

BY EUNICE NOELL-WAGGONER
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THE BOOMERS

We are an instantaneous society. In theory, everything comes quickly.

One exception is our codes and societal values, which tend to change very slowly. This brings us to Baby Boomers: As older people continue to flourish, living active vibrant lives, 70 is becoming the new 50. Codes and design standards must keep up with these Boomers, whether in the workplace, housing, healthcare, hospitality and retail (which have been addressed in earlier columns), or roadways and houses of worship (to be discussed in this column).

The conundrum facing lighting professionals is that energy concerns, global warming, reductions of lighting levels and the basic need to see clearly are in conflict. What can be done to provide older people with the higher lighting levels and quality of light that they need, while still meeting energy-usage targets? Can it be done? The one thing that we cannot continue to do is have an energy code that ignores the needs of older people.

Age-related vision problems include an increased sensitivity to glare; slower adaptation to changes in brightness; loss of contrast sensitivity; and a need for higher light levels to see with the same acuity as younger people. For older people to feel safe, they must be able to see the faces of those around them, find their way in unfamiliar spaces, and read signs and information without

the aid of a flashlight. In order to serve older people, the energy code must take into consideration all of these issues.

Let's look at two examples—street lighting and houses of worship.

FROM STREETS TO PEWS

Coming soon to a street near you are new neighbors you may or may not like. On one hand, they are green and tend to live a long time. On the other hand, they are a little pushy and tend to be loud. Okay, we are actually talking about LEDs

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(not people). Energy efficiency and low maintenance requirements are two factors that make LEDs attractive for streetlights. A major downside to their use is glare, a big issue for older people, for whom driving is critical for independence and quality of life. Eye problems can be increased by glare from car headlights and streetlights. LED streetlights are made up of many individual lamps which can create one large glare bomb.

Certainly as technology improves, the number of LEDs in one streetlight can be reduced. But, in the meantime, people will have to

live with high levels of glare that may be in place on their street for many years. LED streetlight design must consider how to restrict glare, perhaps with the use of diffusing lenses or using the LEDs in an indirect manner as some architectural downlights do. We must consider whether LEDs are the best answer for lighting streets. Induction lamps offer long life, low maintenance and a proven track record. Regardless, the reduction of glare must be a prime motivator to allow people of all ages to enjoy the streets at night.

Boomers are returning to spiritual interests and becoming a large part of the religious community. How do we deal with the high-volume spaces typical of places of prayer and worship, make them suitable for multiple uses, day and night usage, and provide for a large cross section of the population all in one building at one time, while also maintaining compliance with today's energy code?

Some houses of worship have very high ceilings which can be particularly challenging when providing the variety of moods and settings required in today's services,

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while also delivering adequate light for older people to read hymnals, scriptures, etc.

Less formal spaces serve many functions, from gatherings, dinners, meetings and slideshows. Vestibules, corridors and restrooms must have adequate light so that older people feel safe. The vestibule or transition space between the outside and the main worship space must be designed to accommodate the slower adaptation of older eyes. These spaces should be lighted to serve as the transition between two distinct lighting conditions in order to avoid a conflict between young worshipers (whose eyes adjust quickly) and older worshipers (who may need to stop in the entry to let their eyes adjust to low light conditions). Layers of light are essential to meet all these demands, but if the total connected load exceeds the energy code, what gets deleted? Since current ASHRAE/IES standards do not factor in age in their watts per sq ft calculation, the needs of the older users will not be honored.

LARGER QUESTIONS

The larger question is, are we, the IES, going to lead the nation by demanding appropriate lighting for the aging Boomers while balancing the need for energy conservation? Or are we going to stand on the sidelines while the power density for lighting gets ratcheted down to the point that the Boomers become visually handicapped? When attending IES conferences we see a number of our colleagues who are already members of the

Boomer generation and many more who will soon be joining the 50-plus age group. We are the professionals who know the issues of aging vision, and we personally experience the problems created by poor lighting.

Do we have the courage to live up to the IES Mission Statement? *"The IES seeks to improve the lighted environment by bringing together those with lighting knowledge and by translating that knowledge into actions that benefit the public."*

Do we have the fortitude to carry out the IES Vision Statement? *"The IES will build upon a century of excellence to create the premier lighting community dedicated to promoting the art and science of quality lighting to its members, allied professional organizations, and the public."*

Are we going to sound the alarm about the lighting needs of older people, or do we simply alert the medical profession, health insurance companies and Medicare so that they are ready to deal with the resulting increased case loads caused by inadequate light, as the number of falls, fractures and traffic accidents increases?

To live up to our mission statement, we have no choice but to take action. The fact that older eyes require higher levels of light and better quality of light must be factored into our energy code. The IES should work internally by raising the concern to the ASHRAE/IES Committee and to the editors of the upcoming IES *Handbook*. We should reach out to Steven Chu, U.S. secretary of energy, and Kathleen Sebelius, secretary of health and

human services, alerting them to this potential problem, which could facilitate a shared solution that recognizes both the needs of the Boomers and the goal of energy conservation.

Codes are slow to change, so we need to work together now to get the codes right. The current method of calculating the lighting power density is too simplistic, treating all users the same, regardless of age. It needs to be changed, and we need to lead the way.



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