



CREATE INCLUSIVE COMMUNITIES

INTEGRATED GUIDELINES FOR SUSTAINABLE NEIGHBOURHOOD DESIGN

Urban Morphology & Complex Systems Institute

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CREATE INCLUSIVE COMMUNITIES

INTRODUCTION

Neighbourhood planning and design bear a social responsibility. When planning new areas or revitalizing existing ones, policy-makers and planners must deliver public life outcomes. Adequate provision of affordable housing and commercial space is key to maintain social diversity and avoid forcing some families and small businesses to leave. Amenities such as parks, community services, libraries and playgrounds are all part of a sane and meaningful life. They should be sufficient and easy to access. Cultural and community centres should be able to sustain themselves. Places must be healthy and stimulating for people. Buildings and open spaces must be comfortable and safe. To achieve these outcomes requires an appreciation of the community dynamics, encompassing local opinion and initiatives, history, the views of developers and landowners. Since the community holds the knowledge of how an existing neighbourhood works, its needs and possibilities, collaborative planning and design processes should engage residents at an early stage in order to ensure support to local interests.

Empowerment allows individuals and social groups to express their needs, present their concerns and act to meet these needs. It can be achieved by increasing people's confidence in their abilities and equipping them to influence the decisions that affect their lives. Enabling communities delivers four key civic life outcomes¹

- **Trust and appreciation.** Residents feel that they are part of a collective identity. They exhibit pride in their community and trust their neighbours and their local government to do what is right.

- **Participation in civic life.** Inhabitants make use of enticing public realm and attend events that facilitate equitable access among diverse groups – sparking regular interaction between neighbours.
- **Stewardship.** Residents feel invested in and seize responsibility for public spaces in their community – maintaining, programming, beautifying, and advocating for those spaces.
- **Informed voting.** Citizens understand the role of local government. They contact officials, express support for issues, and vote in local elections.

With place-based planning taking residents' perspectives into account, city strategies can be responsive to neighbourhoods' needs. Bolstering local character is important when designing community spaces. From squares to community gardens and children's playgrounds, these public spaces frame the residents' lives and their social linkages. Using local materials, retaining historical associations, installing symbols, involving tilers or nearby schools strengthen uniqueness and identity. Enabling communities fosters behavioural change. It creates a sense of belonging, enhances everyday life, increases safety and inclusiveness.

The chapter 'Create inclusive communities' comprises five key pillars.

EMPOWER LOCAL COMMUNITIES
HEALTHY NEIGHBOURHOODS PLANNING
PROVIDE SOCIAL INFRASTRUCTURE
BUILD MIXED-INCOME HOUSING NEAR PUBLIC
TRANSPORTATION
UPGRADE SLUMS AND INTEGRATE THE INFORMAL
SECTOR

¹ Center for Active Design 2018.

EMPOWER LOCAL COMMUNITIES

Involving and celebrating the community is key to build sustainable and resilient neighbourhoods. A robust civic life and strong level of engagement are more likely to deliver quality of life.

- **People are healthier:** Active participation in community activities may lead to lower mortality rates and improved physical and mental health².
- **Crime is diminished:** Communities where more people vote, volunteer, and join local organizations tend to have lower crime rates³.
- **Economy is more equitable and prosperous:** Communities with active residents often have less inequality, higher per capita incomes, and better long-term prospects⁴.

Proposed schemes should strengthen local communities. This requires an appreciating

- the community dynamics, its perspectives and initiatives.
- the local history.
- the views of stakeholders such as developers, landowners, utilities.
- the organizational or institutional arrangements.
- the policy context.

CELEBRATE THE COMMUNITY UNIQUE IDENTITY

Design that captures local identity can build community pride. Actions are⁵

- **Using local arts to inspire and engage**
Art is important in low-income communities. It enhances civic life and mitigates the negative impacts of neighbourhood disorder⁶.

The community retains the knowledge of how an existing neighbourhood works, its needs and possibilities. Collaborative planning and design and a common understanding of issues guarantee attention to local concerns and reduce the potential antagonism of residents to change. Communities can also play a role in project implementation and monitoring. Early involvement in the design can ensure future commitment. For example, in Vauban, Freiburg, the residents participated in setting standards, selecting the architects, directing the design, and managing the construction. The high-performance results in Vauban demonstrate the value and innovation brought by community engagement.

Involving the people who live and work in the neighbourhood, who understand it, and who are committed to ensuring positive change, can raise the profile of planning. It enables uncovering ways to resolve potential conflicts. Trade-offs can be negotiated between different interest groups to find mutually compatible solutions. When people perceive the options that are realistically available, this allows proposals to be tested and refined before adoption. Resources employment is in tune with what the community needs and wants.

- *Increase access to cultural venues.*
- *Bring arts and cultural events into the public realm.*
- *Engage local artists, schools, and community groups to create locally driven public art.*

² Cullen and Whiteford 2001.

³ Buonanno et al. 2009.

⁴ Cullen and Whiteford 2001; Putnam 2016; Guiso et al. 2011.

⁵ This section draws from Center for Active Design 2018.

⁶ Sharp et al. 2005 ; Center for Active Design 2017.



Rituals and community life in Lalitpur, Nepal. Photo: @Serge Salat.

▪ **Connecting diverse local cultures**

Urban parks and plazas provide crucial venues for intercultural and intergenerational interaction.

- *Ensure parks and plazas respond to local cultures and reflect the unique priorities and interests of the neighbourhood.*

- *Install multilingual signs in the public realm and civic buildings. Ensure civic messages reach each community member.*
- *Celebrate pluralism through programming and events.*
- *Create space for festivals, markets, art exhibits, performances, that recognize diverse cultures and attract all community members.*



Kathmandu Durbar Square is a place of intense social interaction. Photo: @Serge Salat.

▪ **Preserving and repurposing historic assets**

Historic buildings, squares, landmarks, foster connection to place.

- *Advance preservation initiatives.*
- *Garner funds to revitalize historic assets.*
- *Adapt declining sites to serve contemporary needs.* Reimagine new public and community uses for spaces that have outlived their original function because of economic and demographic shifts.

- *Look for small-scale opportunities to reinforce local history and identity.* Maps, signs, and neighbourhood tours can tell stories, inspire interaction, and highlight previously overlooked heritages.

▪ **Showcasing Local Food**

Food is an important part of people’s cultural and regional identities.

- *Use markets to introduce local food into public spaces and buildings.* Farmers markets can support local agriculture, while periodic events can feature local cuisines or restaurants.
- *Plan community events around food.*
- *Promote the value of local food through branding initiatives.*

ENGAGE THE COMMUNITY

Community engagement can strengthen design proposals, speed up process, and build a sense of ownership. Involving the residents and stakeholders in the development of a master plan significantly improves its feasibility. Identifying constraints and opportunities at an early stage saves time lost in unviable options. It also gives the inhabitants a forum to explore their targets and understand how to overcome potential barriers. This collaboration can establish a set of ground rules and a vision for the site that all can agree on. This consensus can improve project design and facilitate its passage to development.

Engagement should start initially, involve the right people, and create alliances at an early stage. Organizers should indicate what the agenda is, who is concerned, what roles people play and what the procedure will be⁷.

- What can involvement introduce to the process?
- What are the objectives of activities?

- Who are the partners and what can they add?
- What legacy does the scheme intend to leave?
- What involvement will continue after the programme?
- What are the expected results?
- How will they be measured?

Ensure that facilitation skills and resources are in place and recognize that distinct methods and techniques will be appropriate for different types of projects.

At an early stage, engaging the community should address a number of key questions

- What are the problems?
- What is the perception of the place?
- Can improvement complement this existing identity or does it need a ‘reimaging’?
- What characteristics can be distinguished on the site and its surroundings?
- Where are the main routes, popular usages and activity centres?

⁷ English Partnerships and Housing Corporation 2007.

To answer these questions, it is crucial to include residents in the design and process. It is also valuable to explore the local historical archives to appreciate how the place has evolved over time. Among the common topics of interest when engaging the community is health. A health assessment can help residents prioritize well-being concerns, develop organizational skills, improve understanding and capacity to act collectively.

Many ways can be used to engage the community in the design process. Apart from design charrettes and participatory budgeting which will be discussed extensively, several examples show different levels and ways of involvement. In Amsterdam for instance, a new urban district is developed in the IJ-lake. Within this area, people have space to build their own house. The only requirement is to secure the house to the provided pier and to make sure the house actually floats. The result is a wide variety of houses, grouped along the piers, of different sizes and architecture.



Self-build floating houses in Amsterdam IJburg.

Other examples of building your own home without restrictive planning regulations are for instance observed in Almere in the Netherlands.

