

"Age-Friendly Safety and Welfare in Transportation"

Impacts of urban planning & transportation on healthy ageing

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Outline

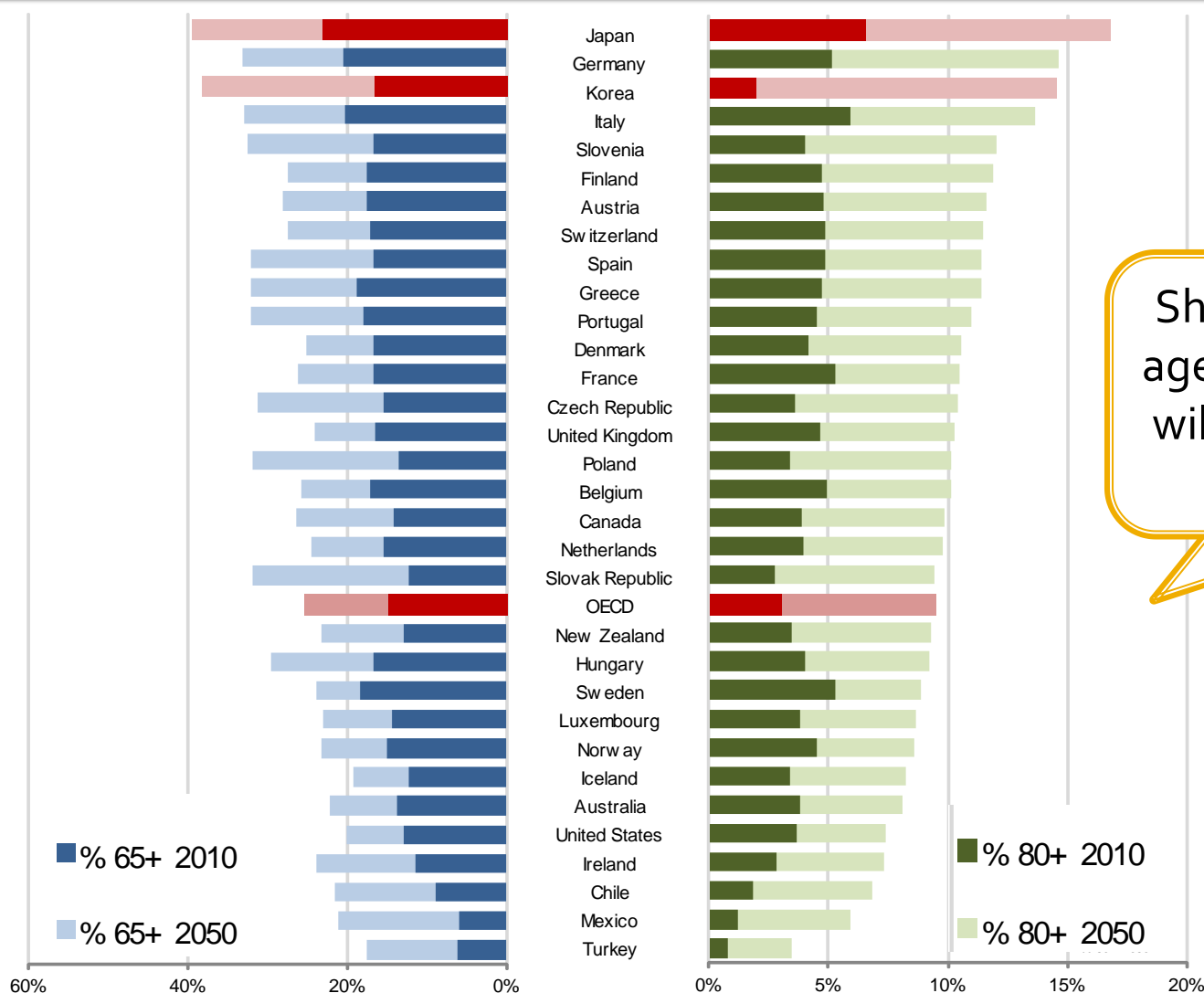
1. Ageing & health promotion
2. The built environment & health
3. Needs of elderly people

