

The Next 100 Milli

By Arthur C. Nelson, FAICP, and Robert E. Lang

**The U.S.
is alone among the
industrialized nations in
experiencing substantial growth.
If current trends continue, the
United Kingdom and France
will add fewer than 10 percent to
their populations between now
and 2040, while Germany, Italy,
and Japan will lose population.
Only India—with a current
population of about 1.1 billion—
will add 100 million people
more quickly than
the U.S.**

Consider the following. On October 16, 2006, America reached a milestone: Its population passed the 300 million mark.

It took us until 1915 to reach our first 100 million, 53 years (to 1968) to reach 200 million, and 39 years to hit 300 million. The census indicates that the nation should reach 400 million by 2043, but the census routinely under-projects; its 1996 projections had the U.S. reaching 300 million in 2011, not 2006. Extrapolation of Woods & Poole Economics' 2005–2030 projections indicate that the U.S. will reach 400 million by 2037, about seven years ahead of the census schedule and just 31 years after reaching 300 million.

What do the next 100 million people mean for America's built environment?

Impact on housing

For the past decade, the nation has counted about 0.4 housing units of all kinds (including vacant and second homes) per person. To accommodate the next 100 million residents, the nation will have to add about 40 million new housing units to its current inventory of 125 million and replace another 30 million homes that are likely to be damaged or torn down in the next three decades.

That means the next 100 million residents will usher in 70 million housing units, or about two million annually. That is similar to the pace of housing construction that has occurred over the past decade.

However, about two-thirds of the housing built during this time was single-family detached units. Will this trend continue as the nation adds another 100 million people? This appears unlikely for three reasons.

First, the population is aging. Last October, when the population reached 300 million, about 12 percent of Americans were 65 or older. This group will account for 41 million of the next 100 million Americans. In contrast, young people (age 19 and under) will account for only 19 million of the next 100 million Americans, down from their 29 percent share in 2006.

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How a growing population will reshape America's built environment.



The group aged 20 to 64 will account for the remaining 40 million of the next 100 million Americans, whereas it accounted for 59 percent of the population in 2006. We suspect that the housing preferences of older, childless households will be different from those of other households.

Second, household types are becoming more diverse. In 1970, just after the population reached 200 million, about 44 percent of all households had children and only 17 percent of them were single-person households. The 1960s and 1970s saw the suburbanizing of America and the spread of suburban-style planning and zoning, which separated land uses and favored single-family, often large-lot residential development over mixed land uses, mixed housing types, and higher densities.

This was the period when child raising dominated household concerns. Thus, it makes sense that communities catering to households with children fashioned appropriate land uses.

Times have changed, however. In 2006, roughly 35 percent of all households had children, while another 26 percent were single-person households. By the time the next 100 million people can be counted, only about 27 percent of households will have children, and single-person households will remain at about 26 percent. In other words, among the next 100 million Americans, only about three million, or 12 percent, will have children.

There will be more children and more households with children as the U.S. adds another 100 million people, but the net change in associated housing demand will be small. In contrast, 88 percent of the net change in households will be attributable to those without children. Single-person households will account for about 38 percent of the net change.

Third, housing preferences appear to be changing. Aging, empty-nester, and single-person households will dominate America's future housing markets. It seems unlikely that their housing preferences will conform to the child-friendly zoning template that has dominated America's suburbs for two generations.

Two other influences are emerging that may affect preferences. Americans are living longer, and life insurance actuarial tables now extend past 100 years. Only a third of a typical adult's life is likely to be spent rearing children, which means adults may live 50 or more years without caring for children. In addition, a growing number of families are raising their children in decidedly urban settings—not most of them, but perhaps enough to have a significant effect on planning.

All this adds up to the potential for important changes in housing demand that planners need

to anticipate. An article by Arthur C. Nelson in the Autumn 2006 issue of the *Journal of the American Planning Association* suggests that because of changing demographics and shifting housing preferences, the current supply of single-family detached houses on lots of more than 7,000 square feet may already exceed the demand projected for the next decade. In other words, the demand for attached, small lot, cluster, and other high-density options appears likely to outpace the demand for detached houses on large lots.

Don't count on telecommuters

We estimate that when the U.S. population reached 300 million it had about 87 billion square feet of retail, office, warehouse, public, and other space for structures that were not permanent residences. The next 100 million Americans will require an additional 30 billion square feet of space—partly to serve them and partly to accommodate the 60 million new jobs they will generate, assuming that current trends hold.

Some may argue that telecommuting, Internet retailing, and other technology-based innovations will reduce demand for nonresidential space, but this seems unlikely. While Internet sales have exploded in recent years, they have done so at the expense of over-the-phone catalog sales. In-store sales have remained relatively constant for the past several years.

