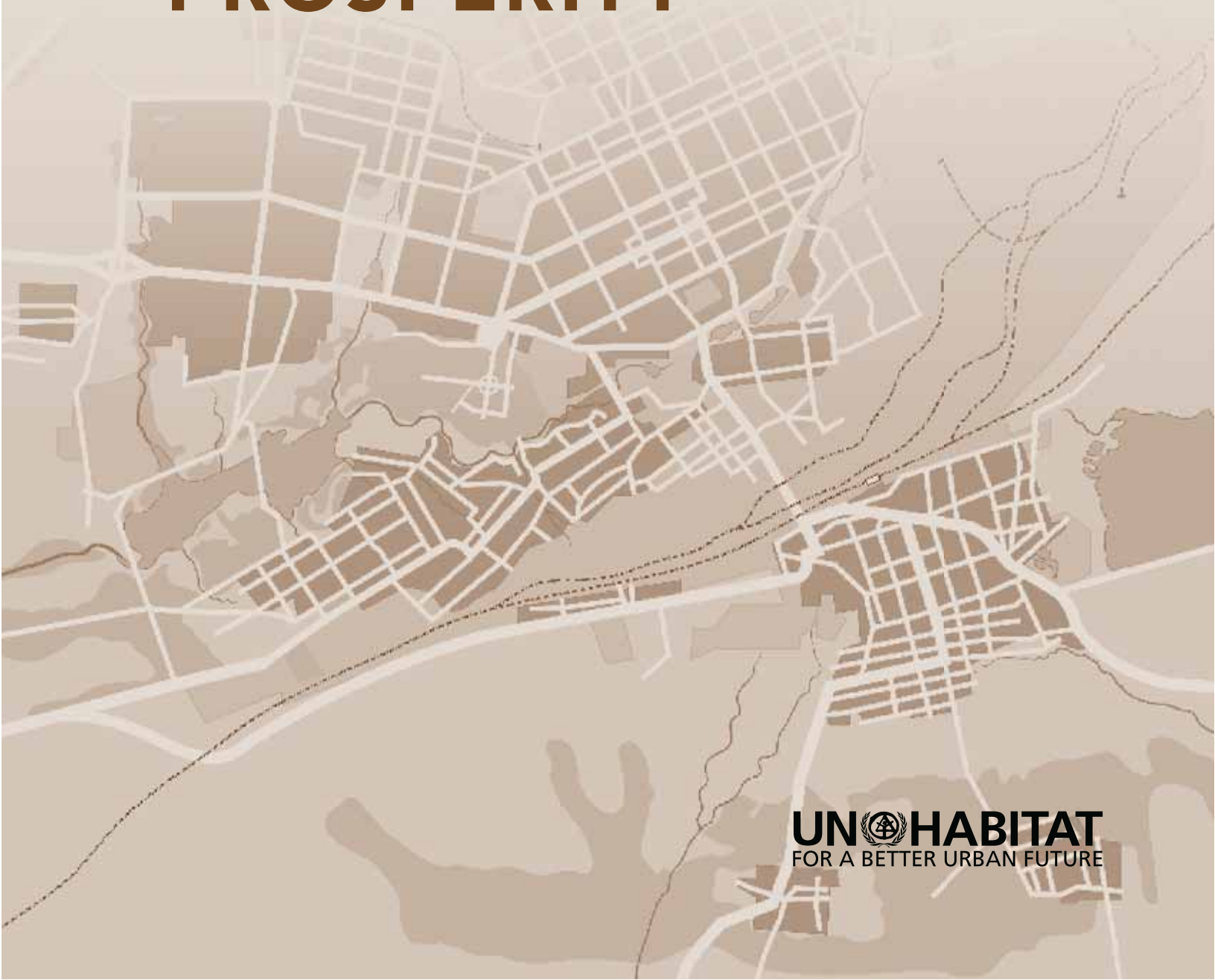
STREETS
AS PUBLIC SPACES AND DRIVERS OF URBAN PROSPERITY



UN-HABITAT
FOR A BETTER URBAN FUTURE

STREETS AS PUBLIC SPACES AND DRIVERS OF **URBAN PROSPERITY**

UN HABITAT

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FOREWORD

In the history of cities, successful urban development has not been possible without an organized physical layout and a system of street interconnectivity within cities. Since ancient times, streets have played a critical role in cities, connecting spaces, people and goods, and thereby facilitating commerce, social interaction and mobility.

Streets, plazas and designed public spaces have contributed to define the cultural, social, economic and political functions of cities. They were – and continue to be – the first element to mark the status of a place, from a chaotic and unplanned settlement to a well-established town or city.

Nowadays, streets and the notion of public space are often overlooked. When planning the city, the multiple functions of streets are poorly integrated and, in the worst cases, are neglected. Streets are usually regarded as mere links in a road network, enabling travel between two or more destinations. This conventional representation of the street as a link has tended to define and use streets only through its movement function, ignoring or subverting the other functions, which are seen as "collateral" uses of the street. Streets have thus progressively lost their multi-functionality as public spaces.

