

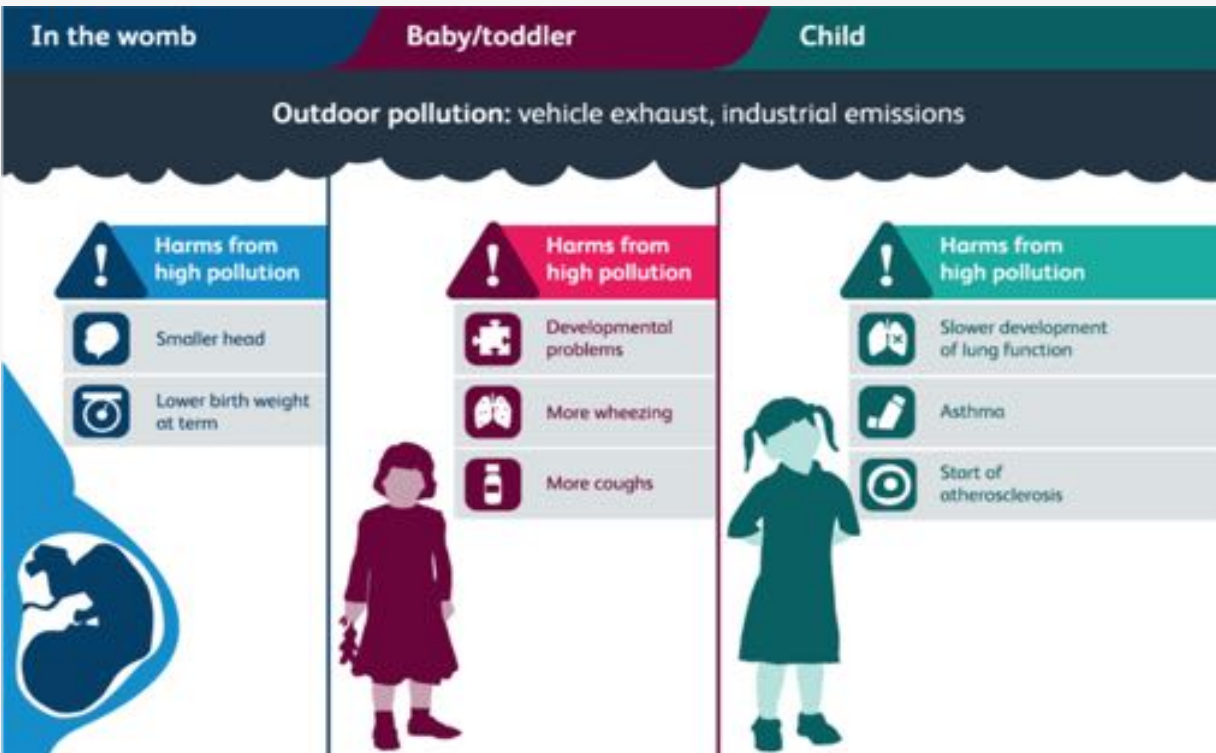
A photograph of a group of children playing in a garden. The children are running along a path that is bordered by a white metal fence. The garden is filled with various green plants and flowers. In the background, there are more trees and a white wall. The overall scene is bright and sunny.

