

Why Build Walkable Streets?



WHY BUILD WALKABLE STREETS?



Image source: mobilitylab.org

Walking is the most accessible form of exercise. It offers cross-cutting benefits for public health, environmental sustainability, and neighborhood vitality by unlocking many more advantages. Unfortunately, most cities worldwide are designed for cars, not people. Many of our neighborhoods are car-dependent but not walkable.

Fortunately, the modern world sees the value in walkable streets more than ever before. More cities and neighborhoods are starting to be designed with pedestrians in mind. This trend is growing as more people today want to walk and bike to the office rather than commuting or, even worse, solo driving.

Considering the current development condition of the world's large cities, creating walkable streets requires planned action. To make a city or neighborhood walkable, several features should work together to ensure that the streets offer a comfortable and safe environment and encourage pedestrians to walk. These features include a

connected pedestrian network and other core elements of high-quality urban design, which we will mention further.

A FEW EXAMPLES OF NOT WALKABLE DESIGNS

There are far too many examples of poorly designed neighborhoods that are unwelcoming for pedestrians, such as poorly designed intersections, garage doors blocking foot traffic, unsafe pedestrian crossings and walkways, or even streets with no sidewalk at all.

Other examples are excessive blank walls, infrequent building entrances onto public space, shuttered or infrequent windows, and unappealing buildings, all of which degrade the pedestrians' walking experience.

We will examine these problems in detail to see how new projects can be developed without running into them. Most of these issues can be avoided if project teams and local administrations work closely together early in the process.

Streets with no sidewalk

Where do you walk when there's no sidewalk? Sidewalks are an essential part of any city, but many streets around the world lack them, making it difficult for pedestrians to know where they should walk, especially in bad weather or after dark.



Image source: strongtowns.org

Setback problems

Setbacks are a way for cities to ensure that buildings do not obstruct public spaces, sidewalks, and streets. These distances help maintain the functionality of city space by ensuring enough room on one side of the building for pedestrians or vehicles. Setback regulations also keep city structures from blocking scenic views, which is essential to protect the city's character.

Law or ordinance usually dictates setbacks, and the required distances vary depending on the location. The setback is typically measured as a horizontal distance and used to separate buildings from public space to ensure that new structures do not adversely impact natural features like trees and vegetation or obstruct pathways for pedestrians.



Image source: urbankchoze.blogspot.com

Neighborhood developers may also create setback lines, which are usually shown on the official neighborhood map. They make sure that houses look uniform and don't block parts of the street or other buildings. In most cities, setback line can be moved only upon permission of authorized bodies.

A setback problem can be prevented by planning and designing streets with proper setback distance from the sidewalk so that there is enough room for pedestrians, parked cars, and emergency vehicles.

Frequent garage doors

Sometimes cars get in the way of our walk to work. They can come out from a driveway or slip their garage door open, blocking us and making it hard for pedestrians to keep walking without having any interruptions along the sidewalk.



Image source: utron-parking.com

Frequent garage doors and driveway intrusions across the sidewalk can significantly diminish the pedestrian experience.

Excessive Blank Walls

Blank walls, windowless or reflective glass building facades, and flat security walls are other significant sources of dead space in cities. While blank walls can be used to define an enclosed space, they are often intrusive and create poor conditions for pedestrians.

One of the most essential features of an optimal urban design is that walkways should be lined with things to look at. There is no reason to make it worse by having a blank wall that creates undesirable pedestrian views. Therefore, it is a great idea to brighten up blank walls with landscaping, artwork, or other treatments.



(Istanbul, Turkey; vertical planting for empty walls. Image source: turkiyegazetesi.com.tr)

William H. Whyte (1988) suggested in his book “The Social Life of Small Urban Spaces” that using a “blank wall index” to determine the percentage of block front up to 35 feet would show that blank walls have become the dominant feature of cityscapes.

Obviously, city administrations and urban developers can suggest using a more mathematical approach to calculating blank walls for a building project to address blank wall problems better. Where blank walls are unavoidable, they should be articulated and/or softened with plantings.

Elevation drops

The high elevation difference between the sidewalk and the destination is an excellent obstacle for pedestrians.



Image source: strongtowns.org

People with physical disabilities are especially faced with a daunting challenge when they must go up or down stairs to get from one place to another. They have to find ramps that allow wheelchair access or someone who can help them with that.

Utilities on pavements

Most cities around the world are continuing this terrible practice. They allow placing utilities, water, gas, and electric lines on the pedestrian walking path. This creates the potential for injury when people walk around them or, take alternate routes to avoid these hazards.



