

Designing and Planning for Green Space as a Health-Promoting Environment

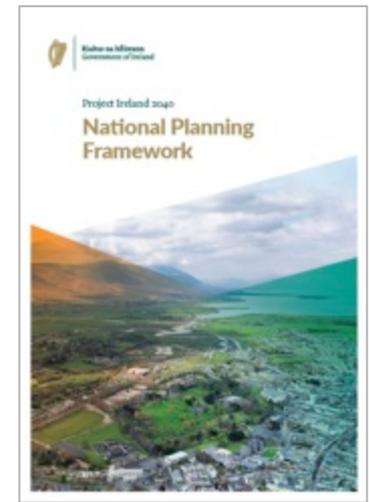
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How can we enhance peoples' use of outdoor public space (green space) for health & wellbeing?

SUSTAINABLE DEVELOPMENT GOALS



POLICY RECOGNITION:

- From global to national and local levels increased recognition given to the potential of green space for enhancing health and wellbeing
- Social and environmental determinants for health
- Health-in-All-Policies approach
- Green spaces as essential urban infrastructure

Potential green space health benefits

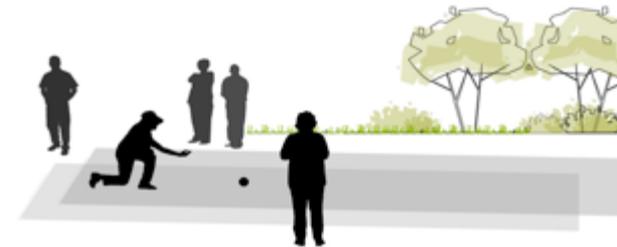
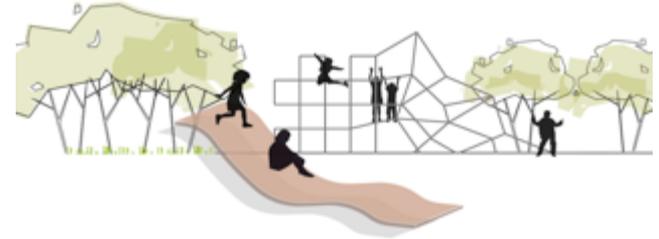
Promotes physical activity: creating spaces for play, recreation, walking and cycling within a safe environment

Enhances mental wellbeing: creating urban refuges and providing a restorative environment through increased contact with nature

Enhances social interaction: providing opportunities for social contact and community building activities

Reduces environmental risks from pollution: mitigating air and noise pollution

Mitigates environmental risks from extreme weather: e.g. urban flooding or heat-island effects



Planning and green space

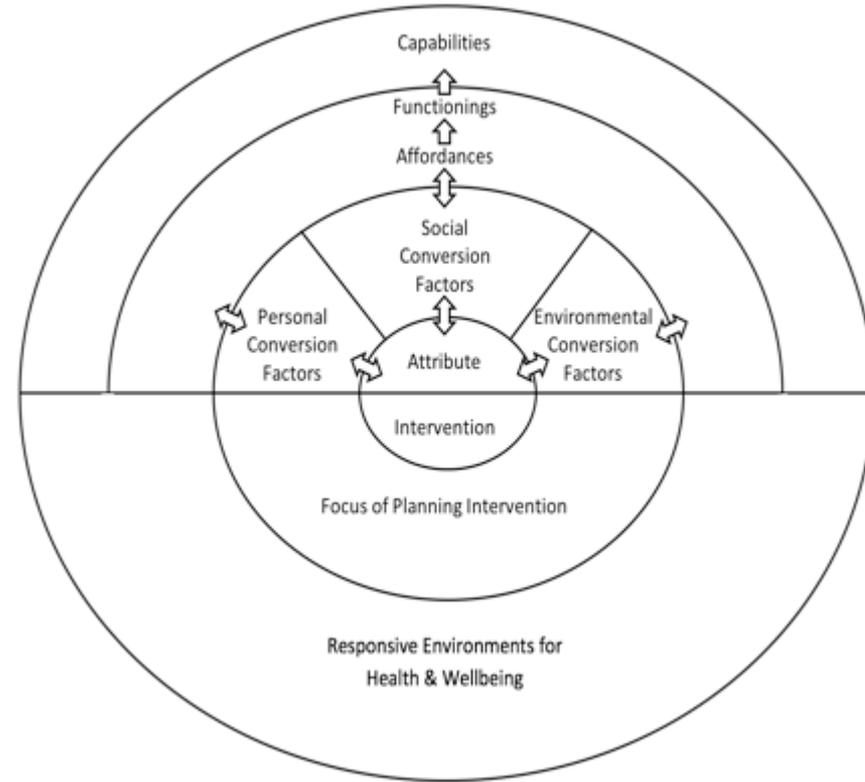
Planning approaches are often focused on **quantum** of green space provision and **accessibility**