Bloomberg Associates

Guidelines & Methods for Building Child-Responsive Cities & Communities

October 2018

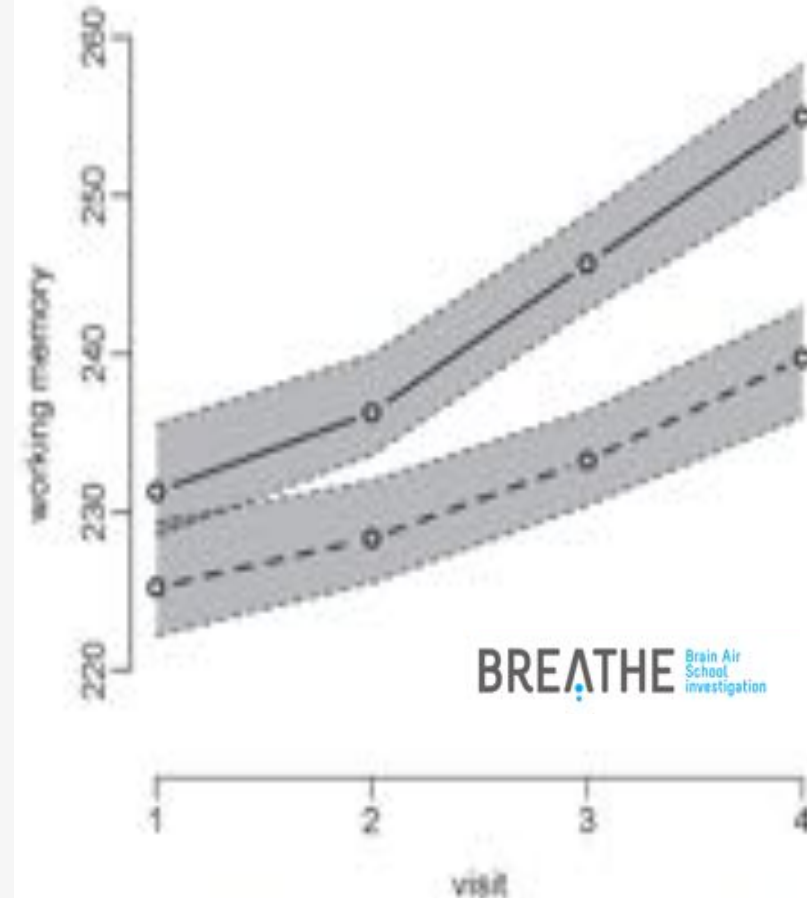
Why Are We All Here?



PLoS Med. 2015 Mar 3;12(3):e1001792. doi: 10.1371/journal.pmed.1001792. eCollection 2015.

Association between traffic-related air pollution in schools and cognitive development in primary school children: a prospective cohort study.

Surry V¹, Sanzola M², Alvarez-Pedrerol M², Forra A², Blom J³, López-Morales M², Suarez-Gonzalez R⁴, Escarot M², Garcia-Esteban B², Basagola X², Mora M², Cirach M², Mounir T⁵, Althaus A⁶, Sabatini-Calleja M², Neurothuisen M², Querol X²



