Mitigating Climate Change and the Short and Long term Benefits of Acting Now

Kathy Sykes, Senior Advisor
US EPA Aging Initiative
"Growing Old in a Changing Climate: Exploring the Interface Between Population Aging and Global Warming“
Vancouver, BC, May 25, 2011
Environmental impacts:

Air quality:
- Since 1990, CO2 emissions from cars rose by 23%; 80% for trucks*
- Buildings & transport account for 2/3 of U.S. GHG emissions**

Water quality:
- Dispersed development affects more area and produces almost 50% more stormwater runoff than compact development;

Loss of habitat and critical areas
- Habitat destruction is threatening 80% or more of the species listed under the Endangered Species Act.

*FHWA Highway Statistics Series
**US EPA 2009 Inventory of Greenhouse Gas Emissions and Sinks
We’re consuming land faster than our population is growing.

Source: Data and extrapolations from National Resources Inventory 2001; U.S. Census Bureau 2000.
Some American communities have been growing in size but not in population.

U.S. Census 1950
1,389,582 pop.

U.S. Census 2002
1,393,978 pop.

Source: Cuyahoga Co Land Use Maps – Cuyahoga County, Ohio, Planning Commission
Climate Change Affects Health

- Malnutrition
- Deaths, disease & injury due to heat waves, floods, storms, fires and droughts
- Diarrheal disease
- Cardio-respiratory diseases due to ground-level ozone
- Altered spatial distribution of infectious disease vectors

Source: IPCC Fourth Assessment Report
Extreme Heat Events

More people die each year from extreme heat events than of all other environmental disasters such as hurricanes, tornados, earthquakes combined.

“It’s Too Darn Hot” — Planning for Excessive Heat Events

“Cuando calienta el sol”

Information for Older Adults and Family Caregivers
Who is at Risk from Extreme Heat?

• Older adults and young children are at high risk.

• Living alone or being confined to a bed and unable to care for one’s self increases risk.

• Chronic illness, mental impairment or obesity are also risk factors.
Chronic health conditions among the population age 65 and over, by sex, 2007–2008

NOTE: Data are based on a 2-year average from 2007–2008. See Appendix B for the definition of race and Hispanic origin in the National Health Interview Survey. Reference population: These data refer to the civilian noninstitutionalized population.
SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey.
Living arrangements of the population age 65 and over, by sex and race and Hispanic origin, percent distribution, 2008

NOTE: Living with other relatives indicates no spouse present. Living with nonrelatives indicates no spouse or other relatives present. The term "non-Hispanic white alone" is used to refer to people who reported being white and no other race and who are not Hispanic. The term "black alone" is used to refer to people who reported being black or African American and no other race, and the term "Asian alone" is used to refer to people who reported only Asian as their race. The use of single-race populations in this report does not imply that this is the preferred method of presenting or analyzing data. The U.S. Census Bureau uses a variety of approaches.

Reference population: These data do not include the noninstitutionalized group quarters population.

Indicator 27 – Air Quality

Counties with “poor air quality” for any standard in 2008

NOTE: The term “poor air quality” is defined as air quality concentrations above the level of the National Ambient Air Quality Standards (NAAQS). The term “any standard” refers to any NAAQS for ozone, particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, and lead. Reference population: These data refer to the resident population.

Percentage of people age 65 and over living in counties with "poor air quality," 2000–2008

NOTE: The term “poor air quality” is defined as air quality concentrations above the level of the National Ambient Air Quality Standards (NAAQS). The term “any standard” refers to any NAAQS for ozone, particulate matter, nitrogen dioxide, sulfur dioxide, carbon monoxide, and lead. In 2008, EPA strengthened the national standard for 8-hour ozone to 0.075 ppm and the national standard for lead to 0.15 μg/m3. This figure includes people living in counties that monitored ozone and lead concentrations above the new levels. This results in percentages that are not comparable to previous publications.

Reference population: These data refer to the resident population.

Economic Burden of Chronic Diseases

• Heart disease, stroke & chronic lung diseases are exacerbated by air pollution.

• In 2002, U.S. spent $250 billion on direct medical costs for these conditions and $9 billion on lost productivity.

Source: Morbidity & Mortality: 2002 Chart Book on Cardiovascular Lung & Blood Diseases, NIH,NHLBI, May
Percentage of population age 45 and over who reported engaging in regular leisure time physical activity, by age group, 1997–2008

NOTE: Data are based on 2-year averages. "Regular leisure time physical activity" is defined as "engaging in light-moderate leisure time physical activity for greater than or equal to 30 minutes at a frequency greater than or equal to five times per week, or engaging in vigorous leisure time physical activity for greater than or equal to 20 minutes at a frequency greater than or equal to three times per week."
Reference population: These data refer to the civilian noninstitutionalized population.
SOURCE: Centers for Disease Control and Prevention, National Center for Health Statistics, National Health Interview Survey.
Costs of Inactivity

In 2000, est. cost of inactivity was $77M

• 50% of women age 75+ engage in no physical activity

Source: CDC National Health Interview Survey
Community Design and Health

- Obesity, physical activity, CVD
- Water quantity and quality
- Air pollution and asthma
- Climate change contribution
- Motor vehicle crashes
- Pedestrian injuries
- Mental health impact
- Social capital
- Environmental justice
Sprawling Atlanta and Raleigh, residents spent 30 miles driving each day compared to Boston and Portland where residents drove less than 24 miles per person per day.