Another way of engaging people in developing plans for the long-term future is found in the province of Friesland in the Netherlands. Everyone was asked to submit project ideas that could support the province in achieving a sustainable future. A richness of prospective thinking could be harvested with high commitment, interaction and involvement of the community.

Participatory budgeting

In recent years, various global and capital cities including Madrid, Seoul, Delhi, Taipei, Bogota, New York and Paris, have started significant participatory budgeting processes. Participatory budgeting is conducive to alternatives, such as urban agriculture, arts and culture, avoiding evictions and providing decent housing.



Bicycle driven mobile poll boxes, located in strategic public spaces in order to encourage voting. Image: Mairie de Paris.

In Cascais, Portugal, an intermediate city of 206,000 inhabitants in the Lisbon Metropolitan Region, 58,567 people voted in 2016 (28.3% of total population) as part of a participatory budgeting process. The level of participation in Paris has grown significantly from 40,000 voters in 2014 to 92,800 in 2016, which represent 5% of the total urban population. When participants in participatory budgeting processes in schools are also counted, the number of voters jumps to 159,000.

Paris has introduced a multi-annual perspective in its participatory budgeting. In Chengdu, citizens can

choose either to spend participatory budgeting resources on immediate actions or use them as a down payment on a collective loan for much larger, longer projects. In Chengdu, the participatory budgeting allocation for the following years, with a maximum of seven years, will repay this loan. Fortaleza in Brazil pioneered a participatory budgeting process that in its first year discusses the overall financial budgetary envelope for the whole political mandate, and then each following year debates the earmarked annual budget. In Paris, over €500 million has been earmarked for participatory budgeting from 2014 to 2020.



Workshop for co-construction of projects, gathering different individuals and associations who proposed similar projects or projects that could develop in synergy. Image: Mairie de Paris.



Urban farming in schools. Project approved in 2014 and currently running. Image: Mairie de Paris.

Examples of participatory budgeting projects in Paris are as follows

- Network of 14 co-working spaces for students – entrepreneurs (€2 million).
- 40 vertical gardens to cover ‘blind facades’ all through the city with a €2 million budget.
- Street arts by local artists and graffiti artists with a €3 million budget.
- Kits for ‘pedagogical gardens’ for 212 schools (€1 million).

- Support and help for vulnerable people: shower and washing facilities for homeless and poor, left luggage facilities with lockers, etc. (€4.4 million).
- More bike lanes and equipment such as security, lockers (€8 million).
- Urban farming and urban agriculture: shared gardens, roof gardening, orchards, educational gardens (€2.3 million).

Design charrettes⁸

Design charrettes are a method that professionals, officials, citizens, and stakeholders can employ to knit the pieces of the city together and establish sustainable communities. They are a proven process that can be practised for getting the community to use collectively integration and synergy for neighbourhood design. A design charrette is a time-limited, multiparty design event organized to generate a jointly created plan for a sustainable community. Its goal is to produce a design that embodies the community aspirations and its understanding of the context. The community vision of its future is then embodied in the form of the sustainable and implementable urban design plan.

Design charrettes are a holistic process where sustainable design emerges from the interaction of social, ecological and economic variables through a collaborative and creative activity. A correctly structured design charrette allows sufficient time for stakeholders to become team members and work together. The products of the charrette are drawings, not plans. They create *visions for space* rather than *land-use plans for areas*. Ground-level perspectives, aerial views and detailed illustrative plans are the outcomes of the charrette. They picture how the place will look, feel and function. Charrette drawings depict subtle sustainability issues, such as architectural ways of mixing income and family types along a street or protected ecological corridors with their habitat. They capture these issues in a form accessible to all, to ensure the widest possible array of goals are manifested in the community vision.

Charrettes are of two kinds: visioning charrettes and implementation charrettes.

Visioning charrettes

Visioning charrettes produce illustrations of what it would look like if a neighbourhood were built or transformed according to the sustainability principles spelled out in the design brief. They should have at the table both design professionals and community stakeholders. They depict and demonstrate in tangible form how social and environmental policies come together on the site. Hand drawings and sketches are crucial instruments of visioning charrettes. The defining moment in a charrette is when a designer can put an option out, listen to critique, cross out lines and put in other ones, put a new piece of tracing paper over that and start over, massaging the form into something that gradually becomes a consensus proposal⁹. The hand drawing is irreplaceable as it conjures up, from the described impressions of the community, the common vision of a shared world, eventually to be hardened into a buildable representation. No other medium so fully engages a group in its creation. Drawing together creates an inclusive atmosphere of collaboration. It is analogous to the complexity of face-to-face conversation. It facilitates insight, understanding and empathy for the views of others. Computer-based media lack this 'conversation-like' quality. A typical visioning charrette lasts a full week. Issues of sustainable community design are complex and require time to work out. At the beginning of the charrette the talk time builds trust and understanding within the team. When interpersonal empathy is established, ideas can start to evolve in diagrammatic form. Such diagrams are emerging syntheses in form. The final phase is the drawing phase and starts when all members of the team are comfortable with the direction set in the diagrams.

Visioning charrettes have multiple values.

⁸ This description of the charrette process draws on Condon 2008.

⁹ Condon 2008.

- *They make words real and contextualized in actual sites.* Expressing their goals in pictures, in three-dimensional concrete proposals, allows participants to resolve the inevitable contradictions between competing objectives in a community.
- *They create a common language of solutions* between the various players. That language is embodied in the pictures of the sustainable vision they have all contributed to.
- *They are a no-risk process.* Visioning charrettes carry none of the risks usually associated with changing officially regulatory documents and provide stakeholder groups with a positive opportunity to work together in a collaborative atmosphere.
- *They reveal policy contradictions.* While higher levels of government are usually supportive of sustainability, development regulations such as subdivision control ordinances, permit approval processes and engineering standards are rarely examined under the sustainability lens. Unpacking possible disconnects between sustainability objectives and regulations allows to address them.
- *They are relatively inexpensive.*

Implementation charrettes

Implementation charrettes produce implementable plans for an area subject to regulatory change. They operate at a deeper level of responsibility than visioning charrettes. Their major outputs are usually in the form of 'local area plans'. These plans typically include land use planning and urban design requirements, green infrastructure plans and regulations (for instance open space, recreation, and sensitive ecological area preservation, low-impact engineering strategies), and engineering standards. The participants will be stakeholders, advocacy groups, developers, municipal planners, engineers, public safety officials, state and regional regulators, utility providers. Two kinds of people should be involved: stakeholders and design facilitators. These charrettes

are successful when all the key individuals empowered to make a development decision are the table.

Implementation charrettes have multiple values.

- *They can lead to alternative development standards integrating sustainability goals.*
- *They are powerfully integrative.*
- *They are fast and efficient*
- *They are relatively inexpensive.*

How to organize a good charrette¹⁰

- ***Design with everyone.*** A good charrette is a collaborative problem-solving design exercise to which the community should participate. Design is more a way of thinking than a set of technical skills. Most problem-solving modes proceed linearly and depend on the orderly execution of certain technical tasks. However, sustainable design requires a more qualitative approach depending on intuition and judgement to select from alternatives. Most community individuals have enough intuition and judgement to add value to well-designed charrette effort.
- ***Start with a blank sheet.*** The blank sheet expresses both possibility and challenge. It is important as a symbol of community empowerment. If a sheet has too many, or even any, decisions already depicted, if for example basic land uses have already been assigned, the opportunities to explore mixed-use and sustainable strategies are limited. If both land use and transportation decisions have already been made, the charrette has lost its meaning.
- ***Build from the policy base.*** Charrettes must be firmly grounded in existing policy. A direct link should be made between policy at the national, regional and local level each element of the design brief. The blank sheet should be completed with an explicit set of programme requirements tied to policy. The charrette task

¹⁰ This section is based on Condon 2008.

is to make programme requirements real. It links them to the context and site via a collaborative process of synthesis and synergy.

- **Provide just enough information.** The key is to provide just enough data and no more. Too much information generates decision paralysis. Too little knowledge produces bad proposals.

- **Talk, create schematics, draw.** Participants should initially talk about their ideas, gradually move to schematics, and finally draw out their vision. This process should not be rushed because it takes time to unpack the issues of community sustainability, to give everybody the opportunity to express their opinions, and to transform stakeholders into a cohesive team.

CASE STUDY: COMMUNITY ENGAGEMENT INCREASES INCLUSIVENESS IN MORAVIA, COLOMBIA

The Architectural Transformation through Reciprocity proposal seeks to solve issues of informal, untitled, unsafe housing and to prepare inhabitants for technical conversations with the Municipality around displacement and high-rise building. It comprises architectural workshops and a longer-term certificate programme. It will be most effective if the interested Moravia residents create a Construction Committee that can participate in the training. Direct coordination with stakeholders will help the Moravia homeowners obtain titles for their homes, protect them from relocation, and communicate their preferences and ideas for incoming high-rises.