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Ageing & Health Promotion



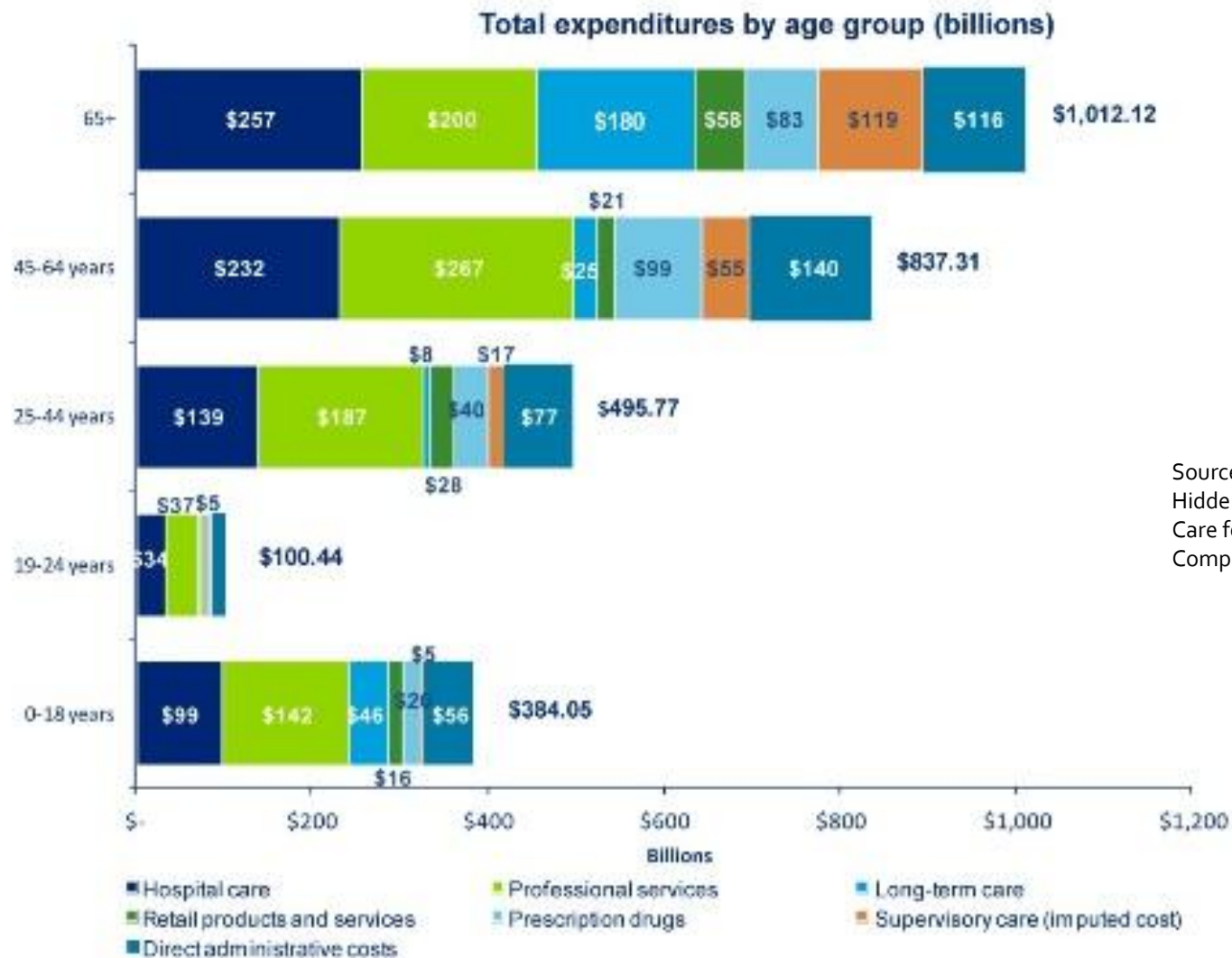
Population Ageing (2010-2050)



Shares of the population aged over 65 and 80 years will increase significantly by 2050

Source: OECD Labour Force and Demographic Database, 2010.