Annual development of working memory

Continuous line=

Low Pollution

Broken Line=

High Pollution

Gray Shading = 95% CI

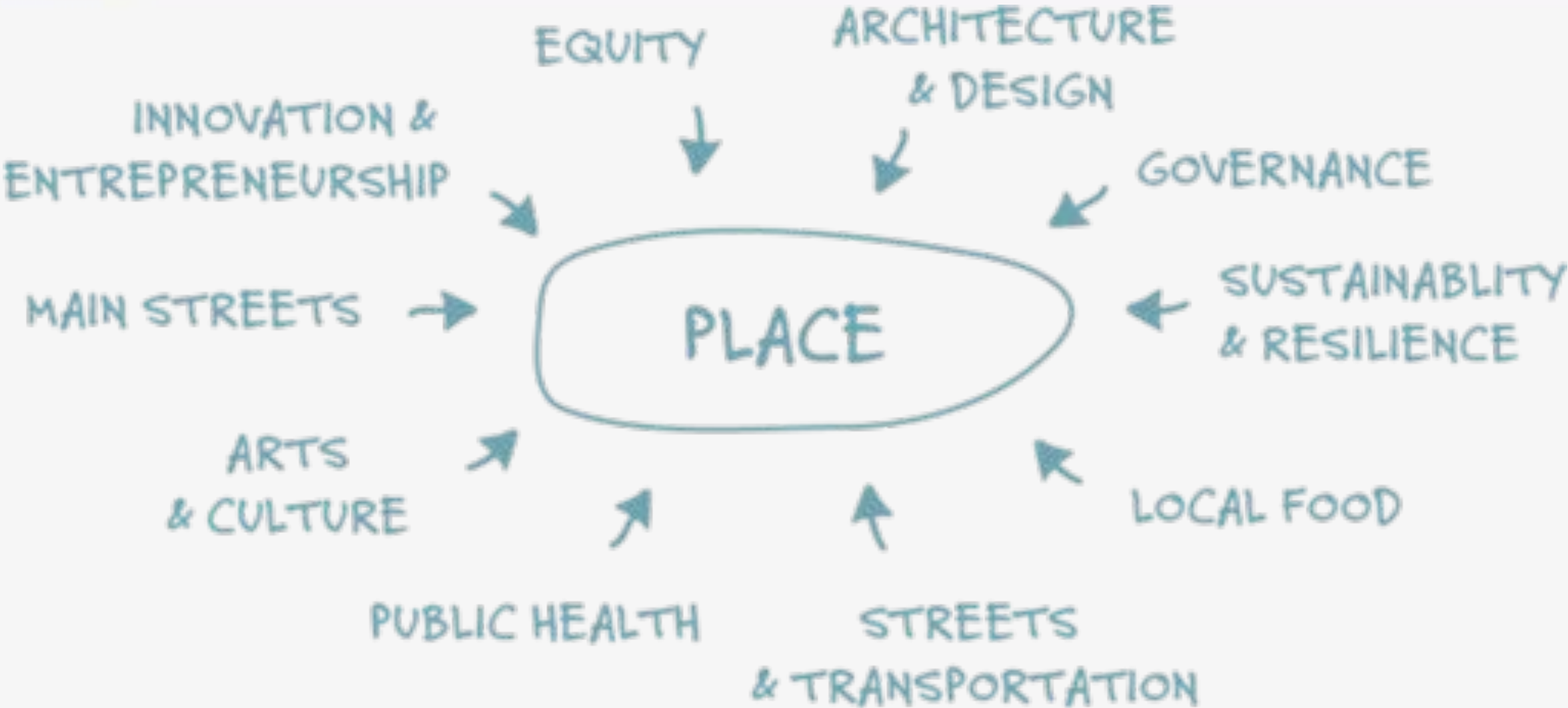


Agenda

- **How Urban Environments Impact our Health**
 - Top Children's Environmental Health Risks
 - 3 Tools for Measuring and Building Healthier Environments for Children
 - Conclusions



There is Multidisciplinary Convergence Around Place



The Sustainable Development Goals recognize the critical importance of urban environments



WHO has attributed nearly 71% of global deaths to NCDs, and nearly 25% directly to "modifiable" environmental factors



Alterable!

- Among children 0–14 years of age, the proportion of deaths attributed to the environment is as high as 36%



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Nearly 600,000 children under five die from air pollution impacts each year