CASE STUDY: ENGAGING THE COMMUNITY IN MEDELLÍN, COLOMBIA¹¹



In Medellín, Colombia, UNEP approach was an effective starting point to collaborative effort. UNEP worked with the international non-profit Ecocity Builders and the city of Medellín to develop a physical plan for the neighbourhood of Moravia. The location is a former dump site. The local administration made plans for displacement because of land instability and health problems from toxic waste. Metabolic flow analysis made the city perceive the flow of people and the importance of connectivity for resident sustenance. The inhabitants also understood the health risks due to soil quality and other environmental elements. The result was an integrated physical plan that articulated the residents' aspirations (e.g. access to livelihoods) and the government's priorities (e.g. safety and security). The project has triggered conversations on participatory planning in Medellín and how a resource-based approach can enable pragmatic discussions.

¹¹ This box draws on UN Environment 2019.

CASE STUDY: ENGAGING THE COMMUNITY IN JARDIM HELIAN, SÃO PAULO, BRAZIL¹²

In Jardim Helian, São Paulo, Brazil, UNEP, with the Sustainable Cities Programme and the Federal University of São Paulo, co-created with the inhabitants an indicator framework. This helped the community to articulate its problems to the government. Using locally generated data, researchers from the university and locals analysed waste management, biodiversity conservation, and vulnerability of their homes to flooding. At the project end, residents could present a robust integrated physical and financial plan to the government and potential external donors.



Jardim Helian, São Paulo. Photo: Thaís Fero

The plan highlighted community concerns and linked them with administration priorities while keeping the aspirations within a reasonable budget. It covered many issues from a systems perspective: the installation of waste-collection points for the recovery of bulky items and construction rubble; urban forestry; bus stops and proper schedules.

HEALTHY NEIGHBOURHOODS PLANNING

Health is a state of complete physical, mental, and social well-being. It is not merely the absence of disease or infirmity. –World Health Organization¹³

There is a powerful relationship between the quality of our physical environment and the state of our health. Transforming housing and public spaces into healthy places will create conditions which are more conducive

to community well-being. Support the physical, mental, and social well-being of residents with

- healthy and affordable housing options
- safe, comfortable, and convenient transportation choices
- healthy foods
- access to the natural environment

¹² This box draws on UN Environment 2019.

¹³ Quoted in ULI 2013.

PLACES MATTER FOR HEALTH

Around the world, many communities are facing health issues. By 2030, chronic diseases will cause 52 million global deaths per year, nearly five times the mortality from communicable illnesses¹⁴. The largest killers of our time remain heart disease and strokes, cancers, and diabetes. Their leading risk factors are obesity, physical inactivity, and poor diets. These threats are high in deprived areas. Sustainable neighbourhoods are a crucial strategy in the fight against chronic diseases. Health begins in homes, workplaces, schools and communities. Where we live and work has strong impacts on well-being. A community's infrastructure and access to opportunities

are important determinants of wellness. Active travel in safe streets, vibrant public spaces, healthy and affordable food nearby, and fitness options are essential for people to engage with each other, eat nutritiously, workout, and play. The neighbourhood layout shapes healthy choices and behaviours. Public transportation, building maintenance, presence and quality of sidewalks and areas to play or exercise, all influence community well-being. The density and proximity of grocery stores that sell fresh fruits and vegetables also impact hugely on diabetes and cardiovascular disease prevalence.



Healthy and active street in Paris. Source: APUR bdrues 2018.

¹⁴ ULI 2015.

Neighbourhoods are a cornerstone of health equity.

All communities don't have equal access to clean air, affordable and nourishing food, or safe and well-maintained housing and public realm. Too many people today live in places that make choosing healthy behaviours extremely difficult. These areas don't facilitate physical activity. Exposure to environmental toxins is high. Nearly 1 billion people around the globe are currently dwelling in urban slums, where physical space is scarce and social distancing impossible in pandemic times. Many rely on daily wage labour for survival. Space constraints, violence, and overcrowding in slums make self-quarantine impractical, and the rapid transmission of an epidemic disease highly likely. Moreover, shelter-in-place restrictions such as the ones applied to contain Covid-19 often limit their access to basic needs like food and water.

Even within the same city, communities are far from being equal regarding health.

In New York City, poverty in unhealthy neighbourhoods translates into lower life expectancy, increased infant mortality, obesity, and mental illness disproportional occurrence. Life expectancy in East Harlem, where residents are mainly black and Hispanic, and deprivation is more prevalent, is 8.6 years shorter than in the Upper East Side, a white community just a few blocks south. People in the Bronx live only 75–79 years while they live 83–85 years in Manhattan¹⁵. Covid-19 has hit these vulnerable populations harder. It has impacted disproportionately the poorest communities with ethnic minorities. For instance, the Queens had end of July 2020 among the highest rates of Covid-19 cases with 1 in 23 people and deaths with 1 in 244 people. This is four times more for the cases and eight times more for the deaths than in Manhattan. In Manhattan, some neighbourhoods had 1 case in 103 people and 1 death in 2,016 people¹⁶.

¹⁵ City of New York 2019.

¹⁶ Data sources : New York Times.

<https://www.nytimes.com/interactive/2020/nyregion/new-york-city-coronavirus-cases.html>

New York City, is one of the world's hardest-hit city – with 227,882 NYC confirmed cases and 22,936 deaths – as of July 25, 2020.

¹⁷ Greater London Authority 2010.

¹⁸ Greater London Authority 2010.

In London, average life expectancy reduces by a year for every tube stop passed from Central London going east¹⁷.

Men's life expectancy at ward level in London ranges from 71 years in Tottenham Green ward in Haringey to 88 years in Queen's Gate ward in Kensington and Chelsea – a seventeen years' difference. Even within Kensington and Chelsea itself the gap is nearly 12 years¹⁸. In London, the Covid-19 death rate in the worst-affected boroughs is twice that in the least impacted. Boroughs with greater levels of deprivation – such as Newham, Tower Hamlets and Hackney – are also those with the highest age-standardized mortality rates from Covid-19¹⁹.

Covid-19 has hit harder communities with the prevalence of chronic diseases and lower life expectancy.

According to the data for the week 7–13 September published by the WHO²⁰, 95% of all Covid-19 deaths in Europe with information available had at least one underlying condition. Cardiovascular disease is the leading comorbidity (76%). Other comorbidity factors are diabetes (46%) and obesity (11%). Reducing chronic illnesses in disadvantaged neighbourhoods with healthy long-term planning strategies must become a priority to mitigate the death impact of pandemics.

Moreover, health risks lead to lost wages and diminished quality of life, particularly for residents of very poor communities.

This situation demands to create a safe environment for all through targeted interventions that facilitate a healthy life in deprived areas. For achieving the long-term goal of eliminating health inequality, planners should address the wider determinants of health: having good accommodation in healthy neighbourhoods; enjoying employment prospects and earning capacity; having access to health and social care.

¹⁹ <https://www.kcl.ac.uk/news/how-coronavirus-is-impacting-london>

²⁰ This report states cumulative cases across the Europe Region at 4,857,845 cases in week 37/2020 and cumulative deaths at 225,941 deaths.

<https://www.euro.who.int/fr/health-topics/health-emergencies/coronavirus-covid-19/weekly-surveillance-report>

Designing healthy places requires an inclusive strategy. Public health is no longer just the business of health care professionals. City officials, urban planners, transport specialists, architects, builders and real estate developers all have a role to play in solving health issues. A holistic approach establishes communities with strong social bonds, recreational opportunities, and economic security. It strives for health fairness among all neighbourhoods, regardless of race, ethnicity, age, gender or social status. It addresses the causes of inequities in residents' daily lives. It guarantees health care, and facilitates healthy lifestyles. Long-term goals are

- Advance equity by addressing the health needs of all communities.
- Design a physical environment that creates the conditions for well-being.
- Make healthy lifestyles easier.
- Guarantee high-quality, affordable, and accessible health care for all.

START BY ASSESSING HEALTH ISSUES

Multiple dimensions connect health and place. They include

- availability of health services.
- air and water quality.
- opportunities for exercise.
- universal design.
- community resources.
- connections between green space and mental health.
- healthy food.
- noise.
- health effects of disaster.
- safety.

Actions for improving health in neighbourhoods should engage the community. Individuals and communities need to develop the knowledge, skills and confidence they need to take control of their health and the factors that affect it, and play an active role in the well-being of others. Health is a common interest that draws people together. A health review and action plan should strengthen ties between planners, public health professionals, project stakeholders, residents, and developers. Involving a broad base of individuals and organizations can bring understanding and support to the process. When residents have a voice in local decisions, the distribution of resources is more likely to be fair, and in a manner that addresses neighbourhood issues.

