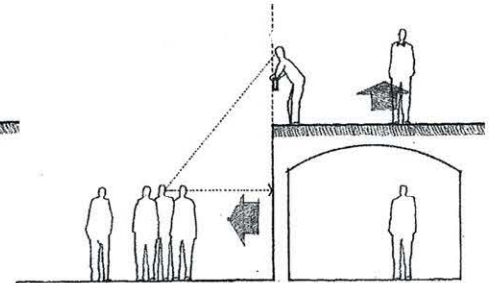
The degree of enclosure and openness from one space to the next, implying a visual connectivity and/or an interchange of flow of space.



Above: Visual and spatial continuity is maintained, and physical access can easily be accommodated.



Visual and spatial continuity is maintained, no direct physical access accommodated.



Visual and spatial continuity is disrupted, no connection to the building from ground level.

Diagrams by F. Ching, *Architecture: Form, Space and Order*.



No visual continuity into the building.



Complete visual transparency from inside to the street.

Transparency and the Ground Floor: The ground floor façade should be the single most activated interface between city and building. Open and welcoming buildings bring with them a sense of security and accessibility that are important qualities for successful pedestrian life. Views into and out of a building visually connects the building with the pedestrian and the surrounding environment.

Transparency and Exterior Enclosures: Transparency into a building can be generated in a number of ways. Large doors and windows maintain visual connectivity, while openings within the building's overall mass, such as entry courts, create pockets of exterior space that open the building up even further. This visual and physical continuity extends the building's program to its environment and generates a sense of an exterior enclosure or "outdoor room."

Transparency and Programming: Pedestrian friendly buildings use programmatic elements to engage with the outdoors. Successful ground floor program includes, but is not limited to, cafés, restaurants, shops, farmers markets, and other socially driven program. Outdoor seating brings program out of the building leading to an even greater sense of exterior enclosure, and blurs the boundary of where the street begins and the building ends.

Detail

A small elaborated element of a work of art, craft, or design. “Details are much more than subordinate elements; they can be regarded as the minimal units of signification in the architectural production of meanings.” –Marco Frascari



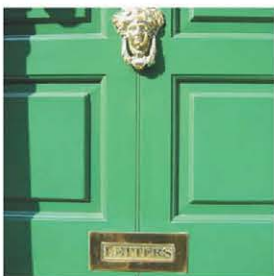
1. The majority of the facade is visible and seen as a whole. Materials are seen primarily as a color field.



2. The facade is seen only in fragments. Individual elements are clearer and materials are more clearly expressed.



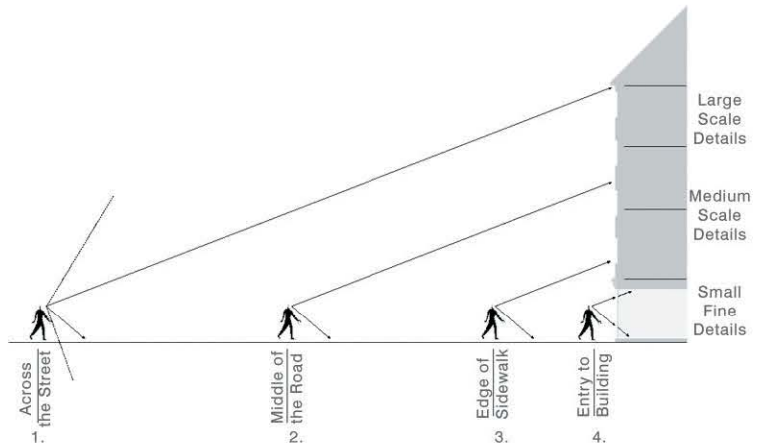
3. Only a small area of the facade is visible. The joints in materials are visible and details are easily read.



4. Only an individual element is visible. The smallest details are clear and materials are now tactile as well as visual.



Detailed Tree Grate



A pedestrian's view of a building is greatly reduced as they move closer to the building, but the ability to perceive detail is increased.

Detail and Architecture: Buildings in pedestrian oriented areas are experienced more intimately than buildings in higher speed car oriented areas. At close range and low speed, the pedestrian has time to admire rich textures, fine materials and subtle variations in design. This experience can also extend into the building through the transparency of the entry and display windows along the elevation. Pedestrian friendly buildings should provide these kinds of details for by passers.

Detail and Street Furniture: As an important part of walkable neighborhoods, the design of street furniture should also enrich the pedestrian experience. Decorative lamp posts, bollards, tree grates, benches, bike racks, and even parking meters add interest and approachability in pedestrian zones. Many of these items are necessary for legal, maintenance, or safety reasons so it requires only a little extra effort to detail them so that they become an asset as well as a requirement.

Detail and Public Art: Public art can both enhance the pedestrian experience, and create a uniqueness of place that adds distinction to an area. Unique works of art add to the individuality of the neighborhood, square or town where they are located. Art can also play an important role in reinforcing physical and visual connections between a place and its surroundings.