BUT ----

- Quality versus quantity
- Diverse users and environmental contexts
- What green space attributes promote health?



Research Framework



Conversion Factors



'Personal'
conversion
factors



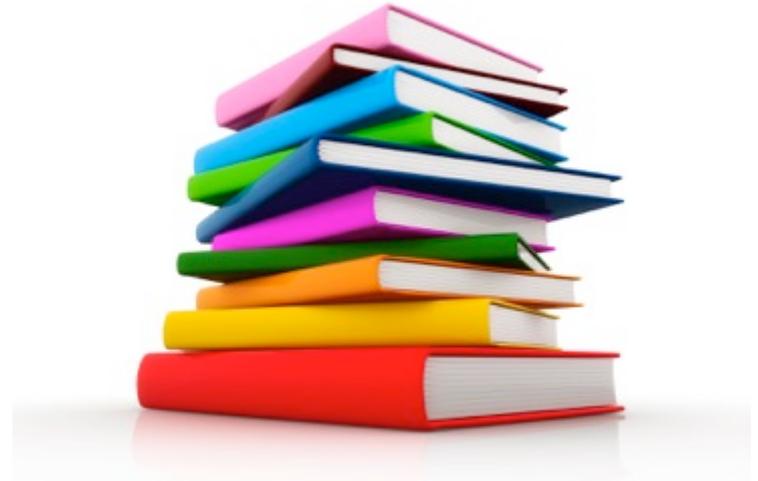
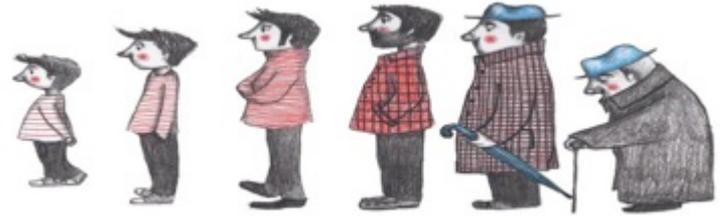
'Social'
conversion
factors