- Identify actions that have multiple benefits: for instance, a park offers physical activity options, heat island mitigation, recreational advantages, and mental health improvement.
- Prioritize programmes that will support many groups. A broader view of health may engage more people and draw more resources.

Health outcomes are linked to biological and behavioural factors, and to the physical and social context. The complex relationships between those elements change overtime. Planning healthy neighbourhoods requires to consider many cross-cutting issues.

Health Impact Assessments (HIA) quantify and qualify the health impacts of proposed policies, plans, or development projects. They analyse the distribution of benefits and costs within the community. HIAs recommend health surveillance and management strategies. They engage decision makers outside public health, such as transport and land use. HIAs can be voluntary or regulatory processes.

Check list of preliminary questions for examining a proposal, plan, programme, or place²¹

Each community has unique sustainability and health issues, needs and goals. Health impact assessments analyse the potential health effects of a proposed policy or project. They identify strategies to reduce harm and increase benefits. The following key questions are important to address when assessing any plan for its sustainability. They are highlighted here because they refer to planning aspects that impact both neighbourhood sustainability and community health.

- **Reversibility of change.** Are the transformations difficult or expensive to retract once put in place? If a transformation has adverse health effects, such as for example increasing heat island effect, will it be easy to retract?
- **Land use.** Does the plan modify the land use? The balance of land uses is important to create a healthy neighbourhood. It should include a mix of housing – including affordable housing –, retail providing healthy food, health and education facilities, public parks to exercise. The plan should leave space for this healthy mix of activities and not create a dominant land use.
- **Natural environment.** Will the plan alter the ecosystem? Does it increase or reduce water runoff, air quality or noise? Air quality and noise environment have important impacts on human health. Stagnant water can be a vector for diseases. More generally healthy ecosystems are necessary to support a healthy living.
- **People.** Does the plan affect a significant number of residents or workers? Does the proposal displace people? Does the project involve a vulnerable group such as children, senior, people with low incomes, or with disabilities?
- **Impact on health.** Have the plans identified local problems such as traffic safety, air quality, lack of nutritious foods, contaminated brown fields? Are the health effects on any part of the population disproportionate?

IMPLEMENT PRIORITY ACTIONS FOR PANDEMICS

- **Inadequate housing**
 - Shelter population at risk in times of pandemics.
 - Identify land within three kilometres of settlements – in close proximity to ensure residents can retain social ties. Use it for shelter relocation or de-densification measures. In the long term, develop new, low-income housing in these locations²².
 - Avoid evictions. Displacement and homelessness impact negatively on health and precipitate pandemic spread. Forced expulsions, sometimes in the name of hygiene and dispersing dense slum settlements to avoid communicable disease spread, have regularly contributed to greater spread of illness among both the displaced and general population²³.

²¹ This section draws on Forsyth et al. 2017.

²² <https://link.springer.com/article/10.1007/s11524-020-00438-6>

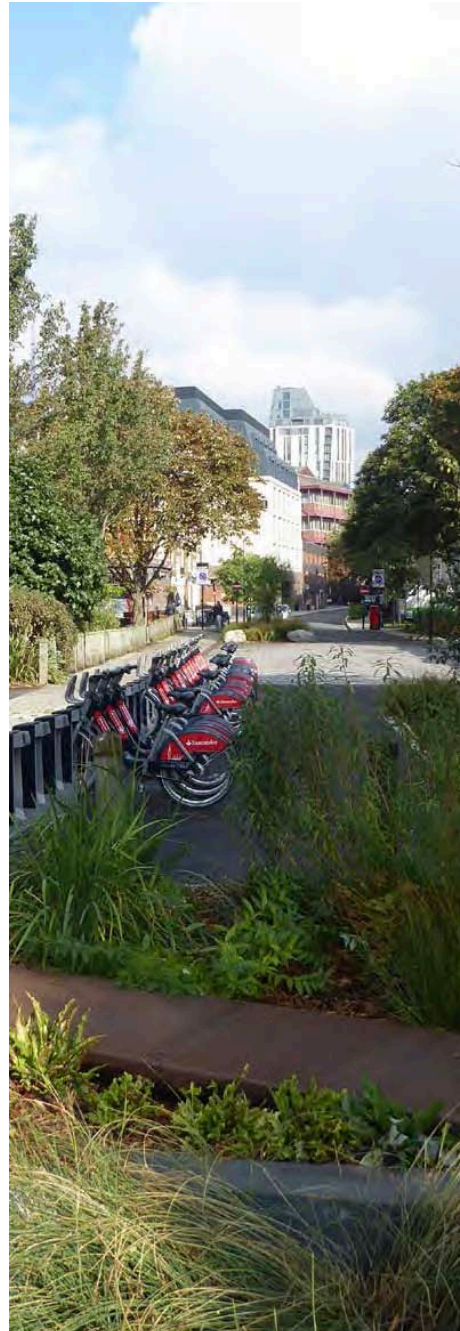
²³ <https://link.springer.com/article/10.1007/s11524-020-00438-6>

- **Lack of sanitation**

- Prioritize providing basic needs, including fresh water and sanitation.
- Support community leadership in delivering health care and emergency preparedness.
- Develop a coordinated solid waste collection strategy for all urban slums.

- **Disruptions to public service delivery**

- Scale up public health diagnostics and care capabilities in underserved areas.
- Enact plans for emergency transport into and out of settlements. Plans made with community residents should identify evacuation routes. Keep them clear to ensure sick people can reach health care and that emergency services can get in and out in a timely way.



Active streets and bike sharing in London. Source: Mayor of London 2018.

ENGAGE IN LONG-TERM PLANNING FOR HEALTHIER COMMUNITIES

Cities must establish partnerships between urban planning and public health to tackle persistent health inequities that are the result of social and spatial determinants such as income, transportation, housing, and safety. Uneven development creates unfair disparities in health outcomes and life expectancy. Cities should promote programmes that encourage improved design of buildings, streets, and neighbourhoods and link them to social and health resources.

Implement multiple approaches at different but interconnected scales. Several actions should be balanced with trade-offs. Processes that work satisfy many needs and desires that are often contradictory. Transformations should involve diverse activities done simultaneously and appealing to distinct groups. Dimensions other than physical such as programmes, pricing, education, social pressure affect and may change behaviours. Comprehensive approaches produce much greater effects than isolated and uncoordinated policies. For instance, in Copenhagen cycling strategy, the synergies between complementary measures increase the impact of any single activity and aim to make cycling a healthy lifestyle shared by half the residents.

ROADMAP FOR BUILDING HEALTHY PLACES

Building healthy places is inextricably linked to environmental justice. This is why communities must be the impetus for implementing local solutions for environmental health problems. However, far too many communities lack the capacity to truly effect their environmental conditions. This includes some conditions found indoors, as well as conditions caused by outdoor impacts (such as climate change). Thus, the first actions in a roadmap is to engage the community and put people first.

Prioritize people with health vulnerabilities and low resources. Groups susceptible to health problems encompass the youngest and oldest population, those with chronic illnesses risk factors, and those with low income. The key objective is to undo disparities in how long people live and how healthy they are

- Understand where the most fragile groups are.
- Identify how their neighbourhood condition affects their health: access to clean water, healthy food, community interactions, public realm encouraging an active life.

In sustainable communities, health is a crucial part of the planning process. Everybody has safe and convenient access to the goods and services needed in daily life. Diverse housing options, grocery stores and commercial premises are available. Such neighbourhoods offer quality public schools, open spaces and recreational facilities. They are served by frequent transit. Interconnected networks of streets and sidewalks make walking and bicycling easy for residents of all ages and abilities.

- **Engage the community in planning and follow-up of actions, in particular consult people with specific needs, women, children, elderly people, people with disabilities.**
 - Engage the people with specific needs on practical solutions for the neighbourhood to ensure universal access and safety to all
 - Identify potential issues and put in place actions, engage the community in implementation and follow-up.

- **Put people first .**

- Ensure availability of clinics at less than 20 minutes by public transportation. Health care provision is a major policy to advancing health equity.
- Give access at proximity to a fair school system delivering a high-quality education to children of all backgrounds. Better educated people have improved health outcomes, and live longer.
- Provide public community centres or gathering spaces less than 15-minute walk from homes.
- Create opportunities to interact with others in positive ways.
- Support the common interests, households and family ties, and events that bring residents together. This increases inhabitants' sense of belonging to their communities and enhances informal control of anti-social activities.

Children



Source: Mayor of London 2018.

