

#### Prepared for Grantmakers In Aging

By:

Margaret B. Neal, Ph.D., Portland State University, Institute on Aging Alan DeLaTorre, Ph.D., Portland State University, Institute on Aging

#### With contributions from:

Kevin E. Cahill, Ph.D., ECONorthwest, and Boston College, Center on Aging & Work Nicole Iroz-Elardo, Ph.D., Portland State University, Urban Studies & Planning Jost Lottes, Ph.D., Portland State University, Institute on Aging Donald Truxillo, Ph.D., Portland State University, Psychology

### February 2016

# **Cover Photo Credits**

#### Main image:

Environmental Protection Agency "Green Streets" Study (Portland State University, Dill, J. & Neal, M.B.).

**Bottom left image:** Interstate Avenue/MAX Yellow Line, North Portland, Oregon.

**Bottom center image:** Senior adult learners at Portland State University.

**Bottom right image:** Age-Friendly Lloyd Center business review, Elders in Action.

# **Table of Contents**

Executive Summaryi
Setting the Stage
Our Populations are Aging2
Older Adults are a Growing Resource2
An "Age-Friendly" Community Can Benefit People of All Ages
Who Should Care and Why
The Value Proposition of an Age-Friendly Community
Economic Benefits
Social Capital Benefits12
Opportunities Related to Housing19
Opportunities Related to Physical Infrastructure
Health Benefits
Other Benefits
Conclusion
Endnotes

# Executive Summary

**The movement toward age-friendly communities is growing**, with the key impetus being population aging. In the U.S. in 1900, 4.1 percent of the population was 65 or older. In 2015, this figure was 14.5 percent. By 2020, it is expected to increase to 16.1 percent, and by 2050, to 20 percent—one in five Americans. Medical, public health, and technological advancements have led to increased longevity, with the years added extending middle age—the period when people are most productive and creative—rather than lengthening extreme old age. Beyond what individuals themselves can do to age optimally, the movement to create communities that are age friendly focuses on how the economic, physical, and social environments can be improved to address not only the needs but also maximize the assets of an aging population, for the benefit of all.

**An age-friendly community** is one that is a great place to grow up and grow old. It has safe and accessible public transportation options; affordable, accessible, and safe housing; pleasant and safe parks and outdoor spaces; quality community and health services; sufficient employment and volunteer opportunities; and engaging social activities and events for people of all ages. The needs and preferences of older adults are taken into account. Older adults are respected, and their knowledge, skills, resources, and contributions are sought out. They are integrated into the fabric of the community.

**The reasons why creating an age-friendly community makes good sense**, economically and socially, are presented in this document, supported by research conducted by academicians, government agencies, nonprofit organizations, and corporations. The reasons are based largely on two key premises:

- Unlike most natural resources, older adults are a growing resource. Thus, population aging presents a set of opportunities, if handled well.
- An "age-friendly" community can benefit people of all ages and abilities.

Business leaders and private sector investors, government officials and staff, philanthropists, educators, civic groups, advocacy organizations, service organizations and providers, and residents themselves can use the information presented to take advantage of the resource that older adults represent and shape places that work not only for residents who are older now but also for residents across the life course.

Reasons for creating an age-friendly community can be categorized in six broad areas: economic benefits, social capital benefits, opportunities related to innovations in housing and physical infrastructure, and health and other benefits.

#### **Economic Benefits**

- Older adults are an important part of the workforce and expand the labor pool from which employers can hire.
- Attracting and retaining older workers will help address labor shortages of qualified workers.

i

- Older workers can enhance organizational productivity and business outcomes.
- Older workers have significant accumulated knowledge and skills and help to retain institutional memory.
- Having an age-diverse workforce can result in positive outcomes for employers and employees.
- Attracting or retaining older adults who might otherwise leave a community can be an important economic development strategy.
- Older adults start more new businesses than younger adults, helping to grow the local economy.
- Continued work later in life brings economic benefits to the community and financial, health, and other benefits to older adults themselves.
- Older adults have enormous economic clout as consumers.
- The older adult market is stimulating new companies, new products and services, and new technologies.
- The older adult market is also bolstering the larger U.S. economy through U.S. social insurance benefits.
- Older adults bring tourism dollars.

#### **Social Capital Benefits**

- Older adults provide care and resources across generations.
- Older adults serve the community through volunteering and civic engagement.
- Volunteers themselves receive health benefits from volunteering.
- Age-friendly communities reduce barriers to volunteering.
- Older adults make philanthropic investments and charitable contributions.

#### **Opportunities Related to Housing**

- The aging of the population presents the opportunity and an imperative to make changes in the housing sector to enable older adults to age in place, maintaining their social, business, and service connections.
- Affordable housing can have positive economic and fiscal impacts for the public and private sectors.
- The growing older adult population will increase demand for alternative housing arrangements.
- Age-friendly communities offer a continuum of housing options and supportive services for the independent through the dependent, allowing for aging in one's present home or community, reducing the need for moves, and preventing or postponing costly public and private expenditures for long-term institutional care.

ii

#### **Opportunities Related to Physical Infrastructure**

- Age-friendly communities have physical environments that work for everyone.
- Age-friendly communities have a range of transportation options, facilitating mobility.
- Age-friendly communities have healthy and connected neighborhoods that save residents time and money and improve quality of life.
- Investing in age-friendly housing and environments can lead to public as well as private cost savings.
- Housing location preferences appear to be changing to include consideration of transportation and mobility options.
- The challenges associated with creating age-friendly physical environments bring opportunities for cross-sector coordination and collaboration.

#### **Health Benefits**

- Age-friendly communities result in lower public and personal costs related to illness and health care.
- Many chronic diseases can be prevented or controlled through attention to the physical environment.
- Designing age-friendly environments specifically to encourage physical activity can improve health and lower health care expenditures.
- Age-friendly communities facilitate healthy behaviors of older adults through their design and infrastructure.
- Age-friendly communities address issues that also influence health, such as pollution, access to health care and social services, safety, and social support.
- Age-friendly environments reduce social isolation and improve health and community engagement.

#### **Other Benefits**

• Older adults make significant contributions to the social, political, and environmental fabric of society.

In summary, our population is aging and public resources are limited, yet older adults constitute a valuable human resource that has been overlooked. There is broad recognition that the economic, physical, and social environments in the community where we live, as well as our individual lifestyle choices, affect how well we age.

The economic, social, and personal benefits to be gained make clear the wisdom of taking action to create communities that are more age friendly. What we do now to make our communities good places to grow up and grow old will yield returns not only for today's elders but also tomorrow's—that is, for all of us.

iii

# The Case for Age-Friendly Communities

## Setting the Stage

The movement toward age-friendly communities<sup>1</sup>—also known as agingfriendly, livable, or lifetime communities or communities for all ages—is growing nationally and internationally. The focus is on ways to help people age in their community of choice, but the approach goes beyond what individuals themselves can do to age optimally to include the economic, physical, and social environments of communities and how these can be improved to address not only the needs but also maximize the assets of an aging population, for the benefit of all.

Many thought leaders now believe that the communities that fare best in the 21st century will be those that both tackle the challenges and embrace the positive possibilities that an aging population creates.

- Grantmakers In Aging<sup>2</sup>

This document details various reasons why

creating an age-friendly community makes good sense economically and socially. The reasons are supported by research conducted by academicians, government agencies, nonprofit organizations, and corporations. The sources for the information included are provided in the endnotes, which can be consulted for further details. Although informed primarily by U.S. data and trends, the document provides information that may be useful for communities elsewhere in the world, as well.





#### **Our Populations are Aging**

A key impetus for this movement is that throughout the United States (U.S.), and indeed the world, our populations are aging. As of July 1, 2014, 14.5 percent of the U.S. population was aged 65 and older, which represented 46,243,211 people.<sup>3</sup> The number and the proportion of people aged 65 and older are increasing, and this trend is not a passing phenomenon. In the U.S. in 1900, the 65-and-older population comprised 4.1 percent of the population (3,080,498). It grew to 8.1 percent of the U.S. population in 1950 (12,269,537) and 12.4 percent in 2000 (34,991,753).

Projections show increases to 16.1 percent of the U.S. population in 2020 (54,804,470) and to 20.2 percent by 2050 (88,546,973).<sup>4</sup> Many U.S. cities and towns (e.g., Cleveland, Miami, Buffalo) have already arrived at that future.<sup>5</sup>

#### Projected Growth of U.S. Population 65 and Older



Population aging represents a human success story. Longevity has improved since the mid-1800s due to advancements in medicine, sanitation, and public health.<sup>6</sup> There is also a powerful association between personal income and life expectancy,<sup>7</sup> as those with higher incomes tend to live longer lives than those with lower incomes.<sup>8</sup> Life expectancy at birth has been steadily on the rise in the U.S. for more than a century—it was 47.3 years in 1900, 68.2 years in 1950, 76.8 years in 2000, and 78.8 in 2012 and 2013.<sup>9</sup> The years that have been added to life expectancy have extended middle age—the period when people are most productive and creative—rather than lengthening extreme old age.<sup>10</sup>

Although older Americans as a whole face increased disability with advanced age, and society faces increased costs to meet their health care needs,<sup>11</sup> evidence indicates that Americans who reach age 70 can expect a longer disability-free period of life than previous generations.<sup>12</sup>

#### **Older Adults are a Growing Resource**

Unlike most natural resources, older adults are a growing resource. In addition to longer life expectancy, educational attainment for older Americans, particularly those in the younger age ranges, has continued to rise.<sup>13</sup> Households headed by those 65 and older have seen their median net worth increase (even when considering the "Great Recession"),<sup>14</sup> and approximately one quarter of Americans aged 44-70 are interested in starting their own business or nonprofit organization in the next five to 10 years.<sup>15</sup> In fact, rather than looking at population aging only in terms of an "age dependency ratio," an "age abundancy ratio" has been suggested, since Baby Boomers and older adults are armed with a lifetime of experience, are willing to engage to solve some of society's most pressing social problems, and will continue to contribute to the tax base.<sup>16</sup>

Older adults affect and are affected by the community in which they live in myriad ways. Most demographic projections showing the growth in number and proportion of older adults are accompanied by statements that focus on disability, dependence, and decline. Although the aging of our populations is often feared and referred to in negative terms, such as the "tsunami" of older adults, population aging actually presents a set of opportunities, if handled well. These opportunities to maximize the benefits of an aging population, and the reasons for doing so, are detailed here. In brief, older people have knowledge and skills—assets that we are not currently using to full advantage. In this time of scarce public resources, we cannot afford such waste.

#### An "Age-Friendly" Community Can Benefit People of All Ages

An age-friendly community is one that is "a great place to grow up and grow old."<sup>17</sup> It is one in which the needs and preferences of older adults are taken into account. Older adults are respected; their knowledge, skills, resources, and contributions are sought out; and older adults are integrated into the fabric of the community. An age-friendly community has the following:

- Safe and accessible public transportation options;
- Affordable, accessible, and safe housing;
- Pleasant and safe parks and outdoor spaces;
- Quality community and health services;
- Sufficient employment and volunteer opportunities; and
- Engaging social activities and events for people of all ages.

One immutable truth is that we all get old. A second truth is that we have an ageing population... With these simple facts in mind, it makes sense that we should be designing a city that we will be able to use and enjoy from cradle to grave. In other words, an age-friendly city—one that provides an urban environment that enables all residents to optimize their quality of life.

 Margaret Devlin, Auckland, New Zealand, Council, and Judy Blakey, Seniors Advisory Panel<sup>18</sup>

#### Who Should Care and Why?

Many people need information to support the investment of their time, energy, and funding to create age-friendly communities—elected officials, political appointees, and other government staff at the local, regional, state and federal levels; business leaders and private sector investors; philanthropists; educators; civic groups; advocacy organizations; service organizations and providers; and residents themselves.

By focusing on improving their physical, social, economic, and service environments, communities can take advantage of the resource that older adults represent and shape places that work not only for residents who are older now but also for residents across the life course. Changes that benefit older adults generally offer benefits to younger people, as well.

## The Value Proposition of an Age-Friendly Community

So what is the business, or economic, case for creating an age-friendly community? What is the return on investment (ROI) or the value proposition, the rationale, for creating one? The following sections build this case by detailing reasons in six broad areas, including economic benefits, social capital benefits, opportunities related to innovations in housing, physical infrastructure, health, and other benefits.

#### **Economic Benefits**

A number of economic benefits accrue to businesses and communities that recognize and support older adults as workers, entrepreneurs, and customers.

*Older adults are an important part of the workforce and expand the labor pool from which employers can hire.* An age-friendly community, through policy choices, changes in taxation, workplace supports, and the like, facilitates continued work later in life for those who need or wish to work, benefiting not only those individuals but also employers and the community as a whole.

Older Americans are not following the traditional retirement path from career employment to complete labor force withdrawal. Retirement today is much more of a process than an event, with phased retirement,<sup>20</sup> bridge employment involving a change in employer, and re-entry, or "un-retirement."<sup>21,22</sup> By and large, older Americans are staying in the workforce longer, due to financial need and/or lifestyle preferences. Although some view this as creating a challenge for younger workers, older workers provide major human capital to organizations because of their accumulated knowledge and skills.

Also, as a TIME Magazine article on the future of work noted, the presence of older workers "could be a positive," since "when more people work, more people spend freely, and that creates jobs."<sup>23</sup> For example, when women entered the workforce in the 1960s and

4

The main goal of economic development is improving the economic well-being of a community through efforts that entail job creation, job retention, tax base enhancements and quality of life...Communities differ in their geographic and political strengths and weaknesses [and each] will have a unique set of challenges for economic development.

> - The International Economic Development Council<sup>19</sup>

1970s, permanently higher unemployment did not result, as feared. Instead, there were positive offsets, including greater demand for child-care workers and for prepared foods. Unemployment rates dropped, and because traditional jobs were filled, entrepreneurship grew.<sup>24</sup>

Older workers represent a larger share of the potential workforce than do younger workers. Older workers' numbers are growing due to population aging, and because their labor force participation has increased.<sup>25</sup> Labor force participation for the population as a whole has been decreasing, from 67 percent in 2000 to 64.7 percent in 2010, and is projected at 62.5 percent in 2020.<sup>26</sup>

In 1990, the participation rate of workers aged 55 to 64 was 56 percent, and that of workers aged 65 to 74 was about 17 percent; by 2010, these rates were 65 percent and 26 percent. In 2020, they are expected to be about 69 percent and 31 percent, respectively.<sup>27</sup> Older workers are the only labor force group that has been growing in size, with the 55+ group accounting for 13.1 percent of the labor force in 2000, 19.5 percent in 2010, and expected to increase to 25.2 percent in 2020.<sup>28, 29</sup>



In 2000, the labor force participation rate of the entire 55+ age group was 32.4 percent; by 2010, it had risen to 40.2 percent, and by 2020, it is expected to reach 43.0 percent.<sup>30</sup> The 2013 Merrill Lynch Retirement Study found that 71 percent of the pre-retiree respondents in its general population online survey wished to work at least part time in their retirement years, with 48 percent stating their top reason as stimulation and satisfaction and 52 percent reporting financial security; 51 percent reported wishing to seek a different line of work.<sup>31</sup>

Many older Americans also change occupations later in life, known as "re-careering."<sup>32</sup> With the traditional career/retirement paradigm eroding, more than 9 million people between 44 and 70 have already started "encore" careers (careers in the second half of life using older adults' passions, skills, and work experience to improve communities and the world<sup>33</sup>), and many millions more are looking for new opportunities as they reach retirement age.<sup>34</sup> Thus, older adults are expanding the labor pool from which employers can hire.<sup>35</sup>

A study of older adults who transitioned to bridge employment found that approximately four out of 10 men and women changed occupations, and eight out of 10 had either a change in occupation or a switch from full-time to part-time status.<sup>36</sup> These findings reflect the flexibility of both the labor market and workers themselves and suggest that a sizable fraction of older workers "re-career" as a way to explore a new line of work later in life. Indeed, approximately one-third of white-collar, highly skilled men and women took on bridge employment in lower-skilled occupations or in blue-collar occupations. Transitions also took place from blue-collar to white-collar jobs, although such transitions were less prevalent—fewer than one in five career blue-collar workers transitioned to white-collar bridge jobs.

Workforce shortages are increasingly a concern for employers. A Georgetown University Center on Education and the Workforce study found that by 2020 the U.S. economy will experience a shortage of 5 million workers with the necessary education and training.<sup>37</sup> A 2014 survey by the Society for Human Resource Management found that one-third of over 1,900 randomly selected human resource professionals predicted that retirements or departures of workers aged 55+ would be a "problem" or a "crisis" for their organization in the coming six to 10 years, and 39 percent said there would be a problem or crisis in the next 11 to 20 years. Another third or more felt this would be a potential problem.<sup>38</sup>

The top 10 most difficult jobs for employers to fill in 2015 in the ManpowerGroup's Talent Shortage Survey included, in order, skilled trade workers, drivers, teachers, sales representatives, administrative professionals, management/executives, nurses, technicians, accounting and finance staff, and engineers.<sup>39</sup> The current generation of older workers is relatively well educated compared with previous generations, due to past investments in schooling, but also compared with "prime-age Americans" (i.e., those aged 25 to 59) due to reduced educational investments in the recent past.<sup>40</sup> Attracting and retaining older workers will help address labor shortages of qualified workers.<sup>41</sup>

**Older workers can enhance organizational productivity and business outcomes.**<sup>42</sup> The more than 1,900 human resource (HR) professionals who participated in the Society for Human Resource Management's survey cited many advantages of older workers. More than half cited work experience (77 percent of respondents), greater maturity/professionalism (71 percent), stronger work ethic (70 percent), ability to serve as mentors for younger workers (63 percent), greater reliability (59 percent), more loyalty (52 percent), lower turnover (52 percent), tacit knowledge (knowledge not easily recorded or disseminated), and more commitment/engagement (51 percent).<sup>43</sup>

The three strongest basic skills held by older workers were writing in English: grammar, spelling, etc. (cited by 45 percent of the HR professionals), reading comprehension in English (20 percent), and spoken English language (20 percent). The strongest applied skills held by older workers were professionalism/work ethic (mentioned by 58 percent of the HR professionals in the study), critical thinking/problem solving (28 percent), lifelong learning/self-direction (23 percent), leadership (21 percent) and ethnics/social responsibility (19 percent). The vast majority of HR professionals indicated that employees in their organization are receptive to working with older workers (92 percent), learning from older workers (91 percent) and being mentored by older workers (86 percent) either "some" or to a "great" extent.