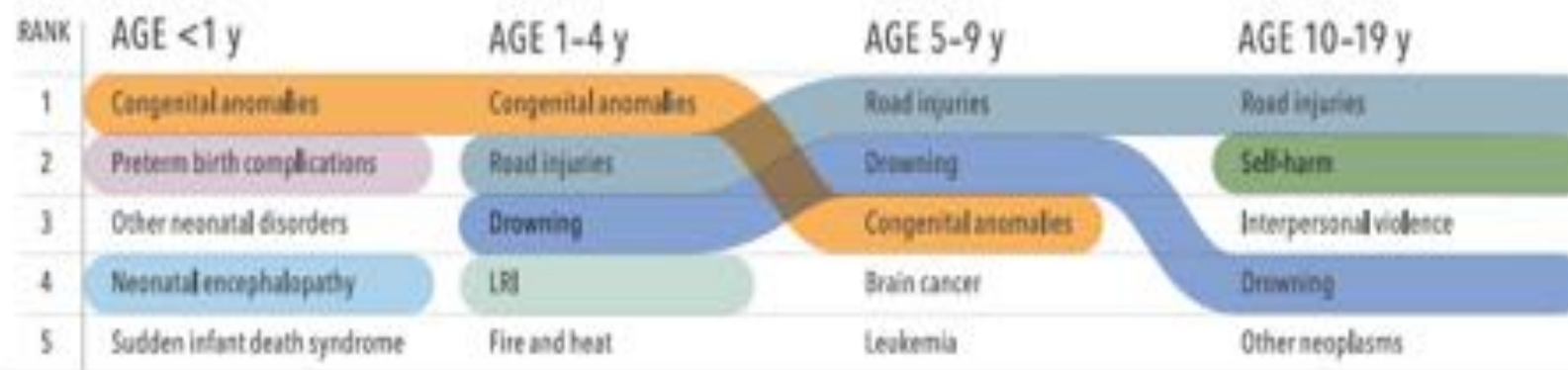


3,000 children and adolescents suffer a road traffic death or serious injury every day

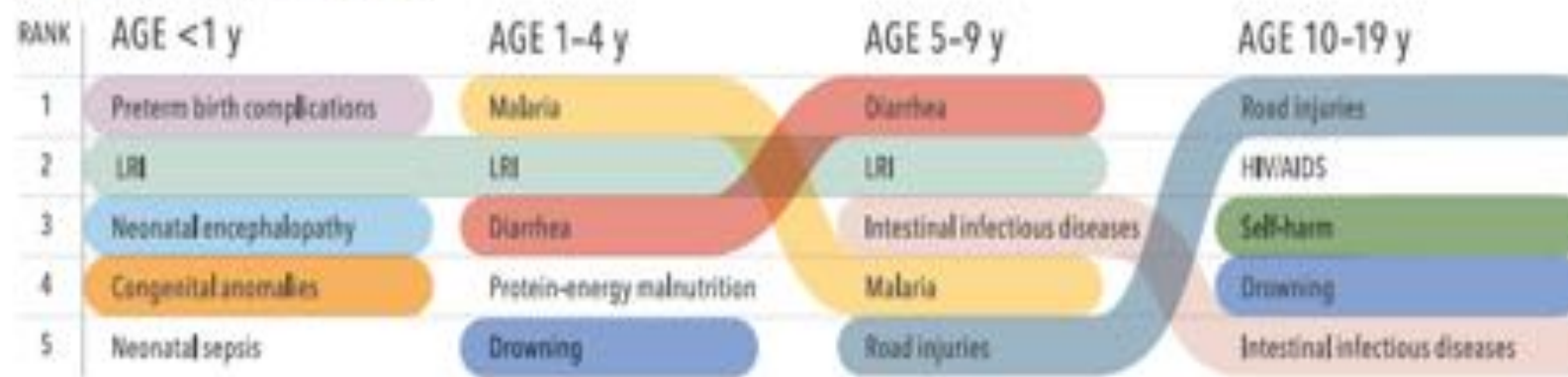
FIGURE 1: MORTALITY IN CHILDREN AND ADOLESCENTS, 1990-2013

Top 5 Causes of Death by Age Group in Developed and Developing Countries, 2013

DEVELOPED COUNTRIES



DEVELOPING COUNTRIES



LRI=lower respiratory tract infections



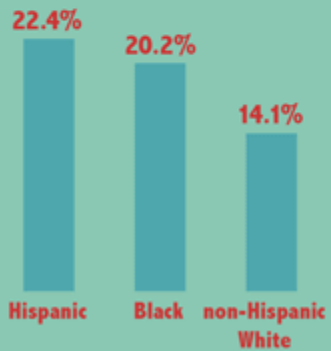
4 out of 5 obese school children are likely to be dangerously overweight for life, resulting in a potential loss of 20 years of life

Per the CDC, **more than 33%** of US children and adolescents were overweight or obese in 2012.



World Health Organization warns there will be **70 million** obese children globally by 2025.

Obesity rates are **higher** among Hispanic youth and black youth compared with non-Hispanic white youths.



CHILDHOOD OBESITY

"The risk of obesity starts early in life. Over half of obese children become overweight by the **age of 2**, and approximately **one in five** children are overweight or obese by their 6th birthday."

-The White House Task Force on Childhood Obesity

IMPACT

The prevalence of Type 2 diabetes rose more than 30% for children ages 10-19 compared to the last decade.