- Provide safe and easy-to-navigate routes for children to walk or bike to school.

- Increase children's safety and health with amenities such as cycle lanes and paths connecting homes and schools, bike racks, and programmes that reward children for walking and biking.

- **Ageing population and people with disabilities.**

Set a target for all homes to make independent living as easy as possible for as long as possible. Provide accessible and adaptable accommodation for everyone, from young families to older people and individuals with a physical impairment. Some of these needs can be met through modifying existing stock. New build offers an opportunity to deliver inclusive environments that enable the elderly and people with disabilities to participate equally in community life.

- Provide accessible housing alternatives for older adults who desire to stay in their house or within their communities as they age.
- Enable people to age in place and live independently in their homes with infrastructure, services and opportunities. Walkable communities connected by safe level sidewalks, with well-marked pedestrian crossings and adequate lighting will serve people as they age, when they have limited mobility and can no longer drive.
- Promote active lifestyles for seniors with frequent public transportation service, nearby grocery stores and health care facilities, and gathering places.

- **Recognize the economic value.**

- Finance health improvement with land value capture. Compact, walkable communities provide economic benefits through higher home sale prices, enhanced marketability, and faster sales or leases than conventional development.

- **Empower champions for health.**

To cultivate a shared vision of a healthy community, they should

- Communicate the benefits
- Encourage grassroots action
- Broaden the base
- Forge partnerships

- **Reduce harmful exposure.**

Environmental hazards translate into bad health, loss of wages, and diminished quality of life. Poor communities' residents share an exorbitant risk burden.

Air Quality

Both indoor and outdoor air pollution have an adverse impact on health. Indoor air pollution refers to chemical, biological and physical contamination of indoor air. In developing countries, the main source of indoor air pollution is biomass smoke which contains suspended particulate matter, nitrogen dioxide (NO₂), sulphur dioxide (SO₂), carbon monoxide (Ca), formaldehyde and polycyclic aromatic hydrocarbons (PAHs). In industrialized countries, in addition to NO₂, CO, and formaldehyde, radon, asbestos, mercury, human-made mineral fibres, volatile organic compounds, allergens, tobacco smoke, bacteria and viruses are the main contributors to indoor air pollution. Many reports and studies indicate that the following populations may be disproportionately impacted by indoor asthma triggers, second-hand smoke, mould, radon and other indoor pollutants: children, the elderly, low-income, minority. Outdoor air contaminants are a major public health concern, causing respiratory and other diseases. The burning of fossil fuels, produces air pollutants such as NO_x, SO_x, and PM_{2.5} that directly impact human health.

Data collection and analysis, and community engagement, can allow identifying targeted air quality improvements both indoor and at street level. Some options include

- Engage residents in seeking a comprehension of air pollution patterns in their communities (buildings and streets), and encourage participants to exchange ideas and data.
- Control sources of indoor air pollution. For most indoor air quality problems in the home, source control is the most effective solution.
- Improve ventilation. Ventilation and shading can help control indoor temperatures. Ventilation also helps remove or dilute indoor airborne pollutants coming from indoor sources. This reduces the level of contaminants and improves indoor air quality. Carefully evaluate using ventilation to reduce indoor air pollutants where there may be outdoor sources of pollutants, such as smoke or refuse, nearby.
- Deploy and maintain real time streaming PM_{2.5} sampling units at critical locations to understand how levels of pollution vary throughout the day across diverse neighbourhoods.
- Reduce level of greenhouse gas (GHG) emissions and noxious pollutants.
- Support an equity and health-focused implementation of housing, transportation, energy efficiency, and waste programmes, including congestion pricing, building energy mandates, and commercial waste zones.
- Avoid roads with six or more lanes
- Reduce existing roads number of lanes
- Create large planted sidewalks.

Climate change and Urban Heat Island

Heat threatens the health and quality of life. Climate change will have different effects on neighbourhoods. Rising temperatures will starkly impact low-income areas with little green canopy, creating heat-vulnerable places.

- Extend shade and tree cover.
- Increase the albedo – the reflection of sunlight and heat – of street paving and roofs.
- Replace substantial paved areas by permeable pavement.

Disasters

- Avoid building in flood plains or near hazardous industries.

Buildings

- Build with materials that decrease indoor air pollution.
- Use recycled or renewable materials.
- Promote a healthy orientation to daylight and allow fresh air to circulate with solar exposure and bioclimatic design.
- Green the roofs. This provides insulation and diminishes energy demand and utility costs. Green roofs reduce noise and mitigate the urban heat island effect. They offer open spaces for people gatherings and recreation, and community gardens.

Housing

Living in bad quality housing exacerbates health inequities. Cold, damp, mould, indoor air pollution, and poor maintenance are linked to physical and mental illnesses including respiratory conditions,

anxiety, depression and, in extreme cases, hypothermia. Overcrowding increases the risk of accidents and reinforces health inequalities, with a particularly negative impact on children. Inhabitants of overcrowded households also have higher rates of respiratory and infectious diseases and of mental health problems.

- Ensure all citizens have access to safe, secure and affordable housing.

Noise

Noise pollution is a major environmental health issue. It contributes to sleep disturbance, cardiovascular issues, poor work and school performance, and hearing impairment. Actions to address the problem includes the following measures.

- Prepare neighbourhood noise maps that inform the development of action plans designed to prevent and reduce harmful exposure.
- Soundproof housing against external noise
- Transportation and road traffic noise is a dominant source affecting human exposure²⁴. Measures that can be implemented at neighbourhood level range from actions that control noise at source, such as introducing low noise road surfaces, through to measures such as improving urban design to reduce traffic volumes and restricting housing developments in high noise areas. Among design measures are: avoid roads with more than six lanes and reduce speeds; prevent large vehicles and heavy traffic on residential streets.

²⁴ In Europe, around 100 million people are exposed to road traffic noise above 55 dB in the 33-member countries of the European Environment Agency (EEA). Of these, 32 million are exposed to very high noise levels (above 65 dB). Railways is the second-largest source, with 19 million people exposed above 55 dB. Aircraft noise, close to major airports, is the third main

source, with more than 4.1 million people exposed, followed by industrial noise within urban areas, with 1.0 million people exposed. <https://www.eea.europa.eu/highlights/road-traffic-remains-biggest-source>

Noise pollution produced at construction site is harmful both to the health of those involved in the construction projects and for the neighbouring community. The significant solution against noise pollution at construction site is by applying muffler or silencer on construction machinery and equipment.

Toxic substances

- Remediate to problematic past contamination.

Water

Water stagnation exposes people to waterborne and vector-borne diseases.

- Design streets for easy maintenance and proper water flow management.
- Improve water cleanliness.



Street design for active living. Source: Mayor of London 2018.

▪ Energize shared spaces.

People are more likely to be active in a community designed around their needs and where amenities are reachable by walking or biking. Access to parks, walking paths and exercise facilities near work and home, leads to increased physical practice.

- Create a plaza-like feel with zero-grade separation between sidewalk and street right-of-way.
- Accommodate both pedestrian and retail activity with wide sidewalks.
- Slow cars and make streets more attractive for shoppers and pedestrians with trees and public art.
- Create an inviting and accessible atmosphere with active and at-grade ground-floor uses and street furniture
- Announce a low-speed environment for active travel with pavement changes.

▪ Make healthy choices easy

- Create cleaner, safer, more beautiful streets – to overcome the physical barriers to an active lifestyle.
- Program easy, fun, and inclusive opportunities available to all – to surmount the perceptions that keep people from changing their behaviour.

- **Ensure equitable access with universal design principles**

Universal design encourages accessible transportation use for seniors and people with disabilities.

- Provide options for getting around.
- Increase access for people with different abilities and needs.
- Ensure that mobility impaired residents and workers can go around without a private car.
- Promote barrier-free and independent ingress through such elements as kerb cuts, transit ticket machines accessible for wheelchair users, and buses equipped with ramps rather than onboard lifts.

- **Mix it up.**

Activities connect people with each other to form a community. Neighbourhoods should offer a healthy mix of schools, markets or shops, jobs, areas to recreate, and other places for learning and sharing information (for instance libraries).

- Create a vibrant community life.
- Improve physical and social activity with varied land uses, building types, and public spaces.
- increase access to essential goods and service



Vibrant street life in Paris. Source APUR bdrues 2018.

- **Embrace unique character.**

- Design paces that are different, unusual, or unique to promote physical activity.

- **Incorporate Nature.**

Nature draws multiple health benefits: physical activity, diminished stress, longer life expectancy, stronger social bonds. Providing access to nature with street trees and landscaping can reduce blood pressure and improve emotional and psychological health.

