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Sidewalks

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Introduction

Sidewalks are a common feature in most communities. In addition to providing a pedestrian network, sidewalks serve as meeting places for friends and neighbors; play areas for children, retail display areas and settings for special events. As sidewalk surfaces need to be stable, firm, smooth and slip resistant, they are often constructed of continuous swaths of impervious materials, such as asphalt or concrete. While their imperviousness can have adverse impacts on water resources, the fact that sidewalks are not used by large gas driven vehicles and often drain to landscaped areas, parking lots and driveways, means they usually generate less contaminants than streets.

Sidewalk Systems

If people are to choose walking over driving, the walking experience must be pleasant, safe and efficient. To this end, the sidewalk system should be structurally and visually continuous.

Sidewalks must flow together forming an unbroken coordinated network. The only instances where a break or gap in the sidewalk system is acceptable, is when the dead-end walk is scheduled to connect with a planned walk in the near future or the sidewalk serves a special land use area, such as a central business district.

The sidewalk system should present a continuous visual edge of building facades, trees, public spaces, lawns and open space. Where sidewalks cross streets, the continuity of the walk should be preserved by a change of the texture or color of the street pavement. In commercial areas, buildings often constitute one edge of the sidewalk while a landscaped border often forms the other edge.

Sidewalk Location

Many communities require all new developments be served with sidewalks, even where they will not connect to existing walks. As few communities have prepared comprehensive sidewalk plans, they do not know if the new sidewalks will ever join with others in a logical pattern.

Sidewalks should only be required where there are enough people to use them, where they link homes with schools, commercial centers, community facilities, jobs and mass transit stops or where they serve a well defined, high use area such as a downtown. In low-density residential areas, the walking distance to schools is often so great that school buses are used. There may be no need for sidewalks in these low-density areas. The road edge, particularly those designed as filter strips, can serve as a walkway.

Some communities only require sidewalks next to streets with traffic flows greater than 200 average daily trips. A report entitled, "Public Improvement Specifications," prepared by the Northeastern Connecticut Regional Planning Agency, recommends sidewalks be provided on one side of the street, only in areas where there is residential development of 3 or more dwelling units per acre, commercial uses, or public buildings within 1500 feet. Guilford, Connecticut may require sidewalks where they are deemed necessary for public safety and one of the following conditions exist: lots with an area of 10,000 sq. ft. or less, roads classified as collectors, (road extends to an existing road which has sidewalks), within 1,000 sq. ft. of a school, public facility, park or playground where pedestrian easements are provided, and cul-de-sac residential roads where children must walk to school bus stops.

Public sidewalks should always be placed within the public right-of-way while private sidewalks should be placed on private land. Some communities require that all sidewalks be located along private property lines or one foot from the right-of-way line. Placing sidewalks at the maximum practical distance from the curb provides pedestrians with: safety from street traffic, reduced conflict with trash and plowed snow stored in the border and protection from being splashed by passing vehicles.

While most sidewalks are located along front yards and streets, some are located within the lot, such as pedestrian walkways at shopping plazas and malls, while others are placed along the rear lot lines, often designed as multi-purpose trails.

Sidewalk Width

Many communities have one standard design for all sidewalks. In some communities sidewalk width depends upon road width. As is true with road width, sidewalk width should be in direct proportion to the projected volume of users, with attention given to those with special needs.

Anton Nelessen in his book, "Visions For A New American Dream," presents a sliding scale of sidewalk widths based on the number of people who might travel it walking side-by-side. Nelessen recommends a width of three feet for a single pedestrian 5'6" for two people walking side by side, 7'6" for three, 9'6" for four, 11'6" for five and 13' walks to be used by six people walking abreast.

DeChiara and Koppleman in their "Time Saver Standards for Site Planning," recommend a minimum sidewalk width of 4' with 6' preferred for moderate two-way traffic and handicapped accessibility. Walks should be uninterrupted by any grade changes, blending to a common level with building entrances, driveways, parking lots, curbs and other walks. Changes in grade from street to sidewalk and sidewalk to building entrance create the most problems for wheelchair users, so care should be taken to install curb ramps in these locations.

The "Americans with Disabilities Act," suggest 36" wide sidewalks to allow passage of one wheelchair and 60" for two wheelchairs. The minimum width for a person walking past a person in a wheelchair is 44."