A common belief is that workforce productivity declines with age, but research has revealed this perception to be false.<sup>44,45</sup> One example is a study funded by the Social Security Administration, which found that older adults who remain in the workforce longer tend to be those with higher levels of education, and productivity is linked to education. The study concluded that there is little evidence that the aging workforce has hurt productivity, particularly with respect to wage statistics.<sup>46</sup>

A 2015 Aon Hewitt report for AARP makes this point more strongly, finding that "the business case for workers age 50+ has strengthened and confirms that recruiting and retaining this cohort is a critical component of a high performance business."<sup>47</sup> Of particular note is the finding that engagement levels (i.e., workers "speak positively" about the organization, "desire to be part of the organization," and "exert extra effort and engage in behaviors that contribute to business success") are highest in the oldest age segments. Employee engagement affects productivity: A 2014 Aon Hewitt study found that employers with the highest employee engagement had better sales growth (by 6 percent), operating margins (by 4 percent), and total shareholder return (by 6 percent).<sup>48</sup>

Another common perception is that workers aged 50+ cost significantly more than younger workers. However, the Aon Hewitt study for AARP found that the incremental labor force costs associated with hiring or retaining more workers aged 50+ were not significant due to reductions in reward and benefit programs.<sup>49</sup>

**Older workers have significant accumulated knowledge and skills and help to retain institutional memory.** Older workers can serve as mentors for younger employees and pass along knowledge and skills. Knowledge legacies, or institutional memory, can help employers preserve organizational effectiveness through business continuity and business processes.<sup>50,51,52</sup>

# Having an age-diverse workforce can result in positive outcomes for employers and

*employees.* Research has shown increased performance and decreased turnover for workers of all ages when workforces are composed of people of different generations.<sup>53</sup> Findings also show increased positive intergenerational contact<sup>54,55</sup> and decreased likelihood of age discrimination when human resource policies support older workers and

It's in organizations' best interests to hire older workers. Aside from the wealth of skills and experience they provide, we are living in an ageing population globally... "This demographic change is inescapable and combined with reduced birth rates, the result is severe skills shortages."

> Karen Higginbottom, Forbes.com contributor, quoting Yvonne Sonsino, Europe Innovation Leader, Mercer<sup>61</sup>

when there is organizational leadership from the top down.<sup>56</sup> Research suggests that these outcomes can be facilitated through the following:

- Flexible workplace practices that address the motivational needs of older and younger workers<sup>57</sup> and that allow workers to craft their job characteristics to fit their changing needs, <sup>58,59</sup> and
- Training opportunities for workers of all ages, with additional time for training, if needed, for older workers.<sup>60</sup>

Attracting or retaining older adults in a community who might otherwise leave can be an important economic development strategy. For self-preservation, communities need to retain and attract older adults. One mayor, Matthew Hayek of Iowa City, stated that he expects that the age-friendly communities trend will continue, since "most cities don't want to lose population."<sup>62</sup>

An analysis of the economic impact of an aging population conducted by the Mid-America Regional Council (the Kansas City metropolitan region) using the Policy Insight model from Regional Economic Models, Inc. (REMI)<sup>63</sup> found that retaining an additional 600 older adults (age 65+) for 10 years in the region would result in nearly 7,000 more people and 2,600 more jobs, not only in the health care and retail sectors, but also in the construction industry, as older adults spend about as much on housing as younger adults.

The increase in the older adult population would raise the income available to be spent in the region, due to the retirement income of this group being spent on goods and services in the local economy. The REMI model showed that the increase in people and jobs in the region would increase annual incomes by nearly \$.5 billion and the value of goods and services produced locally by nearly \$.25 billion dollars.

A similar REMI analysis conducted in the 20-county metropolitan Atlanta region found that an annual increase of 1,000 people aged 65+ from 2015-2040 would result in the following:

- Potential impacts of an increase of \$40 billion in personal income,
- An increase of \$7.8 billion in gross domestic product,
- Almost 100,000 more job-years for the economy from 2015 to 2040, and
- A population increase of 16,000 by 2040 (with population loss in some other age groups).<sup>64</sup>

The findings from this analysis were then compared to those using a scenario assuming an annual increase of 1,000 working-age (18-64) migrants. The potential impacts in that scenario were less positive: an increase of just \$4 billion in personal income from 2015 to 2040, an increase of \$2.6 billion in gross domestic product, an increase of 29,400 more job-years, and a population increase of 8,000 by 2040. These analyses demonstrate the potential economic benefits of policies aimed at increasing the attractiveness of a region to older adults.

With respect to retaining older adults, one must consider "push" (e.g., loss of income, death of family member, changes in health, neighborhood changes) and "pull" factors (e.g., retirement, neighborhood amenities, new housing options).<sup>65</sup> Several factors influence the decision to either migrate or age in place, including these: the cost of maintaining a home, zoning requirements that affect the ability to remodel or build alterative/accessible structures (e.g., accessory dwelling units), and the extent of accessibility features in one's home.<sup>66</sup> Proactive policy approaches can encourage aging in place, or entice a move to another location, by supporting favorable zoning codes, improving access to health and social support services, offering better transportation options, providing programs that improve memory and brain health, and enhancing the ability of older adults to increase their financial resources.<sup>67</sup>

*Older adults start more new businesses than younger adults, helping to grow the local economy.* A growing number of older adults are self-employed entrepreneurs, contributing to economic growth and diversification in the community. A host of recent articles have highlighted the growth of entrepreneurship among people 50 and over and the fact that individuals in this age group are one of the fastest-growing groups of business owners. A Gallup study found that this group is twice as likely as millennials to plan to start a business and that more than 80 percent begin ventures to boost income or as a lifestyle choice.

Research from the Kauffman Foundation found that people aged 55-64 had a roughly one-third higher rate of entrepreneurial activity than those aged 20-34 in each year from 1996 to 2007,<sup>68</sup> and this trend has continued. People aged 55 to 64 are changing the age composition of entrepreneurs, comprising 23 percent of all business owners in 2008 and growing to 28 percent in 2014.

Other age groups' share of business owners dropped. In 2014, people aged 20 to 34 comprised 16 percent of business owners (compared to 17 percent in 2008), those aged 35 to 44 comprised 24 percent (compared to 26 percent in 2008), and those aged 45 to 54 comprised 32 percent (compared to about 34 percent in 2008).<sup>69</sup> Similarly, people aged 55 to 64 are a much larger share now of all new entrepreneurs, rising from just under 15 percent in 1996 to 26 percent in 2014.<sup>70</sup>



This age group also had the largest share of people becoming entrepreneurs in a given month in 2014 (.37 percent, compared to .36 percent for those aged 45 to 54, .33 percent for those aged 35 to 44, and .22 percent for those aged 20 to 34).<sup>71</sup> Older adults becoming self-employed entrepreneurs are growing the economy.

Between 1992 and 2012, among a sample of career workers aged 51 to 61 in 1992, the percentage who were self-employed more than doubled, from 20 percent among men and 10 percent among women to more than 40 percent among men and 20 percent among women.<sup>72</sup> The reason for the increase is two-fold. First, individuals who are self-employed tend to remain in the labor force later in life. Second, more older career workers switch from wage-and-salary career employment to self-employed bridge employment than vice versa.<sup>73,74</sup>

One way in which some older entrepreneurs are contributing is by becoming consultants, using their lifetime of experiences and skills to help clients navigate the world of information and turn data into knowledge to make smart choices.<sup>75</sup>

*Continued work later in life brings economic benefits to the community and financial, health, and other benefits to older adults themselves.* More individuals working additional years means that more individuals contribute economically and produce goods and services to be consumed.<sup>76,77,78</sup> Also, staying in the workforce can increase older adults' financial security.<sup>79</sup> Each additional year of work affords one more year to accumulate assets and one less year to be financed with personal savings or public resources.<sup>80,81</sup>

Work has also been associated with better health for older adults. For example, older adult workers were found to be less likely to report health problems even after previous health concerns were taken into account.<sup>82</sup> In a review of the literature, researchers found that bridge employment is associated with positive health outcomes, controlling for pre-retirement health status.<sup>82</sup> Improved health can lead to reduced public and private expenditures on medical care and social services.<sup>83</sup>

Communities that provide support for older workers and entrepreneurs will see increased economic growth and diversification. The challenge is to find ways to tap into this labor resource by fostering an environment that matches the preferences of older adults.

**Older adults have enormous economic clout as consumers.**<sup>84</sup> A 2013 report by Oxford Economics for AARP described the sum of all economic activity serving the needs of Americans over 50 (both the products and services they purchase directly and the economic activity this spending generates) as "the Longevity Economy."<sup>85</sup>

In 2012, this economic activity was estimated at \$7.1 trillion (46 percent of the U.S. GDP and larger than any other country's economy except the U.S. and China) and as accounting for nearly 100 million jobs (two-thirds of employment). By 2032, the Longevity Economy is projected to reach over \$13.5 trillion (52 percent of the U.S. GDP) in real terms.<sup>86</sup>



As a group, the over-50 population in the U.S. controls almost 80 percent of the net worth in the U.S., with an average household wealth of about \$765,000, compared with \$225,000 for households headed by individuals aged 25-50.<sup>87</sup> In addition, it is projected that Boomers will inherit \$15 trillion in the next 20 years.<sup>88</sup>

With respect to consumer spending, excluding health care, in 2012 people over age 50 spent \$3.0 trillion, which was about 51 percent of all spending by people over age 25. In the health care industry, the Longevity Economy accounted for about \$1.6 trillion (about 73 percent) in health care spending in 2012; by 2032, this figure is projected to increase 158 percent and comprise 78 percent of total health care spending.

Most other industries, too, are affected by the Longevity Economy. From 1990 to 2010, while spending by those over 50 on food and clothing decreased (by 11 percent and 35 percent, respectively), expenditures on recreation and education grew by 23 percent and 90 percent.<sup>89</sup> Moreover, the Longevity Economy has a huge impact on technology spending, with people aged 46-64 comprising about 25 percent of the population but accounting for more than 40 percent of technology purchases."<sup>90</sup> Also, while their frequency of shopping online is similar to that of younger adults, they spend more (an average of \$650 over three months compared with \$581).<sup>91</sup>

A report by The Nielsen Company and BoomAgers LLC called Boomers "marketing's most valuable generation" and pointed out that "despite their [Boomers'] significant size and spending power, these high potential consumers have been largely unaddressed by marketers and advertisers."<sup>93</sup> The report stated that Boomers dominate 94 percent (119 of 123) of consumer packaged goods categories, meaning goods consumed every day by the average consumer that need to be replaced frequently, such as food and beverages, clothing, and household products. Although they spend about half of all dollars spent on

The Boomers are simply too valuable to ignore—there is much to be gained by prioritizing them, and much to be lost by passing them up.

- Nielsen & BoomAgers<sup>92</sup>

consumer packaged goods, less than 5 percent of advertising is geared towards Boomers.<sup>94</sup> The report noted that Boomers' spending behavior is different than that of other older cohorts because "the Boomers were born into a post-war culture of affluence and optimism" and these values have stayed with them.<sup>95</sup>

*The older adult market is stimulating new companies, new products and services, and new technologies.* These include telemedicine, mobile health, regenerative medicine, "antiaging" products and treatments, and cognitive training to improve individuals' physical and cognitive health and help people age in place.<sup>96</sup>

For example, new opportunities exist related to health and safety monitoring technology that would be very useful for family caregivers and older adults alike. By 2020, 117 million Americans are expected to need assistance of some kind, and the number of caregivers, many of whom also work in paid jobs, is projected at only 45 million.<sup>97</sup>

Opportunities abound in the *financial services industry*, as well, to address the unmet needs of older people with access to credit, savings, insurance, and payment services.<sup>98</sup>

*Institutions of higher education* also stand to gain from attracting this presently overlooked group of students —older adults—who need retraining to remain competitive in the workforce or seek midlife renewal,<sup>99</sup> personal enrichment, and/or opportunities to engage with younger generations. In addition to the economic opportunities presented by an aging population for educational institutions, older adults themselves benefit from the cognitive stimulation; a recent study found that older adults who take college courses may increase their cognitive capacity and possibly reduce their risk for developing dementia,<sup>100</sup> which in turn can result in savings in public and private health care expenditures.

*The older adult market is also bolstering the larger U.S. economy through U.S. social insurance benefits* (i.e., Social Security and Medicare) received by retirees and workers over age 65.<sup>101</sup> As one example, the Oxford Economics' report on the Longevity Economy cited a 2011 study that estimated that \$1.80 in spending resulted from every dollar paid out in Social Security benefits in 2009.<sup>102</sup>

*Older adults bring tourism dollars.* Tourism is big business. As one example, tourists spend three to four times more money on shopping while travelling than the average shopper.<sup>103</sup> The segment of adults over 55 years of age has been shown to be the group that will increase the overall volume of tourism the most.<sup>104</sup> If people with disabilities are included, this potential segment of tourists approaches one fifth of the population; moreover, accessibility improvements benefit everyone—pregnant women, children, and families, as well as people with disabilities.<sup>105</sup>

Not only the substantial numbers but also the increased financial means and time flexibility make the older adult consumer segment attractive to tourism.<sup>106</sup> A study of the Swiss travel market found that the older adult market is growing at an estimated annual increase of 5 percent in travel propensity from 2009 until 2050, meaning that the travel demand of older adults will increase more than threefold in this timeframe.<sup>107</sup>

Baby Boomers have been described as the most highly educated and best-travelled group that the resort industry has ever encountered.<sup>108</sup> According to the World Tourism Organization, the population aged 60 and over will make more than 2 billion international trips by 2050 as compared to 593 million in 1999.<sup>109</sup> In addition, older adult travelers travel farther than younger adults,<sup>110</sup> and those aged 55-64 have greater spending power<sup>111</sup> than any other age group.

Although older consumers have lower average household incomes than other age groups, they no longer have many of the financial obligations that younger consumers have. For example, 80 percent of those aged 65+ own their own homes, and 80 percent of those own their home outright.<sup>112</sup> Therefore, more funds are available for travel. In addition, since many older adults are no longer engaged in paid employment or are working part time, they have more discretionary time and can travel in off-peak seasons<sup>113</sup> and thus extend tourism.

Different travel markets appeal to different types of older adult travelers. These markets include trips to new places, adventure tourism, educational or cultural tourism, amenity tourism for rest and relaxation (e.g., sun and beach access), and time to be together with family and friends,<sup>114</sup> either organized individually or as part of group package tours. Marketers and travel companies that are knowledgeable about and sensitive to the characteristics, needs and requirements of these different groups and motivations of older adults will benefit the most from increased business.<sup>115,116</sup>

#### **Social Capital Benefits**

**Older adults provide care and resources across generations.** Studies commissioned by Ameriprise Financial in 2007 and again in 2011 found that Boomers are generously supporting their adult children and their aging parents,<sup>117</sup> serving as a "resource and safety

net"<sup>118</sup> for them. The 2011 study found that 58 percent of Boomers reported providing financial assistance or help with daily tasks to their parents, and nearly all Boomers surveyed (93 percent) reported having provided some form of financial support to their adult children.<sup>119</sup>

A 2015 AARP report found that about 40 million family caregivers in the U.S. provided 37 billion hours of care —worth an estimated \$470 billion—to their parents, spouses, partners, and other adult loved ones with chronic, disabling, or serious health conditions in 2013. This amount is greater than total Medicaid spending (\$449 billion) and nearly equal to the annual sales (\$469 billion) of the four largest U.S. technology companies combined (Apple, Hewlett Packard, IBM, and Microsoft) in 2013 and is equal to about \$1,500 for every person in the U.S. (316 million people in 2013).<sup>120</sup>



#### Value of Family Care Compared to Medicaid Spending and Sales by Four Largest Technology Companies in 2013

These figures do not take into account the care, advice and moral support, and financial assistance that grandparents provide to grandchildren.

A 2012 study by MetLife Mature Market Institute found that 62 percent provided financial assistance for their grandchildren, 13 percent provided regular care for grandchildren, and about 20 percent were living in multi-generational households.<sup>121</sup> The average amount of financial support or monetary gifts given for all grandchildren over the previous five years was \$8,289. Of those providing child care on a regular basis, 32 percent were babysitting five or more days per week, and 15 percent were raising one or more grandchildren. Of those living in multi-generational households, 30 percent had grandchildren sharing the same household, either with (23 percent) or without (7 percent) their parents.