- Weave nature into a community by investing in new parks, greening sidewalks, and creating waterscapes.
- Bring people close nature while achieving on-site water treatment, healthy food production, and other natural processes.



Water and green spaces in Bo01 Malmö. Photos: ©Françoise Labbé.



Food streets and market in Paris. Source: APUR bdrues 2017.

▪ **Promote access to healthy food.**

Diet strongly affects human health. A core part of physical and mental health is providing nutritious and accessible food. Yet, not all neighbourhoods have access to healthy and affordable food. Healthy food should be a key target of any development proposal.

- Create a flexible plan that incorporates a healthy food retail offer.
- Ensure residents have diverse options to purchase affordable and nutritious food at walking distance.
- Increase access to lower-cost sources of healthy food.
- Support vendors, grocery stores and markets offering healthy food at different price ranges.
- Increase healthy food shopping opportunities in strategic places.
- Concentrate most food stores in locations where people already walk, cycle and take transit.

- Establish community gardens. Beyond nutrition, they create long-lasting social connections within the community and have mental health benefits.
- Develop urban agriculture to provide sources of fruits and vegetables within 20 minutes by public transportation.

▪ **Make it active with urban design.**

Most of early death main causes in cities are linked to inactivity, including the two big killers – heart disease and cancer. This inactivity is in part due to an overdependence on cars, even for brief trips. Insufficient exercise is one of the ten leading risk factors for death across all income scales worldwide. Everyone needs to keep their body active throughout their whole life to keep it functioning well. Physical activity keeps our hearts healthy and blood pumping to all our organs, including our brains, which assists in preventing certain long-term conditions such as stroke and some cancers. It also keeps us feeling positive and to sleep well.

- Increase opportunities for exercise in daily life. People who live in places with good pedestrian amenities, bicycle infrastructure, parks and trails have higher rates of physical activity²⁵.
- Provide parks or trails less than 500 metres from all homes.
- Design safe and accessible sidewalks and cycle facilities to promote physically active modes of transportation.



Community volunteering at Sydenham Garden Horticultural Therapy Project Lewisham. Source: Greater London Authority 2010.

Activity, health and travel²⁶

A person who is physically active daily reduces risk of

Type 2 diabetes 35–50%

Depressions 20–30%

Coronary heart diseases 20–35%

Alzheimer's disease 20–35%

Breast cancer 20%

Colon cancer 30–50%

By mode of travel, the time spent being physically active during an average journey is

by car: <1 minute.

by public transport: 8–15 minutes.

walking: 17 minutes.

by bicycle: 22 minutes.

²⁵ ULI 2015.

²⁶ Source: *Start active, stay active: a report on physical activity for health from the four home countries*. Chief Medical Officers, www.gov.uk, July 2011.

CASE STUDY: THE ENABLING VILLAGE IN SINGAPORE, WOHA ARCHITECTS

Bonding and healing of people with varying abilities within a biophilic environment



Enabling Village in Singapore, WOHA Architects. Nest Block & Garden Cabana. Photo © Patrick Bingham-Hall.

Located in Redhill, the project is a demonstration of heartland rejuvenation and community building, through Master planning and the adaptive reuse of Bukit Merah Vocational Institute built in the 1970s. The property was re-purposed as the Enabling Village - an inclusive space that integrates education, work, training, retail and lifestyle, connecting people with disabilities and the society.



Enabling Village in Singapore, WOHA Architects. Nest Block & Garden Cabana. Photo © Patrick Bingham-Hall

Before re-development, the property did not contribute to the neighbourhood. The Masterplan re-imagines the Enabling Village as a park/garden destination, and is designed as an integral part of the neighbourhood's pedestrian network.

The design scope includes architecture, interior design, signage, lighting, art and landscaping to deliver a holistically integrated environment.

The new Nest building is anchored at the main pond and serves as a beacon, drawing pedestrian flow through the new linkways. A timber terrace is laid over the courtyard at the Playground, stepping down as an amphitheatre with integrated ramps. The terrace continues under and past the building as a balcony overlooking activity islands and as a garden trail connecting to the adjacent housing precinct. Art is integrated into the garden with building-scale murals, incorporating artwork by autistic artists.

Landscaping and water gardens are designed with a variety of native species, scales and colours, complementing the conserved trees to attract biodiversity and support ecosystems. Verandas and cabanas extend out from passages as outdoor meeting spaces, bringing nature closer to people.

The Enabling Village champions sustainability and sociability by promoting the learning, bonding and healing of people with varying abilities within a biophilic environment. This creates an inclusive space that enables and values everyone

PROVIDE SOCIAL INFRASTRUCTURE

Planners should ensure that social and cultural premises are available. The location of convenience stores should be central. They should not undermine the vitality and viability of other existing centres. Locating commercial, recreational and community uses, including local employment at close proximity minimizes travel needs.

- **Schools**

New or regenerated neighbourhoods can trigger demand for new schools, especially when families are attracted to the area. Scheduling should facilitate the timely delivery of new school buildings. No substantial residential development should be undertaken without assessing the capacity of existing schools and the establishment of new schools.

- **Childcare**

Provide a childcare service (equivalent to at least 20 places) for 75 dwellings. The threshold should consider the existing distribution of childcare structures and the emerging demographic profile of the community, particularly family size. Parents should have easy access to childcare sites.

- **Community Centres**

Community centres establish a vibrant community. Timely, accessible provision will support the residents' quality of life. They should be adjacent or integrated with other community complexes to strengthen inclusiveness and to guarantee everybody can reach them by walking or public transport. Securing a continuous stream of users will facilitate the operational viability of the centre. Development contribution schemes can fund these new facilities.

- **Health care and eldercare**

Planning should understand the diversity of needs, such as the elderly and people with disabilities. It should provide alternative forms of housing and retirement homes. Given the ageing of the population in many cities, planning authorities might consider supplying independent housing for old people with common resources and caretaking. Such a development would offer residential choices for seniors who don't wish to enter a retirement home

BUILD MIXED-INCOME HOUSING NEAR PUBLIC TRANSPORTATION

MIXED-INCOME HOUSING IN ACCESSIBLE LOCATIONS IS CRUCIAL FOR INCLUSIVENESS

Good dwellings are essential for physical and financial security, economic productivity, and human well-being. However, the housing gap is huge and growing. Today, around a third of the global south urban population live in informal settlements, where people don't have access to basic services such as electricity, running water or sanitation. Currently, 828 million slum occupants are exposed to climate change hazards and natural disasters, because of substandard shelters aggravated by segregation and inequality²⁷. The worldwide gap in affordable housing concerns 330 million urban households. It may increase by more than 30% to 1.6 billion people, by 2025²⁸. Many cities have tried to solve the challenge by encouraging or forcing residents to move to the outskirts. This approach created its own problems with inhabitants cut off from social networks and left with no employment opportunities. Therefore, community-based initiatives to housing issues need to provide complete, mixed-use, well-serviced and accessible neighbourhoods with livelihood opportunities. Ensuring low-priced housing in thriving communities means more than constructing new homes or conserving existing affordable buildings; it intends preserving access to jobs and services for families.

Dwellings location matters for affordability. Transport is often the second-highest expense after accommodation and may be the first in some African cities. Transport costs as a percentage of total household income vary widely. In the United States, for instance, they account for less than 9% of the budget of a high-income household, but 55% or more of the

budget of very low-income households. In the United States, the average family spends about 19% of their budget on transport with significant differences according to location: households in auto-dependent neighbourhoods spend 25%; those with good public transport and a mix of housing, jobs and shops use only 9%. These 16% savings can be critical for low-income families. It is thus crucial to ensure the construction of more pedestrian and transit-oriented communities, where people can reduce their transportation costs²⁹.

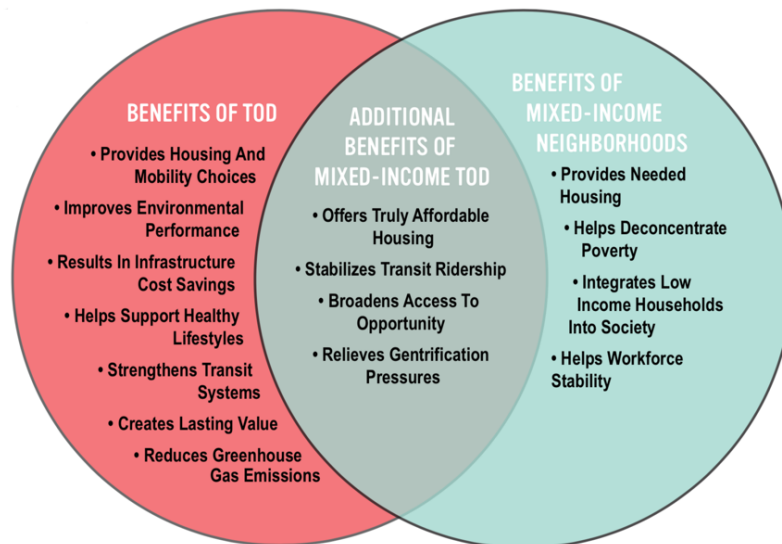
The interaction between the costs of housing and transportation provides a more meaningful measure than the mere dwellings costs. Households tend to discount transportation costs because, while the charges of housing are well defined, transport expenditures are broken down into separate payments for insurance, repairs, tyres and gasoline – and the amount varies from month to month.