Today, people are reclaiming their streets as public spaces in many corners of the world. Streets are being planned to recover the full use by the communities and as means of social engagement. The planning and design of streets should also recover the needs of all users of this common space: age-groups, gender, economic status and modal means.

In 2012 UN-Habitat presented to the world the notion of city prosperity, which implies success, wealth, thriving conditions, and wellbeing, as well as opportunity for all. Cities that foster infrastructure development, environmental sustainability, high productivity, quality of life, and equity and social inclusion are considered prosperous cities. Building on the notion of prosperity, UN-Habitat emphasizes that for a city to be prosperous, it must have a generous and well-designed street pattern. In this report, UN-Habitat advocates for a holistic approach to streets as public spaces that embraces the concept of livability and completeness. A good street pattern boosts infrastructure development, enhances environmental sustainability, supports higher productivity, enriches quality of life, and promotes equity and social inclusion.

In this report, *Streets as Public Spaces and Drivers of Prosperity*, UN-Habitat is making a first attempt to integrate streets into the five dimensions of prosperity measured by the City Prosperity Index (CPI). These five dimensions – productivity, infrastructure development, environmental sustainability, quality of life, and equity/social inclusion – are all strongly linked to the quality of the street pattern. Elements such as urban form and connectivity become featured in the City Prosperity Index. UN-Habitat's "Composite Street Connectivity Index" (CSCI), introduced in this report, is now an integral part of the CPI and expresses the recognition that urban form, planning and structure are part of a city's prosperity. The findings and policy positions presented in this report are based on data from more than 100 cities around the world, an important critical mass of information that ensures inclusive geographical representation and a good coverage of different types of cities.

The findings of this report show that prosperous cities are those that recognize the relevance of public spaces (with proper layouts) and those which have allocated sufficient land to street development, including sufficient crossings along an appropriate lengthy network. Those cities that have failed to integrate the multi-functionality of streets tend to have lesser infrastructure development, lower productivity and a poorer quality of life. The report also shows that the lack of street connectivity increases social exclusion and generates inequalities in various spheres of life, access to basic services, in particular. This report aims to be a useful tool for policymakers, urban planners, researchers, city changers, and all Habitat Partners in ensuring that cities are prosperous places for all.

Dr. Joan Clos
Under-Secretary-General and
Executive Director, UN-Habitat

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Global Urban Observatory's Research and Technical team, 2012-2013

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OVERVIEW AND KEY FINDINGS

Integrating urban form in the monitoring of the Millennium Development Goals

In 1996 the world's governments endorsed the Habitat Agenda at the second United Nations Conference on Human Settlements (Habitat II) in Istanbul, Turkey, reinforcing UN-Habitat mandate to monitor urban conditions and trends. In 2000 the Millennium Development Goals (MDGs) focused the world's attention on the plight of slum dwellers. The MDG Slum Target was introduced during a time when there was neither a universal definition of "slums" (also known as informal settlements) nor comparative information on slums at the country or global level. Efforts were made to define slums, guided by the approach of Smart Indicators (Specific, Measurable, Achievable, Relevant and Time-bound).

However, the slum definition, formulated by UN-Habitat in consultation with its partners, includes only elements of land and housing, namely, improved water, improved sanitation, durable housing, overcrowding and security of tenure. Here the elements of urban form, such as built and non-built areas, urban density, environmental infrastructure, such as street networks, were not included. This was not due to the lack of interest or poor judgement, but due to lack of data.

It is well known that without sufficient street networks provision of basic services is virtually impossible. Recognizing the importance of the urban form, in 2004 UN-Habitat introduced the Monitoring Urban Inequities Programme (MUIP) that aims to collect and analyze crucial information on the layout and planning of cities. Under the MUIP, a community profile was designed in association with other modules of an Urban Inequity Survey (UIS). The community profile, supported by GIS, provides crucial information on the urban form, including the street network as a key element of public space. It also collects qualitative information through focus groups that reflect people's opinions on infrastructure, social networks, security, etc.

After twelve years of monitoring the MDGs' slum target, UN-Habitat introduced the City Prosperity Index, based on a combination of five dimensions that are supposed to define the prosperity in a city. One of the dimensions, infrastructure, includes elements of the slum definition, among others. The five dimensions of the City Prosperity Index (CPI) are: productivity; infrastructure; environmental sustainability; quality of life; and equity/social inclusion. However, defining elements of urban form such as streets were not included in the first edition of the CPI, as there wasn't sufficient data to allow it.

Since then, efforts and mechanisms have been put in place to collect and analyze reliable data on street and population density in more than 100 cities around the world. The combination of these efforts provides today an opportunity to have sufficient data not only to analyze elements of urban form but to associate them with other socio-economic dimensions, such as the five dimensions of the City Prosperity Index.

