

# What Our Laws and Regs Do Not Say About Low Vision and the Built Environment

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# Low Vision Poses Special Issues for Planners

- The low vision population in this country is large and growing. Current estimates indicate over 25 million with vision problems.
- The population is comprised of people who have normal age-related vision loss as well as people with eye conditions that affect vision temporarily or permanently.
- Most of these individuals are used to having good vision and may not have adapted to reduced vision nor have most of them had low vision services.
- Most have received no skills training such as orientation to the environment, trailing or self-protective techniques, nor braille.
- Most do not use mobility canes.
- If traveling with others, most do not know proper sighted guide techniques.
- Many older individuals experience hearing losses. These can be disorienting and also make it difficult for persons to interpret verbal directions and to localize sounds.

# Existing Codes re Lighting

ASHRAE 90.1: Commercial lighting code. Code does allow for lighting in spaces designed for people with special light needs such as those with vision loss or age-related issues.

ASHRAE 189.1—sustainability code for green buildings; provides for 10% less interior lighting wattage than ASHRAE

# Lighting Outdoors

Lighting in public outdoor areas should be addressed in the “green” codes to ensure that people do not have to step out of brightly lit interior into a darker exterior. As we age, accommodation to lighting is much more difficult and the need for lighting increases exponentially.

(IEP publication RP-28-07 addresses)

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# Building and Facility Specifications

- Americans with Disabilities Act Accessibility Guidelines (ADAAG)
  - Model Building code: ICC/ANSI A117.1
  - Uniform Federal Accessibility Standards (UFAS) (note-these codes are similar to ADAAG)
  - ADA Final Rule Title III, Sept., 2010
  - Draft Public Rights-of-Way Accessibility Guidelines (PROWAG)
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# Accessible Approach to Buildings

Not covered:

- Accessible routes that provide landmarks for way finding (purposefully move through an environment toward a destination) (e.g. walking through a parking lot is not accessible route for persons with vision loss).
- Lighting standards
- Contrast or texture indicators with sidewalks

Addressed in PROWAG:

- Curb ramp indicators with detectable warnings at the street; disorientation for users with vision loss not addressed
- Removal of protruding objects (covered in ADAAG as well)
- Removal/modification of thresholds over  $\frac{3}{4}$ "

# Signage

Not addressed:

- Glare and contrast on signage (addressed but not adequately)
  - Audible signage
  - Building directories
  - Use of texture on flooring to promote wayfinding (e.g.: carpet and tile in contrasting colors)
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# Stairs

Not addressed:

- Color contrasting rails including extensions
  - Contrast and texture on the edge of steps (contrast covered by ANSI; not by ADAAG).
  - Adequate lighting on steps
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# Elevators

Not addressed:

- Audible voice announcement indicating floor number inside elevator
- Destination-oriented elevators (addressed in 2010 Title III but not adequately)

# Restrooms

Not addressed:

- Building layout for placement of restrooms on the same side of hall consistently throughout a building
  - Layout of restrooms such as placement of lavs, toilets, trashcans, towel dispensers in same locations
  - Use of visual contrast in restrooms—such as contrast of towel dispensers with wall; stall doors with supports, etc.)
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# Building Layout

Not addressed:

- Placement of elevators and stairways consistently adjacent
  - Avoid diagonals; use right angles if possible
  - Eliminate extra noise and distractions such as waterfalls and fountains
  - Use the flooring to create a building map such as the use of differences in flooring texture and color contrast
  - Use of contrast on door frames
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# Other Safety Considerations

Not addressed:

- Markings on floor-to-ceiling windows
- Glare on flooring
- Window treatments to reduce glare

# Design Concepts That Enhance Wayfinding

- Increasing “visibility” with high contrast
  - Providing sufficient lighting and glare control
  - Using logical, consistent layouts in building design
  - Eliminating extra/distracting sounds/echoes
  - Using tactile/visual surfaces for flooring.
  - Consistently placing signage in large print and braille (ADA requires raised print or braille).
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# References

## Built Environment:

*Janet M. Barlow, Billie Louise Bentzen, and Lukas, Franck. (2010). Environmental accessibility for students with vision loss, (pp. 324-385). In Foundations of orientation and mobility, Vol. 1. NY, NY: American Foundation for the Blind.*

Note: This chapter includes several pages of references.

For built environment consultation (other than lighting): [www.accessforblind.org](http://www.accessforblind.org)

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# References

Lighting:

Terry McGowan, Director of Engineering Technology for the American Lighting Association

IES publication: Lighting and the Visual Environment for Senior Living (RP-28-07)

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