One in three babies born today will develop diabetes in their lifetime.

Obese youth are more likely to have risk factors for cardiovascular disease. In a population-based sample of 5- to 17-year olds, **70%** had at least one risk factor!



PREVENTION

Let's Move, an initiative dedicated to solving the problem of childhood obesity, **recommends small changes in five key areas:**

1. Eat more fruits and vegetables
2. Consume less sugar and fat
3. Eat healthier snacks
4. Watch portion size
5. Eat together as a family



A **10%** weight loss in an overweight or obese child will help reduce their risks for diabetes and cardiovascular disease.

Children need a total of **60 minutes of play** with moderate to vigorous activity every day. Enjoy family activities like walking, bike riding or jumping rope.





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Shaping urbanization for children

A handbook on child-responsive urban planning

unicef
for every child

Objectives

Influence international urban planning practitioners to consider the needs and rights of children when undertaking urban planning projects

Methods

Train urban planners and policymakers in how to undertake child-responsive city planning

Impacts

The handbook has just launched, but partnerships are being pursued with professional and academic organizations to train practitioners in the tools

10 Children's Rights and Urban Planning Principles

Principle 1 Investments

To Provide Urban Places



Principle 2 Housing and Land Tenure

Principle 3 Public Amenities

Principle 4 Public Spaces

To Provide Urban Places



Principle 5 Transportation Systems

Principle 6 Integrated Urban Water and Sanitation Management Systems

Principle 7 Food Systems

Principle 8 Waste Cycle Systems

To Integrate Urban Networks



Principle 9 Energy Networks

Principle 10 Data and ICT Networks



UNICEF Child-Responsive Cities Handbook

Components of urban settings		health clean environment – healthy habits	safety safe environment – risk informed	citizenship inclusion environment – participating	environmental sustainability a green planet – sustainable lifestyle	prosperity decent standard of living – life skills
Housing and land tenure SDG 11.1	vulnerability	indoor air pollution, humidity, unhygienic space and lack of waste and sanitation, vector-borne diseases	poor structure, construction materials and devices, leading to earthquakes, burns, fires and collapsed buildings	lack of formal recognition, no access to basic services, homelessness	located in risk-prone areas, urban air, energy consumption and non-recyclable material	lack of land security and incentives for investment, unaffordable housing
	solutions	adequate space, light, ventilation, healthy building materials	solid construction, safe devices for fire and evacuation	mixed-use development, access to urban amenities and collective spaces	stormwater management, green roofs, proper insulation	affordable housing, land tenure, increased tax base through land property
Public amenities SDG 3.8, SDG 4A, SDG 8, SDG 8.4	vulnerability	lack of city-wide health facilities	lack of coverage of safe playgrounds, sport, daycare and other school programmes	lack of amenities for individual and collective expression, exclusion of children with disabilities	located in risk-prone areas, urban air, energy consumption and non-recyclable material	lack of incentives for livelihood skill development
	solutions	city-wide health and BPOH facilities, childcare and other mixed-use programmes	city-wide education facilities, after-school and other programmes	public amenities, one-stop youth clubs and other mixed-use programmes	stormwater management, green roofs, proper insulation, risk-reform	universal learning and after-school programmes
Public spaces SDG 11.3, SDG 11.4	vulnerability	lack of play areas and green space, exposure to sources of pollution	lack of safe spaces and mixed use, which leads to sexual harassment, street violence and flooding	lack of public space for social interaction, inclusive and by specific groups, no space for play	urban sprawl, deforestation, water and other natural systems, decrease of biodiversity	lack of mixed use and dedicated space for the development of local economy, lack of public space decreases property value
	solutions	green spaces to filter pollution and reduce heat island effects, playful spaces to improve physical activity	mixed-use public spaces increase social safety, green spaces and vegetation regulate flooding	spaces that promote mixed-use activities, community-based design	green space and vegetation reduces pollution, regulates water, food production, awareness about the environment	inviting spaces attract local economy and mixed use