'Environmental'
conversion
factors

Reviewing the evidence base: a lifecourse perspective

- Prenatal
- Childhood
- Adolescence
- Adulthood
- Later Life





- Prenatal
- Childhood
- Adolescence
- Adulthood
- Later Life

Table 3 Issues and Interventions in planning and designing green spaces for health and well-being in adolescence		
Issues	References	Interventions
High quality neighbourhood green spaces are highly valued by teenagers. The higher the amount and the closer the distance, the more the park is used with positive effects on physical activity and social development.	(Gardsjord et al., 2014)	To encourage increased use, accessible green spaces should be provided as multi-use areas open for a range of different activities. Abundant paths for walking and bicycling that connect various activity zones and create opportunities for exercise should be provided. Drinking water sources, proximate to both facilities for movement and zones for relaxation/social engagement should be provided.
Informal and formal green spaces are used by adolescents for different purposes.	(Chawla, 2002, Chawla, 2015, Gardsjord et al., 2014)	Provide informal green spaces (i.e. wildflower meadows, scrub and untended vegetated areas) for exploring, creative play, hideaways and as important zones of shelter and relaxation for teenagers. Provide more organised spaces with pathways, seated and sheltered areas for socialising. Provide sports facilities and other facilities for movement/physical activity (e.g. fields for different ball games and gymnastic bars). These zones should also include seating possibilities.
Competitive sport facilities sometimes only attract certain groups of participants, mainly dominated by boys.	(Cohen et al., 2006, Limstrand and Rehrer, 2008)	While competitive sports facilities should be provided where possible, facilities such as walkways and paths should also be provided. Safe paths lined with carefully selected planting both leading to and within parks are potentially important for the enhancement of physical activity for adolescents of both genders through offering spaces for incidental exercise and interaction both by and between genders.
Attractive and safe green spaces are highly valued by adolescents and their parents. Furthermore, girls have been found to be more concerned with safety aspects than boys.	(Derr et al., 2013, Malone, 2013, Gardsjord et al., 2014, Loukaitou-Sideris and Sideris, 2009, Woodgate and Skarlato, 2015, Kruger and Chawla, 2002)	In general, a well-maintained park is likely to feel safer. As such, good maintenance and renovation regimes should be implemented. Paths should be kept clear and well-lit with passive and active surveillance encouraged to enable use outside daylight hours. While 'informal' areas should be natural looking, they should be overlooked to improve safety.



Table 6
An integrated green space framework for health and well-being

		Cohort cross-cutting				Universally cross-cutting
		Provide formal facilities for vigorous activity, such as sports courts, all-weather pitches, outdoor gymnasiums and skate parks.	Provide facilities for less vigorous physical activity that encourages social interaction and/or engagement with nature (e.g. bowling greens, sheltered outdoor class spaces, chess tables, allotments, fragrant and colourful flowerbeds).	Provide informal green spaces for exploration and adventure (e.g. wildflower meadows, scrub and untended vegetated areas, untended woodland areas).	Incorporate opportunities for incidental and leisurely engagement with the environment into the design of green spaces (e.g. areas for berry picking, fragrant and edible flowerbeds).	Provide frequent sheltered seating areas, drinking water sources and toilets.
Interventions ▶						<p>Planning Maximise streetscape greenness and green space provision in the urban residential environment (exposure, proximity and accessibility).</p> <p>Engage all users in park planning, with a special focus on minority groups and those in lower socio-economic classes, ensuring equal representation from each cohort to identify barriers and opportunities for green space usage.</p> <p>Design Provide an array of walking paths of different lengths that offer opportunities to traverse a variety of different environments, and incorporate hills and plains to facilitate varying degrees of challenge.</p> <p>Management Institutionalise good maintenance and renovation regimes. Paths should be kept clear and well-lit with passive and active surveillance encouraged to enable use outside daylight hours. While ‘informal’ areas should be natural looking, they should be overlooked to improve safety.</p>
Cohorts ▼						
Life-Course Stage	Prenatal				✓	✓
	Childhood	✓		✓	✓	
	Adolescence	✓		✓		
	Adulthood	✓	✓			
	Later Life		✓		✓	✓

Documentary: (1) Life-course analysis of literature, (2) Analysis of policy drivers

