Healthy Community Design

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Healthy Community Design

• Arrangements of the built environment—streets, trees, park space, buildings, etc—to encourage physical activity, increase access to healthful foods, insure safety—from crime and injury, and support building community and connecting people.
Physical Inactivity Burden

The Problem
- 70% do not achieve recommended dose of PA

Public Health Burden
- 64% overweight and 1 in 3 obese
- CVD, Cancer, Diabetes
- Physical inactivity is a primary factor in over 200,000 deaths annually

Economic Burden
- Medical costs associated with physical inactivity may exceed $76 billion annually

Poor Diet and Inactivity Results

Obesity Trends Among U.S. Adults, BRFSS

Source: Behavioral Risk Factor Surveillance System, CDC.
Social Capital Challenge

“We are less trusting, less civic-minded, and less participatory in the affairs of public life….

Suburban sprawl is a significant contributor…

Why?

“Individual behavior change can occur only in a supportive environment with accessible and affordable healthy food choices and opportunities for regular physical activity.”

(Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity, 2001)
Sustaining Change

• Behavior change can produce short-term gains
• Checkmark problem
• Population level change
Societal policies and processes influencing the population prevalence of obesity

New research abounds
Designing for Active Recreation

• People get more physical activity if their neighborhoods provide a high-quality environment for outdoor activity.
Access to facilities

• Creating and improving places to be active can result in a **25 percent** increase in the portion of people exercising 3 times a week.
  

• The closer people lived to a bikeway, the more likely they were to use it.
  
  Troped, P.J. *Preventive Medicine* 2001
Access to facilities helps people get enough activity.

Residents meeting recommended activity levels:

- Safe place to walk within ten minutes of home: 43%
- No safe place to walk: 27%

Powell, K.E. Am J. of Public Health 2003
Access to facilities helps people get enough activity.

Percent residents getting 30 min. activity a day

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Older women take more steps daily if more places are near home

King, W., Am. J. of Public Health 2003
Designing for Active Transportation

• Proximity: Are there places nearby to walk to?
• Connectivity: Are there safe and direct ways to make the trip?
Proximity

People are more likely to commute to work on foot or via bicycle if they:

• live in a city center;
• live close to a non-residential building;
• live very close to a grocery or drug store; and
• have good access to public transportation.

Cervero, R. *Transportation Research Record* 2001
Connectivity
A grid-like street network creates more direct routes & makes it easier to walk.

Illustration: Frank, LD “Health & Community Design”

Greenwald, M.J. Transportation Research Record 2001
Walkable neighborhoods encourage trips by bike & foot

People in traditional neighborhoods are more likely to walk to nearby shops.

Handy, S.L. Transportation Research Record 1996
Active Living: more than self-selection

- People shifted some trips to transit, bicycling, and walking when they moved into more walkable neighborhoods.

- One-third of residents in sprawling parts of Atlanta would prefer to live in a more walkable neighborhood.

Krizek, K.J. *Transportation Research Record* 2000

Frank, L.D. [www.smartraq.net](http://www.smartraq.net) 2003
Walkable neighborhoods have a positive impact on health

- People who live in neighborhoods with a mix of shops and businesses within easy walking distance have a 35% lower risk of obesity.

Frank, L.D., Am. J. Preventive Medicine, 2004
Walkable neighborhoods have a positive impact on health

On average, walkable neighborhoods encourage 15-30 extra minutes of walking per week... enough to lose a pound a year.

Saelens, B.E. Annals of Behavioral Medicine 2003
Active Living has a positive impact on health

Middle-aged men who biked or walked to work weighed less and gained weight more slowly, whether or not they engaged in other exercise.

People living in sprawling counties:

- Walk less in their leisure time
- Have higher body mass indexes
- Are more likely to be obese
- Are more likely to have high blood pressure.

Ewing, R. *Am. J. of Health Promotion* 2003

Photo: Congress for the New Urbanism
People living in sprawling counties:

... are more likely to suffer from chronic conditions

Sturm, R. *Public Health*, 2004
Community-scale urban design and land use policies and practices

- Defined as: Urban design and land use policies and practices that support physical activity in geographic areas, generally several square kilometers in area or more.
- Examples of interventions include
  - Infrastructure projects to improve continuity and connectivity of streets, sidewalks, and bike lanes
  - Local zoning regulations and roadway design standards that promote destination walking and co-location of residential, commercial, and school properties
Community Developments

- Suburban development, many cul-de-sacs
- Well-connected urban development with mixed land uses
Community Guide Recommendation: Community-scale urban design and land use policies

• The Task Force recommends community-scale urban design and land use policies and practices to promote physical activity based on sufficient evidence of effectiveness.