**Figure 1-4**

*Average Daily Vehicle Miles Traveled*

- **Ten Most Sprawling Metropolitan Areas**: 27 miles
- **Ten Least Sprawling Metropolitan Areas**: 21 miles

Determinants of Physical Activity

More likely to exercise if:
- Walking trails, parks and gyms accessible
- Sidewalks present and scenery enjoyable
- Many people exercising
- Friends available with whom to exercise

Less likely to exercise if:
- Too little time, Too tired
- Unmotivated
- Perceived traffic, crime or other danger
- Long distance to exercise location

Reduce GHG emissions thru Smart Growth

Compact development and better community planning can help people live within walking or biking distance of some destinations they need to get to every day.
Building Healthy Communities for Active Aging
Smart Growth Can Promote Active Aging

Provide environmental benefits

- Less air pollution
- Less water pollution
- Less sprawl
- Less traffic
- More open spaces
- Reduced GHGs

Promote physical activity

- More options to walk
- More bike lanes
- Better access to parks, trails, recreation
<table>
<thead>
<tr>
<th>62 Supporters</th>
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<tbody>
<tr>
<td>1000 Friends of Florida</td>
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<tr>
<td>AARP</td>
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<tr>
<td>Active for Life</td>
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<tr>
<td>Administration on Aging</td>
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<td>Alliance for Aging Research</td>
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<td>Alliance for Healthy Homes</td>
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<td>America Walks</td>
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<td>American Medical Association</td>
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<tr>
<td>Assoc. of Pedestrians &amp; Bike Professionals</td>
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<td>American Planning Association</td>
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<td>American Public Health Association</td>
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<td>American Society on Aging</td>
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<tr>
<td>Association of Jewish Services</td>
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<td>Atlanta Regional Commission</td>
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<td>B’nai B’rith International</td>
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<td>Catholic Health Association of the US</td>
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<td>Center for Civic Partnerships</td>
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<td>Cleveland Foundation</td>
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<td>Coalition of Wisconsin Aging Groups</td>
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<td>Concrete Change</td>
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<td>Council of State and Territorial Epidemiologists</td>
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<td>Easter Seals Project ACTION</td>
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<td>Elder Care Advocacy of Florida</td>
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<td>Encore Leadership Corps</td>
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<td>Enterprise</td>
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<td>Gerontological Society of America</td>
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<td>Grantmakers in Aging</td>
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<td>Gray is Green</td>
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<td>Gray Panthers</td>
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<td>Greater Boston PSR</td>
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<td>Healthy Aging Research Network</td>
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<tr>
<td>Institute for Geriatric Social Work</td>
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<td>International City/County Management Association</td>
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<td>International Council on Active Aging</td>
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<tr>
<td>Local Government Commission</td>
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<td>Milton H. Erickson Foundation, Inc.</td>
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<td>Mobility Education</td>
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<td>National Asian Pacific Center on Aging</td>
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<td>National Assoc of Regional Councils</td>
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<td>National Association of Area Agencies on Aging</td>
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<td>National Blueprint Initiative</td>
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<td>National Caucus and Center on Black Aged</td>
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<td>National Center on Senior Transportation</td>
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<td>National Council on Aging</td>
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<td>National Indian Council on Aging</td>
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<td>National Recreation and Park Association</td>
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<td>National Senior Citizen's Law Center</td>
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<td>New York Academy of Medicine</td>
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<td>Older Women’s League</td>
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<td>Partners for Livable Communities</td>
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<td>Pedestrians Educating Drivers on Safety</td>
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<td>Philadelphia Corporation for the Aging</td>
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<td>Portland State University Institute on Aging</td>
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<td>Project for Public Spaces</td>
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<td>Rails-to-Trails Conservancy</td>
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<td>Science and Environmental Health Network</td>
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<td>Society for Human Ecology</td>
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<td>UMaine Center on Aging</td>
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<td>Walkable and Livable Communities</td>
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<td>Weinberg Foundation</td>
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<td>WellMed Charitable Foundation</td>
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Building Healthy Communities for Active Aging
19 Awards (2007-2010)

Key: Green: Achievement Award
Yellow: Commitment Award
Blue: (Received both)
Award Winners 2007-2010
Creating Healthy Communities for Active Aging
Age-friendly Philadelphia is using the EPA Model

Inspire organizations city-wide to create new collaborations around aging issues – such as:

- The Age-friendly Parks Checklist
- Age-friendly Bus Stops
- Incorporating Aging into Zoning
- Walkablity – WISH Grant (NIH)
- Promoting community gardens and seniors centers/housing
- Emerging Leaders – www.genphilly.org
- Award winning – N4A & U.S.EPA
Think 3 D’s

1. Distance – subdivision codes
2. Destinations – land use and zoning
3. Design – development codes & design guidelines
Design Matters: Hillsdale Road

- The main link between people and services
- No pedestrian design
- Auto-Oriented Retail
- Taking a Break in the Hot Sun
- Nice ADA compliant curb cuts
- Para-transit needed
Design Matters: Mixed-Use Senior Center

- Nationally Accredited
- Bigger—Parking—Picture
- Not Enough
- Transit/Ped. Accessible
- Message: No Pedestrians wanted
Guide to Smart Growth & Active Aging

Model

- Staying Active, Connected and Engaged
- Development and Housing
- Transportation and Mobility
- Staying Healthy
Staying Active, Connected and Engaged

• Manoa, HI -- new senior housing added to a community park.
  – On a bus line, short ride to University of Hawaii, $30/annual senior pass, short walk to neighborhood stores, lunch stands, churches, coffee houses and sport fields. Near elementary school.

  – Staying Engaged and learning: Co-locate senior centers neat schools, libraries, daycare centers
Development and Housing

• Healthy Neighborhoods Offer Diverse Housing, gathering Places, Opportunities to Connect

• Eyes on the Street make us safer—Norfolk, VA significant drop in crime when smart growth neighborhoods are redeveloped

• Accessory Dwelling Units (ADUs) granny flats Santa Cruz, CA
Transportation and Mobility

• Widening sidewalks, installing curb ramps, and curb extensions reduce crossing distance and slow traffic
  – (traffic calming, road diets)

• 19,000 older residents move safer with Complete Streets ordinance. Pedflag program at more than 60 crosswalks. Flashing crosswalk program, flashing lights in pavement of 30 busier intersections. Kirkland, WA
Mobility and Sensory Changes
Walkable Communities

• Vision – Lighting and Sign Size
• Hearing
• Gait and speed
• Steps, curbs, uneven surfaces
• Rest breaks
• Perceived Safety
• Technology assisted -- Wheel chair or cane
• Ask an Elder
Traffic Injuries and Fatalities

• In 2005,

• 12% of the US population were people age 65 and older

• Represented 15% of all traffic fatalities and

• 20% of all pedestrian fatalities.

Source: NHSTA
Can your community pass the Beatles Test?
The Zimmers “My Generation”
Would the Zimmers feel comfortable crossing here?
Would the Zimmers feel safe crossing here?
Staying Healthy

- Mather Lifeway Café
  Chicago Area
  - A small storefront in a walkable neighborhood
  - A café draws you in
  - Services keep you there
Intergovernmental Panel on Climate Change Working Group II: Climate Change Impacts, Adaptation and Vulnerability (2007)
http://www.ipcc-wg2.org/index.html

http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=197244

Growing Cooler: The Evidence on Urban Development & Climate Change (2009)

Environmental Threats to Healthy Aging (2008); GBPSR www.agehealthy.org
9 Fact Sheets Targeted to Caregivers and Elders
17 Languages and English

• Age Healthier, Breathe Easier
• Effective Control of Household Pests
• It’s Too Darn Hot--Planning for Excessive Heat Events
• Environmental Hazards Weigh Heavy on the Heart
• Diabetes and Environmental Hazards
• Water Works
• Womens’ Environmental Health
• Preventing Carbon Monoxide Poisoning
• Health Effects of UV Radiation

Translations 17 Languages: Arabic, Armenian, Chinese (Traditional and Simplified), French, Haitian Creole, Hindi, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish, Thai, Tagalog, & Vietnamese

Purple Series: For those at the 5th grade reading level
U. S. EPA Aging Initiative
www.epa.gov/aging

Building Healthy Communities for Active Aging
www.epa.gov/aging/bhc/awards/

Kathy Sykes (202) 564-3651
sykes.kathy@epa.gov
Chinese Proverb

“If we do not change our direction, we are likely to end up where we are headed.”
Commitment Award Winners

Philadelphia Corporation on Aging, PA (2010)
Fairfax Co. VA (2010)
Half Moon Bay, San Mateo Co, CA (2009)
Gaithersburg, MD (2009)
City of Satellite Beach, FL (2008)
City of Iowa City, IA (2008)
City of Casper, WY (2008)
Queen Anne’s Co. Housing Authority, MD (2007)
Town of Scarborough, ME (2007)
Carver County, MN (2007)
Brazos COG, TX (2007)
City of Rogers, AR (2007)
Achievement Award Winners

Brazos COG (2010)
City of Charlotte, NC (2010)

Town of Cary, NC (2009)

Portland Parks & Transportation, OR (2008)

Kirkland, WA (2007)
Atlanta Regional Commission, GA (2007)