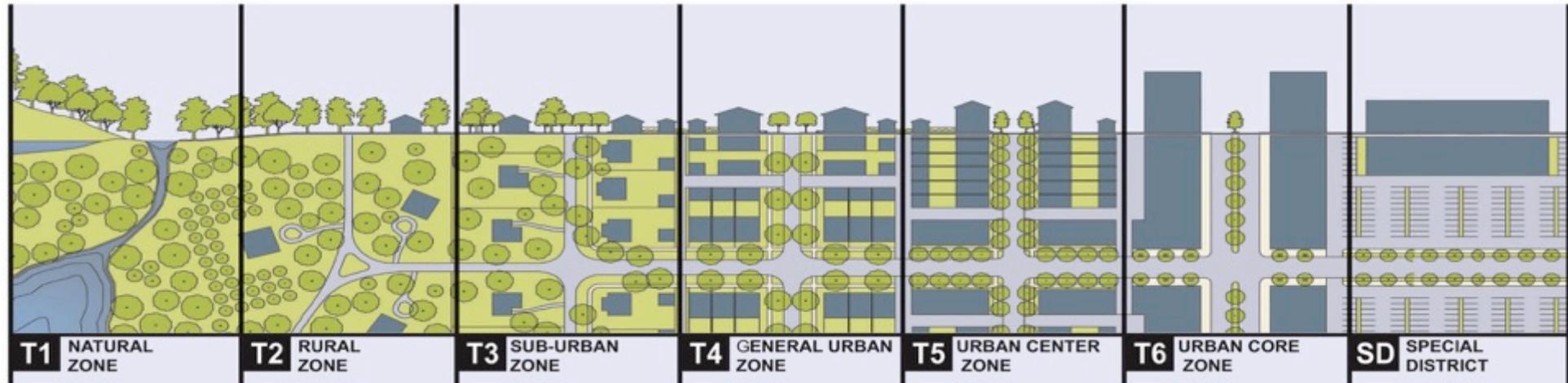
Qualitative: in-depth interviews with key informants