Image source: strongtowns.org

Pedestrian paths interrupted by utilities should be avoided and/or revised at all costs. This would help not only to lower the risk of injury but also positively improve the pedestrian experience.

HOW DOES LEED V4 ND PLAN MAKE OUR NEIGHBORHOODS MORE WALKABLE?

The LEED v4 ND rating system promotes walkable streets and neighborhoods, improving public health and environmental protection by encouraging pedestrian traffic in urban areas.

To achieve this goal, LEED developed a “Walkable Streets” prerequisite and credit to qualify candidate projects for their achievement in this matter. LEED v4 ND Walkable Streets prerequisite sets specific criteria as the base minimum for all neighborhood projects must meet.

However, neighborhood projects can further demonstrate how “walkable” their projects are by meeting additional requirements as they are described in LEED v4 ND Walkable Streets credit.

Neighborhood projects are expected to meet some requirements: providing continuous sidewalks, meeting the block length of the circulation network criteria, and providing all-weather routes for pedestrians.

In addition to meeting prerequisite requirements, projects can earn credit points by satisfying the 16 different requirements as described in the Walkable Streets credit to earn a maximum of 9 points.

We will examine those requirements and their reasoning to understand how the LEED v4 ND plan is transforming our neighborhoods into more walkable environments.

Functional Entry Requirement

LEED v4 ND requires new buildings are expected to have a functional entry point into the circulation network or other public space that is easily accessible. The goal is to set up a better connection between city life and the building to make our streets more livable, safe spaces for pedestrians. It also helps pedestrians feel more connected with their surroundings and take full advantage of what their cities can offer them.

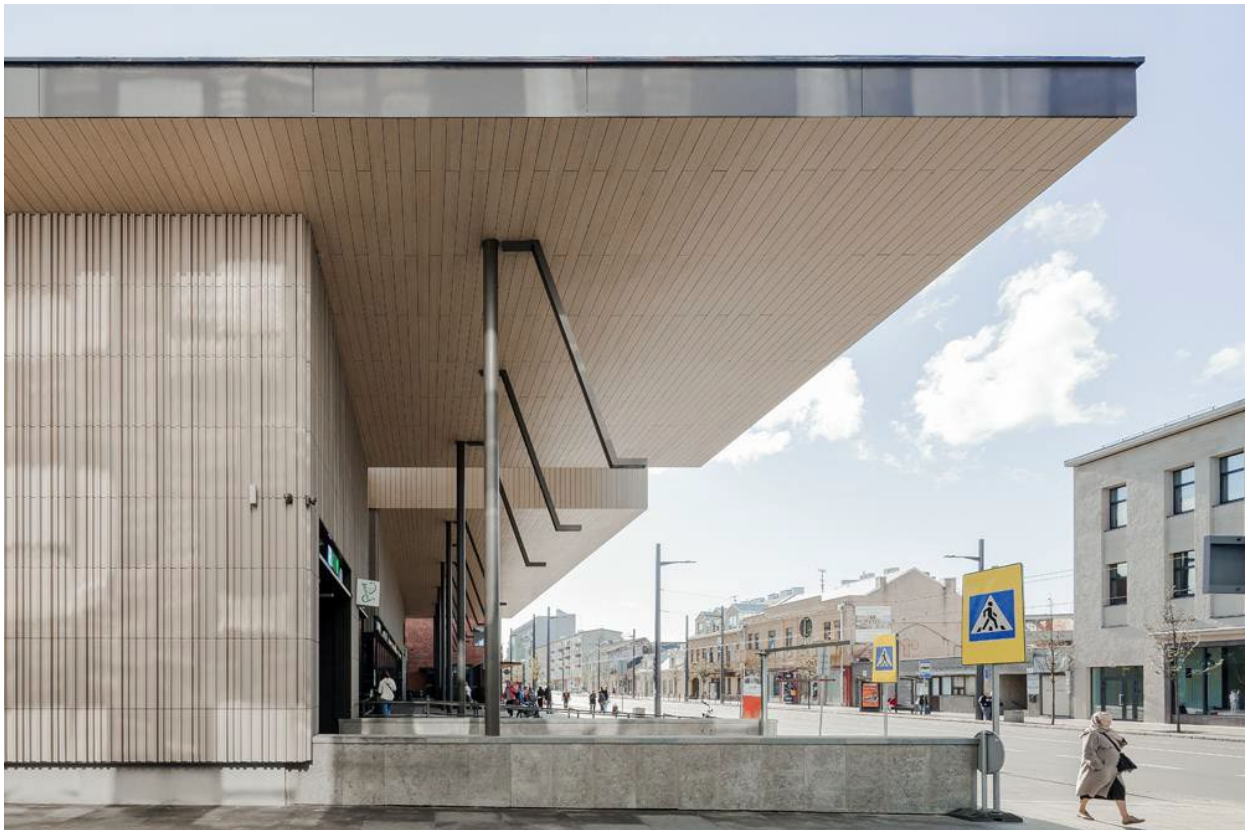


Image source: miesarch.com

The Walkable Streets prerequisite requires that the functional entry connected to the city be a sidewalk or similar provision for walking. Also, public spaces like square, park, or plaza sidewalks must have a minimum depth of 50 feet measured at a point perpendicular to each entry.