Ageing & Healthcare Costs

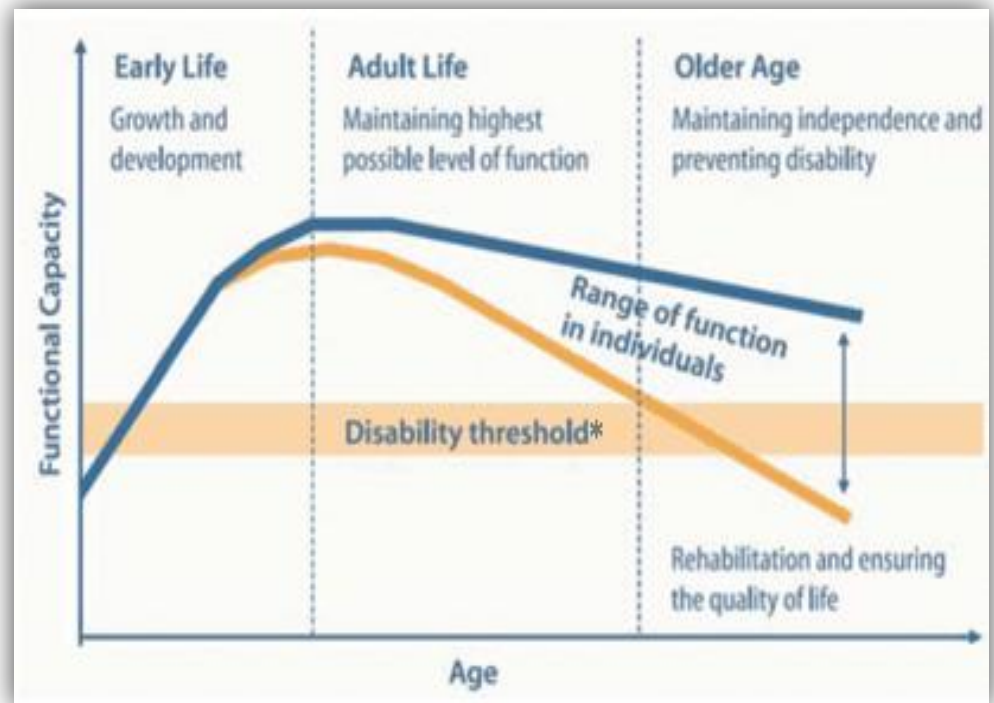


Source: Deloitte (2009), The Hidden Costs of U.S. Health Care for Consumers: A Comprehensive Analysis

Healthy Ageing

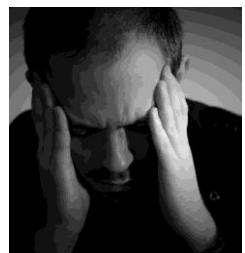
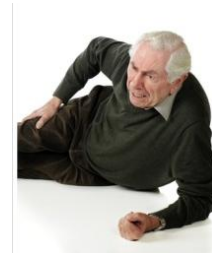
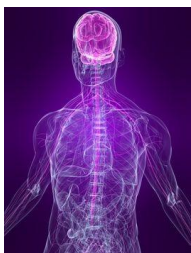
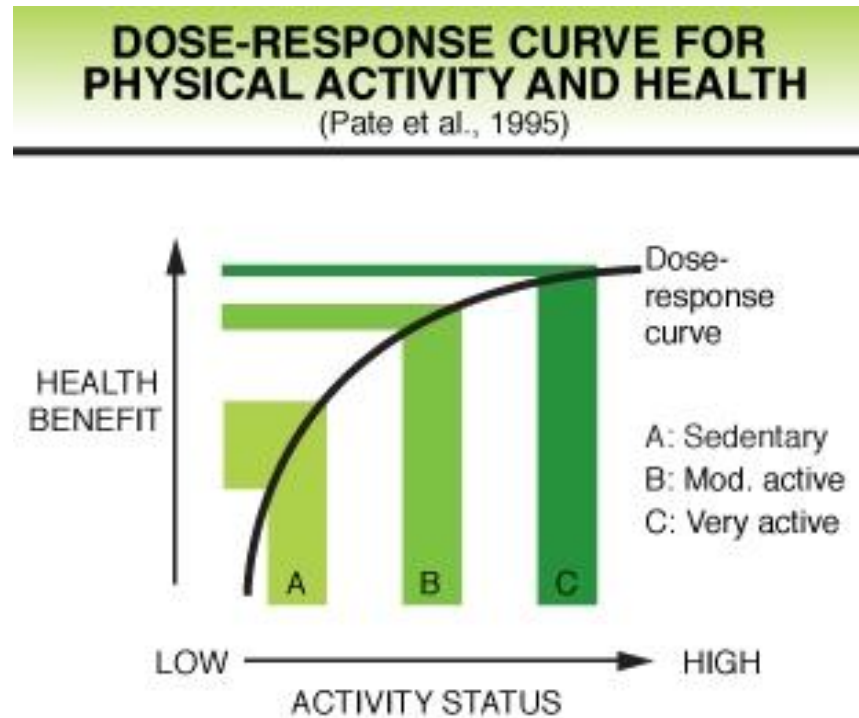
- As people age, they become more susceptible to disease and disability. **But** much can be prevented, delayed or treated by adopting healthier lifestyles