In addition to financial and caregiving support, grandparents viewed the transmission of key personal values as important:

- Community involvement such as voting (73 percent), volunteering (49 percent), and civic engagement (49 percent);
- Positive character traits including honesty (88 percent), good behavior (82 percent), and conscientiousness (67 percent);
- Life skills including self-sufficiency (70 percent), higher education (69 percent), good health habits (68 percent), and financial security (55 percent); and
- Heritage and ancestry, such as preserving family ties (67 percent) and cultural beliefs and customs (36 percent).
- Religion and religious observances (40 percent).

The top two responses selected for how grandparents wanted their grandchildren to see their legacy were "I provided for my family, even in tough times (cited by 52 percent) and "I taught my grandchildren how to make a positive difference in the lives of others" (47 percent).<sup>122</sup> Activities they commonly engaged in with grandchildren were family celebrations, going out to eat, Grandparents Day, outdoor activities, attending grandchildren's activities, spending vacations together, and activities such as cooking, reading or going to a library, going to movies, doing crafts together, or volunteering together.

The value of grandparents to grandchildren (and vice versa) continues even once the grandchildren are adults. A study using data from the Longitudinal Study of Generations found that both grandparents and adult grandchildren who were emotionally close had fewer symptoms of depression. Grandparents who gave tangible support to their grandchildren or who gave and received this support from grandchildren also had fewer depressive symptoms.

Grandparents who only received tangible support (such as performing chores, giving advice or financial help, providing transportation), but did not or could not give it, had the most depressive symptoms. (For the adult grandchildren, there was no connection between giving or receiving tangible support and depressive symptoms.)<sup>123</sup> Grandparents are important to their grandchildren and adult children, and to society as a whole.

**Older adults serve the community through volunteering and civic engagement.** As a group, Baby Boomers are healthier and wealthier than any prior cohort, and their potential for civic contribution is vast, particularly since their entry into retirement age coincides with numerous social challenges, such as the devolution of welfare programs.<sup>124</sup> Their rate of volunteering also is higher than that of earlier generations at the same age.<sup>125</sup>

Older adults also are increasingly engaging in social entrepreneurship, aided by programs such as those of Encore.org (formerly Civic Ventures). Encore.org has identified strategies to increase older adults' interest in "encore careers," which involve "paid or unpaid work in the second half of life that combines personal meaning with social impact."<sup>126</sup>

The volunteer rate in the U.S. in 2014 was 25.3 percent, with about 62.8 million people volunteering through or for an organization at least once during the year.<sup>127</sup> Rates varied by age: 21.9 percent of those aged 16-24 volunteered, as did 22.0 percent of those aged 25-34, 29.8 percent of those aged 35-44, 28.5 percent of those aged 45-54, and 23.6 percent of those aged 65+. Volunteer activity was highest among white, married persons, women, and the college-educated.

Volunteers spent a median of 50 hours on volunteer activities during 2014, ranging from a low of 32 hours for those aged 25 to 34 years old to a high of 96 hours for those age 65 and over. In 2014, overall volunteering by older adults amounted to 2.0 billion hours of service.<sup>128</sup>

While older adults volunteer at a slightly lower rate than some other age groups, they devote considerably more hours. Volunteers contribute billions of hours of service to religious organizations, educational programs, social or community services organizations, and other programs. Research has shown that volunteering is positively correlated with employment, especially part-time employment, which suggests that the right time for recruiting Baby Boomers as volunteers is before they make the transition from employment to retirement.<sup>129</sup>

It is challenging to quantify the value of volunteer work. One approach is to assign a dollar amount to this work. The Corporation for National and Community Service valued the 2 billion hours of service by older adults in 2014 at \$45.7 billion.<sup>130</sup>





Using the replacement cost approach, one study cautiously calculated the economic value of global volunteer output as being equivalent to 2.4 percent of the entire global economy and 17.5 percent of worldwide government final consumption expenditures.<sup>131</sup> This same study noted that volunteers represent an immense global presence, pointing out that if all the world's volunteers were gathered together on a single land mass, they would comprise the second largest adult population in the world, behind only China.

PREPARED FOR GRANTMAKERS IN AGING

Organizations that engage at least 10 volunteers are equally as effective as their peers with no volunteers, but at almost half the median budget.

> Peter York, Senior Partner and Chief Research and Learning Officer, TCC Group<sup>132</sup>

Another way to understand the enormous value of volunteer work is the number of organizations that use volunteers. In 2014, most volunteers were involved with one (71.4 percent) or two (18.5 percent) organizations.<sup>133</sup> The organizations for which volunteers worked the most hours were religious (33.3 percent of volunteers), educational or youth service related (25.1 percent) or a social or community service organizations (14.4 percent).<sup>134</sup> Older volunteers were more likely to volunteer mainly for religious organizations (43 percent) compared with volunteers aged 16 to 24 (26.1 percent).<sup>135</sup>

The main activities in which older adult volunteers were engaged in 2014 were collecting/ distributing food (28.7 percent), fundraising (22.1 percent), management (20.6 percent), general labor (18.0 percent), other (16.9 percent), religious (usher, etc.) (16.5 percent), collecting/distributing clothing (16.3 percent), office services (14.5 percent), tutoring/ teaching (13.7 percent), mentoring youth (9 percent), music/art (8.4 percent), emergency response/counseling (6.1 percent), and sports teams (coach, etc.) (1.9 percent).<sup>136</sup>

Four in five U.S. charities use volunteers, and 83 percent of U.S. religious congregations have some kind of social service, community development, or neighborhood project.<sup>137</sup>

Organizations that rely on volunteers report that volunteers are a valuable resource, providing benefits such as increases in quality of services or programs provided, cost savings to the organization, increased public support for programs and improved community relations, as well as a higher service level that could not be provided without volunteers.<sup>138</sup>

*Volunteers themselves receive health benefits from volunteering.* In addition to the various ways in which communities benefit from the efforts of volunteers, volunteers benefit themselves. Research has demonstrated that volunteering leads to better health and that older volunteers are those most likely to benefit, whether because volunteering provides social and physical activity and a sense of purpose or because older adults are more likely to face higher incidence of illness.<sup>139</sup>

Volunteering has been shown to provide older adults a sense of purpose and accomplishment, to increase life satisfaction, and to be associated with better physical and mental health, including reduced mortality, increased physical function, increased levels of self-rated health, reduced symptoms of depression, reduced pain, higher self-esteem,<sup>140, 141</sup> as well as higher levels of happiness and a greater sense of control over life.<sup>142</sup>

While better health leads to continued volunteering, volunteering also leads to improved physical and mental health.<sup>143</sup> In one study, 174 older adult volunteers served at least 15 hours per week, for a full school year, in elementary schools helping children with reading and other skills. The volunteers who had initially been in only fair health were significantly

more likely to display improvements in stair-climbing speed than those in good or excellent/very good health, and many showed improved walking speed.<sup>144</sup>

The findings regarding the health benefits of volunteering indicate that volunteering may allow individuals to maintain their independence as they grow older.<sup>145</sup>

*Age-friendly communities reduce barriers to volunteering.* Several barriers exist to involving Baby Boomers in volunteer work and civic engagement. Many of these are common across age groups, such as transportation issues, financial pressures, and competing activities. Others are of special concern to the Boomer generation, such as caregiving responsibilities, being asked to do menial tasks, vague job descriptions, and roles with unclear impact.

The failure to promote civic engagement and its individual and communal benefits among this group has consistently been a barrier to volunteering. Volunteer management has also often been inadequate, as agencies are not prepared to effectively engage volunteers, leaving negative first impressions on those who have great potential to benefit the agency and the larger community.

According to a survey conducted by the National Council on Aging in 2005 of over 800 officials from 20 leading nonprofits in the U.S., 91 percent could not report any organizational practices for engaging older adults in volunteerism.<sup>146</sup> This finding indicates great untapped potential. An age-friendly community facilitates volunteer efforts through physically accessible and emotionally and socially welcoming environments.

*Older adults make philanthropic investments and charitable contributions.* Surveys reveal that both giving and volunteering behavior increase with age.<sup>147</sup> About three fourths of adults in mid-life and older engage in charitable giving.<sup>148</sup> A review of the literature found that the amount of gifts increases with age up to age 65, at which point there is a small drop in the dollar amount of annual charitable giving, likely due to the decreased incomes of older adults.<sup>149</sup>

A 2001 Independent Sector study found that the 50-64 age group gave the most (\$1,912 average annual contribution), followed by those aged 40-49 (\$1,827), then those aged 65 and over (\$1,718). However, those in the 65 and over age group gave a significantly higher percentage of their household income than all other age groups (4.7 percent, down to 2.1 percent in the 21-29 age group).<sup>150</sup>

A more recent online survey in 2013 of 1,014 U.S. donors aged 18 or older controlled to be U.S. Census representative found a somewhat different result. There, the greatest percentage (88 percent) of Matures (those age 68 or over in 2013) gave, supporting the greatest number of causes (6.2) and giving more money, on average (\$1,367), to the causes they support than any other age group. They contributed 26 percent of all donations.<sup>151</sup>

Next came Baby Boomers (those aged 49-67 in 2013). Of this group, 72 percent gave, representing about one third of all adult donors and contributing 43 percent (\$62.9 billion per year) of all dollars. Boomers donated an average of \$1,212 annually to 4.5 charities. Given the size of the Boomer cohort, this group can be expected to exert a large influence on charitable giving for many years to come.<sup>152</sup>

Some studies have found that older people donate more to charitable causes when they are less concerned about their own children's financial future.<sup>153</sup> This shift may indicate an increased desire with age to contribute to the well-being of others.<sup>154</sup> Another life cycle-explanation for the increase in giving with age is that in old age people are closer to the end of their lives, and mortality salience may increase the psychological benefits of giving.<sup>155</sup> Indeed, a 2014 study demonstrated this.<sup>156</sup> Still, religious giving and service attendance by Baby Boomers are lower than those by the previous cohort of older adults at the same life stage.<sup>157, 158</sup>

In 2015, giving through bequests produced \$28.13 billion in charitable contributions to American nonprofit organizations, almost 60 percent more than all gifts from businesses and corporations (\$17.77 billion), and representing an increase of 13.6 percent over 2013 when adjusted for inflation.<sup>159</sup>



**Giving by Older Adults Through Bequests** 

Such testamentary gifting is expected to continue to increase in coming years as part of an overall growth in intergenerational transfers. The total wealth transfer to Baby Boomers has been estimated at \$8.4 trillion,<sup>160</sup> and a portion of this significant sum may be set aside for charitable purposes. Thus, Baby Boomers represent a significant potential for donor development.

#### **Opportunities Related to Housing**

*The aging of the population presents the opportunity and an imperative to make changes in the housing sector to enable older adults to age in place*,<sup>161</sup> *maintaining their social, business, and service connections.* Age-friendly communities meet the housing needs of all people through a variety of housing options at a range of costs and with a range of supportive features. This approach to housing affords residents the opportunity to grow older in place (i.e., in their home or community) and thus maintain their social connections and their familiarity with the neighborhood and its businesses and services.

*Affordable housing can have positive economic and fiscal impacts for the public and private sectors.* Housing affordability is a growing area of concern and focus of age-friendly communities due to cost burden, gentrification, and the shortage of housing. Of the 26.8 million households headed by people aged 65 and older in 2013, 81 percent were owners and 19 percent were renters (65 percent owned their homes free and clear); median family income of older homeowners was \$34,500, while that of older renters was \$17,300).<sup>162</sup>

#### Home Ownership Among People 65 and Older in 2013



Housing cost is the single largest expenditure in most household budgets, and among adults aged 65 and older about half of all renters and owners with mortgages are housing cost burdened (i.e., paying more than 30 percent of their income for housing).<sup>163</sup> Positive economic and fiscal impacts of affordable housing for the public and private sectors include job creation, reduced foreclosures, improved workforce housing stock, and increased resident buying power.<sup>164</sup> The net gain in resident purchasing power for a local economy is maximized when the source of the housing subsidy is from a non-local source, such as state or local government or from a philanthropic organization.<sup>165</sup>

*The growing older adult population will increase demand for alternative housing arrangements.* Age-friendly communities take into consideration that the housing landscape is changing. The retirement community industry is described as being "in crisis," as age-segregated communities have faced difficulties in finding residents and keeping vacancy rates low. Factors leading to this trend include the high cost of retirement housing, insufficient resources to pay for those costs, and a "growing disaffection with institutional living."<sup>166</sup>

It is expected that by 2025, growing demand for alternative housing arrangements that offer a combination of affordability, accessibility, and supportive services is expected, and people remaining in single family homes are expected to increase spending on remodeling to their changing needs.<sup>167</sup>

Age-friendly communities offer a continuum of housing options and supportive services for the independent through the dependent, allowing for aging in one's present home or community, reducing the need for moves and preventing or postponing costly public and private expenditures for long-term institutional care. Housing that is age friendly must consider the normal gradual decline of physical and mental capacities that occurs with age and is often accompanied by an increasing need for assistance, sometimes necessitating a move to a more appropriate care setting.<sup>168</sup>

As they age, older adults are increasingly likely to face disabilities that pose challenges to independent living; 37 percent of those aged 65 and older are expected to receive care in an institutional facility at some point in their lifetime, with an average stay of one year, with the chances of this increasing with advanced age.<sup>169</sup> Age-friendly housing offers a housing continuum—in existing neighborhoods and retirement communities—that ranges from households for those who are completely independent to those who depend on skilled care.<sup>170</sup>

At the heart of age-friendly housing is the designing and building of housing and supportive services for older adults that permit people to age in their own homes or communities and prevent or reduce the need for moves from one household setting on the continuum to the next.<sup>171</sup> Home and community-based services—a focus of some age-friendly projects<sup>172, 173</sup>—can prevent or postpone costly expenditures for long-term institutional care for some older adults.<sup>174</sup>

Age-friendly communities do not assume that aging in one's home is always the best option; these communities provide supportive services and assistance with planning for a move and for other care choices that are critical when a move is made.<sup>175</sup> When someone does choose to age in place, supportive services, housing policies, building codes, and other policies (e.g., incentives for installing accessible home features, requiring one zero-step entrance, locating housing in close proximity to services) can facilitate this choice.<sup>176</sup>

#### **Opportunities Related to Physical Infrastructure**

*Age-friendly communities have physical environments that work for everyone.* Physical environments that facilitate access and mobility for children who are eight and adults who are 80 also work for everyone else.<sup>177</sup> An age-friendly community designs, develops, and maintains physical environments that are accessible and enhance mobility. These environments are good for people across the life course, whether they are young parents with children, people with disabilities, older adults who are less mobile or very active people at any age. Furthermore, good environments go beyond physical infrastructure that enhances travel. They can also enhance social support and interpersonal connectivity.<sup>178</sup>

We need to stop building cities as if everybody was 30 years old and athletic.

 Gil Penalosa, Founder and Chair of the Board of 8 80 Cities<sup>179</sup> Communities that have environments that work for mothers with strollers, children, people with disabilities, and older adults with a range of functional ability will reduce barriers, enhance social equity, and work better for everyone. Universal design—i.e., structures, products, and neighborhoods that enable people to maintain routine activities despite functional impairments—is one inclusive approach to designing safe and healthy environments for people across the age and ability spectrums. Applying such approaches in public and private settings can lead to substantial return on investment that can far surpass the initial costs.<sup>180</sup> Universally designed environments, products, and services are safer, accessible, attractive, and desirable for everyone and easily repurposed for other uses. They are also capable of reducing falls and related health expenses and are minimal in up-front cost when incorporated into new construction.<sup>181</sup>

Age-friendly communities have a range of transportation options, facilitating mobility.

Having the ability to move around in a community is of central importance to individual well-being as well as to employers and businesses. Transportation policy solutions focusing on improving older adults' mobility and safety have been short-term, stopgap measures. These solutions include increasing specialized transportation services such as paratransit (i.e., complementary transit services for people unable to navigate regular, fixed-route transportation services such as buses and trains<sup>182</sup>) and requiring more stringent driver's license testing. These policies have, in fact, segregated older adults from the broader community and increased the complexity and cost of transportation systems.

Alternatively, communities can eliminate barriers faced by persons with differing abilities and integrate solutions that take an inclusive, universal approach, focusing on those across the age and ability spectrums.<sup>183</sup> Walkable communities, in particular, have been shown to reduce the risk of chronic disease and improve public health and quality of life.<sup>184</sup> Additionally, a robust public transportation network is likely to increase physical activity for older adults, resulting in reduced health expenditures.<sup>185, 186</sup>

*Age-friendly communities have healthy and connected neighborhoods that save residents time and money and improve quality of life.* Age-friendly communities integrate housing and transportation options, thereby increasing mobility, saving money and time for those accessing jobs and services, and providing opportunities for social interaction. These communities foster physical activity, familiarity with people and places, and a vibrant sense of place. Housing location is critically important to household budgets, as residential location influences how much of a household's budget is spent on transportation.

Transportation costs are now being included by some in calculating the cost of housing since they are inextricably linked: people who live in transit-friendly communities spend an average of 9 percent of their household budget on transportation costs, while those in the average American household spend 19 percent, and those in car-dependent settings spend 25 percent.<sup>187</sup>

Multiple factors in the physical and social environments contribute to the health and well-being of older adults.<sup>188</sup> A clear need exists to provide housing and surrounding environments (e.g., pedestrian and transportation infrastructure) in a manner that supports people of all ages and abilities, including the fast-growing proportion of older adults in urban neighborhoods.<sup>189</sup>

A call to action has been made to urban planners and policy makers to prepare for population aging by engaging the aging perspective in the planning process<sup>190</sup> and

providing affordable, well-designed housing in close proximity to essential services and with sufficient infrastructure in an effort to integrate a population that is increasingly diverse in age and culture while fostering social well-being.<sup>191</sup>

The ability to have an active, healthy, and engaged lifestyle—especially older adults with mobility limitations—is largely determined by the supportive physical and social environments in which people are located. Jurisdictions that plan for their aging populations make it easier for older adults to age successfully and continue to be engaged in and contribute to the community.<sup>192</sup>

# *Investing in age-friendly housing and environments can lead to public as well as private cost savings.* By integrating land use and transportation planning, aging in place is more attainable through the following:

- Improved environments (e.g., sidewalks, curb cuts, seating),
- Street networks (e.g., high connectivity, improved wayfinding),
- Land uses (e.g., a mix of housing, services and businesses), and
- Appropriate housing (e.g., accessible, affordable).