Building height/ Street centerline ratio requirement

Buildings that are positioned too close to each other rarely leave a walkable environment for pedestrians. To prevent this issue, LEED requires planning neighborhoods with sufficient street width as a function of the building height.

For this goal, LEED v4 ND requires projects to meet a certain building height/ street centerline ratio to maximize open space, improve pedestrian experience, and minimize traffic jams and accidents.

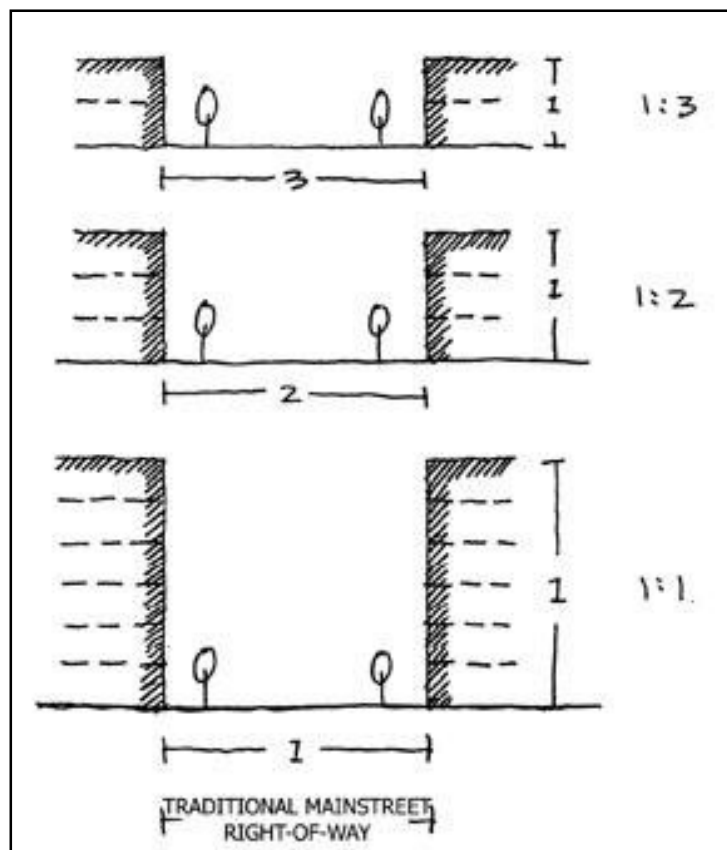


Image source: ottawa.ca

The prerequisite sets the building height/ street centerline ratio 1:1.5 as the minimum threshold for all building projects. This means for every foot of building height, a minimum of 1.5 feet of width from the street centerline to the building façade should be provided.

Projects bordering only a portion of the circulation network are expected to meet the height-to-width ratio requirement for their bordering sections only.

Building height is measured from the eaves or, in the case of a flat-roof structure, from the rooftop. Buildings with multiple widths and heights for different sections can use a weighted average when calculating height-to-width ratio.

Continuous sidewalks & All-weather routes

New buildings are expected to have continuous sidewalks. This means there is a sidewalk on both sides of the street, and they are connected by crosswalks at every intersection.

The goal is to make it easier for pedestrians to walk where they need or want to go without encountering obstacles (like cars). The continuous, all-weather sidewalk installed on a project's side of a circulation network provides safer passage for pedestrians and bicyclists.

Here are some of the key advantages of installing continuous sidewalks.

1. Continuous sidewalks allow for a smoother and safer walk.
2. They make the lives of people with disabilities.
3. They promote walking as a form of exercise.
4. Crossing the street with continuous sidewalks is easier because there are no gaps, which reduces the number of accidents.
5. The city saves money by not maintaining the gap between two separate sidewalks.
6. Continuous sidewalks can also serve as bike lanes if they are large enough to accommodate pedestrians and cyclists.
7. They offer a far better platform for growing plants or trees, which improves air quality and human psychology.
8. They are aesthetically pleasing and create an inviting atmosphere in cities.

