

Appendix A: Streetscape Design Guidelines

The Streetscape Design Guideline includes, among other components, sidewalk design, site and building design, planting, signage, lighting, curb and road construction, parking lane/area layout and sharing guidelines, and provisions for water runoff and storage of plowed snow. TAC has elaborated on the Sidewalk Design Guidelines for this report.

Sidewalk Design Guidelines

In assessing transportation issues in the Great Road corridor, the TAC has observed an overall lack of consistency and continuity in the sidewalks constructed adjacent to the roadway. Furthermore, placement of sidewalks in relation to the roadway, in many locations, does not provide the sense of safety and hospitable pedestrian facilities necessary to encourage pedestrian activity. While we recognize that there are substantial design challenges involved in constructing sidewalks along a pre-existing right-of-way with pre-existing development, the TAC believes that a set of fundamental design standards should be established to guide reconstruction and/or construction of new sidewalks in the future and applied as opportunities present themselves.

The TAC has therefore prepared a set of recommended sidewalk design standards (Figure 19) to be considered for application to future projects involving sidewalk construction in the Great Road corridor.¹ These design standards are intended to

- Facilitate the creation of a safe and comfortable pedestrian environment
- Encourage pedestrian activity as an alternative to vehicular transportation
- Provide developers and implementing agencies with clear direction in the design of facilities that will complement transportation operations and the quality of development in the corridor.

These guidelines are intended to be one component of the overall streetscape design guidelines encompassing additional areas, such as the building site and design, signage, etc.

These standards are based primarily on guidance presented in Federal Highway Administration (FHWA) Pedestrian Facilities Users Guide (March, 2002)² and the American Association of State Highway and Transportation Officials (AASHTO) Guide for the Planning, Design, and Operation of Pedestrian Facilities (July 2004).³ As such,

¹ Although these standards are intended specifically for application in the Great Road corridor, they can be considered as equally applicable for sidewalks throughout the Town of Acton.

² Turner-Fairbank Highway Research Center, Federal Highway Administration, "Pedestrian Facilities Users Guide – Providing Safety and Mobility," Publication No. FHWA-RD-01-102, McLean VA, March 2002.

³ American Association of State Highway and Transportation Officials, "Guide for the Planning, Design, and Operation of Pedestrian Facilities," Publication No. GPF-1, Washington D.C., July 2004.

they represent acceptable and defensible engineering design standards in common use throughout the U.S.

General Considerations

A safe walking area must be provided outside the motor vehicle traffic travel-way. Sidewalks along roads with high speeds and/or high traffic volumes should be well separated from the travel-way. Shade trees (preferably indigenous) should be planted close enough to the sidewalk to provide a canopy over pedestrians to encourage sidewalk usage in hot sunny weather.

Sidewalk Width

The width of a sidewalk depends primarily on the number of pedestrians who are expected to use the sidewalk at a given time – high use sidewalks should be wider than low-use sidewalks. A sidewalk width of 1.5 m (5 ft.) is needed for two adult pedestrians to comfortably walk side-by-side, and all sidewalks should be constructed to be at least this width. The minimum sidewalk widths are:

Local or collector streets	1.5 m (5 ft.)
Arterials or major streets (i.e. Great Road)	1.8 to 2.4 m (6 to 8 ft.)
CBD areas	2.4 to 3.7 m (8 to 12 ft.)
Along parks, schools, and other	
Major pedestrian generators	2.4 to 3.0 m (8 to 10 ft.)

These widths represent a clear or unobstructed width. Point obstructions may be acceptable as long as there is at least 914 mm (36 in.) for wheelchair maneuvering. Every attempt should be made to locate streetlights, utility poles, signposts, fire hydrants, mail boxes, parking meters, benches, and other street furniture out of the sidewalk. When that is not possible, sidewalk furnishings and other obstructions should be located consistently so that there is a clear travel zone for pedestrians with vision impairments, and a wider sidewalk should be provided to accommodate this line of obstructions.

Sidewalk Buffer Width

Buffers between pedestrians and motor vehicle traffic are important to provide greater levels of comfort, security, and safety to pedestrians. The higher the speed and the higher the traffic volume on the adjacent roadway, the more imperative it is to have a sufficient buffer to provide these attributes. Landscaped buffers provide a space for poles, signs, and other obstructions; they serve as snow storage area; and they protect pedestrians from splash. Planting strips should be provided adjacent to all sidewalks except in cases where physical constraints absolutely prohibit such a configuration and cannot be feasibly corrected. Landscaping should be tolerant of road salt and other roadway conditions.

The ideal width of a planting strip is 1.8 m (6 ft.). Minimum allowable landscape buffer widths are:

Local or collector streets	0.6 to 1.2 m (2 to 4 ft.)
Arterial or major streets (i.e. Great Road)	1.2 to 1.8 m (4 to 6 ft.)

If a planting strip is not provided between the sidewalk and roadway, then the sidewalk width should be a minimum of 1.8 m (6 ft.). Where landscaped sidewalk buffers cannot be provided due to constraints, then on-street parking, a shoulder, or a bike lane can serve to buffer pedestrians from motor vehicle traffic lanes.

Sidewalk Grade and Cross-Slopes

Sidewalks should be built to accommodate all pedestrians and should be as flat as practical. Sidewalks should be held to a running grade of 5 percent or less, if possible. However, sidewalks that follow the grade of a street in hilly terrain cannot meet this requirement and may follow the grade of the street. The maximum sidewalk cross-slope is 1:50 (2 percent) to minimize travel effort for wheelchair users and still provide drainage. At least 0.9 m (3 ft.) of flat sidewalk area is required at the top of a sloped driveway to accommodate wheelchair use.

Obstacles along the Sidewalk

The distance to the bottom of signs placed in or next to a sidewalk should be at least 2 m (7 ft.) above the sidewalk surface to avoid injury to pedestrians. Bushes, trees, and other landscaping should be maintained to prevent encroachment into the sidewalks. Guy wires and utility tie-downs should not be located in or across sidewalks at heights below 2 m (7 ft.).

Sidewalk Layout

Where space allows, sidewalk should be laid out so that it meanders, creating an interesting travel experience.

Sidewalk Surface

Concrete is the preferred sidewalk surface, providing the longest service life and requiring the least amount of maintenance. Asphalt is an acceptable walkway surface and crushed granite may also be acceptable but they require higher levels of maintenance and are less desirable for wheelchair users. Sidewalks may be constructed with bricks and pavers if they are designed to avoid settling.

Curb Cuts

Only one curb cut should be included for businesses with less than 100ft of frontage, and a maximum of two for businesses with longer frontages. In general, the maximum width for curb cuts should be 30 ft.