- Healthy Ageing
 - Extend healthy life years
 - Live independently
 - Reduce risk of falling
- Lifestyle behaviors
 - Nutrition
 - Substance use/misuse
 - Physical activity



Promotion of Physical Activity

- Lower risk of
 - Early death
 - Heart disease
 - Stroke
 - High blood pressure
 - Diabetes
 - Colon & breast cancer
- Prevent obesity
- Reduce risk of falls
- Reduce depression



Physical Activity Guidelines

Source: American College of Sports Medicine
& American Heart Association (2007)

■ Minimum recommendations (elderly)

■ **5x per week 30 min. moderate-intensity physical activity**

- noticeably accelerated heart rate (5 or 6 on a scale 0-10)
- e.g., brisk walking



OR

■ **3x per week 20 min. vigorous-intensity physical activity**

- rapid breathing and substantial increase in heart rate (7 or 8)
- e.g., jogging



PLUS

- exercise for muscular strengthening, flexibility, balance & coordination, and cognitive tasks

Promotion of Walking

- Natural activity
- Outdoors



Walking for transportation



Walking for recreation

Values of Walking vs. Driving

Health
benefits



Reduced
congestion

Low
environmental
impact

Social
interaction

Recreational
value

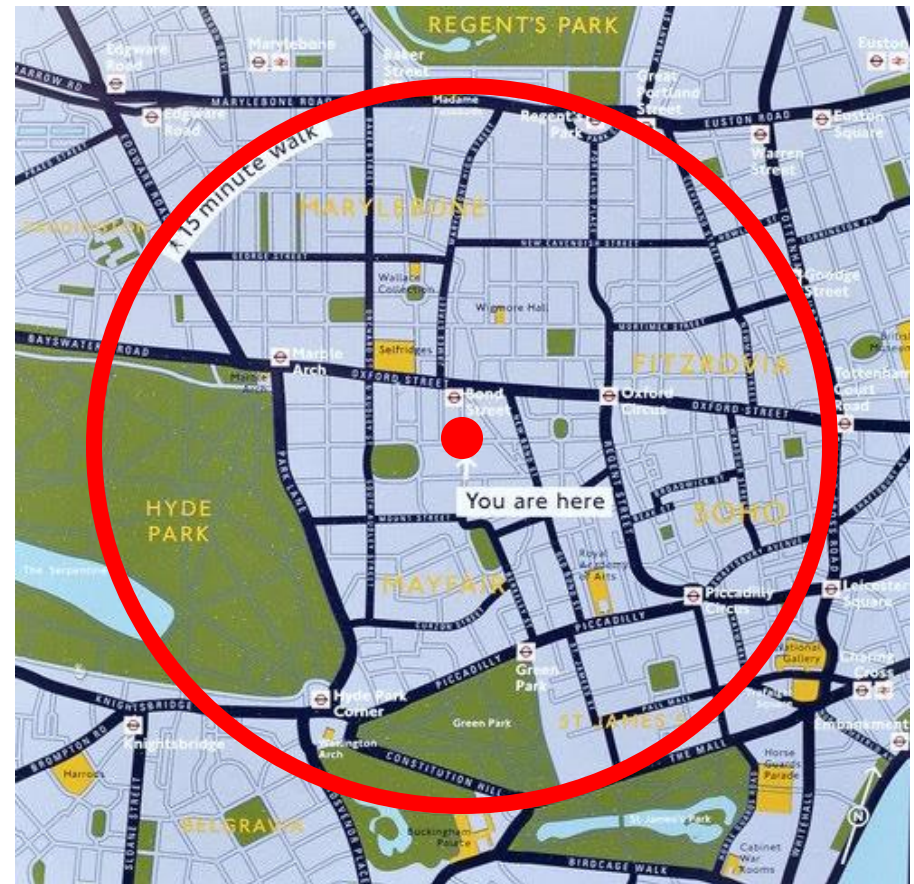
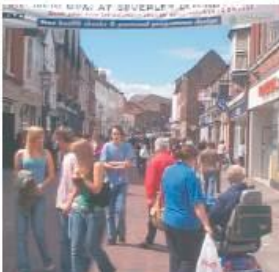
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The Built Environment & Health