LEED v4 ND Walkable Streets prerequisite requires 90% of continuous sidewalks to be provided on both sides of the circulation network. New sidewalks must also be at least 8 feet (2.5 meters) wide on retail or mixed-use blocks and at least 4 feet (1.2 meters) wide on all other blocks.

Unblocked length by garage and service bay openings

The prerequisite aims to minimize the amount of garage and service bay openings so as not to block pedestrian walkways. The idea is that pedestrians should be able to access all parts of the neighborhood without being obstructed by vehicular traffic, lights, or crosswalks.

To achieve this goal, the prerequisite requires that no more than 20% of the block length of the project's circulation network be directly facing garage and service bay openings. When doing calculations, alleys can be kept out of consideration.

Façades and entries

LEED v4 ND Walkable Streets credit allows projects to earn points if their façades and entries are well-positioned from the property line, as described in the credit language.

Projects can earn points based on how much of the total linear distance of building façades facing the circulation network (50 percent and 80 percent, respectively) is positioned within a distance (25 feet or 18 feet). For nonresidential or mixed-use buildings or blocks, functional entries to the building must be arranged at a certain distance (75 feet or 30 feet, respectively) or less.

Ground-level use and parking

Storefronts at ground level offers can be very engaging and offer a positive pedestrian experience if they can be clearly seen from outside. By looking inside from outside of the store, passersby can get an idea of what products each business offers and make their tour more meaningful, which helps both businesses and customers as well.

To achieve this goal, Walkable Streets credit encourages ground-level retail stores and services that face a public space to have clear glass for a minimum of 60% of their façades and those to be between 3 feet and 8 feet (900 and 2500 millimeters) above grade.

In addition, any ground-level retail, utility, or trade windows facing the circulation network, if visible (unshuttered) at night, can earn additional credit points. However, this rule should be included in covenants, conditions, and restrictions (CC&Rs) or other legally binding documents.

Both new and existing motorized sections of the circulation network, including the project side of the bordering circulation network, are expected to have at least 70% on-street parking on both sides of the block length. The percentage of on-street parking is determined by dividing the total length of the curb along each street, including curb cuts and driveways, by the street size allocated for parking.

The entire circulation network within the project, including the project side of the circulation network bordering the project, should have continuous sidewalks or similar walking provisions on both sides. Bicycle and pedestrian-only routes meet this requirement. New sidewalks are expected to be at least 10 feet (3 meters) deep on retail and mixed-use blocks and at least 5 feet (1.5 meters) deep on all other blocks.

If the project includes ground-floor dwelling units, at least half are expected to have a finished floor at least 24 inches (60 centimeters) above the sidewalk grade. This condition does not apply to below-grade basement spaces or accessory dwelling units.

Design speeds for safe pedestrian and bicycle travel

Projects are expected to limit the maximum driving speed to a maximum of 20 mph (30 km/h) for 75% of the new residential-only motorized sections of the circulation network.

Additionally, the project's new nonresidential or mixed-use motorized sections of the circulation network will have a maximum speed of 25 mph (40 km/h). This provision can be applied only to the outer access lanes of a multiway boulevard with travel lanes divided from access lanes by medians (through-lanes are exempt), provided pedestrian crosswalks are built around the boulevard at intervals of no more than 800 feet (245 meters).

WHAT CAN BE DONE ANY FURTHER?

Implement Loading standards

The LEED ND rating system does not directly address the loading standards. However, it would always be helpful to plan that there will be vehicles of businesses that can significantly limit pedestrian experience. Even though this issue may not be included in the local zoning requirements, designers can incorporate specific positive features to prevent the loading process from creating an unpleasant experience for pedestrians.



Image source: [nytimes.com](https://www.nytimes.com)

Also, fixed parking ratios and loading standards frequently result in sizeable off-street parking lots and structures and loading and service docks that interfere with the pedestrian realm. Here are a few strategies can be helpful to follow:

- Restrict loading times for when pedestrian traffic is almost not available.
- Schedule days & weeks that loading can be done.
- Limit loading period to be completed in a certain amount of time (1 hour, etc.)
- Encourage below-grade loading zones.
- Charge per loading fee to incentivize businesses to complete loading at once if possible.

Implement Parklets on Walking Paths



(A parklet for pedestrians to rest in Wien, Austria; Image source: [wikipedia.org](https://www.wikipedia.org))

Walkable streets shouldn't only be planned for walking and include all possible aspects that make the pedestrian experience as good as possible. Increasingly, parklets have been built across the world, providing outdoor seating areas for pedestrians with/without green space that offer pedestrians a resting point where they can sit and enjoy being outside.