Quantitative: (1) household survey, (2) choice experiments

Participatory: design workshops with local citizens

E@SMILE HEALTH

Research approach and data collection



Rural - Offaly



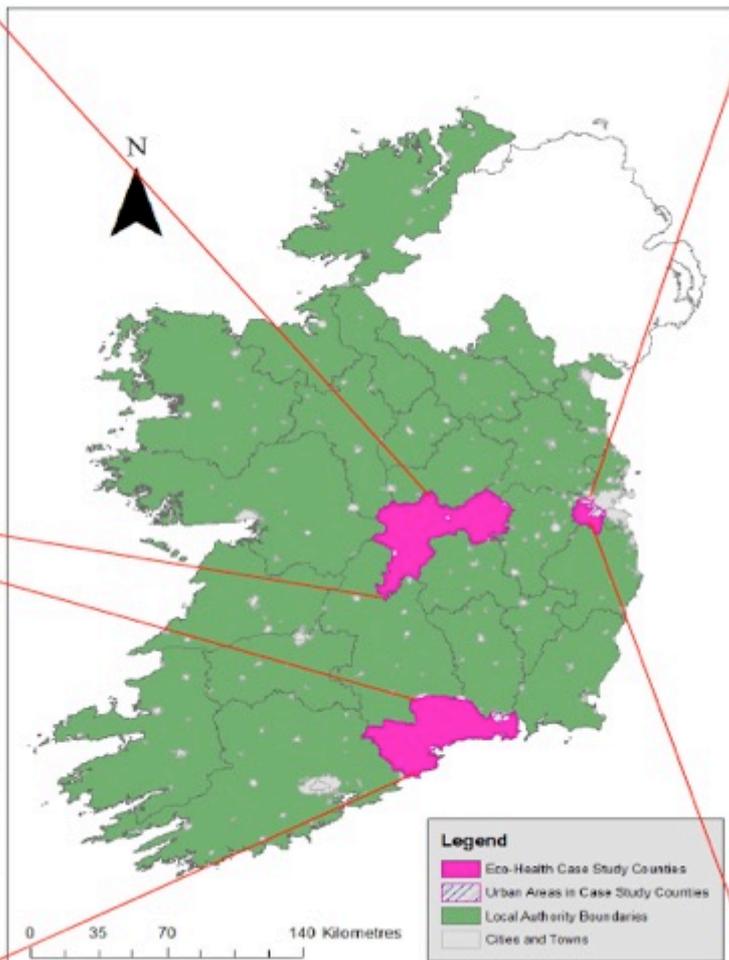
• Satellite Towns and Rural Villages



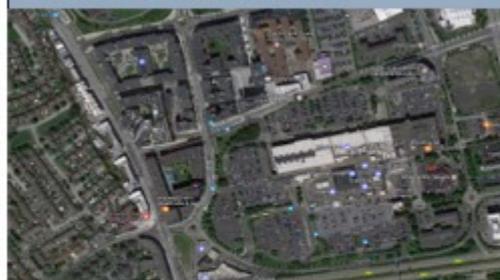
Peri-Urban - Waterford



• Regional City and Coastal Tourism



Urban - South Dublin



• High density residential and commercial development



• Low-density suburbs



Household survey and Choice Experiments

- 530 household surveys across the 3 case study environments: examining how people used green space, what types, motivations/activities, barriers and attribute preference
- Choice experiment survey (Waterford and Offaly only) N=210

Choice 1		GREEN SPACE A	GREEN SPACE B
Landscape		Mostly mown grass	Mown grass, meadows and woods
Features		Stream and lake	Stream, lake and café
Looped walks		No looped walk	Several looped walks
Play facilities		Large playground	Small playground
Type of connection to shops, work, school or college.		Access only by road or roadside footpath	Access also by greenway for walking and cycling
Journey time		5 minute trip	30 minute trip

Household survey and Choice Experiments

- **Key green space attributes:**
 - Water
 - Café or place for social interaction
 - Natural surroundings/'nature' (meadows, trees)
 - Looped trails/several looped trails
 - Greenways popular (except for older people)
 - Ability to use green space to get to work/shops etc (even if journey time increased)
 - Quietness
 - Maintenance/litter free
 - Outdoor gym equipment



Interactive Design workshops

- Stage 1: Photo-set compilation



Interactive Design workshops

- Stage 2: Sorting



Interactive Design workshops

- Stage 3: Spatialisation





Card Sorts



Aerial Stickies



Scenarios



Have a go for Ballybeg



B4



B 1



Example of findings

- **Rural context (Banagher):**
 - Underutilization of existing green spaces – better not more
 - Enhance linear features e.g. river corridors, disused rail lines – greenways suitable to rural context
 - Linkages – linking amenities (natural, cultural), segregated walkways



Examples of findings

- **Suburban (Ballybeg/Kilbarry)**
 - Anti-social behaviour
 - Priority given to green space as a focal point for social interaction and community building
 - Intergenerational contact
 - Informal surveillance based on multifunctional use e.g. community gardens, bowling, playground



Examples of findings

- **Urban: Tallaght**
 - Green spaces as an urban refuge
 - Passive relaxation
 - Green spaces as destinations
 - Greening a car dominated environment e.g. connecting parks to a wider greening of the public realm
 - Co-locating café kiosks and play areas
 - Pedestrian links