These types of integrated environments make goods and services more accessible. Because of proximity to services, public transportation costs can be lowered, and savings and health improvements can be accrued for workers, caregivers, retirees, and others utilizing public infrastructure.<sup>193</sup>

A report prepared for Grantmakers In Aging cites research findings demonstrating, in particular, the economic performance of compact walkable communities with respect to the following: infrastructure efficiency, requiring less expense per dollar of tax base; increased property values; increased public support for intense land use, resulting in a larger tax base; increased business activity; and increased demand for office and retail development.<sup>194, 195</sup>

Efficient and mobility-enabled communities require connectivity if we are to make walking and bicycling time-competitive with automobiles; low connectivity has been found to increase traffic congestion for vehicles and increase public costs with respect to road maintenance and accidents that result from poorer traffic safety.<sup>196</sup> Street connectivity can also reduce the cost of providing emergency services to a population.<sup>197</sup>

Additional savings can be realized by the public sector and individuals. For example, the coordination of transportation services—i.e., a process by which two or more organizations, which may or may not have worked together previously, interact jointly to accomplish their transportation objectives—can improve access for the users of systems and reduce costs. For example, the state of Florida has received a payback of \$8.35 for every \$1.00 spent by the state's transportation disadvantaged program.<sup>198</sup>

Policymakers should be aware that location efficiency is related to mortgage default and, perhaps, to the ability to age in place. A national study of 40,000 mortgages found that, after controlling for household income, mortgage default probability increased with the number of vehicles per household, and default probability decreased with improved

walkability (measured by higher Walk Scores, an online product used to evaluate neighborhood walkability and transportation options) in high-income areas, although it increased with higher Walk Scores in low-income areas).<sup>199</sup>

*Housing location preferences appear to be changing to include consideration of transportation and mobility options.* Although most adults aged 50 and over live in single-family housing that they own<sup>200</sup> and in suburbs or smaller towns,<sup>201</sup> evidence is emerging that preferences may be changing. Recent research on housing preferences with 3,000 Americans found that 51 percent of Baby Boomers preferred homes with smaller yards in walkable neighborhoods (compared with conventional suburban homes with larger yards that required driving). Additionally, 43 percent of Baby Boomers reported a preference for apartments or attached townhomes that had an easy walk to services and a shorter commute, compared with single family homes in a conventional suburban community.<sup>202</sup>

As people age, they tend to remain in their familiar housing as long as they are able to, effectively placing an "anchor" that facilitates aging in place.<sup>203</sup> Although older people are less likely to relocate as they age, when they do, it may be within their current communities and for housing that is better, cheaper, or simply different, or for family-related reasons (perhaps surprisingly, moves occur less frequently for health-related reasons).<sup>204</sup>

Extant housing and environments for older adults in the U.S. fail to meet current needs (and are not expected to meet future needs),<sup>205, 206</sup> and older adults often age in place. For these reasons, age-friendly policies are needed in new and existing neighborhoods for transportation (e.g., both public transit and private automobiles) and land use (e.g., mixed use zoning, walkable communities).<sup>207</sup>

#### *The challenges associated with creating age-friendly physical environments bring opportunities for cross-sector coordination and collaboration.* Several specific challenges exist for providing and preserving affordable housing near transit, especially for lower-income older adults who desire to age in their present home:

- 1. There is growing evidence that a value premium is placed on land located near transit, making it more costly to produce new affordable housing while at the same time making existing, privately owned, subsidized housing more vulnerable to being lost;
- 2. For individuals facing driving cessation due to disabilities and those who are unable to afford a car, public transportation may be the only reasonable transportation option, but many live in single-family homes in auto-dependent neighborhoods; and
- 3. Of the federally subsidized apartments with rental assistance contracts within onehalf mile of quality transit in 20 metropolitan regions across the country, more than 70 percent are covered by federal contracts that will expire over the next five years.<sup>208</sup>

Moving forward, coordination and collaboration are needed across all levels of government and all stakeholders in order to leverage policy efforts that will create housing and physical environments that are good for people of all ages and abilities.<sup>209, 210</sup>

Infrastructure improvements require significant financial investments, although research has shown considerable economic benefits and development opportunities for communities from such investments. In public transportation, for example, every \$1 billion invested results in 36,000 jobs created, \$3.6 billion in business sales that produce \$490 million in tax revenue, and \$1.8 billion to the gross domestic product,<sup>211</sup> as well as physical and mental health benefits for community residents.



#### Impact of Investing \$1 Billion in Public Transportation

The budget for built environment improvements is in the transportation or public works departments, however, not the economic development or health departments; thus, the benefits do not accrue to the entity that bears the costs.

Models for addressing this problem exist, such as capture and reinvest models such as social impact bonds and performance contracts, which quantify the costs and benefits of an intervention and structure ongoing funding from the savings achieved.<sup>212</sup> More research is needed, however, to quantify the net costs and benefits and determine how the necessary funding can be obtained to implement improvements, and the silos that exist between departments and disciplines will need to be reduced.

Although aging-sensitive environmental design and improvements can be expensive, investments will pay off for a broad range of users. Age-friendly improvements such as better sidewalk connectivity, redesigned infrastructure to reduce falls and improve safety, enhanced mobility options to connect with services, and improved compliance with regulations such as the Americans with Disabilities Act will ultimately make communities better places for people across the life course.<sup>213, 214</sup>

#### **Health Benefits**

*Age-friendly communities result in lower public and personal costs related to illness and health care.* An age-friendly community has physical and service environments that aid in lowering the costs associated with illness, chronic disease, and health care through increased physical activity and preventive services. By integrating age-friendly principles into health policies and programmatic efforts—e.g., complete streets, mitigating health disparities, health care reform—opportunities exist to strengthen partnerships, build efficiencies, and create healthier communities.<sup>215</sup>

While having a larger proportion of older adults is likely to increase health care expenditures, the nature of disease patterns in the U.S. is also putting pressure on the health care system. Chronic disease is increasingly the leading cause of disease and premature death.<sup>216</sup> Cardiovascular disease, cancer, chronic lower respiratory diseases such as chronic obstructive pulmonary disease, stroke, diabetes, and Alzheimer's disease were six of the top seven causes of death.<sup>217</sup> Chronic diseases are very costly to treat, with over 86 percent of health care spending in 2010 used to treat individuals with one or more chronic conditions.<sup>218</sup>

The largest shares of total health care spending were from the federal government and households (28 percent), followed by private businesses (21 percent), state and local governments (17 percent), and other private revenues (7 percent).<sup>219</sup>

Medicare spending in 2014 was \$597 billion (14 percent of the federal budget) and came from the Medicare Trust funds accounts held by the federal U.S. treasury.<sup>220</sup> Medicaid funding in 2014 was \$476 billion<sup>221</sup> and comprised 9 percent of the federal budget.<sup>222</sup>

As households and businesses are most burdened—in addition to the federal government by heath care spending, these are the groups that will benefit most by age-friendly communities that reduce costs associated with illness and disease.

*Many chronic diseases can be prevented or controlled through attention to the physical environment.* Public health experts recognize that by paying attention to the environment in which we live, work and play, many chronic diseases can be prevented or controlled.<sup>223</sup> Personal behaviors such as stopping smoking, improving diet, and getting regular exercise are also important for chronic disease prevention and management.<sup>224</sup>

Research has identified a wide range of built and natural environment variables related to physical activity and health, including walkability,<sup>225</sup> crime,<sup>226</sup> travel behavior,<sup>227</sup> transit access,<sup>228</sup> park and recreational access,<sup>229</sup> tree/vegetative cover,<sup>230</sup> air quality,<sup>231</sup> and traffic safety.<sup>232, 233</sup>

Urban design in particular has been shown to affect physical activity levels, largely by the influence of the built environment (e.g., land use patterns, transportation networks, and street design) on active modes of transportation such as walking and bicycling. Physical inactivity is a significant risk factor for many diseases, including all-cause mortality, cardiovascular disease, diabetes, Alzheimer's, dementia, some cancers such as breast and colon cancers, and the risk of being overweight or obese.<sup>234, 235, 236</sup> Likewise, older adults who remain active are likely to live longer, be healthier, and have fewer health care utilization/costs.<sup>237, 238, 239</sup>

*Designing age-friendly environments specifically to encourage physical activity can improve health and lower health care expenditures.* Built environments that facilitate physical activity have been linked with reductions in chronic disease and in health care expenditures.<sup>240</sup> Physical activity has shown to decrease mortality,<sup>241, 242, 243</sup> decrease cognitive decline,<sup>244, 245, 246</sup> improve mental health,<sup>247</sup> and moderate diabetes.<sup>248</sup> Physical activity has been shown to significantly reduce the likelihood of cancer and cancer recurrence.<sup>249</sup> Obesity in older adults is associated with dementia<sup>250</sup> and can complicate treating other co-morbid conditions in older adults, leading to rising health care costs.<sup>251, 252</sup> Older adults who remain active are likely to live longer, be healthier, and have fewer health care utilization/costs.<sup>253, 254, 255</sup>

*Age-friendly communities facilitate healthy behaviors of older adults through their design and infrastructure.* Features that enhance the walkability of a community help older adults maintain their walking habits.<sup>256, 257</sup> These features include greater density, microscale features such as park benches,<sup>259</sup> having specific destinations to walk to,<sup>260, 261, 262</sup> lower traffic speeds,<sup>263</sup> and features that address special safety needs<sup>264</sup> such as marked crosswalks.<sup>265, 266</sup>

Neighborhood walkability—generally defined to be a combination of measures of housing density, multi-use destinations, and density of intersections—has been associated with less depression in older adults.<sup>267</sup> It may also help control older adult mental health costs.<sup>268, 269</sup>

Neighborhoods that are walkable are associated with higher physical activity across the age spectrum,<sup>270</sup> and walking, the easiest active transportation form for older adults, is a potential avenue for increasing physical activity rates.<sup>271</sup> Researchers are increasingly establishing the relationship between physical activity and cancer prevention and have estimated that increasing physical activity for people of all ages could result in a savings of up to 11 percent in health care expenditures.<sup>272</sup> Similarly, modest gains in obesity prevention for working adults would result in significant health care cost savings.<sup>273, 274, 275</sup>

*Age-friendly communities also address other issues that influence health, such as pollution, access to health care and social services, safety, and social support.* Older adults are more susceptible than younger adults to transportation-related air pollution and noise, leading to increased hypertension,<sup>276, 277</sup> increased cardiovascular and respiratory events and death,<sup>278, 279, 280</sup> and, potentially, increased rates of breast cancer.<sup>281</sup> Reducing air pollution and traffic noise levels, therefore, will be of particular benefit to older adults.

A study in Detroit demonstrated the relationship between age-friendly community features and self-rated health among older adults.<sup>282</sup> Access to health care, social support, and community engagement were associated with better self-rated health, while neighborhood problems (e.g., crime, abandoned buildings, inadequate heat in housing) were associated with poorer self-rated health.<sup>283</sup>

Finally, a National Geographic expedition to find the longest living cultures ("Blue Zones") revealed nine specific characteristics shared by Blue Zones residents that appear to explain longevity. Two of these were having a sense of purpose and a feeling of belonging,<sup>284</sup> which are consistent with the features of respect and social inclusion and civic engagement and volunteering.

Moreover, a demonstration project to apply the nine principles, through adoption of a community wellness plan involving walking and healthier eating, to Albert Lea, a small town in rural Minnesota, revealed that after only one year, participants were estimated to have added 2.9 years to their lives, and health claims by city workers dropped 49 percent.<sup>285</sup> In five years, walking increased 70 percent, smoking decreased by 4 percent, and as a group, participants lost almost 4 tons of weight.<sup>286</sup> The strategies credited with the success of the initiative were forming walking and biking groups, a public education campaign about the benefits of physical activity, and safety and pedestrian improvements to the community's streets and parks.<sup>287</sup>

*Age-friendly environments reduce social isolation and improve health and community engagement.* Social connectivity is a basic tenet of age-friendly communities.<sup>288</sup> This is important because Americans—both younger and older—are more socially isolated, or distanced psychologically, physically or both, from other people,<sup>289</sup> now than ever before, to great detriment. Inadequate social support networks are associated with increased morbidity and mortality, and limited social ties have been linked with poor overall health and well-being,<sup>290</sup> including greater rates of infection, depression, and cognitive decline.<sup>291</sup>

On the other hand, social engagement, which is defined as making social and emotional connections, consistently has been shown to improve physical and psychological wellbeing.<sup>292, 293</sup> Both actual, objective social isolation and perceived social isolation, or loneliness, negatively affect physical and mental health,<sup>294</sup> and older adults who can either withstand socially isolating circumstances or adjust their expectations so that they do not develop a subjective sense of isolation may fare better than those who feel isolated.<sup>295</sup> While the mere presence of another person can reduce stress, feelings of loneliness may exacerbate it, as revealed in higher blood pressure and cortisol levels.<sup>296</sup>

Loneliness and social isolation are matters of public health.<sup>297</sup> Age-friendly communities reduce social isolation among older adults<sup>298</sup> by enhancing social inclusion in a sustainable and comprehensive manner.<sup>299</sup> Examples of interventions include mentoring programs, telehealth programs, gatekeeper programs that help community members identify signs of isolation,<sup>300</sup> and having places that facilitate social interaction in buildings and open spaces.<sup>301</sup>

#### **Other Benefits**

*Older adults make significant contributions to the social, political, and environmental fabric of society.* Although difficult to quantify, there is ample research to show that communities benefit from the engagement of their older populations in additional ways than those already described.

Older adults add vibrancy to their neighborhoods by interacting with neighbors more than any other age group.<sup>302</sup> They also have knowledge, expertise, skill, and wisdom to educate and inform younger generations—contributions that typically go uncounted.<sup>303</sup> One study revealed that older adults "care for place" not only by volunteering, but through activism, advocacy, and nurturing. Through these activities, which can happen individually or in groups, older adults assume a variety of care roles in their communities, including helping and representing others, giving advice and support, and effecting change.<sup>304</sup>

Trees grow stronger over the years, rivers wider. Likewise, with age, human beings gain immeasurable depth and breadth of experience and wisdom. That is why older persons should be not only respected and revered; they should be utilized as the rich resource to society that they are.

> - United Nations Secretary General Kofi Annan<sup>305</sup>

However, older adults' ability to be engaged and contribute is dependent on the community's physical accessibility and its receptiveness—the community's agefriendliness.

# Conclusion

The demographic data and projected trends described here demonstrate our increasingly older population and the importance of taking these changes into account if we are to make use of older adults' considerable assets.

Many economic, social, and personal benefits are to be gained by recognizing the value of older adults and enhancing their opportunities to be engaged and contribute by creating communities that are age friendly. Most of the benefits seem to clearly outweigh the costs, such as these:

- The knowledge and skills accumulated by older adults over the course of their lives,
- A ready pool of qualified workers,
- Enhanced organizational productivity,
- Contributions to economic growth through new companies,
- A large market of consumers with significant size and spending power for new products, services, and technologies, and
- A huge cadre of volunteers and donors.

Some features though, such as infrastructure improvements, will require significant financial investments. More research is needed to quantify the net costs and benefits and determine how the necessary funding can be obtained to implement improvements, especially when investment in one area (such as transportation infrastructure) is required but the benefits accrue in another (such as health).