• Evidence was considered sufficient based on:
  – Sufficient effect size
  – Consistency of results: ↑ levels of PA associated with improved continuity and connectivity of streets and sidewalks; ↑ levels of PA associated with local mixed-use zoning and roadway design that promotes destination walking

• Other supporting evidence
  – Dose-response across levels of exposure
  – Face validity
  – Other potential benefits include ↑: air quality, social capital, consumer choice, and green space
Street-scale urban design and land use policies and practices

- Defined as: Urban design and land use policies that support physical activity in small geographic areas, generally limited to a few blocks.

- Intervention Characteristics: policy instruments and practices such as:
  - Implementation of improved street lighting
  - Infrastructure projects to:
    - Increase ease and safety of street crossing
    - Ensure sidewalk continuity
    - Introduce or enhance traffic calming
    - Enhance aesthetics of the streetscape
Community Guide
recommendation:
Street-scale urban design

• The Task Force recommends use of street-scale urban design to increase physical activity based on sufficient evidence of effectiveness.

• Evidence was considered sufficient to make a recommendation based on sufficient effect size and consistency of results.

• Other supporting evidence
  – Face validity
  – Other potential benefits such as: ↑ social capital, ↓ stress, ↑ green space, and ↓ crime
Designing to Reduce Childhood Obesity

• More access to healthy foods
• Safe places to walk and play
• Reduced screen time
Environmental change to improve youth nutrition

• Up to 85 percent of school vending machine choices are of poor nutritional quality.
• A 50-percent price reduction for low-fat foods in vending machines increased sales by 93 percent.

Ctr. Science in Public Int., 2004
Environmental change to improve youth nutrition

- Promoting and increasing the availability of lower-fat foods in secondary school cafeterias increased sales of low-fat foods by 34 percent.

French, S.A. Am. J. of Public Health, 2004
Environmental change to improve youth nutrition

- Lowering fat and salt content in boarding school menus led to lower blood pressure and cholesterol among the high school students.

Environmental change to increase youth physical activity

• Distance, traffic and crime are all barriers to children walking to school.

• More children walk to school where there are sidewalks.

Koplan, J.P., CDC 2004
Ewing, R. Transportation Research Record 2005
Creating activity-friendly environments at school

• A CDC review found that longer, more vigorous PE classes consistently improve students’ physical fitness.

CDC, Guide to Comm. Preventive Services, 2005
Improving safety increases youth activity

- Children were physically active for an extra 49 minutes in safer neighborhoods.
- Children were half as likely to be injured by a car if they lived within a block of a speed hump.

Changing the environment to reduce screen time

Body Mass Index dropped for 3rd, 4th graders who reduced TV time

Robinson, JAMA, 1999
Grocery Store Locations
Research results

- More supermarkets more fruits and vegetable consumption
- Wealthier neighborhoods have 3 to 4 times as many full service supermarkets
- Live in lower income neighborhood consume fewer fruits, vegetables & fish
- More fast foot outlets in low income neighborhoods
Definition of Health Impact Assessment

• Collection of procedures and tools by which projects, policies, and programs can be evaluated based on their potential effects on the health of a population, and the distribution of those effects within the population
Value of Health Impact Assessment

• Focuses attention of decision-makers, who typically do not have a health background, on the health consequences of projects and policies that they are considering.

• Ideally an HIA will lead to a better informed decision.
A Vision of Health Impact Assessment

- Community planners and zoning boards will request information on potential health consequences of projects and policies as part of their decision-making process.

- Local health officers will have a tool to facilitate their involvement in community planning and land use decisions that impact health.
Steps in Conducting a Health Impact Assessment

- **Screening**
  - Identify projects or policies for which an HIA would be useful

- **Scoping**
  - Identify which health impacts should be included

- **Risk assessment**
  - Identify how many and which people may be affected
  - Assess how they may be affected

- **Reporting of results to decision-makers**
  - Create report suitable in length and depth for audience

- **Evaluation** of impact of HIA on actual decision process
Scoping: Health Impacts to Consider in an HIA

- Physical activity, obesity, cardiovascular disease
- Air quality, asthma, other respiratory diseases
- Water quality, waterborne diseases
- Food quality, foodborne diseases, nutrition
- Motor vehicle, pedestrian and other injuries
- Accessibility for persons with disabilities
- Noise
- Mental health
- Social capital, community severance
- Access to jobs, stores, schools, recreation
- Social equity, environmental justice
Community design and land use choices can either promote or harm human health

www.hiagateway.org.uk
www.cdc.gov/healthyplaces
www.activelivingleadership.org

www.activelivingresearch.org

www.activelivingbydesign.org

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