For its part, telecommuting may be the single biggest disappointment in transportation planning. While no truly accurate figures exist on the extent of telecommuting, census data suggest that telecommuters account for only four to six percent of all workers—figures that have changed little for a generation. One reason is self-evident: Unless they are housebound, engaged in raising children, or lack mobility, people prefer to leave the house. Otherwise, they get “cabin fever.”

We surmise that the next 100 million people will require more than 30 billion new square feet of space. We estimate that the average nonresidential structure lasts about 50 years, ranging from 10 to 20 years for big box stores and strip commercial centers to 100 years or more for durably built institutional structures. That means roughly 20 percent of all nonresidential structures are rebuilt or replaced—or become vacant—every decade (compounded). By the time the next 100 million Americans show up, at least 70 billion square feet of existing nonresidential space will have been rebuilt or replaced. In all, more than 100 billion square feet of nonresidential space will be constructed as America adds the next 100 million people.

What will all this development cost? We esti-

mate residential and nonresidential construction will come to about \$30 trillion and that public infrastructure will add another \$5 trillion for a total of \$35 trillion, give or take a trillion dollars. The construction volume alone will reshape America's built environment—and could lead to important planning opportunities.

Reshaping the built environment

To review: As the U.S. marches toward a population of 400 million, Americans' household profile will change. A much smaller percentage of households will have children, and far more will be single-person households. The suburban planning template designed to meet the needs of a society dominated by child-rearing households will not be in synch with a society dominated by childless and single-person households.

Up to 35 million of the 40 million new housing units needed to meet the demand of the next 100 million people will likely be built for childless occupants. That group is already helping to fuel the resurgence of in-town living, high demand in many transportation oriented developments, unprecedented demand for central city and close-in suburban infill and redevelopment, and greater stability of housing prices closer in than in more distant suburbs.

We know, too, that the volume of new nonresidential development in the next few decades will exceed all such development that now exists. About 100 billion square feet of space will be constructed. Of that, about 70 percent will involve the reuse or redevelopment of existing space—mostly in the suburbs.

For planners, the combination of changing demographics with associated demand for greater variety in housing types and density, plus redevelopment of the already built environment, will present an unprecedented opportunity to reshape the U.S., especially the suburbs.

Central cities and first tier (pre-1950) suburbs are likely to see historically high levels of development, but they will house only one-third of the nation's next 100 million people—maybe less. Two-thirds or more of the next 100 million

Resources

Reading. See “Leadership in a New Era,” by Arthur Nelson, in the Autumn 2006 issue of the *Journal of the American Planning Association*. Elsewhere in this issue of *Planning*, “America 2040: The Rise of the Megapolitans” describes how the nation is becoming increasingly defined by megapolitan clusters.

Numbers. Woods & Poole Economics is a private firm that provides economic and demographic projections. See www.woodsandpoole.com.

people and associated jobs are likely to locate in existing second tier (1950–2000) suburbs.

However, much of the \$20 trillion in suburban development need not come at the expense of existing neighborhoods. Such development can probably occur in areas already developed for commercial uses. Suburban strip centers, shopping malls, big boxes, warehouses, office buildings, and industrial complexes offer several advantages, including:

- Direct access to four-lane highways, with the potential for light rail or bus rapid transit service.
- Expandable infrastructure.
- Single ownership of large tracts of land. Land assembly is perhaps the single biggest obstacle to central city redevelopment because the land is often divided into relatively small parcels with multiple owners. The backlash to the U.S. Supreme Court's 2005 *Kelo* decision will make land assembly for redevelopment more difficult. Suburbs can largely avoid this problem as they facilitate the redevelopment of existing commercial centers and strips.
- More acceptance (and less NIMBYism). Tens of thousands of strip commercial and big box centers are dead (vacant) or dying (declining rents). They threaten adjacent and nearby neighborhoods with blight.
- Current zoning, already in place for commercial and even mixed uses, may further assuage NIMBY concerns.

Planners can encourage this acceptance by engaging commercial property owners and tenants in processes (such as charrettes) aimed at creating redevelopment that will protect established neighborhoods, fulfill commercial development needs, and sustain the local economic and fiscal base.

Toward a new template

With 400 million people, the U.S. will likely be a very different nation than the one with 300 million. Demographics will drive many of the changes, but many also can be designed. New residential construction will equal nearly 60 percent of all current existing units. Further, the volume of new nonresidential construction will exceed all the nonresidential space that exists now.

The nation as a whole met the needs of the last 100 million people by using a planning and zoning template that is now outdated. Meeting the needs of the next 100 million will require a new planning and zoning template, the outline of which has been suggested here.

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