Time is of the essence, however; precious human resources are being untapped. What we do now to make our communities good places to grow up and grow old will yield returns not only for today's elders but also tomorrow's—that is, for all of us.<sup>306</sup>

#### Endnotes

- 1 World Health Organization (2007). *Global age-friendly cities: A guide.* Retrieved from: http://www.who.int/ageing/publications/Global\_age\_friendly\_cities\_Guide\_English.pdf
- 2 Grantmakers In Aging (2013, April). *Age-friendly communities: The movement to create great places to grow up and grow old in America: An introduction for private and public funders.* Grantmakers In Aging, supported by the Pfizer Foundation. Retrieved from: http://www.giaging.org/documents/130402\_GIA\_AFC\_Primer.pdf
- 3 U.S. Census Bureau (2015). *Population estimates: National characteristics: Vintage 2014*. Retrieved from http://www.census.gov/popest/ data/national/asrh/2014/index.html
- 4 Administration for Community Living (n.d.). *Projected future growth of the older population*. Administration for Community Living, U.S. Department of Health and Human Services. Retrieved from www.aoa.gov/Aging\_Statistics/future\_growth/future\_growth.aspx#age
- 5 Scharlach, A. E., & Lehning, A. J. (2016). Creating aging-friendly communities. New York: Oxford University Press.
- 6 Kinsella, K., & He, W. (2009, June). An aging world: 2008. International Population Reports. Retrieved from http://www.census.gov/prod/2009pubs/p95-09-1.pdf
- 7 Deaton, A. (2003). Health, inequality, and economic development. Journal of Economic Literature, 41(1), 113-158.
- 8 Burtless, G. (2012, October). *Life expectancy and rising income inequality: Why the connection matters for fixing entitlements.* Brookings Institution. Retrieved from http://www.brookings.edu/research/opinions/2012/10/23-inequality-life-expectancy-burtless
- 9 National Center for Health Statistics. (2015). *Health, United States, 2014: With special feature on adults aged 55–64.* Retrieved from: http://stacks.cdc.gov/view/cdc/31044/Share
- 10 Oxford Economics (2013). *The longevity economy: Generating economic growth and new opportunities for business*. Report commissioned by AARP. Retrieved from http://www.aarp.org/content/dam/aarp/home-and-family/personal-technology/2013-10/Longevity-Economy-Generating-New-Growth-AARP.pdf
- 11 Seeman, T. E., Merkin, S. S., Crimmins, E. M., & Karlamangla, A. S. (2010). Disability trends among older Americans: National Health and Nutrition Examination Surveys, 1988-1994 and 1999-2004. *American Journal of Public Health*, *100*(1), 100-107.
- 12 Crimmins, E. M., Hayward, M. D., Hagedorn, A., Saito, Y., & Brouard, N. (2009). Change in disability-free life expectancy for Americans 70 years old and older. *Demography*, *46*(3), 627–646.
- 13 Ryan, C. L., & Siebens, J. (2012). *Educational attainment in the United States: 2009.* U.S. Census Bureau, Current Population Reports (P20-566). Retrieved from http://www.census.gov/prod/2012pubs/p20-566.pdf
- 14 Fry, R., Cohn, D., Livingston, G., & Taylor, P. (2011). The rising age gap in economic well-being: The old prosper relative to the young. Pew Research Center: Social & Demographic Trends. Retrieved from http://www.pewsocialtrends.org/2011/11/07/the-rising-age-gap-ineconomic-well-being
- 15 Civic Ventures (2011). Encore entrepreneurs: Creating jobs, meeting needs. MetLife Foundation. Retrieved from http://www.encore.org/files/EntrepreneurshipFastFacts.pdf
- 16 Halverson, C. J., & Emerman, J., (2014). The Encore movement: Baby Boomers and older adults can be a powerful force to build community. *Generations, Journal of the American Society on Aging* (online). Retrieved from http://www.asaging.org/blog/encore-movement-baby-boomers-and-older-adults-can-be-powerful-force-build-community
- 17 Grantmakers In Aging (2014). *Community AGEnda: Q and A*. Retrieved from http://www.giaging.org/documents/141015\_CommunityAGEnda\_QA\_FINAL.pdf
- 18 Devlin, M. & Blakey, J. (2015, August 18). Margaret Devlin & Judy Blakey: Make Auckland an age-friendly city. *The New Zealand Herald*. Retrieved from http://m.nzherald.co.nz/world-class-auckland-best-city-on-earth-herald/news/article.cfm?c\_id=1503861&objectid=11499182
- 19 The International Economic Development Council (n.d.). *The International Economic Development Council's economic development reference guide*. Retrieved from http://www.iedconline.org/clientuploads/Downloads/IEDC\_ED\_Reference\_Guide.pdf
- 20 Kantarci, T., & Van Soest, A. (2008). Gradual retirement: Preferences and limitations. *De Economist*, 156, 113–144. doi: 10.1007/s10645-008-9086-1.
- 21 Cahill, K. E., Giandrea, M. D. & Quinn, J. F. (2006). Retirement patterns from career employment. The Gerontologist, 46(4), 514-523.
- 22 Cahill, K. E., Giandrea, M. D. & Quinn, J. F. (2015). Retirement patterns and the macroeconomy, 1992–2010: The prevalence and determinants of bridge jobs, phased retirement, and reentry among three recent cohorts of older Americans. *The Gerontologist*, *55*(3), 384-403.

- 23 Gandel, S. (2009, May 14). Why Boomers can't quit. *TIME*. Retrieved from http://content.time.com/time/specials/packages/ article/0,28804,1898024\_1898023\_1898080,00.html
- 24 Gandel, S. (2009, May 14). Why Boomers can't quit. *TIME*. Retrieved from http://content.time.com/time/specials/packages/ article/0,28804,1898024\_1898023\_1898080,00.html
- 25 Burtless, G. (2013). *The impact of population aging and delayed retirement on workforce productivity*. Center for Retirement Research at Boston College. Retrieved from http://crr.bc.edu/wp-content/uploads/2013/05/wp\_2013-111.pdf
- 26 Toossi, M. (2012). Labor force projections to 2020: A more slowly growing workforce. *Monthly Labor Review*, *135*(1), 43-64. Retrieved from http://www.bls.gov/opub/mlr/2012/01/mlr201201.pdf
- 27 Ibid.
- 28 Ibid.
- 29 Merrill Lynch. (2013). Americans' perspectives on new retirement realities and the longevity bonus: A 2013 Merrill Lynch Wealth Management, and Age Wave. Merrill Lynch Wealth Management. Retrieved from http://www.ml.com/publish/content/application/pdf/ GWMOL/2013\_Merrill\_Lynch\_Retirement\_Study.pdf
- 30 Toossi, M. (2012). Labor force projections to 2020: A more slowly growing workforce. *Monthly Labor Review*, *135*(1), 43-64. Retrieved from http://www.bls.gov/opub/mlr/2012/01/mlr201201.pdf
- 31 Merrill Lynch. (2013). Americans' perspectives on new retirement realities and the longevity bonus. A 2013 Merril Lynch Wealth Management, and Age Wave. Merrill Lynch Wealth Management. Retrieved from http://www.ml.com/publish/content/application/pdf/ GWMOL/2013\_Merrill\_Lynch\_Retirement\_Study.pdf
- 32 Johnson, R. W., Kawachi, J., & Lewis, E. K. (2009, May 14). Older workers on the move: Recareering in later life. Urban Institute. Retrieved from http://www.urban.org/research/publication/older-workers-move-recareering-later-life
- 33 Encore.org (2014). Encore.org and the Encore vision. Encore.org. Retrieved from http://encore.org/who-we-are/encore-org-encore-vision
- 34 MetLife/Civic Ventures (2011). *Encore career choices: Purpose, passion and a paycheck in a tough economy*. A MetLife Foundation/Civic Ventures Report based on Research by Penn Schoen Berland. Retrieved from http://www.encore.org/files/EncoreCareerChoices.pdf
- 35 Munnell, A. H (2015). *Falling short: The coming retirement crisis and what to do about it.* Issue Brief No. 15-7. Chestnut Hill, MA: The Center for Retirement Research at Boston College. Retrieved from http://crr.bc.edu/wp-content/uploads/2015/04/IB\_15-7\_508.pdf
- 36 Cahill, K. E., Giandrea, M. D. & Quinn, J. F. (2011, July 8). *How does occupational status impact bridge job prevalence*? (Working Paper #447). Washington, DC: U.S. Bureau of Labor Statistics. Retrieved from http://www.bls.gov/ore/pdf/ec110050.pdf
- 37 Carneval, A. P., Smith, N., & Strohl, J. (2013, June). *Recovery: Job growth and education requirements through 2020*. Georgetown University. Retrieved from https://cew.georgetown.edu/wp-content/uploads/2014/11/Recovery2020.FR\_.Web\_.pdf
- 38 Society for Human Resource Management. (2015, January). *The aging workforce State of older workers in U.S. organizations*. Retrieved from http://www.shrm.org/research/surveyfindings/articles/pages/shrm-state-of-older-workers-in-u.s.-organizations.aspx
- 39 ManpowerGroup. (2015). The talent survey. Retrieved from http://www.manpowergroup.us/campaigns/talent-shortage-2015/
- 40 Burtless, G. (2013). *The impact of population aging and delayed retirement on workforce productivity*. Center for Retirement Research at Boston College. Retrieved from http://crr.bc.edu/wp-content/uploads/2013/05/wp\_2013-111.pdf
- 41 Aon Hewitt. (2015). A business case for workers age 50+: A look at the value of experience. A report prepared for AARP. Retrieved from http://states.aarp.org/wp-content/uploads/2015/08/A-Business-Case-for-Older-Workers-Age-50-A-Look-at-the-Value-of-Experience.pdf
- 42 Ibid.
- 43 Society for Human Resource Management. (2015, January). *The aging workforce—Basic and applied skills*. Retrieved from http://www.shrm.org/research/surveyfindings/articles/pages/shrm-older-workers-basic-and-applied-skills.aspx
- 44 Ng, T. W. H., & Feldman, D. C. (2012). Evaluating six common stereotypes about older workers with meta-analytical data. *Personnel Psychology*, *65*, 821-858. doi:10.1111/peps.12003
- 45 Ng, T. W., & Feldman, D. C. (2008). The relationship of age to ten dimensions of job performance. *Journal of Applied Psychology*, *93*, 392-423. doi:10.1037/0021-9010.93.2.392
- 46 Burtless, G. (2013). *The impact of population aging and delayed retirement on workforce productivity*. Center for Retirement Research at Boston College. Retrieved from http://crr.bc.edu/wp-content/uploads/2013/05/wp\_2013-111.pdf

- 47 Aon Hewitt. (2015). A business case for workers age 50+: A look at the value of experience. A report prepared for AARP. Retrieved from http://states.aarp.org/wp-content/uploads/2015/08/A-Business-Case-for-Older-Workers-Age-50-A-Look-at-the-Value-of-Experience.pdf. See p. 18.
- 48 Ibid. Note: see footnote 27 in this reference.
- 49 Ibid.
- 50 Peña, A.M. (November 18, 2013). Institutional knowledge: When employees leave, what do we lose? HigherEdJobs. Retrieved from https://www.higheredjobs.com/articles/articleDisplay.cfm?ID=468
- 51 Thibodaux, N. & Rouse, R. (2005). Retaining key knowledge in the utility industry: How the "funnel theory" bridged the retirement gap. *Knowledge Management Review*, *8*, 16-19. Retrieved from https://www.higheredjobs.com/articles/articleDisplay.cfm?ID=468
- 52 Ashworth, M.J. (2006). Preserving knowledge legacies: Workforce aging, turnover and human resource issues in the US electric power industry. *International Journal of Human Resource Management*, *17*, 1659-1688. doi: 10.1080/09585190600878600
- 53 Boehm, S., Kunze, F., & Bruck, H. (2014). Spotlight on age diversity climate: The impact of age-inclusive HR practices on firm-level outcomes. *Personnel Psychology*, *67*, 667-670. doi: 10.1111/peps.12047
- 54 Truxillo, D. M., Cadiz, D. E., & Hammer, L. B. (2015). Supporting the aging workforce: A review and recommendations for workplace intervention research. *Annual Review of Organizational Psychology and Organizational Behavior*, *2*, 351-381. doi: 10.1146/annurev-orgpsych-032414-111435
- 55 Truxillo, D. M., Cadiz, D. M., & Rineer, J. R. (2014). The aging workforce: Implications for human resource management research and practice. (S. Jackson, editor). *Oxford Handbooks Online: Business & Management*.
- 56 Boehm, S., Kunze, F., & Bruck, H. (2014). Spotlight on age diversity climate: The impact of age-inclusive HR practices on firm-level outcomes. *Personnel Psychology*, *67*, 667-704. doi: 10.1111/peps.12047
- 57 Kooij, D. T. A. M., de Lange, A. H., Jansen, P. G. W., Kanfer, R., & Dikkers, J. S. E., & (2011). Age and work-related motives: Results of a meta-analysis. *Journal of Organizational Behavior, 32*, 197-225. doi: 10.1002/job.665
- 58 Truxillo, D. M., Cadiz, D. M., Rineer, J. R., Zaniboni, S., & Fraccaroli, F. (2012). A lifespan perspective on job design: Fitting the job and the worker to promote job satisfaction, engagement, and performance. *Organizational Psychology Review*, 2, 340-360. doi: 10.1177/2041386612454043
- 59 Zaniboni, S., Truxillo, D. M., & Fraccaroli, F. (2013). Differential effects of task variety and skill variety on burnout and turnover intentions for older and younger workers. *European Journal of Work and Organizational Psychology*, 22, 306-317. doi: 10.1080/1359432X.2013.782288
- 60 Wolfson, N., Cavanagh, T., & Kraiger, K. (2014). Older adults and technology-based instruction: Optimizing learning outcomes and transfer. *Academy of Management Learning and Education*, *13*, 26-44. doi: 10.5465/amle.2012.0056
- 61 Higginbottom, K. (2015, October 19). Older workers face recruitment bias. *Forbes*. Retrieved from http://www.forbes.com/sites/karenhigginbottom/2015/10/19/older-workers-face-recruitment-bias/#2715e4857a0b4fa93bb31d6c
- 62 Eisenberg, R. (2015, August 12). Why are there so few age-friendly cities? *Forbes*. Retrieved from http://www.forbes.com/sites/ nextavenue/2015/08/12/why-are-there-so-few-age-friendly-cities/#2715e4857a0b687b322491fd
- 63 Boyer-Shesol, C., Lenk, F., Nagel, M., Pinkerton, J. & Trillo, M. (2015, Spring). *Economic impact of an aging population in the Kansas City region*. Mid-America Regional Council Research Services Department: Mid-America Regional Council. Retrieved from http://www.marc. org/Community/KC-Communities-for-All-Ages/PDFs/Economic-Impact-of-an-Aging-Population-FINAL.aspx
- 64 Alexander, M. (2015). *The green of gray: The new economy of an aging*. REMI Atlanta PowerPoint presentation. Atlanta Regional Commission. Retrieved from http://www.atlantaregional.com/File%20Library/Aging/Comm%20Dev/Mike\_Alexander\_Presentation\_TheGreenofGray2.pptx
- 65 Society of Certified Senior Advisors (2015). *A professional's guide to contemporary issues of aging*. Part 3 Quality-of-life choices for older adults, Chapter 10 Housing and services for aging needs. Retrieved from http://www.csa.us/?page=CourseCurriculum
- 66 Lehning, A. (2012). City governments and aging in place: Community design, transportation and housing innovation adoption. *The Gerontologist*, *52*(3), 345-356. doi: 10.1093/geront/gnr089
- 67 Population Reference Bureau (2013, May). *Helping Americans age in place*. Population Reference Bureau: Research Highlights in the Demography and Economics of Aging, No. 13. Retrieved from http://www.prb.org/pdf13/research-highlights-aging-2013.pdf
- 68 Stangler, D. (2009). *The coming entrepreneurship boom*. Ewing Marion Kauffman Foundation. Retrieved from http://www.kauffman.org/~/ media/kauffman\_org/research%20reports%20and%20covers/2009/07/thecomingentrepreneurialboom.pdf

- 69 Kauffman Foundation (2015, December). *National entrepreneurial demographics: Main Street (by age)*. Retrieved from http://www. kauffman.org/microsites/kauffman-index/profiles/entrepreneurial-demographics?Demographic=Age&Report=MainStreet
- 70 Kauffman Foundation (2015, December). *National entrepreneurial demographics: Startup activity (by age)*. Retrieved from http://www. kauffman.org/microsites/kauffman-index/profiles/entrepreneurial-demographics?Demographic=Age&Report=StartupActivity
- 71 Ibid.
- 72 Cahill, K. E., Giandrea, M. D. & Quinn, J. F. (2013). *New evidence on self-employment transitions among older Americans with career jobs*. (Working Paper #463). Washington, DC: U.S. Bureau of Labor Statistics. Retrieved from http://www.bls.gov/osmr/pdf/ec130030.pdf
- 73 Zissimopoulos, J. M. & Karoly, L. A. (2003, December). Transitions to self-employment at older ages: The role of wealth, health, health insurance and other factors. *Labour Economics*, *14*, 269-295.
- 74 Zissimopoulos, J. M. & Karoly, L. A. (2009). Labor-force dynamics at older ages: Movements into self-employment for workers and nonworkers. *Research on Aging*, *31*, 89-111. doi: 10.1177/0164027508324642
- 75 Peterson, J. B. (2015, March 17). Encore entrepreneurs fill gaps and their pockets. *Forbes*. Retrieved from http://www.forbes.com/sites/ nextavenue/2015/03/17/encore-entrepreneurs-fill-gaps-and-their-pockets/
- 76 Quinn, J. F., Cahill, K. E., & Giandrea, M. D. (2011). *Early retirement: The dawn of a new era*? Policy Brief. TIAA-CREF Institute. Retrieved from https://www.tiaa-cref.org/public/pdf/institute/research/briefs/pb\_earlyretirement0711.pdf
- 77 Munnell, A. H (2015). *Falling short: The coming retirement crisis and what to do about it.* Issue Brief No. 15-7. Chestnut Hill, MA: The Center for Retirement Research at Boston College. Retrieved from http://crr.bc.edu/wp-content/uploads/2015/04/IB\_15-7\_508.pdf
- 78 Munnell, A. H., & Sass, S. A. (2008). *Working longer: The solution to the retirement income challenge.* Washington, D.C.: Brookings Institution Press.
- 79 Hoffman, L. (2010, April 1). *Maximizing the potential of older adults: Benefits to state economies and individual well-being*. NGA Center for Best Practices. Retrieved from http://www.nga.org/files/live/sites/NGA/files/pdf/1004OLDERADULTS.PDF
- 80 Munnell, A. H., & Sass, S. A. (2008). Working longer: The solution to the retirement income challenge. Washington, D.C.: Brookings Institution Press.
- 81 Hoffman, L. (2010, April 1). *Maximizing the potential of older adults: Benefits to state economies and individual well-being*. NGA Center for Best Practices. Retrieved from http://www.nga.org/files/live/sites/NGA/files/pdf/1004OLDERADULTS.PDF
- 82 Wang, M., Adams, G. A., Beehr, T. & Shultz, K. S. (2009). Bridge employment and retirement: Issues and opportunities during the latter part of one's career. In S. Baugh, & S. Sullivan (Eds.), *Maintaining focus, energy, and options over the career* (pp. 135-162). Charlotte, NC: Information Age Publishing, Inc.
- 83 Hoffman, L. (2010, April 1). *Maximizing the potential of older adults: Benefits to state economies and individual well-being*. NGA Center for Best Practices. Retrieved from http://www.nga.org/files/live/sites/NGA/files/pdf/1004OLDERADULTS.PDF
- 84 Oxford Economics. (2013, October). *The longevity economy: Generating economic growth and new opportunities for business*. Report commissioned by AARP. Retrieved from http://www.aarp.org/content/dam/aarp/home-and-family/personal-technology/2013-10/ Longevity-Economy-Generating-New-Growth-AARP.pdf
- 85 Ibid.
- 86 Ibid.
- 87 Ibid.
- 88 Nielsen & BoomAgers. (2012). Introducing Boomers: Marketing's most valuable generation. Retrieved from http://boomagers.com/sites/ boomagers/files/Boomers\_-\_Marketing's\_Most\_Valuable\_Generation.pdf
- 89 Oxford Economics. (2013, October). *The longevity economy: Generating economic growth and new opportunities for business*. Report commissioned by AARP. Retrieved from http://www.aarp.org/content/dam/aarp/home-and-family/personal-technology/2013-10/ Longevity-Economy-Generating-New-Growth-AARP.pdf
- 90 Ibid.
- 91 Ibid.
- 92 Ibid.