Focus of Research

- “The neighborhood”
 - People’s homes
 - Social community



Measurement

Walkability

- Measure of the walking-friendliness of an area
- Safety, comfort and convenience

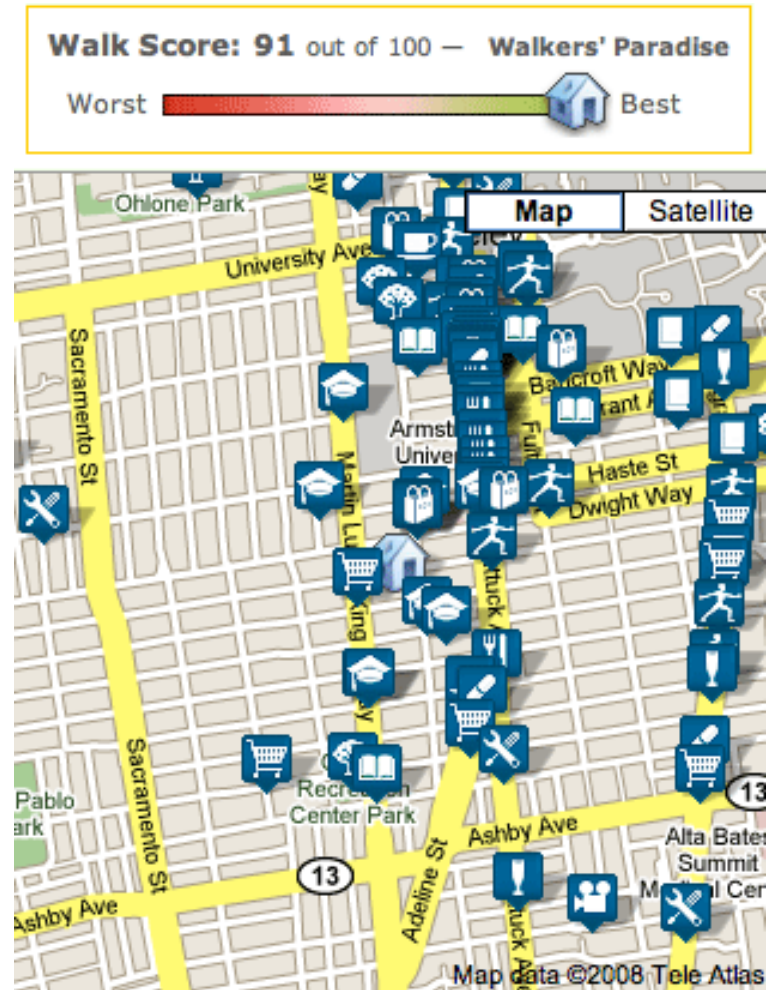
Levels of Physical Activity

- Sufficient
- Insufficient
- Sedentary (inactive)