Transportation systems SDG 3.6.2, SDG 11.2, SDG 11.4	vulnerability	lack of space for walking and biking, limited physical activity, local air-related pollution	lack of infrastructure for walking and biking, unsafe crossings, absence of emergency planning	lack of effective city-wide public transit requires access to all services and impedes participation	local fuel driven cars contribute to high-GHG emissions and pollution	lack of efficient transportation options to access services and the labour market
	solutions	active transportation, clean energy transport leading to reduction of non-communicable diseases	road safety, safe crossings and safe school environments	active transportation and public transit, children's independent mobility	green mobility, clean air in streets	inviting streets attract local economy, utilised use, reduction of public health cost related with traffic accidents
Water and sanitation management systems SDG 14, SDG 3.9, SDG 6.1/2/3/6	vulnerability	water and sanitation services not adapted for flood events, faecal contamination of public space	flooding, overflowing, dangerous water supply systems, not designed for children	infrastructure not designed for child use in terms of security, infrastructure placed in remote places	degradation natural water systems, water pollution, water scarcity	unaffordable water and sanitation services
	solutions	safe and affordable water and sanitation adapted to children, reduction of urban heat island effect	green infrastructure maximises water infiltration and buffering to reduce flooding risks	access to safe and affordable water and sanitation in public spaces, visibility of and playful access to water	water buffering, rainwater collection and reuse, awareness about the environment and water	affordability of water, reduced investment and maintenance cost of infrastructure and energy for water and sanitation
Food systems SDG 2.4, SDG 12.3	vulnerability	malnutrition leading to stunting, wasting and obesity	food insecurity potentially leading to unrest	lack of education and skills in healthy food systems, lack of awareness about food insecurity, diets and ingredients	food systems leading to exploitation of land and water, land degradation, pollution, high energy and GHG	higher food prices, dependent on global market prices
	solutions	local healthy food shops, food markets and farms, composting, healthy school food programmes	food and nutrition security	affordable healthy food, local production	less use of land, water and energy, local sustainable food production	more local agriculture, education and skills on food production and distribution
Waste cycle systems SDG 11.6, SDG 12.2	vulnerability	dirty streets, polluted soil, air and water, burning toxic waste, presence of landfills in housing area	unprotected landfill and waste treatment sites, proximity to industrial chemicals, risks of explosion	lack of awareness of waste impact and potential waste reduction	pollution of environment, high consumption of resources, flooding	poor waste management strains municipal budgets, informal, ad-hoc of informal waste management sector
	solutions	clean streets and municipal waste management reduces health risks	sewerage and effluents, waste sites and polluted areas, buffer zones	public waste collection programmes	reduction of use of resources, clean waste cycles	regulation of informal stakeholders, green economy market, reduction public cost waste management
Energy networks SDG 7.1, SDG 13, SDG 8.4	vulnerability	unhealthy energy production (air pollution)	lack of indoor and outdoor light, unsafe power supply (electromagnetic field)	lack of street lights and access to energy impedes social connectivity	urban energy production leading to air and water pollution	higher energy prices, dependent on global market prices, lack of indoor light formal
	solutions	clean energy for light and power supply	safe power supply, street lighting	affordable access to energy in public spaces and local power production	clean energy, reduction GHG emissions	more local energy production, reduction of public health cost related to air pollution
Data and ICT networks SDG 4.4, SDG 9C, SDG 11.5	vulnerability	lack of information systems raising awareness on children's health	lack of warning systems adapted for children	lack of access to reliable public information and online communication	lack of warning systems of natural and climate-related disasters	lack of use of ICT skills to develop life and livelihood skills
	solutions	health information systems in private and public spaces	warning systems in public spaces for children being risk informed	access to Wi-Fi in public spaces supports participation	support systems for disaster mitigation and disaster preparedness	innovative and interactive learning with ICT skills support