- 93 Nielsen & BoomAgers. (2012). Introducing Boomers: Marketing's most valuable generation. http://boomagers.com/sites/boomagers/files/ Boomers\_-\_Marketing's\_Most\_Valuable\_Generation.pdf
- 94 Ibid.
- 95 Ibid. Note: see p. 7 in this reference.
- 96 Oxford Economics. (2013, October). The longevity economy: Generating economic growth and new opportunities for business. Report commissioned by AARP. Retrieved from http://www.aarp.org/content/dam/aarp/home-and-family/personal-technology/2013-10/ Longevity-Economy-Generating-New-Growth-AARP.pdf
- 97 AARP. (2016, January). Caregiving innovation frontiers. Retrieved from http://goo.gl/jaUyhH
- 98 Center for Financial Inclusion at Accion and HelpAge International. (2015, February). *Aging and financial inclusion: An opportunity*. Retrieved from http://www.centerforfinancialinclusion.org/fi2020/mapping-the-invisible-market/aging-financial-inclusion
- 99 Pizzo, Ph. (2015, November 20). What colleges can do for Americans at Midlife. Guest essay. *Next Avenue*. Retrieved from http://www.nextavenue.org/what-colleges-can-do-for-americans-at-midlife/
- 100 Lenehan, M. E., Summers, M. J., Saunders, N. L., Summers, J. J., Ward, D. D., Ritchie, K., & Vickers, J. C. (2015, November 16). Sending your grandparents to university increases cognitive reserve: The Tasmanian Healthy Brain Project. *Neuropsychology*. Advance online publication. http://dx.doi.org/10.1037/neu0000249. Retrieved from https://www.apa.org/pubs/journals/releases/neu-neu0000249.pdf
- 101 Oxford Economics. (2013, October). *The longevity economy: Generating economic growth and new opportunities for business*. Report commissioned by AARP. Retrieved from http://www.aarp.org/content/dam/aarp/home-and-family/personal-technology/2013-10/ Longevity-Economy-Generating-New-Growth-AARP.pdf
- 102 Ibid.
- 103 Patterson, I. R. (2006). *Growing older: Tourism and leisure behaviour of older adults*. Wallingford, UK CABI. ISBN: 978-1845930653. Retrieved from www.worldcat.org/title/growing-older-tourism-and-leisure-behaviour-of-older-adults/oclc/228145378&referer=brief\_ results Note: the author cites the Travel Industry Association of America, 2001
- Alén, E., Domínguez, T., & Losada, N. (2012). New opportunities for the tourism market: Senior tourism and accessible tourism. In Kasimoglu, M. (Ed.), Visions for global tourism industry: Creating and sustaining competitive strategies (pp. 139-166). InTech: Croatia. ISBN: 978-953-51-0520-6. doi: 10.5772/38092. Retrieved from http://www.intechopen.com/books/visions-for-global-tourism-industry-creating-and-sustaining-competitivestrategies/new-opportunities-for-the-tourism-market-senior-tourism-and-accessible-tourism Note: The authors cite Borja, L., Casanovas, J.A., & Bosch, A. (2002). El Consumidor turístico. ISBN: 8473562976, Pozuelo de Alarcón, Madrid: ESIC
- 105 Ibid.
- Boksberger, P. E., & Laesser, C. (2009, Oct.) Segmentation of the senior travel market by the means of travel motivations. *Journal of Vacation Marketing*, *15*, 311-322. doi:10.1177/1356766709335829. Retrieved from http://jvm.sagepub.com.proxy.lib.pdx.edu/content/15/4/311.full.pdf+html
  Note: See also Jang, S, & Wu, C. M. E. (2006). Seniors' travel motivation and the influential factors: An examination of Taiwanese seniors. *Tourism Management*, *27*, 306–16.
- 107 Ibid.
- 108 Patterson, I.R. (2006). *Growing older: Tourism and leisure behaviour of older adults*. Wallingford, UK CABI. ISBN: 978-1845930653. Retrieved from www.worldcat.org/title/growing-older-tourism-and-leisure-behaviour-of-older-adults/oclc/228145378&referer=brief\_results Note: Patterson cites Kohane (1998) and Smart & Pethokoulis (2001).
- 109 Ibid. See p. 214.
- 110 Reece, W. S. (2004) Are senior leisure travelers different? *Journal of Travel Research*, 43, 11-18. Retrieved from http://jtr.sagepub.com/ content/43/1/11.abstract
- 111 Ibid.

- 113 Alén, E., Domínguez, T., & Losada, N. (2012). New opportunities for the tourism market: Senior tourism and accessible tourism. In Kasimoglu, M. (Ed.), Visions for global tourism industry: Creating and sustaining competitive strategies (pp. 139-166). InTech: Croatia. ISBN: 978-953-51-0520-6. doi: 10.5772/38092. Retrieved from http://www.intechopen.com/books/visions-for-global-tourism-industrycreating-and-sustaining-competitivestrategies/new-opportunities-for-the-tourism-market-senior-tourism-and-accessible-tourism Note: The authors cite Borja, L., Casanovas, J.A., & Bosch, A. (2002). *El Consumidor turístico*. ISBN: 8473562976, Pozuelo de Alarcón, Madrid: ESIC
- 114 Ibid.

<sup>112</sup> Ibid.

115 Ibid.

- 116 Patterson, I. R. (2006). Growing older: Tourism and leisure behaviour of older adults. Wallingford, UK CABI. ISBN: 978-1845930653.
- 117 Ameriprise Financial. (2012). Money across generations II: Family first. Retrieved from http://newsroom.ameriprise.com/images/20018/ MAG%20Research%20Report%20Family%20First%204-27-12.pdf
- 118 Oxford Economics. (2013, October). *The longevity economy: Generating economic growth and new opportunities for business*. Report commissioned by AARP. Retrieved from http://www.aarp.org/content/dam/aarp/home-and-family/personal-technology/2013-10/ Longevity-Economy-Generating-New-Growth-AARP.pdf
- 119 Ameriprise Financial. (2012). Money across generations II study: Family first. Retrieved from http://newsroom.ameriprise.com/ images/20018/MAG%20Research%20Report%20Family%20First%204-27-12.pdf
- 120 Reinhard, S. C., Feinberg, L. F., Choula, R., and Houser, A. (2015). *Valuing the invaluable: 2015 update*. Retrieved from http://www.aarp.org/content/dam/aarp/ppi/2015/valuing-the-invaluable-2015-update-new.pdf
- 121 MetLife Mature Market Institute. (2012, September). *Grandparents investing in grandchildren: The MetLife study on how grandparents share their time, values, and money.* Retrieved from https://www.metlife.com/assets/cao/mmi/publications/studies/2012/studies/ MMIGrandparentsStudy\_Web.pdfNote: an online survey of 1,008 grandparents age 45 or older was conducted and weighted to be representative of the general age 45+ population study of grandparents in the U.S.
- 122 Ibid.
- 123 Sullivan, K. (2013, October 17). Study boosts grandparent-grandchildren ties. *The Boston College Chronicle*. Retrieved from http://www. bc.edu/publications/chronicle/FeaturesNewsTopstories/2013/news/study-boosts-grandparent-grandchild-ties.html Note: data were from the Longitudinal Study of Generations, a survey of three- and four-generation American families that includes waves of data collected between 1985 and 2004. The sample group had 376 grandparents and 340 grandchildren.
- 124 Martinez, I., Crooks, D., Kim, K., & Tanner, E. (2011). Invisible civic engagement among older adults: Valuing the contributions of informal volunteering. *Journal of Cross Cultural Gerontology, 26,* 23–37. doi:10.1007/s10823-011-9137-y
- 125 Corporation for National and Community Service. (2007). *The health benefits of volunteering: A review of recent research*. Retrieved from http://www.nationalservice.gov/pdf/07\_0506\_hbr.pdf
- 126 Pitt-Catsouphes, M., Berzin, S., & Halvorsen, C. J. (2014, January). Been a long time coming: Social entrepreneurship in later life. Issue Brief 28. Center for Social Innovation, Boston College. Retrieved from http://www.bc.edu/content/dam/files/research\_sites/agingandwork/pdf/ publications/IB28\_Encore.pdf
- 127 Bureau of Labor Statistics. (2015, February 25). Volunteering in the United States, 2014. Retrieved from http://www.bls.gov/news.release/pdf/volun.pdf
- 128 Corporation for National and Community Service. (2014). Volunteering and civic engagement among older adults: Trends and highlights. Retrieved from https://www.volunteeringinamerica.gov/special/Older-Adults
- 129 MetLife/Civic Ventures (2011). Encore career choices: Purpose, passion and a paycheck in a tough economy. Retrieved from http://www.encore.org/files/EncoreCareerChoices.pdf
- 130 Corporation for National and Community Service. (2014). Volunteering and civic engagement among older adults: Trends and highlights. Retrieved from https://www.volunteeringinamerica.gov/special/Older-Adults
- 131 Salamon, L. M., Sokolowski, S. W., & Haddock, M. A. (2011). Measuring the economic value of volunteer work globally: Concepts, estimates, and a roadmap to the future. *Annals of Public and Cooperative Economics*, *82*, 217-252. doi: 10.1111/j.1467-8292.2011.00437.x
- 132 Experience Matters (2014). Retrieved from http://experiencemattersaz.org/about/
- 133 Bureau of Labor Statistics. (2015, February 25). Volunteering in the United States, 2014. Retrieved from http://www.bls.gov/news.release/pdf/volun.pdf
- 134 Ibid.
- 135 Ibid.
- 136 Corporation for National and Community Service. (2014). Volunteering and civic engagement among older adults: Trends and highlights. Retrieved from https://www.volunteeringinamerica.gov/special/Older-Adults
- 137 Urban Institute (2004). Volunteer management capacity in America's charities and congregations. Retrieved from http://webarchive.urban. org/publications/410963.html

138 Ibid.

- 139 Corporation for National and Community Service. (2007). *The health benefits of volunteering: A review of recent research*. Retrieved from http://www.nationalservice.gov/pdf/07\_0506\_hbr.pdf
- 140 MetLife Mature Markets Institute (2010). *MetLife study of inheritance and wealth transfer to Baby Boomers*. Retrieved from https://www.metlife.com/assets/cao/mmi/publications/studies/2010/mmi-inheritance-wealth-transfer-baby-boomers.pdf
- 141 Corporation for National and Community Service. (2007). *The health benefits of volunteering: A review of recent research*. Retrieved from http://www.nationalservice.gov/pdf/07\_0506\_hbr.pdf
- 142 Ibid.
- 143 Ibid.
- 144 Barron, J. S., Tan, E. J., Yu, Q., Song, M., McGill, S., & Fried, L. P. (2009). Potential for intensive volunteering to promote the health of older adults in fair health. *Journal of Urban Health*, *18*, 359-384. doi:10.1177/0898264305280993
- 145 Corporation for National and Community Service. (2007). *The health benefits of volunteering: A review of recent research*. Retrieved from http://www.nationalservice.gov/pdf/07\_0506\_hbr.pdf
- 146 Greenfield, E. A. (2010). Identifying the boundaries and horizons of the concept of civic engagement for the field of aging. In G. O'Neill & S. F. Wilson (Eds.), *Civic engagement in an older America* (pp. 7-14). Washington, DC: The Gerontological Society of America.
- 147 Bekkers, R. (2010). Who gives what and when? A scenario study of intentions to give time and money. *Social Science Research*, *39*, 369–381.
- 148 AARP. (2013). *Civic engagement among mid-life and older adults: Findings from the 2012 survey on civic engagement*. Washington, DC: AARP. Retrieved from http://www.aarp.org/content/dam/aarp/research/surveys\_statistics/general/2012/Civic-Engagement-Among-Mid-Life-and-Older-Adults-Findings-from-the-2012-Survey-on-Civic-Engagement-AARP.pdf
- 149 Bekkers, R., and Wiepking, P. (2011). Who gives? A literature review of predictors of charitable giving. Part One: Religion, education, age and socialisation. *Voluntary Sector Review*, 2, 337-365.
- 150 Toppe, C. M., Kirsch, A. D., & Michel, J. (2001). *Giving & volunteering in the United States: Findings from a national survey*. Retrieved from http://www.cpanda.org/pdfs/gv/GV01Report.pdf
- 151 Rovner, M. (2013, August). *The next generation of American giving: The charitable habits of Generations Y, X, Baby Boomers, and Matures.* Study commissioned by Blackbaud. Retrieved from http://npengage.uberflip.com/i/147711-american-giving
- 152 Ibid.
- 153 Auten, G., & Joulfaian, D. (1996). Charitable contributions and intergenerational transfers. *Journal of Public Economics*, 59, 55-68. doi:10.1016/0047-2727(94)01475-2
- 154 Ibid.
- 155 Jonas, E., Schimel, J., Greenberg, J., & Pyszczynski, T. (2002). The Scrooge effect: Evidence that mortality salience increases prosocial attitudes and behavior. *Personality and Social Psychology Bulletin, 28*, 1342-1353.
- 156 Maxfield, M., Greenberg, J., & Pyszczynski, T. (2014). Increases in generative concern among older adults following reminders of mortality. *International Journal of Aging & Human Development*, *79*, 1-21. doi: 10.2190/AG.79.1.a
- 157 Wilhelm, M. O., Rooney, P. M., & Tempel, E. R. (2007). Changes in religious giving reflect changes in involvement: Age and cohort effects in religious giving, secular giving, and attendance. *Journal for the Scientific Study of Religion, 46*, 217-232. doi:10.1111/j.1468-5906.2007.00352.x
- 158 Giving USA Foundation. (2015). *Giving USA 2015: The annual report on philanthropy for the year 2014*. Indiana University Lilly Family School of Philanthropy. Retrieved from http://www.givinginstitute.org/?page=GUSA2015Release Full report available online at http:// www.givingusa.org
- 159 Ibid.
- 160 MetLife Mature Markets Institute (2010). *MetLife study of inheritance and wealth transfer to Baby Boomers*. Retrieved from https://www.metlife.com/assets/cao/mmi/publications/studies/2010/mmi-inheritance-wealth-transfer-baby-boomers.pdf
- 161 Bipartisan Policy Center. (2013, February). Housing America's future: New directions for national policy. (Executive summary). Economic Policy Program: Housing Commission. Retrieved from http://bipartisanpolicy.org/wp-content/uploads/sites/default/files/BPC\_Housing\_ Report\_ExecSum\_0.pdf