FINDING 1

Mixed Land-Use

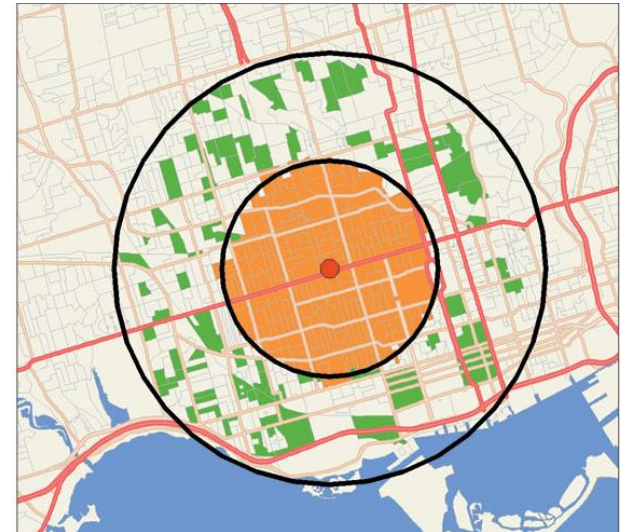
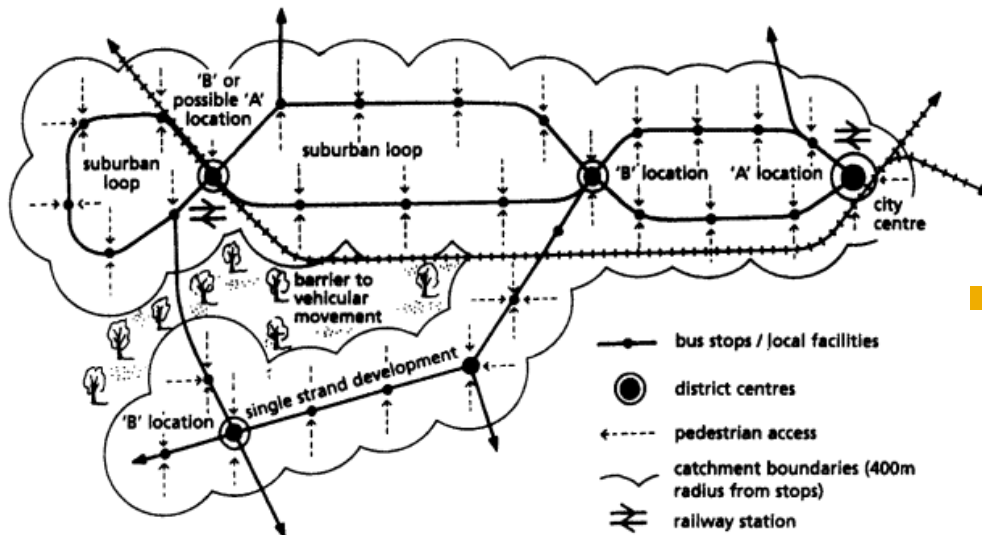
- People need **destinations** within a walkable distance from their homes
- Diversity of destinations
 - Shops
 - Services
 - Parks & open public spaces
 - Public transport stops
 - Schools & workplaces



FINDING 2

Residential Density

- Local businesses need enough potential customers in their “trade area”