Impact examples for sustainable transportation planning (Principle 5)



health

clean environment – healthy habits

Clean energy transport improves air quality, increases physical activity and decreases NCDs



safety

safe environment – risk informed

Decreases road safety injuries and deaths
More pedestrians create safety through numbers



citizenship

inclusive environment – participating

Efficient transportation improves access to services
Promotes children's independent mobility



environmental sustainability

a green planet – sustainable lifestyle

Decreases air pollution, mitigates climate change



prosperity

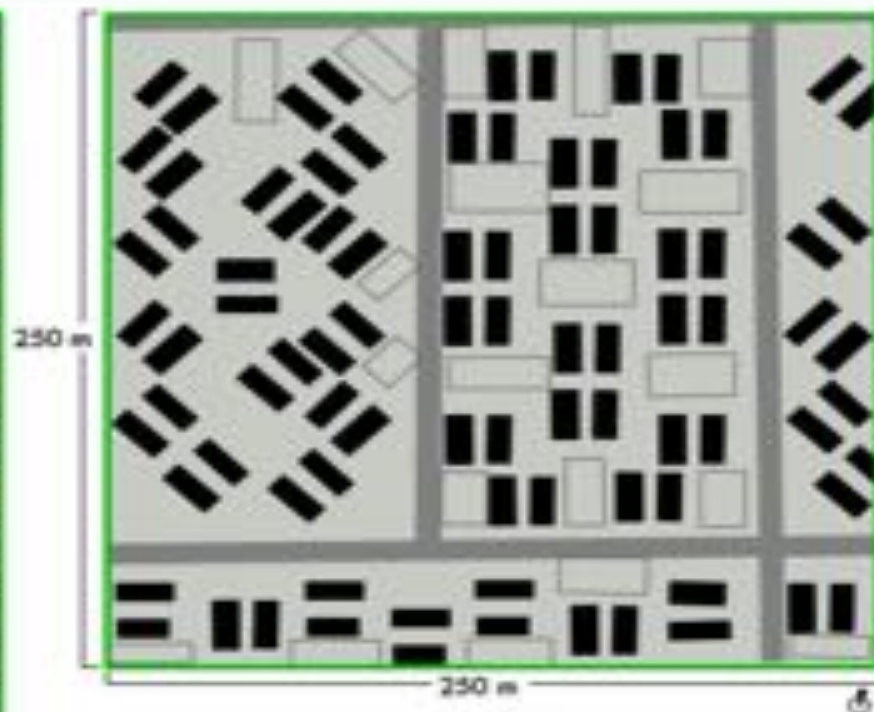
decent standard of living – life skills

Prosperous streets for local businesses and social interaction



UNICEF-DR: A Framework for Building Healthy Communities for Children Guidelines

Objectives	Methods	Impacts
Create a set of technical guidelines for investors and private developers in the Dominican Republic to change the standard gated multifamily residential community to create healthy and supportive social housing communities for children.	<p>Equip developers with 90 practical design guidelines informed by leading public health evidence to build communities that consider the health and wellbeing of children in suburban residential complexes.</p> <ul style="list-style-type: none">Children's Health & Wellbeing<ul style="list-style-type: none">General Child HealthHealth Care AccessPhysical ActivityNutritionMental HealthSocial InteractionEnvironmental HealthChild Protection, Safety & Injury PreventionParticipation & CitizenshipLegal Frameworks and Policies	<ul style="list-style-type: none">The first pilot is being undertaken now in a community called Pablo Mella by an investor and developer.All the guidelines will not be implemented at the same time, but progress looks hopeful as more mixed use amenities, shared green spaces and accessible health care centers are already being built.The hope is that this will spread to other housing developers and will one day influence other communities being developed or redesigned in Santo Domingo, the Dominican Republic and later in Latin America.