- 162 Administration on Aging (2014). A profile of older Americans: 2014. Administration on Aging, Administration for Community Living, U.S. Department of Health and Human Services. Retrieved from http://www.aoa.acl.gov/Aging\_Statistics/Profile/2014/docs/2014-Profile.pdf
- 163 Joint Center for Housing Studies of Harvard University (2014). *Housing America's older adults: Meeting the needs of an aging population.* Joint Center for Housing Studies of Harvard University. Retrieved from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs-housing\_americas\_older\_adults\_2014.pdf
- 164 Cohen, R., & Wardrip, K. (2011). The economic and fiscal benefits of affordable housing. *Planning Commissioners Journal*, *83*, 1-4. Retrieved from http://plannersweb.com/wp-content/uploads/2012/07/501.pdf
- 165 Waldrip, K., Williams, L., & Hague, S. (2011, January). The role of affordable housing in creating jobs and stimulating local economic development: A review of the literature. Center for Housing Policy & MacArthur Foundation. Retrieved from http://www2.nhc.org/media/ files/Housing-and-Economic-Development-Report-2011.pdf
- 166 McIlwain, J.K. (2012). *Housing in America: The baby boomers turn 65*. Urban Land Institute. Retrieved from http://www.uli.org/wp-content/uploads/ULI-Documents/HousingInAmericaFIN.pdf
- 167 Joint Center for Housing Studies of Harvard University (2014). *Housing America's older adults: Meeting the needs of an aging population.* Joint Center for Housing Studies of Harvard University. Retrieved from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs-housing\_americas\_older\_adults\_2014.pdf
- 168 Howe, D. A., Chapman, N. J., & Baggett, S. A. (1994). *Planning for an aging society* (Planning Advisory Service Report No. 451). Chicago, IL: American Planning Association. Available from https://www.planning.org/store/search/ results/?tagids=%2C2739%2C&rows=&sortfield=&sortdirection=&Keyword=451
- 169 Joint Center for Housing Studies of Harvard University (2014). *Housing America's older adults: Meeting the needs of an aging population.* Joint Center for Housing Studies of Harvard University. Retrieved from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs-housing\_americas\_older\_adults\_2014.pdf
- 170 Newcomer, R. J., & Weeden, J. P. (1986). Perspectives of housing needs and the continuum of care. In R. J. Newcomer, M. P. Lawton, & T. O. Byerts (Eds.), *Housing and aging society: Issues, alternatives, and policy* (pp. 3-9). New York, NY: Van Nostrand Reinhold Company.
- 171 Schafer, R. (1999). America's elderly population and their need for supportive services (Special Report No. W99-3). Retrieved from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/schafer\_w99-3.pdf
- 172 Age-Friendly Portland Advisory Council. (2013, October). Action Plan for an Age-Friendly Portland. Retrieved from http://agefriendlyportland.org/wp-content/uploads/2015/02/afp\_plan.pdf
- 173 Age-Friendly Ithaca/Tompkins County. Retrieved from http://www.tompkinscountyny.gov/files/cofa/Age%20Friendly%20Domains%20 and%20Champions.pdf
- 174 Population Reference Bureau (2013). *Helping Americans age in place. Research highlights in the demography and economics of aging*, 13. Retrieved from http://www.prb.org/pdf13/research-highlights-aging-2013.pdf
- 175 Golant, S.M. (2009). Aging in place solutions for older Americans: Groupthink responses not always in their best interests. *Public Policy & Aging Report*, *19*, 1, 33-39. Retrieved from http://ppar.oxfordjournals.org/content/19/1/1.1.full.pdf+html
- 176 Pynoos, J., Caraviello, R., & Cicero, C. (2009). Lifelong housing: The anchor in aging-friendly communities. Generations, 33(2), 26-32.
- 177 8 80 cities (n.d.). *Mission*. Retrieved from http://www.8-80cities.org/index.php/about/who-we-are Note: this organization is a Canadabased nonprofit with an international outlook. It promotes "walking and bicycling as activities and urban parks, trails, and other public spaces as great places for all."
- 178 Kaiser, H. J. (2009). Mobility in old age: Beyond the transportation perspective. *Journal of Applied Gerontology*, 28, 411-418. doi:10.1177/0733464808329121.
- 179 Penalosa, G. (2011). Creating 8-80 Cities, from thinking to doing. TEDxCarlton. Retrieved from http://tedxtalks.ted.com/video/ TEDxCarlton-Gil-Penalosa-Creati
- 180 Sanford, J.A. (2012). Universal design as a rehabilitation strategy: Design for the ages. New York: Springer.
- 181 KC Communities for All Ages and the First Suburbs Coalition (2013). *Universal design: How philanthropic investment can help everyone*. Retrieved from http://marc.org/Community/KC-Communities-for-All-Ages/PDFs/Universal\_Design\_White\_Paper.aspx
- 182 Federal Transit Administration. (2010). *Eligibility for ADA paratransit*. Topic Guide 3, Topic Guides on ADA Transportation. Federal Transit Administration. Retrieved from http://dredf.org/ADAtg/elig.pdff
- 183 Dumbaugh, E. (2008). Designing communities to enhance the safety and mobility of older adults. *Journal of Planning Literature*, 23, 17-36. doi:10.1177/0885412208318559

- 184 Kerr, J., Rosenberg, D., Frank, L. (2012). The role of the built environment in health aging: Community design, physical activity, and health among older adults. *Journal of Planning Literature*, 27, 43-60. doi:10.1177/0885412211415283
- 185 Rissel, C., Curac, N., Greenaway, M., & Bauman, A. (2012). Physical activity associated with public transport use--a review and modelling of potential benefits. *International Journal of Environment Research and Public Health*, *9*, 2454-2478. doi:10.3390/ijerph9072454
- 186 Saelens, B. E., Moudon, A. V., Kang, B., Hurvitz, P. M., & Zhou, C. (2014). Relation between higher physical activity and public transit use. *American Journal of Public Health*, 104, 854-859. doi:10.2105/ajph.2013.301696
- 187 Center for Neighborhood Technology (2010, March). Penny wise pound fuelish: New measures of housing + transportation affordability. Retrieved from http://www.cnt.org/sites/default/files/publications/CNT\_pwpf.pdf
- 188 Lawton, M.P. (1986). Environment and aging. Albany, NY: The Center for the Study of Aging.
- 189 Plouffe, L., & Kalache, A. (2010). Towards global age-friendly cities: Determining urban features that promote active aging. *Journal of Urban Health*, 87, 733-739. doi: 10.1007/s11524-010-9466-0
- 190 American Planning Association. (2014, April). Aging in community policy guide. Retrieved from https://www.planning.org/policy/guides/ pdf/agingincommunity.pdf
- 191 Farber, N., Shinkle, D., Lynott, J., Fox-Grage, W., & Harrell, R. (2011). *Aging in place: A state survey of livability policies and practices*. Retrieved from AARP website: http://assets.aarp.org/rgcenter/ppi/liv-com/aging-in-place-2011-full.pdf
- 192 Golant, S.M. (2014, February). Age Friendly Communities: Are We Expecting Too Much? *IRPP Insight, 5*, 3. Retrieved from http://irpp.org/ wp-content/uploads/assets/research/faces-of-aging/age-friendly/golant-feb-2014.pdf
- 193 Farber, N., Shinkle, D., Lynott, J., Fox-Grage, W., & Harrell, R. (2011). *Aging in place: A state survey of livability policies and practices*. Retrieved from AARP website: http://assets.aarp.org/rgcenter/ppi/liv-com/aging-in-place-2011-full.pdf
- 194 Ball, S., Lambert, M., & Lombard, J. (2015, September). *The value proposition of age-friendly communities: Summit report*. Prepared for Grantmakers In Aging. Retrieved from http://www.atlantaregional.com/File Library/Aging/value\_proposition\_summit\_report.pdf
- 195 AARP. (2015, July). *The livability economy: People, places, and prosperity*. Retrieved from http://www.aarp.org/content/dam/aarp/livablecommunities/documents-2015/LivabilityEconomyReportOnlineDownload.pdf
- 196 Burchell, R., Downs, A., McCann, B., & Mukherji, S. (2005). Sprawl costs: Economic impacts of unchecked development. Washington, D.C.: Island Press.
- 197 Congress for New Urbanism (2009). Saving lives, time, money: Building better streets. In Congress for New Urbanism Report: *Emergency Response & Street Design*. Retrieved from https://www.cnu.org/sites/default/files/CNUEmergency%20Response\_FINAL\_0.pdf
- 198 Cronin, J. J., Hagerich, J., Horton, J., & Hotaling, J. (2008). *Florida transportation disadvantaged programs return on investment study*. Florida State University and The Marketing Institute. Retrieved from http://s3-ap-southeast-2.amazonaws.com/resources.farm1.mycms. me/transportconnect-org-au/Resources/PDF/ROI\_Florida.pdf
- 199 Rauterkus, S. Y., Grant, I. T., & Hangen, E. (2010). Location efficiency and mortgage default. *Journal of Sustainable Real Estate*, 2, 117-141.
- 200 Joint Center for Housing Studies of Harvard University (2014). *Housing America's older adults: Meeting the needs of an aging population.* Joint Center for Housing Studies of Harvard University. Retrieved from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs-housing\_americas\_older\_adults\_2014.pdf
- 201 Lipman, B., Lubell, J., & Salomon, E. (2012). *Housing an aging population? Are we prepared?* Center for Housing Policy. Retrieved from http://www.nhc.org/#!2012-housing-an-aging-population/x63vf
- 202 National Association of Realtors & Portland State University (2015, July 23). *Community & transportation preference survey*. Retrieved from http://www.realtor.org/sites/default/files/reports/2015/nar-psu-2015-poll-report.pdf (Note: see "analysis and slides" link, pp. 33 and 35).
- 203 Pynoos, J., Caraviello, R., & Cicero, C. (2009). Lifelong housing: The anchor in aging-friendly communities. *Generations*, 33(2), 26-32.
- 204 Joint Center for Housing Studies of Harvard University. (2014). *Housing America's older adults: Meeting the needs of an aging population.* Joint Center for Housing Studies of Harvard University. Retrieved from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchshousing\_americas\_older\_adults\_2014.pdf
- 205 Commission on Affordable Housing and Health Facility Needs for Seniors in the 21st Century (2002). A quiet crisis in America. Retrieved from http://govinfo.library.unt.edu/seniorscommission/pages/final\_report/index.html
- 206 Perl, L. (2010). Section 202 and other HUD rental housing programs for low-income elderly residents (Congressional Research Service Report for Congress 7-7806). Retrieved from www.chapa.org/sites/default/files/202CRSreportonS118(2).pdf

- 207 Rosenbloom, S. (2009). Meeting transportation needs in an aging-friendly community. Generations, 33, 33-43.
- 208 Harrell, R., Brooks, A., & Nedwick, T. (2009). Preserving affordability and access in livable communities: Subsidized housing opportunities near transit and the 50+ population. AARP Public Policy Institute. Retrieved from http://assets.aarp.org/rgcenter/ppi/liv-com/2009-15x. pdf
- 209 Hunter, R.H., Sykes, K., Lowman, S.G., Duncan, R., Satariano, W.A. (2011). Environmental and policy change to support healthy aging. *Journal of Aging & Social Policy*, 23, 354-371. doi:10.1080/08959420.2011.605642.
- 210 Ball, S., Lambert, M., & Lombard, J. (2015, September). *The value proposition of age-friendly communities: Summit report*. Prepared for Grantmakers In Aging. Retrieved from http://www.atlantaregional.com/File Library/Aging/value\_proposition\_summit\_report.pdf
- 211 Ibid.

212 Ibid.

- 213 AARP International. (2015). 2015 age-friendly report: Inspiring communities. Retrieved from http://www.aarp.org/content/dam/aarp/livable-communities/documents-2015/Age-Friendly-Inspiring-Communities-2015.pdf
- 214 World Health Organization. (2007). Global age-friendly cities: A guide. Retrieved from http://www.who.int/ageing/publications/Global\_age\_friendly\_cities\_Guide\_English.pdf
- 215 McClellan, M., & Rivlin, A. (2014). Improving health while reducing cost growth: What is possible? Brookings Institutions, Health Policy Issue Brief. Retrieved from http://www.brookings.edu/~/media/events/2014/04/11%20health%20care%20spending/improving\_health\_ reducing\_cost\_growth\_mcclellan\_rivlin.pdf
- 216 U.S. Centers for Disease Control and Prevention. (2015). *Chronic diseases: The leading causes of death and disability in the United States*. Retrieved from http://www.cdc.gov/chronicdisease/overview/
- 217 U.S. Centers for Disease Control and Prevention. (2015). *Leading causes of death*. Retrieved from http://www.cdc.gov/nchs/fastats/leading-causes-of-death.htm
- 218 Agency for Healthcare Research and Quality. (2014). *Multiple chronic conditions chartbook: 2010 medical expenditure panel survey data*. Retrieved from http://www.ahrq.gov/sites/default/files/wysiwyg/professionals/prevention-chronic-care/decision/mcc/mccchartbook.pdf
- 219 Centers for Medicare & Medicaid Services. (2015). *NHE Fact Sheet*. Retrieved from http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/NHE-Fact-Sheet.html
- 220 Kaiser Family Foundation (2015). *The facts on Medicare spending and financing*. Retrieved from http://kff.org/medicare/fact-sheet/ medicare-spending-and-financing-fact-sheet/.
- 221 Kaiser Family Foundation (2015). Total Medicaid spending. Retrieved from: http://kff.org/medicaid/state-indicator/total-medicaid-spending/.
- 222 Kaiser Family Foundation (2015). The facts on Medicare spending and financing. Retrieved from: http://kff.org/medicare/fact-sheet/ medicare-spending-and-financing-fact-sheet/.
- 223 U.S. Centers for Disease Control and Prevention. (2015). *The four domains of chronic disease prevention: Working towards healthy people in healthy communities*. Retrieved from http://www.cdc.gov/chronicdisease/pdf/four-domains-factsheet-2015.pdf
- 224 U.S. Centers for Disease Control and Prevention. (2015). *Chronic diseases: The leading causes of death and disability in the United States.* Retrieved from http://www.cdc.gov/chronicdisease/overview/
- 225 Frank, L. D., Sallis, J. F., Conway, T. L., Chapman, J. E., Saelens, B. E., & Bachman, W. (2006). Many pathways from land use to health - Associations between neighborhood walkability and active transportation, body mass index, and air quality. *Journal of the American Planning Association*, 72, 75-87. doi:10.1080/01944360608976725 5
- 226 Miles, R. (2008). Neighborhood disorder, perceived safety, and readiness to encourage use of local playgrounds. *American Journal of Preventive Medicine*, 34, 275-281. doi:10.1016/j.amepre.2008.01.007
- 227 Frank, L. D., Schmid, T. L., & Andresen, M. A. (2004). Obesity relationships with community design, physical activity, and time spent in cars. *American Journal of Preventive Medicine*, 27(2), 87.
- 228 Lachapelle, U., Frank, L., Saelens, B. E., Sallis, J. F., & Conway, T. L. (2011). Commuting by public transit and physical activity: Where you live, where you work, and how you get there. *Journal of Physical Activity and Health, 8 Suppl (January)*, S72-82.
- 229 Kaczynski, A. T., Potwarka, L. R., & Saelens, B. E. (2008). Association of park size, distance, and features with physical activity in neighborhood parks. *American Journal of Public Health*, *98*, 1451-1456. doi:10.2105/ajph.2007.129064
- 230 Donovan, G. H., Butry, D. T., Michael, Y. L., Prestemon, J. P., Liebhold, A. M., Gatziolis, D., & Mao, M. Y. (2013). The relationship between trees and human health evidence from the spread of the Emerald Ash Borer. *American Journal of Preventive Medicine*, 44(2), 139-145. doi:10.1016/j.amepre.2012.09.066

- 231 Brook, R. D., Rajagopalan, S., Pope, C. A., Brook, J. R., Bhatnagar, A., Diez-Roux, A. V., Holguin, F., Hong, Y., Luepker, R.V., Mittleman, M., A., Peters, A., Siscovick, D., Smith, S.C., Jr., Whitsel, L., & Kaufman, J. D. (2010). Particulate matter air pollution and cardiovascular disease: An update to the scientific statement from the American Heart Association. *Circulation*, *121*, 2331-2378. doi:10.1161/ CIR.0b013e3181dbece1
- 232 Jacobsen, P. L., Racioppi, F., & Rutter, H. (2009). Who owns the roads? How motorised traffic discourages walking and bicycling. *Injury Prevention*, *15*, 369-373. doi:10.1136/ip.2009.022566
- 233 Short, J. R., & Pinet-Peralta, L. M. (2010). No accident: Traffic and pedestrians in the modern city. *Mobilities*, *5*, 41-59. doi:10.1080/17450100903434998
- 234 Reiner, M., Niermann, C., Jekauc, D., & Woll, A. (2013). Long-term health benefits of physical activity a systematic review of longitudinal studies. *BMC Public Health*, *13*, 813. doi:10.1186/1471-2458-13-813
- 235 Shortreed, S. M., Peeters, A., & Forbes, A. B. (2013). Estimating the effect of long-term physical activity on cardiovascular disease and mortality: Evidence from the Framingham Heart Study. *Heart*, *99*, 649-654. doi:10.1136/heartjnl-2012-303461
- 236 Woodcock, J., Franco, O. H., Orsini, N., & Roberts, I. (2011). Non-vigorous physical activity and all-cause mortality: Systematic review and meta-analysis of cohort studies. *International Journal of Epidemiology*, 40, 121-138. doi:10.1093/ije/dyq104
- 237 Carlson, S. A., Fulton, J. E., Pratt, M., Yang, Z., & Adams, E. K. (2015). Inadequate physical activity and health care expenditures in the United States. *Progress in Cardiovascular Diseases*, *57*, 315-323. doi:10.1016/j.pcad.2014.08.002
- 238 Jacobs, J. M., Rottenberg, Y., Cohen, A., & Stessman, J. (2013). Physical activity and health service utilization among older people. *Journal* of the American Medical Directors Association, 14, 125-129. doi:10.1016/j.jamda.2012.10.023
- 239 Peeters, G., Mishra, G. D., Dobson, A. J., & Brown, W. J. (2014). Health care costs associated with prolonged sitting and inactivity. *American Journal of Preventive Medicine*, 46, 265-272. doi:10.1016/j.amepre.2013.11.014
- 240 Haselwandter, E. M., Corcoran, M. P., Folta, S. C., Hyatt, R., Fenton, M., & Nelson, M. E. (2015). The built environment, physical activity, and aging in the United States: A state of the science review. *Journal of Aging and Physical Activity*, *23*, 323-329. doi:10.1123/japa.2013-0151
- 241 Brown, R. E., Riddell, M. C., Macpherson, A. K., Canning, K. L., & Kuk, J. L. (2013). The association between frequency of physical activity and mortality risk across the adult age span. *Journal of Aging and Health*, *25*, 803-814. doi:10.1177/0898264313492823
- 242 de Rezende, L. F. M., Rey-Lopez, J. P., Matsudo, V. K. R., & Luiz, O. D. (2014). Sedentary behavior and health outcomes among older adults: a systematic review. *BMC Public Health*, 14, 333. doi:10.1186/1471-2458-14-333
- 243 Wen, M., & Zhang, X. (2009). Contextual effects of built and social environments of urban neighborhoods on exercise: A multilevel study in Chicago. *American Journal of Health Promotion*, *23*, 247-254. doi:10.4278/ajhp.07052448
- 244 Bherer, L., Erickson, K. I., & Liu-Ambrose, T. (2013). A review of the effects of physical activity and exercise on cognitive and brain functions in older adults. *Journal of Aging Research*, 2013, Article ID 657508. doi:10.1155/2013/657508
- 245 Blake, H., Mo, P., Malik, S., & Thomas, S. (2009). How effective are physical activity interventions for alleviating depressive symptoms in older people? A systematic review. *Clinical Rehabilitation*, *23*, 873-887. doi:10.1177/0269215509337449
- 246 Carvalho, A., Rea, I. M., Parimon, T., & Cusack, B. J. (2014). Physical activity and cognitive function in individuals over 60 years of age: A systematic review. *Clinical Interventions in Aging*, *9*, 661-682. doi:10.2147/cia.s55520
- 247 Fox, K. R., Stathi, A., McKenna, J., & Davis, M. G. (2007). Physical activity and mental well-being in older people participating in the Better Ageing Project. *European Journal of Applied Physiology*, *100*, 591-602. doi:10.1007/s00421-007-0392-0
- 248 Codogno, J. S., Fernandes, R. A., Sarti, F. M., Freitas Junior, I. F., & Monteiro, H. L. (2011). The burden of physical activity on type 2 diabetes public healthcare expenditures among adults: a retrospective study. *BMC Public Health*, 11, 275. doi:10.1186/1471-2458-11-275
- 249 Barone, J. A., Jang, E. J., Lee, D. H., Jung, J. C., & Suh, D. C. (2008). Medical costs attributable to obesity in patients with diabetes mellitus among US adults. *Value in Health*, *11*(6) (200811): A506.
- 250 Beydoun, M. A., Beydoun, H. A., & Wang, Y. (2008). Obesity and central obesity as risk factors for incident dementia and its subtypes: a systematic review and meta-analysis. *Obesity Reviews*, *9*, 204-218. doi:10.1111/j.1467-789X.2008.00473.x
- 251 Dee, A., Kearns, K., O'Neill, C., Sharp, L., Staines, A., O'Dwyer, V., Fitgerald, S., & Perry, I. J. (2014). The direct and indirect costs of both overweight and obesity: A systematic review. *BMC Research Notes*, *7*, 242. doi:10.1186/1756-0500-7-242
- 252 Lakdawalla, D. N., Goldman, D. P., & Shang, B. P. (2005). The health and cost consequences of obesity among the future elderly. *Health Affairs*, 24(6), W5-R30-W5-R41. doi:10.1377/hlthaff.W5.R30