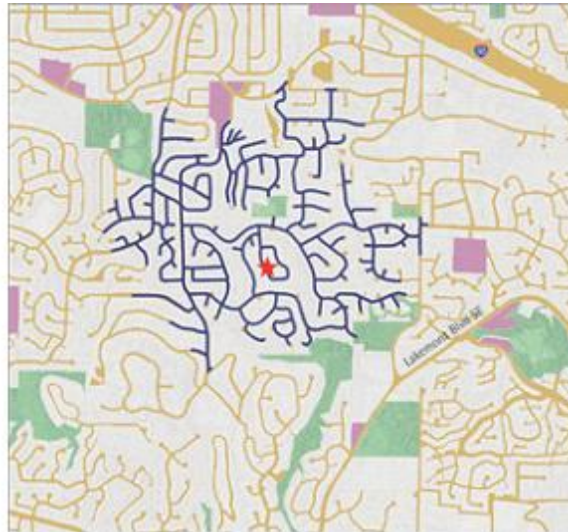


- Higher densities allow better public transport service

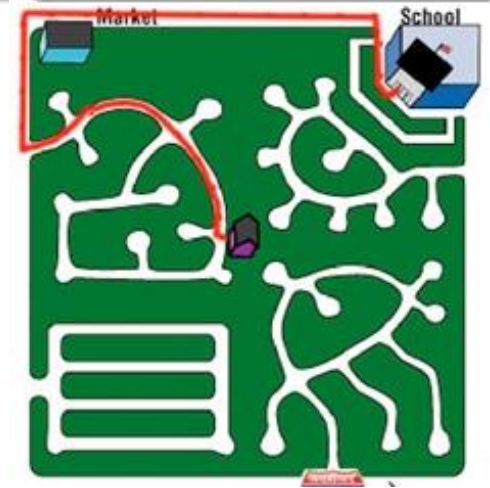
FINDING 3

Street Connectivity

- Directness of travel
- Route options
- Linkage with public transport
- Safe crossings at intersections



Places to be reached within 15 minute walking



Distance home – school



FINDING 4

Walking Infrastructure

- Availability
- Comfort
- Safety
- Attractiveness



FINDING 5

Urban Green Space

- Health benefits
 - Stress relief by exposure to nature
 - Opportunities for physical activity and social interaction



FINDING 6

Safe & Clean Environment

- Perceived safety
 - Social safety
 - Traffic safety
- Cleanliness



IN SUM

The Built Environment...

- Influences choice behavior

- Transportation
- Leisure activities



- Needs to provide opportunities to be active

- Meaningful nearby destinations
- Attractive routes (safe, comfortable & clean)
- Access to well-serviced public transport

3

Needs of Elderly People



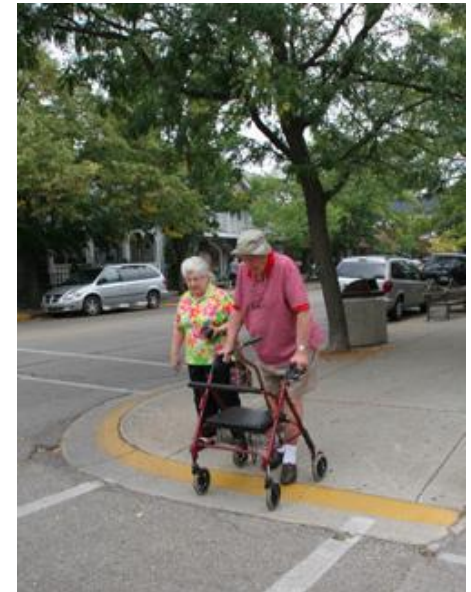
Elderly People in Traffic

- Age-related factors
 - Decline in vision acuity
 - Slower reaction time
 - Slower walking speed
 - Fear of falling
 - More vulnerable in crashes
- Unsupportive environments
 - Hamper independent living (ageing-in-place)
 - Increase risk of social isolation



Perceived Barriers to Walking

- Walking distance to destinations
- Physical strain of walking
- Poor sidewalk conditions
- Lack of resting places along routes
- Dangerous intersections (crossings)



Streetscape Improvement

- Priorities
 - Improve conditions for walking (+cycling + public transport)
 - Create 'quality places' that are inviting and safe
- Elements
 - Road cross-sections
 - Traffic management
 - Sidewalk conditions
 - Landscaping
 - Street furniture
 - Building fronts



Safer Environments

- Sidewalks & footpaths
 - Quality & maintenance of pavement
 - Surveillance ('eyes on the street')
- Crosswalks
 - Shorter crossing distances
 - Longer pedestrian intervals
- Law enforcement
 - No parking on sidewalks
 - No parking around crosswalks



Closing Notes

- It is not **age** *alone* but also a person's **health status** that affects transportation mode use, transportation problems, or personal mobility
- Environments that enable **elderly people** to stay more active and healthy can contribute to better health of the **whole population**

Thank you
감사합니다