WIKERDI 10° 30' 00" N 78° 40' 00" W

SANTO DOMINGO ESTE

Plano 4-10m

Area Total	0.0000 Ha	Densidad	4000 Hab/Ha
Area Edif.	0.0000 Ha	Población	16000 Hab
Area Verde	0.0000 Ha	Industria	0.0000 Ha
Area Program.	0.0000 Ha		





UNICEF-DR: A Framework for Building Healthy Communities for Children Guidelines

Social Interaction

Provide age appropriate playgrounds in outdoor spaces	All children have substantial opportunities for diverse social interaction within the social housing development as well as opportunities for increased exercise, increased sense of safety, reduced crime, improved air quality.
Provide outdoor common space accessible to all residents	
Create play places that can be used by children of disabilities	
Organize community events and festivals designed to encourage participation by all children and families	
Provide projects, programs, groups and activities outside of school for children	
Initiate Play Streets in Pablo Mella	Instills a stronger sense of community, creates new opportunities for social cohesion and working together, improves environmental awareness and access to nature.
Redesign underutilized space with nature	

Environmental Health

Provide clean potable water on site at an affordable rate	All children and all adolescents have access to clean water.
Adopt and implement a tobacco-free policy for all outdoor spaces	Support community health for children and families.
Provide permanent signage publicizing a tobacco-free property	
Adopt and implement a tobacco-free building policy	



UNICEF-DR: A Framework for Building Healthy Communities for Children Guidelines

Recommendation	Objective	Indicator
Child Protection, Safety & Injury Prevention		
Provide safe lighting levels along all building entrances and pedestrian and bicyclist routes	All children live in safe housing developments free of violence, crime, and chemical hazards	Safe lighting along all building entrances and pedestrian and bicyclist routes. Implement best practices in street lighting. Property is lead-free or lead-safe
Property meets state guidelines for being lead-safe and any identified lead hazards have been abated		
Adopt and implement a weapon and violence-free policy for the neighborhood	All children and all adolescents grow up without violence and exploitation	Mortality rate of children and adolescents up to 19 years old due to external causes. School dropout rate from primary schools (5-16 yrs) in the municipality; gun injury and mortality rates in children aged 0-19 yrs; gang violence rates and child participation (if available)
Provide covered bicycle parking within 30 meters of all main building entrances for a minimum of one space per two two-wheeling units	All children are able to safely move around their environment free of injury or violence	Traffic accident rate; children's mode share using active transportation (biking, if walking); rates of fire or electrical accidents; streetlight accident rates; emergency incident and response rates
Protest site is less than 60 miles from a bike share station		
Children have free or subsidized access to shared bicycles or public transportation		
Provide safe and accessible street infrastructure for pedestrians and bicyclists		
Transit stops are furnished with benches, lighting, and shelter from the elements		
Incorporate practices into sidewalks and streetscapes		
Implement best practices in street lighting		

Objectives	Methods	Impacts
<ul style="list-style-type: none"> ▪ Create public spaces that promote active and healthy living, and street furniture designed with children aged under 5 years, their parents, and pregnant and breastfeeding women in mind. ▪ “Kids are playing inside at home because their parents don’t feel that the streets are a safe place to play” 	<p>Bernard van Leer Foundation + Bloomberg Associates will provide technical and financial support to multi-year, citywide Urban95 initiative in Bogota focused on:</p> <ol style="list-style-type: none"> 1) Parent coaching 2) Increasing and improving green space 3) Increasing families’ options to move safely around their communities <ul style="list-style-type: none"> • Decreasing isolation and increasing social interaction • Improving road safety and security • Connecting children’s social, health and educational services 4) Using data to inform city decision-making across agencies and sectors 	<ul style="list-style-type: none"> ▪ 800 new LED lights in the neighborhood ▪ Reduced crime, meaning less ADEs in public spaces ▪ Parents are becoming less isolated and are participating in more social interaction around playgrounds ▪ Civic pride is growing, as residents are feeling more responsibility for shared spaces, litter and dog droppings are slowly being reduced ▪ More greenspace in the neighborhood that we hope will decrease stress ▪ New crosswalks and protected and dedicated play streets, we hope will reduce road accidents and fatalities ▪ Children are outside interacting with each other and playing!























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- 1 **We know the problems and the solutions**—these problems are preventable!
- 2 Design decision should be **driven by evidence and measured**
- 3 **Co-benefits**—designing places for children will create healthier more inclusive places for the entire population