The Centre for Transit-Oriented Development has created an affordability index that combines housing and transportation costs for a neighbourhood or region and divides it by income. This index is a tool for families who want to compare costs in different neighbourhoods when deciding where to rent or buy. It is also an instrument for planners and policy-makers. It demonstrates the relevance of building mixed-income housing in the pedestrian and mixed-use neighbourhoods near public transport. It highlights the importance of preserving existing affordable housing in places with low housing and transport costs.

²⁷ World Bank 2017.

²⁸ King et al. 2017.

²⁹ Centre for Transit-Oriented Development. TOD 201.



The combined benefits of mixed-income neighbourhoods and TOD. Ensuring a variety of revenues in well-connected pedestrian communities diminishes transportation costs and greenhouse gas driving-induced emissions. It bridges the growing gap between the wealthy and the poor. Source: The Centre for TOD.

PROVIDE HOUSING FOR ALL IN ACCESSIBLE LOCATIONS

Many obstacles may prevent building mixed-income housing near public transport³⁰

- Single-use zoning can reduce growth potential and make the creation of affordable units financially unachievable.
- Land costs around stations are high or increasing due to speculation when planning a new public transport line.
- Affordable housing developers don't have the capital to purchase land before prices rise and keep it until it is ready for construction.
- Financing for affordable housing is limited.
- Mixed-income and mixed-use projects demand complex funding structures.
- Often few development sites may be accessible at the beginning, because the neighbourhoods around stations are already built. The available plots can be small and fragmented and require assembly and rezoning, which results in lengthy acquisition and permit processes that increase costs.
- Community opposition to density and low-priced housing can be challenging. Community outreach

and education from the start can be very helpful, but it can also be time consuming and costly.

- Cost-effective schemes on these sites require collaboration between the public, private and not-for-profit sectors, which can be difficult to conduct given the different wants, constraints and timetables of each partner.

A coordinated and collaborative planning for mixed-income housing and for public transportation is key to overcome these challenges.

Heightened density and allowing more dwelling units on the same amount of land may mitigate high land cost in accessible places with good amenities (schools, employment centres). When planning for new transit infrastructure, cities need to

- integrate regulatory changes permitting higher density.
- Plan and invest in mixed dwelling types including affordable housing

Providing housing for all involves two interlinked actions

³⁰ Centre for Transit-Oriented Development. TOD 201.

- **Building quality housing, connected to open-air, and incorporating flexibility.** Dwellings should offer enough space, clean water, waste water treatment, lighting, thermal comfort, waste disposal, nontoxic surfaces, good ventilation, and personal safety and security. They should give access to outdoor through terraces or at least balconies. Space should be sufficient to allow for

changes in the household structure (for example adding children, hosting ageing parents).

- **Neighbourhoods should comprise options for healthy housing across a person's lifespan.** People want to age in place³¹. One way to achieve this is to provide a mix of housing types, including dwellings with services like meals and home care.



Left: Housing arrangements. Right: Balanced mix of housing choices along a transit corridor. Source: World Bank 2018.

Neighbourhoods should offer diverse housing choices with a mix of types, styles, price ranges and tenure.

They should accommodate households of varying ages, sizes, incomes, and preferences. Diversity supports family stability and health. Communities with housing for diverse incomes deliver improved economic, social and environmental outcomes. They enable people of all revenues to live in safe places near well-funded schools and good municipal services, with access to jobs and opportunities. They allow families to continue living in the same community, when the children grow up and look for their own apartment; and when the parents want to reduce their dwelling conditions. The pluralism offered by mixed-income housing improves the stability and sustainability of the community. It guarantees that low-income households are not isolated in concentrations of poverty. Besides, the mix of inhabitants from diverse backgrounds and experiences fosters innovation and increases the possibilities for people to share and combine ideas from different perspectives and traditions. Mixed-income housing also stretches the limited resources

available to meet the shortage of inexpensive dwellings. Including market-rate units reduces the subsidies required to build affordable ones and ensures high quality design and construction.

Mixing occupancy promotes social and generational diversity.

It is therefore important to blend various building types. Mixing different tenures throughout an area ensures that a diversity of housing types and ownership patterns are sprinkled, rather than clustered into exclusive enclaves. Physical and financial planning should proceed hand in hand.

The following policies can be implemented³²

- **Permit modular homes to reduce upfront construction costs.**

³¹ For example, 84% of Americans over age 50 want to stay in their own homes as long as possible, according to a survey by AARP (formerly the American Association

of Retired Persons). This proportion rises to 95% of people over 75 years old. ULI 2013.

³² Adapted from World Bank 2018.

- **Reduce administrative costs.**

Complying with complex building codes, environmental and land-use rules, impact fees, and regulatory barriers can add time and resources to planning and construction of housing. Permitting and development review processes should be expedited for affordable housing. Project facilitators can help navigate the procedure. Adopting rehabilitation codes can streamline home improvements.

- **Take a life course approach to creating a housing mix.**

- Promote diverse building types—accessory dwelling units, single family and multifamily homes, to accommodate residents of different ages.
- Ensure that projects employ universal design features to minimize mobility barriers within homes, and neighbourhood public space and streets.

- **Provide high quality housing.**

- Ensure that all homes have access to green and public spaces, are protected from external noise, have proper lighting, shading and ventilation.
- Ensure good internal air circulation, structural integrity, and maintenance of buildings.

- **Ensure a minimum affordable housing supply for low- and middle-income groups.**

- Minimum percentage of FAR for all development projects to be granted to rental or for sale or for low-income families.
- Dwelling options should accommodate a mix of income levels and age groups.

- **Adopt incentives in promoting housing for all.**

- The developer may receive additional FAR for providing affordable housing.
- Projects providing affordable housing shall be eligible for fast track approval process.

- **Use strategies beyond size and density to protect affordability.**

- Several models provide innovative tenure, such as community land trusts that own the land while the resident owns the home, non-profit ownership, and government ownership.
- Other techniques can reduce cost, such as helping owners construct all or part of the home themselves, subsidizing interest, and promoting rent-to-own schemes and shared equity programs.

Underutilized inner-city land and buildings should be transformed into inexpensive housing. Instead of pushing the poor away, cities should incentivize the conversion of underused well-located urban land. Realistic regulations and standards, including allowing for progressive improvements and construction of housing, are essential. Planning processes, zoning rules and building codes should be simple and easy-to-understand. They should acknowledge the wide range of market segments, with different blends of tenure, service delivery, quality and deadlines. Community ownership needs to be explored, along with other creative combinations of financing and governance structures with which to revitalize land, structures and neighbourhoods. Financial rewards and taxes on both the supply and demand sides should be considered. To generate resources and provide incentives to convert assets into affordable housing, underused land and structures can be taxed at higher rates than more productive space³³.

³³ King et al. 2017.

A land acquisition or land-banking fund can enable the early purchase of land around public transport facilities or along transit corridors targeted for mixed-income housing – while this land is still affordable.

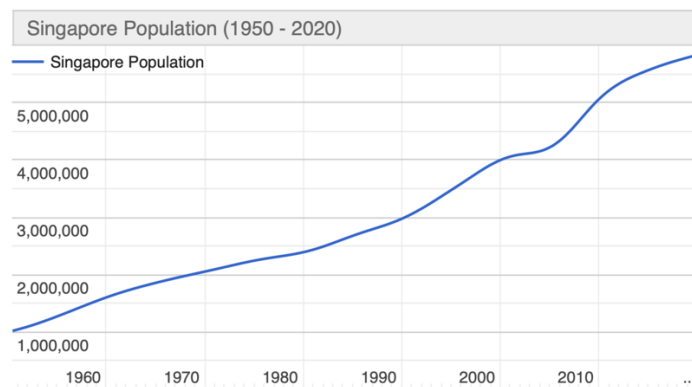
This ensures inclusion of inexpensive dwellings in projects built on these sites and that these schemes will be financially feasible. These funds can also be used to

buy existing dwellings to maintain affordability in neighbourhoods where gentrification is a threat³⁴.