This report is not only about the measurement of street elements, but about how streets, as public spaces, are associated with urban prosperity. Indeed, streets play a key role in productivity, infrastructure, environmental sustainability, quality of life and equity/social inclusion.

The first chapter of this report, "Streets as Public Spaces – A Historical Perspective", highlights the role of streets from the ancient era to the present time. It traces the transformation of street planning and design during the period of rapid urbanization that accompanied the Industrial Revolution in Europe, North America and Oceania, as well as during the colonial and post-colonial eras in Africa, Asia and Latin America and the Caribbean.

The second chapter, "Prosperous Streets – Concepts, Methods and Measurements" re-conceptualizes the City Prosperity Index with the street dimension as a cross-cutting element through the five dimensions. Indeed, it is assumed that streets contribute to the prosperity of cities by contributing to productivity, infrastructure development, environment sustainability, quality of life, and social inclusion.

The third and fourth chapters analyze different components of street connectivity, such as the proportion of land allocated to streets, street density, intersection density and the Composite Street Connectivity Index disaggregated by city core and suburban areas in selected cities across the globe. Chapter Three presents findings from Europe, North America and Oceania, while Chapter Four presents findings from Africa, Asia, Latin America and the Caribbean. The latter shows, as predicted, that street connectivity in developing regions is not just a problem of quantity, but quality as well.

The fifth and last chapter, *"Streets as Public Spaces and Drivers of Urban Prosperity"* is the first attempt to assess the contribution of streets on the prosperity of cities.The first edition of the City Prosperity Index (CPI) published in the *State of the World's Cities 2012/13* was based on five components which are the spokes of the wheel of urban prosperity: infrastructure development; environmental sustainability; productivity; quality of life; and equity and social inclusion. No element of the hub of the wheel was included in the measurement of the CPI. This time, an element of urban form, street connectivity, is featured in the CPI.

Multiple facets of street connectivity in Europe, North America and Oceania

Disconnected, fragmented suburbs adjacent to well-connected city cores

The expansion of cities in Europe, North America and Oceania has been accompanied by changes in land use, both in terms of form as well as structure. Streets, as public spaces, lost their importance in terms of their share of land, as well as their prominent role in shaping the culture and history of cities. Land allocated to streets in these regions is much lower in suburban areas than in the city core. While the cores of most cities have more than 25 per cent of land allocated to streets, in suburban areas it is less than 15 per cent.

The reduction in the proportion of land allocated to streets in suburban areas is the result of a combination of factors, including the adoption of hierarchical systems of street planning, with the predominance of cul-de-sacs rather than the grid system, which is a common feature of city centres. Streets in suburban areas are narrower, have shorter networks and are of low intersection density. In contrast to their relatively well connected city cores, suburbs in Europe, North America and Oceania are, in general, disconnected with little amount of land allocated to streets and few intersections along a short street network. Lower urban density in suburban areas is often accompanied by lower street density and less land allocated to streets. In suburban areas, poor connectivity is not only associated with low urban density, but the few existing streets serve a smaller number of people due to poorly connected street networks. This is an indicator of under-utilization of streets. To maximize their use, there is a call for their re-planning. This calls for an analysis of how and why the process of suburbanization occurred, and why, despite the existence of streets, many remain "empty". Case by case analyses may yield different results for different cities.

Densification of suburban areas of European, North American and Oceanic cities indicates that re-planning of suburban areas is needed, as has been started in some cities. Findings from this report call for more sustainable urban

However, any future urban (re-) planning in the cities of the developed world should consider important factors that have changed the profile of the cities of today. These factors are: ageing populations in a demographic regime of low fertility and mortality rates, and the change in family size and structure. These factors will impact the housing demand in terms of volume and type, and will also impact all population dynamics in cities. These factors will not only influence housing but also streets and other public spaces. Clearly, urban planning, even in "well planned" cities, must be an ongoing project, one that will require re-thinking as the environmental and social costs of urban sprawl become more evident and bearing in mind the reality of ageing populations.

Citizens are reclaiming streets as public spaces

In most cities of the developed world, streets are re-designed to accommodate various modes of transport i.e. motorists, cyclists and pedestrians. The question is how to optimize the use of the street networks in the re-design of streets. In Europe, North America and Oceania, there are "livable streets" movements or "complete streets" projects that aim to make streets more accessible to all types of users and to make cities more environmentally friendly by reducing motorized transport. Within existing street networks, cities are being re-designed to allocate more spaces for walking, cycling and promoting the use of public space. Cities are dedicating increasing amounts of public space to pedestrians, cyclists, and public transit. For example, London has pedestrianized a part of the famous Trafalgar Square. Vienna too has closed its central streets to vehicle traffic and Copenhagen has built an extensive bicycle network.

Various options are available to cities for the redesign of streets, including building separate lanes for cyclists and pedestrians. Other measures for increased safety are associated with the adjustment of traffic signal timing that allows sufficient time for pedestrians to cross a street. A European Union project (ARTISTS) has focused on the assessment of the transformation of arterial streets in order to