Evidence-informed design



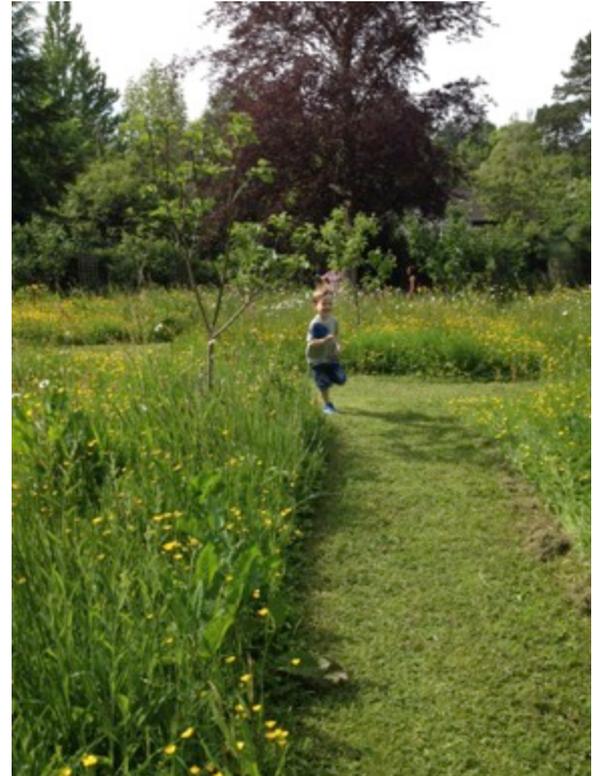
Design principles

- **Accessible** spaces with good links (pedestrian and cycleways) to nearby neighbourhoods
- A **networked approach**: emphasising green infrastructure networks (rather than isolated parks); connecting existing and new green spaces; and creating new linkages between urban and rural areas.
 - greenways and linear parks,
 - local greenways or cycleways that link to regional and national greenways,
 - de-culverting watercourses to provide new blue corridors.



Design principles

- ***Inclusive in design***, catering for local needs from young to old and all physical abilities (e.g. 8:80 parks). Green spaces that are designed to support very specific functions tend to attract limited groups of users
- Well ***managed and maintained*** creating a high quality environment: poorly managed spaces or vandalism prompt negative perceptions among potential users



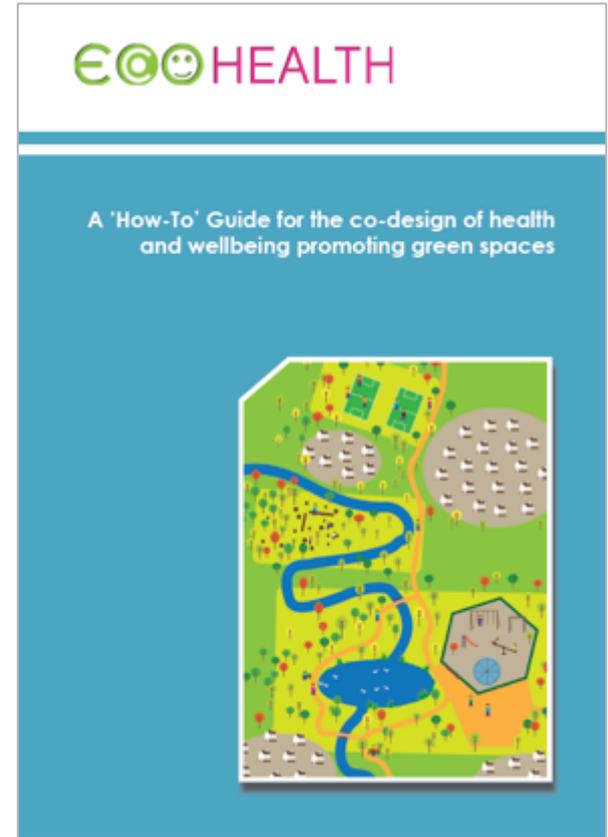
Design principles

- **Multifunctional** uses: examples include spaces that encourage active mobility, physical activity and sports, relaxation and tranquillity, and opportunities for social exchange
- Enhance urban greening through **planting strategies** that mitigate noise and air pollution and maximise local biodiversity gain and facilitate sustainable drainage
- Create **multisensory restorative environments** that help mitigate the psychological stresses of modern living through the provision of 'restive places for rejuvenation'.



Policy support

- Green space as **public health infrastructure**
- **Integrate health promotion with green space management** – e.g. Healthy Cities and Counties Network
- **Planning policy:**
 - Integrate HIA with SEA
 - Green Infrastructure approach
 - Networked and multi-scalar
 - Retrofit
- **Co-design** green space with end-users
- **Capacity building**



Thank You

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