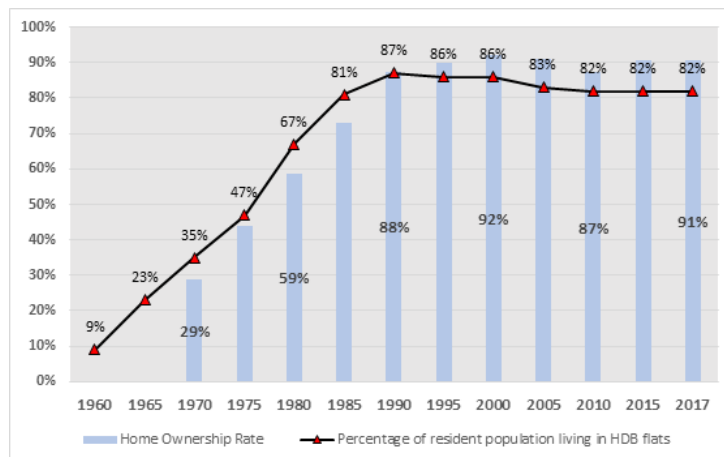
Rental should become an option in cities where high costs make tenancy a necessity. Appropriate subsidies (supply and demand side) should be developed with effective eligibility scales and proper targeting.

CASE STUDY: SINGAPORE AFFORDABLE HOUSING³⁵

In 1960, hundreds of thousands of Singaporeans were living in slums. More than 50 years later, the Housing and Development Board has built 1 million units and they now house more than 80% of Singapore resident population.



Singapore Housing Development Board (HDB) policies have succeeded in 20 years to make Singapore residents' home ownership rate peak at 88% in 1990. The summit was hit after a robust and continuous growth from 29% in 1960. Since 1990 the ratio has been on a plateau for 3 decades reaching 91% in 2017. The percentage of residents living in HDB housing increased from 9% to 81% in 25 years from 1960 to 1985.



³⁴ Centre for Transit-Oriented Development. TOD 201.

³⁵ Adapted from: World Bank 2017.



HDB housing in Kampung Admiralty, Singapore. Architect: WOHA. Photo: © Françoise Labbe.



Left: The 4th floor garden seen from the health care centre. Right: The 4th floor garden. 3D landscaping and stacked amenities create a vibrant community life in this mix use housing block. Photo: © Françoise Labbe.

Four policies have ensured this success

Government commitment

- Enacted the Land Acquisition Act to allow land acquisition at low cost for public use.
- Established the government as the token national mortgage lender for public housing.

Affordable housing schemes

- Include rental and rent-to-own schemes for different needs.
- Establish transparent rules to prevent abuse.
- Set affordable prices and provide subsidies for eligible consumers.

Integrated planning for new town development

- Design townships for seamless development integration and liveability.
- Establish technical support and workforce to build better-quality housing effectively.
- Standardize building components while driving innovation.
- Manage critical building resources.

Estate management

- Require owners to pay services and conservancy.
- Have government provide partial funding for maintenance.
- Leverage technology-based monitoring and management systems.

UPGRADE SLUMS AND INTEGRATE THE INFORMAL SECTOR

More than 20% of the world's population, 1.8 billion people, lack adequate housing. This includes the one billion people inhabiting in informal settlements and slums worldwide. These areas are crowded with deficient household water and sanitation, little or no waste management, congested public transport and limited access to health care facilities. In addition, they suffer from an absence of basic services, secure tenure and decent dwellings.

Enhancement of informal townships should provide greater chances for those who live there with the following approach

- Look at informal settlements as potential opportunities rather than problems.
- Adopt participatory in situ upgrading. In situ improving is preferable to resettlement, except where environmental risks offset

public purpose. Successful programmes offer co-created solutions that harness the knowledge and ideas of the community.

- Improve housing and secure tenure rights.
- Leverage creative funding.
- Diversify ownership structures.
- Integrate physical, social and financial realities in planning.
- Make optimal use of limited space to meet the needs³⁶.

Comprehensive schemes focus on complete neighbourhoods. They create local places with amenities. They typically feature infrastructure upgrades and social programmes such as education and health. They offer an entire range of services, spaces and structures, and are not limited to the living unit.

³⁶ King et al. 2017.

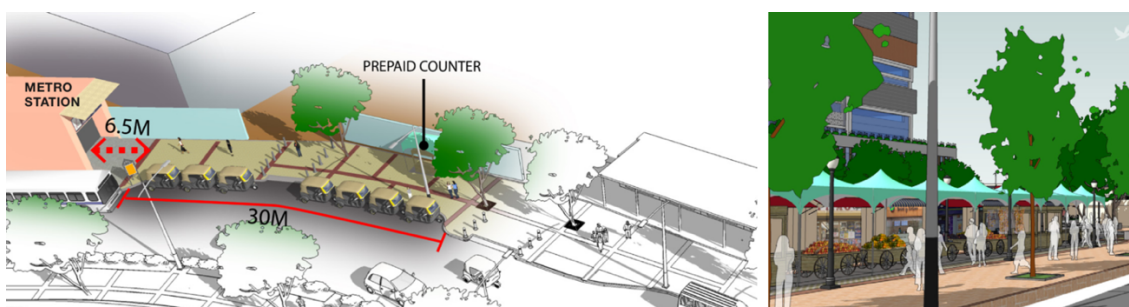


Favela in Rio de Janeiro.

The Favela Bairro (FB) programme in Rio de Janeiro, Brazil, and the Kampung improvement programme in Jakarta and Surabaya, Indonesia, are good examples of holistic approaches. The FB programme is a slum rehabilitation which provided right of use without land tenure full legalization. It was based on *usucapião* (adverse possession) as a statutory instrument of the Brazilian constitution. It also included complementary enhancements in education, health care, access to employment and safety. All have strengthened tenure security for residents. Effective programmes are coherent across different levels of government and on a range of issues, such as poverty, health, schooling, and housing. National, state and municipal strategies define the frameworks and provide synergies adapted locally and stimulated through community

participation. Many neighbourhood redevelopment projects adopt an integrated approach and offer a basket of social services based on local needs. They may include social safety nets, employment, health care, training, educational opportunities, childcare, activities for vulnerable young people, efforts to combat crime and prevention of violence³⁷.

Self-construction should be promoted. Up to 70% of households in developing cities build or upgrade their dwellings incrementally. They can be helped with self-construction toolkits, technical assistance and incentives to ensure construction completion with micro-housing finance schemes. Construction standards and codes should include non-formal dwelling typologies.



Left: Designated informal transit zone. Right: Designated vending zones. Source: World Bank 2018.

³⁷ King et al. 2017.

Neighbourhood redevelopment in fast-growing cities should plan and design for street vendors and informal transportation services. This requires implementing the following actions.

- **Incorporate street vendors and their needs in the public realm**

- Vending zones shall be provided at regular intervals (approx. 10-minute walk from every home/workplace).
- Vending spaces should be marked close to the walking path, especially along high pedestrian volume areas to activate the street and make it safe.

- Determination of zones as restriction-free vending zones, restricted vending zones and no – vending zones.

- **Design for integrated informal transport needs at station areas**

- Organize informal transport and ride-sharing services within 800 m from public transport facilities.
- Provide Multi-Utility Zone (MUZ) of minimum 1.8m width to accommodate bus stops, street utilities, trees, informal transit/NMT stands.

CASE STUDY: PARTICIPATORY SLUM UPGRADING IN INDIA³⁸

Access to housing is a major problem of Indian cities. It is increasingly critical for nearly 100 million Indians living in slums. Projects don't adopt anymore the 'demolish and rebuild' method. Rather, they look at the dwellings and infrastructure conditions to enhance them. The in situ upgrading schemes which include a participatory, decentralized and bottom-up approach are the most successful. They improve living environments and create more functional neighbourhoods. They lead to more engaged communities. Self-governance minimizes dependence on administration support. It provides the organizational basis to resolve persistent issues such as security, access to services, and continued links to livelihoods and social networks. The involvement of women is essential, as they are experienced managers who run households with modest budgets.

Pune in situ upgrading shows how participatory slum improvement is efficient and economically feasible. This scheme aimed to build 4,000 units and renovate 1,099 houses in their original locations, with funding from national and state governments, municipalities and participants. The administration developed the concept. NGOs implemented it in close collaboration with residents. Those were involved throughout the project cycle in surveying, financing, planning and construction. The community contributed to the design selection and incorporated key elements of energy efficiency, flexibility, and place quality. Finally, the scheme provided participants with secure tenure – a legal claim to the homes they had lived in for decades – which ultimately enabled them to renovate them. Pune has been successful because civil society groups have worked with government agencies that could complement their capacities in a shared vision.

³⁸ This box is based on King et al. 2017.

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