In the Design Guide for Rural Roads," prepared by the Dutchess Land Conservancy, Inc., sidewalk width varies based on the size and use of the lot it abuts. For residential uses, the Conservancy recommends 3' sidewalks for 1-acre lots, 4' for half-acre development and 5' walks for homes on quarter acre sites. Sidewalk widths are broader in retail areas with the sidewalk extending from the edge of the street curb to the edge of the building. A minimum width of 6' is suggested for commercial areas with widths of 10' to 16' preferred to provide space for trees, lights, outside displays and benches.

Sidewalk Border Strips

Pedestrians feel safer on sidewalks that are separated from traffic by some kind of visual or physical barrier. A lane of parallel parking at the road's edge can create such a barrier. Landscaped borders separate sidewalks from curbs and street traffic. Borders of grass, trees, brick or paver stone can range from four to twenty five feet wide, depending on the street and sidewalk traffic. The heavier the traffic, the wider the strip. Border strips are commonly used to store garbage cans and trash waiting to be picked up. Borders are also used to store snow plowed and removed from the paved street.

In residential areas landscaped planting strips usually separate walks and road, while lawns, hedges or fences define the other edge. To reduce the adverse impacts of impervious sidewalk surfaces, the sidewalk should be graded to drain to border strips

and adjacent lawns designed as filter strips capable of receiving, cleansing and infiltrating sidewalk runoff.

Sidewalk Length

Zoning regulations have a direct impact on the length of sidewalks associated with various land uses. Most zoning regulations contain front yard setback requirements. If, for instance, zoning required a 50' front yard setback for residential uses in 1-acre zones, the chances are very high that 50' sidewalks will connect front doors to the street.

Zoning also establishes minimum lot sizes that also influence sidewalk length. For example, a typical 1-acre lot measures 200' by 200'. If sidewalks are required, they will be at least 200' long. If 4' wide sidewalks are constructed in the front yard and along the 1-acre lot described above, 1000 square feet of impervious surface will be generated.

Sidewalk Surface Materials

The sidewalk surface should be stable and relatively smooth yet not slippery, so as to provide proper traction. Sidewalks should have grades of 3 percent or less; however grades of up to 5 percent are permissible in short lengths. Maximum grade standards are particularly important in areas subject to icing. Minimum lateral drainage grades of 1/8 to 1/4 inch per foot are suggested where impervious surface materials are used.

Many sidewalks are constructed of concrete which has the ability of being brushed, textured, scored, inlaid or stamped to provide textural variety and improve pedestrian safety. The Town of Durham, Connecticut stipulates that when sidewalks are installed in front of commercial properties, places of assembly or other places, which generate large amounts of pedestrian traffic, they shall be constructed of 5" cement concrete slab on an 8" gravel base. In all other areas requiring sidewalks, they shall be constructed of 2 1/2" bituminous concrete on an 8" gravel base.

Many planners feel a varied sidewalk texture enhances the walking experience, as pedestrians tend to pay attention to the ground in front of them. Many sidewalks are blacktop or macadam, a material that not only repels water but also generally offers little textural variety. Alternative sidewalk surfaces such as brick and paver stone offer a variety of shapes, sizes and colors and can be laid with spaces between the stone permitting storm water infiltration. Asphalt can be mixed with large aggregate, creating voids that increase the sidewalk's porosity. Concrete or plastic grids filled with crushed stone or topsoil and grass can also be used to construct porous sidewalks.

NEMO Recommendations Regarding Sidewalks

- Local land use regulations should require sidewalks only where they will connect to existing walks or in areas designated in the comprehensive sidewalk plan.

- The plan of conservation and development should include a comprehensive sidewalk plan showing areas served by existing sidewalks and areas where sidewalks will be needed.
- In most low density residential areas sidewalks are not needed. Where they are deemed necessary, use roadside bio-retention swales as sidewalks rather than impervious surfaced walks.
- Where sidewalks are required, construct them of porous materials.
- Where impervious sidewalks are deemed necessary, construct them on only one side of residential streets.
- Sidewalk width should vary based on the number of pedestrians projected to use it, as opposed to a “one design fits all occasions,” approaches.
- For most low and medium density residential areas, sidewalks of only 3’ or 4’ width are usually adequate.
- Where impervious sidewalks are installed crown them and have them drain to adjacent lawns or planted boarder strips designed to accept and filter runoff from the walk.
- Review your zoning regulations for required minimum lot width and front yard setbacks as these provisions directly impact sidewalk lengths.
- In residential areas, use the lip of driveways as the front yard sidewalk rather than building two separate impervious areas.

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