- 253 Leigh, J. P., Hubert, H. B., & Romano, P. S. (2005). Lifestyle risk factors predict healthcare costs in an aging cohort. American Journal of Preventive Medicine, 29, 379-387. doi:10.1016/j.amepre.2005.08.005
- 254 Vagetti, G. C., Barbosa, V. C., Moreira, N. B., de Oliveira, V., Mazzardo, O., & de Campos, W. (2014). Association between physical activity and quality of life in the elderly: A systematic review, 2000-2012. *Revista Brasileira de Psiquiatria, 36*, 76-88. doi:10.1590/1516-4446-2012-0895
- 255 Wu, S., Cohen, D., Shi, Y., Pearson, M., & Sturm, R. (2011). Economic analysis of physical activity interventions. American Journal of Preventive Medicine, 40, 149-158. doi:10.1016/j.amepre.2010.10.029
- 256 Kerr, J., Rosenberg, D., & Frank, L. (2012). The role of the built environment in healthy aging: Community design, physical activity, and health among older adults. *Journal of Planning Literature*, *27*, 43-60. doi: 10.1177/0885412211415283
- 257 King, A. C., Sallis, J. F., Frank, L. D., Saelens, B. E., Cain, K., Conway, T. L., . . . Kerr, J. (2011). Aging in neighborhoods differing in walkability and income: Associations with physical activity and obesity in older adults. *Social Science & Medicine*, 73, 1525-1533. doi: 10.1016/j.socscimed.2011.08.032
- 258 Brown, R. E., Riddell, M. C., Macpherson, A. K., Canning, K. L., & Kuk, J. L. (2013). The association between frequency of physical activity and mortality risk across the adult age span. *Journal of Aging and Health, 25*, 803-814. doi:10.1177/0898264313492823
- 259 Cain, K. L., Millstein, R. A., Sallis, J. F., Conway, T. L., Gavand, K. A., Frank, L. D., Saelens, B. E., Geremia, C. M., Chapman, J., Adams, M. A., Glanz, K., & King, A. C. (2014). Contribution of streetscape audits to explanation of physical activity in four age groups based on the Microscale Audit of Pedestrian Streetscapes (MAPS). *Social Science & Medicine*, *116*, 82-92. doi:10.1016/j.socscimed.2014.06.042
- 260 Wen, M., & Zhang, X. (2009). Contextual effects of built and social environments of urban neighborhoods on exercise: A multilevel study in Chicago. *American Journal of Health Promotion*, 23, 247-254. doi:10.4278/ajhp.07052448
- 261 Frank, L., Kerr, J., Rosenberg, D., & King, A. (2010). Healthy aging and where you live: Community design relationships with physical activity and body weight in older Americans. *Journal of Physical Activity & Health*, *7*, S82-S90.
- 262 Rosso, A. L., Auchincloss, A. H., & Michael, Y. L. (2011). The urban built environment and mobility in older adults: a comprehensive review. *Journal of Aging Research*, *11*, Article ID 816106. doi:10.4061/2011/816106
- 263 Lee, J. S., Zegran, C., & Ben-Joseph, R. (2013). Safely active mobility for urban baby boomers: The role of neighborhood design. *Accident Analysis & Prevention*, *61*, 153-166. doi:10.1016/j.aap.2013.05.008
- 264 Moudon, A. V., Lin, L., Jiao, J., Hurvitz, P., & Reeves, P. (2011). The risk of pedestrian injury and fatality in collisions with motor vehicles, a social ecological study of state routes and city streets in King County, Washington. Accident Analysis & Prevention, 41, 11-24. doi: 10.1016/j.aap.2009.12.008
- 265 Koepsell, T., McCloskey, L., Wolf, M., Moudon, A. V., Buchner, D., Kraus, J., & Patterson, M. (2002). Crosswalk markings and the risk of pedestrian-motor vehicle collisions in older pedestrians. *Journal of the American Medical Association*, 288, 2136-2143.
- 266 Rothman, L., Howard, A. W., Camden, A., & Macarthur, C. (2012). Pedestrian crossing location influences injury severity in urban areas. *Injury Prevention*. doi:injuryprev-2011-040246
- 267 Berke, E. M., Gottlieb, L. M., Moudon, A. V., & Larson, E. B. (2007). Protective association between neighborhood walkability and depression in older men. *Journal of the American Geriatrics Society*, *55*, 526-533. doi: 10.1111/j.1532-5415.2007.01108.x
- 268 Luppa, M., König, H. H., Heider, D., Leicht, H., Motzek, T., Schomerus, G., & Riedel-Heller, S. G. (2013). Direct costs associated with depressive symptoms in late life: A 4.5-year prospective study. *International Psychogeriatrics*, 25, 292-302. doi: 10.1017/ S1041610212001688
- 269 Luppa, M., Sikorski, C., Motzek, T., Konnopka, A., König, H. H., & Riedel-Heller, S. G. (2012). Health service utilization and costs of depressive symptoms in late life a systematic review. *Current Pharmaceutical Design*, *18*, 5936-5957.
- 270 Renalds, A., Smith, T. H., & Hale, P. J. (2010). A systematic review of built environment and health. *Family & Community Health*, 33, 68-78.
- 271 Wanner, M., Gotschi, T., Martin-Diener, E., Kahlmeier, S., & Martin, B. W. (2012). Active transport, physical activity, and body weight in adults: A systematic review. *American Journal of Preventive Medicine*, *42*, 493-502. doi: 10.1016/j.amepre.2012.01.030
- 272 Carlson, S. A., Fulton, J. E., Pratt, M., Yang, Z., & Adams, E. K. (2015). Inadequate physical activity and health care expenditures in the United States. *Progress in Cardiovascular Diseases*, *57*, 315-323. doi:10.1016/j.pcad.2014.08.002
- 273 Finkelstein, E., Fiebelkorn, I. C., & Wang, G. J. (2005). The costs of obesity among full-time employees. *American Journal of Health Promotion, 20,* 45-51. doi: http://dx.doi.org/10.4278/0890-1171-20.1.45

- 274 Finkelstein, E. A., DiBonaventura, M. d., Burgess, S. M., & Hale, B. C. (2010). The costs of obesity in the workplace. *Journal of Occupational and Environmental Medicine*, *52*, 971-976. doi:10.1097/JOM.0b013e3181f274d2
- 275 Peterson, M. D., & Mahmoudi, E. (2015). Healthcare utilization associated with obesity and physical disabilities. American Journal of Preventive Medicine, 48, 426-435. doi:10.1016/j.amepre.2014.11.007
- 276 Sørensen, M., Hoffmann, B., Hvidberg, M., Ketzel, M., Jensen, S. S., Andersen, Z. J., Nordsborg, R. B., Lillelund, K.G., Tjønneland, A., Overvad, K., & Raaschou-Nielsen, O. (2012). Long-term exposure to traffic-related air pollution associated with blood pressure and selfreported hypertension in a Danish cohort. *Environmental Health Perspectives*, *120*, 418-424. doi:10.1289/ehp.1103631
- 277 Sørensen, M., Hvidberg, M., Hoffmann, B., Andersen, Z. J., Nordsborg, R. B., Lillelund, K. G., Jacobsen, J., Tjønneland, A., Overvad, K., & Raaschou-Nielsen, O. (2011). Exposure to road traffic and railway noise and associations with blood pressure and self-reported hypertension: A cohort study. *Environmental Health*, *10*, 92. doi:10.1186/1476-069X-10-92
- 278 Beelen, R., Raaschou-Nielsen, O., Stafoggia, M., Andersen, Z. J., Weinmayr, G., Hoffmann, B., Wolf, K., Samoli, E., Fischer, P., Nieuwenhuijsen, M., Vineis, P., Xun, W. W., Katsouyanni, K., Dimakopoulou, K., Oudin, A., Forsberg, B., Modig, L., Havulinna, A.S., Lanki, T., Turunen, A., Oftedal, B., Nystad, W., Nafstad, P., De Faire, U., Pedersen, N. L., Östenson, C. G., Fratiglioni, L., Penell, J., Korek, M., Pershagen, G., Eriksen, K.T., Overvad, K., Ellermann, T., Eeftens, M., Peeters, P. H., Meliefste, K., Wang, M., Bueno-de-Mesquita, B., Sugiri, D., Krämer, U., Heinrich, J., de Hoogh, K., Key, T., Peters, A., Hampel, R., Concin, H., Nagel, G., Ineichen, A., Schaffner, E., Probst-Hensch, N., Künzli, N., Schindler, C., Schikowski, T., Adam, M., Phuleria, H., Vilier, A., Clavel-Chapelon, F., Declercq, C., Grioni, S., Krogh, V., Tsai, M. Y., Ricceri, F., Sacerdote, C., Galassi, C., Migliore, E., Ranzi, A., Cesaroni, G., Badaloni, C., Forastiere, F., Tamayo, I., Amiano, P., Dorronsoro, M., Katsoulis, M., Trichopoulou, A., Brunekreef, B., & Hoek, G. (2014). Effects of long-term exposure to air pollution on natural-cause mortality: an analysis of 22 European cohorts within the multicentre ESCAPE project. *Lancet*, 383, 785-795. doi:10.1016/ S0140-6736(13)62158-3
- 279 Bell, M. L., Zanobetti, A., & Dominici, F. (2013). Evidence on vulnerability and susceptibility to health risks associated with short-term exposure to particulate matter: A systematic review and meta-analysis. *American Journal of Epidemiology*, 178, 865-876. doi:10.1093/aje/ kwt090
- 280 Ibid.
- 281 Sorensen, M., Ketzel, M., Overvad, K., Tjonneland, A., & Raaschou-Nielsen, O. (2014). Exposure to road traffic and railway noise and postmenopausal breast cancer: A cohort study. *International Journal of Cancer*, *134*(11), 2691-2698. doi:10.1002/ijc.28592
- 282 Lehning, A. J., Smith, R. J., & Dunkle, R. E. (2014). Age-friendly environments and self-rated health: An exploration of Detroit elders. *Research on Aging*, 36, 72-94. doi:10.1177/0164027512469214
- 283 Ibid.
- 284 Administrator. (2014, March 20). Blue Zones history. Retrieved from https://www.bluezones.com/2014/03/blue-zones-history/
- 285 Ibid.
- 286 Walljasper, J. (2015, May 23). Blue Zones project helped Albert Lea, Minn., find the benefits of walking. *Star Tribune*. Retrieved from http://www.startribune.com/blue-zones-project-helped-albert-lea-minn-find-the-benefits-of-walking/304823171/
- 287 Ibid.
- 288 Menec, V. H., Means, R., Keating, N., Parkhurst, G., & Eales, J. (2011). Conceptualizing age-friendly communities. *Canadian Journal on Aging*, *30*, 479-493. doi:10.1017/S0714980811000237
- 289 Biordi, D. L., & Nicholson, N. R. 2009. Social Isolation. In P. D. Larsen & I. M. Lubkin (Eds.), *Chronic Illness: Impact and Intervention* (7th ed.) (pp. 85-115). Sudbury, MA: Jones and Bartlett.
- 290 Lubben, J., Gironda, M., Sabbath, E., Kong, J., & Johnson, C. (2015, February). Social isolation presents a grand challenge for social work. *Grand Challenges for Social Work Initiative, Working Paper No.* 7. American Academy of Social Work & Social Welfare. Retrieved from http://aaswsw.org/wp-content/uploads/2015/03/Social-Isolation-3.24.15.pdf
- 291 Cornwell, E. Y., & Waite, L. J. (2009). Measuring social isolation among older adults using multiple indicators from the NSHAP study. *Journal of Gerontology: Social Sciences, 64B*(suppl 1), i38–i46. doi:10.1093/geronb/gbp037
- 292 Mendes de Leon, C. F., Glass, T. A., & Berkman, L. F. (2003). Social engagement and disability in a community population of older adults. *American Journal of Epidemiology*, *157*, 633-642.
- 293 Tomaka, J., Thompson, S., Palacios, R. (2006). The relation of social isolation, loneliness, and social support to disease outcomes among the elderly. *Journal of Aging and Health*, *18*, 359-384.
- 294 Holt-Lunstad, J., Smith, T.B., Baker, M., et al. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, *10*, 227-237.

- 295 Cornwell, E. Y., & Waite, L. J. (2009). Social disconnectedness, perceived isolation, and health among older adults. *Journal of Health and Social Behavior*, *50*, 31–48.
- 296 Ibid.
- 297 Holt-Lunstad, J., Smith, T. B., Baker, M., Harris, T., & Stephenson, D. (2015). Loneliness and social isolation as risk factors for mortality: A meta-analytic review. *Perspectives on Psychological Science*, *10*, 227-237.
- 298 AARP Foundation. (2012). Framework for isolation in adults over 50. Retrieved from http://www.aarp.org/content/dam/aarp/aarp\_foundation/2012\_PDFs/AARP-Foundation-Isolation-Framework-Report.pdf
- 299 Scharlach, A., Graham, C., & Lehning, A. (2011). The "Village" model: A consumer-driven approach for aging in place. *The Gerontologist*. 52, 418–427. doi: 10.1093/geront/gnr083
- 300 AARP Foundation. (2012). Framework for isolation in adults over 50. Retrieved from http://www.aarp.org/content/dam/aarp/aarp\_foundation/2012\_PDFs/AARP-Foundation-Isolation-Framework-Report.pdf
- 301 DeLaTorre, A. (2013). Sustainable, affordable housing for older adults: A case study of factors that affect development in Portland, Oregon (Doctoral dissertation). Retrieved from PDXScholar: http://pdxscholar.library.pdx.edu/open\_access\_etds/714 (Paper 714)
- 302 Joint Center for Housing Studies of Harvard University (2014). *Housing America's older adults: Meeting the needs of an aging population.* Joint Center for Housing Studies of Harvard University. Retrieved from http://www.jchs.harvard.edu/sites/jchs.harvard.edu/files/jchs-housing\_americas\_older\_adults\_2014.pdf
- 303 United Nations. (March, 2002). Productive ageing: voluntary action by older people. World Assembly on Aging II. Retrieved from http:// www.globalaging.org/waa2/articles/productiveageing.htm
- 304 Wiles, J., & Jayasinha, R. (2013). Care for place: The contributions older people make to their communities. *Journal of Aging Studies*, 27, 93-101
- 305 United Nations. (2002, March). *Productive ageing: Voluntary action by older people*. World Assembly on Aging II. Retrieved from http://www.globalaging.org/waa2/articles/productiveageing.htm
- 306 Ball, S., Lambert, M., & Lombard, J. (2015, September). *The value proposition of age-friendly communities: Summit report*. Prepared for Grantmakers In Aging. Retrieved from http://www.atlantaregional.com/File Library/Aging/value\_proposition\_summit\_report.pdf